

**001 – PM-1055 Rev 0X-Q**

Last Page No. 18  
Att. L pg 1

Analysis No. PM-1055 Revision 0  
EC/ECR No. PB02-00838 Revision 0  
Title: Calculation of Alternative Source Term (AST) Onsite and Offsite X/Q Values

Station(s)	Peach Bottom Atomic Power Station	Component(s)	
Unit No.:	2 and 3		
Discipline	SEAQ		
Description Code/Keyword	Dispersion		
Safety Class	S		
System Code	912		
Structure	NA		

CONTROLLED DOCUMENT REFERENCES

Document No.	From/To	Document No.	From/To
Drawing No. M-7, Rev. 13	From	Calculation No. PM-0856, Rev. 0	To
Drawing No. M-18, Rev. 11	From	Calculation No. PM-0859, Rev. 0	To
Drawing No. M-19, Rev. 9	From	Calculation No. PM-0860, Rev. 0	To
UFSAR; Section 2.3, Rev. 18	From/To		
Calculation No. PM-0857, Rev. 0	To		

Is this Design Analysis Safeguards? Yes  No   
 Does this Design Analysis Contain Unverified Assumptions? Yes  No  ATI/AR#  
 Is a Supplemental Review Required? Yes  No  If yes, complete Attachment 3

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Method of Review  Detailed Review  Alternate Calculations  Testing

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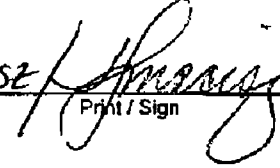
Description of Revision (list affected pages for partials):

**THIS DESIGN ANALYSIS SUPERCEDES:**

**6.0 OWNER'S ACCEPTANCE REVIEW CHECKLIST FOR EXTERNAL DESIGN ANALYSIS**

**DESIGN ANALYSIS NO. PM-1055 REV: 0**

	Yes	No	N/A
1. Do assumptions have sufficient rationale?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Are assumptions compatible with the way the plant is operated and with the licensing basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Do the design inputs have sufficient rationale?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Are design inputs correct and reasonable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Are design inputs compatible with the way the plant is operated and with the licensing basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Are Engineering Judgments clearly documented and justified?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Are Engineering Judgments compatible with the way the plant is operated and with the licensing basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Do the results and conclusions satisfy the purpose and objective of the design analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Are the results and conclusions compatible with the way the plant is operated and with the licensing basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Does the design analysis include the applicable design basis documentation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have any limitations on the use of the results been identified and transmitted to the appropriate organizations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Are there any unverified assumptions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13. Do all unverified assumptions have a tracking and closure mechanism in place?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

EXELON REVIEWER: T.J. McIsaac  DATE: 3/21/03  
Print / Sign

## CALCULATION TABLE OF CONTENTS

1.0	PURPOSE/OBJECTIVE .....	2
2.0	ARCON96 MODELING ANALYSIS OF CONTROL ROOM X/Q.....	2
2.1	Methodology and Acceptance Criteria .....	3
2.2	Design Input .....	4
2.2.1	Source Configuration .....	4
2.2.2	Receptors.....	4
2.2.3	Meteorological Data.....	4
2.2.4	ARCON96 Run Scenarios .....	6
2.3	Calculations .....	7
3.0	PAVAN MODELING ANALYSIS OF CONTROL ROOM, EAB and LPZ X/Q .....	8
3.1	Methodology and Acceptance Criteria .....	8
3.2	Design Input .....	9
3.2.1	Source Configuration .....	9
3.2.1.1	Releases for Control Room Intake X/Q Evaluation.....	9
3.2.1.2	Releases for EAB and LPZ X/Q Evaluation .....	9
3.2.2	Receptors.....	10
3.2.3	Meteorological Data.....	11
3.2.4	PAVAN Run Scenarios.....	12
3.2.4.1	Off-Gas Stack .....	13
3.2.4.2	Reactor Building Stacks .....	13
3.3	Calculations .....	14
4.0	SUMMARY AND CONCLUSIONS .....	17
5.0	REFERENCES .....	18

## ATTACHMENTS:

- A. Location of Meteorological Instruments [Sheet 1]
- B. Elevations of Meteorological Instruments and Gaseous Release Points [Sheet 1]
- C. Drawing: Excerpted from Station Drawing C-21 [Sheet 1]
- D. Drawing: Excerpted from Station Drawing M-5 [Sheet 1]
- E. Wind Roses [Sheets 1-5]
- F. Wind Direction Occurrence Frequency Bar Charts [Sheets 1-2]
- G. Stability Class Occurrence Frequency Bar Chart [Sheet 1]
- H. Joint Frequency Distributions [Sheet 1-5]
- I. ARCON96 Input and Output [Sheets 1-35]
- J. PAVAN Input and Output [Sheets 1-1411]
- K. ARCON96 Computer Disclosure Sheet [Sheet 1]
- L. PAVAN Computer Disclosure Sheet [Sheet 1]

## 1.0 PURPOSE/OBJECTIVE

This calculation, PM-1055, presents the atmospheric relative concentration (X/Q) values for Alternative Source Term (AST) accident evaluations. The purpose of this calculation is to determine the Control Room, Exclusion Area Boundary (EAB), and the outer boundary of the Low Population Zone (LPZ) relative concentration values (X/Q, in  $\text{sec}/\text{m}^3$ ) resulting from certain postulated accidental radiological releases from the Peach Bottom Atomic Power Station (hereinafter, the Station). The values resulting from this calculation will serve as input to the calculation of the radiological doses for use of the Alternative Source Terms (AST) per Regulatory Guide 1.183 (Reference 1).

The X/Q values resulting at the Control Room Intake are calculated using the NRC-sponsored computer codes ARCON96 (Reference 2) and PAVAN (Reference 3), consistent with the procedures in Draft Regulatory Guide DG-1111 (Reference 4). This analysis is presented in Section 2.

The X/Q values resulting at the EAB and LPZ are calculated using the NRC-sponsored computer code PAVAN, consistent with the procedures in Regulatory Guide 1.145 (Reference 5). This analysis is presented in Section 3.

Meteorological data utilized for this calculation were selected from the historical record of the Station meteorological monitoring tower network. Monitoring records dating back to 1967 and extending through 2001 were provided by Exelon (Reference 6). Washington Group International's (WGI) examination of the subject Station release locations and configurations in conjunction with the sharply varying topography (both in the vicinity of the release and at the desired receptor locations to be addressed) resulted in the selection of three (3) different towers from which representative data for the X/Q modeling analyses were used. The topography in the vicinity of the Station and the monitoring tower locations can be observed on the map that is contained in Attachment A (Reference 7). Topographic cross-sectional profiles depicting the meteorological monitoring towers and the station stacks are provided in Attachment B (Reference 8). It was desired that this calculation be based upon a continuous five-year period of data common to all 3 towers, and for which available data meet NRC Regulatory Guide 1.23 (Reference 9) specifications. The period of 1984 through 1988 was selected.

## 2.0 ARCON96 MODELING ANALYSIS OF CONTROL ROOM X/Q

ARCON96 is a commercial software package designated by WGI as NU-830, an "active" program applicable to nuclear safety related analyses as well as non-safety related studies and evaluations. Its use is principally control room habitability assessments. The NU-830 code has been verified for 0-2 hour, 2-8 hour, and 8-24 hour centerline and sector X/Q averages and the 95% maximum X/Q. This verification is in accordance with Revision 4 of the Washington Group International Nuclear Engineering Standard or Computer Software Control, NEP-09. Revision 0 of NU-830 was verified for ground-level and zero exit velocity uncapped vents, and Revision 1 was verified for zero exit velocity stack releases.

## 2.1 Methodology and Acceptance Criteria

### ARCON96 Program Description [excerpted from NUREG/CR-6331 Rev. 1]

ARCON96 is a straight line Gaussian dispersion model used in control room habitability assessments for estimating dispersion in the vicinity of buildings to calculate relative concentrations at control room air intakes that would be exceeded no more than five percent of the time. The basic diffusion model implemented in the ARCON96 code is a straight-line Gaussian model that assumes the release rate is constant for the entire period of release. This assumption is made to permit evaluation of potential effects of accidental releases without having to specify a complete release sequence. Ambient atmospheric conditions measured in accordance with Regulatory Guide 1.23 are input to ARCON96 by way of a sequential hour-by-hour meteorological database of jointly measured wind speed, wind direction, and Pasquill stability class, as derived from the vertical temperature difference recorded at a representative location and elevation (i.e., tower level).

ARCON96 permits evaluation of ground-level, vent, and elevated releases. Building wake effects are considered in the evaluation of relative concentrations from ground-level releases. The proportion of the mixture is determined by the ratio between the effluent vertical velocity and the release-height wind speed using the procedure included in the NRC XOQDOQ code (Reference 10). An elevated release, defined as a stack more than 2.5 times the height of structures in the immediate vicinity, is treated in the usual manner with correction for stack downwash and differences in terrain elevation between the stack and the control room intake. With an assumed zero (0) vertical exit velocity, vents are treated as ground-level releases. Otherwise, a vent release is treated as a mixed ground-level and elevated release.

Diffusion coefficients used in ARCON96 have three components. The first component is the diffusion coefficient used in other NRC models, for example XOQDOQ, and PAVAN. The other two components are corrections to account for enhanced dispersion under low wind speed conditions and in building wakes. Derivations of the low wind speed and building wake corrections are described by Ramsdell and Fosmire (Reference 11).

Parameter values for the correction factors are based on analysis of diffusion data collected in various building wake diffusion experiments. The experiments were conducted under a wide range of meteorological conditions. However, a large number of experiments were conducted during low wind speeds, when wake effects are minimal. The wake correction model included in ARCON96 treats diffusion under these conditions much better than previous models. Thus, the diffusion coefficients in ARCON96 account for both low-wind speed meander and wake effects.

ARCON96 calculates relative concentrations using hourly meteorological data. It then combines the hourly averages to estimate concentrations for periods ranging in duration from 2 hours to 30 days. Wind direction is considered as the averages are formed. As a result, the averages account for persistence in both diffusion conditions and wind direction. Cumulative frequency distributions are prepared from the average relative concentrations. Relative concentrations that are exceeded no more than five percent of the time (95<sup>th</sup> percentile relative concentrations) are determined from the cumulative frequency distributions for each averaging period. Finally, the relative concentrations for five standard averaging periods used in control room habitability assessments are calculated from the 95<sup>th</sup> percentile relative concentrations.

## 2.2 Design Input

### 2.2.1 Source Configuration

The Off-Gas Stack and the Units 2 and 3 Reactor Building Stacks are executed by ARCON96 as an elevated stack release and vent releases, respectively. As depicted in Attachments A and B, the Off-Gas Stack has a physical height of 500 ft and is located to the west-southwest of the Station on terrain that is 280 ft msl (164 ft above station grade of 116 ft msl, per Reference 16). This stack is greater than 2.5 times the 174 ft high Reactor Buildings (i.e., the highest adjacent building), and therefore, per Regulatory Guide 1.145, it is modeled as an 'elevated' release, which is not subject to building-induced downwash effects. The Reactor Building Stacks, both having a height of 189 ft above station grade, and located at the center of the east face of their respective 174 ft high Reactor Buildings, were modeled as 'vent releases'.

Both the Off-Gas Stack and the Reactor Building Stacks are conservatively assumed to have a zero (0) flow, for which ARCON96 requires that the exit velocity and stack diameter each be assigned an input value of zero (0). The Reactor Building vertical cross-sectional area of 2584 m<sup>2</sup> (calculated as height = 54.3 m, and w = 47.6 m, based on References 12 and 13), was required to be input to ARCON96.

Attachment C shows the location of the Off-Gas Stack (highlighted in green) and Attachment D shows the Units 2 and 3 Reactor Building Stacks (highlighted in pink and yellow, respectively).

### 2.2.2 Receptors

The model ARCON96 was executed for X/Q at the Control Room Intake (highlighted orange in Attachments C and D), which is centered on the west face of the Radwaste Building at a height of 69 ft above grade.

The direction, relative to true north (assumed 0°) of a straight line extending from the Control Room Intake towards the stack source location, is also an input parameter required by ARCON96. Attachments C and D depict the three (3) separate intake-to-stack direction scenarios analyzed in this calculation. They are as follows:

	Direction (degrees)	Distance (m)
	<u>Intake to Stack</u>	<u>Intake to Stack</u>
• Off-Gas Stack (highlighted green)	244	209
• Unit 2 Reactor Building Stack (highlighted pink)	113	58.4
• Unit 3 Reactor Building Stack (highlighted yellow)	15	58.4

### 2.2.3 Meteorological Data

As described in Section 1.0, the Station's meteorological data from the five-year period, 1984-1988, as supplied by Exelon, were applied in the ARCON96 modeling analysis. Data measured at two meteorological towers were used.

Meteorological Tower 2 is seen in Attachments A and B to be located on a hill approximately 2600 ft (800) meters from the Reactor Building Stacks. Tower 2 has a grade elevation of 367 ft above mean sea level (msl), or 251 feet (76.5 meters) above station grade. Tower 1A, on the other hand, is located at 119 ft msl approximately 1300 m southeast of the Reactor Building stacks, and is also topographically situated very similarly to the Station; i.e., at the Susquehanna River's edge and immediately adjacent to the steeply higher terrain in the westerly, southwesterly, and southerly directions.

Attachment E, Sheets 1, 2, and 3 of 5, includes the five-year wind rose diagrams for each of the three (3) primary wind speed and direction databases used for the ARCON96 analysis identified below in Section 2.2.4, Table 2-1. These are as follows:

Wind

- Tower 2: 320 ft level
- Tower 2: 75 ft level
- Tower 1A: 92 ft level

The designation of 'calm' is made to all wind speed observations of less than 0.5 mph. The higher of the starting speeds of the Climatronics® wind vane and anemometer equipment on each of the towers (i.e. 0.50 mph) was used as the threshold for calm winds, per Regulatory Guide 1.145, Section 1.1.

Attachment F, Sheet 1 of 2, provides a bar chart for comparing the percentage occurrence frequencies of each wind direction sector with respect to the three different wind databases used in the ARCON96 analysis. This chart shows that the two Tower 2 levels are very similar, while the Tower 1A wind directions show much deviation from Tower 2. In particular, the location of Tower 1A, based in the River Valley near river level, experiences a noticeably higher frequency of east-southeast and southeast winds, reflective of the Valley's wind channeling effect. Also, the significantly higher frequency of west and west-southwesterly winds likely reflects the local channeling by the small contributory valley seen in Attachment A between two hills centered just several hundred feet to the southwest and west-northwest of Tower 1A.

The stability class percentage occurrence frequency distributions are presented as a bar chart in Attachment G, based on each of the three (3) five-year delta temperature databases used in the ARCON96 analysis.

Stability Class

- Tower 2: 316 - 33 ft level
- Tower 2: 150 - 33 ft level
- Tower 1A: 89 - 33 ft level

It must be noted that the 0 % occurrence of 'B' stability class associated with Tower 1A, as shown in Attachment G results from the fact that the temperature was recorded and reported with a precision of tenths (rather than hundredths) of a degree Fahrenheit. The range in the delta temperature value that is assigned to the 'B' stability class by NRC Regulatory Guide 1.23 is non-inclusive of a value that would result from the conversion from Fahrenheit, given in tenths precision, to Centigrade.

Attachment G shows an extremely high 'G' stability class occurrence frequency of 27.1 %, which is derived from the Tower 1A delta temperature data. This value is much larger than those of Tower 2. This reflects the prevalent cold air drainage flow into the River Valley from



the higher terrain during nocturnal, light wind speed, temperature inversion conditions. Some exaggeration of this difference in comparison to Tower 2 (e.g., 5.5 % G stability for 150-33 ft delta temperature) would also be expected, however, because of the larger vertical spread between the two lower temperature measurement levels of Tower 2 (i.e., 117 ft) versus the Tower 1A levels (i.e., 56 ft). (That is, within the atmosphere's surface boundary layer, vertical temperature gradient (positive or negative) normally increases with proximity to the ground.) This effect also partially accounts for the large difference in the percentage of 'A' stability occurrence between Tower 1A and Tower 2. The fact that no 'B' stability cases are possible in the Tower 1A database (as noted above), of course, also acts to somewhat inflate the 'A' and 'C' occurrences. It is important to note, however, that these unstable classes (A, B, and C) are relatively insignificant contributors in the design basis X/Q calculations for ground and vent releases.

Finally, Attachment H, Sheets 1, 2, and 3 of 5, contains the joint wind direction, wind speed, and stability class distribution tables, based on the five-year period for each of the following three joint wind-stability databases used in the ARCON96 modeling analysis.

<u>Wind</u>	<u>Stability Class</u>
• Tower 2: 320 ft level	Tower 2: 316 - 33 ft
• Tower 2: 75 ft level	Tower 2: 150 - 33 ft
• Tower 1A: 92 ft level	Tower 1A: 89 - 33 ft

The relatively high percentage of 'G' stability occurrences in the Tower 1A joint wind-stability distribution are very direction-dependent. A total of 91.5% of all 'G' stability occurrence frequencies in the Tower 1A data can be determined from Attachment H, Sheet 3, to be associated with winds from the southeast clockwise through the west-northwest 180° directional range from the Tower. This directional range essentially encloses the high terrain from which the relatively cold near-surface air during nocturnal inversion conditions drains into the Valley. (See Attachment A for the topographic map of terrain in the vicinity of the Station.) Attachment H also reveals that nearly all of the total 'G' stability occurrences are associated with wind speed of less than 7.5 mph.

#### 2.2.4 ARCON96 Run Scenarios

Control Room Intake X/Q values were calculated by ARCON96 for various source/receptor scenarios. Three (3) Off-Gas Stack and Reactor Building Stack release scenarios were analyzed using the five-year hourly meteorological joint wind and stability databases, as identified in Table 2-1.

**TABLE 2-1**

ARCON96 RELEASE SCENARIO	METEOROLOGICAL DATABASE SCENARIOS		
	Wind Speed and Direction		Stability Class (Delta Temperature)
	Primary	Secondary*	
1: Off-Gas Stack	Tower 2: 320'	Tower 2: 75'	Tower 2: 316 - 33'
2: Unit 2 Reactor Building Stack	Tower 1A: 92' Tower 2: 75'	Tower 1A: 34' Tower 2: 33'	Tower 1A: 89 - 33' Tower 2: 150 - 33'
3: Unit 3 Reactor Building Stack	Tower 1A: 92' Tower 2: 75'	Tower 1A: 34' Tower 2: 33'	Tower 1A: 89 - 33' Tower 2: 150 - 33'

\* Secondary data used only for those hours when primary data are missing.

The upper level of Tower 2 is the obvious most representative location of choice for wind data representing the Off-Gas Stack release point, and the 316-33 foot delta temperature is the appropriate parameter for deriving stability class to represent the influence of atmospheric diffusion on such a release.

As noted in Section 2.2.1, the Reactor Building Stacks are not tall enough to avoid building-induced downwash; therefore, with zero (0) exit velocity having been assumed, ARCON96 treats their releases as a 'ground-level' type. Accordingly, the Tower 1A data would appear to be the representative database for the Reactor Building stacks. However, since these stack tops are at 305 ft msl, and thus, are actually nearer in the vertical to the Tower 2 grade elevation (367 ft msl) than they are to the Tower 1A grade elevation (119 ft msl), an ARCON96 analysis is also performed using the most appropriate Tower 2 data, as indicated in Table 2-1 above.

### 2.3 Calculations

The X/Q values resulting from the ARCON96 modeling analysis of each release and meteorological database scenario for the required time intervals are presented in Table 2-2 as follows:

**TABLE 2-2**

**ARCON96 X/Q (sec/m<sup>3</sup>) RESULTS\***

RELEASE / INTAKE & METEOROLOGICAL SCENARIO	0-2 hour	2-8 hour	8-24 hour	1-4 day	4-30 day
<b>1. Off-Gas Stack to Control Room Intake:</b> • Wind: Tower 2 320° Stability: Tower 2 316-33°	1.00E-15	1.00E-15	1.00E-15	7.25E-15	5.92E-15
<b>2. Unit 2 Reactor Building Stack To Control Room Intake:</b> • Wind: Tower 1A 92° Stability: Tower 1A 89-33°  • Wind: Tower 2 75° Stability: Tower 2 150-33°	1.17E-03	<b>9.08E-04</b>	<b>4.14E-04</b>	<b>2.90E-04</b>	<b>2.26E-04</b>
<b>3. Unit 3 Reactor Building Stack To Control Room Intake:</b> • Wind: Tower 2 92° Stability: Tower 2 89-33°  • Wind: Tower 2 75° Stability: Tower 2 150-33°	1.02E-03	5.02E-04	2.38E-04	1.62E-04	1.36E-04
	<b>1.18E-03</b>	<b>8.91E-04</b>	<b>4.00E-04</b>	<b>2.51E-04</b>	<b>1.98E-04</b>

\* For the Units 2 and 3 stack release scenarios, the higher of the X/Q values associated with the two meteorological databases analyzed is in bold.

### 3.0 PAVAN MODELING ANALYSES OF CONTROL ROOM, EAB AND LPZ X/Q

The model PAVAN is a commercial software package designated by WGI as MC-131, an "active" program applicable to nuclear safety related analyses as well as non-safety related studies and evaluations. The PAVAN code Revision 0 verification was performed for the 0-2 hour, 0-8 hour, 8-24, 1-4 day, and 4-30 day 0.5-percentile, and annual average direction-specific X/Q values, and the overall site 95-percentile maximum X/Q for each of the 0-2 hour, 0-8 hour, 8-24 hour, 1-4 day, and 4-30 day time-averaging periods. This verification was performed with WGI (formerly Raytheon Engineers & Constructors, Inc.) corporate standards, and is consistent with Computer Software Control, NEP-09. Revision 0 of MC-131 was verified for ground-level (i.e., non-elevated) releases, as well as elevated releases, with zero (0) vertical exit velocity assumed.

While its use is principally for EAB and LPZ X/Q evaluations, PAVAN is also referenced for use in accordance with NRC DG-1111 methodology for control room habitability assessments of elevated releases. In supplement to the use of ARCON96 for this purpose, NRC recommends that PAVAN also be executed, and its results incorporated into the determination of the 0-2 hour, and the 1-4 and 4-30 day X/Q time intervals. The maximum PAVAN X/Q at ground-level (excluding the 'fumigation' condition) replaces the corresponding ARCON96 0-2 hour value if the PAVAN value is greater. For deriving the two longer interval X/Q values, the maximum PAVAN 1-4 day X/Q is added to the product of 23 times the maximum 1-4 day ARCON96 value, and then the total is divided by 24, resulting in the final X/Q value for the 1-4 day interval value; and similarly, the maximum PAVAN 4-30 day X/Q is added together with the product of 23 times the maximum 4-30 day ARCON96 value and then divided by 24 to obtain the X/Q value for the 4-30 day interval value.

#### 3.1 Methodology and Acceptance Criteria

The computer code PAVAN is a straight line Gaussian dispersion model utilized to estimate relative ground-level air concentrations (X/Q) for potential accidental releases of radioactive material from nuclear facilities. Such assessment is required by 10 CFR 100 and 10 CFR 50. The program implements the NRC guidance provided in Regulatory Guide 1.145. The technical basis for the program is presented by Snell and Jubach (Reference 14). Utilizing joint frequency of occurrence distributions of wind direction, wind speed and Pasquill atmospheric stability class, PAVAN calculates X/Q values as a function of direction for various time-averaging periods at the EAB and the outer boundary of the LPZ. Calculations are made from assumed ground-level (i.e., non-elevated) releases (such as vents and building penetrations), which are less than 2.5 times the height of adjacent solid structures, and from elevated releases (i.e., stacks). Three (3) procedures are utilized for calculating X/Q: a direction-dependent approach, a direction-independent approach, and an overall site X/Q approach.

The PAVAN model contains certain model options for executing the program. Table 3-1 below summarizes the options invoked for the Control Room, EAB and LPZ X/Q calculations.

TABLE 3-1

Option No.	Description	Option Invoked?
1	Calculate $\sigma_y$ and $\sigma_x$ based on desert diffusion.	No
2	X/Q values include evaluation for no building wake.	No
3	ENVLOP calculations printed which describe upper envelope curve.	No
4	Print points used in upper envelope curve and calculation.	Yes
5	Null	---
6	Joint frequency distribution in % frequency format.	No
7	Print X/Q calculation details	Yes
8	Distribute calm winds observations into first wind speed category.	Yes
9	Use site-specific terrain adjustment factors for the annual average calculations.	Yes*
10	Assume a default terrain adjustment factor for the average annual calculations. Option 10 is applied, which together with application of Option 9 means that site specific terrain factors will be used.	Yes

\* A uniform value of 1.0 is used.

### 3.2 Design Input

#### 3.2.1 Source Configuration

##### 3.2.1.1 Releases for Control Room Intake X/Q Evaluation

The Off-Gas Stack and the Units 2 and 3 Reactor Building Stacks are the assumed release points. Because the Units 2 and 3 Reactor Building Stacks do not qualify as 'elevated' releases as defined by Regulatory Guide 1.145, in accordance with DG-1111 methodology no PAVAN modeling (i.e., only ARCON96 modeling) is appropriate for the Control Room assessment.

The Off-Gas Stack, however, does qualify as an elevated release and was executed as such by PAVAN, per DG-1111. Also per DG-1111, the effective height of the stack was calculated from the height of the Control Room Intake instead of station grade. The Off-Gas Stack, as seen highlighted in green in Attachment C, has a height of 500 ft and is located 209 m on terrain that is 280 ft msl (i.e., 164 ft above station grade) to the west-northwest of the Control Room Intake. PAVAN does not have the capability to account for the difference between the station grade and the much higher Off-Gas Stack grade. Therefore, assuming zero (0) grade difference between release and intake is a very conservative measure.

The vertical cross-sectional area of 2584 m<sup>2</sup> for each Reactor Building calculated based on References 12 and 13, was utilized. A value of zero (0) meters above the assumed common grade elevation of the Off-Gas stack and the Station was input to PAVAN to represent the maximum terrain height for each of the downwind sectors at all modeled distances.

##### 3.2.1.2 Releases for EAB and LPZ X/Q Evaluation

The Off-Gas Stack and the Units 2 and 3 Reactor Building Stacks were executed by PAVAN as a 'stack' type and 'ground' type releases, respectively.

As previously stated, the Off-Gas Stack has a physical height of 500 ft and is located to the west-southwest of the Station on terrain that is 280 ft msl (164 ft above station grade). As described in 3.2.1.1 for the Control Room Intake, in modeling the EAB and LPZ scenarios, the station grade was also assumed equal to the Off-Gas Stack grade.

The 189 ft Reactor Building Stacks for Units 2 and 3, located at the center of the east face of their respective Reactor Buildings, do not qualify as elevated releases per Regulatory Guide 1.145. Therefore, PAVAN requires that each of these stack heights be assigned an input value of 10 m. The Reactor Building height of 54.3 m and calculated Reactor Building vertical cross-sectional area of 2584 m<sup>2</sup> were used for each of the scenarios.

### 3.2.2 Receptors

For the Off-Gas Stack to Control Room Intake scenario, PAVAN was executed in elevated release mode with a stack-to-intake horizontal distance of 209 m. For conservatism in modeling this scenario, the Off-Gas Stack was assumed to have the same grade elevation as the Station. Review of this output was then performed in accordance with NRC DG-1111 guidance to determine at which approximate distance the actual 0-2 hour maximum X/Q is predicted to occur in each given downwind sector. Following this, a new set of PAVAN runs was executed for several distances ranging out to and exceeding the approximated distance. The initial predicted approximate distance to the maximum 0-2 hour X/Q was 4000 m. Therefore, in all, the distances modeled to determine the actual maximum X/Q are as follows: 209 (actual), 280, 300, 500, 750, 1000, 1500, 2000, 3000, 4000, 5000, and 6000 meters.

The PAVAN model was also executed to determine the ground-level X/Q at the EAB and LPZ located at distances of 823 m and 7300 m, respectively, as defined in Reference 15. For the assumed non-elevated Reactor Building Stack scenario, receptor terrain is not considered. For the elevated Off-Gas Stack scenario, the highest terrain value within a given directional sector between the Station and the EAB was assigned to the EAB receptor in that given direction. The LPZ terrain heights were analogously assigned. These terrain heights are provided in Table 3-2 below.

**TABLE 3-2**

**HIGHEST INTERVENING TERRAIN BETWEEN SITE AND EAB, AND LPZ**  
(Meters Above Off-Gas Stack Grade)

DOWNWIND DIRECTION	EAB (823 m)	LPZ (7300 m)	DOWNWIND DIRECTION	EAB (823 m)	LPZ (7300 m)
N	0	110	S	31	55
NNE	0	85	SSW	31	61
NE	0	85	SW	18	128
ENE	0	67	WSW	12	104
E	0	48	W	24	73
ESE	0	67	WNW	31	98
SE	0	43	NW	31	104
SSE	0	43	NNW	24	85

### 3.2.3 Meteorological Data

As described in Section 1.0, Peach Bottom meteorological data from the five-year period, 1984-1988, as supplied by Exelon, were used in the PAVAN analysis. Data monitored at three meteorological towers were used.

The format of PAVAN meteorological input consists of a joint wind direction (based on sixteen 22.5 degree sectors), wind speed (7 intervals), and stability class (7 classes) occurrence frequency distribution.

Each such meteorological joint frequency distribution for input to PAVAN was prepared by using the WGI pre-qualified program ARCONtoPAVANMET (Program Number NU-840) to transform the data to a joint wind-stability occurrence frequency distribution. The seven wind speed categories were defined according to Regulatory Guide 1.23 with the first category identified as "calm". The higher of the starting speeds of the Climatronics® wind vane and anemometer equipment on each of the towers (i.e. 0.50 mph) was used as the threshold for calm winds, per Regulatory Guide 1.145, Section 1.1. A midpoint was also assumed between each of the Regulatory Guide 1.23 wind speed categories, Nos. 2-6, as to be inclusive of all monitored wind speeds. The Regulatory Guide 1.23 wind speed categories have, therefore, been refined in Table 3-3 as follows:

**TABLE 3-3**

**DEFINED WIND SPEED CATEGORY RANGES FOR PAVAN MODELING**

Category No.	Regulatory Guide 1.23 Speed Interval (mph)	PAVAN-Assumed Speed Interval (mph)
1 (Calm)	0 to < 1	0 to < 0.50
2	1 to 3	>= 0.50 to < 3.5
3	4 to 7	>= 3.5 to < 7.5
4	8 to 12	>= 7.5 to < 12.5
5	13 to 18	>= 12.5 to < 18.5
6	19 to 24	>= 18.5 to < 24
7	> 24	>= 24

Attachment E, Sheets 1, 4, and 5 includes the five-year wind rose diagrams for each of the following three wind speed and direction modeling databases applied in the PAVAN analysis:

- Tower 2: 320 ft level
- Tower 2: 33 ft level
- River Tower: 45 ft level

Attachment F, Sheet 2 provides a bar chart comparing the percentage occurrence frequencies of each wind direction sector with respect to the three wind databases. As expected, the Tower 2 upper (320 ft) and lower level (33 ft) wind direction occurrence distributions are very similar to each other, but the River Tower data are clearly much more indicative of the influence of the Valley in channeling air within it predominantly along a northwest – southeast orientation. The very high correspondence in the Tower 2 lower level with the upper level is strong evidence that

the lower level conditions are far more representative of the air flow in the larger scale non-valley region surrounding the Station than within the local valley setting of the station proper.

The same three (3) delta temperature stability class databases utilized for the ARCON96 analysis described above in Section 2.2.3 were also adopted for the PAVAN analysis. These are the Tower 2 316 – 33 ft, the Tower 2 150 – 33 ft, and the Tower 1A 89 – 33 ft delta temperature databases. Attachment G presented earlier in Section 2.2.3 shows the percentage occurrence frequencies of each class.

Finally, Attachment H, Sheets 1, 4, and 5 of 5 provide the joint occurrence frequency distribution tables based on the five-year period for each of the following three joint wind-stability databases used in the PAVAN modeling analysis:

<u>Wind</u>	<u>Stability Class</u>
• Tower 2: 320 ft level	Tower 2: 316 - 33 ft
• Tower 2: 33 ft level	Tower 2: 150 - 33 ft
• River Tower: 45 ft level	Tower 1A: 89 - 33 ft

As discussed in Section 2.2.3 with respect to the ARCON96 X/Q analysis at the Control Room Intake, there is a relatively high percentage of G stability occurrences monitored at Tower 1A, reflecting the prevalent nocturnal drainage wind from directions of immediately adjacent higher terrain into the Valley. However, for the PAVAN modeling analysis of X/Q at receptors away from the immediate station site (i.e., that is, the two rings of receptors associated with the EAB and LPZ), the Tower 1A location is not well-located for monitoring representative wind data, particularly wind direction; and therefore, the Tower 2 data are primarily relied upon. One exception is for modeling the Reactor Building stack at the EAB distance in those downwind directions extending part-way over the River, the Tower 1A delta temperature-derived stability class may well be more representative than the Tower 2 stability data. Consequently, the River Tower wind data are adopted jointly with the Tower 1A stability data and used as an additional meteorological database scenario to be analyzed by PAVAN for the EAB. (See Section 3.2.4.2.)

### 3.2.4 PAVAN Run Scenarios

The following Off-Gas Stack and Reactor Building stack release scenarios were identified for the purpose of applying the PAVAN model using the selected representative meteorological wind and stability class databases to predict the X/Q values that result at the Control Room Intake as described in 3.2.1.1, and at the EAB and LPZ as described in Section 3.2.1.2. They are listed in Table 3-4 as follows:

TABLE 3-4

PAVAN X/Q SCENARIOS		
RELEASE/RECEPTOR SCENARIO	METEOROLOGICAL DATABASE SCENARIOS (Tower ID: Measurement Height above Tower Grade)	
	Wind Speed and Direction	Stability Class (Delta Temperature)
<b>CONTROL ROOM:</b> • Off-Gas Stack	Tower 2: 320'	Tower 2: 316 – 33'
<b>FAB:</b> • Off-Gas Stack	Tower 2: 320'	Tower 2: 316 – 33'
• Unit 2 Reactor Building Stack	River Tower: 45' Tower 2: 33'	Tower 1A: 89 – 33' Tower 2: 150 – 33'
• Unit 3 Reactor Building Stack	River Tower: 45' Tower 2: 33'	Tower 1A: 89 – 33' Tower 2: 150 – 33'
<b>LPZ:</b> • Off-Gas Stack	Tower 2: 320'	Tower 2: 316 – 33'
• Unit 2 Reactor Building Stack	Tower 2: 33'	Tower 2: 150 – 33'
• Unit 3 Reactor Building Stack	Tower 2: 33'	Tower 2: 150 – 33'

#### 3.2.4.1 Off-Gas Stack

The Meteorological Tower 2 upper level (320 ft) wind and 316 – 33 ft delta temperature data monitoring levels, as described in Section 2.2.3, are clearly appropriate representative locations from which to derive all required meteorological input for the PAVAN modeling of the Off-Gas Stack release X/Q for each subject receptor.

#### 3.2.4.2 Reactor Building Stacks

##### LPZ

The vast majority of the region bounded by the LPZ distance of 7300 meters in all directions from the Station is removed from the local influences of the immediate river valley setting of the Station. Thus, Tower 1A, which is based at river level within the Valley and adjacent to the Station, is not appropriate for measuring the conditions that occur at the LPZ and most intervening distances. The top of the Reactor Building stacks at 305 ft msl is at an elevation vertically nearer to the Tower 2 grade elevation (367 ft msl) than to the River (116 ft msl), and is within an airflow regime more typical of overall wind and stability conditions in the region bounded by the LPZ than the local station site conditions influenced by the River Valley. Therefore, the Tower 2 lower level (33 ft) winds and the 150 – 33 ft delta temperature-based stability class were used for all PAVAN model runs to predict the X/Q at the LPZ resulting from



Reactor Building stack releases. It should also be noted that the Tower 2 33 ft level wind speeds were used instead of the Tower 2 75 ft winds, even though it might be otherwise expected that the 75 ft level winds would better represent the 189 ft Reactor Building stack tops. This is because PAVAN requires that any non-elevated release be assumed as a 'ground level' release, which accordingly requires that whatever the release elevation may actually be, it is reassigned a value of 10 meters above station grade. Thus, using actual 10-meter monitored data (i.e., data from the 33 ft level on Tower 2) is considered to be superior to using data from another level (i.e., 75 feet) that PAVAN would subsequently adjust (but imprecisely so, by power law extrapolation) down to 10 meters.

### EAB

The choice of the appropriate meteorological database to best represent the dispersion of releases from the Reactor Building stacks out to the EAB distance, however, is not as straightforward as for the LPZ. As apparent in Attachment A, this is due to the great variation in local topography within the EAB radius (823 m) of the Station, which influences the dispersion of a release from these stacks. The EAB distance extends well into the River in a number of directions from the Station. Thus, winds measured 45 ft above the river level on the River Tower, approximately 1200 meters north-northeast of the Station as shown in Attachment A, would clearly be the most representative. Stability class based on the delta temperature parameter, in accordance with NRC Regulatory guide 1.23, is not monitored on the River Tower; however, Tower 1A prior to its decommissioning in 1993, monitored 89 – 34 ft delta temperature. Tower 1A is ideally situated adjacent to and based at essentially the same grade elevation as the Station so as to best represent the local dispersion conditions to which the Reactor Building stack releases are subject for over-river trajectories out to the EAB.

In other directions from the Station, the region enclosed by the EAB distance is likely best represented by the lower level of Tower 2 meteorology (i.e., 33 ft winds, and 150 – 33 ft delta temperature-based stability class), using the same reasoning as used immediately above in this section for the LPZ.

Thus, the joint wind-stability occurrence frequency distributions derived from both of the joint wind-stability databases are individually executed in the PAVAN analysis of the Reactor Building stacks at the EAB. The higher resulting X/Q values are adopted.

### **3.3 Calculations**

The X/Q values predicted by PAVAN for the Control Room Intake, as resulting from a release by the Off-Gas Stack, are presented below in Table 3-5 for each time interval required by NRC Regulatory Guide 1.145. The highlighted values are the maxima with respect to their indicated time periods. It is only the underlined subset of these values which are then incorporated with the ARCON96 results into the final determination of the Control Room Intake X/Q according to NRC DG-1111 prescribed methodology (see Section 3.0).

TABLE 3-5

**PAVAN Maximum X/Q (sec/m<sup>3</sup>) Results****Off-Gas Stack to Control Room Intake**

Modeled Horizontal Distance from Stack to Receptor (m)												
Averaging Period	209 (Actual Distance)	280	300	500	750	1000	1500	2000	3000	4000	5000	6000
0-2 hr	2.72E-06	2.72E-06	2.72E-06	<u>2.72E-06</u>	2.31E-06	2.06E-06	1.95E-06	1.83E-06	1.77E-06	1.71E-06	1.70E-06	1.60E-06
0-8 hr	4.10E-07	8.86E-07	9.80E-07	<u>1.23E-06</u>	1.02E-06	8.87E-07	8.16E-07	7.96E-07	8.02E-07	8.02E-07	7.97E-07	7.49E-07
8-24 hr	1.59E-07	5.06E-07	5.88E-07	<u>8.27E-07</u>	6.79E-07	5.83E-07	5.29E-07	5.26E-07	5.46E-07	5.49E-07	5.45E-07	5.23E-07
1-4 day	2.03E-08	1.50E-07	1.94E-07	<u>3.50E-07</u>	2.80E-07	2.34E-07	2.07E-07	2.15E-07	2.50E-07	2.59E-07	2.58E-07	2.47E-07
4-30 day	1.06E-09	2.60E-08	3.95E-08	<u>1.01E-07</u>	7.83E-08	6.31E-08	5.35E-08	6.38E-08	8.36E-08	8.93E-08	8.86E-08	8.43E-08

**Notes:**

1. Maxima indicated in bold.
2. Underlined values incorporated into ARCON96 determination of Control Room Intake per NRC DG-1111.
3. Maximum hourly X/Q (which is assigned to represent the 0-2 hour period) is actually predicted to occur at 500 m; however, in accordance with PAVAN model methodology for elevated releases, this maximum value is conservatively also assigned to any lesser desired boundary distance.

The X/Q values for the EAB and LPZ distances predicted by the PAVAN modeling analysis of each release scenario are presented below in Table 3-6 for each time interval required by NRC Regulatory Guide 1.145. These include the X/Q for the EAB and LPZ distances predicted for an Off-Gas Stack release under 'fumigation' conditions for 0 - 0.5 hours.

**TABLE 3-6**

**PAVAN X/Q (sec/m<sup>3</sup>) Results**

**Off-Gas Stack and Reactor Building Stacks to EAB and LPZ**

RELEASE LOCATION	X/Q PARAMETER (sec/m <sup>3</sup> )	0-0.5 hour	0-2 hour	0-8 hour	8-24 hour	1-4 day	4-30 day
<b>EAB (823 m)</b>							
Off Gas Stack	Direction-Specific Max	NA	5.50E-06 (N)	1.76E-06 (WSW)	1.06E-06 (WSW)	3.53E-07 (W)	8.86E-08 (W)
	Site Limit	NA	<b>8.89E-06</b>	<b>3.14E-06</b>	<b>1.87E-06</b>	<b>6.03E-07</b>	<b>1.19E-07</b>
	Max Fumigation	5.30E-05 (S, W, WNW, SSE)	N/A	N/A	N/A	N/A	N/A
Units 2 and 3 Reactor Building Stacks  • Tower 2 33' wind; 150'- 33' stability	Direction-Specific Max	NA	3.46E-04 (ENE)	1.79E-04 (ENE)	1.29E-04 (ENE)	6.33E-05 (ENE)	2.27E-05 (ENE)
	Site Limit	NA	2.45E-04	1.34E-04	9.95E-05	5.19E-05	2.04E-05
• River Tower wind; Tower 1A stability	Direction-Specific Max	NA	<b>4.25E-04</b> (E)	<b>2.26E-04</b> (SE)	<b>1.66E-04</b> (SE)	<b>8.45E-05</b> (SE)	<b>3.22E-05</b> (SE)
	Site Limit	NA	4.05E-04	2.19E-04	1.61E-04	8.28E-05	3.18E-05
<b>LPZ (7300 m)</b>							
Off Gas Stack	Direction-Specific Max	NA	5.29E-06 (N)	2.56E-06 (N)	1.78E-06 (N)	8.08E-07 (N)	2.60E-07 (N)
	Site Limit	NA	<b>8.87E-06</b>	<b>3.94E-06</b>	<b>2.62E-06</b>	<b>1.09E-06</b>	<b>3.06E-07</b>
	Max Fumigation	1.75E-05 (SW, WSW, NW, N)	N/A	N/A	N/A	N/A	N/A
Units 2 and 3 Reactor Building Stacks	Direction-Specific Max	NA	4.81E-05 (ENE)	2.08E-05 (ENE)	1.37E-05 (ENE)	5.49E-06 (ENE)	1.49E-06 (ENE)
	Site Limit	NA	3.07E-05	1.43E-05	9.74E-06	4.25E-06	1.29E-06

\* The higher of the direction specific and the site limit values are indicated in bold.

#### 4.0 SUMMARY AND CONCLUSIONS

The ARCON96 and PAVAN X/Q modeling calculation results are summarized below for the Control Room, EAB and LPZ for the regulated time-averaging periods. Control Room intake results are calculated using the ARCON96 model, supplemented with PAVAN according to NRC DG-1111 methodology. The EAB and LPZ results have been calculated using the PAVAN model according to Regulatory Guide 1.145. All input and output files for ARCON96 and PAVAN are provided in Attachments I and J, respectively.

**TABLE 4-1**  
**X/Q RESULTS SUMMARY**  
(sec/m<sup>3</sup>)

RECEPTOR	RELEASE POINT	0 - 0.5 hour	0-2 hour	2-8 hour	8-24 hour	1-4 day	4-30 day
Control Room Intake	Off-Gas Stack		2.72E-06	1.00E-15	1.00E-15	1.46E-08	4.21E-09
	Unit 2 Reactor Building Stack		1.18E-03	9.08E-04	4.14E-04	2.90E-04	2.26E-04
	Unit 3 Reactor Building Stack		1.18E-03	8.91E-04	4.00E-04	2.51E-04	1.98E-04
EAB (823 m)	Off-Gas Stack	5.30E-05	8.89E-06	3.14E-06*	1.87E-06	6.03E-07	1.19E-07
	Units 2 and 3 Reactor Building Stack		4.25E-04	2.26E-04*	1.66E-04	8.45E-05	3.22E-05
LPZ (7,300 m)	Off-Gas Stack	1.75E-05	8.87E-06	3.94E-06*	2.62E-06	1.09E-06	3.06E-07
	Units 2 and 3 Reactor Building Stack		4.81E-05	2.08E-05*	1.37E-05	5.49E-06	1.49E-06

\*PAVAN result representing 0-8 hour time period.

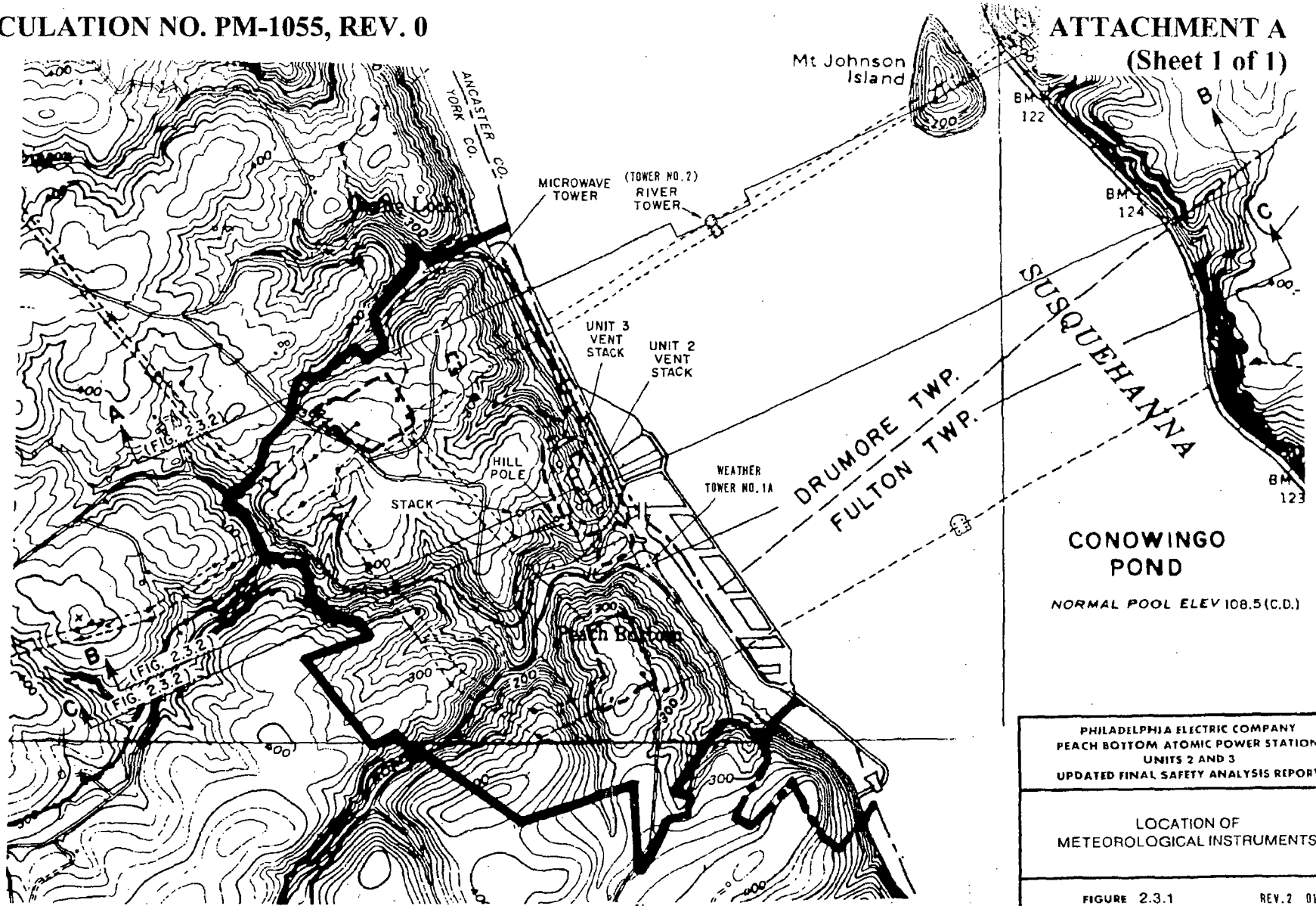
Attachments K and L provide WGI Computer Disclosure Sheets associated with the ARCON96 and PAVAN analyses, respectively.

## 5.0 REFERENCES

- 1) *Regulatory Guide 1.183, "Alternative Radiological Source Terms For Evaluating Design Basis Accidents At Nuclear Power Reactors"*; U.S. Nuclear Regulatory Commission; July 2000
- 2) *Atmospheric Relative Concentrations in Building Wakes*; NUREG/CR-6331, PNNL-10521, Rev. 1; prepared by J. V. Ramsdell, Jr., C. A. Simmons, Pacific Northwest National Laboratory; prepared for U.S. Nuclear Regulatory Commission; May 1997 (Errata, July 1997).
- 3) *Atmospheric Dispersion Code System for Evaluating Accidental Radioactivity Releases from Nuclear Power Stations*; PAVAN, Version 2; Oak Ridge National Laboratory; U.S. Nuclear Regulatory Commission; December 1997.
- 4) *Draft Regulatory Guide DG-1111; Atmospheric Relative Concentrations for Control Room Radiological Habitability Assessments at Nuclear Power Plants*; U.S. Nuclear Regulatory Commission; December 2001.
- 5) *Regulatory Guide 1.145; Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants (Revision 1)*; U.S. Nuclear Regulatory Commission; November 1982.
- 6) Peach Bottom 1967-2001 Meteorological Tower data; provided on behalf of Exelon by Pat Brennen of MES under cover letters "PBAPS Meteorological Data, 1967-2001", October 22, 2002 and "PBAPS Tower 1A Meteorological Data, 1983-1992", November 13, 2002.
- 7) Peach Bottom UFSAR, Figure 2.3.1, Rev. 18; *Location of Meteorological Instruments*.
- 8) Peach Bottom UFSAR, Figure 2.3.2-A, Rev. 18; *Elevations of Meteorological Instruments and Gaseous Release Points-1983 System Upgrade*.
- 9) *Regulatory Guide 1.23 (Safety Guide 23), Onsite Meteorological Programs*; U. S. Nuclear Regulatory Commission; USNRC Office of Standards Development; Washington, D.C.; 1972.
- 10) *XOQDOQ: Computer Program for the Meteorological Evaluation of Routine Releases at Nuclear Power Stations*; NUREG/CR-2919; J. F. Sagendorf, J. T. Goll, and W. F. Sandusky, U.S. Nuclear Regulatory Commission; Washington, D.C; 1982.
- 11) *Atmospheric Dispersion Estimates in the Vicinity of Buildings*; J. V. Ramsdell and C. J. Fosmire, Pacific Northwest Laboratory; 1995.
- 12) Peach Bottom Atomic Power Station Drawing No. M-18, Rev. 11; Equipment Location-Reactor and Radwaste Building Unit No. 2, Plan at 234'.
- 13) Peach Bottom Atomic Power Station Drawing No.M-19, Rev. 9; Equipment Location-Reactor and Radwaste Building Unit No.2, Sec. C-C.
- 14) *Technical Basis for Regulatory Guide 1.145, Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants*; NUREG/CR-2260; W. G. Snell and R. W. Jubach, U.S. Nuclear Regulatory Commission, Washington, D.C; 1981.
- 15) Peach Bottom UFSAR, Section 2.3, Rev. 18.
- 16) Peach Bottom Atomic Power Station Drawing No.M-7, Rev. 13; Sections A-A, B-B, & C-C.

CALCULATION NO. PM-1055, REV. 0

ATTACHMENT A  
(Sheet 1 of 1)



CONOWINGO  
POND  
NORMAL POOL ELEV 108.5 (C.D.)

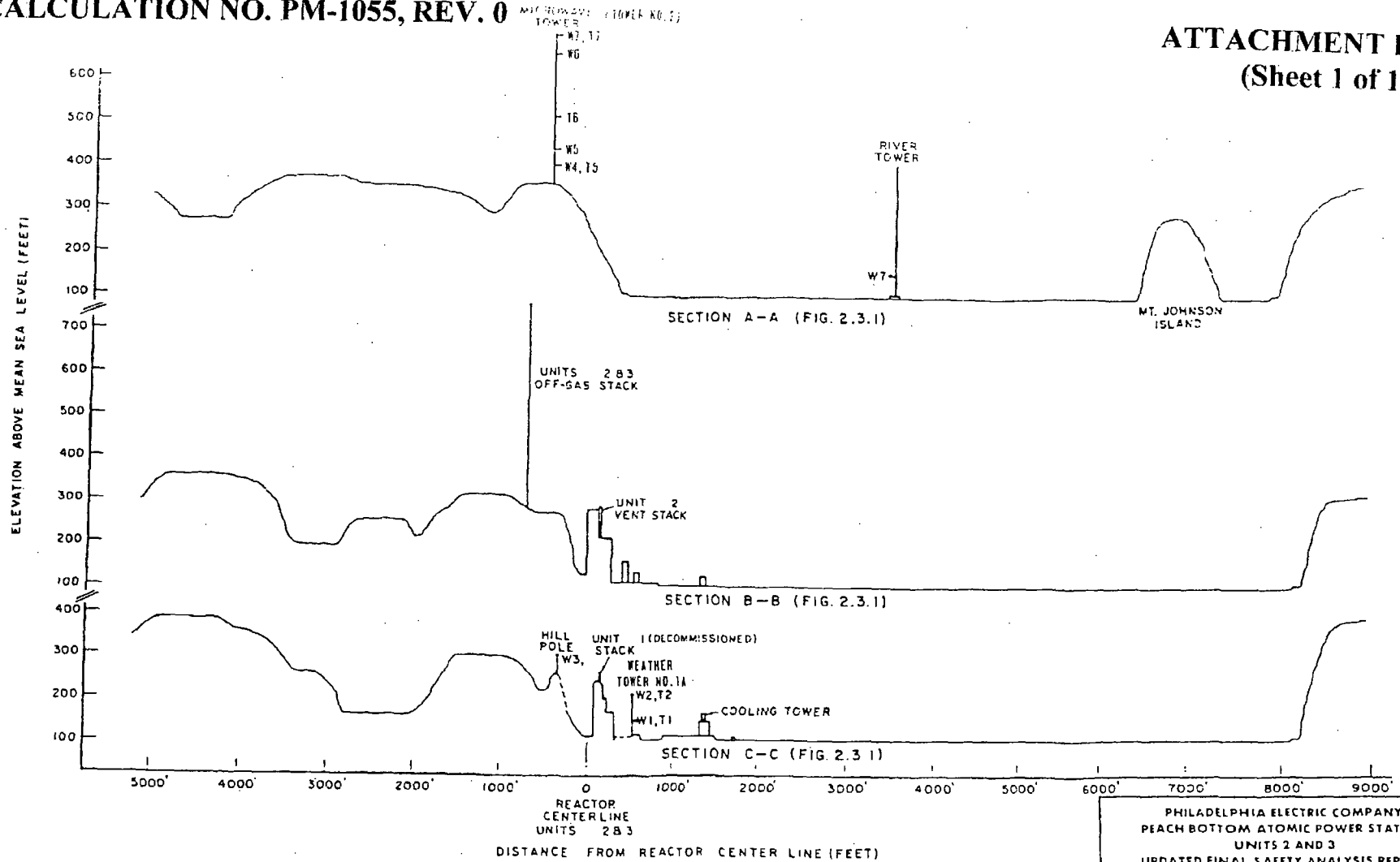
PHILADELPHIA ELECTRIC COMPANY  
PEACH BOTTOM ATOMIC POWER STATION  
UNITS 2 AND 3  
UPDATED FINAL SAFETY ANALYSIS REPORT

LOCATION OF  
METEOROLOGICAL INSTRUMENTS

FIGURE 2.3.1      REV. 2 01/84

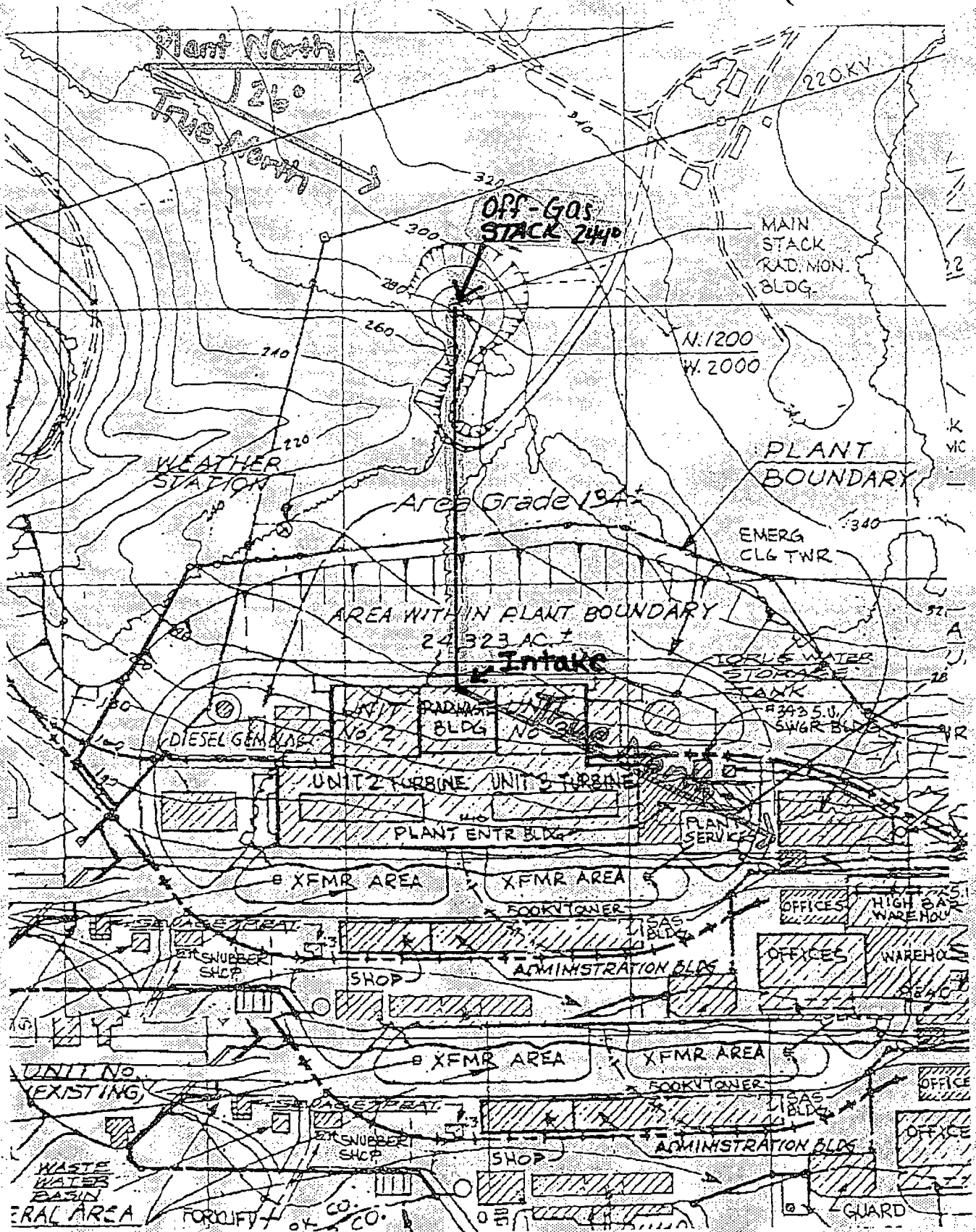
CALCULATION NO. PM-1055, REV. 0

ATTACHMENT B  
(Sheet 1 of 1)



PHILADELPHIA ELECTRIC COMPANY PEACH BOTTOM ATOMIC POWER STATION UNITS 2 AND 3 UPDATED FINAL SAFETY ANALYSIS REPORT	
ELEVATIONS OF METEOROLOGICAL INSTRUMENTS AND GASEOUS RELEASE POINTS 1983 SYSTEM UPGRADE	
FIGURE 2.3.2-A	REV. 2 01/84

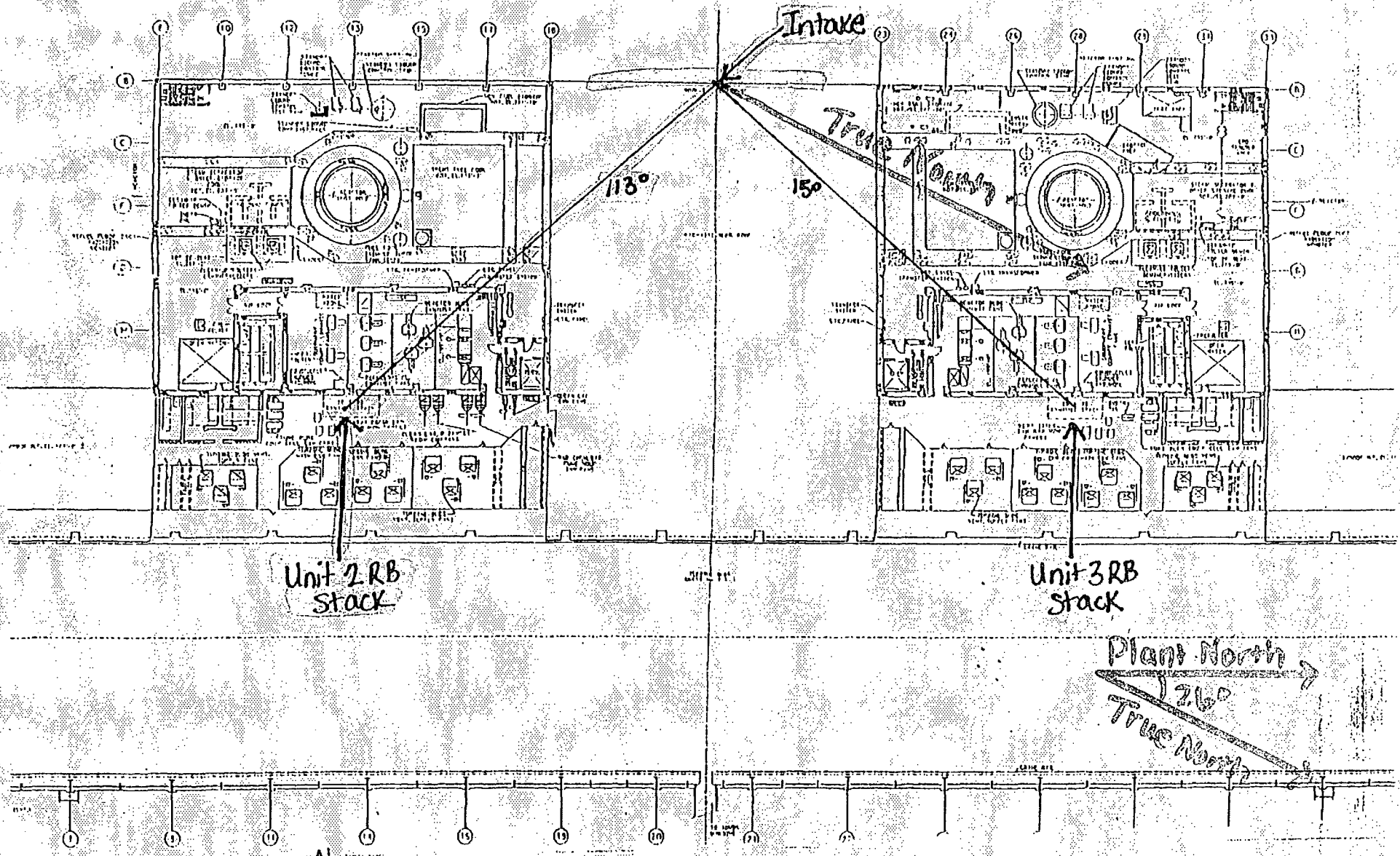
# CALCULATION NO. PM-1055, REV. 0 ATTACHMENT C (Sheet 1 of 1)





# CALCULATION NO. PM-1055, REV. 0

# ATTACHMENT D (Sheet 1 of 1)



PB 1984-1988 T2a 320'

January 1

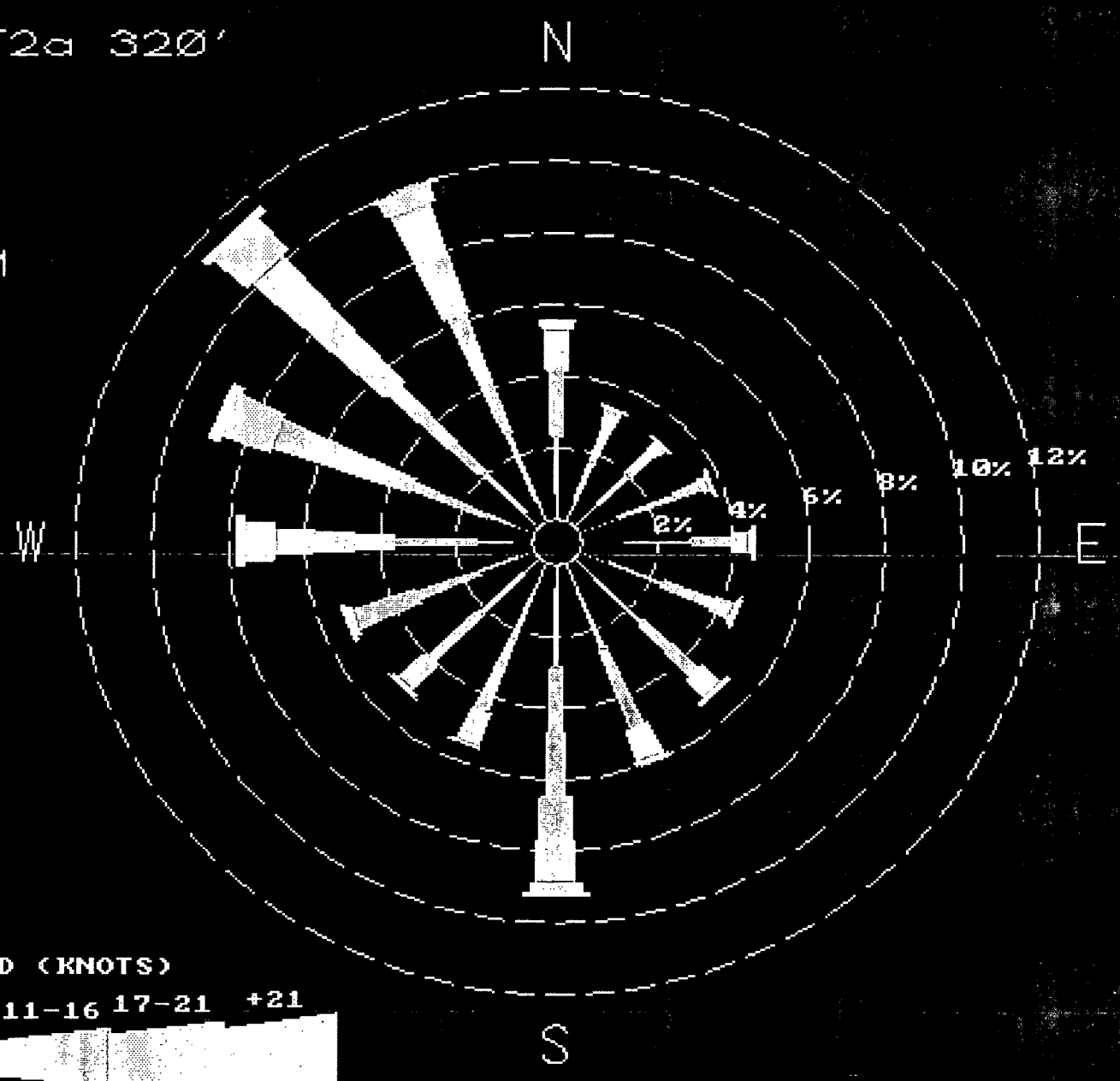
December 31

Midnight-11 PM

NOTE: Frequencies indicate direction from which the wind is blowing.

CALM WINDS 0.26%

WIND SPEED (KNOTS)



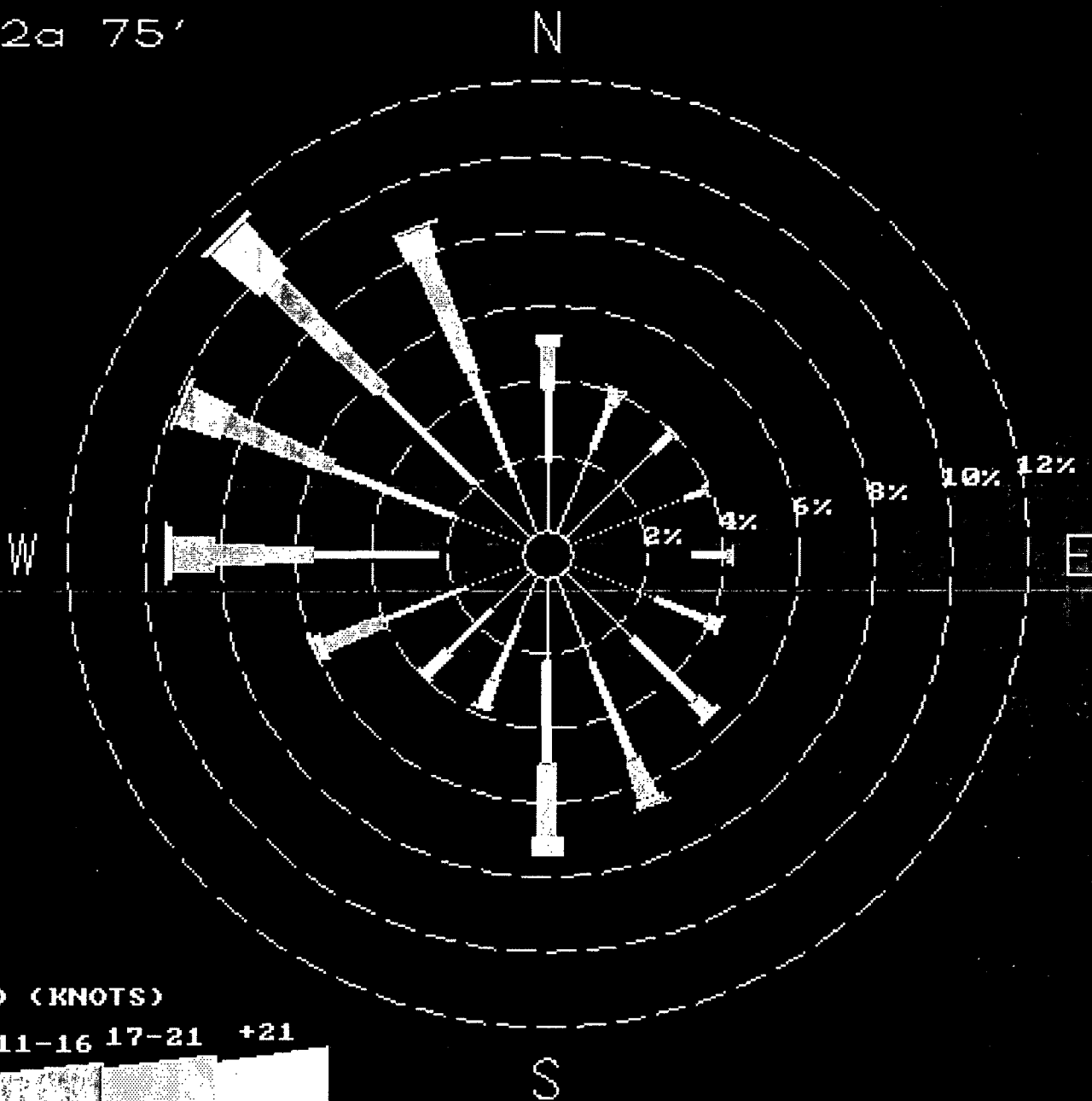
PB 1984-1988 T2a 75'

January 1

December 31

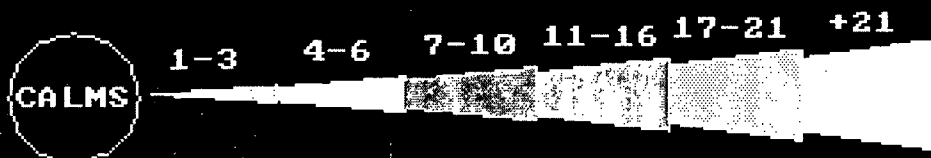
Midnight-11 PM

NOTE: Frequencies indicate direction from which the wind is blowing.



CALM WINDS 1.18%

WIND SPEED (KNOTS)



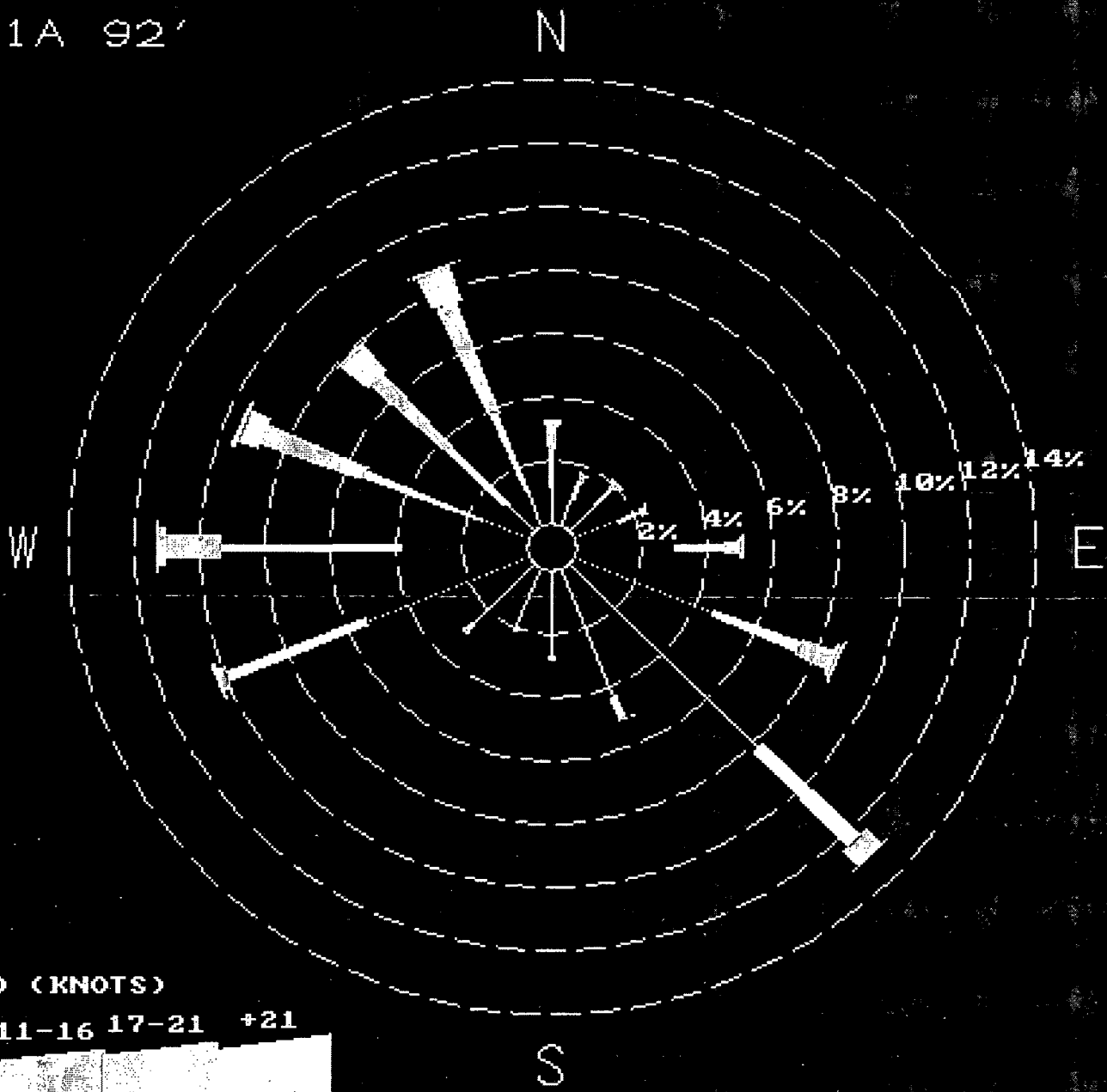
PB 1984-1988 T1A 92'

January 1

December 31

Midnight-11 PM

NOTE: Frequencies indicate direction from which the wind is blowing.



CALM WINDS 2.86%

WIND SPEED (KNOTS)



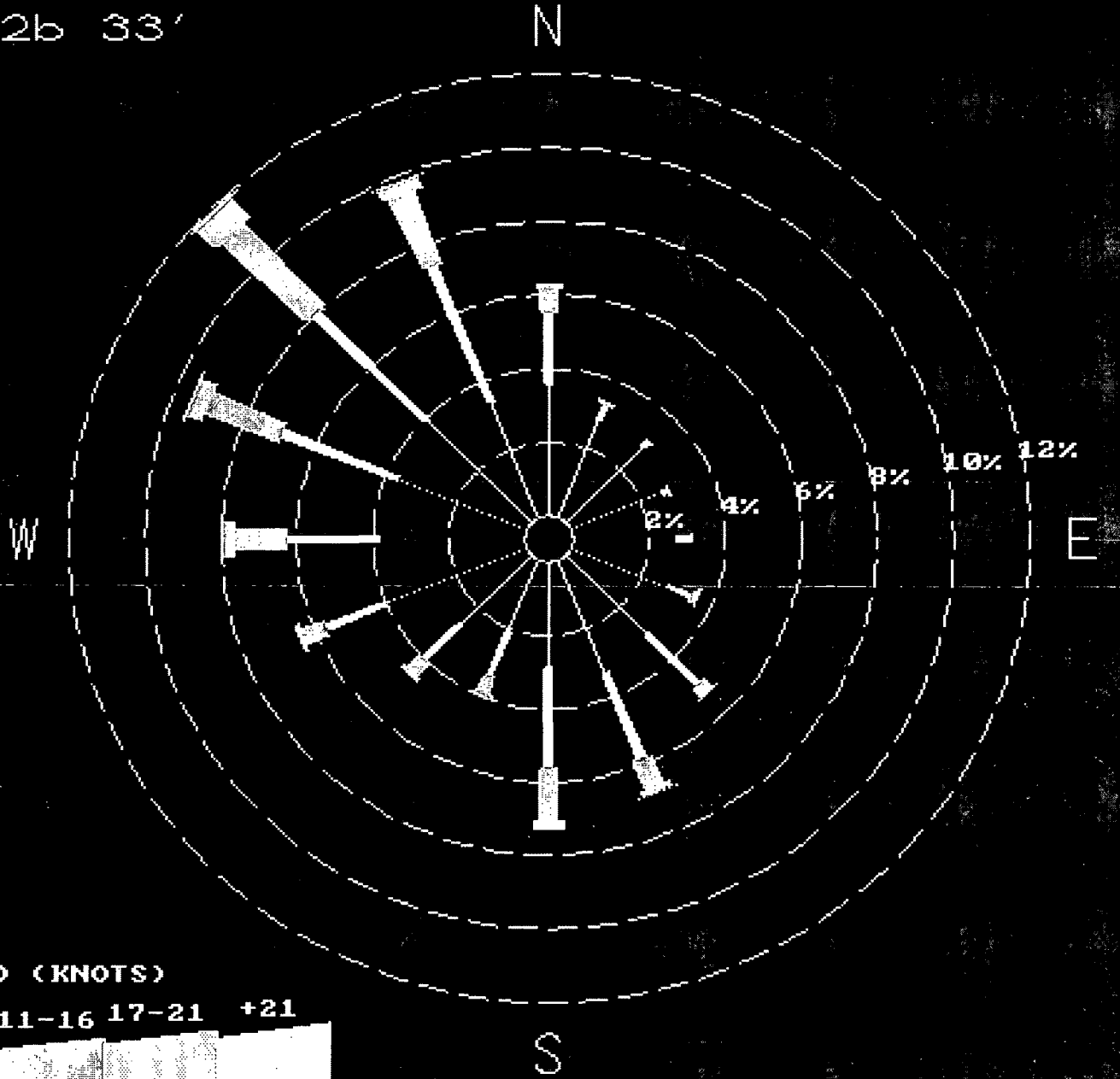
PB 1984-1988 T2b 33'

January 1

December 31

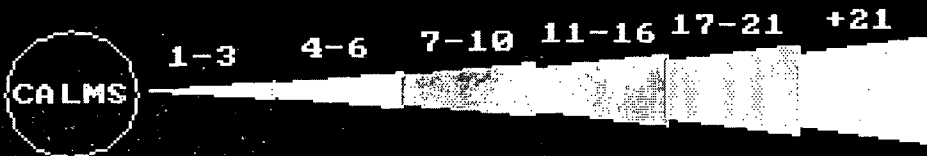
Midnight-11 PM

NOTE: Frequencies indicate direction from which the wind is blowing.



CALM WINDS 3.96%

WIND SPEED (KNOTS)



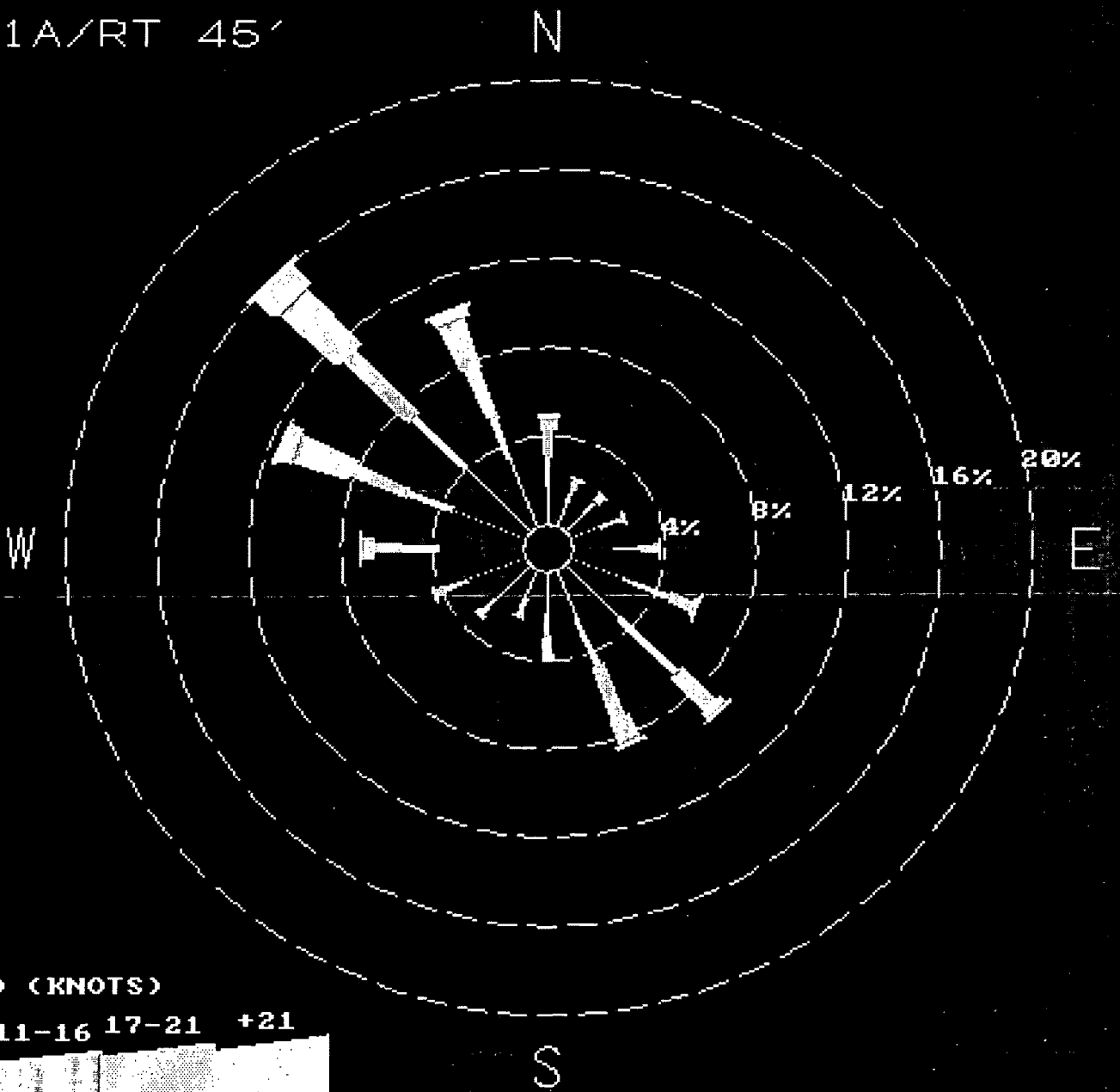
PB 1984-1988 T1A/RT 45'

January 1

December 31

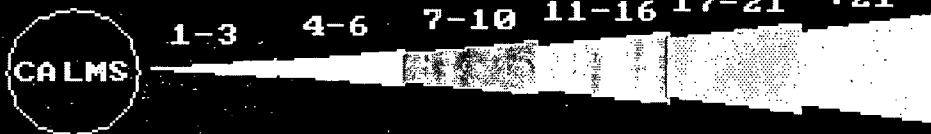
Midnight-11 PM

NOTE: Frequencies  
indicate direction  
from which the  
wind is blowing.

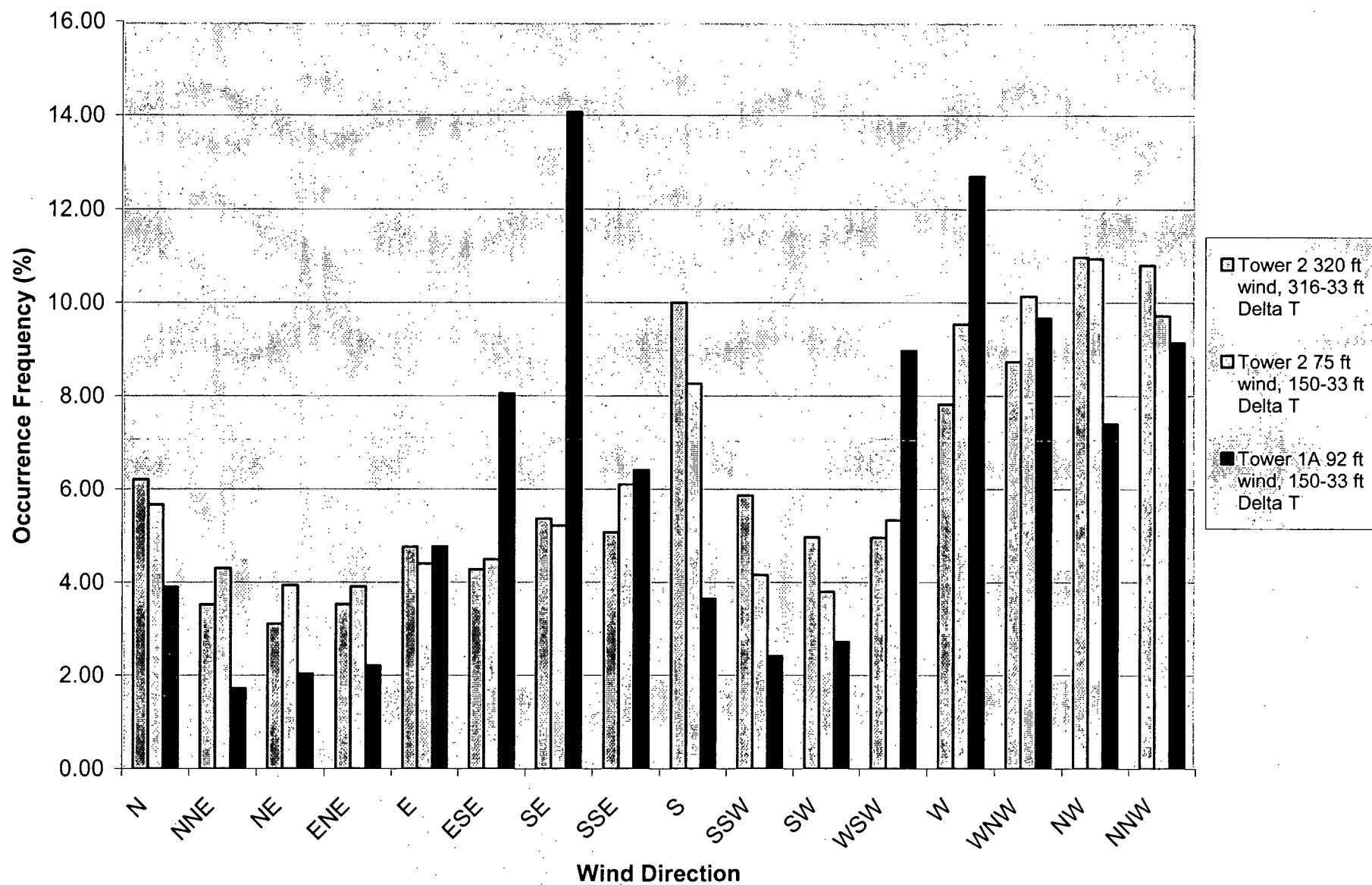


CALM WINDS 1.12%

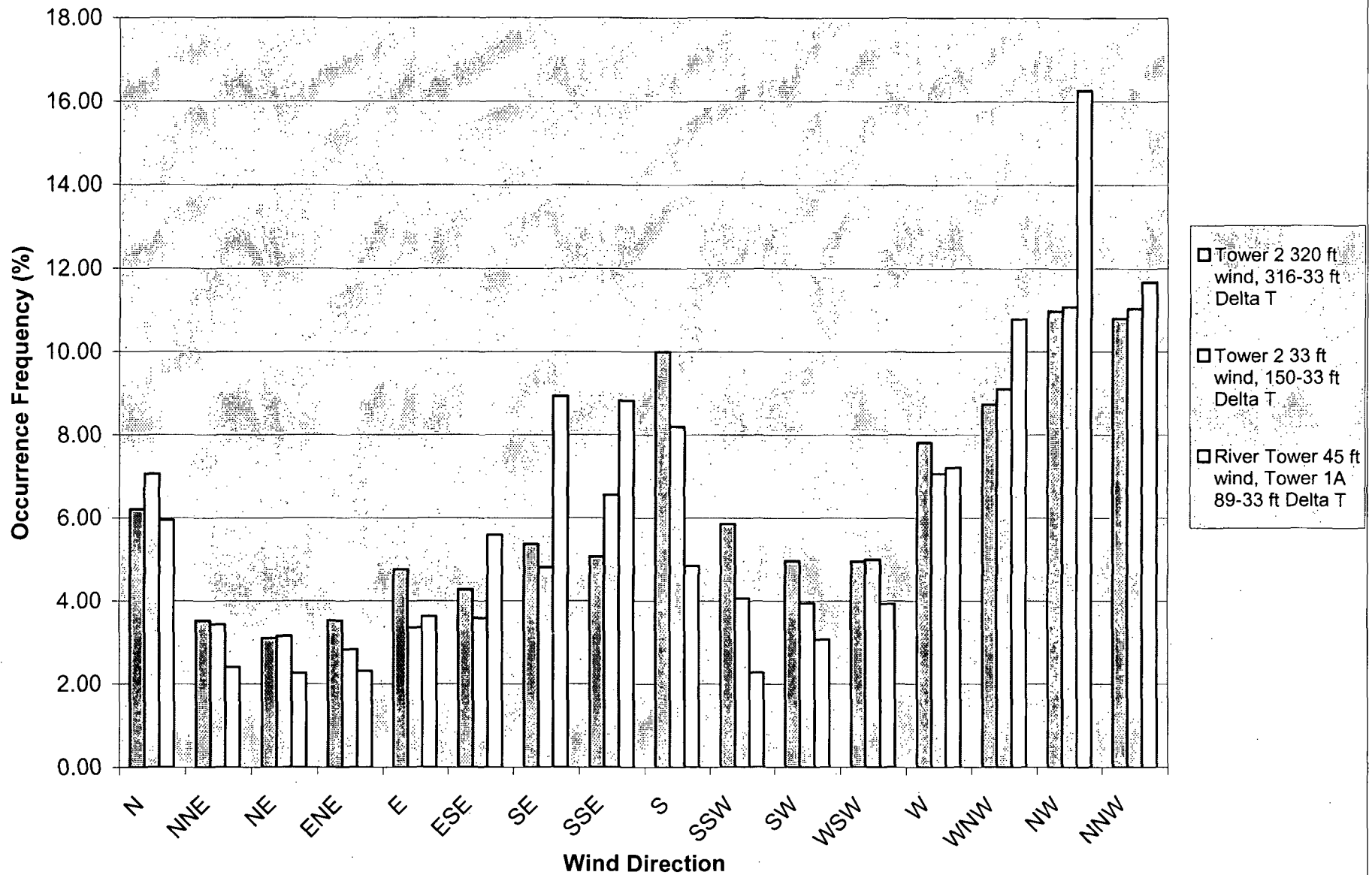
WIND SPEED (KNOTS)



### 1984-1988 Wind Direction Occurrence Frequency

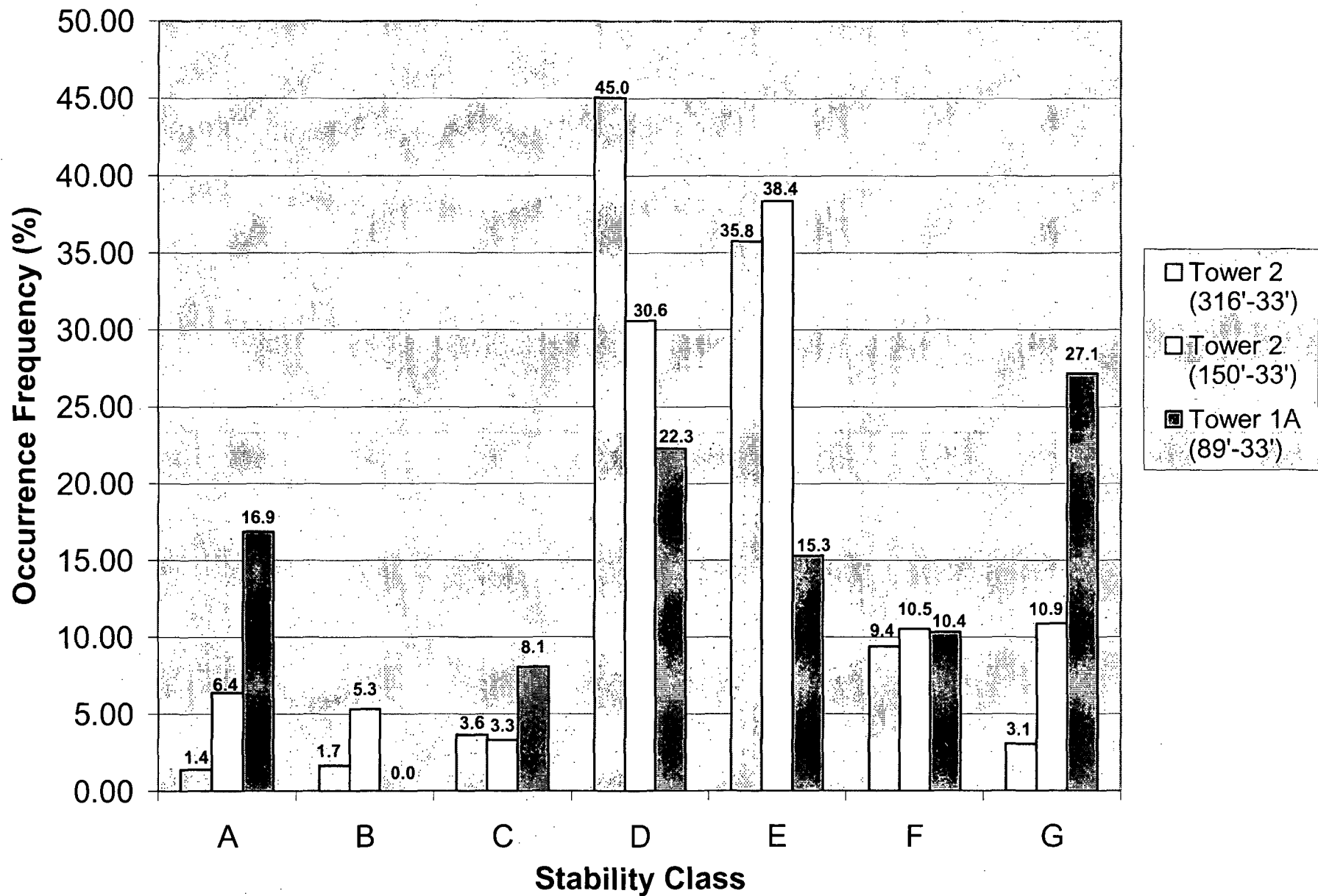


### 1984-1988 Wind Direction Occurrence Frequency





### 1984-1988 Stability Class Occurrence Frequency





Peach Bottom
Joint Frequency Distribution
1984-1988
Tower 2
75' wind
150'-33' Delta T

Table with columns for Wind Speed Category (1-7), Wind Direction (N, NNE, NE, ENE, E, ESE, SE, SSE, S, SSW, SW, WSW, W, WNW, NW, NNW), and values for Calm and Total. Includes subtotals for each category and an overall total at the bottom.

Notes:
(1) Wind Speed Categories defined as follows:
Table with 2 columns: Category (1-7) and Wind Speed (mph) ranges.







**ARCON96 Input**

**Off-Gas Stack to Control Room Intake (Tower 2 320'and 75' wind, Tower 2 316'-33' Delta T)**

5

D:\TRACIP~1\ARCON\PEACHB~1\T2A84A~1.MET

D:\TRACIP~1\ARCON\PEACHB~1\T2A85A~1.MET

D:\TRACIP~1\ARCON\PEACHB~1\T2A86A~1.MET

D:\TRACIP~1\ARCON\PEACHB~1\T2A87A~1.MET

D:\TRACIP~1\ARCON\PEACHB~1\T2A88A~1.MET

22.90

97.50

2

3

152.40

2583.60

0.00

0.00

0.00

244 90

208.80

21.00

49.90

OGStoCR.log

OGStoCR.cfd

.1

0.22

4.00

1 2 4 8 12 24 96 168 360 720

1 2 4 8 11 22 87 152 324 648

0.00 0.00

n

ARCON96 Output

**Off-Gas Stack to Control Room Intake (Tower 2 320' and 75' wind, Tower 2 316'-33' Delta T)**

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission  
Office of Nuclear Reactor Regulation  
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080  
e-mail: jy11@nrc.gov  
J. J. Hayes Phone: (301) 415 3167  
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316  
e-mail: j\_ramsdell@pnl.gov

Code Documentation: NUREG/CR-6331 Rev. 1

The program was prepared for an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibilities for any third party's use, or the results of such use, of any portion of this program or represents that its use by such third party would not infringe privately owned rights.

Program Run 12/30/2002 at 15:35:22

\*\*\*\*\* ARCON INPUT \*\*\*\*\*

Number of Meteorological Data Files = 5

Meteorological Data File Names

D:\TRACIP~1\ARCON\PEACHB~1\T2A84A~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T2A85A~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T2A86A~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T2A87A~1.MET



**Calculation No. PM-1055 Revision 0**

Attachment I

Sheet 3 of 35

D:\TRACIP~1\ARCON\PEACHB~1\T2A88A~1.MET

Height of lower wind instrument (m) = 22.9

Height of upper wind instrument (m) = 97.5

Wind speeds entered as miles per hour

## Elevated release

Release height (m) = 152.4

Building Area (m<sup>2</sup>) = 2583.6

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m<sup>3</sup>/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 244

Wind direction sector width (deg) = 90

Wind direction window (deg) = 199 - 289

Distance to intake (m) = 208.8

Intake height (m) = 21.0

Terrain elevation difference (m) = 49.9

## Output file names

OGStoCR.log

OGStoCR.cfd

Minimum Wind Speed (m/s) = .2

Surface roughness length (m) = .10

Sector averaging constant = 4.0

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 43800

Hours of missing data = 559

Hours direction in window = 10538

Hours elevated plume w/ dir. in window = 525

Hours of calm winds = 13

Hours direction not in window or calm = 32690

## DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
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**Calculation No. PM-1055 Revision 0**

**Attachment I**

UPPER LIM.	1.00E-11	1.00E-11	1.00E-11	1.00E-11	1.00E-11	1.00E-11	1.00E-11	1.00E-11	1.00E-11	1.00E-11	1.00E-11
LOW LIM.	1.00E-15	1.00E-15	1.00E-15	1.00E-15	1.00E-15	1.00E-15	1.00E-15	1.00E-15	1.00E-15	1.00E-15	1.00E-15
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	83.	123.	202.	350.	497.	909.	2800.	4142.	6016.	6470.	
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	611.	2404.	
ZERO	43158.	43061.	42868.	42496.	42408.	41837.	39284.	37296.	35868.	33254.	
TOTAL X/Qs	43241.	43184.	43070.	42846.	42905.	42746.	42084.	41438.	42495.	42128.	
% NON ZERO	.19	.28	.47	.82	1.16	2.13	6.65	10.00	15.59	21.06	

**95th PERCENTILE X/Q VALUES**

1.00E-15	1.00E-15	1.00E-15	1.00E-15	1.00E-15	1.00E-15	1.00E-15	5.69E-15	6.80E-15	6.04E-15	5.89E-15
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**95% X/Q for standard averaging intervals**

0 to 2 hours	1.00E-15
2 to 8 hours	1.00E-15
8 to 24 hours	1.00E-15
1 to 4 days	7.25E-15
4 to 30 days	5.92E-15

**HOURLY VALUE RANGE**

	MAX X/Q	MIN X/Q
CENTERLINE	1.40E-12	3.10E-38
SECTOR-AVERAGE	8.78E-13	1.94E-38

**NORMAL PROGRAM COMPLETION**

X/Q CUMULATIVE FREQUENCY DISTRIBUTIONS

XOQ	1	2	4	8	XOQ	12	24	96	168	360	720
Abv. Lim.	0.	0.	0.	0.	Abv. Lim.	0.	0.	0.	0.	0.	0.
9.120E-12	0.	0.	0.	0.	9.120E-12	0.	0.	0.	0.	0.	0.
8.318E-12	0.	0.	0.	0.	8.318E-12	0.	0.	0.	0.	0.	0.
7.586E-12	0.	0.	0.	0.	7.586E-12	0.	0.	0.	0.	0.	0.
6.918E-12	0.	0.	0.	0.	6.918E-12	0.	0.	0.	0.	0.	0.
6.310E-12	0.	0.	0.	0.	6.310E-12	0.	0.	0.	0.	0.	0.
5.754E-12	0.	0.	0.	0.	5.754E-12	0.	0.	0.	0.	0.	0.
5.248E-12	0.	0.	0.	0.	5.248E-12	0.	0.	0.	0.	0.	0.
4.786E-12	0.	0.	0.	0.	4.786E-12	0.	0.	0.	0.	0.	0.
4.365E-12	0.	0.	0.	0.	4.365E-12	0.	0.	0.	0.	0.	0.
3.981E-12	0.	0.	0.	0.	3.981E-12	0.	0.	0.	0.	0.	0.
3.631E-12	0.	0.	0.	0.	3.631E-12	0.	0.	0.	0.	0.	0.
3.311E-12	0.	0.	0.	0.	3.311E-12	0.	0.	0.	0.	0.	0.
3.020E-12	0.	0.	0.	0.	3.020E-12	0.	0.	0.	0.	0.	0.
2.754E-12	0.	0.	0.	0.	2.754E-12	0.	0.	0.	0.	0.	0.
2.512E-12	0.	0.	0.	0.	2.512E-12	0.	0.	0.	0.	0.	0.
2.291E-12	0.	0.	0.	0.	2.291E-12	0.	0.	0.	0.	0.	0.
2.089E-12	0.	0.	0.	0.	2.089E-12	0.	0.	0.	0.	0.	0.
1.905E-12	0.	0.	0.	0.	1.905E-12	0.	0.	0.	0.	0.	0.
1.738E-12	0.	0.	0.	0.	1.738E-12	0.	0.	0.	0.	0.	0.
1.585E-12	0.	0.	0.	0.	1.585E-12	0.	0.	0.	0.	0.	0.
1.445E-12	0.	0.	0.	0.	1.445E-12	0.	0.	0.	0.	0.	0.
1.318E-12	2.	1.	0.	0.	1.318E-12	0.	0.	0.	0.	0.	0.
1.202E-12	3.	2.	0.	0.	1.202E-12	0.	0.	0.	0.	0.	0.
1.096E-12	4.	2.	0.	0.	1.096E-12	0.	0.	0.	0.	0.	0.
1.000E-12	6.	2.	0.	0.	1.000E-12	0.	0.	0.	0.	0.	0.
9.120E-13	10.	3.	2.	0.	9.120E-13	0.	0.	0.	0.	0.	0.
8.318E-13	11.	4.	2.	0.	8.318E-13	0.	0.	0.	0.	0.	0.
7.586E-13	19.	9.	2.	0.	7.586E-13	0.	0.	0.	0.	0.	0.
6.918E-13	22.	12.	4.	0.	6.918E-13	0.	0.	0.	0.	0.	0.
6.310E-13	35.	22.	5.	0.	6.310E-13	0.	0.	0.	0.	0.	0.
5.754E-13	45.	30.	10.	0.	5.754E-13	0.	0.	0.	0.	0.	0.
5.248E-13	52.	34.	15.	0.	5.248E-13	0.	0.	0.	0.	0.	0.
4.786E-13	56.	37.	21.	0.	4.786E-13	0.	0.	0.	0.	0.	0.
4.365E-13	62.	45.	27.	6.	4.365E-13	0.	0.	0.	0.	0.	0.
3.981E-13	72.	59.	30.	6.	3.981E-13	0.	0.	0.	0.	0.	0.
3.631E-13	74.	62.	44.	6.	3.631E-13	0.	0.	0.	0.	0.	0.
3.311E-13	79.	72.	53.	17.	3.311E-13	0.	0.	0.	0.	0.	0.
3.020E-13	82.	83.	64.	34.	3.020E-13	6.	0.	0.	0.	0.	0.
2.754E-13	83.	91.	70.	46.	2.754E-13	7.	0.	0.	0.	0.	0.

2.512E-13	83.	95.	75.	49.	2.512E-13	7.	0.	0.	0.	0.	0.
2.291E-13	83.	99.	86.	68.	2.291E-13	18.	0.	0.	0.	0.	0.
2.089E-13	83.	104.	93.	77.	2.089E-13	31.	0.	0.	0.	0.	0.
1.905E-13	83.	113.	112.	101.	1.905E-13	47.	0.	0.	0.	0.	0.
1.738E-13	83.	117.	117.	111.	1.738E-13	57.	0.	0.	0.	0.	0.
1.585E-13	83.	118.	139.	130.	1.585E-13	76.	0.	0.	0.	0.	0.
1.445E-13	83.	123.	152.	146.	1.445E-13	95.	6.	0.	0.	0.	0.
1.318E-13	83.	123.	160.	148.	1.318E-13	103.	7.	0.	0.	0.	0.
1.202E-13	83.	123.	168.	156.	1.202E-13	131.	7.	0.	0.	0.	0.
1.096E-13	83.	123.	175.	182.	1.096E-13	156.	18.	0.	0.	0.	0.
1.000E-13	83.	123.	187.	206.	1.000E-13	178.	38.	0.	0.	0.	0.
9.120E-14	83.	123.	189.	217.	9.120E-14	186.	69.	0.	0.	0.	0.
8.318E-14	83.	123.	193.	239.	8.318E-14	197.	75.	0.	0.	0.	0.
7.586E-14	83.	123.	201.	259.	7.586E-14	238.	107.	0.	0.	0.	0.
6.918E-14	83.	123.	202.	286.	6.918E-14	245.	144.	0.	0.	0.	0.
6.310E-14	83.	123.	202.	297.	6.310E-14	281.	206.	0.	0.	0.	0.
5.754E-14	83.	123.	202.	307.	5.754E-14	287.	248.	0.	0.	0.	0.
5.248E-14	83.	123.	202.	324.	5.248E-14	328.	278.	0.	0.	0.	0.
4.786E-14	83.	123.	202.	333.	4.786E-14	356.	326.	6.	0.	0.	0.
4.365E-14	83.	123.	202.	336.	4.365E-14	372.	345.	8.	0.	0.	0.
3.981E-14	83.	123.	202.	337.	3.981E-14	401.	406.	37.	0.	0.	0.
3.631E-14	83.	123.	202.	350.	3.631E-14	415.	440.	39.	0.	0.	0.
3.311E-14	83.	123.	202.	350.	3.311E-14	439.	490.	50.	0.	0.	0.
3.020E-14	83.	123.	202.	350.	3.020E-14	450.	519.	70.	6.	0.	0.
2.754E-14	83.	123.	202.	350.	2.754E-14	458.	537.	152.	24.	0.	0.
2.512E-14	83.	123.	202.	350.	2.512E-14	478.	569.	204.	31.	0.	0.
2.291E-14	83.	123.	202.	350.	2.291E-14	484.	643.	251.	224.	0.	0.
2.089E-14	83.	123.	202.	350.	2.089E-14	490.	683.	337.	234.	0.	0.
1.905E-14	83.	123.	202.	350.	1.905E-14	491.	709.	368.	260.	2.	0.
1.738E-14	83.	123.	202.	350.	1.738E-14	493.	746.	571.	274.	18.	0.
1.585E-14	83.	123.	202.	350.	1.585E-14	497.	781.	720.	417.	37.	0.
1.445E-14	83.	123.	202.	350.	1.445E-14	497.	827.	1061.	507.	369.	0.
1.318E-14	83.	123.	202.	350.	1.318E-14	497.	844.	1107.	565.	408.	0.
1.202E-14	83.	123.	202.	350.	1.202E-14	497.	869.	1249.	738.	452.	0.
1.096E-14	83.	123.	202.	350.	1.096E-14	497.	887.	1399.	759.	582.	0.
1.000E-14	83.	123.	202.	350.	1.000E-14	497.	890.	1486.	1170.	733.	7.
9.120E-15	83.	123.	202.	350.	9.120E-15	497.	892.	1667.	1326.	846.	407.
8.318E-15	83.	123.	202.	350.	8.318E-15	497.	893.	1803.	1775.	926.	509.
7.586E-15	83.	123.	202.	350.	7.586E-15	497.	909.	1886.	1851.	1465.	1202.
6.918E-15	83.	123.	202.	350.	6.918E-15	497.	909.	1908.	2021.	1636.	1477.
6.310E-15	83.	123.	202.	350.	6.310E-15	497.	909.	1941.	2280.	1953.	1670.
5.754E-15	83.	123.	202.	350.	5.754E-15	497.	909.	2099.	2359.	2308.	2248.

**Calculation No. PM-1055 Revision 0****Attachment I**

5.248E-15	83.	123.	202.	350.	5.248E-15	497.	909.	2138.	2492.	2394.	2463.
4.786E-15	83.	123.	202.	350.	4.786E-15	497.	909.	2235.	2732.	2840.	3284.
4.365E-15	83.	123.	202.	350.	4.365E-15	497.	909.	2424.	2784.	2971.	3609.
3.981E-15	83.	123.	202.	350.	3.981E-15	497.	909.	2540.	2806.	3540.	3881.
3.631E-15	83.	123.	202.	350.	3.631E-15	497.	909.	2572.	2851.	3780.	4377.
3.311E-15	83.	123.	202.	350.	3.311E-15	497.	909.	2594.	3046.	3783.	4553.
3.020E-15	83.	123.	202.	350.	3.020E-15	497.	909.	2682.	3085.	4187.	4819.
2.754E-15	83.	123.	202.	350.	2.754E-15	497.	909.	2770.	3252.	4336.	4837.
2.512E-15	83.	123.	202.	350.	2.512E-15	497.	909.	2772.	3585.	4355.	5216.
2.291E-15	83.	123.	202.	350.	2.291E-15	497.	909.	2775.	3748.	4648.	5480.
2.089E-15	83.	123.	202.	350.	2.089E-15	497.	909.	2796.	3779.	4663.	5640.
1.905E-15	83.	123.	202.	350.	1.905E-15	497.	909.	2800.	3801.	4663.	5969.
1.738E-15	83.	123.	202.	350.	1.738E-15	497.	909.	2800.	3961.	4799.	5970.
1.585E-15	83.	123.	202.	350.	1.585E-15	497.	909.	2800.	4121.	4890.	5970.
1.445E-15	83.	123.	202.	350.	1.445E-15	497.	909.	2800.	4123.	4892.	6170.
1.318E-15	83.	123.	202.	350.	1.318E-15	497.	909.	2800.	4125.	4935.	6170.
1.202E-15	83.	123.	202.	350.	1.202E-15	497.	909.	2800.	4136.	4943.	6172.
1.096E-15	83.	123.	202.	350.	1.096E-15	497.	909.	2800.	4142.	5999.	6470.
1.000E-15	83.	123.	202.	350.	1.000E-15	497.	909.	2800.	4142.	6016.	6470.
Belw. Lim.	0.	0.	0.	0.	Belw. Lim.	0.	0.	0.	0.	611.	2404.

**ARCON96 Input**

**Unit 2 Reactor Building Stack to Control Room Intake (Tower 2 75'and 33' wind, Tower 2 150'-33' Delta T)**

5

D:\TRACIP~1\ARCON\PEACHB~1\T2B84A~1.MET

D:\TRACIP~1\ARCON\PEACHB~1\T2B85A~1.MET

D:\TRACIP~1\ARCON\PEACHB~1\T2B86A~1.MET

D:\TRACIP~1\ARCON\PEACHB~1\T2B87A~1.MET

D:\TRACIP~1\ARCON\PEACHB~1\T2B88A~1.MET

10.10

22.90

2

2

57.60

2583.60

0.00

0.00

0.00

113 90

58.40

21.00

0.00

2RBStoCR.log

2RBStoCR.cfd

.1

0.22

4.00

1 2 4 8 12 24 96.168 360 720

1 2 4 8 11 22 87 152 324 648

0.00 0.00

n

**ARCON96 Output**

**Unit 2 Reactor Building Stack to Control Room Intake (Tower 2 75'and 33' wind, Tower 2 150'-33' Delta T)**

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission  
Office of Nuclear Reactor Regulation  
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080  
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e-mail: lab2@nrc.gov

Code Developer: J. V. Ramsdell Phone: (509) 372 6316  
e-mail: j\_ramsdell@pnl.gov

Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 12/30/2002 at 15:34:50

\*\*\*\*\* ARCON INPUT \*\*\*\*\*

Number of Meteorological Data Files = 5

Meteorological Data File Names

D:\TRACIP~1\ARCON\PEACHB~1\T2B84A~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T2B85A~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T2B86A~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T2B87A~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T2B88A~1.MET





Calculation No. PM-1055 Revision 0

Attachment I

LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	8328.	10564.	13548.	17538.	20575.	27025.	40683.	41365.	42347.	42100.	
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
ZERO	34894.	32600.	29500.	25282.	22292.	15663.	1283.	65.	0.	0.	
TOTAL X/Qs	43222.	43164.	43048.	42820.	42867.	42688.	41966.	41430.	42347.	42100.	
% NON ZERO	19.27	24.47	31.47	40.96	48.00	63.31	96.94	99.84	100.00	100.00	

95th PERCENTILE X/Q VALUES

1.18E-03	1.14E-03	1.05E-03	9.36E-04	7.66E-04	5.45E-04	3.14E-04	2.56E-04	2.16E-04	1.86E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	1.18E-03
2 to 8 hours	8.55E-04
8 to 24 hours	3.50E-04
1 to 4 days	2.36E-04
4 to 30 days	1.67E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.70E-03	2.10E-04
SECTOR-AVERAGE	1.07E-03	1.31E-04

NORMAL PROGRAM COMPLETION

X/Q CUMULATIVE FREQUENCY DISTRIBUTIONS

XOQ	1	2	4	8	XOQ	12	24	96	168	360	720
Abv. Lim.	0.	0.	0.	0.	Abv. Lim.	0.	0.	0.	0.	0.	0.
9.120E-03	0.	0.	0.	0.	9.120E-03	0.	0.	0.	0.	0.	0.
8.318E-03	0.	0.	0.	0.	8.318E-03	0.	0.	0.	0.	0.	0.
7.586E-03	0.	0.	0.	0.	7.586E-03	0.	0.	0.	0.	0.	0.
6.918E-03	0.	0.	0.	0.	6.918E-03	0.	0.	0.	0.	0.	0.
6.310E-03	0.	0.	0.	0.	6.310E-03	0.	0.	0.	0.	0.	0.
5.754E-03	0.	0.	0.	0.	5.754E-03	0.	0.	0.	0.	0.	0.
5.248E-03	0.	0.	0.	0.	5.248E-03	0.	0.	0.	0.	0.	0.
4.786E-03	0.	0.	0.	0.	4.786E-03	0.	0.	0.	0.	0.	0.
4.365E-03	0.	0.	0.	0.	4.365E-03	0.	0.	0.	0.	0.	0.
3.981E-03	0.	0.	0.	0.	3.981E-03	0.	0.	0.	0.	0.	0.
3.631E-03	0.	0.	0.	0.	3.631E-03	0.	0.	0.	0.	0.	0.
3.311E-03	0.	0.	0.	0.	3.311E-03	0.	0.	0.	0.	0.	0.
3.020E-03	0.	0.	0.	0.	3.020E-03	0.	0.	0.	0.	0.	0.
2.754E-03	0.	0.	0.	0.	2.754E-03	0.	0.	0.	0.	0.	0.
2.512E-03	0.	0.	0.	0.	2.512E-03	0.	0.	0.	0.	0.	0.
2.291E-03	0.	0.	0.	0.	2.291E-03	0.	0.	0.	0.	0.	0.
2.089E-03	0.	0.	0.	0.	2.089E-03	0.	0.	0.	0.	0.	0.
1.905E-03	0.	0.	0.	0.	1.905E-03	0.	0.	0.	0.	0.	0.
1.738E-03	0.	0.	0.	0.	1.738E-03	0.	0.	0.	0.	0.	0.
1.585E-03	45.	15.	2.	0.	1.585E-03	0.	0.	0.	0.	0.	0.
1.445E-03	197.	107.	60.	19.	1.445E-03	0.	0.	0.	0.	0.	0.
1.318E-03	1215.	724.	365.	141.	1.318E-03	0.	0.	0.	0.	0.	0.
1.202E-03	1793.	1476.	991.	484.	1.202E-03	19.	0.	0.	0.	0.	0.
1.096E-03	3408.	2668.	1810.	1128.	1.096E-03	139.	0.	0.	0.	0.	0.
1.000E-03	4402.	3402.	2494.	1673.	1.000E-03	515.	10.	0.	0.	0.	0.
9.120E-04	4926.	3914.	3127.	2314.	9.120E-04	994.	34.	0.	0.	0.	0.
8.318E-04	5684.	4415.	3733.	2884.	8.318E-04	1565.	155.	0.	0.	0.	0.
7.586E-04	6058.	4810.	4272.	3564.	7.586E-04	2206.	377.	0.	0.	0.	0.
6.918E-04	6576.	5165.	4747.	4162.	6.918E-04	2855.	711.	0.	0.	0.	0.
6.310E-04	6822.	5803.	5417.	4827.	6.310E-04	3536.	1129.	0.	0.	0.	0.
5.754E-04	7182.	6430.	6123.	5529.	5.754E-04	4200.	1712.	10.	0.	0.	0.
5.248E-04	7332.	7035.	6771.	6127.	5.248E-04	4882.	2423.	61.	0.	0.	0.
4.786E-04	7825.	7691.	7312.	6873.	4.786E-04	5605.	3133.	114.	0.	0.	0.
4.365E-04	8084.	8335.	7841.	7587.	4.365E-04	6294.	3924.	256.	17.	0.	0.
3.981E-04	8192.	8773.	8241.	8257.	3.981E-04	7038.	4812.	449.	87.	0.	0.
3.631E-04	8263.	9245.	8658.	8856.	3.631E-04	7781.	5746.	963.	258.	0.	0.
3.311E-04	8289.	9551.	9139.	9420.	3.311E-04	8493.	6685.	1623.	635.	9.	0.
3.020E-04	8312.	9763.	9581.	10096.	3.020E-04	9192.	7660.	2410.	1130.	116.	0.

**Calculation No. PM-1055 Revision 0**

**Attachment I**

2.754E-04	8323.	9928.	10221.	10746.	2.754E-04	9886.	8599.	3218.	1517.	419.	0.
2.512E-04	8325.	10008.	10695.	11281.	2.512E-04	10553.	9546.	4382.	2205.	851.	0.
2.291E-04	8327.	10437.	11213.	11795.	2.291E-04	11187.	10478.	5646.	3418.	1520.	291.
2.089E-04	8328.	10524.	11729.	12260.	2.089E-04	11908.	11376.	7136.	5073.	2444.	646.
1.905E-04	8328.	10546.	12048.	12586.	1.905E-04	12496.	12261.	9171.	6587.	3879.	1441.
1.738E-04	8328.	10554.	12454.	12948.	1.738E-04	13131.	13082.	10930.	8560.	5876.	4018.
1.585E-04	8328.	10561.	12670.	13432.	1.585E-04	13663.	13846.	12904.	10712.	8249.	7279.
1.445E-04	8328.	10563.	12898.	13946.	1.445E-04	14203.	14686.	14787.	13498.	11202.	10467.
1.318E-04	8328.	10564.	13004.	14514.	1.318E-04	14639.	15567.	16647.	16143.	14814.	13905.
1.202E-04	8328.	10564.	13367.	14960.	1.202E-04	15016.	16308.	18331.	18612.	18853.	18075.
1.096E-04	8328.	10564.	13491.	15424.	1.096E-04	15521.	17108.	20086.	21520.	22927.	22633.
1.000E-04	8328.	10564.	13526.	15878.	1.000E-04	15962.	17863.	21964.	23653.	26460.	26747.
9.120E-05	8328.	10564.	13535.	16285.	9.120E-05	16522.	18607.	23413.	25807.	28796.	31046.
8.318E-05	8328.	10564.	13540.	16586.	8.318E-05	17043.	19190.	24761.	27627.	31187.	34182.
7.586E-05	8328.	10564.	13548.	16736.	7.586E-05	17413.	19786.	26230.	29431.	33562.	36411.
6.918E-05	8328.	10564.	13548.	16939.	6.918E-05	17942.	20308.	27497.	30845.	34989.	38084.
6.310E-05	8328.	10564.	13548.	17001.	6.310E-05	18257.	20862.	29041.	32008.	36558.	39832.
5.754E-05	8328.	10564.	13548.	17426.	5.754E-05	18680.	21355.	30172.	33028.	38126.	40841.
5.248E-05	8328.	10564.	13548.	17507.	5.248E-05	18906.	21827.	31223.	34088.	39118.	41281.
4.786E-05	8328.	10564.	13548.	17524.	4.786E-05	19203.	22330.	32122.	34872.	40068.	41881.
4.365E-05	8328.	10564.	13548.	17527.	4.365E-05	19501.	22893.	32991.	35830.	40746.	42032.
3.981E-05	8328.	10564.	13548.	17534.	3.981E-05	19816.	23281.	33633.	36797.	41390.	42081.
3.631E-05	8328.	10564.	13548.	17538.	3.631E-05	20072.	23707.	34211.	37437.	41726.	42100.
3.311E-05	8328.	10564.	13548.	17538.	3.311E-05	20187.	24104.	34866.	38163.	41910.	42100.
3.020E-05	8328.	10564.	13548.	17538.	3.020E-05	20282.	24532.	35485.	38631.	42019.	42100.
2.754E-05	8328.	10564.	13548.	17538.	2.754E-05	20385.	24957.	36173.	38833.	42175.	42100.
2.512E-05	8328.	10564.	13548.	17538.	2.512E-05	20519.	25231.	36745.	39165.	42266.	42100.
2.291E-05	8328.	10564.	13548.	17538.	2.291E-05	20562.	25560.	37087.	39428.	42278.	42100.
2.089E-05	8328.	10564.	13548.	17538.	2.089E-05	20571.	25882.	37469.	39747.	42303.	42100.
1.905E-05	8328.	10564.	13548.	17538.	1.905E-05	20572.	26260.	37718.	40011.	42330.	42100.
1.738E-05	8328.	10564.	13548.	17538.	1.738E-05	20572.	26483.	38056.	40187.	42347.	42100.
1.585E-05	8328.	10564.	13548.	17538.	1.585E-05	20575.	26566.	38384.	40347.	42347.	42100.
1.445E-05	8328.	10564.	13548.	17538.	1.445E-05	20575.	26756.	38538.	40521.	42347.	42100.
1.318E-05	8328.	10564.	13548.	17538.	1.318E-05	20575.	26800.	38732.	40669.	42347.	42100.
1.202E-05	8328.	10564.	13548.	17538.	1.202E-05	20575.	26971.	38992.	40728.	42347.	42100.
1.096E-05	8328.	10564.	13548.	17538.	1.096E-05	20575.	27014.	39335.	40842.	42347.	42100.
1.000E-05	8328.	10564.	13548.	17538.	1.000E-05	20575.	27022.	39409.	40939.	42347.	42100.
9.120E-06	8328.	10564.	13548.	17538.	9.120E-06	20575.	27022.	39472.	41020.	42347.	42100.
8.318E-06	8328.	10564.	13548.	17538.	8.318E-06	20575.	27025.	39530.	41034.	42347.	42100.
7.586E-06	8328.	10564.	13548.	17538.	7.586E-06	20575.	27025.	39688.	41134.	42347.	42100.
6.918E-06	8328.	10564.	13548.	17538.	6.918E-06	20575.	27025.	39952.	41189.	42347.	42100.
6.310E-06	8328.	10564.	13548.	17538.	6.310E-06	20575.	27025.	40026.	41229.	42347.	42100.

**Calculation No. PM-1055 Revision 0****Attachment I**

5.754E-06	8328.	10564.	13548.	17538.	5.754E-06	20575.	27025.	40176.	41232.	42347.	42100.
5.248E-06	8328.	10564.	13548.	17538.	5.248E-06	20575.	27025.	40305.	41248.	42347.	42100.
4.786E-06	8328.	10564.	13548.	17538.	4.786E-06	20575.	27025.	40456.	41264.	42347.	42100.
4.365E-06	8328.	10564.	13548.	17538.	4.365E-06	20575.	27025.	40567.	41272.	42347.	42100.
3.981E-06	8328.	10564.	13548.	17538.	3.981E-06	20575.	27025.	40570.	41329.	42347.	42100.
3.631E-06	8328.	10564.	13548.	17538.	3.631E-06	20575.	27025.	40614.	41333.	42347.	42100.
3.311E-06	8328.	10564.	13548.	17538.	3.311E-06	20575.	27025.	40634.	41334.	42347.	42100.
3.020E-06	8328.	10564.	13548.	17538.	3.020E-06	20575.	27025.	40659.	41334.	42347.	42100.
2.754E-06	8328.	10564.	13548.	17538.	2.754E-06	20575.	27025.	40683.	41341.	42347.	42100.
2.512E-06	8328.	10564.	13548.	17538.	2.512E-06	20575.	27025.	40683.	41361.	42347.	42100.
2.291E-06	8328.	10564.	13548.	17538.	2.291E-06	20575.	27025.	40683.	41361.	42347.	42100.
2.089E-06	8328.	10564.	13548.	17538.	2.089E-06	20575.	27025.	40683.	41361.	42347.	42100.
1.905E-06	8328.	10564.	13548.	17538.	1.905E-06	20575.	27025.	40683.	41361.	42347.	42100.
1.738E-06	8328.	10564.	13548.	17538.	1.738E-06	20575.	27025.	40683.	41365.	42347.	42100.
1.585E-06	8328.	10564.	13548.	17538.	1.585E-06	20575.	27025.	40683.	41365.	42347.	42100.
1.445E-06	8328.	10564.	13548.	17538.	1.445E-06	20575.	27025.	40683.	41365.	42347.	42100.
1.318E-06	8328.	10564.	13548.	17538.	1.318E-06	20575.	27025.	40683.	41365.	42347.	42100.
1.202E-06	8328.	10564.	13548.	17538.	1.202E-06	20575.	27025.	40683.	41365.	42347.	42100.
1.096E-06	8328.	10564.	13548.	17538.	1.096E-06	20575.	27025.	40683.	41365.	42347.	42100.
1.000E-06	8328.	10564.	13548.	17538.	1.000E-06	20575.	27025.	40683.	41365.	42347.	42100.
Belw. Lim.	0.	0.	0.	0.	Belw. Lim.	0.	0.	0.	0.	0.	0.

**ARCON96 Input**

**Unit 2 Reactor Building Stack to Control Room Intake (Tower 1A 92'and 34' wind, Tower 1A 89'-33' Delta T)**

5

D:\TRACIP~1\ARCON\PEACHB~1\T1AA84~1.MET

D:\TRACIP~1\ARCON\PEACHB~1\T1AA85~1.MET

D:\TRACIP~1\ARCON\PEACHB~1\T1AA86~1.MET

D:\TRACIP~1\ARCON\PEACHB~1\T1AA87~1.MET

D:\TRACIP~1\ARCON\PEACHB~1\T1AA88~1.MET

10.36

28.04

2

2

57.60

2583.60

0.00

0.00

0.00

113 90

58.40

21.00

0.00

2RSCR1A.log

2RSCR1A.cfd

.1

0.22

4.00

1 2 4 8 12 24 96 168 360 720

1 2 4 8 11 22 87 152 324 648

0.00 0.00

n

ARCON96 Output

**Unit 2 Reactor Building Stack to Control Room Intake (Tower 1A 92' and 34' wind, Tower 1A 89'-33' Delta T)**

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission  
Office of Nuclear Reactor Regulation  
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080  
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Code Developer: J. V. Ramsdell Phone: (509) 372 6316  
e-mail: j\_ramsdell@pnl.gov

Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 1/9/2003 at 14:42:11

\*\*\*\*\* ARCON INPUT \*\*\*\*\*

Number of Meteorological Data Files = 5

Meteorological Data File Names

D:\TRACIP~1\ARCON\PEACHB~1\T1AA84~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T1AA85~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T1AA86~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T1AA87~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T1AA88~1.MET



Calculation No. PM-1055 Revision 0

Attachment I

ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	14123.	16719.	19959.	23952.	26939.	32635.	42145.	42538.	42343.	41983.	
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
ZERO	29213.	26557.	23198.	18969.	16044.	10067.	411.	0.	0.	0.	
TOTAL X/Qs	43336.	43276.	43157.	42921.	42983.	42702.	42556.	42538.	42343.	41983.	
% NON ZERO	32.59	38.63	46.25	55.80	62.67	76.42	99.03	100.00	100.00	100.00	

95th PERCENTILE X/Q VALUES

1.17E-03 1.14E-03 1.07E-03 9.74E-04 8.05E-04 6.01E-04 3.67E-04 3.16E-04 2.73E-04 2.45E-04

95% X/Q for standard averaging intervals

0 to 2 hours	1.17E-03
2 to 8 hours	9.08E-04
8 to 24 hours	4.14E-04
1 to 4 days	2.90E-04
4 to 30 days	2.26E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.70E-03	1.55E-04
SECTOR-AVERAGE	1.07E-03	9.71E-05

NORMAL PROGRAM COMPLETION



X/Q CUMULATIVE FREQUENCY DISTRIBUTIONS

XOQ	1	2	4	8	XOQ	12	24	96	168	360	720
Abv. Lim.	0.	0.	0.	0.	Abv. Lim.	0.	0.	0.	0.	0.	0.
9.120E-03	0.	0.	0.	0.	9.120E-03	0.	0.	0.	0.	0.	0.
8.318E-03	0.	0.	0.	0.	8.318E-03	0.	0.	0.	0.	0.	0.
7.586E-03	0.	0.	0.	0.	7.586E-03	0.	0.	0.	0.	0.	0.
6.918E-03	0.	0.	0.	0.	6.918E-03	0.	0.	0.	0.	0.	0.
6.310E-03	0.	0.	0.	0.	6.310E-03	0.	0.	0.	0.	0.	0.
5.754E-03	0.	0.	0.	0.	5.754E-03	0.	0.	0.	0.	0.	0.
5.248E-03	0.	0.	0.	0.	5.248E-03	0.	0.	0.	0.	0.	0.
4.786E-03	0.	0.	0.	0.	4.786E-03	0.	0.	0.	0.	0.	0.
4.365E-03	0.	0.	0.	0.	4.365E-03	0.	0.	0.	0.	0.	0.
3.981E-03	0.	0.	0.	0.	3.981E-03	0.	0.	0.	0.	0.	0.
3.631E-03	0.	0.	0.	0.	3.631E-03	0.	0.	0.	0.	0.	0.
3.311E-03	0.	0.	0.	0.	3.311E-03	0.	0.	0.	0.	0.	0.
3.020E-03	0.	0.	0.	0.	3.020E-03	0.	0.	0.	0.	0.	0.
2.754E-03	0.	0.	0.	0.	2.754E-03	0.	0.	0.	0.	0.	0.
2.512E-03	0.	0.	0.	0.	2.512E-03	0.	0.	0.	0.	0.	0.
2.291E-03	0.	0.	0.	0.	2.291E-03	0.	0.	0.	0.	0.	0.
2.089E-03	0.	0.	0.	0.	2.089E-03	0.	0.	0.	0.	0.	0.
1.905E-03	0.	0.	0.	0.	1.905E-03	0.	0.	0.	0.	0.	0.
1.738E-03	0.	0.	0.	0.	1.738E-03	0.	0.	0.	0.	0.	0.
1.585E-03	72.	33.	9.	2.	1.585E-03	0.	0.	0.	0.	0.	0.
1.445E-03	291.	160.	56.	17.	1.445E-03	0.	0.	0.	0.	0.	0.
1.318E-03	1021.	593.	276.	108.	1.318E-03	2.	0.	0.	0.	0.	0.
1.202E-03	1620.	1309.	817.	380.	1.202E-03	25.	0.	0.	0.	0.	0.
1.096E-03	3555.	2696.	1849.	1043.	1.096E-03	157.	0.	0.	0.	0.	0.
1.000E-03	4736.	3774.	2853.	1864.	1.000E-03	415.	9.	0.	0.	0.	0.
9.120E-04	5762.	4818.	3864.	2830.	9.120E-04	972.	47.	0.	0.	0.	0.
8.318E-04	6963.	5718.	4999.	3942.	8.318E-04	1790.	169.	0.	0.	0.	0.
7.586E-04	8090.	6754.	6002.	5058.	7.586E-04	2785.	427.	0.	0.	0.	0.
6.918E-04	8912.	7500.	7013.	6242.	6.918E-04	3914.	846.	0.	0.	0.	0.
6.310E-04	9443.	8403.	7974.	7366.	6.310E-04	5130.	1564.	33.	0.	0.	0.
5.754E-04	9734.	9219.	8917.	8584.	5.754E-04	6382.	2621.	58.	0.	0.	0.
5.248E-04	10086.	9866.	9908.	9729.	5.248E-04	7668.	3815.	111.	0.	0.	0.
4.786E-04	11678.	11248.	10962.	10838.	4.786E-04	8978.	5041.	339.	34.	0.	0.
4.365E-04	12802.	12469.	11985.	11854.	4.365E-04	10254.	6400.	745.	90.	0.	0.
3.981E-04	13480.	13569.	12908.	12943.	3.981E-04	11466.	7921.	1396.	312.	0.	0.
3.631E-04	13788.	14178.	13764.	13813.	3.631E-04	12567.	9495.	2231.	646.	93.	0.
3.311E-04	13952.	14663.	14513.	14642.	3.311E-04	13561.	11011.	3558.	1515.	384.	0.
3.020E-04	14045.	15011.	15074.	15455.	3.020E-04	14513.	12482.	5294.	2675.	877.	22.

**Calculation No. PM-1055 Revision 0****Attachment I**

2.754E-04	14082.	15339.	15608.	16221.	2.754E-04	15442.	13861.	7338.	4493.	1977.	292.
2.512E-04	14102.	15522.	16064.	16922.	2.512E-04	16216.	15221.	9772.	7010.	3455.	1488.
2.291E-04	14114.	16419.	17025.	17592.	2.291E-04	16995.	16406.	12353.	9803.	6039.	3636.
2.089E-04	14118.	16622.	17425.	18079.	2.089E-04	17689.	17582.	14898.	13377.	9647.	7186.
1.905E-04	14120.	16684.	17866.	18585.	1.905E-04	18376.	18671.	17494.	16530.	14689.	11919.
1.738E-04	14121.	16706.	18247.	19178.	1.738E-04	19081.	19726.	20275.	20121.	19732.	20175.
1.585E-04	14122.	16711.	18481.	19656.	1.585E-04	19722.	20707.	22724.	23381.	24265.	26112.
1.445E-04	14123.	16717.	18719.	20087.	1.445E-04	20242.	21648.	24849.	26363.	28916.	31063.
1.318E-04	14123.	16718.	18957.	20476.	1.318E-04	20780.	22457.	26891.	29072.	31925.	34261.
1.202E-04	14123.	16718.	19529.	21101.	1.202E-04	21313.	23281.	28458.	31252.	34309.	37138.
1.096E-04	14123.	16718.	19848.	21560.	1.096E-04	21844.	24000.	30136.	33328.	36372.	38816.
1.000E-04	14123.	16719.	19917.	21936.	1.000E-04	22268.	24707.	31704.	35026.	37526.	39313.
9.120E-05	14123.	16719.	19936.	22263.	9.120E-05	22722.	25257.	32991.	36307.	38397.	39982.
8.318E-05	14123.	16719.	19949.	22524.	8.318E-05	23110.	26014.	34096.	37215.	39456.	40342.
7.586E-05	14123.	16719.	19957.	22723.	7.586E-05	23681.	26526.	35170.	38157.	40031.	40943.
6.918E-05	14123.	16719.	19958.	22970.	6.918E-05	24071.	27012.	35993.	38902.	41056.	41265.
6.310E-05	14123.	16719.	19958.	23095.	6.310E-05	24474.	27528.	36773.	39564.	41389.	41580.
5.754E-05	14123.	16719.	19958.	23707.	5.754E-05	24815.	28007.	37516.	40085.	41688.	41883.
5.248E-05	14123.	16719.	19959.	23882.	5.248E-05	25045.	28429.	38048.	40706.	42041.	41973.
4.786E-05	14123.	16719.	19959.	23931.	4.786E-05	25395.	28816.	38509.	41042.	42116.	41983.
4.365E-05	14123.	16719.	19959.	23939.	4.365E-05	25605.	29182.	38845.	41246.	42283.	41983.
3.981E-05	14123.	16719.	19959.	23944.	3.981E-05	26007.	29573.	39487.	41397.	42311.	41983.
3.631E-05	14123.	16719.	19959.	23950.	3.631E-05	26248.	29910.	39881.	41611.	42331.	41983.
3.311E-05	14123.	16719.	19959.	23951.	3.311E-05	26326.	30287.	40077.	41728.	42336.	41983.
3.020E-05	14123.	16719.	19959.	23951.	3.020E-05	26432.	30521.	40320.	41843.	42343.	41983.
2.754E-05	14123.	16719.	19959.	23951.	2.754E-05	26544.	30790.	40529.	41955.	42343.	41983.
2.512E-05	14123.	16719.	19959.	23952.	2.512E-05	26732.	31067.	40727.	42058.	42343.	41983.
2.291E-05	14123.	16719.	19959.	23952.	2.291E-05	26879.	31282.	40836.	42199.	42343.	41983.
2.089E-05	14123.	16719.	19959.	23952.	2.089E-05	26922.	31432.	40997.	42288.	42343.	41983.
1.905E-05	14123.	16719.	19959.	23952.	1.905E-05	26927.	31729.	41060.	42326.	42343.	41983.
1.738E-05	14123.	16719.	19959.	23952.	1.738E-05	26938.	31913.	41119.	42384.	42343.	41983.
1.585E-05	14123.	16719.	19959.	23952.	1.585E-05	26938.	31995.	41259.	42401.	42343.	41983.
1.445E-05	14123.	16719.	19959.	23952.	1.445E-05	26939.	32168.	41351.	42409.	42343.	41983.
1.318E-05	14123.	16719.	19959.	23952.	1.318E-05	26939.	32193.	41413.	42432.	42343.	41983.
1.202E-05	14123.	16719.	19959.	23952.	1.202E-05	26939.	32526.	41473.	42443.	42343.	41983.
1.096E-05	14123.	16719.	19959.	23952.	1.096E-05	26939.	32600.	41562.	42451.	42343.	41983.
1.000E-05	14123.	16719.	19959.	23952.	1.000E-05	26939.	32631.	41614.	42458.	42343.	41983.
9.120E-06	14123.	16719.	19959.	23952.	9.120E-06	26939.	32632.	41688.	42463.	42343.	41983.
8.318E-06	14123.	16719.	19959.	23952.	8.318E-06	26939.	32634.	41726.	42482.	42343.	41983.
7.586E-06	14123.	16719.	19959.	23952.	7.586E-06	26939.	32634.	41766.	42482.	42343.	41983.
6.918E-06	14123.	16719.	19959.	23952.	6.918E-06	26939.	32635.	41776.	42490.	42343.	41983.
6.310E-06	14123.	16719.	19959.	23952.	6.310E-06	26939.	32635.	41912.	42496.	42343.	41983.

**Calculation No. PM-1055 Revision 0**

**Attachment I**

5.754E-06	14123.	16719.	19959.	23952.	5.754E-06	26939.	32635.	41926.	42498.	42343.	41983.
5.248E-06	14123.	16719.	19959.	23952.	5.248E-06	26939.	32635.	41991.	42498.	42343.	41983.
4.786E-06	14123.	16719.	19959.	23952.	4.786E-06	26939.	32635.	42007.	42499.	42343.	41983.
4.365E-06	14123.	16719.	19959.	23952.	4.365E-06	26939.	32635.	42040.	42499.	42343.	41983.
3.981E-06	14123.	16719.	19959.	23952.	3.981E-06	26939.	32635.	42040.	42499.	42343.	41983.
3.631E-06	14123.	16719.	19959.	23952.	3.631E-06	26939.	32635.	42064.	42518.	42343.	41983.
3.311E-06	14123.	16719.	19959.	23952.	3.311E-06	26939.	32635.	42069.	42518.	42343.	41983.
3.020E-06	14123.	16719.	19959.	23952.	3.020E-06	26939.	32635.	42142.	42518.	42343.	41983.
2.754E-06	14123.	16719.	19959.	23952.	2.754E-06	26939.	32635.	42144.	42523.	42343.	41983.
2.512E-06	14123.	16719.	19959.	23952.	2.512E-06	26939.	32635.	42145.	42523.	42343.	41983.
2.291E-06	14123.	16719.	19959.	23952.	2.291E-06	26939.	32635.	42145.	42523.	42343.	41983.
2.089E-06	14123.	16719.	19959.	23952.	2.089E-06	26939.	32635.	42145.	42523.	42343.	41983.
1.905E-06	14123.	16719.	19959.	23952.	1.905E-06	26939.	32635.	42145.	42523.	42343.	41983.
1.738E-06	14123.	16719.	19959.	23952.	1.738E-06	26939.	32635.	42145.	42538.	42343.	41983.
1.585E-06	14123.	16719.	19959.	23952.	1.585E-06	26939.	32635.	42145.	42538.	42343.	41983.
1.445E-06	14123.	16719.	19959.	23952.	1.445E-06	26939.	32635.	42145.	42538.	42343.	41983.
1.318E-06	14123.	16719.	19959.	23952.	1.318E-06	26939.	32635.	42145.	42538.	42343.	41983.
1.202E-06	14123.	16719.	19959.	23952.	1.202E-06	26939.	32635.	42145.	42538.	42343.	41983.
1.096E-06	14123.	16719.	19959.	23952.	1.096E-06	26939.	32635.	42145.	42538.	42343.	41983.
1.000E-06	14123.	16719.	19959.	23952.	1.000E-06	26939.	32635.	42145.	42538.	42343.	41983.
Belw. Lim.	0.	0.	0.	0.	Belw. Lim.	0.	0.	0.	0.	0.	0.

**ARCON96 Input**

**Unit 3 Reactor Building Stack to Control Room Intake (Tower 2 75'and 33' wind, Tower 2 150'-33' Delta T)**

5

D:\TRACIP~1\ARCON\PEACHB~1\T2B84A~1.MET

D:\TRACIP~1\ARCON\PEACHB~1\T2B85A~1.MET

D:\TRACIP~1\ARCON\PEACHB~1\T2B86A~1.MET

D:\TRACIP~1\ARCON\PEACHB~1\T2B87A~1.MET

D:\TRACIP~1\ARCON\PEACHB~1\T2B88A~1.MET

10.10

22.90

2

2

57.60

2583.60

0.00

0.00

0.00

15 90

58.40

21.00

0.00

3RBStoCR.log

3RBStoCR.cfd

.1

0.22

4.00

1 2 4 8 12 24 96 168 360 720

1 2 4 8 11 22 87 152 324 648

0.00 0.00

n

**ARCON96 Output**

**Unit 3 Reactor Building Stack to Control Room Intake (Tower 2 75' and 33' wind, Tower 2 150'-33' Delta T)**

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission  
Office of Nuclear Reactor Regulation  
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080  
e-mail: jy11@nrc.gov  
J. J. Hayes Phone: (301) 415 3167  
e-mail: jjh@nrc.gov  
L. A. Brown Phone: (301) 415 1232  
e-mail: lab2@nrc.gov

Code Developer: J. V. Ramsdell Phone: (509) 372 6316  
e-mail: j\_ramsdell@pnl.gov

Code Documentation: NUREG/CR-6331 Rev. 1

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Program Run 12/30/2002 at 15:35:08

\*\*\*\*\* ARCON INPUT \*\*\*\*\*

Number of Meteorological Data Files = 5

Meteorological Data File Names

D:\TRACIP~1\ARCON\PEACHB~1\T2B84A~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T2B85A~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T2B86A~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T2B87A~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T2B88A~1.MET



**Calculation No. PM-1055 Revision 0**

**Attachment I**

LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	10164.	12645.	16085.	20803.	24391.	31021.	40989.	41419.	42347.	42100.	
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
ZERO	33058.	30519.	26963.	22017.	18476.	11667.	977.	11.	0.	0.	
TOTAL X/Qs	43222.	43164.	43048.	42820.	42867.	42688.	41966.	41430.	42347.	42100.	
% NON ZERO	23.52	29.30	37.37	48.58	56.90	72.67	97.67	99.97	100.00	100.00	

95th PERCENTILE X/Q VALUES

1.18E-03	1.15E-03	1.07E-03	9.64E-04	7.97E-04	5.88E-04	3.36E-04	2.94E-04	2.49E-04	2.16E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	1.18E-03
2 to 8 hours	8.91E-04
8 to 24 hours	4.00E-04
1 to 4 days	2.51E-04
4 to 30 days	1.98E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.70E-03	1.47E-04
SECTOR-AVERAGE	1.07E-03	9.19E-05

NORMAL PROGRAM COMPLETION

X/Q CUMULATIVE FREQUENCY DISTRIBUTIONS

XOQ	1	2	4	8	XOQ	12	24	96	168	360	720
Abv. Lim.	0.	0.	0.	0.	Abv. Lim.	0.	0.	0.	0.	0.	0.
9.120E-03	0.	0.	0.	0.	9.120E-03	0.	0.	0.	0.	0.	0.
8.318E-03	0.	0.	0.	0.	8.318E-03	0.	0.	0.	0.	0.	0.
7.586E-03	0.	0.	0.	0.	7.586E-03	0.	0.	0.	0.	0.	0.
6.918E-03	0.	0.	0.	0.	6.918E-03	0.	0.	0.	0.	0.	0.
6.310E-03	0.	0.	0.	0.	6.310E-03	0.	0.	0.	0.	0.	0.
5.754E-03	0.	0.	0.	0.	5.754E-03	0.	0.	0.	0.	0.	0.
5.248E-03	0.	0.	0.	0.	5.248E-03	0.	0.	0.	0.	0.	0.
4.786E-03	0.	0.	0.	0.	4.786E-03	0.	0.	0.	0.	0.	0.
4.365E-03	0.	0.	0.	0.	4.365E-03	0.	0.	0.	0.	0.	0.
3.981E-03	0.	0.	0.	0.	3.981E-03	0.	0.	0.	0.	0.	0.
3.631E-03	0.	0.	0.	0.	3.631E-03	0.	0.	0.	0.	0.	0.
3.311E-03	0.	0.	0.	0.	3.311E-03	0.	0.	0.	0.	0.	0.
3.020E-03	0.	0.	0.	0.	3.020E-03	0.	0.	0.	0.	0.	0.
2.754E-03	0.	0.	0.	0.	2.754E-03	0.	0.	0.	0.	0.	0.
2.512E-03	0.	0.	0.	0.	2.512E-03	0.	0.	0.	0.	0.	0.
2.291E-03	0.	0.	0.	0.	2.291E-03	0.	0.	0.	0.	0.	0.
2.089E-03	0.	0.	0.	0.	2.089E-03	0.	0.	0.	0.	0.	0.
1.905E-03	0.	0.	0.	0.	1.905E-03	0.	0.	0.	0.	0.	0.
1.738E-03	0.	0.	0.	0.	1.738E-03	0.	0.	0.	0.	0.	0.
1.585E-03	36.	11.	1.	0.	1.585E-03	0.	0.	0.	0.	0.	0.
1.445E-03	171.	82.	22.	0.	1.445E-03	0.	0.	0.	0.	0.	0.
1.318E-03	1168.	649.	326.	109.	1.318E-03	0.	0.	0.	0.	0.	0.
1.202E-03	1838.	1475.	993.	516.	1.202E-03	0.	0.	0.	0.	0.	0.
1.096E-03	3717.	2906.	1963.	1178.	1.096E-03	133.	0.	0.	0.	0.	0.
1.000E-03	4982.	3751.	2754.	1837.	1.000E-03	571.	0.	0.	0.	0.	0.
9.120E-04	5635.	4450.	3527.	2589.	9.120E-04	1131.	30.	0.	0.	0.	0.
8.318E-04	6508.	5042.	4290.	3344.	8.318E-04	1803.	198.	0.	0.	0.	0.
7.586E-04	6947.	5563.	4998.	4128.	7.586E-04	2522.	498.	0.	0.	0.	0.
6.918E-04	7460.	6013.	5603.	4884.	6.918E-04	3304.	975.	35.	0.	0.	0.
6.310E-04	7802.	6738.	6370.	5653.	6.310E-04	4109.	1595.	72.	0.	0.	0.
5.754E-04	8294.	7510.	7118.	6412.	5.754E-04	4876.	2296.	108.	0.	0.	0.
5.248E-04	8563.	8236.	7836.	7218.	5.248E-04	5678.	3076.	163.	0.	0.	0.
4.786E-04	9157.	9062.	8472.	7978.	4.786E-04	6490.	3898.	322.	64.	0.	0.
4.365E-04	9500.	9814.	9101.	8812.	4.365E-04	7347.	4800.	591.	102.	0.	0.
3.981E-04	9692.	10380.	9651.	9629.	3.981E-04	8164.	5720.	948.	284.	0.	0.
3.631E-04	9841.	10879.	10160.	10261.	3.631E-04	8960.	6696.	1472.	691.	0.	0.
3.311E-04	9918.	11247.	10805.	10999.	3.311E-04	9822.	7656.	2198.	1049.	41.	0.
3.020E-04	10014.	11556.	11248.	11686.	3.020E-04	10611.	8605.	3276.	1783.	348.	0.



**Calculation No. PM-1055 Revision 0****Attachment I**

2.754E-04	10056.	11774.	12004.	12411.	2.754E-04	11411.	9625.	4461.	2727.	1169.	43.
2.512E-04	10102.	11921.	12623.	12986.	2.512E-04	12201.	10650.	6003.	3878.	2000.	407.
2.291E-04	10125.	12369.	13220.	13623.	2.291E-04	12944.	11713.	7544.	5361.	3265.	1317.
2.089E-04	10146.	12491.	13822.	14169.	2.089E-04	13657.	12733.	9409.	7279.	4800.	2573.
1.905E-04	10153.	12531.	14230.	14626.	1.905E-04	14382.	13784.	11158.	9602.	6612.	4714.
1.738E-04	10158.	12562.	14659.	15116.	1.738E-04	15075.	14880.	13055.	11952.	9731.	7680.
1.585E-04	10160.	12581.	15031.	15708.	1.585E-04	15734.	15960.	15328.	14563.	14269.	11559.
1.445E-04	10164.	12602.	15271.	16371.	1.445E-04	16443.	17000.	17399.	16811.	17996.	16033.
1.318E-04	10164.	12613.	15417.	16938.	1.318E-04	17021.	17948.	19702.	19784.	21294.	21548.
1.202E-04	10164.	12625.	15818.	17589.	1.202E-04	17611.	18857.	21698.	22616.	25180.	26220.
1.096E-04	10164.	12639.	15910.	18110.	1.096E-04	18207.	19861.	23885.	25063.	28229.	30190.
1.000E-04	10164.	12641.	15974.	18680.	1.000E-04	18676.	20667.	25410.	27364.	30981.	34388.
9.120E-05	10164.	12642.	15995.	19163.	9.120E-05	19354.	21467.	26792.	29463.	33293.	37661.
8.318E-05	10164.	12644.	16028.	19588.	8.318E-05	19890.	22167.	28347.	31336.	35293.	39145.
7.586E-05	10164.	12645.	16043.	19881.	7.586E-05	20331.	22816.	29781.	32662.	37133.	39940.
6.918E-05	10164.	12645.	16053.	20045.	6.918E-05	21010.	23439.	30910.	33846.	38562.	40499.
6.310E-05	10164.	12645.	16066.	20162.	6.310E-05	21420.	24057.	31867.	34839.	39575.	41085.
5.754E-05	10164.	12645.	16077.	20600.	5.754E-05	21994.	24667.	32809.	35684.	40289.	41313.
5.248E-05	10164.	12645.	16083.	20690.	5.248E-05	22493.	25162.	33653.	36351.	40898.	41511.
4.786E-05	10164.	12645.	16083.	20707.	4.786E-05	22799.	25773.	34510.	37313.	41151.	41937.
4.365E-05	10164.	12645.	16084.	20730.	4.365E-05	23138.	26362.	35355.	37869.	41422.	42035.
3.981E-05	10164.	12645.	16085.	20739.	3.981E-05	23591.	26819.	35871.	38290.	41566.	42048.
3.631E-05	10164.	12645.	16085.	20759.	3.631E-05	23815.	27236.	36288.	38706.	41684.	42100.
3.311E-05	10164.	12645.	16085.	20770.	3.311E-05	23979.	27718.	36655.	39033.	41791.	42100.
3.020E-05	10164.	12645.	16085.	20783.	3.020E-05	24058.	28268.	37193.	39515.	41911.	42100.
2.754E-05	10164.	12645.	16085.	20803.	2.754E-05	24209.	28732.	37530.	39693.	42076.	42100.
2.512E-05	10164.	12645.	16085.	20803.	2.512E-05	24275.	29157.	37843.	39900.	42196.	42100.
2.291E-05	10164.	12645.	16085.	20803.	2.291E-05	24302.	29421.	37999.	40038.	42258.	42100.
2.089E-05	10164.	12645.	16085.	20803.	2.089E-05	24333.	29735.	38256.	40176.	42269.	42100.
1.905E-05	10164.	12645.	16085.	20803.	1.905E-05	24354.	30125.	38570.	40372.	42290.	42100.
1.738E-05	10164.	12645.	16085.	20803.	1.738E-05	24370.	30391.	38733.	40442.	42292.	42100.
1.585E-05	10164.	12645.	16085.	20803.	1.585E-05	24376.	30518.	38926.	40504.	42293.	42100.
1.445E-05	10164.	12645.	16085.	20803.	1.445E-05	24381.	30705.	39157.	40578.	42293.	42100.
1.318E-05	10164.	12645.	16085.	20803.	1.318E-05	24385.	30808.	39391.	40606.	42295.	42100.
1.202E-05	10164.	12645.	16085.	20803.	1.202E-05	24390.	30890.	39579.	40675.	42336.	42100.
1.096E-05	10164.	12645.	16085.	20803.	1.096E-05	24391.	30921.	39747.	40707.	42336.	42100.
1.000E-05	10164.	12645.	16085.	20803.	1.000E-05	24391.	30932.	39813.	40765.	42347.	42100.
9.120E-06	10164.	12645.	16085.	20803.	9.120E-06	24391.	30964.	39913.	40822.	42347.	42100.
8.318E-06	10164.	12645.	16085.	20803.	8.318E-06	24391.	30967.	39992.	40850.	42347.	42100.
7.586E-06	10164.	12645.	16085.	20803.	7.586E-06	24391.	31000.	40118.	40972.	42347.	42100.
6.918E-06	10164.	12645.	16085.	20803.	6.918E-06	24391.	31001.	40306.	41064.	42347.	42100.
6.310E-06	10164.	12645.	16085.	20803.	6.310E-06	24391.	31005.	40436.	41095.	42347.	42100.

**Calculation No. PM-1055 Revision 0**

**Attachment I**

5.754E-06	10164.	12645.	16085.	20803.	5.754E-06	24391.	31021.	40497.	41108.	42347.	42100.
5.248E-06	10164.	12645.	16085.	20803.	5.248E-06	24391.	31021.	40631.	41112.	42347.	42100.
4.786E-06	10164.	12645.	16085.	20803.	4.786E-06	24391.	31021.	40698.	41112.	42347.	42100.
4.365E-06	10164.	12645.	16085.	20803.	4.365E-06	24391.	31021.	40846.	41161.	42347.	42100.
3.981E-06	10164.	12645.	16085.	20803.	3.981E-06	24391.	31021.	40849.	41199.	42347.	42100.
3.631E-06	10164.	12645.	16085.	20803.	3.631E-06	24391.	31021.	40849.	41199.	42347.	42100.
3.311E-06	10164.	12645.	16085.	20803.	3.311E-06	24391.	31021.	40922.	41238.	42347.	42100.
3.020E-06	10164.	12645.	16085.	20803.	3.020E-06	24391.	31021.	40928.	41320.	42347.	42100.
2.754E-06	10164.	12645.	16085.	20803.	2.754E-06	24391.	31021.	40929.	41326.	42347.	42100.
2.512E-06	10164.	12645.	16085.	20803.	2.512E-06	24391.	31021.	40930.	41343.	42347.	42100.
2.291E-06	10164.	12645.	16085.	20803.	2.291E-06	24391.	31021.	40931.	41343.	42347.	42100.
2.089E-06	10164.	12645.	16085.	20803.	2.089E-06	24391.	31021.	40947.	41343.	42347.	42100.
1.905E-06	10164.	12645.	16085.	20803.	1.905E-06	24391.	31021.	40989.	41371.	42347.	42100.
1.738E-06	10164.	12645.	16085.	20803.	1.738E-06	24391.	31021.	40989.	41371.	42347.	42100.
1.585E-06	10164.	12645.	16085.	20803.	1.585E-06	24391.	31021.	40989.	41371.	42347.	42100.
1.445E-06	10164.	12645.	16085.	20803.	1.445E-06	24391.	31021.	40989.	41371.	42347.	42100.
1.318E-06	10164.	12645.	16085.	20803.	1.318E-06	24391.	31021.	40989.	41372.	42347.	42100.
1.202E-06	10164.	12645.	16085.	20803.	1.202E-06	24391.	31021.	40989.	41419.	42347.	42100.
1.096E-06	10164.	12645.	16085.	20803.	1.096E-06	24391.	31021.	40989.	41419.	42347.	42100.
1.000E-06	10164.	12645.	16085.	20803.	1.000E-06	24391.	31021.	40989.	41419.	42347.	42100.
Belw. Lim.	0.	0.	0.	0.	Belw. Lim.	0.	0.	0.	0.	0.	0.

**ARCON96 Input**

**Unit 3 Reactor Building Stack to Control Room Intake (Tower 1A 92'and 34' wind, Tower 1A 89'-33' Delta T)**

5

D:\TRACIP~1\ARCON\PEACHB~1\T1AA84~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T1AA85~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T1AA86~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T1AA87~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T1AA88~1.MET

10.36

28.04

2

2

57.60

2583.60

0.00

0.00

0.00

15 90

58.40

21.00

0.00

3RSCR1A.log

3RSCR1A.cfd

.1

0.22

4.00

1 2 4 8 12 24 96 168 360 720

1 2 4 8 11 22 87 152 324 648

0.00 0.00

n

**ARCON96 Output**

**Unit 3 Reactor Building Stack to Control Room Intake (Tower 1A 92' and 34' wind, Tower 1A 89'-33' Delta T)**

Program Title: ARCON96.

Developed For: U.S. Nuclear Regulatory Commission  
Office of Nuclear Reactor Regulation  
Division of Reactor Program Management

Date: June 25, 1997 11:00 a.m.

NRC Contacts: J. Y. Lee Phone: (301) 415 1080  
e-mail: jy11@nrc.gov  
J. J. Hayes Phone: (301) 415 3167  
e-mail: jjh@nrc.gov  
L. A. Brown Phone: (301) 415 1232  
e-mail: lab2@nrc.gov

Code Developer: J. V. Ramsdell Phone: (509) 372 6316  
e-mail: j\_ramsdell@pnl.gov

Code Documentation: NUREG/CR-6331 Rev. 1

The program was prepared for an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibilities for any third party's use, or the results of such use, of any portion of this program or represents that its use by such third party would not infringe privately owned rights.

Program Run 1/9/2003 at 14:43:12

\*\*\*\*\* ARCON INPUT \*\*\*\*\*

Number of Meteorological Data Files = 5

Meteorological Data File Names

D:\TRACIP~1\ARCON\PEACHB~1\T1AA84~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T1AA85~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T1AA86~1.MET  
D:\TRACIP~1\ARCON\PEACHB~1\T1AA87~1.MET

**Calculation No. PM-1055 Revision 0**

Attachment I

Sheet 31 of 35

D:\TRACIP~1\ARCON\PEACHB~1\T1AA88~1.MET

Height of lower wind instrument (m) = 10.4

Height of upper wind instrument (m) = 28.0

Wind speeds entered as miles per hour

## Vent release

Release height (m) = 57.6

Building Area (m<sup>2</sup>) = 2583.6

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m<sup>3</sup>/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 015

Wind direction sector width (deg) = 90

Wind direction window (deg) = 330 - 060

Distance to intake (m) = 58.4

Intake height (m) = 21.0

Terrain elevation difference (m) = .0

## Output file names

3RSCR1A.log

3RSCR1A.cfd

Minimum Wind Speed (m/s) = .2

Surface roughness length (m) = .10

Sector averaging constant = 4.0

Initial value of sigma y = .00

Initial value of sigma z = .00

Expanded output for code testing not selected

Total number of hours of data processed = 43800

Hours of missing data = 464

Hours direction in window = 7064

Hours elevated plume w/ dir. in window = 0

Hours of calm winds = 432

Hours direction not in window or calm = 35840

## DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER. 1 2 4 8 12 24 96 168 360 720

**Calculation No. PM-1055 Revision 0**

**Attachment I**

UPPER LIM.	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
LOW LIM.	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	7496.	9643.	12870.	17912.	22214.	30298.	41597.	42453.	42343.	41983.	
BELOW RANGE	0.	0.	0.	0.	0.	0.	34.	0.	0.		
ZERO	35840.	33633.	30287.	25009.	20769.	12404.	959.	51.	0.	0.	
TOTAL X/Qs	43336.	43276.	43157.	42921.	42983.	42702.	42556.	42538.	42343.	41983.	
% NON ZERO	17.30	22.28	29.82	41.73	51.68	70.95	97.75	99.88	100.00	100.00	

95th PERCENTILE X/Q VALUES

1.02E-03	8.16E-04	7.23E-04	6.31E-04	5.16E-04	3.69E-04	2.14E-04	1.81E-04	1.56E-04	1.46E-04
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95% X/Q for standard averaging intervals

0 to 2 hours	1.02E-03
2 to 8 hours	5.02E-04
8 to 24 hours	2.38E-04
1 to 4 days	1.62E-04
4 to 30 days	1.36E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.70E-03	9.95E-05
SECTOR-AVERAGE	1.07E-03	6.23E-05

NORMAL PROGRAM COMPLETION

X/Q CUMULATIVE FREQUENCY DISTRIBUTIONS

XOQ	1	2	4	8	XOQ	12	24	96	168	360	720
Abv. Lim.	0.	0.	0.	0.	Abv. Lim.	0.	0.	0.	0.	0.	0.
9.120E-03	0.	0.	0.	0.	9.120E-03	0.	0.	0.	0.	0.	0.
8.318E-03	0.	0.	0.	0.	8.318E-03	0.	0.	0.	0.	0.	0.
7.586E-03	0.	0.	0.	0.	7.586E-03	0.	0.	0.	0.	0.	0.
6.918E-03	0.	0.	0.	0.	6.918E-03	0.	0.	0.	0.	0.	0.
6.310E-03	0.	0.	0.	0.	6.310E-03	0.	0.	0.	0.	0.	0.
5.754E-03	0.	0.	0.	0.	5.754E-03	0.	0.	0.	0.	0.	0.
5.248E-03	0.	0.	0.	0.	5.248E-03	0.	0.	0.	0.	0.	0.
4.786E-03	0.	0.	0.	0.	4.786E-03	0.	0.	0.	0.	0.	0.
4.365E-03	0.	0.	0.	0.	4.365E-03	0.	0.	0.	0.	0.	0.
3.981E-03	0.	0.	0.	0.	3.981E-03	0.	0.	0.	0.	0.	0.
3.631E-03	0.	0.	0.	0.	3.631E-03	0.	0.	0.	0.	0.	0.
3.311E-03	0.	0.	0.	0.	3.311E-03	0.	0.	0.	0.	0.	0.
3.020E-03	0.	0.	0.	0.	3.020E-03	0.	0.	0.	0.	0.	0.
2.754E-03	0.	0.	0.	0.	2.754E-03	0.	0.	0.	0.	0.	0.
2.512E-03	0.	0.	0.	0.	2.512E-03	0.	0.	0.	0.	0.	0.
2.291E-03	0.	0.	0.	0.	2.291E-03	0.	0.	0.	0.	0.	0.
2.089E-03	0.	0.	0.	0.	2.089E-03	0.	0.	0.	0.	0.	0.
1.905E-03	0.	0.	0.	0.	1.905E-03	0.	0.	0.	0.	0.	0.
1.738E-03	0.	0.	0.	0.	1.738E-03	0.	0.	0.	0.	0.	0.
1.585E-03	39.	11.	0.	0.	1.585E-03	0.	0.	0.	0.	0.	0.
1.445E-03	164.	71.	19.	2.	1.445E-03	0.	0.	0.	0.	0.	0.
1.318E-03	529.	240.	80.	8.	1.318E-03	0.	0.	0.	0.	0.	0.
1.202E-03	758.	515.	257.	87.	1.202E-03	0.	0.	0.	0.	0.	0.
1.096E-03	1820.	1115.	622.	300.	1.096E-03	7.	0.	0.	0.	0.	0.
1.000E-03	2253.	1461.	928.	507.	1.000E-03	103.	0.	0.	0.	0.	0.
9.120E-04	2530.	1791.	1255.	789.	9.120E-04	241.	0.	0.	0.	0.	0.
8.318E-04	2970.	2090.	1593.	1095.	8.318E-04	437.	30.	0.	0.	0.	0.
7.586E-04	3421.	2442.	1987.	1435.	7.586E-04	693.	75.	0.	0.	0.	0.
6.918E-04	3732.	2672.	2308.	1785.	6.918E-04	1003.	152.	0.	0.	0.	0.
6.310E-04	3931.	3153.	2702.	2148.	6.310E-04	1343.	283.	0.	0.	0.	0.
5.754E-04	4040.	3725.	3160.	2505.	5.754E-04	1684.	473.	19.	0.	0.	0.
5.248E-04	4127.	4141.	3610.	2963.	5.248E-04	2073.	696.	59.	0.	0.	0.
4.786E-04	4915.	4804.	4099.	3448.	4.786E-04	2494.	984.	102.	0.	0.	0.
4.365E-04	5379.	5297.	4538.	4019.	4.365E-04	2934.	1335.	148.	0.	0.	0.
3.981E-04	5730.	5923.	5007.	4594.	3.981E-04	3386.	1733.	187.	7.	0.	0.
3.631E-04	6037.	6403.	5634.	5221.	3.631E-04	3945.	2223.	300.	92.	0.	0.
3.311E-04	6291.	6823.	6319.	5798.	3.311E-04	4562.	2784.	413.	182.	0.	0.
3.020E-04	6597.	7194.	6869.	6549.	3.020E-04	5231.	3428.	520.	341.	0.	0.

Calculation No. PM-1055 Revision 0

Attachment I

2.754E-04	6858.	7497.	7680.	7203.	2.754E-04	5920.	4051.	731.	504.	0.	0.
2.512E-04	7093.	7733.	8196.	7869.	2.512E-04	6614.	4728.	1146.	610.	78.	0.
2.291E-04	7245.	8716.	9039.	8539.	2.291E-04	7256.	5446.	1583.	759.	307.	0.
2.089E-04	7354.	8984.	9510.	9106.	2.089E-04	8071.	6223.	2291.	1121.	503.	0.
1.905E-04	7416.	9092.	9959.	9635.	1.905E-04	8780.	7038.	3092.	1716.	951.	14.
1.738E-04	7452.	9186.	10376.	10327.	1.738E-04	9552.	7923.	4054.	2408.	1402.	233.
1.585E-04	7474.	9270.	10689.	11089.	1.585E-04	10336.	8838.	5318.	3365.	1988.	1055.
1.445E-04	7489.	9361.	10898.	11817.	1.445E-04	11052.	9805.	6865.	4863.	2610.	2243.
1.318E-04	7490.	9439.	11055.	12376.	1.318E-04	11703.	10798.	8549.	6560.	3642.	3407.
1.202E-04	7491.	9502.	11860.	13229.	1.202E-04	12394.	11667.	10173.	8625.	5731.	4155.
1.096E-04	7493.	9565.	12273.	13785.	1.096E-04	13269.	12695.	11820.	10478.	8023.	5483.
1.000E-04	7495.	9591.	12391.	14388.	1.000E-04	13882.	13735.	13410.	12722.	10743.	7558.
9.120E-05	7496.	9616.	12470.	14811.	9.120E-05	14611.	14842.	15129.	15125.	13422.	10767.
8.318E-05	7496.	9634.	12530.	15222.	8.318E-05	15205.	15869.	16617.	17115.	16659.	14787.
7.586E-05	7496.	9639.	12608.	15548.	7.586E-05	16033.	16874.	18661.	19404.	20205.	19257.
6.918E-05	7496.	9640.	12664.	15781.	6.918E-05	16672.	17785.	20370.	21757.	23462.	25155.
6.310E-05	7496.	9640.	12717.	15931.	6.310E-05	17233.	18725.	22092.	24357.	26134.	30292.
5.754E-05	7496.	9640.	12761.	17050.	5.754E-05	17953.	19675.	23559.	26312.	29017.	33102.
5.248E-05	7496.	9643.	12805.	17393.	5.248E-05	18418.	20708.	25125.	27892.	31783.	35612.
4.786E-05	7496.	9643.	12832.	17477.	4.786E-05	18803.	21584.	26772.	29495.	33953.	37460.
4.365E-05	7496.	9643.	12851.	17548.	4.365E-05	19119.	22303.	28097.	31083.	36280.	38646.
3.981E-05	7496.	9643.	12869.	17608.	3.981E-05	20014.	22961.	29575.	32353.	37756.	40051.
3.631E-05	7496.	9643.	12869.	17655.	3.631E-05	20614.	23581.	31193.	33724.	38603.	41010.
3.311E-05	7496.	9643.	12869.	17710.	3.311E-05	20901.	24423.	32259.	35002.	39320.	41381.
3.020E-05	7496.	9643.	12869.	17776.	3.020E-05	21053.	25070.	33250.	36280.	39998.	41447.
2.754E-05	7496.	9643.	12869.	17832.	2.754E-05	21374.	25732.	34081.	37305.	40601.	41552.
2.512E-05	7496.	9643.	12870.	17851.	2.512E-05	21550.	26230.	35075.	38029.	40958.	41598.
2.291E-05	7496.	9643.	12870.	17884.	2.291E-05	21797.	26669.	35781.	39014.	41277.	41681.
2.089E-05	7496.	9643.	12870.	17909.	2.089E-05	21908.	27123.	36472.	39703.	41495.	41903.
1.905E-05	7496.	9643.	12870.	17911.	1.905E-05	21953.	27830.	37133.	40164.	41749.	41936.
1.738E-05	7496.	9643.	12870.	17911.	1.738E-05	21998.	28231.	37664.	40559.	41957.	41971.
1.585E-05	7496.	9643.	12870.	17911.	1.585E-05	22045.	28552.	38092.	40869.	42120.	41983.
1.445E-05	7496.	9643.	12870.	17911.	1.445E-05	22083.	29088.	38427.	41176.	42147.	41983.
1.318E-05	7496.	9643.	12870.	17912.	1.318E-05	22122.	29264.	39036.	41437.	42298.	41983.
1.202E-05	7496.	9643.	12870.	17912.	1.202E-05	22149.	29641.	39308.	41517.	42312.	41983.
1.096E-05	7496.	9643.	12870.	17912.	1.096E-05	22171.	29941.	39634.	41616.	42318.	41983.
1.000E-05	7496.	9643.	12870.	17912.	1.000E-05	22187.	29996.	39713.	41729.	42320.	41983.
9.120E-06	7496.	9643.	12870.	17912.	9.120E-06	22199.	30047.	39965.	41881.	42323.	41983.
8.318E-06	7496.	9643.	12870.	17912.	8.318E-06	22213.	30070.	40171.	41940.	42324.	41983.
7.586E-06	7496.	9643.	12870.	17912.	7.586E-06	22213.	30116.	40357.	42175.	42343.	41983.
6.918E-06	7496.	9643.	12870.	17912.	6.918E-06	22213.	30139.	40587.	42195.	42343.	41983.
6.310E-06	7496.	9643.	12870.	17912.	6.310E-06	22213.	30206.	40715.	42216.	42343.	41983.



**Calculation No. PM-1055 Revision 0****Attachment I**

5.754E-06	7496.	9643.	12870.	17912.	5.754E-06	22213.	30247.	40972.	42245.	42343.	41983.
5.248E-06	7496.	9643.	12870.	17912.	5.248E-06	22214.	30257.	41117.	42253.	42343.	41983.
4.786E-06	7496.	9643.	12870.	17912.	4.786E-06	22214.	30282.	41169.	42323.	42343.	41983.
4.365E-06	7496.	9643.	12870.	17912.	4.365E-06	22214.	30295.	41255.	42329.	42343.	41983.
3.981E-06	7496.	9643.	12870.	17912.	3.981E-06	22214.	30297.	41264.	42346.	42343.	41983.
3.631E-06	7496.	9643.	12870.	17912.	3.631E-06	22214.	30297.	41294.	42355.	42343.	41983.
3.311E-06	7496.	9643.	12870.	17912.	3.311E-06	22214.	30297.	41295.	42449.	42343.	41983.
3.020E-06	7496.	9643.	12870.	17912.	3.020E-06	22214.	30297.	41381.	42449.	42343.	41983.
2.754E-06	7496.	9643.	12870.	17912.	2.754E-06	22214.	30298.	41462.	42449.	42343.	41983.
2.512E-06	7496.	9643.	12870.	17912.	2.512E-06	22214.	30298.	41471.	42450.	42343.	41983.
2.291E-06	7496.	9643.	12870.	17912.	2.291E-06	22214.	30298.	41501.	42451.	42343.	41983.
2.089E-06	7496.	9643.	12870.	17912.	2.089E-06	22214.	30298.	41501.	42451.	42343.	41983.
1.905E-06	7496.	9643.	12870.	17912.	1.905E-06	22214.	30298.	41505.	42451.	42343.	41983.
1.738E-06	7496.	9643.	12870.	17912.	1.738E-06	22214.	30298.	41505.	42453.	42343.	41983.
1.585E-06	7496.	9643.	12870.	17912.	1.585E-06	22214.	30298.	41526.	42453.	42343.	41983.
1.445E-06	7496.	9643.	12870.	17912.	1.445E-06	22214.	30298.	41580.	42453.	42343.	41983.
1.318E-06	7496.	9643.	12870.	17912.	1.318E-06	22214.	30298.	41580.	42453.	42343.	41983.
1.202E-06	7496.	9643.	12870.	17912.	1.202E-06	22214.	30298.	41580.	42453.	42343.	41983.
1.096E-06	7496.	9643.	12870.	17912.	1.096E-06	22214.	30298.	41597.	42453.	42343.	41983.
1.000E-06	7496.	9643.	12870.	17912.	1.000E-06	22214.	30298.	41597.	42453.	42343.	41983.
Belw. Lim.	0.	0.	0.	0.	Belw. Lim.	0.	0.	0.	34.	0.	0.

PAVAN Input

Off Gas Stack to Control Room (Tower 2 320' wind and 316'-33' Delta T Stability Class; distances of 209 m and 280 m)

1 1111

Peach Bottom

Stack Release

97.5 meters

10.1-96.3 meters

Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

7	1														
2584.	54.3131.4	97.5													
0	0	0	2	6	5	0									
0.	0.	0.	0.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.	9.	23.	39.	87.	44.	4.	2.	0.	2.	2.	0.	1.	0.	0.	1.
0.	9.	20.	29.	46.	44.	20.	2.	12.	7.	5.	7.	8.	9.	2.	8.
2.	4.	9.	18.	7.	3.	13.	0.	7.	3.	2.	3.	21.	9.	3.	15.
2.	2.	0.	1.	0.	1.	0.	0.	0.	0.	0.	2.	14.	2.	0.	1.
0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	2.	2.	5.	1.	1.
0.	2.	2.	9.	5.	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13.	23.	18.	25.	56.	29.	10.	3.	3.	4.	3.	1.	4.	3.	4.	3.
4.	15.	13.	15.	12.	25.	27.	8.	25.	14.	13.	8.	21.	9.	2.	22.
10.	3.	2.	1.	1.	2.	8.	8.	31.	9.	6.	19.	27.	20.	9.	33.
1.	2.	1.	0.	0.	1.	1.	1.	5.	2.	1.	2.	12.	14.	4.	5.
0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	6.	7.	0.	0.
0.	5.	12.	15.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31.	22.	28.	37.	50.	65.	14.	12.	19.	5.	7.	3.	5.	5.	3.	22.
42.	19.	9.	17.	14.	26.	62.	22.	72.	37.	30.	26.	42.	26.	26.	100.
18.	8.	4.	3.	3.	4.	11.	10.	67.	24.	21.	31.	56.	59.	35.	93.
4.	1.	0.	0.	1.	2.	0.	1.	9.	0.	4.	4.	29.	30.	28.	17.
1.	4.	0.	0.	0.	0.	0.	0.	1.	0.	1.	1.	13.	27.	6.	0.
59.	58.	108.	119.	115.	86.	45.	35.	41.	23.	32.	15.	26.	38.	36.	50.
330.	211.	238.	336.	435.	304.	339.	243.	300.	191.	155.	128.	141.	97.	193.	385.
521.	349.	251.	278.	331.	308.	478.	466.	708.	425.	287.	211.	301.	355.	542.	928.
396.	154.	85.	67.	132.	140.	161.	118.	482.	166.	126.	190.	395.	674.	1039.	918.
73.	27.	13.	11.	32.	26.	14.	11.	99.	16.	16.	22.	225.	448.	543.	242.
15.	7.	12.	2.	8.	2.	7.	7.	29.	9.	3.	6.	90.	151.	184.	63.
60.	44.	36.	61.	60.	60.	61.	59.	70.	56.	59.	54.	54.	36.	39.	34.
235.	164.	150.	219.	283.	200.	345.	311.	435.	320.	281.	187.	173.	138.	170.	203.
367.	201.	156.	101.	161.	257.	349.	443.	891.	577.	354.	297.	395.	354.	519.	514.
156.	38.	26.	11.	58.	63.	98.	165.	516.	228.	216.	271.	536.	583.	651.	468.
23.	8.	8.	4.	12.	21.	16.	11.	64.	19.	18.	30.	78.	111.	89.	43.
7.	1.	1.	1.	20.	4.	12.	2.	6.	4.	2.	1.	9.	12.	6.	10.
26.	19.	22.	26.	31.	23.	28.	32.	23.	32.	32.	33.	30.	28.	26.	22.
99.	38.	34.	29.	34.	52.	81.	90.	134.	141.	156.	117.	85.	66.	94.	97.
81.	25.	13.	8.	13.	24.	48.	79.	130.	111.	157.	177.	198.	140.	178.	126.
4.	1.	1.	0.	0.	2.	7.	8.	44.	23.	39.	109.	168.	138.	90.	32.
1.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	18.	24.	18.	0.	5.
0.	0.	0.	0.	4.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11.	14.	11.	10.	13.	5.	4.	9.	17.	9.	6.	18.	13.	14.	13.	19.
47.	19.	22.	19.	13.	6.	28.	10.	34.	31.	36.	34.	40.	35.	70.	59.
16.	5.	4.	2.	2.	2.	8.	6.	10.	21.	51.	70.	69.	44.	92.	85.
1.	0.	0.	0.	0.	0.	1.	1.	2.	1.	8.	26.	39.	39.	9.	5.



PAVAN Output

Off Gas Stack to Control Room (Tower 2 320' wind and 316'-33' Delta T Stability Class; distances of 209 m and 280 m)

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USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PRINTOUT OF INPUT CARDS

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1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2      Peach Bottom
Stack Release
3      97.5 meters          10.1-96.3 meters
4
5      Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T          6          7 42872          1
7      0.500 2584.000      54.300 131.400 97.500
8      0.000 0.000 0.000 2.000 6.000 5.000 0.000
9      0.000 0.000 0.000 0.000 3.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      6.000 9.000 23.000 39.000 87.000 44.000 4.000 2.000 0.000 2.000 2.000 0.000 1.000 0.000 0.000 1.000
9      0.000 9.000 20.000 29.000 46.000 44.000 20.000 2.000 12.000 7.000 5.000 7.000 8.000 9.000 2.000 8.000
9      2.000 4.000 9.000 18.000 7.000 3.000 13.000 0.000 7.000 3.000 2.000 3.000 21.000 9.000 3.000 15.000
9      2.000 2.000 0.000 1.000 0.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 14.000 2.000 0.000 1.000
9      0.000 0.000 0.000 0.000 0.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 2.000 5.000 1.000 1.000
9      0.000 2.000 2.000 9.000 5.000 0.000 2.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      13.000 23.000 18.000 25.000 56.000 29.000 10.000 3.000 3.000 4.000 3.000 1.000 4.000 3.000 4.000 3.000
9      4.000 15.000 13.000 15.000 12.000 25.000 27.000 8.000 25.000 14.000 13.000 8.000 21.000 9.000 2.000 22.000
9      10.000 3.000 2.000 1.000 1.000 2.000 8.000 8.000 31.000 9.000 6.000 19.000 27.000 20.000 9.000 33.000
9      1.000 2.000 1.000 0.000 0.000 1.000 1.000 1.000 5.000 2.000 1.000 2.000 12.000 14.000 4.000 5.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 0.000 0.000 1.000 6.000 7.000 0.000 0.000
9      0.000 5.000 12.000 15.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      31.000 22.000 28.000 37.000 50.000 65.000 14.000 12.000 19.000 5.000 7.000 3.000 5.000 5.000 3.000 22.000
9      42.000 19.000 9.000 17.000 14.000 26.000 62.000 22.000 72.000 37.000 30.000 26.000 42.000 26.000 26.000 100.000
9      18.000 8.000 4.000 3.000 3.000 4.000 11.000 10.000 67.000 24.000 21.000 31.000 56.000 59.000 35.000 93.000
9      4.000 1.000 0.000 0.000 1.000 2.000 0.000 1.000 9.000 0.000 4.000 4.000 29.000 30.000 28.000 17.000
9      1.000 4.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 0.000 1.000 1.000 13.000 27.000 6.000 0.000
9      59.000 58.000 108.000 119.000 115.000 86.000 45.000 35.000 41.000 23.000 32.000 15.000 26.000 38.000 36.000 50.000
9      330.000 211.000 238.000 336.000 435.000 304.000 339.000 243.000 300.000 191.000 155.000 128.000 141.000 97.000 193.000 385.000
9      521.000 349.000 251.000 278.000 331.000 308.000 478.000 466.000 708.000 425.000 287.000 211.000 301.000 355.000 542.000 928.000
9      396.000 154.000 85.000 67.000 132.000 140.000 161.000 118.000 482.000 166.000 126.000 190.000 395.000 674.000 *****918.000
9      73.000 27.000 13.000 11.000 32.000 26.000 14.000 11.000 99.000 16.000 16.000 22.000 225.000 448.000 543.000 242.000
9      15.000 7.000 12.000 2.000 8.000 2.000 7.000 7.000 29.000 9.000 3.000 6.000 90.000 151.000 184.000 63.000
9      60.000 44.000 36.000 61.000 60.000 60.000 61.000 59.000 70.000 56.000 59.000 54.000 54.000 36.000 39.000 34.000
9      235.000 164.000 150.000 219.000 283.000 200.000 345.000 311.000 435.000 320.000 281.000 187.000 173.000 138.000 170.000 203.000
9      367.000 201.000 156.000 101.000 161.000 257.000 349.000 443.000 891.000 577.000 354.000 297.000 395.000 354.000 519.000 514.000
9      156.000 38.000 26.000 11.000 58.000 63.000 98.000 165.000 516.000 228.000 216.000 271.000 536.000 583.000 651.000 468.000
9      23.000 8.000 8.000 4.000 12.000 21.000 16.000 11.000 64.000 19.000 18.000 30.000 78.000 111.000 89.000 43.000
9      7.000 1.000 1.000 1.000 20.000 4.000 12.000 2.000 6.000 4.000 2.000 1.000 9.000 12.000 6.000 10.000
9      26.000 19.000 22.000 26.000 31.000 23.000 28.000 32.000 23.000 32.000 32.000 33.000 30.000 28.000 26.000 22.000
9      99.000 38.000 34.000 29.000 34.000 52.000 81.000 90.000 134.000 141.000 156.000 117.000 85.000 66.000 94.000 97.000
9      81.000 25.000 13.000 8.000 13.000 24.000 48.000 79.000 130.000 111.000 157.000 177.000 198.000 140.000 178.000 126.000

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Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS A

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007
3.35 3.61	0.014	0.021	0.054	0.091	0.203	0.103	0.009	0.005	0.000	0.005	0.005	0.000	0.002	0.000	0.000	0.002	0.513
5.59 6.02	0.000	0.021	0.047	0.068	0.107	0.103	0.047	0.005	0.028	0.016	0.012	0.016	0.019	0.021	0.005	0.019	0.532
8.27 8.91	0.005	0.009	0.021	0.042	0.016	0.007	0.030	0.000	0.016	0.007	0.005	0.007	0.049	0.021	0.007	0.035	0.278
10.73 11.56	0.005	0.005	0.000	0.002	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.005	0.033	0.005	0.000	0.002	0.058
24.59 26.49	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.012	0.002	0.002	0.028
TOTAL	0.02	0.06	0.12	0.20	0.33	0.22	0.09	0.01	0.04	0.03	0.02	0.03	0.11	0.06	0.01	0.06	1.42

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS B

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.005	0.005	0.021	0.012	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.047
3.35 3.61	0.030	0.054	0.042	0.058	0.131	0.068	0.023	0.007	0.007	0.009	0.007	0.002	0.009	0.007	0.009	0.007	0.471
5.59 6.02	0.009	0.035	0.030	0.035	0.028	0.058	0.063	0.019	0.058	0.033	0.030	0.019	0.049	0.021	0.005	0.051	0.543
8.27 8.91	0.023	0.007	0.005	0.002	0.002	0.005	0.019	0.019	0.072	0.021	0.014	0.044	0.063	0.047	0.021	0.077	0.441
10.73 11.56	0.002	0.005	0.002	0.000	0.000	0.002	0.002	0.002	0.012	0.005	0.002	0.005	0.028	0.033	0.009	0.012	0.121
24.59 26.49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.014	0.016	0.000	0.000	0.035
TOTAL	0.07	0.10	0.08	0.12	0.17	0.13	0.11	0.05	0.15	0.07	0.05	0.07	0.16	0.12	0.04	0.15	1.66

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS C

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.012	0.028	0.035	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.077
3.35 3.61	0.072	0.051	0.065	0.086	0.117	0.152	0.033	0.028	0.044	0.012	0.016	0.007	0.012	0.012	0.007	0.051	0.765
5.59 6.02	0.098	0.044	0.021	0.040	0.033	0.061	0.145	0.051	0.168	0.086	0.070	0.061	0.098	0.061	0.061	0.233	1.330
8.27 8.91	0.042	0.019	0.009	0.007	0.007	0.009	0.026	0.023	0.156	0.056	0.049	0.072	0.131	0.138	0.082	0.217	1.043
10.73 11.56	0.009	0.002	0.000	0.000	0.002	0.005	0.000	0.002	0.021	0.000	0.009	0.009	0.068	0.070	0.065	0.040	0.303
24.59 26.49	0.002	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.002	0.002	0.030	0.063	0.014	0.000	0.126
TOTAL	0.22	0.14	0.12	0.17	0.16	0.23	0.20	0.10	0.39	0.15	0.15	0.15	0.34	0.34	0.23	0.54	3.64

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS D

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005
1.56 1.69	0.138	0.135	0.252	0.278	0.268	0.201	0.105	0.082	0.096	0.054	0.075	0.035	0.061	0.089	0.084	0.117	2.067

**Calculation No. PM-1055 Revision 0**

**Attachment J**

3.35	3.61	0.770	0.492	0.555	0.784	1.015	0.709	0.791	0.567	0.700	0.446	0.362	0.299	0.329	0.226	0.450	0.898	9.391
5.59	6.02	1.215	0.814	0.585	0.648	0.772	0.718	1.115	1.087	1.651	0.991	0.669	0.492	0.702	0.828	1.264	2.165	15.719
8.27	8.91	0.924	0.359	0.198	0.156	0.308	0.327	0.376	0.275	1.124	0.387	0.294	0.443	0.921	1.572	2.423	2.141	12.229
10.73	11.56	0.170	0.063	0.030	0.026	0.075	0.061	0.033	0.026	0.231	0.037	0.037	0.051	0.525	1.045	1.267	0.564	4.241
24.59	26.49	0.035	0.016	0.028	0.005	0.019	0.005	0.016	0.016	0.068	0.021	0.007	0.014	0.210	0.352	0.429	0.147	1.388
<b>TOTAL</b>		<b>3.25</b>	<b>1.88</b>	<b>1.65</b>	<b>1.90</b>	<b>2.46</b>	<b>2.02</b>	<b>2.44</b>	<b>2.05</b>	<b>3.87</b>	<b>1.94</b>	<b>1.44</b>	<b>1.33</b>	<b>2.75</b>	<b>4.11</b>	<b>5.92</b>	<b>6.03</b>	<b>45.04</b>

**JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION**  
WIND SPEED (M/S)

**ATMOSPHERIC STABILITY CLASS E**

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.26	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.014
1.56 1.82	0.140	0.103	0.084	0.142	0.140	0.140	0.142	0.138	0.163	0.131	0.138	0.126	0.126	0.084	0.091	0.079	1.966
3.35 3.89	0.548	0.383	0.350	0.511	0.660	0.467	0.805	0.725	1.015	0.746	0.655	0.436	0.404	0.322	0.397	0.474	8.896
5.59 6.49	0.856	0.469	0.364	0.236	0.376	0.599	0.814	1.033	2.078	1.346	0.826	0.693	0.921	0.826	1.211	1.199	13.846
8.27 9.60	0.364	0.089	0.061	0.026	0.135	0.147	0.229	0.385	1.204	0.532	0.504	0.632	1.250	1.360	1.518	1.092	9.526
10.73 12.46	0.054	0.019	0.019	0.009	0.028	0.049	0.037	0.026	0.149	0.044	0.042	0.070	0.182	0.259	0.208	0.100	1.295
24.59 28.54	0.016	0.002	0.002	0.002	0.047	0.009	0.028	0.005	0.014	0.009	0.005	0.002	0.021	0.028	0.014	0.023	0.229
<b>TOTAL</b>	<b>1.98</b>	<b>1.06</b>	<b>0.88</b>	<b>0.93</b>	<b>1.39</b>	<b>1.41</b>	<b>2.06</b>	<b>2.31</b>	<b>4.62</b>	<b>2.81</b>	<b>2.17</b>	<b>1.96</b>	<b>2.90</b>	<b>2.88</b>	<b>3.44</b>	<b>2.97</b>	<b>35.77</b>

**JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION**  
WIND SPEED (M/S)

**ATMOSPHERIC STABILITY CLASS F**

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.26	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.012
1.56 1.82	0.061	0.044	0.051	0.061	0.072	0.054	0.065	0.075	0.054	0.075	0.075	0.077	0.070	0.065	0.061	0.051	1.010
3.35 3.89	0.231	0.089	0.079	0.068	0.079	0.121	0.189	0.210	0.313	0.329	0.364	0.273	0.198	0.154	0.219	0.226	3.142
5.59 6.49	0.189	0.058	0.030	0.019	0.030	0.056	0.112	0.184	0.303	0.259	0.366	0.413	0.462	0.327	0.415	0.294	3.517
8.27 9.60	0.009	0.002	0.002	0.000	0.000	0.005	0.016	0.019	0.103	0.054	0.091	0.254	0.392	0.322	0.210	0.075	1.553
10.73 12.46	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.042	0.056	0.042	0.000	0.012	0.161
24.59 28.54	0.000	0.000	0.000	0.000	0.009	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012
<b>TOTAL</b>	<b>0.49</b>	<b>0.19</b>	<b>0.16</b>	<b>0.15</b>	<b>0.19</b>	<b>0.24</b>	<b>0.38</b>	<b>0.49</b>	<b>0.77</b>	<b>0.72</b>	<b>0.90</b>	<b>1.06</b>	<b>1.18</b>	<b>0.91</b>	<b>0.91</b>	<b>0.66</b>	<b>9.41</b>

**JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION**  
WIND SPEED (M/S)

**ATMOSPHERIC STABILITY CLASS G**

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.82	0.026	0.033	0.026	0.023	0.030	0.012	0.009	0.021	0.040	0.021	0.014	0.042	0.030	0.033	0.030	0.044	0.434
3.35 3.89	0.110	0.044	0.051	0.044	0.030	0.014	0.065	0.023	0.079	0.072	0.084	0.079	0.093	0.082	0.163	0.138	1.173
5.59 6.49	0.037	0.012	0.009	0.005	0.005	0.005	0.019	0.014	0.023	0.049	0.119	0.163	0.161	0.103	0.215	0.198	1.136
8.27 9.60	0.002	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.005	0.002	0.019	0.061	0.091	0.091	0.021	0.012	0.308
10.73 12.46	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.005	0.000	0.000	0.009
24.59 28.54	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.005
<b>TOTAL</b>	<b>0.17</b>	<b>0.09</b>	<b>0.09</b>	<b>0.07</b>	<b>0.07</b>	<b>0.03</b>	<b>0.10</b>	<b>0.06</b>	<b>0.15</b>	<b>0.14</b>	<b>0.24</b>	<b>0.35</b>	<b>0.38</b>	<b>0.31</b>	<b>0.43</b>	<b>0.39</b>	<b>3.06</b>

WIND MEASURED AT 97.5 METERS.

WIND SPEED CORRECTED TO THE RELEASE HEIGHT OF 131.4 METERS.

**OVERALL WIND DIRECTION FREQUENCY**

WIND DIRECTION:	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
FREQUENCY:	6.2	3.5	3.1	3.5	4.8	4.3	5.4	5.1	10.0	5.9	5.0	5.0	7.8	8.7	11.0	10.8

OVERALL WIND SPEED FREQUENCY AS MEASURED ON THE TOWER:

MAX.WIND SPEED (M/S): 0.224 1.565 3.353 5.588 8.270 10.729 24.587  
 WIND SPEED FREQUENCY: 0.03 5.61 24.35 36.62 25.38 6.19 1.82

BUILDING AND RELEASE CHARACTERISTICS:

RELEASE HEIGHT: 131.40 METERS  
 MIXING VOLUME COEFFICIENT: 0.50  
 BUILDING CROSS-SECTIONAL AREA: 2584.00 SQUARE METERS

BOUNDARY DISTANCES (METERS) FROM THE SOURCE FOR EACH DOWNWIND SECTOR:

DOWNWIND SECTOR	S	SSW	SW	WSW	W	WNW	NW	NNW	N	NNE	NE	ENE	E	ESE	SE	SSE
BOUNDARY 1	209.	209.	209.	209.	209.	209.	209.	209.	209.	209.	209.	209.	209.	209.	209.	209.
BOUNDARY 2	280.	280.	280.	280.	280.	280.	280.	280.	280.	280.	280.	280.	280.	280.	280.	280.

DISTANCES AND TERRAIN HEIGHTS (IN METERS) AS A FUNCTION OF THE DOWNWIND SECTOR:

SECTOR	S	SSW	SW	WSW	W	WNW	NW	NNW	N	NNE	NE	ENE	E	ESE	SE	SSE
DISTANCE	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.
ELEVATION	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

THE CONVERSION FACTOR APPLIED TO THE WIND SPEED CLASSES IS 0.447



**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

Page 8 of 1411

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

WINDSPEEDS ADJUSTED TO 131.4 METERS.

PERCENT OF THE TIME A GIVEN WINDSPEED IS LOWER:

WINDSPEED (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.24	0.00
0.26	0.03
1.69	2.23
1.82	5.64
3.61	16.78
3.89	29.99
6.02	48.11
6.49	66.61
8.91	80.60
9.60	91.99
11.56	96.71
12.46	98.18
26.49	99.76
28.54	100.00

WINDSPEED (INTERPOLATED) (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.26	0.03
1.77	5.64
3.76	29.99
6.26	66.61
9.22	91.99
11.77	98.18
26.77	100.00

LOG-NORMAL INTERPOLATION PERCENTILES

WINDSPEED (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.81	1.00
1.30	3.00
1.66	5.00
2.19	10.00
2.61	15.00
3.00	20.00

**Calculation No. PM-1055 Revision 0**

**Attachment J**

3.38	25.00
3.76	30.00
4.05	35.00
4.35	40.00
4.66	45.00
4.98	50.00
5.32	55.00
5.70	60.00
6.11	65.00
6.50	70.00
6.90	75.00
7.37	80.00
8.11	85.00
8.78	90.00

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	CHI/Q VALUES (SEC/CUBIC METER)	USED	
											MEANDER	BLDG WAKE	
AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	0.23	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06		
A	8.9	0.08	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06		
A	11.6	0.08	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06		
B	3.6	0.49	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.15	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.38	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.04	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
C	3.6	1.16	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.58	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
C	26.5	0.04	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07		
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	2.22	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	12.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	19.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	14.87	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	2.74	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.56	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	8.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	13.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	5.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	3.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	3.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.15	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
F	12.5	0.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07		
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	1.77	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

S SECTOR BOUNDARY DISTANCE = 209.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06	1.264E-06
0.005	0.021	0.032	0.258	0.746	2.961	4.126	4.276	4.351	4.426
0.00031	0.00131	0.00201	0.01600	0.04633	0.18394	0.25625	0.26558	0.27025	0.27491
1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07
6.679	8.257	8.632	21.025	21.062	21.738	22.715	22.865	42.430	51.255
0.41486	0.51283	0.53616	1.30589	1.30822	1.35021	1.41085	1.42018	2.63543	3.18357
4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
66.127	79.909	82.650	86.368	86.406	92.264	95.306	96.170	96.733	96.883
4.10725	4.96329	5.13356	5.36448	5.36681	5.73069	5.91962	5.97327	6.00826	6.01759
1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08				
96.921	97.183	97.597	99.362	99.962	100.000				
6.01992	6.03625	6.06191	6.17153	6.20886	6.21119				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.256  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.304

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 3.181  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 4.960

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
1	1	-11.07050	-16.47142	-1.19518
1	2	-13.12558	-16.30722	-1.13653
1	3	-13.77855	-17.18353	-1.53040
1	4	-14.34482	-18.94210	-2.47847
1	5	-14.85564	NUMXQ(K)= 5	
		3.332E-06	0.062	1.000
		2.250E-06	0.186	3.000
		1.857E-06	0.311	5.000
		1.419E-06	0.621	10.000
		1.201E-06	0.932	15.000
		1.061E-06	1.242	20.000
		9.350E-07	1.553	25.000
		8.354E-07	1.863	30.000
		7.578E-07	2.174	35.000
		6.951E-07	2.484	40.000
		6.430E-07	2.795	45.000
		5.990E-07	3.106	50.000
		5.446E-07	3.416	55.000
		4.938E-07	3.727	60.000
		4.506E-07	4.037	65.000
		4.134E-07	4.348	70.000
		3.812E-07	4.658	75.000
		1.547E-06	0.5	8.05

ANNUAL AVERAGE = 1.69E-12

K= 1 FIVEXQ(K)= 1.547E-06 FIVEPR(K)= 8.050

FUMIGATION X/Q AT THE BOUNDARY: 1.69E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.376	3.981	5.032	12.967	65.322	97.183	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS											MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS		
A	3.6	0.60	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06		
A	6.0	0.60	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06		
A	8.9	0.26	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06		
A	11.6	0.13	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06		
B	1.7	0.13	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06		
B	3.6	1.52	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.99	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.20	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.13	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
C	1.7	0.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06		
C	3.6	1.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.26	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.53	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.07	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
C	26.5	0.26	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07		
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	3.84	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	13.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	23.09	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	10.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	1.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	10.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	13.30	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	2.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.26	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	2.51	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.07	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		

G	1.8	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.26	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08



**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

SSW SECTOR BOUNDARY DISTANCE = 209.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06
0.009	0.029	0.162	0.176	0.507	1.102	2.624	3.219	7.056	8.511
0.00031	0.00104	0.00570	0.00621	0.01788	0.03887	0.09252	0.11351	0.24880	0.30011
1.715E-06	1.640E-06	1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07
9.504	9.768	9.901	12.811	14.068	14.267	28.225	28.357	28.886	30.143
0.33510	0.34443	0.34909	0.45172	0.49604	0.50304	0.99520	0.99987	1.01853	1.06285
6.230E-07	6.226E-07	5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07
30.209	53.296	64.145	74.333	87.630	89.416	91.929	92.194	94.708	96.362
1.06518	1.87923	2.26176	2.62097	3.08981	3.15279	3.24142	3.25075	3.33939	3.39770
1.841E-07	1.415E-07	1.301E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08			
96.891	97.354	97.420	97.486	98.412	99.669	100.000			
3.41636	3.43269	3.43502	3.43736	3.47001	3.51433	3.52599			

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.249  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.994

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.259  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 3.087

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
2	1	-11.07050	-16.20624	-1.13559
2	2	-13.01641	-17.47309	-1.58660
2	3	-13.77855	-17.82714	-1.73864
2	4	-14.34482	-21.93911	-3.79166
2	5	-14.85564	NUMXQ(K) = 5	
		4.290E-06	0.035	1.000
		3.004E-06	0.106	3.000
		2.517E-06	0.176	5.000
		1.855E-06	0.353	10.000
		1.490E-06	0.529	15.000
		1.268E-06	0.705	20.000
		1.115E-06	0.881	25.000
		9.970E-07	1.058	30.000
		9.001E-07	1.234	35.000
		8.223E-07	1.410	40.000
		7.583E-07	1.587	45.000
		7.044E-07	1.763	50.000
		6.583E-07	1.939	55.000
		6.184E-07	2.116	60.000
		5.767E-07	2.292	65.000
		5.119E-07	2.468	70.000
		4.575E-07	2.644	75.000
		4.114E-07	2.821	80.000
		3.719E-07	2.997	85.000
		1.537E-06	0.5	14.18

ANNUAL AVERAGE = 3.71E-12

K= 2 FIVEXQ(K) = 1.537E-06 FIVEPR(K) = 14.180

FUMIGATION X/Q AT THE BOUNDARY: 1.69E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.588	5.491	8.467	13.973	67.300	97.486	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	1.73	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06		
A	6.0	1.50	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06		
A	8.9	0.68	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06		
B	1.7	0.15	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06		
B	3.6	1.35	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.98	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.15	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
C	1.7	0.90	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06		
C	3.6	2.10	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.30	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	8.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	17.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	18.83	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	6.38	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.90	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.70	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	11.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	11.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	1.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.60	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.08	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	2.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
G	1.8	0.83	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.65	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		

G 6.5 0.30 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 209.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06
0.018	0.038	0.188	0.207	1.107	2.833	4.183	5.684	13.788	15.888
0.00057	0.00117	0.00583	0.00642	0.03441	0.08806	0.13005	0.17670	0.42861	0.49392
1.715E-06	1.640E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.226E-07
16.864	17.539	20.240	20.916	21.066	38.923	38.999	39.299	40.949	59.783
0.52424	0.54524	0.62921	0.65020	0.65487	1.21001	1.21234	1.22167	1.27298	1.85845
5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
71.037	77.415	89.120	90.096	92.647	94.598	95.573	96.173	97.074	97.149
2.20833	2.40659	2.77047	2.80079	2.88009	2.94074	2.97106	2.98972	3.01771	3.02005
8.032E-08	6.449E-08	3.010E-08	1.806E-08						
97.224	98.049	99.700	100.000						
3.02238	3.04804	3.09935	3.10868						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.088  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.428

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 1.209  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 2.206  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 2.768

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
3	1	-11.07050	-15.76030	-1.06849
3	2	-12.41800	-16.16917	-1.19920
3	3	-13.01641	-18.36423	-2.03412
3	4	-13.77855	-19.06598	-2.34541
3	5	-14.34482	-24.96016	-5.27354
3	6	-14.85564	NUMXQ(K) = 6	
		5.539E-06	0.031	1.000
		3.964E-06	0.093	3.000
		3.295E-06	0.155	5.000
		2.529E-06	0.311	10.000
		2.097E-06	0.466	15.000
		1.710E-06	0.622	20.000
		1.453E-06	0.777	25.000
		1.268E-06	0.933	30.000
		1.127E-06	1.088	35.000
		1.012E-06	1.243	40.000
		9.092E-07	1.399	45.000
		8.246E-07	1.554	50.000
		7.539E-07	1.710	55.000
		6.940E-07	1.865	60.000
		6.424E-07	2.021	65.000
		5.976E-07	2.176	70.000
		5.221E-07	2.332	75.000
		4.518E-07	2.487	80.000
		3.938E-07	2.642	85.000
		1.997E-06	0.5	16.08

ANNUAL AVERAGE = 8.69E-12

K= 3 FIVEXQ(K) = 1.997E-06 FIVEPR(K) = 16.084

FUMIGATION X/Q AT THE BOUNDARY: 1.69E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
3.902	7.878	10.580	15.851	68.917	97.224	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
	AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	2.58	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06			
A	6.0	1.92	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	1.19	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
A	11.6	0.07	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06			
B	1.7	0.59	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06			
B	3.6	1.65	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.99	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.07	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
C	1.7	0.99	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06			
C	3.6	2.44	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.12	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.20	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	7.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	22.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	18.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	4.43	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	0.73	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.13	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	4.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	14.46	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	6.67	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	1.92	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	0.53	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
G	1.8	0.66	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.25	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			
G	6.5	0.13	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08			

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 209.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06
0.018	0.046	0.641	0.661	1.651	4.227	5.879	7.794	15.654	18.098
0.00063	0.00164	0.02263	0.02333	0.05832	0.14929	0.20760	0.27524	0.55282	0.63912
1.715E-06	1.640E-06	1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.082E-07	6.875E-07	6.226E-07
19.089	20.278	20.344	24.373	25.496	25.562	47.754	47.953	49.670	68.032
0.67411	0.71609	0.71842	0.86071	0.90036	0.90269	1.68642	1.69342	1.75407	2.40251
5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	8.032E-08
82.497	86.922	93.593	94.320	96.235	96.962	97.490	97.754	97.886	97.952
2.91333	3.06961	3.30519	3.33085	3.39849	3.42415	3.44281	3.45214	3.45681	3.45914
6.449E-08	3.010E-08	1.806E-08							
98.613	99.868	100.000							
3.48247	3.52678	3.53145							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.552  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 1.685



K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
4	1	-11.07050	-15.27913	-0.96350
4	2	-12.41800	-16.56801	-1.39754
4	3	-13.01641	-17.65467	-1.82513
4	4	-13.77855	-19.01550	-2.46590
4	5	-14.34482	NUMXQ(K) = 5	
		6.050E-06	0.035	1.000
		4.471E-06	0.106	3.000
		3.762E-06	0.177	5.000
		2.753E-06	0.353	10.000
		2.270E-06	0.530	15.000
		1.898E-06	0.706	20.000
		1.636E-06	0.883	25.000
		1.445E-06	1.059	30.000
		1.297E-06	1.236	35.000
		1.180E-06	1.413	40.000
		1.084E-06	1.589	45.000
		9.912E-07	1.766	50.000
		9.005E-07	1.942	55.000
		8.240E-07	2.119	60.000
		7.585E-07	2.295	65.000
		7.019E-07	2.472	70.000
		6.524E-07	2.649	75.000
		6.089E-07	2.825	80.000
		2.335E-06	0.5	14.16

ANNUAL AVERAGE = 1.44E-11

K= 4 FIVEXQ(K) = 2.335E-06 FIVEPR(K) = 14.158

FUMIGATION X/Q AT THE BOUNDARY: 1.69E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.746	10.502	13.804	17.985	71.702	97.952	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	1.7	0.15	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	8.668E-06			
A	3.6	4.26	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06			
A	6.0	2.25	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	0.34	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
B	1.7	0.24	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06			
B	3.6	2.74	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.59	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
C	1.7	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06			
C	3.6	2.45	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	5.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	21.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	16.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	6.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	1.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.94	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	7.88	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	2.84	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.59	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	1.66	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	0.64	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	28.5	0.20	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08			
G	1.8	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.10	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 209.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	8.668E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06
0.013	0.034	0.180	0.425	0.442	0.491	4.748	7.487	9.738	15.364
0.00061	0.00160	0.00860	0.02026	0.02110	0.02343	0.22636	0.35698	0.46428	0.73252
1.994E-06	1.715E-06	1.640E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.082E-07	6.875E-07	6.230E-07
17.810	18.397	18.740	21.675	22.360	22.409	43.690	43.837	45.353	45.402
0.84914	0.87713	0.89346	1.03341	1.06607	1.06840	2.08305	2.09005	2.16235	2.16469
6.226E-07	5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07
61.596	75.441	81.899	89.775	91.341	93.004	95.842	96.478	97.065	97.456
2.93675	3.59686	3.90475	4.28029	4.35493	4.43423	4.56952	4.59984	4.62783	4.64649
8.032E-08	6.449E-08	4.375E-08	3.010E-08	1.806E-08					
98.434	99.070	99.266	99.902	100.000					
4.69314	4.72347	4.73280	4.76312	4.76779					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.732  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.081

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 3.594  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 4.431

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
5	1	-11.07050	-14.90832	-0.87711
5	2	-12.41800	-16.68802	-1.50394
5	3	-13.01641	-17.62189	-1.88646
5	4	-13.77855	-18.63791	-2.38516
5	5	-14.34482	-25.59808	-6.25210
5	6	-14.95230	NUMXQ(K)= 6	
		6.082E-06	0.048	1.000
		4.587E-06	0.143	3.000
		3.946E-06	0.238	5.000
		2.792E-06	0.477	10.000
		2.253E-06	0.715	15.000
		1.853E-06	0.954	20.000
		1.580E-06	1.192	25.000
		1.382E-06	1.430	30.000
		1.231E-06	1.669	35.000
		1.111E-06	1.907	40.000
		1.008E-06	2.146	45.000
		9.065E-07	2.384	50.000
		8.225E-07	2.622	55.000
		7.516E-07	2.861	60.000
		6.910E-07	3.099	65.000
		6.385E-07	3.337	70.000
		5.928E-07	3.576	75.000
		4.980E-07	3.814	80.000
		4.178E-07	4.053	85.000
		3.535E-07	4.291	90.000
		2.724E-06	0.5	10.49

ANNUAL AVERAGE = 2.88E-11

K= 5 FIVEXQ(K)= 2.724E-06 FIVEPR(K)=10.487

FUMIGATION X/Q AT THE BOUNDARY: 1.69E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
6.996	10.372	13.992	18.021	69.549	98.630	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	3.6	2.40	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06				
A	6.0	2.40	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06				
A	8.9	0.16	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06				
A	11.6	0.05	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06				
A	26.5	0.05	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07				
B	3.6	1.58	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06				
B	6.0	1.36	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06				
B	8.9	0.11	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06				
B	11.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07				
C	3.6	3.54	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	1.42	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	0.22	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
C	11.6	0.11	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07				
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	4.69	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	16.58	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	16.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	7.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	1.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.11	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	3.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	10.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	14.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	3.44	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	1.15	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.25	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	2.84	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	1.31	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
F	28.5	0.05	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08				

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 209.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.011	0.034	0.048	2.448	4.029	6.428	11.118	14.662	16.025	16.189
0.00045	0.00145	0.00207	0.10470	0.17234	0.27497	0.47557	0.62719	0.68550	0.69250
1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07
16.243	19.515	20.933	21.042	37.619	37.673	37.891	39.146	39.255	56.050
0.69483	0.83478	0.89543	0.90009	1.60918	1.61151	1.62084	1.67449	1.67915	2.39757
5.890E-07	5.516E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07
66.955	67.010	74.644	88.658	90.076	92.911	96.347	97.655	98.800	98.909
2.86408	2.86641	3.19296	3.79242	3.85307	3.97436	4.12131	4.17729	4.22627	4.23094
1.301E-07	8.032E-08	6.449E-08	4.375E-08	3.010E-08	1.806E-08				
99.018	99.237	99.509	99.564	99.891	100.000				
4.23560	4.24493	4.25659	4.25893	4.27292	4.27759				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 0.626  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 1.607



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.861  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.789

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
6	1	-11.07050	-15.46296	-0.98963
6	2	-12.41800	-16.17186	-1.22003
6	3	-13.12558	-17.72706	-1.84289
6	4	-13.77855	-18.81308	-2.34976
6	5	-14.34482	-22.06134	-4.05796
6	6	-14.85564	NUMXQ(K)= 6	
		5.219E-06	0.043	1.000
		3.754E-06	0.128	3.000
		3.094E-06	0.214	5.000
		2.344E-06	0.428	10.000
		1.964E-06	0.642	15.000
		1.621E-06	0.856	20.000
		1.391E-06	1.069	25.000
		1.223E-06	1.283	30.000
		1.094E-06	1.497	35.000
		9.792E-07	1.711	40.000
		8.749E-07	1.925	45.000
		7.896E-07	2.139	50.000
		7.187E-07	2.353	55.000
		6.586E-07	2.567	60.000
		6.072E-07	2.780	65.000
		5.441E-07	2.994	70.000
		4.806E-07	3.208	75.000
		4.273E-07	3.422	80.000
		3.822E-07	3.636	85.000
		2.196E-06	0.5	11.69

ANNUAL AVERAGE = 1.63E-11

K= 6 FIVEXQ(K)= 2.196E-06 FIVEPR(K)=11.689

FUMIGATION X/Q AT THE BOUNDARY: 1.69E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.071	10.361	13.469	19.045	66.278	99.291	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS											MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS		
A	3.6	0.17	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06		
A	6.0	0.87	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06		
A	8.9	0.56	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06		
B	1.7	0.09	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06		
B	3.6	0.43	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	1.17	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.35	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.04	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
C	3.6	0.61	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	2.69	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.48	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	1.95	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	14.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	20.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	6.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.61	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.30	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.65	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	14.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	15.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	4.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.69	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.52	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.22	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	2.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.30	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
G	1.8	0.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		
G	6.5	0.35	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08		

G 9.6 0.04 90000.

0.

131.

1000.0 46.0

0.0

0.000E+00

0.000E+00 1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 209.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06
0.004	0.023	0.110	0.124	0.298	0.732	1.601	3.555	4.163	5.335
0.00024	0.00125	0.00591	0.00667	0.01600	0.03932	0.08597	0.19094	0.22359	0.28657
1.640E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.226E-07	5.890E-07
5.900	8.548	11.241	11.588	26.309	26.352	26.830	28.046	48.803	63.784
0.31689	0.45918	0.60380	0.62246	1.41318	1.41551	1.44117	1.50648	2.62143	3.42615
4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	8.032E-08
70.775	85.931	86.538	90.056	94.311	96.396	97.091	97.395	97.698	98.220
3.80169	4.61574	4.64839	4.83733	5.06591	5.17788	5.21520	5.23152	5.24785	5.27584
6.449E-08	3.010E-08	1.806E-08	1.220E-08						
98.393	99.609	99.957	100.000						
5.28517	5.35048	5.36914	5.37148						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.191  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 1.412

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 3.423  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 4.612

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
7	1	-11.07050	-16.36184	-1.15635
7	2	-13.01641	-16.17063	-1.09026
7	3	-13.77855	-17.11755	-1.52184
7	4	-14.34482	-21.07552	-3.69421
7	5	-14.85564	NUMXQ(K)= 5	
		3.440E-06	0.054	1.000
		2.364E-06	0.161	3.000
		1.975E-06	0.269	5.000
		1.532E-06	0.537	10.000
		1.308E-06	0.806	15.000
		1.164E-06	1.074	20.000
		1.060E-06	1.343	25.000
		9.586E-07	1.611	30.000
		8.718E-07	1.880	35.000
		8.016E-07	2.149	40.000
		7.432E-07	2.417	45.000
		6.938E-07	2.686	50.000
		6.513E-07	2.954	55.000
		6.141E-07	3.223	60.000
		5.707E-07	3.491	65.000
		5.038E-07	3.760	70.000
		4.478E-07	4.029	75.000
		4.005E-07	4.297	80.000
		3.603E-07	4.566	85.000
		1.574E-06	0.5	9.31

ANNUAL AVERAGE = 4.58E-12

K= 7 FIVEXQ(K)= 1.574E-06 FIVEPR(K)= 9.308

FUMIGATION X/Q AT THE BOUNDARY: 1.69E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.607	5.385	7.469	14.605	59.944	98.220	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS											MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS		
A	3.6	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06		
A	6.0	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06		
B	3.6	0.14	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.37	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.37	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
C	3.6	0.55	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.01	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	1.61	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	11.17	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	21.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	5.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.51	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.32	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	14.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	20.36	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	7.58	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.47	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	4.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	3.63	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	0.46	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		
G	6.5	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08		
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08		

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

NNW SECTOR BOUNDARY DISTANCE = 209.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.262E-06
0.004	0.023	0.040	0.132	0.270	0.362	1.970	2.522	2.889	5.601
0.00018	0.00116	0.00203	0.00669	0.01369	0.01835	0.09999	0.12798	0.14664	0.28426
1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.207E-07
6.612	6.980	18.148	18.194	18.653	20.124	20.170	41.587	55.880	61.303
0.33558	0.35424	0.92104	0.92337	0.94670	1.02134	1.02367	2.11063	2.83604	3.11128
3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	8.032E-08	6.449E-08
81.662	82.168	86.304	93.887	97.518	98.024	98.345	98.713	98.805	99.219
4.14459	4.17025	4.38017	4.76504	4.94931	4.97497	4.99130	5.00996	5.01462	5.03561
3.010E-08	1.806E-08	1.220E-08							
99.678	99.954	100.000							
5.05894	5.07293	5.07527							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.100  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.920

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 2.833  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5) = 4.141

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
8	1	-11.07050	-16.92746	-1.26549
8	2	-13.01641	-16.22955	-1.03967
8	3	-13.77855	-16.73458	-1.25389
8	4	-14.34482	-20.02675	-2.98127
8	5	-14.85564	NUMXQ(K) = 5	
		2.850E-06	0.051	1.000
		1.948E-06	0.152	3.000
		1.648E-06	0.254	5.000
		1.296E-06	0.508	10.000
		1.116E-06	0.761	15.000
		9.915E-07	1.015	20.000
		8.911E-07	1.269	25.000
		8.147E-07	1.523	30.000
		7.539E-07	1.776	35.000
		7.039E-07	2.030	40.000
		6.618E-07	2.284	45.000
		6.256E-07	2.538	50.000
		5.941E-07	2.791	55.000
		5.366E-07	3.045	60.000
		4.825E-07	3.299	65.000
		4.367E-07	3.553	70.000
		3.975E-07	3.806	75.000
		3.637E-07	4.060	80.000
		1.303E-06	0.5	9.85

ANNUAL AVERAGE = 7.25E-13

K= 8 FIVEXQ(K) = 1.303E-06 FIVEPR(K) = 9.852

FUMIGATION X/Q AT THE BOUNDARY: 1.69E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.184	2.252	3.171	12.793	53.241	98.805	100.000



Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	6.0	0.28	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	0.16	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
B	3.6	0.07	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.58	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.72	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.12	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
B	26.5	0.02	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07			
C	3.6	0.44	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	1.56	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.21	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.02	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	7.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	16.51	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	11.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	2.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	1.63	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	20.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	12.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	1.49	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	3.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	1.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.40	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	0.79	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	0.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 209.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06	1.262E-06
0.002	0.014	0.020	0.090	0.370	1.326	1.769	2.352	2.515	4.148
0.00022	0.00138	0.00200	0.00900	0.03699	0.13262	0.17694	0.23525	0.25158	0.41485
1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.207E-07
5.827	6.550	13.547	13.663	15.226	15.762	15.972	32.484	42.629	53.870
0.58280	0.65510	1.35486	1.36652	1.52280	1.57645	1.59744	3.24887	4.26352	5.38780
3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
53.893	74.673	76.981	80.107	80.130	92.164	95.196	96.688	97.365	98.391
5.39013	7.46841	7.69933	8.01189	8.01422	9.21780	9.52103	9.67031	9.73795	9.84058
8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
98.531	98.927	99.720	99.953	100.000					
9.85458	9.89423	9.97354	9.99686	10.00153					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.132  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 4.260

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
9	1	-11.07050	-16.69575	-1.22412
9	2	-13.01641	-15.89735	-0.95849
9	3	-13.77855	-16.33691	-1.15733
9	4	-14.34482	-17.49364	-1.82936
9	5	-14.85564	NUMXQ(K) = 5	
		2.467E-06	0.100	1.000
		1.737E-06	0.300	3.000
		1.473E-06	0.500	5.000
		1.160E-06	1.000	10.000
		9.906E-07	1.500	15.000
		8.658E-07	2.000	20.000
		7.767E-07	2.500	25.000
		7.087E-07	3.000	30.000
		6.544E-07	3.501	35.000
		6.096E-07	4.001	40.000
		5.621E-07	4.501	45.000
		5.124E-07	5.001	50.000
		4.705E-07	5.501	55.000
		4.345E-07	6.001	60.000
		4.034E-07	6.501	65.000
		3.761E-07	7.001	70.000
		1.473E-06	0.5	5.00

ANNUAL AVERAGE = 2.12E-12

K= 9 FIVEXQ(K)= 1.473E-06 FIVEPR(K)= 4.999

FUMIGATION X/Q AT THE BOUNDARY: 1.69E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.443	4.361	5.877	13.603	52.296	98.531	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

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RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	3.6	0.08	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06				
A	6.0	0.28	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06				
A	8.9	0.12	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06				
B	3.6	0.16	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06				
B	6.0	0.56	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06				
B	8.9	0.36	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06				
B	11.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07				
C	3.6	0.20	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	1.47	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	0.95	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	0.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	7.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	16.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	6.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	0.64	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	2.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	12.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	22.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	9.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	0.76	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.27	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	5.61	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	4.42	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	0.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
F	12.5	0.12	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07				
G	1.8	0.36	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08				
G	3.9	1.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08				
G	6.5	0.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08				

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

NNE SECTOR BOUNDARY DISTANCE = 209.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.002	0.018	0.033	0.112	0.271	0.550	1.465	1.664	2.221	2.340
0.00012	0.00105	0.00191	0.00658	0.01591	0.03224	0.08588	0.09755	0.13020	0.13720
1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.226E-07	5.890E-07	4.207E-07
4.568	6.039	6.397	13.995	14.075	15.030	16.303	33.209	45.939	52.542
0.26782	0.35412	0.37512	0.82063	0.82529	0.88127	0.95592	1.94724	2.69365	3.08085
3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08
75.495	76.132	81.741	90.811	95.226	95.982	96.340	97.255	97.375	97.534
4.42671	4.46403	4.79292	5.32473	5.58364	5.62796	5.64895	5.70260	5.70960	5.71893
6.449E-08	3.010E-08	1.806E-08	1.220E-08						
97.892	99.125	99.960	100.000						
5.73992	5.81223	5.86121	5.86355						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.001  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.086

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 0.820  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 2.691  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 4.423

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
10	1	-11.07050	-16.86574	-1.22926
10	2	-11.63677	-16.88443	-1.23365
10	3	-13.01641	-16.26591	-1.03638
10	4	-13.77855	-16.65940	-1.20033
10	5	-14.34482	-18.72800	-2.27310
10	6	-14.85564	NUMXQ(K) = 6	
		2.548E-06	0.059	1.000
		1.776E-06	0.176	3.000
		1.500E-06	0.293	5.000
		1.176E-06	0.586	10.000
		1.006E-06	0.880	15.000
		8.839E-07	1.173	20.000
		7.964E-07	1.466	25.000
		7.297E-07	1.759	30.000
		6.764E-07	2.052	35.000
		6.325E-07	2.345	40.000
		5.954E-07	2.639	45.000
		5.416E-07	2.932	50.000
		4.920E-07	3.225	55.000
		4.501E-07	3.518	60.000
		4.142E-07	3.811	65.000
		3.831E-07	4.104	70.000
		3.559E-07	4.398	75.000
		1.246E-06	0.5	8.53

ANNUAL AVERAGE = 1.62E-12

K= 10 FIVEXQ(K)= 1.246E-06 FIVEPR(K)= 8.527

FUMIGATION X/Q AT THE BOUNDARY: 1.69E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.477	3.103	4.256	16.603	49.623	97.534	100.000



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USNRC COMPUTER CODE-PAVAN, VERSION 2.0

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RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06		
A	6.0	0.23	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06		
A	8.9	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06		
B	3.6	0.14	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.61	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.28	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
C	3.6	0.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.41	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.99	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.19	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
C	26.5	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	1.50	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	7.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	13.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	5.92	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.75	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.14	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.77	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	13.19	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	16.62	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	7.32	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	7.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	1.83	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.69	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	2.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.38	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

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**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

NE SECTOR BOUNDARY DISTANCE = 209.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.003	0.023	0.040	0.134	0.275	0.510	2.012	2.341	2.951	3.045
0.00017	0.00115	0.00201	0.00667	0.01367	0.02534	0.09998	0.11630	0.14663	0.15129
1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07
5.815	7.224	7.506	14.783	14.830	15.816	17.319	17.506	30.981	44.175
0.28891	0.35889	0.37288	0.73442	0.73676	0.78574	0.86038	0.86971	1.53914	2.19458
4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
50.091	66.711	67.463	74.787	74.834	84.976	92.347	93.192	93.333	95.164
2.48848	3.31419	3.35152	3.71539	3.71772	4.22155	4.58775	4.62974	4.63674	4.72770
8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
95.258	95.540	97.230	99.624	100.000					
4.73237	4.74636	4.83034	4.94929	4.96795					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.100  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.734

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.192  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 3.712

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
11	1	-11.07050	-16.88108	-1.25046
11	2	-13.01641	-16.63911	-1.17217
11	3	-13.77855	-17.03136	-1.33290
11	4	-14.34482	-19.65802	-2.63609
11	5	-14.95230	NUMXQ(K)= 5	
		2.862E-06	0.050	1.000
		1.931E-06	0.149	3.000
		1.599E-06	0.248	5.000
		1.220E-06	0.497	10.000
		1.030E-06	0.745	15.000
		8.947E-07	0.994	20.000
		7.990E-07	1.242	25.000
		7.266E-07	1.490	30.000
		6.693E-07	1.739	35.000
		6.223E-07	1.987	40.000
		5.771E-07	2.236	45.000
		5.130E-07	2.484	50.000
		4.604E-07	2.732	55.000
		4.164E-07	2.981	60.000
		3.792E-07	3.229	65.000
		3.474E-07	3.478	70.000
		1.217E-06	0.5	10.06

ANNUAL AVERAGE = 1.28E-12

K= 11 FIVEXQ(K)= 1.217E-06 FIVEPR(K)=10.065

FUMIGATION X/Q AT THE BOUNDARY: 1.69E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.423	3.381	4.460	22.507	51.573	95.258	100.000

Calculation No. PM-1055 Revision 0

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RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	USED
AT 131.4 METERS												CA=1292.SQ.METERS	
A	6.0	0.33	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06		
A	8.9	0.14	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06		
A	11.6	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06		
A	26.5	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07		
B	3.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.38	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.89	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.09	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
B	26.5	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07		
C	3.6	0.14	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.22	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	1.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.19	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
C	26.5	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	0.71	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	6.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	9.93	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	8.94	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	1.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.54	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	8.80	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	13.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	12.75	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	1.41	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.05	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	5.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	8.33	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	5.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
F	12.5	0.85	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07		

G	1.8	0.85	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	3.29	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

ENE SECTOR BOUNDARY DISTANCE = 209.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06	1.264E-06
0.002	0.020	0.038	0.085	0.414	1.120	1.261	1.637	1.778	1.872
0.00008	0.00098	0.00186	0.00420	0.02052	0.05551	0.06251	0.08117	0.08817	0.09283
1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07
4.412	5.635	6.529	12.551	12.645	14.103	15.655	15.843	25.769	34.566
0.21879	0.27943	0.32375	0.62232	0.62698	0.69929	0.77626	0.78559	1.27776	1.71394
5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07
34.660	43.598	43.645	57.616	58.651	64.155	64.202	76.950	85.276	86.687
1.71860	2.16178	2.16411	2.85687	2.90819	3.18110	3.18343	3.81554	4.22840	4.29837
1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09	
86.970	92.097	92.944	92.991	93.838	95.437	98.730	99.953	100.000	
4.31237	4.56662	4.60860	4.61093	4.65292	4.73222	4.89550	4.95615	4.95848	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.001  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 0.055

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 0.622  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 1.712  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 3.178

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
12	1	-11.07050	-16.19649	-1.06775
12	2	-11.63677	-17.47494	-1.36713
12	3	-13.01641	-16.28004	-1.00073
12	4	-13.77855	-17.47979	-1.48070
12	5	-14.34482	-19.25415	-2.31876
12	6	-14.95230	NUMXQ(K) = 6	
		2.323E-06	0.050	1.000
		1.662E-06	0.149	3.000
		1.416E-06	0.248	5.000
		1.124E-06	0.496	10.000
		9.441E-07	0.744	15.000
		8.070E-07	0.992	20.000
		7.118E-07	1.240	25.000
		6.405E-07	1.488	30.000
		5.822E-07	1.735	35.000
		5.130E-07	1.983	40.000
		4.579E-07	2.231	45.000
		4.128E-07	2.479	50.000
		3.754E-07	2.727	55.000
		3.437E-07	2.975	60.000
		1.120E-06	0.5	10.08

ANNUAL AVERAGE = 1.33E-12

K= 12 FIVEXQ(K)= 1.120E-06 FIVEPR(K)=10.084

FUMIGATION X/Q AT THE BOUNDARY: 1.69E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.659	3.716	5.175	26.549	53.458	92.991	100.000



Calculation No. PM-1055 Revision 0

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PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	0.03	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06			
A	6.0	0.24	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	0.63	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
A	11.6	0.42	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06			
A	26.5	0.06	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07			
B	3.6	0.12	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.63	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.81	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.36	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
B	26.5	0.18	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07			
C	3.6	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.25	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	1.67	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.86	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.39	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.78	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	4.21	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	8.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	11.78	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	6.71	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	2.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	1.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	5.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	11.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	15.99	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	2.33	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.89	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	5.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	5.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			

**Calculation No. PM-1055 Revision 0****Attachment J**

F	12.5	0.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
G	1.8	0.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	2.06	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.16	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 209.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.002	0.013	0.024	0.053	0.173	0.411	1.187	1.336	1.962	2.589
0.00014	0.00103	0.00184	0.00417	0.01350	0.03216	0.09281	0.10447	0.15346	0.20244
1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07
3.006	4.617	5.869	6.675	10.880	11.238	12.908	13.803	14.668	23.646
0.23509	0.36105	0.45902	0.52199	0.85088	0.87887	1.00949	1.07947	1.14711	1.84920
5.890E-07	5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07
28.806	28.865	40.646	40.825	52.607	59.317	61.853	62.240	78.227	84.133
2.25273	2.25739	3.17874	3.19274	4.11408	4.63890	4.83717	4.86749	6.11772	6.57956
1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09
86.459	89.143	94.154	94.870	95.138	95.526	96.719	98.777	99.940	99.970
6.76150	6.97143	7.36329	7.41927	7.44026	7.47059	7.56389	7.72483	7.81580	7.81813
4.104E-09									
100.000									
7.82046									

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.093  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 0.850  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.250  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.834

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
13	1	-11.07050	-16.85765	-1.23409
13	2	-13.01641	-16.28464	-1.05000
13	3	-13.77855	-17.31495	-1.48167
13	4	-14.34482	-17.89132	-1.76920
13	5	-14.95230	NUMXQ(K)= 5	
		2.366E-06	0.078	1.000
		1.649E-06	0.235	3.000
		1.383E-06	0.391	5.000
		1.072E-06	0.782	10.000
		8.680E-07	1.173	15.000
		7.349E-07	1.564	20.000
		6.428E-07	1.955	25.000
		5.714E-07	2.346	30.000
		5.083E-07	2.737	35.000
		4.583E-07	3.128	40.000
		4.173E-07	3.519	45.000
		3.832E-07	3.910	50.000
		3.542E-07	4.301	55.000
		3.292E-07	4.692	60.000
		1.266E-06	0.5	6.39

ANNUAL AVERAGE = 3.92E-12

K= 13 FIVEXQ(K)= 1.266E-06 FIVEPR(K)= 6.393

FUMIGATION X/Q AT THE BOUNDARY: 1.69E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.372	5.697	7.785	22.857	57.994	95.138	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	6.0	0.24	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06				
A	8.9	0.24	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06				
A	11.6	0.05	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06				
A	26.5	0.13	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07				
B	3.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06				
B	6.0	0.24	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06				
B	8.9	0.53	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06				
B	11.6	0.37	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07				
B	26.5	0.19	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07				
C	3.6	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	0.69	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	1.57	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
C	11.6	0.80	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07				
C	26.5	0.72	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07				
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	1.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	2.59	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	9.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	17.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	11.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	4.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	0.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	3.68	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	9.45	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	15.56	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	2.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.32	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	0.75	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	1.76	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	3.74	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	3.68	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
F	12.5	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07				

G	1.8	0.37	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 209.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06	1.264E-06
0.002	0.009	0.018	0.098	0.338	1.352	1.486	1.726	1.966	2.020
0.00020	0.00080	0.00155	0.00855	0.02954	0.11818	0.12984	0.15083	0.17183	0.17649
1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07
2.980	3.674	4.208	6.797	7.171	8.746	9.493	10.294	19.769	23.452
0.26046	0.32111	0.36776	0.59401	0.62667	0.76429	0.82960	0.89957	1.72762	2.04951
5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07
23.585	41.575	41.762	51.210	63.167	64.929	65.649	81.210	84.947	87.909
2.06117	3.63329	3.64962	4.47533	5.52030	5.67425	5.73723	7.09709	7.42365	7.68255
1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09	
91.939	95.623	96.103	96.423	96.797	97.731	98.906	99.947	100.000	
8.03477	8.35665	8.39864	8.42663	8.45928	8.54092	8.64355	8.73452	8.73919	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.118  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.593

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.047  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.670

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
14	1	-11.07050	-16.78363	-1.23898
14	2	-13.01641	-17.43472	-1.45311
14	3	-13.77855	-16.79696	-1.19964
14	4	-14.34482	-17.03831	-1.31771
14	5	-14.95230	NUMXQ(K)= 5	
		2.485E-06	0.087	1.000
		1.550E-06	0.262	3.000
		1.211E-06	0.437	5.000
		8.781E-07	0.874	10.000
		7.304E-07	1.311	15.000
		6.370E-07	1.748	20.000
		5.687E-07	2.185	25.000
		5.135E-07	2.622	30.000
		4.699E-07	3.059	35.000
		4.343E-07	3.496	40.000
		4.045E-07	3.933	45.000
		3.791E-07	4.370	50.000
		3.571E-07	4.807	55.000
		3.378E-07	5.244	60.000
		1.132E-06	0.5	5.72

ANNUAL AVERAGE = 2.19E-12

K= 14 FIVEXQ(K)= 1.132E-06 FIVEPR(K)= 5.721

FUMIGATION X/Q AT THE BOUNDARY: 1.69E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.667	4.591	6.005	16.423	63.481	96.423	100.000



Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	6.0	0.04	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	0.06	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
A	26.5	0.02	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07			
B	3.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.04	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.19	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
C	3.6	0.06	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	0.55	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.74	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.59	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	4.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	11.52	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	22.08	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	11.54	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	3.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	0.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	3.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	11.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	13.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	1.89	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.13	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.00	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.78	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	1.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.49	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	1.95	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 209.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06	1.262E-06
0.002	0.008	0.014	0.099	0.141	0.906	0.970	1.013	1.076	1.905
0.00019	0.00084	0.00154	0.01087	0.01553	0.09950	0.10650	0.11117	0.11816	0.20913
1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	5.516E-07
2.457	2.649	6.749	6.834	7.578	8.130	8.725	20.241	23.853	23.874
0.26978	0.29077	0.74095	0.75028	0.83192	0.89256	0.95787	2.22210	2.61863	2.62096
4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
45.949	56.976	68.513	70.510	70.637	84.469	88.251	90.142	94.051	95.963
5.04446	6.25504	7.52160	7.74085	7.75485	9.27332	9.68851	9.89611	10.32529	10.53522
8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
96.091	96.367	97.854	99.809	100.000					
10.54921	10.57954	10.74281	10.95741	10.97840					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.099  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.740

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 5.041  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 7.737

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
15	1	-11.07050	-16.94794	-1.27152
15	2	-13.01641	-16.61528	-1.16393
15	3	-13.77855	-16.54197	-1.13385
15	4	-14.68142	-16.72098	-1.24294
15	5	-14.95230	NUMXQ(K)= 5	
		2.149E-06	0.110	1.000
		1.438E-06	0.329	3.000
		1.175E-06	0.549	5.000
		8.797E-07	1.098	10.000
		7.352E-07	1.647	15.000
		6.432E-07	2.196	20.000
		5.774E-07	2.745	25.000
		5.270E-07	3.294	30.000
		4.868E-07	3.842	35.000
		4.536E-07	4.391	40.000
		4.255E-07	4.940	45.000
		3.996E-07	5.489	50.000
		3.766E-07	6.038	55.000
		3.564E-07	6.587	60.000
		3.385E-07	7.136	65.000
		3.224E-07	7.685	70.000
		1.220E-06	0.5	4.55

ANNUAL AVERAGE = 5.38E-13

K= 15 FIVEXQ(K)= 1.220E-06 FIVEPR(K)= 4.554

FUMIGATION X/Q AT THE BOUNDARY: 1.69E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.127	2.210	2.613	10.863	64.767	96.091	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	3.6	0.02	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.045E-06	
A	6.0	0.17	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.427E-06	
A	8.9	0.32	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.640E-06	
A	11.6	0.02	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.264E-06	
A	26.5	0.02	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	5.516E-07	
B	3.6	0.06	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.858E-06	
B	6.0	0.48	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.715E-06	
B	8.9	0.71	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.159E-06	
B	11.6	0.11	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.931E-07	
C	3.6	0.48	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.994E-06	
C	6.0	2.16	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.196E-06	
C	8.9	2.01	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.082E-07	
C	11.6	0.37	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.230E-07	
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	1.08	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	8.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	20.04	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	19.82	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	5.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	1.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	4.38	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	11.10	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	10.11	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.93	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	2.09	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	2.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	0.69	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.301E-07	
F	12.5	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.003E-07	

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	28.5	0.02	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

SSE SECTOR BOUNDARY DISTANCE = 209.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.002	0.008	0.013	0.035	0.100	0.272	1.352	1.827	2.302	2.626
0.00026	0.00083	0.00142	0.00375	0.01075	0.02941	0.14604	0.19735	0.24867	0.28366
1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07
2.648	3.382	5.542	6.254	14.568	14.676	16.685	17.160	17.527	37.568
0.28599	0.36529	0.59855	0.67552	1.57354	1.58520	1.80213	1.85344	1.89310	4.05768
5.890E-07	5.516E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07
41.951	41.973	61.798	72.898	78.124	80.219	90.325	93.046	93.975	95.335
4.53118	4.53352	6.67477	7.87369	8.43816	8.66442	9.75604	10.04994	10.15024	10.29718
1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	4.104E-09		
96.026	96.134	96.350	96.761	98.035	99.870	99.978	100.000		
10.37183	10.38349	10.40681	10.45113	10.58875	10.78701	10.79868	10.80101		

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.197  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 4.528

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
16	1	-11.07050	-16.67065	-1.22977
16	2	-13.12558	-15.69990	-0.89302
16	3	-13.77855	-16.43273	-1.23363
16	4	-14.34482	-17.31614	-1.75559
16	5	-14.68142	NUMXQ(K) = 5	
		2.502E-06	0.108	1.000
		1.728E-06	0.324	3.000
		1.480E-06	0.540	5.000
		1.182E-06	1.080	10.000
		1.023E-06	1.620	15.000
		8.846E-07	2.160	20.000
		7.868E-07	2.700	25.000
		7.127E-07	3.240	30.000
		6.539E-07	3.780	35.000
		6.056E-07	4.320	40.000
		5.553E-07	4.860	45.000
		5.074E-07	5.401	50.000
		4.669E-07	5.941	55.000
		4.320E-07	6.481	60.000
		1.516E-06	0.5	4.63

ANNUAL AVERAGE = 2.60E-12

K= 16 FIVEXQ(K) = 1.516E-06 FIVEPR(K) = 4.629

FUMIGATION X/Q AT THE BOUNDARY: 1.69E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.561	5.572	6.932	13.028	68.876	96.350	100.000



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	1.7	0.01	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	8.668E-06		
A	3.6	0.51	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06		
A	6.0	0.53	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06		
A	8.9	0.28	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06		
A	11.6	0.06	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06		
A	26.5	0.03	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07		
B	1.7	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06		
B	3.6	0.47	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.54	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.44	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.12	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
B	26.5	0.03	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07		
C	1.7	0.08	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06		
C	3.6	0.77	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	1.04	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.30	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
C	26.5	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	2.07	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	9.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	15.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	12.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	4.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	1.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	1.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	8.90	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	9.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	1.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		

**Calculation No. PM-1055 Revision 0****Attachment J**

F	3.9	3.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.16	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
F	28.5	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08
G	1.8	0.43	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.14	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.31	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.01	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.00	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 209.0 METERS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED:

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	8.668E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06
0.005	0.019	0.026	0.072	0.084	0.161	0.674	1.145	1.677	3.744
0.00467	0.01866	0.02566	0.07231	0.08397	0.16094	0.67410	1.14527	1.67709	3.74370
1.994E-06	1.715E-06	1.640E-06	1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07
4.509	5.052	5.330	5.388	7.354	8.684	9.125	18.516	18.637	19.680
4.50877	5.05225	5.32982	5.38813	7.35445	8.68399	9.12484	18.51558	18.63687	19.67951
6.875E-07	6.230E-07	6.226E-07	5.890E-07	5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07
20.689	20.993	36.712	45.608	45.636	57.865	57.900	71.746	75.987	79.129
20.68949	20.99272	36.71161	45.60785	45.63584	57.86527	57.90026	71.74612	75.98666	79.12857
2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	4.375E-08
79.254	88.781	92.298	93.593	94.980	96.534	96.695	96.923	97.357	97.369
79.25452	88.78055	92.29800	93.59254	94.98039	96.53386	96.69480	96.92339	97.35724	97.36890
3.010E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54216	99.67810	99.98599	99.99532	99.99998					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.

THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

**Calculation No. PM-1055 Revision 0****Attachment J**

SEC/CUBIC METER    THE TOTAL TIME    INTO THIS SECTOR ONLY

3.662E-06	1.000	1.000
2.436E-06	3.000	3.000
1.977E-06	5.000	5.000
1.446E-06	10.000	10.000
1.171E-06	15.000	15.000
9.978E-07	20.000	20.000
8.845E-07	25.000	25.000
7.938E-07	30.000	30.000
7.180E-07	35.000	35.000
6.529E-07	40.000	40.000
5.956E-07	45.000	45.000
5.478E-07	50.000	50.000
5.043E-07	55.000	55.000
4.636E-07	60.000	60.000
4.249E-07	65.000	65.000
3.877E-07	70.000	70.000
3.511E-07	75.000	75.000

1.977E-06	5.0	5.00
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K= 17      FIVEXQ(K) = 1.977E-06      FIVEPR(K) = 5.000

FUMIGATION X/Q AT THE BOUNDARY:    1.69E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.416	5.059	6.718	16.125	61.163	96.935	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	8.668E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06
0.005	0.019	0.026	0.072	0.084	0.161	0.674	1.145	1.677	3.744
0.00467	0.01866	0.02566	0.07231	0.08397	0.16094	0.67410	1.14527	1.67709	3.74370
1.994E-06	1.715E-06	1.640E-06	1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07
4.509	5.052	5.330	5.388	7.354	8.684	9.125	18.516	18.637	19.680
4.50877	5.05225	5.32982	5.38813	7.35445	8.68399	9.12484	18.51558	18.63688	19.67952
6.875E-07	6.230E-07	6.226E-07	5.890E-07	5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07
20.689	20.993	36.712	45.608	45.636	57.865	57.900	71.746	75.987	79.129
20.68950	20.99273	36.71161	45.60786	45.63585	57.86527	57.90026	71.74612	75.98665	79.12857
2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	4.375E-08
79.255	88.781	92.298	93.593	94.980	96.534	96.695	96.923	97.357	97.369
79.25453	88.78056	92.29800	93.59256	94.98041	96.53387	96.69481	96.92340	97.35724	97.36890
3.010E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54216	99.67809	99.98598	99.99532	99.99998					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

**Calculation No. PM-1055 Revision 0**

**Attachment J**

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
18	1	-11.07050	-14.64728	-0.91538
18	2	-13.01641	-14.54922	-0.86034
18	3	-13.77855	-14.42414	-0.72071
18	4	-14.34482	-14.41743	-0.65976
18	5	-14.95230	NUMXQ(K) = 5	
		3.662E-06	1.000	1.000
		2.436E-06	3.000	3.000
		1.977E-06	5.000	5.000
		1.446E-06	10.000	10.000
		1.171E-06	15.000	15.000
		9.978E-07	20.000	20.000
		8.845E-07	25.000	25.000
		7.938E-07	30.000	30.000
		7.180E-07	35.000	35.000
		6.529E-07	40.000	40.000
		5.956E-07	45.000	45.000
		5.478E-07	50.000	50.000
		5.043E-07	55.000	55.000
		4.636E-07	60.000	60.000
		4.249E-07	65.000	65.000
		3.877E-07	70.000	70.000
		3.511E-07	75.000	75.000
		1.977E-06	5.0	5.00

K= 18 FIVEXQ(K) = 1.977E-06 FIVEPR(K) = 5.000

K	HIGHPR	PR	GRNDVT(K)
1	-3.06052	0.11048	6.21119
2	-2.00327	2.25740	3.52599
3	-2.79824	0.25691	3.10868
4	-2.68650	0.36103	3.53145
5	-2.57624	0.49942	4.76778
6	-2.75266	0.29557	4.27759
7	-3.06855	0.10756	5.37148
8	-3.25087	0.05753	5.07527
9	-3.17144	0.07585	10.00153
10	-3.29988	0.04837	5.86355
11	-3.25284	0.05714	4.96796
12	-3.40963	0.03253	4.95848
13	-3.27701	0.05246	7.82046
14	-3.20434	0.06769	8.73919
15	-3.25156	0.05739	10.97840
16	-3.13645	0.08551	10.80101

K	HOURS(K)	TOTHR
1	9.67833	9.67833
2	197.74830	207.42660
3	22.50566	229.93230

Calculation No. PM-1055 Revision 0

Attachment J

4	31.62634	261.55860
5	43.74879	305.30740
6	25.89224	331.19960
7	9.42196	340.62160
8	5.03966	345.66130
9	6.64419	352.30550
10	4.23714	356.54260
11	5.00520	361.54780
12	2.84982	364.39760
13	4.59585	368.99350
14	5.92991	374.92340
15	5.02765	379.95100
16	7.49057	387.44160

K	FIVEXQ	SVANN	SLTIME	TIMINT	I	TIME	XQT
1	1.547E-06	1.689E-12	-1.6371	-12.2445	1	8.0	-15.64881
					2	16.0	-16.78359
					3	72.0	-19.24598
					4	624.0	-22.78136
2	1.537E-06	3.713E-12	-1.5425	-12.3165	1	8.0	-15.52392
					2	16.0	-16.59307
					3	72.0	-18.91303
					4	624.0	-22.24393
3	1.997E-06	8.692E-12	-1.4722	-12.1034	1	8.0	-15.16480
					2	16.0	-16.18528
					3	72.0	-18.39963
					4	624.0	-21.57890
4	2.335E-06	1.440E-11	-1.4307	-11.9759	1	8.0	-14.95100
					2	16.0	-15.94269
					3	72.0	-18.09457
					4	624.0	-21.18416
5	2.724E-06	2.875E-11	-1.3666	-11.8663	1	8.0	-14.70800
					2	16.0	-15.65523
					3	72.0	-17.71066
					4	624.0	-20.66175
6	2.196E-06	1.628E-11	-1.4087	-12.0523	1	8.0	-14.98169
					2	16.0	-15.95815
					3	72.0	-18.07700
					4	624.0	-21.11914
7	1.574E-06	4.584E-12	-1.5202	-12.3082	1	8.0	-15.46926
					2	16.0	-16.52296
					3	72.0	-18.80940
					4	624.0	-22.09217
8	1.303E-06	7.246E-13	-1.7176	-12.3606	1	8.0	-15.93221
					2	16.0	-17.12275

Calculation No. PM-1055 Revision 0

Attachment J

				3	72.0	-19.70614
				4	624.0	-23.41525
9	1.473E-06	2.123E-12	-1.6041	-12.3162		
				1	8.0	-15.65174
				2	16.0	-16.76358
				3	72.0	-19.17620
				4	624.0	-22.64013
10	1.246E-06	1.616E-12	-1.6166	-12.4754		
				1	8.0	-15.83700
				2	16.0	-16.95753
				3	72.0	-19.38899
				4	624.0	-22.87996
11	1.217E-06	1.276E-12	-1.6420	-12.4812		
				1	8.0	-15.89557
				2	16.0	-17.03369
				3	72.0	-19.50333
				4	624.0	-23.04913
12	1.120E-06	1.335E-12	-1.6268	-12.5743		
				1	8.0	-15.95707
				2	16.0	-17.08465
				3	72.0	-19.53142
				4	624.0	-23.04437
13	1.266E-06	3.916E-12	-1.5130	-12.5309		
				1	8.0	-15.67704
				2	16.0	-16.72577
				3	72.0	-19.00142
				4	624.0	-22.26869
14	1.132E-06	2.187E-12	-1.5691	-12.6035		
				1	8.0	-15.86645
				2	16.0	-16.95410
				3	72.0	-19.31421
				4	624.0	-22.70275
15	1.220E-06	5.385E-13	-1.7452	-12.4071		
				1	8.0	-16.03603
				2	16.0	-17.24569
				3	72.0	-19.87056
				4	624.0	-23.63922
16	1.516E-06	2.599E-12	-1.5834	-12.3018		
				1	8.0	-15.59427
				2	16.0	-16.69177
				3	72.0	-19.07328
				4	624.0	-22.49253
17	1.977E-06	2.875E-11	-1.3284	-12.2130		
				1	8.0	-14.97530
				2	16.0	-15.89606
				3	72.0	-17.89405
				4	624.0	-20.76266
18	1.977E-06	2.875E-11	-1.3284	-12.2130		
				1	8.0	-14.97530
				2	16.0	-15.89606
				3	72.0	-17.89404
				4	624.0	-20.76266



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
VERSUS  
AVERAGING TIME

DOWNWIND DISTANCE SECTOR (METERS)	RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)						HOURS PER YEAR MAX 0-2 HR X/Q IS EXCEEDED IN SECTOR		DOWNWIND SECTOR
	0-2 HOURS	0-8 HOURS	8-24 HOURS	1-4 DAYS	4-30 DAYS	ANNUAL AVERAGE			
S 209.	1.55E-06	1.60E-07	5.14E-08	4.38E-09	1.28E-10	1.69E-12	9.7	S	
SSW 209.	1.54E-06	1.81E-07	6.22E-08	6.11E-09	2.19E-10	3.71E-12	197.7	SSW	
SW 209.	2.00E-06	2.59E-07	9.35E-08	1.02E-08	4.25E-10	8.69E-12	22.5	SW	
WSW 209.	2.33E-06	3.21E-07	1.19E-07	1.39E-08	6.31E-10	1.44E-11	31.6	WSW	
W 209.	2.72E-06	4.10E-07	1.59E-07	2.03E-08	1.06E-09	2.88E-11	43.7	W	
WNW 209.	2.20E-06	3.12E-07	1.17E-07	1.41E-08	6.73E-10	1.63E-11	25.9	WNW	
NW 209.	1.57E-06	1.91E-07	6.67E-08	6.78E-09	2.54E-10	4.58E-12	9.4	NW	
NNW 209.	1.30E-06	1.20E-07	3.66E-08	2.77E-09	6.77E-11	7.25E-13	5.0	NNW	
N 209.	1.47E-06	1.59E-07	5.24E-08	4.70E-09	1.47E-10	2.12E-12	6.6	N	
NNE 209.	1.25E-06	1.32E-07	4.32E-08	3.80E-09	1.16E-10	1.62E-12	4.2	NNE	
NE 209.	1.22E-06	1.25E-07	4.00E-08	3.39E-09	9.77E-11	1.28E-12	5.0	NE	
ENE 209.	1.12E-06	1.17E-07	3.80E-08	3.29E-09	9.82E-11	1.33E-12	2.8	ENE	
E 209.	1.27E-06	1.55E-07	5.45E-08	5.59E-09	2.13E-10	3.92E-12	4.6	E	
ESE 209.	1.13E-06	1.29E-07	4.33E-08	4.09E-09	1.38E-10	2.19E-12	5.9	ESE	
SE 209.	1.22E-06	1.09E-07	3.24E-08	2.35E-09	5.42E-11	5.38E-13	5.0	SE	
SSE 209.	1.52E-06	1.69E-07	5.63E-08	5.21E-09	1.70E-10	2.60E-12	7.5	SSE	
MAX X/Q	2.72E-06					TOTAL HOURS AROUND SITE: 387.4			
SRP 2.3.4 209.	1.98E-06	3.14E-07	1.25E-07	1.69E-08	9.61E-10	2.88E-11			
SITE LIMIT	1.98E-06	3.14E-07	1.25E-07	1.69E-08	9.61E-10	2.88E-11			

0.5 PERCENT X/Q TO AN INDIVIDUAL IS LIMITING.

X/Q VALUES (SEC/CUBIC METER) FOR FUMIGATION AT THE BOUNDARY:

DOWNWIND DISTANCE FUMIGATION

SECTOR (METERS)	X/Q
S 209.	1.69E-04
SSW 209.	1.69E-04
SW 209.	1.69E-04
WSW 209.	1.69E-04
W 209.	1.69E-04
WNW 209.	1.69E-04
NW 209.	1.69E-04
NNW 209.	1.69E-04
N 209.	1.69E-04
NNE 209.	1.69E-04
NE 209.	1.69E-04
ENE 209.	1.69E-04
E 209.	1.69E-04

**Calculation No. PM-1055 Revision 0**

**Attachment J**

ESE	209.	1.69E-04
SE	209.	1.69E-04
SSE	209.	1.69E-04

**\*\*NOTE\*\*:** VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
CHECK THE REASONABLENESS OF THE ENVELOPES  
COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	USED
	AT 131.4 METERS												
												CA=1292.SQ.METERS	
A	3.6	0.23	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06		
A	8.9	0.08	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06		
A	11.6	0.08	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06		
B	3.6	0.49	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.15	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.38	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.04	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
C	3.6	1.16	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.58	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
C	26.5	0.04	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07		
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	2.22	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	12.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	19.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	14.87	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	2.74	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.56	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	8.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	13.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	5.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	3.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	3.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.15	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
F	12.5	0.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07		
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	1.77	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

S SECTOR BOUNDARY DISTANCE = 280.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06	1.264E-06
0.005	0.021	0.032	0.258	0.746	2.961	4.126	4.276	4.351	4.426
0.00031	0.00131	0.00201	0.01600	0.04633	0.18394	0.25625	0.26558	0.27025	0.27491
1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07
6.679	8.257	8.632	21.025	21.062	21.738	22.715	22.865	42.430	51.255
0.41486	0.51283	0.53616	1.30589	1.30822	1.35021	1.41085	1.42018	2.63543	3.18357
4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
66.127	79.909	82.650	86.368	86.406	92.264	95.306	96.170	96.733	96.883
4.10725	4.96329	5.13356	5.36448	5.36681	5.73069	5.91962	5.97327	6.00826	6.01759
1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08				
96.921	97.183	97.597	99.362	99.962	100.000				
6.01992	6.03625	6.06191	6.17153	6.20886	6.21119				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.256  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 1.304

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 3.181  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 4.960

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
1	1	-11.07050	-16.47142	-1.19518
1	2	-13.12558	-16.30722	-1.13653
1	3	-13.77855	-17.18353	-1.53040
1	4	-14.34482	-18.94210	-2.47847
1	5	-14.85564	NUMXQ(K)= 5	
		3.332E-06	0.062	1.000
		2.250E-06	0.186	3.000
		1.857E-06	0.311	5.000
		1.419E-06	0.621	10.000
		1.201E-06	0.932	15.000
		1.061E-06	1.242	20.000
		9.350E-07	1.553	25.000
		8.354E-07	1.863	30.000
		7.578E-07	2.174	35.000
		6.951E-07	2.484	40.000
		6.430E-07	2.795	45.000
		5.990E-07	3.106	50.000
		5.446E-07	3.416	55.000
		4.938E-07	3.727	60.000
		4.506E-07	4.037	65.000
		4.134E-07	4.348	70.000
		3.812E-07	4.658	75.000
		1.547E-06	0.5	8.05

ANNUAL AVERAGE = 1.81E-10

K= 1 FIVEXQ(K)= 1.547E-06 FIVEPR(K)= 8.050

FUMIGATION X/Q AT THE BOUNDARY: 1.30E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.376	3.981	5.032	12.967	65.322	97.183	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	0.60	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06		
A	6.0	0.60	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06		
A	8.9	0.26	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06		
A	11.6	0.13	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06		
B	1.7	0.13	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06		
B	3.6	1.52	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.99	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.20	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.13	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
C	1.7	0.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06		
C	3.6	1.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.26	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.53	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.07	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
C	26.5	0.26	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07		
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	3.84	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	13.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	23.09	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	10.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	1.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	10.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	13.30	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	2.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.26	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	2.51	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.07	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		

G	1.8	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.26	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08



**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSW SECTOR BOUNDARY DISTANCE = 280.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED:

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06
0.009	0.029	0.162	0.176	0.507	1.102	2.624	3.219	7.056	8.511
0.00031	0.00104	0.00570	0.00621	0.01788	0.03887	0.09252	0.11351	0.24880	0.30011
1.715E-06	1.640E-06	1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07
9.504	9.768	9.901	12.811	14.068	14.267	28.225	28.357	28.886	30.143
0.33510	0.34443	0.34909	0.45172	0.49604	0.50304	0.99520	0.99987	1.01853	1.06285
6.230E-07	6.226E-07	5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07
30.209	53.296	64.145	74.333	87.630	89.416	91.929	92.194	94.708	96.362
1.06518	1.87923	2.26176	2.62097	3.08981	3.15279	3.24142	3.25075	3.33939	3.39770
1.841E-07	1.415E-07	1.301E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08			
96.891	97.354	97.420	97.486	98.412	99.669	100.000			
3.41636	3.43269	3.43502	3.43736	3.47001	3.51433	3.52599			

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.249  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.994

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.259  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.087

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
2	1	-11.07050	-16.20624	-1.13559
2	2	-13.01641	-17.47309	-1.58660
2	3	-13.77855	-17.82714	-1.73864
2	4	-14.34482	-21.93911	-3.79166
2	5	-14.85564	NUMXQ(K)= 5	
		4.290E-06	0.035	1.000
		3.004E-06	0.106	3.000
		2.517E-06	0.176	5.000
		1.855E-06	0.353	10.000
		1.490E-06	0.529	15.000
		1.268E-06	0.705	20.000
		1.115E-06	0.881	25.000
		9.970E-07	1.058	30.000
		9.001E-07	1.234	35.000
		8.223E-07	1.410	40.000
		7.583E-07	1.587	45.000
		7.044E-07	1.763	50.000
		6.583E-07	1.939	55.000
		6.184E-07	2.116	60.000
		5.767E-07	2.292	65.000
		5.119E-07	2.468	70.000
		4.575E-07	2.644	75.000
		4.114E-07	2.821	80.000
		3.719E-07	2.997	85.000
		1.537E-06	0.5	14.18

ANNUAL AVERAGE = 3.97E-10

K= 2 FIVEXQ(K)= 1.537E-06 FIVEPR(K)=14.180

FUMIGATION X/Q AT THE BOUNDARY: 1.30E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.588	5.491	8.467	13.973	67.300	97.486	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	1.73	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06		
A	6.0	1.50	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06		
A	8.9	0.68	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06		
B	1.7	0.15	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06		
B	3.6	1.35	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.98	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.15	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
C	1.7	0.90	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06		
C	3.6	2.10	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.30	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	8.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	17.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	18.83	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	6.38	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.90	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.70	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	11.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	11.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	1.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.60	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.08	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	2.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
G	1.8	0.83	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.65	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		

G 6.5 0.30 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.806E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 280.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06
0.018	0.038	0.188	0.207	1.107	2.833	4.183	5.684	13.788	15.888
0.00057	0.00117	0.00583	0.00642	0.03441	0.08806	0.13005	0.17670	0.42861	0.49392
1.715E-06	1.640E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.226E-07
16.864	17.539	20.240	20.916	21.066	38.923	38.999	39.299	40.949	59.783
0.52424	0.54524	0.62921	0.65020	0.65487	1.21001	1.21234	1.22167	1.27298	1.85845
5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
71.037	77.415	89.120	90.096	92.647	94.598	95.573	96.173	97.074	97.149
2.20833	2.40659	2.77047	2.80079	2.88009	2.94074	2.97106	2.98972	3.01771	3.02005
8.032E-08	6.449E-08	3.010E-08	1.806E-08						
97.224	98.049	99.700	100.000						
3.02238	3.04804	3.09935	3.10868						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.088  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.428

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4 ) = 1.209  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5 ) = 2.206  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6 ) = 2.768

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
3	1	-11.07050	-15.76030	-1.06849
3	2	-12.41800	-16.16917	-1.19920
3	3	-13.01641	-18.36423	-2.03412
3	4	-13.77855	-19.06598	-2.34541
3	5	-14.34482	-24.96016	-5.27354
3	6	-14.85564	NUMXQ(K) = 6	
		5.539E-06	0.031	1.000
		3.964E-06	0.093	3.000
		3.295E-06	0.155	5.000
		2.529E-06	0.311	10.000
		2.097E-06	0.466	15.000
		1.710E-06	0.622	20.000
		1.453E-06	0.777	25.000
		1.268E-06	0.933	30.000
		1.127E-06	1.088	35.000
		1.012E-06	1.243	40.000
		9.092E-07	1.399	45.000
		8.246E-07	1.554	50.000
		7.539E-07	1.710	55.000
		6.940E-07	1.865	60.000
		6.424E-07	2.021	65.000
		5.976E-07	2.176	70.000
		5.221E-07	2.332	75.000
		4.518E-07	2.487	80.000
		3.938E-07	2.642	85.000
		1.997E-06	0.5	16.08

ANNUAL AVERAGE = 9.27E-10

K= 3 FIVEXQ(K)= 1.997E-06 FIVEPR(K)=16.084

FUMIGATION X/Q AT THE BOUNDARY: 1.30E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
3.902	7.878	10.580	15.851	68.917	97.224	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)			
											MEANDER	BLDG WAKE	USED	
AT 131.4 METERS												CA=1292.SQ.METERS		
A	3.6	2.58	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06			
A	6.0	1.92	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	1.19	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
A	11.6	0.07	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06			
B	1.7	0.59	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06			
B	3.6	1.65	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.99	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.07	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
C	1.7	0.99	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06			
C	3.6	2.44	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.12	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.20	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	7.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	22.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	18.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	4.43	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	0.73	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.13	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	4.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	14.46	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	6.67	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	1.92	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	0.53	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
G	1.8	0.66	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.25	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			
G	6.5	0.13	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 280.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06
0.018	0.046	0.641	0.661	1.651	4.227	5.879	7.794	15.654	18.098
0.00063	0.00164	0.02263	0.02333	0.05832	0.14929	0.20760	0.27524	0.55282	0.63912
1.715E-06	1.640E-06	1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.082E-07	6.875E-07	6.226E-07
19.089	20.278	20.344	24.373	25.496	25.562	47.754	47.953	49.670	68.032
0.67411	0.71609	0.71842	0.86071	0.90036	0.90269	1.68642	1.69342	1.75407	2.40251
5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	8.032E-08
82.497	86.922	93.593	94.320	96.235	96.962	97.490	97.754	97.886	97.952
2.91333	3.06961	3.30519	3.33085	3.39849	3.42415	3.44281	3.45214	3.45681	3.45914
6.449E-08	3.010E-08	1.806E-08							
98.613	99.868	100.000							
3.48247	3.52678	3.53145							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 0.552  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.685



K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
4	1	-11.07050	-15.27913	-0.96350
4	2	-12.41800	-16.56801	-1.39754
4	3	-13.01641	-17.65467	-1.82513
4	4	-13.77855	-19.01550	-2.46590
4	5	-14.34482	NUMXQ(K)= 5	
		6.050E-06	0.035	1.000
		4.471E-06	0.106	3.000
		3.762E-06	0.177	5.000
		2.753E-06	0.353	10.000
		2.270E-06	0.530	15.000
		1.898E-06	0.706	20.000
		1.636E-06	0.883	25.000
		1.445E-06	1.059	30.000
		1.297E-06	1.236	35.000
		1.180E-06	1.413	40.000
		1.084E-06	1.589	45.000
		9.912E-07	1.766	50.000
		9.005E-07	1.942	55.000
		8.240E-07	2.119	60.000
		7.585E-07	2.295	65.000
		7.019E-07	2.472	70.000
		6.524E-07	2.649	75.000
		6.089E-07	2.825	80.000
		2.335E-06	0.5	14.16

ANNUAL AVERAGE = 1.54E-09

K= 4 FIVEXQ(K)= 2.335E-06 FIVEPR(K)=14.158

FUMIGATION X/Q AT THE BOUNDARY: 1.30E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.746	10.502	13.804	17.985	71.702	97.952	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	1.7	0.15	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.668E-06	
A	3.6	4.26	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.045E-06	
A	6.0	2.25	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.427E-06	
A	8.9	0.34	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.640E-06	
B	1.7	0.24	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.124E-06	
B	3.6	2.74	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.858E-06	
B	6.0	0.59	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.715E-06	
B	8.9	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.159E-06	
C	1.7	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.272E-06	
C	3.6	2.45	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.994E-06	
C	6.0	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.196E-06	
C	8.9	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.082E-07	
C	11.6	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.230E-07	
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	5.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	21.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	16.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	6.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	1.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.94	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	7.88	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	2.84	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.59	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	1.66	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	0.64	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.925E-07	
F	28.5	0.20	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.375E-08	
G	1.8	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.449E-08	

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.10	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 280.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total time frequencies across four rows of data.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 0.732
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.081

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 3.594  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 4.431

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
5	1	-11.07050	-14.90832	-0.87711
5	2	-12.41800	-16.68802	-1.50394
5	3	-13.01641	-17.62189	-1.88646
5	4	-13.77855	-18.63791	-2.38516
5	5	-14.34482	-25.59808	-6.25210
5	6	-14.95230	NUMXQ(K)= 6	
6.082E-06		0.048		1.000
4.587E-06		0.143		3.000
3.946E-06		0.238		5.000
2.792E-06		0.477		10.000
2.253E-06		0.715		15.000
1.853E-06		0.954		20.000
1.580E-06		1.192		25.000
1.382E-06		1.430		30.000
1.231E-06		1.669		35.000
1.111E-06		1.907		40.000
1.008E-06		2.146		45.000
9.065E-07		2.384		50.000
8.225E-07		2.622		55.000
7.516E-07		2.861		60.000
6.910E-07		3.099		65.000
6.385E-07		3.337		70.000
5.928E-07		3.576		75.000
4.980E-07		3.814		80.000
4.178E-07		4.053		85.000
3.535E-07		4.291		90.000
2.724E-06		0.5		10.49

ANNUAL AVERAGE = 3.07E-09

K= 5 FIVEXQ(K)= 2.724E-06 FIVEPR(K)=10.487

FUMIGATION X/Q AT THE BOUNDARY: 1.30E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
6.996	10.372	13.992	18.021	69.549	98.630	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)			
												MEANDER	BLDG WAKE	USED	
AT 131.4 METERS													CA=1292.SQ.METERS		
A	3.6	2.40	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06				
A	6.0	2.40	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06				
A	8.9	0.16	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06				
A	11.6	0.05	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06				
A	26.5	0.05	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07				
B	3.6	1.58	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06				
B	6.0	1.36	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06				
B	8.9	0.11	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06				
B	11.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07				
C	3.6	3.54	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	1.42	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	0.22	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
C	11.6	0.11	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07				
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	4.69	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	16.58	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	16.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	7.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	1.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.11	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	3.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	10.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	14.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	3.44	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	1.15	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.25	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	2.84	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	1.31	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
F	28.5	0.05	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08				

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 280.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.011	0.034	0.048	2.448	4.029	6.428	11.118	14.662	16.025	16.189
0.00045	0.00145	0.00207	0.10470	0.17234	0.27497	0.47557	0.62719	0.68550	0.69250
1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07
16.243	19.515	20.933	21.042	37.619	37.673	37.891	39.146	39.255	56.050
0.69483	0.83478	0.89543	0.90009	1.60918	1.61151	1.62084	1.67449	1.67915	2.39757
5.890E-07	5.516E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07
66.955	67.010	74.644	88.658	90.076	92.911	96.347	97.655	98.800	98.909
2.86408	2.86641	3.19296	3.79242	3.85307	3.97436	4.12131	4.17729	4.22627	4.23094
1.301E-07	8.032E-08	6.449E-08	4.375E-08	3.010E-08	1.806E-08				
99.018	99.237	99.509	99.564	99.891	100.000				
4.23560	4.24493	4.25659	4.25893	4.27292	4.27759				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.626  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 1.607



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 2.861  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 3.789

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
6	1	-11.07050	-15.46296	-0.98963
6	2	-12.41800	-16.17186	-1.22003
6	3	-13.12558	-17.72706	-1.84289
6	4	-13.77855	-18.81308	-2.34976
6	5	-14.34482	-22.06134	-4.05796
6	6	-14.85564	NUMXQ(K)= 6	
		5.219E-06	0.043	1.000
		3.754E-06	0.128	3.000
		3.094E-06	0.214	5.000
		2.344E-06	0.428	10.000
		1.964E-06	0.642	15.000
		1.621E-06	0.856	20.000
		1.391E-06	1.069	25.000
		1.223E-06	1.283	30.000
		1.094E-06	1.497	35.000
		9.792E-07	1.711	40.000
		8.749E-07	1.925	45.000
		7.896E-07	2.139	50.000
		7.187E-07	2.353	55.000
		6.586E-07	2.567	60.000
		6.072E-07	2.780	65.000
		5.441E-07	2.994	70.000
		4.806E-07	3.208	75.000
		4.273E-07	3.422	80.000
		3.822E-07	3.636	85.000
		2.196E-06	0.5	11.69

ANNUAL AVERAGE = 1.74E-09

K= 6 FIVEXQ(K)= 2.196E-06 FIVEPR(K)=11.689

FUMIGATION X/Q AT THE BOUNDARY: 1.30E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.071	10.361	13.469	19.045	66.278	99.291	100.000

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	0.17	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06		
A	6.0	0.87	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06		
A	8.9	0.56	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06		
B	1.7	0.09	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06		
B	3.6	0.43	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	1.17	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.35	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.04	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
C	3.6	0.61	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	2.69	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.48	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	1.95	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	14.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	20.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	6.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.61	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.30	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.65	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	14.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	15.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	4.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.69	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.52	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.22	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	2.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.30	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
G	1.8	0.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		
G	6.5	0.35	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08		

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 280.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06
0.004	0.023	0.110	0.124	0.298	0.732	1.601	3.555	4.163	5.335
0.00024	0.00125	0.00591	0.00667	0.01600	0.03932	0.08597	0.19094	0.22359	0.28657
1.640E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.226E-07	5.890E-07
5.900	8.548	11.241	11.588	26.309	26.352	26.830	28.046	48.803	63.784
0.31689	0.45918	0.60380	0.62246	1.41318	1.41551	1.44117	1.50648	2.62143	3.42615
4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	8.032E-08
70.775	85.931	86.538	90.056	94.311	96.396	97.091	97.395	97.698	98.220
3.80169	4.61574	4.64839	4.83733	5.06591	5.17788	5.21520	5.23152	5.24785	5.27584
6.449E-08	3.010E-08	1.806E-08	1.220E-08						
98.393	99.609	99.957	100.000						
5.28517	5.35048	5.36914	5.37148						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.191  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 1.412

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 3.423  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 4.612

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
7	1	-11.07050	-16.36184	-1.15635
7	2	-13.01641	-16.17063	-1.09026
7	3	-13.77855	-17.11755	-1.52184
7	4	-14.34482	-21.07552	-3.69421
7	5	-14.85564	NUMXQ(K) = 5	
		3.440E-06	0.054	1.000
		2.364E-06	0.161	3.000
		1.975E-06	0.269	5.000
		1.532E-06	0.537	10.000
		1.308E-06	0.806	15.000
		1.164E-06	1.074	20.000
		1.060E-06	1.343	25.000
		9.586E-07	1.611	30.000
		8.718E-07	1.880	35.000
		8.016E-07	2.149	40.000
		7.432E-07	2.417	45.000
		6.938E-07	2.686	50.000
		6.513E-07	2.954	55.000
		6.141E-07	3.223	60.000
		5.707E-07	3.491	65.000
		5.038E-07	3.760	70.000
		4.478E-07	4.029	75.000
		4.005E-07	4.297	80.000
		3.603E-07	4.566	85.000
		1.574E-06	0.5	9.31

ANNUAL AVERAGE = 4.90E-10

K= 7 FIVEXQ(K)= 1.574E-06 FIVEPR(K)= 9.308

FUMIGATION X/Q AT THE BOUNDARY: 1.30E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.607	5.385	7.469	14.605	59.944	98.220	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

CLASS	METER/SEC	PERCENT	METERS	METERS	METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS									CA=1292.SQ.METERS			
A	3.6	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06	
A	6.0	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06	
B	3.6	0.14	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06	
B	6.0	0.37	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06	
B	8.9	0.37	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06	
B	11.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07	
C	3.6	0.55	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06	
C	6.0	1.01	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06	
C	8.9	0.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07	
C	11.6	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07	
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	1.61	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	11.17	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	21.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	5.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	0.51	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.32	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	14.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	20.36	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	7.58	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.47	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	4.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	3.63	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	0.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	0.46	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	
G	6.5	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08	
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08	

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 280.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.262E-06
0.004	0.023	0.040	0.132	0.270	0.362	1.970	2.522	2.889	5.601
0.00018	0.00116	0.00203	0.00669	0.01369	0.01835	0.09999	0.12798	0.14664	0.28426
1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.207E-07
6.612	6.980	18.148	18.194	18.653	20.124	20.170	41.587	55.880	61.303
0.33558	0.35424	0.92104	0.92337	0.94670	1.02134	1.02367	2.11063	2.83604	3.11128
3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	8.032E-08	6.449E-08
81.662	82.168	86.304	93.887	97.518	98.024	98.345	98.713	98.805	99.219
4.14459	4.17025	4.38017	4.76504	4.94931	4.97497	4.99130	5.00996	5.01462	5.03561
3.010E-08	1.806E-08	1.220E-08							
99.678	99.954	100.000							
5.05894	5.07293	5.07527							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.100  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.920

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.833  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 4.141

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
8	1	-11.07050	-16.92746	-1.26549
8	2	-13.01641	-16.22955	-1.03967
8	3	-13.77855	-16.73458	-1.25389
8	4	-14.34482	-20.02675	-2.98127
8	5	-14.85564	NUMXQ(K)= 5	
		2.850E-06	0.051	1.000
		1.948E-06	0.152	3.000
		1.648E-06	0.254	5.000
		1.296E-06	0.508	10.000
		1.116E-06	0.761	15.000
		9.915E-07	1.015	20.000
		8.911E-07	1.269	25.000
		8.147E-07	1.523	30.000
		7.539E-07	1.776	35.000
		7.039E-07	2.030	40.000
		6.618E-07	2.284	45.000
		6.256E-07	2.538	50.000
		5.941E-07	2.791	55.000
		5.366E-07	3.045	60.000
		4.825E-07	3.299	65.000
		4.367E-07	3.553	70.000
		3.975E-07	3.806	75.000
		3.637E-07	4.060	80.000
		1.303E-06	0.5	9.85

ANNUAL AVERAGE = 7.76E-11

K= 8 FIVEXQ(K)= 1.303E-06 FIVEPR(K)= 9.852

FUMIGATION X/Q AT THE BOUNDARY: 1.30E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.184	2.252	3.171	12.793	53.241	98.805	100.000



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	USED
												MEANDER	BLDG WAKE
												CA=1292.SQ.METERS	
A	6.0	0.28	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	2.427E-06
A	8.9	0.16	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.640E-06
B	3.6	0.07	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	2.858E-06
B	6.0	0.58	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.715E-06
B	8.9	0.72	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.159E-06
B	11.6	0.12	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	8.931E-07
B	26.5	0.02	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	3.897E-07
C	3.6	0.44	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.994E-06
C	6.0	1.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.196E-06
C	8.9	1.56	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	8.082E-07
C	11.6	0.21	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	6.230E-07
C	26.5	0.02	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	2.719E-07
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.556E-05
D	1.7	0.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	2.224E-06
D	3.6	7.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.038E-06
D	6.0	16.51	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	6.226E-07
D	8.9	11.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	4.207E-07
D	11.6	2.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	3.243E-07
D	26.5	0.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.415E-07
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	8.835E-06
E	1.8	1.63	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.262E-06
E	3.9	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	5.890E-07
E	6.5	20.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	3.534E-07
E	9.6	12.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	2.388E-07
E	12.5	1.49	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.841E-07
E	28.5	0.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	4.813E-06
F	1.8	0.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	6.875E-07
F	3.9	3.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	3.208E-07
F	6.5	3.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.925E-07
F	9.6	1.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.301E-07
G	1.8	0.40	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	6.449E-08
G	3.9	0.79	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	3.010E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	0.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 280.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06	1.262E-06
0.002	0.014	0.020	0.090	0.370	1.326	1.769	2.352	2.515	4.148
0.00022	0.00138	0.00200	0.00900	0.03699	0.13262	0.17694	0.23525	0.25158	0.41485
1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.207E-07
5.827	6.550	13.547	13.663	15.226	15.762	15.972	32.484	42.629	53.870
0.58280	0.65510	1.35486	1.36652	1.52280	1.57645	1.59744	3.24887	4.26352	5.38780
3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
53.893	74.673	76.981	80.107	80.130	92.164	95.196	96.688	97.365	98.391
5.39013	7.46841	7.69933	8.01189	8.01422	9.21780	9.52103	9.67031	9.73795	9.84058
8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
98.531	98.927	99.720	99.953	100.000					
9.85458	9.89423	9.97354	9.99686	10.00153					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.132  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 4.260

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
9	1	-11.07050	-16.69575	-1.22412
9	2	-13.01641	-15.89735	-0.95849
9	3	-13.77855	-16.33691	-1.15733
9	4	-14.34482	-17.49364	-1.82936
9	5	-14.85564	NUMXQ(K)= 5	
		2.467E-06	0.100	1.000
		1.737E-06	0.300	3.000
		1.473E-06	0.500	5.000
		1.160E-06	1.000	10.000
		9.906E-07	1.500	15.000
		8.658E-07	2.000	20.000
		7.767E-07	2.500	25.000
		7.087E-07	3.000	30.000
		6.544E-07	3.501	35.000
		6.096E-07	4.001	40.000
		5.621E-07	4.501	45.000
		5.124E-07	5.001	50.000
		4.705E-07	5.501	55.000
		4.345E-07	6.001	60.000
		4.034E-07	6.501	65.000
		3.761E-07	7.001	70.000
		1.473E-06	0.5	5.00

ANNUAL AVERAGE = 2.27E-10

K= 9 FIVEXQ(K)= 1.473E-06 FIVEPR(K)= 4.999

FUMIGATION X/Q AT THE BOUNDARY: 1.30E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.443	4.361	5.877	13.603	52.296	98.531	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS		
A	3.6	0.08	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06			
A	6.0	0.28	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	0.12	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
B	3.6	0.16	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.56	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.36	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
C	3.6	0.20	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.47	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.95	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	7.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	16.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	6.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	0.64	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	12.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	22.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	9.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.76	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.27	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	5.61	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	4.42	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.12	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			
G	1.8	0.36	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			
G	6.5	0.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08			

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 280.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.002	0.018	0.033	0.112	0.271	0.550	1.465	1.664	2.221	2.340
0.00012	0.00105	0.00191	0.00658	0.01591	0.03224	0.08588	0.09755	0.13020	0.13720
1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.226E-07	5.890E-07	4.207E-07
4.568	6.039	6.397	13.995	14.075	15.030	16.303	33.209	45.939	52.542
0.26782	0.35412	0.37512	0.82063	0.82529	0.88127	0.95592	1.94724	2.69365	3.08085
3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08
75.495	76.132	81.741	90.811	95.226	95.982	96.340	97.255	97.375	97.534
4.42671	4.46403	4.79292	5.32473	5.58364	5.62796	5.64895	5.70260	5.70960	5.71893
6.449E-08	3.010E-08	1.806E-08	1.220E-08						
97.892	99.125	99.960	100.000						
5.73992	5.81223	5.86121	5.86355						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.001  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.086

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 0.820  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.691  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.423

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
10	1	-11.07050	-16.86574	-1.22926
10	2	-11.63677	-16.88443	-1.23365
10	3	-13.01641	-16.26591	-1.03638
10	4	-13.77855	-16.65940	-1.20033
10	5	-14.34482	-18.72800	-2.27310
10	6	-14.85564	NUMXQ(K) = 6	
		2.548E-06	0.059	1.000
		1.776E-06	0.176	3.000
		1.500E-06	0.293	5.000
		1.176E-06	0.586	10.000
		1.006E-06	0.880	15.000
		8.839E-07	1.173	20.000
		7.964E-07	1.466	25.000
		7.297E-07	1.759	30.000
		6.764E-07	2.052	35.000
		6.325E-07	2.345	40.000
		5.954E-07	2.639	45.000
		5.416E-07	2.932	50.000
		4.920E-07	3.225	55.000
		4.501E-07	3.518	60.000
		4.142E-07	3.811	65.000
		3.831E-07	4.104	70.000
		3.559E-07	4.398	75.000
		1.246E-06	0.5	8.53

ANNUAL AVERAGE = 1.73E-10

K= 10 FIVEXQ(K)= 1.246E-06 FIVEPR(K)= 8.527

FUMIGATION X/Q AT THE BOUNDARY: 1.30E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.477	3.103	4.256	16.603	49.623	97.534	100.000



Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06			
A	6.0	0.23	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
B	3.6	0.14	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.61	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.28	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
C	3.6	0.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.41	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.99	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.19	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	1.50	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	7.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	13.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	5.92	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	0.75	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.14	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.77	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	13.19	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	16.62	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	7.32	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	7.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	1.83	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.69	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	2.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.38	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 280.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across various levels.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.100
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 0.734

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.192  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 3.712

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
11	1	-11.07050	-16.88108	-1.25046
11	2	-13.01641	-16.63911	-1.17217
11	3	-13.77855	-17.03136	-1.33290
11	4	-14.34482	-19.65802	-2.63609
11	5	-14.95230	NUMXQ(K)= 5	
		2.862E-06	0.050	1.000
		1.931E-06	0.149	3.000
		1.599E-06	0.248	5.000
		1.220E-06	0.497	10.000
		1.030E-06	0.745	15.000
		8.947E-07	0.994	20.000
		7.990E-07	1.242	25.000
		7.266E-07	1.490	30.000
		6.693E-07	1.739	35.000
		6.223E-07	1.987	40.000
		5.771E-07	2.236	45.000
		5.130E-07	2.484	50.000
		4.604E-07	2.732	55.000
		4.164E-07	2.981	60.000
		3.792E-07	3.229	65.000
		3.474E-07	3.478	70.000
		1.217E-06	0.5	10.06

ANNUAL AVERAGE = 1.36E-10

K= 11 FIVEXQ(K)= 1.217E-06 FIVEPR(K)=10.065

FUMIGATION X/Q AT THE BOUNDARY: 1.30E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.423	3.381	4.460	22.507	51.573	95.258	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	6.0	0.33	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06		
A	8.9	0.14	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06		
A	11.6	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06		
A	26.5	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07		
B	3.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.38	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.89	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.09	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
B	26.5	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07		
C	3.6	0.14	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.22	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	1.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.19	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
C	26.5	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	0.71	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	6.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	9.93	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	8.94	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	1.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.54	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	8.80	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	13.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	12.75	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	1.41	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.05	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	5.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	8.33	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	5.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
F	12.5	0.85	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07		

G	1.8	0.85	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	3.29	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 280.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06	1.264E-06
0.002	0.020	0.038	0.085	0.414	1.120	1.261	1.637	1.778	1.872
0.00008	0.00098	0.00186	0.00420	0.02052	0.05551	0.06251	0.08117	0.08817	0.09283
1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07
4.412	5.635	6.529	12.551	12.645	14.103	15.655	15.843	25.769	34.566
0.21879	0.27943	0.32375	0.62232	0.62698	0.69929	0.77626	0.78559	1.27776	1.71394
5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07
34.660	43.598	43.645	57.616	58.651	64.155	64.202	76.950	85.276	86.687
1.71860	2.16178	2.16411	2.85687	2.90819	3.18110	3.18343	3.81554	4.22840	4.29837
1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09	
86.970	92.097	92.944	92.991	93.838	95.437	98.730	99.953	100.000	
4.31237	4.56662	4.60860	4.61093	4.65292	4.73222	4.89550	4.95615	4.95848	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.001  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 0.055

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 0.622  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 1.712  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 3.178

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
12	1	-11.07050	-16.19649	-1.06775
12	2	-11.63677	-17.47494	-1.36713
12	3	-13.01641	-16.28004	-1.00073
12	4	-13.77855	-17.47979	-1.48070
12	5	-14.34482	-19.25415	-2.31876
12	6	-14.95230	NUMXQ(K)= 6	
		2.323E-06	0.050	1.000
		1.662E-06	0.149	3.000
		1.416E-06	0.248	5.000
		1.124E-06	0.496	10.000
		9.441E-07	0.744	15.000
		8.070E-07	0.992	20.000
		7.118E-07	1.240	25.000
		6.405E-07	1.488	30.000
		5.822E-07	1.735	35.000
		5.130E-07	1.983	40.000
		4.579E-07	2.231	45.000
		4.128E-07	2.479	50.000
		3.754E-07	2.727	55.000
		3.437E-07	2.975	60.000
		1.120E-06	0.5	10.08

ANNUAL AVERAGE = 1.43E-10

K= 12 FIVEXQ(K)= 1.120E-06 FIVEPR(K)=10.084

FUMIGATION X/Q AT THE BOUNDARY: 1.30E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.659	3.716	5.175	26.549	53.458	92.991	100.000



Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS		
A	3.6	0.03	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06	
A	6.0	0.24	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06	
A	8.9	0.63	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06	
A	11.6	0.42	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06	
A	26.5	0.06	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07	
B	3.6	0.12	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06	
B	6.0	0.63	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06	
B	8.9	0.81	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06	
B	11.6	0.36	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07	
B	26.5	0.18	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07	
C	3.6	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06	
C	6.0	1.25	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06	
C	8.9	1.67	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07	
C	11.6	0.86	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07	
C	26.5	0.39	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07	
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	0.78	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	4.21	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	8.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	11.78	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	6.71	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	2.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	1.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	5.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	11.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	15.99	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	2.33	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	0.89	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	2.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	5.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	5.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	

**Calculation No. PM-1055 Revision 0****Attachment J**

F	12.5	0.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
G	1.8	0.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	2.06	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.16	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

Page 130 of 1411

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## LOW POPULATION ZONE CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 280.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.002	0.013	0.024	0.053	0.173	0.411	1.187	1.336	1.962	2.589
0.00014	0.00103	0.00184	0.00417	0.01350	0.03216	0.09281	0.10447	0.15346	0.20244
1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07
3.006	4.617	5.869	6.675	10.880	11.238	12.908	13.803	14.668	23.646
0.23509	0.36105	0.45902	0.52199	0.85088	0.87887	1.00949	1.07947	1.14711	1.84920
5.890E-07	5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07
28.806	28.865	40.646	40.825	52.607	59.317	61.853	62.240	78.227	84.133
2.25273	2.25739	3.17874	3.19274	4.11408	4.63890	4.83717	4.86749	6.11772	6.57956
1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09
86.459	89.143	94.154	94.870	95.138	95.526	96.719	98.777	99.940	99.970
6.76150	6.97143	7.36329	7.41927	7.44026	7.47059	7.56389	7.72483	7.81580	7.81813
4.104E-09									
100.000									
7.82046									

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.093  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 0.850  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.250  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.834

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
13	1	-11.07050	-16.85765	-1.23409
13	2	-13.01641	-16.28464	-1.05000
13	3	-13.77855	-17.31495	-1.48167
13	4	-14.34482	-17.89132	-1.76920
13	5	-14.95230	NUMXQ(K)= 5	
		2.366E-06	0.078	1.000
		1.649E-06	0.235	3.000
		1.383E-06	0.391	5.000
		1.072E-06	0.782	10.000
		8.680E-07	1.173	15.000
		7.349E-07	1.564	20.000
		6.428E-07	1.955	25.000
		5.714E-07	2.346	30.000
		5.083E-07	2.737	35.000
		4.583E-07	3.128	40.000
		4.173E-07	3.519	45.000
		3.832E-07	3.910	50.000
		3.542E-07	4.301	55.000
		3.292E-07	4.692	60.000
		1.266E-06	0.5	6.39

ANNUAL AVERAGE = 4.18E-10

K= 13 FIVEXQ(K)= 1.266E-06 FIVEPR(K)= 6.393

FUMIGATION X/Q AT THE BOUNDARY: 1.30E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.372	5.697	7.785	22.857	57.994	95.138	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS											MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS		
A	6.0	0.24	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06		
A	8.9	0.24	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06		
A	11.6	0.05	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06		
A	26.5	0.13	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07		
B	3.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.24	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.53	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.37	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
B	26.5	0.19	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07		
C	3.6	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	0.69	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	1.57	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.80	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
C	26.5	0.72	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	1.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	2.59	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	9.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	17.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	11.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	4.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	0.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	3.68	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	9.45	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	15.56	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	2.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.32	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	0.75	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	1.76	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	3.74	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	3.68	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
F	12.5	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07		

G	1.8	0.37	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 280.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06	1.264E-06
0.002	0.009	0.018	0.098	0.338	1.352	1.486	1.726	1.966	2.020
0.00020	0.00080	0.00155	0.00855	0.02954	0.11818	0.12984	0.15083	0.17183	0.17649
1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07
2.980	3.674	4.208	6.797	7.171	8.746	9.493	10.294	19.769	23.452
0.26046	0.32111	0.36776	0.59401	0.62667	0.76429	0.82960	0.89957	1.72762	2.04951
5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07
23.585	41.575	41.762	51.210	63.167	64.929	65.649	81.210	84.947	87.909
2.06117	3.63329	3.64962	4.47533	5.52030	5.67425	5.73723	7.09709	7.42365	7.68255
1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09	
91.939	95.623	96.103	96.423	96.797	97.731	98.906	99.947	100.000	
8.03477	8.35665	8.39864	8.42663	8.45928	8.54092	8.64355	8.73452	8.73919	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.118  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.593

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.047  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.670

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
14	1	-11.07050	-16.78363	-1.23898
14	2	-13.01641	-17.43472	-1.45311
14	3	-13.77855	-16.79696	-1.19964
14	4	-14.34482	-17.03831	-1.31771
14	5	-14.95230	NUMXQ(K)= 5	
		2.485E-06	0.087	1.000
		1.550E-06	0.262	3.000
		1.211E-06	0.437	5.000
		8.781E-07	0.874	10.000
		7.304E-07	1.311	15.000
		6.370E-07	1.748	20.000
		5.687E-07	2.185	25.000
		5.135E-07	2.622	30.000
		4.699E-07	3.059	35.000
		4.343E-07	3.496	40.000
		4.045E-07	3.933	45.000
		3.791E-07	4.370	50.000
		3.571E-07	4.807	55.000
		3.378E-07	5.244	60.000
		1.132E-06	0.5	5.72

ANNUAL AVERAGE = 2.34E-10

K= 14 FIVEXQ(K)= 1.132E-06 FIVEPR(K)= 5.721

FUMIGATION X/Q AT THE BOUNDARY: 1.30E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.667	4.591	6.005	16.423	63.481	96.423	100.000



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
	AT 131.4 METERS											CA=1292.SQ.METERS		
A	6.0	0.04	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	0.06	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
A	26.5	0.02	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07			
B	3.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.04	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.19	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
C	3.6	0.06	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	0.55	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.74	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.59	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	4.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	11.52	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	22.08	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	11.54	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	3.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	0.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	3.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	11.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	13.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	1.89	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.13	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.00	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.78	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	1.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.49	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	1.95	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 280.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06	1.262E-06
0.002	0.008	0.014	0.099	0.141	0.906	0.970	1.013	1.076	1.905
0.00019	0.00084	0.00154	0.01087	0.01553	0.09950	0.10650	0.11117	0.11816	0.20913
1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	5.516E-07
2.457	2.649	6.749	6.834	7.578	8.130	8.725	20.241	23.853	23.874
0.26978	0.29077	0.74095	0.75028	0.83192	0.89256	0.95787	2.22210	2.61863	2.62096
4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
45.949	56.976	68.513	70.510	70.637	84.469	88.251	90.142	94.051	95.963
5.04446	6.25504	7.52160	7.74085	7.75485	9.27332	9.68851	9.89611	10.32529	10.53522
8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
96.091	96.367	97.854	99.809	100.000					
10.54921	10.57954	10.74281	10.95741	10.97840					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.099  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.740

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 5.041  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 7.737

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
15	1	-11.07050	-16.94794	-1.27152
15	2	-13.01641	-16.61528	-1.16393
15	3	-13.77855	-16.54197	-1.13385
15	4	-14.68142	-16.72098	-1.24294
15	5	-14.95230	NUMXQ(K) = 5	
		2.149E-06	0.110	1.000
		1.438E-06	0.329	3.000
		1.175E-06	0.549	5.000
		8.797E-07	1.098	10.000
		7.352E-07	1.647	15.000
		6.432E-07	2.196	20.000
		5.774E-07	2.745	25.000
		5.270E-07	3.294	30.000
		4.868E-07	3.842	35.000
		4.536E-07	4.391	40.000
		4.255E-07	4.940	45.000
		3.996E-07	5.489	50.000
		3.766E-07	6.038	55.000
		3.564E-07	6.587	60.000
		3.385E-07	7.136	65.000
		3.224E-07	7.685	70.000
		1.220E-06	0.5	4.55

ANNUAL AVERAGE = 5.77E-11

K= 15 FIVEXQ(K)= 1.220E-06 FIVEPR(K)= 4.554

FUMIGATION X/Q AT THE BOUNDARY: 1.30E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.127	2.210	2.613	10.863	64.767	96.091	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	3.6	0.02	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06				
A	6.0	0.17	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06				
A	8.9	0.32	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06				
A	11.6	0.02	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06				
A	26.5	0.02	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07				
B	3.6	0.06	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06				
B	6.0	0.48	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06				
B	8.9	0.71	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06				
B	11.6	0.11	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07				
C	3.6	0.48	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	2.16	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	2.01	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
C	11.6	0.37	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07				
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	1.08	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	8.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	20.04	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	19.82	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	5.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	1.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	4.38	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	11.10	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	10.11	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	0.93	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	2.09	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	2.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	0.69	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
F	12.5	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07				

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	28.5	0.02	90000.	0.	131.	1000 0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 280.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.002	0.008	0.013	0.035	0.100	0.272	1.352	1.827	2.302	2.626
0.00026	0.00083	0.00142	0.00375	0.01075	0.02941	0.14604	0.19735	0.24867	0.28366
1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07
2.648	3.382	5.542	6.254	14.568	14.676	16.685	17.160	17.527	37.568
0.28599	0.36529	0.59855	0.67552	1.57354	1.58520	1.80213	1.85344	1.89310	4.05768
5.890E-07	5.516E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07
41.951	41.973	61.798	72.898	78.124	80.219	90.325	93.046	93.975	95.335
4.53118	4.53352	6.67477	7.87369	8.43816	8.66442	9.75604	10.04994	10.15024	10.29718
1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	4.104E-09		
96.026	96.134	96.350	96.761	98.035	99.870	99.978	100.000		
10.37183	10.38349	10.40681	10.45113	10.58875	10.78701	10.79868	10.80101		

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.197  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 4.528

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
16	1	-11.07050	-16.67065	-1.22977
16	2	-13.12558	-15.69990	-0.89302
16	3	-13.77855	-16.43273	-1.23363
16	4	-14.34482	-17.31614	-1.75559
16	5	-14.68142	NUMXQ(K) = 5	
		2.502E-06	0.108	1.000
		1.728E-06	0.324	3.000
		1.480E-06	0.540	5.000
		1.182E-06	1.080	10.000
		1.023E-06	1.620	15.000
		8.846E-07	2.160	20.000
		7.868E-07	2.700	25.000
		7.127E-07	3.240	30.000
		6.539E-07	3.780	35.000
		6.056E-07	4.320	40.000
		5.553E-07	4.860	45.000
		5.074E-07	5.401	50.000
		4.669E-07	5.941	55.000
		4.320E-07	6.481	60.000
		1.516E-06	0.5	4.63

ANNUAL AVERAGE = 2.78E-10

K= 16 FIVEXQ(K)= 1.516E-06 FIVEPR(K)= 4.629

FUMIGATION X/Q AT THE BOUNDARY: 1.30E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.561	5.572	6.932	13.028	68.876	96.350	100.000



Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	1.7	0.01	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	8.668E-06			
A	3.6	0.51	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06			
A	6.0	0.53	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	0.28	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
A	11.6	0.06	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06			
A	26.5	0.03	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07			
B	1.7	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06			
B	3.6	0.47	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.54	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.44	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.12	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
B	26.5	0.03	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07			
C	1.7	0.08	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06			
C	3.6	0.77	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	1.04	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.30	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	2.07	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	9.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	15.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	12.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	4.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	1.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	1.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	8.90	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	9.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	1.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			

**Calculation No. PM-1055 Revision 0****Attachment J**

F	3.9	3.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.16	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
F	28.5	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08
G	1.8	0.43	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.14	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.31	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.01	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.00	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**LOW POPULATION ZONE CALCULATIONS:**

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 280.0 METERS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	8.668E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06
0.005	0.019	0.026	0.072	0.084	0.161	0.674	1.145	1.677	3.744
0.00467	0.01866	0.02566	0.07231	0.08397	0.16094	0.67410	1.14527	1.67709	3.74370
1.994E-06	1.715E-06	1.640E-06	1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07
4.509	5.052	5.330	5.388	7.354	8.684	9.125	18.516	18.637	19.680
4.50877	5.05225	5.32982	5.38813	7.35445	8.68399	9.12484	18.51558	18.63687	19.67951
6.875E-07	6.230E-07	6.226E-07	5.890E-07	5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07
20.689	20.993	36.712	45.608	45.636	57.865	57.900	71.746	75.987	79.129
20.68949	20.99272	36.71161	45.60785	45.63584	57.86527	57.90026	71.74612	75.98666	79.12857
2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	4.375E-08
79.254	88.781	92.298	93.593	94.980	96.534	96.695	96.923	97.357	97.369
79.25452	88.78055	92.29800	93.59254	94.98039	96.53386	96.69480	96.92339	97.35724	97.36890
3.010E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54216	99.67810	99.98599	99.99532	99.99998					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

3.662E-06	1.000	1.000
2.436E-06	3.000	3.000
1.977E-06	5.000	5.000
1.446E-06	10.000	10.000
1.171E-06	15.000	15.000
9.978E-07	20.000	20.000
8.845E-07	25.000	25.000
7.938E-07	30.000	30.000
7.180E-07	35.000	35.000
6.529E-07	40.000	40.000
5.956E-07	45.000	45.000
5.478E-07	50.000	50.000
5.043E-07	55.000	55.000
4.636E-07	60.000	60.000
4.249E-07	65.000	65.000
3.877E-07	70.000	70.000
3.511E-07	75.000	75.000

1.977E-06 5.0 5.00

K= 17 FIVEXQ(K)= 1.977E-06 FIVEPR(K)= 5.000

FUMIGATION X/Q AT THE BOUNDARY: 1.30E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.416	5.059	6.718	16.125	61.163	96.935	100.000

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

Page 148 of 1411

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	8.668E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06
0.005	0.019	0.026	0.072	0.084	0.161	0.674	1.145	1.677	3.744
0.00467	0.01866	0.02566	0.07231	0.08397	0.16094	0.67410	1.14527	1.67709	3.74370
1.994E-06	1.715E-06	1.640E-06	1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07
4.509	5.052	5.330	5.388	7.354	8.684	9.125	18.516	18.637	19.680
4.50877	5.05225	5.32982	5.38813	7.35445	8.68399	9.12484	18.51558	18.63688	19.67952
6.875E-07	6.230E-07	6.226E-07	5.890E-07	5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07
20.689	20.993	36.712	45.608	45.636	57.865	57.900	71.746	75.987	79.129
20.68950	20.99273	36.71161	45.60786	45.63585	57.86527	57.90026	71.74612	75.98665	79.12857
2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	4.375E-08
79.255	88.781	92.298	93.593	94.980	96.534	96.695	96.923	97.357	97.369
79.25453	88.78056	92.29800	93.59256	94.98041	96.53387	96.69481	96.92340	97.35724	97.36890
3.010E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54216	99.67809	99.98598	99.99532	99.99998					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q      WITH RESPECT TO      WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
18	1	-11.07050	-14.64728	-0.91538
18	2	-13.01641	-14.54922	-0.86034
18	3	-13.77855	-14.42414	-0.72071
18	4	-14.34482	-14.41743	-0.65976
18	5	-14.95230	NUMXQ(K)= 5	
		3.662E-06	1.000	1.000
		2.436E-06	3.000	3.000
		1.977E-06	5.000	5.000
		1.446E-06	10.000	10.000
		1.171E-06	15.000	15.000
		9.978E-07	20.000	20.000
		8.845E-07	25.000	25.000
		7.938E-07	30.000	30.000
		7.180E-07	35.000	35.000
		6.529E-07	40.000	40.000
		5.956E-07	45.000	45.000
		5.478E-07	50.000	50.000
		5.043E-07	55.000	55.000
		4.636E-07	60.000	60.000
		4.249E-07	65.000	65.000
		3.877E-07	70.000	70.000
		3.511E-07	75.000	75.000
		1.977E-06	5.0	5.00

K= 18 FIVEXQ(K)= 1.977E-06 FIVEPR(K)= 5.000

K	HIGHPR	PR	GRNDVT(K)
1	-3.06052	0.11048	6.21119
2	-2.00327	2.25740	3.52599
3	-2.79824	0.25691	3.10868
4	-2.68650	0.36103	3.53145
5	-2.57624	0.49942	4.76778
6	-2.75266	0.29557	4.27759
7	-3.06855	0.10756	5.37148
8	-3.25087	0.05753	5.07527
9	-3.17144	0.07585	10.00153
10	-3.29988	0.04837	5.86355
11	-3.25284	0.05714	4.96796
12	-3.40963	0.03253	4.95848
13	-3.27701	0.05246	7.82046
14	-3.20434	0.06769	8.73919
15	-3.25156	0.05739	10.97840
16	-3.13645	0.08551	10.80101

K	HOURS(K)	TOTHR
1	9.67833	9.67833
2	197.74830	207.42660
3	22.50566	229.93230

Calculation No. PM-1055 Revision 0

Attachment J

4	31.62634	261.55860
5	43.74879	305.30740
6	25.89224	331.19960
7	9.42196	340.62160
8	5.03966	345.66130
9	6.64419	352.30550
10	4.23714	356.54260
11	5.00520	361.54780
12	2.84982	364.39760
13	4.59585	368.99350
14	5.92991	374.92340
15	5.02765	379.95100
16	7.49057	387.44160

K	FIVEXQ	SVANN	SLTIME	TIMINT	I	TIME	XQT
1	1.547E-06	1.807E-10	-1.0799	-12.6307	1	8.0	-14.87630
					2	16.0	-15.62484
					3	72.0	-17.24909
					4	624.0	-19.58112
2	1.537E-06	3.970E-10	-0.9852	-12.7027	1	8.0	-14.75147
					2	16.0	-15.43440
					3	72.0	-16.91628
					4	624.0	-19.04391
3	1.997E-06	9.272E-10	-0.9153	-12.4894	1	8.0	-14.39275
					2	16.0	-15.02720
					3	72.0	-16.40390
					4	624.0	-18.38051
4	2.335E-06	1.536E-09	-0.8738	-12.3620	1	8.0	-14.17892
					2	16.0	-14.78457
					3	72.0	-16.09879
					4	624.0	-17.98567
5	2.724E-06	3.066E-09	-0.8097	-12.2523	1	8.0	-13.93600
					2	16.0	-14.49724
					3	72.0	-15.71508
					4	624.0	-17.46361
6	2.196E-06	1.736E-09	-0.8519	-12.4383	1	8.0	-14.20970
					2	16.0	-14.80016
					3	72.0	-16.08142
					4	624.0	-17.92100
7	1.574E-06	4.896E-10	-0.9631	-12.6943	1	8.0	-14.69699
					2	16.0	-15.36456
					3	72.0	-16.81311
					4	624.0	-18.89289
8	1.303E-06	7.759E-11	-1.1602	-12.7469	1	8.0	-15.15951
					2	16.0	-15.96371

Calculation No. PM-1055 Revision 0

Attachment J

				3	72.0	-17.70876
				4	624.0	-20.21421
9	1.473E-06	2.273E-10	-1.0467	-12.7025		
				1	8.0	-14.87909
				2	16.0	-15.60461
				3	72.0	-17.17893
				4	624.0	-19.43927
10	1.246E-06	1.728E-10	-1.0594	-12.8616		
				1	8.0	-15.06460
				2	16.0	-15.79892
				3	72.0	-17.39236
				4	624.0	-19.68014
11	1.217E-06	1.364E-10	-1.0848	-12.8674		
				1	8.0	-15.12315
				2	16.0	-15.87506
				3	72.0	-17.50666
				4	624.0	-19.84923
12	1.120E-06	1.427E-10	-1.0696	-12.9605		
				1	8.0	-15.18466
				2	16.0	-15.92604
				3	72.0	-17.53478
				4	624.0	-19.84453
13	1.266E-06	4.183E-10	-0.9559	-12.9170		
				1	8.0	-14.90477
				2	16.0	-15.56736
				3	72.0	-17.00512
				4	624.0	-19.06938
14	1.132E-06	2.337E-10	-1.0120	-12.9897		
				1	8.0	-15.09409
				2	16.0	-15.79555
				3	72.0	-17.31767
				4	624.0	-19.50306
15	1.220E-06	5.772E-11	-1.1877	-12.7935		
				1	8.0	-15.26317
				2	16.0	-16.08640
				3	72.0	-17.87274
				4	624.0	-20.43748
16	1.516E-06	2.780E-10	-1.0261	-12.6880		
				1	8.0	-14.82179
				2	16.0	-15.53306
				3	72.0	-17.07645
				4	624.0	-19.29239
17	1.977E-06	3.066E-09	-0.7715	-12.5990		
				1	8.0	-14.20331
				2	16.0	-14.73807
				3	72.0	-15.89847
				4	624.0	-17.56451
18	1.977E-06	3.066E-09	-0.7715	-12.5990		
				1	8.0	-14.20331
				2	16.0	-14.73807
				3	72.0	-15.89847
				4	624.0	-17.56451



**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
 VERSUS  
 AVERAGING TIME

DOWNWIND DISTANCE SECTOR (METERS)	AVERAGING TIME					HOURS PER YEAR MAX 0-2 HR X/Q IS EXCEEDED IN SECTOR		DOWNWIND SECTOR
	0-2 HOURS	0-8 HOURS	8-24 HOURS	1-4 DAYS	4-30 DAYS	ANNUAL AVERAGE		
S 280.	1.55E-06	3.46E-07	1.64E-07	3.23E-08	3.13E-09	1.81E-10	9.7	S
SSW 280.	1.54E-06	3.92E-07	1.98E-07	4.50E-08	5.36E-09	3.97E-10	197.7	SSW
SW 280.	2.00E-06	5.61E-07	2.98E-07	7.51E-08	1.04E-08	9.27E-10	22.5	SW
WSW 280.	2.33E-06	6.95E-07	3.79E-07	1.02E-07	1.54E-08	1.54E-09	31.6	WSW
W 280.	2.72E-06	8.86E-07	5.06E-07	1.50E-07	2.60E-08	3.07E-09	43.7	W
WNW 280.	2.20E-06	6.74E-07	3.74E-07	1.04E-07	1.65E-08	1.74E-09	25.9	WNW
NW 280.	1.57E-06	4.14E-07	2.12E-07	4.99E-08	6.24E-09	4.90E-10	9.4	NW
NNW 280.	1.30E-06	2.61E-07	1.17E-07	2.04E-08	1.66E-09	7.76E-11	5.0	NNW
N 280.	1.47E-06	3.45E-07	1.67E-07	3.46E-08	3.61E-09	2.27E-10	6.6	N
NNE 280.	1.25E-06	2.87E-07	1.38E-07	2.80E-08	2.84E-09	1.73E-10	4.2	NNE
NE 280.	1.22E-06	2.70E-07	1.28E-07	2.49E-08	2.40E-09	1.36E-10	5.0	NE
ENE 280.	1.12E-06	2.54E-07	1.21E-07	2.43E-08	2.41E-09	1.43E-10	2.8	ENE
E 280.	1.27E-06	3.36E-07	1.73E-07	4.12E-08	5.23E-09	4.18E-10	4.6	E
ESE 280.	1.13E-06	2.78E-07	1.38E-07	3.01E-08	3.39E-09	2.34E-10	5.9	ESE
SE 280.	1.22E-06	2.35E-07	1.03E-07	1.73E-08	1.33E-09	5.77E-11	5.0	SE
SSE 280.	1.52E-06	3.66E-07	1.80E-07	3.84E-08	4.18E-09	2.78E-10	7.5	SSE
MAX X/Q	2.72E-06					TOTAL HOURS AROUND SITE:	387.4	
SRP 2.3.4 280.	1.98E-06	6.79E-07	3.97E-07	1.25E-07	2.35E-08	3.07E-09		
SITE LIMIT	1.98E-06	6.79E-07	3.98E-07	1.25E-07	2.35E-08	3.07E-09		

0.5 PERCENT X/Q TO AN INDIVIDUAL IS LIMITING.

X/Q VALUES (SEC/CUBIC METER) FOR FUMIGATION AT THE BOUNDARY:

DOWNWIND DISTANCE FUMIGATION

SECTOR (METERS)	X/Q
S 280.	1.30E-04
SSW 280.	1.30E-04
SW 280.	1.30E-04
WSW 280.	1.30E-04
W 280.	1.30E-04
WNW 280.	1.30E-04
NW 280.	1.30E-04
NNW 280.	1.30E-04
N 280.	1.30E-04
NNE 280.	1.30E-04
NE 280.	1.30E-04
ENE 280.	1.30E-04
E 280.	1.30E-04

**Calculation No. PM-1055 Revision 0**

**Attachment J**

ESE	280.	1.30E-04
SE	280.	1.30E-04
SSE	280.	1.30E-04

**\*\*NOTE\*\***: VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
CHECK THE REASONABLENESS OF THE ENVELOPES  
COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.

**PAVAN Input**

**Off Gas Stack to Control Room (Tower 2 320' wind and 316'-33' Delta T Stability Class; distances of 300 m and 500 m)**

1 1111

Peach Bottom

Stack Release

97.5 meters

10.1-96.3 meters

Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

7	1	0	2	6	5	0	0	0	0	0	0	0	0	0	0
2584.	54.3131.4	97.5													
0	0	0	2	6	5	0	0	0	0	0	0	0	0	0	0
0.	0.	0.	0.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.	9.	23.	39.	87.	44.	4.	2.	0.	2.	2.	0.	1.	0.	0.	1.
0.	9.	20.	29.	46.	44.	20.	2.	12.	7.	5.	7.	8.	9.	2.	8.
2.	4.	9.	18.	7.	3.	13.	0.	7.	3.	2.	3.	21.	9.	3.	15.
2.	2.	0.	1.	0.	1.	0.	0.	0.	0.	0.	2.	14.	2.	0.	1.
0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	2.	2.	5.	1.	1.
0.	2.	2.	9.	5.	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13.	23.	18.	25.	56.	29.	10.	3.	3.	4.	3.	1.	4.	3.	4.	3.
4.	15.	13.	15.	12.	25.	27.	8.	25.	14.	13.	8.	21.	9.	2.	22.
10.	3.	2.	1.	1.	2.	8.	8.	31.	9.	6.	19.	27.	20.	9.	33.
1.	2.	1.	0.	0.	1.	1.	1.	5.	2.	1.	2.	12.	14.	4.	5.
0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	6.	7.	0.	0.
0.	5.	12.	15.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31.	22.	28.	37.	50.	65.	14.	12.	19.	5.	7.	3.	5.	5.	3.	22.
42.	19.	9.	17.	14.	26.	62.	22.	72.	37.	30.	26.	42.	26.	26.	100.
18.	8.	4.	3.	3.	4.	11.	10.	67.	24.	21.	31.	56.	59.	35.	93.
4.	1.	0.	0.	1.	2.	0.	1.	9.	0.	4.	4.	29.	30.	28.	17.
1.	4.	0.	0.	0.	0.	0.	0.	1.	0.	1.	1.	13.	27.	6.	0.
59.	58.	108.	119.	115.	86.	45.	35.	41.	23.	32.	15.	26.	38.	36.	50.
330.	211.	238.	336.	435.	304.	339.	243.	300.	191.	155.	128.	141.	97.	193.	385.
521.	349.	251.	278.	331.	308.	478.	466.	708.	425.	287.	211.	301.	355.	542.	928.
396.	154.	85.	67.	132.	140.	161.	118.	482.	166.	126.	190.	395.	674.	1039.	918.
73.	27.	13.	11.	32.	26.	14.	11.	99.	16.	16.	22.	225.	448.	543.	242.
15.	7.	12.	2.	8.	2.	7.	7.	29.	9.	3.	6.	90.	151.	184.	63.
60.	44.	36.	61.	60.	60.	61.	59.	70.	56.	59.	54.	54.	36.	39.	34.
235.	164.	150.	219.	283.	200.	345.	311.	435.	320.	281.	187.	173.	138.	170.	203.
367.	201.	156.	101.	161.	257.	349.	443.	891.	577.	354.	297.	395.	354.	519.	514.
156.	38.	26.	11.	58.	63.	98.	165.	516.	228.	216.	271.	536.	583.	651.	468.
23.	8.	8.	4.	12.	21.	16.	11.	64.	19.	18.	30.	78.	111.	89.	43.
7.	1.	1.	1.	20.	4.	12.	2.	6.	4.	2.	1.	9.	12.	6.	10.
26.	19.	22.	26.	31.	23.	28.	32.	23.	32.	32.	33.	30.	28.	26.	22.
99.	38.	34.	29.	34.	52.	81.	90.	134.	141.	156.	117.	85.	66.	94.	97.
81.	25.	13.	8.	13.	24.	48.	79.	130.	111.	157.	177.	198.	140.	178.	126.
4.	1.	1.	0.	0.	2.	7.	8.	44.	23.	39.	109.	168.	138.	90.	32.
1.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	18.	24.	18.	0.	5.
0.	0.	0.	0.	4.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11.	14.	11.	10.	13.	5.	4.	9.	17.	9.	6.	18.	13.	14.	13.	19.
47.	19.	22.	19.	13.	6.	28.	10.	34.	31.	36.	34.	40.	35.	70.	59.
16.	5.	4.	2.	2.	2.	8.	6.	10.	21.	51.	70.	69.	44.	92.	85.
1.	0.	0.	0.	0.	0.	1.	1.	2.	1.	8.	26.	39.	39.	9.	5.



PAVAN Output

Off Gas Stack to Control Room (Tower 2 320' wind and 316'-33' Delta T Stability Class; distances of 300 m and 500 m)

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USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PRINTOUT OF INPUT CARDS

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1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2      Peach Bottom
Stack Release
3      97.5 meters          10.1-96.3 meters
4
5      Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T          6          7 42872          1
7      0.500 2584.000    54.300 131.400    97.500
8      0.000 0.000 0.000 2.000 6.000 5.000 0.000
9      0.000 0.000 0.000 0.000 3.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      6.000 9.000 23.000 39.000 87.000 44.000 4.000 2.000 0.000 2.000 2.000 0.000 1.000 0.000 0.000 1.000
9      0.000 9.000 20.000 29.000 46.000 44.000 20.000 2.000 12.000 7.000 5.000 7.000 8.000 9.000 2.000 8.000
9      2.000 4.000 9.000 18.000 7.000 3.000 13.000 0.000 7.000 3.000 2.000 3.000 21.000 9.000 3.000 15.000
9      2.000 2.000 0.000 1.000 0.000 1.000 0.000 0.000 0.000 0.000 0.000 2.000 14.000 2.000 0.000 1.000
9      0.000 0.000 0.000 0.000 0.000 1.000 0.000 0.000 0.000 0.000 0.000 2.000 2.000 5.000 1.000 1.000
9      0.000 2.000 2.000 9.000 5.000 0.000 2.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      13.000 23.000 18.000 25.000 56.000 29.000 10.000 3.000 3.000 4.000 3.000 1.000 4.000 3.000 4.000 3.000
9      4.000 15.000 13.000 15.000 12.000 25.000 27.000 8.000 25.000 14.000 13.000 8.000 21.000 9.000 2.000 22.000
9      10.000 3.000 2.000 1.000 1.000 2.000 8.000 8.000 31.000 9.000 6.000 19.000 27.000 20.000 9.000 33.000
9      1.000 2.000 1.000 0.000 0.000 1.000 1.000 1.000 5.000 2.000 1.000 2.000 12.000 14.000 4.000 5.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 0.000 0.000 1.000 6.000 7.000 0.000 0.000
9      0.000 5.000 12.000 15.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      31.000 22.000 28.000 37.000 50.000 65.000 14.000 12.000 19.000 5.000 7.000 3.000 5.000 5.000 3.000 22.000
9      42.000 19.000 9.000 17.000 14.000 26.000 62.000 22.000 72.000 37.000 30.000 26.000 42.000 26.000 26.000 100.000
9      18.000 8.000 4.000 3.000 3.000 4.000 11.000 10.000 67.000 24.000 21.000 31.000 56.000 59.000 35.000 93.000
9      4.000 1.000 0.000 0.000 1.000 2.000 0.000 1.000 9.000 0.000 4.000 4.000 29.000 30.000 28.000 17.000
9      1.000 4.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 0.000 1.000 1.000 13.000 27.000 6.000 0.000
9      59.000 58.000 108.000 119.000 115.000 86.000 45.000 35.000 41.000 23.000 32.000 15.000 26.000 38.000 36.000 50.000
9      330.000 211.000 238.000 336.000 435.000 304.000 339.000 243.000 300.000 191.000 155.000 128.000 141.000 97.000 193.000 385.000
9      521.000 349.000 251.000 278.000 331.000 308.000 478.000 466.000 708.000 425.000 287.000 211.000 301.000 355.000 542.000 928.000
9      396.000 154.000 85.000 67.000 132.000 140.000 161.000 118.000 482.000 166.000 126.000 190.000 395.000 674.000 *****918.000
9      73.000 27.000 13.000 11.000 32.000 26.000 14.000 11.000 99.000 16.000 16.000 22.000 225.000 448.000 543.000 242.000
9      15.000 7.000 12.000 2.000 8.000 2.000 7.000 7.000 29.000 9.000 3.000 6.000 90.000 151.000 184.000 63.000
9      60.000 44.000 36.000 61.000 60.000 60.000 61.000 59.000 70.000 56.000 59.000 54.000 54.000 36.000 39.000 34.000
9      235.000 164.000 150.000 219.000 283.000 200.000 345.000 311.000 435.000 320.000 281.000 187.000 173.000 138.000 170.000 203.000
9      367.000 201.000 156.000 101.000 161.000 257.000 349.000 443.000 891.000 577.000 354.000 297.000 395.000 354.000 519.000 514.000
9      156.000 38.000 26.000 11.000 58.000 63.000 98.000 165.000 516.000 228.000 216.000 271.000 536.000 583.000 651.000 468.000
9      23.000 8.000 8.000 4.000 12.000 21.000 16.000 11.000 64.000 19.000 18.000 30.000 78.000 111.000 89.000 43.000
9      7.000 1.000 1.000 1.000 20.000 4.000 12.000 2.000 6.000 4.000 2.000 1.000 9.000 12.000 6.000 10.000
9      26.000 19.000 22.000 26.000 31.000 23.000 28.000 32.000 23.000 32.000 32.000 33.000 30.000 28.000 26.000 22.000
9      99.000 38.000 34.000 29.000 34.000 52.000 81.000 90.000 134.000 141.000 156.000 117.000 85.000 66.000 94.000 97.000
9      81.000 25.000 13.000 8.000 13.000 24.000 48.000 79.000 130.000 111.000 157.000 177.000 198.000 140.000 178.000 126.000
9      4.000 1.000 1.000 0.000 0.000 2.000 7.000 8.000 44.000 23.000 39.000 109.000 168.000 138.000 90.000 32.000
9      1.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 3.000 0.000 18.000 24.000 18.000 0.000 5.000

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Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS A

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007
3.35 3.61	0.014	0.021	0.054	0.091	0.203	0.103	0.009	0.005	0.000	0.005	0.005	0.000	0.002	0.000	0.000	0.002	0.513
5.59 6.02	0.000	0.021	0.047	0.068	0.107	0.103	0.047	0.005	0.028	0.016	0.012	0.016	0.019	0.021	0.005	0.019	0.532
8.27 8.91	0.005	0.009	0.021	0.042	0.016	0.007	0.030	0.000	0.016	0.007	0.005	0.007	0.049	0.021	0.007	0.035	0.278
10.73 11.56	0.005	0.005	0.000	0.002	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.005	0.033	0.005	0.000	0.002	0.058
24.59 26.49	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.012	0.002	0.002	0.028
TOTAL	0.02	0.06	0.12	0.20	0.33	0.22	0.09	0.01	0.04	0.03	0.02	0.03	0.11	0.06	0.01	0.06	1.42

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS B

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.005	0.005	0.021	0.012	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.047
3.35 3.61	0.030	0.054	0.042	0.058	0.131	0.068	0.023	0.007	0.007	0.009	0.007	0.002	0.009	0.007	0.009	0.007	0.471
5.59 6.02	0.009	0.035	0.030	0.035	0.028	0.058	0.063	0.019	0.058	0.033	0.030	0.019	0.049	0.021	0.005	0.051	0.543
8.27 8.91	0.023	0.007	0.005	0.002	0.002	0.005	0.019	0.019	0.072	0.021	0.014	0.044	0.063	0.047	0.021	0.077	0.441
10.73 11.56	0.002	0.005	0.002	0.000	0.000	0.002	0.002	0.002	0.012	0.005	0.002	0.005	0.028	0.033	0.009	0.012	0.121
24.59 26.49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.014	0.016	0.000	0.000	0.035
TOTAL	0.07	0.10	0.08	0.12	0.17	0.13	0.11	0.05	0.15	0.07	0.05	0.07	0.16	0.12	0.04	0.15	1.66

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS C

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.012	0.028	0.035	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.077
3.35 3.61	0.072	0.051	0.065	0.086	0.117	0.152	0.033	0.028	0.044	0.012	0.016	0.007	0.012	0.012	0.007	0.051	0.765
5.59 6.02	0.098	0.044	0.021	0.040	0.033	0.061	0.145	0.051	0.168	0.086	0.070	0.061	0.098	0.061	0.061	0.233	1.330
8.27 8.91	0.042	0.019	0.009	0.007	0.007	0.009	0.026	0.023	0.156	0.056	0.049	0.072	0.131	0.138	0.082	0.217	1.043
10.73 11.56	0.009	0.002	0.000	0.000	0.002	0.005	0.000	0.002	0.021	0.000	0.009	0.009	0.068	0.070	0.065	0.040	0.303
24.59 26.49	0.002	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.002	0.002	0.030	0.063	0.014	0.000	0.126
TOTAL	0.22	0.14	0.12	0.17	0.16	0.23	0.20	0.10	0.39	0.15	0.15	0.15	0.34	0.34	0.23	0.54	3.64

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS D

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005
1.56 1.69	0.138	0.135	0.252	0.278	0.268	0.201	0.105	0.082	0.096	0.054	0.075	0.035	0.061	0.089	0.084	0.117	2.067

Calculation No. PM-1055 Revision 0

Attachment J

3.35	3.61	0.770	0.492	0.555	0.784	1.015	0.709	0.791	0.567	0.700	0.446	0.362	0.299	0.329	0.226	0.450	0.898	9.391
5.59	6.02	1.215	0.814	0.585	0.648	0.772	0.718	1.115	1.087	1.651	0.991	0.669	0.492	0.702	0.828	1.264	2.165	15.719
8.27	8.91	0.924	0.359	0.198	0.156	0.308	0.327	0.376	0.275	1.124	0.387	0.294	0.443	0.921	1.572	2.423	2.141	12.229
10.73	11.56	0.170	0.063	0.030	0.026	0.075	0.061	0.033	0.026	0.231	0.037	0.037	0.051	0.525	1.045	1.267	0.564	4.241
24.59	26.49	0.035	0.016	0.028	0.005	0.019	0.005	0.016	0.016	0.068	0.021	0.007	0.014	0.210	0.352	0.429	0.147	1.388
TOTAL		3.25	1.88	1.65	1.90	2.46	2.02	2.44	2.05	3.87	1.94	1.44	1.33	2.75	4.11	5.92	6.03	45.04

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS E

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.26	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.014
1.56 1.82	0.140	0.103	0.084	0.142	0.140	0.140	0.142	0.138	0.163	0.131	0.138	0.126	0.126	0.084	0.091	0.079	1.966
3.35 3.89	0.548	0.383	0.350	0.511	0.660	0.467	0.805	0.725	1.015	0.746	0.655	0.436	0.404	0.322	0.397	0.474	8.896
5.59 6.49	0.856	0.469	0.364	0.236	0.376	0.599	0.814	1.033	2.078	1.346	0.826	0.693	0.921	0.826	1.211	1.199	13.846
8.27 9.60	0.364	0.089	0.061	0.026	0.135	0.147	0.229	0.385	1.204	0.532	0.504	0.632	1.250	1.360	1.518	1.092	9.526
10.73 12.46	0.054	0.019	0.019	0.009	0.028	0.049	0.037	0.026	0.149	0.044	0.042	0.070	0.182	0.259	0.208	0.100	1.295
24.59 28.54	0.016	0.002	0.002	0.002	0.047	0.009	0.028	0.005	0.014	0.009	0.005	0.002	0.021	0.028	0.014	0.023	0.229
TOTAL	1.98	1.06	0.88	0.93	1.39	1.41	2.06	2.31	4.62	2.81	2.17	1.96	2.90	2.88	3.44	2.97	35.77

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS F

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.26	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.012
1.56 1.82	0.061	0.044	0.051	0.061	0.072	0.054	0.065	0.075	0.054	0.075	0.075	0.077	0.070	0.065	0.061	0.051	1.010
3.35 3.89	0.231	0.089	0.079	0.068	0.079	0.121	0.189	0.210	0.313	0.329	0.364	0.273	0.198	0.154	0.219	0.226	3.142
5.59 6.49	0.189	0.058	0.030	0.019	0.030	0.056	0.112	0.184	0.303	0.259	0.366	0.413	0.462	0.327	0.415	0.294	3.517
8.27 9.60	0.009	0.002	0.002	0.000	0.000	0.005	0.016	0.019	0.103	0.054	0.091	0.254	0.392	0.322	0.210	0.075	1.553
10.73 12.46	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.042	0.056	0.042	0.000	0.012	0.161
24.59 28.54	0.000	0.000	0.000	0.000	0.009	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012
TOTAL	0.49	0.19	0.16	0.15	0.19	0.24	0.38	0.49	0.77	0.72	0.90	1.06	1.18	0.91	0.91	0.66	9.41

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS G

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.82	0.026	0.033	0.026	0.023	0.030	0.012	0.009	0.021	0.040	0.021	0.014	0.042	0.030	0.033	0.030	0.044	0.434
3.35 3.89	0.110	0.044	0.051	0.044	0.030	0.014	0.065	0.023	0.079	0.072	0.084	0.079	0.093	0.082	0.163	0.138	1.173
5.59 6.49	0.037	0.012	0.009	0.005	0.005	0.005	0.019	0.014	0.023	0.049	0.119	0.163	0.161	0.103	0.215	0.198	1.136
8.27 9.60	0.002	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.005	0.002	0.019	0.061	0.091	0.091	0.021	0.012	0.308
10.73 12.46	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.005	0.000	0.000	0.009
24.59 28.54	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.005
TOTAL	0.17	0.09	0.09	0.07	0.07	0.03	0.10	0.06	0.15	0.14	0.24	0.35	0.38	0.31	0.43	0.39	3.06

WIND MEASURED AT 97.5 METERS.

WIND SPEED CORRECTED TO THE RELEASE HEIGHT OF 131.4 METERS.

OVERALL WIND DIRECTION FREQUENCY

WIND DIRECTION:	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
FREQUENCY:	6.2	3.5	3.1	3.5	4.8	4.3	5.4	5.1	10.0	5.9	5.0	5.0	7.8	8.7	11.0	10.8



OVERALL WIND SPEED FREQUENCY AS MEASURED ON THE TOWER:

MAX.WIND SPEED (M/S): 0.224 1.565 3.353 5.588 8.270 10.729 24.587  
 WIND SPEED FREQUENCY: 0.03 5.61 24.35 36.62 25.38 6.19 1.82

BUILDING AND RELEASE CHARACTERISTICS:

RELEASE HEIGHT: 131.40 METERS  
 MIXING VOLUME COEFFICIENT: 0.50  
 BUILDING CROSS-SECTIONAL AREA: 2584.00 SQUARE METERS

BOUNDARY DISTANCES (METERS) FROM THE SOURCE FOR EACH DOWNWIND SECTOR:

DOWNWIND SECTOR	S	SSW	SW	WSW	W	WNW	NW	NNW	N	NNE	NE	ENE	E	ESE	SE	SSE
BOUNDARY 1	300.	300.	300.	300.	300.	300.	300.	300.	300.	300.	300.	300.	300.	300.	300.	300.
BOUNDARY 2	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.

DISTANCES AND TERRAIN HEIGHTS (IN METERS) AS A FUNCTION OF THE DOWNWIND SECTOR:

SECTOR	S	SSW	SW	WSW	W	WNW	NW	NNW	N	NNE	NE	ENE	E	ESE	SE	SSE
DISTANCE	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.
ELEVATION	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

THE CONVERSION FACTOR APPLIED TO THE WIND SPEED CLASSES IS 0.447

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

Page 161 of 1411

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

WINDSPEEDS ADJUSTED TO 131.4 METERS.

PERCENT OF THE TIME A GIVEN WINDSPEED IS LOWER:

WINDSPEED (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.24	0.00
0.26	0.03
1.69	2.23
1.82	5.64
3.61	16.78
3.89	29.99
6.02	48.11
6.49	66.61
8.91	80.60
9.60	91.99
11.56	96.71
12.46	98.18
26.49	99.76
28.54	100.00

WINDSPEED (INTERPOLATED) (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.26	0.03
1.77	5.64
3.76	29.99
6.26	66.61
9.22	91.99
11.77	98.18
26.77	100.00

LOG-NORMAL INTERPOLATION PERCENTILES

WINDSPEED (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.81	1.00
1.30	3.00
1.66	5.00
2.19	10.00
2.61	15.00
3.00	20.00

3.38	25.00
3.76	30.00
4.05	35.00
4.35	40.00
4.66	45.00
4.98	50.00
5.32	55.00
5.70	60.00
6.11	65.00
6.50	70.00
6.90	75.00
7.37	80.00
8.11	85.00
8.78	90.00

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	0.23	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06			
A	8.9	0.08	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
A	11.6	0.08	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06			
B	3.6	0.49	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.15	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.38	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.04	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
C	3.6	1.16	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.58	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.04	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	2.22	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	12.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	19.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	14.87	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	2.74	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.56	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	8.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	13.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	5.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	3.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.15	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	1.77	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

S SECTOR BOUNDARY DISTANCE = 300.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and all-time frequencies across four rows of data.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.256
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 1.304

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 3.181  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.960

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
1	1	-11.07050	-16.47142	-1.19518
1	2	-13.12558	-16.30722	-1.13653
1	3	-13.77855	-17.18353	-1.53040
1	4	-14.34482	-18.94210	-2.47847
1	5	-14.85564	NUMXQ(K)= 5	
		3.332E-06	0.062	1.000
		2.250E-06	0.186	3.000
		1.857E-06	0.311	5.000
		1.419E-06	0.621	10.000
		1.201E-06	0.932	15.000
		1.061E-06	1.242	20.000
		9.350E-07	1.553	25.000
		8.354E-07	1.863	30.000
		7.578E-07	2.174	35.000
		6.951E-07	2.484	40.000
		6.430E-07	2.795	45.000
		5.990E-07	3.106	50.000
		5.446E-07	3.416	55.000
		4.938E-07	3.727	60.000
		4.506E-07	4.037	65.000
		4.134E-07	4.348	70.000
		3.812E-07	4.658	75.000
		1.547E-06	0.5	8.05

ANNUAL AVERAGE = 3.32E-10

K= 1 FIVEXQ(K)= 1.547E-06 FIVEPR(K)= 8.050

FUMIGATION X/Q AT THE BOUNDARY: 1.22E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.376	3.981	5.032	12.967	65.322	97.183	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
	AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	0.60	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.045E-06
A	6.0	0.60	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.427E-06
A	8.9	0.26	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.640E-06
A	11.6	0.13	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.264E-06
B	1.7	0.13	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.124E-06
B	3.6	1.52	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.858E-06
B	6.0	0.99	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.715E-06
B	8.9	0.20	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.159E-06
B	11.6	0.13	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.931E-07
C	1.7	0.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.272E-06
C	3.6	1.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.994E-06
C	6.0	1.26	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.196E-06
C	8.9	0.53	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.082E-07
C	11.6	0.07	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.230E-07
C	26.5	0.26	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.719E-07
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	3.84	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	13.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	23.09	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	10.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	1.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	0.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	2.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	10.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	13.30	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	2.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	0.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.26	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	2.51	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	0.07	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.301E-07



G	1.8	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.26	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

SSW SECTOR BOUNDARY DISTANCE = 300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06
0.009	0.029	0.162	0.176	0.507	1.102	2.624	3.219	7.056	8.511
0.00031	0.00104	0.00570	0.00621	0.01788	0.03887	0.09252	0.11351	0.24880	0.30011
1.715E-06	1.640E-06	1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07
9.504	9.768	9.901	12.811	14.068	14.267	28.225	28.357	28.886	30.143
0.33510	0.34443	0.34909	0.45172	0.49604	0.50304	0.99520	0.99987	1.01853	1.06285
6.230E-07	6.226E-07	5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07
30.209	53.296	64.145	74.333	87.630	89.416	91.929	92.194	94.708	96.362
1.06518	1.87923	2.26176	2.62097	3.08981	3.15279	3.24142	3.25075	3.33939	3.39770
1.841E-07	1.415E-07	1.301E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08			
96.891	97.354	97.420	97.486	98.412	99.669	100.000			
3.41636	3.43269	3.43502	3.43736	3.47001	3.51433	3.52599			

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

**PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED**

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.249  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.994

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.259  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 3.087

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
2	1	-11.07050	-16.20624	-1.13559
2	2	-13.01641	-17.47309	-1.58660
2	3	-13.77855	-17.82714	-1.73864
2	4	-14.34482	-21.93911	-3.79166
2	5	-14.85564	NUMXQ(K) = 5	
		4.290E-06	0.035	1.000
		3.004E-06	0.106	3.000
		2.517E-06	0.176	5.000
		1.855E-06	0.353	10.000
		1.490E-06	0.529	15.000
		1.268E-06	0.705	20.000
		1.115E-06	0.881	25.000
		9.970E-07	1.058	30.000
		9.001E-07	1.234	35.000
		8.223E-07	1.410	40.000
		7.583E-07	1.587	45.000
		7.044E-07	1.763	50.000
		6.583E-07	1.939	55.000
		6.184E-07	2.116	60.000
		5.767E-07	2.292	65.000
		5.119E-07	2.468	70.000
		4.575E-07	2.644	75.000
		4.114E-07	2.821	80.000
		3.719E-07	2.997	85.000
		1.537E-06	0.5	14.18

ANNUAL AVERAGE = 7.30E-10

K= 2 FIVEXQ(K)= 1.537E-06 FIVEPR(K)=14.180

FUMIGATION X/Q AT THE BOUNDARY: 1.22E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.588	5.491	8.467	13.973	67.300	97.486	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS		
A	3.6	1.73	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06	
A	6.0	1.50	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06	
A	8.9	0.68	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06	
B	1.7	0.15	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06	
B	3.6	1.35	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06	
B	6.0	0.98	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06	
B	8.9	0.15	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06	
B	11.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07	
C	1.7	0.90	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06	
C	3.6	2.10	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06	
C	6.0	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06	
C	8.9	0.30	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07	
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	8.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	17.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	18.83	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	6.38	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	0.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.90	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.70	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	11.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	11.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	1.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.60	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.08	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	2.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	0.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
G	1.8	0.83	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	1.65	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	

G 6.5 0.30 9000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06
0.018	0.038	0.188	0.207	1.107	2.833	4.183	5.684	13.788	15.888
0.00057	0.00117	0.00583	0.00642	0.03441	0.08806	0.13005	0.17670	0.42861	0.49392
1.715E-06	1.640E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.226E-07
16.864	17.539	20.240	20.916	21.066	38.923	38.999	39.299	40.949	59.783
0.52424	0.54524	0.62921	0.65020	0.65487	1.21001	1.21234	1.22167	1.27298	1.85845
5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
71.037	77.415	89.120	90.096	92.647	94.598	95.573	96.173	97.074	97.149
2.20833	2.40659	2.77047	2.80079	2.88009	2.94074	2.97106	2.98972	3.01771	3.02005
8.032E-08	6.449E-08	3.010E-08	1.806E-08						
97.224	98.049	99.700	100.000						
3.02238	3.04804	3.09935	3.10868						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.088  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.428

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.209  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.206  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 2.768

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
3	1	-11.07050	-15.76030	-1.06849
3	2	-12.41800	-16.16917	-1.19920
3	3	-13.01641	-18.36423	-2.03412
3	4	-13.77855	-19.06598	-2.34541
3	5	-14.34482	-24.96016	-5.27354
3	6	-14.85564	NUMXQ(K) = 6	
		5.539E-06	0.031	1.000
		3.964E-06	0.093	3.000
		3.295E-06	0.155	5.000
		2.529E-06	0.311	10.000
		2.097E-06	0.466	15.000
		1.710E-06	0.622	20.000
		1.453E-06	0.777	25.000
		1.268E-06	0.933	30.000
		1.127E-06	1.088	35.000
		1.012E-06	1.243	40.000
		9.092E-07	1.399	45.000
		8.246E-07	1.554	50.000
		7.539E-07	1.710	55.000
		6.940E-07	1.865	60.000
		6.424E-07	2.021	65.000
		5.976E-07	2.176	70.000
		5.221E-07	2.332	75.000
		4.518E-07	2.487	80.000
		3.938E-07	2.642	85.000
		1.997E-06	0.5	16.08

ANNUAL AVERAGE = 1.70E-09

K= 3 FIVEXQ(K) = 1.997E-06 FIVEPR(K) = 16.084

FUMIGATION X/Q AT THE BOUNDARY: 1.22E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
3.902	7.878	10.580	15.851	68.917	97.224	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	3.6	2.58	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06				
A	6.0	1.92	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06				
A	8.9	1.19	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06				
A	11.6	0.07	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06				
B	1.7	0.59	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06				
B	3.6	1.65	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06				
B	6.0	0.99	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06				
B	8.9	0.07	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06				
C	1.7	0.99	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06				
C	3.6	2.44	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	1.12	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	0.20	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	7.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	22.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	18.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	4.43	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	0.73	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.13	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	4.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	14.46	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	6.67	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	1.92	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	0.53	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
G	1.8	0.66	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08				
G	3.9	1.25	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08				
G	6.5	0.13	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08				



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06
0.018	0.046	0.641	0.661	1.651	4.227	5.879	7.794	15.654	18.098
0.00063	0.00164	0.02263	0.02333	0.05832	0.14929	0.20760	0.27524	0.55282	0.63912
1.715E-06	1.640E-06	1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.082E-07	6.875E-07	6.226E-07
19.089	20.278	20.344	24.373	25.496	25.562	47.754	47.953	49.670	68.032
0.67411	0.71609	0.71842	0.86071	0.90036	0.90269	1.68642	1.69342	1.75407	2.40251
5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	8.032E-08
82.497	86.922	93.593	94.320	96.235	96.962	97.490	97.754	97.886	97.952
2.91333	3.06961	3.30519	3.33085	3.39849	3.42415	3.44281	3.45214	3.45681	3.45914
6.449E-08	3.010E-08	1.806E-08							
98.613	99.868	100.000							
3.48247	3.52678	3.53145							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.

THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.552  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 1.685

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
4	1	-11.07050	-15.27913	-0.96350
4	2	-12.41800	-16.56801	-1.39754
4	3	-13.01641	-17.65467	-1.82513
4	4	-13.77855	-19.01550	-2.46590
4	5	-14.34482	NUMXQ(K)= 5	
		6.050E-06	0.035	1.000
		4.471E-06	0.106	3.000
		3.762E-06	0.177	5.000
		2.753E-06	0.353	10.000
		2.270E-06	0.530	15.000
		1.898E-06	0.706	20.000
		1.636E-06	0.883	25.000
		1.445E-06	1.059	30.000
		1.297E-06	1.236	35.000
		1.180E-06	1.413	40.000
		1.084E-06	1.589	45.000
		9.912E-07	1.766	50.000
		9.005E-07	1.942	55.000
		8.240E-07	2.119	60.000
		7.585E-07	2.295	65.000
		7.019E-07	2.472	70.000
		6.524E-07	2.649	75.000
		6.089E-07	2.825	80.000
		2.335E-06	0.5	14.16

ANNUAL AVERAGE = 2.82E-09

K= 4 FIVEXQ(K)= 2.335E-06 FIVEPR(K)=14.158

FUMIGATION X/Q AT THE BOUNDARY: 1.22E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.746	10.502	13.804	17.985	71.702	97.952	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS		
A	1.7	0.15	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	8.668E-06	
A	3.6	4.26	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06	
A	6.0	2.25	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06	
A	8.9	0.34	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06	
B	1.7	0.24	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06	
B	3.6	2.74	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06	
B	6.0	0.59	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06	
B	8.9	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06	
C	1.7	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06	
C	3.6	2.45	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06	
C	6.0	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06	
C	8.9	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07	
C	11.6	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07	
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	5.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	21.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	16.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	6.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	1.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.94	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	7.88	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	2.84	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.59	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	1.66	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	0.64	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	28.5	0.20	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08	
G	1.8	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.10	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	8.668E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06
0.013	0.034	0.180	0.425	0.442	0.491	4.748	7.487	9.738	15.364
0.00061	0.00160	0.00860	0.02026	0.02110	0.02343	0.22636	0.35698	0.46428	0.73252
1.994E-06	1.715E-06	1.640E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.082E-07	6.875E-07	6.230E-07
17.810	18.397	18.740	21.675	22.360	22.409	43.690	43.837	45.353	45.402
0.84914	0.87713	0.89346	1.03341	1.06607	1.06840	2.08305	2.09005	2.16235	2.16469
6.226E-07	5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07
61.596	75.441	81.899	89.775	91.341	93.004	95.842	96.478	97.065	97.456
2.93675	3.59686	3.90475	4.28029	4.35493	4.43423	4.56952	4.59984	4.62783	4.64649
8.032E-08	6.449E-08	4.375E-08	3.010E-08	1.806E-08					
98.434	99.070	99.266	99.902	100.000					
4.69314	4.72347	4.73280	4.76312	4.76779					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.732  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 2.081

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 3.594  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 4.431

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
5	1	-11.07050	-14.90832	-0.87711
5	2	-12.41800	-16.68802	-1.50394
5	3	-13.01641	-17.62189	-1.88646
5	4	-13.77855	-18.63791	-2.38516
5	5	-14.34482	-25.59808	-6.25210
5	6	-14.95230	NUMXQ(K)= 6	
		6.082E-06	0.048	1.000
		4.587E-06	0.143	3.000
		3.946E-06	0.238	5.000
		2.792E-06	0.477	10.000
		2.253E-06	0.715	15.000
		1.853E-06	0.954	20.000
		1.580E-06	1.192	25.000
		1.382E-06	1.430	30.000
		1.231E-06	1.669	35.000
		1.111E-06	1.907	40.000
		1.008E-06	2.146	45.000
		9.065E-07	2.384	50.000
		8.225E-07	2.622	55.000
		7.516E-07	2.861	60.000
		6.910E-07	3.099	65.000
		6.385E-07	3.337	70.000
		5.928E-07	3.576	75.000
		4.980E-07	3.814	80.000
		4.178E-07	4.053	85.000
		3.535E-07	4.291	90.000
		2.724E-06	0.5	10.49

ANNUAL AVERAGE = 5.62E-09

K= 5 FIVEXQ(K)= 2.724E-06 FIVEPR(K)=10.487

FUMIGATION X/Q AT THE BOUNDARY: 1.22E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
6.996	10.372	13.992	18.021	69.549	98.630	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	3.6	2.40	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06	0.000E+00	0.000E+00	2.427E-06	
A	6.0	2.40	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06	0.000E+00	0.000E+00	1.264E-06	
A	8.9	0.16	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07	0.000E+00	0.000E+00	2.858E-06	
A	11.6	0.05	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.715E-06	0.000E+00	0.000E+00	1.159E-06	
A	26.5	0.05	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	8.931E-07	0.000E+00	0.000E+00	1.994E-06	
B	3.6	1.58	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.994E-06	0.000E+00	0.000E+00	1.196E-06	
B	6.0	1.36	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.082E-07	0.000E+00	0.000E+00	6.230E-07	
B	8.9	0.11	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.556E-05	0.000E+00	0.000E+00	2.224E-06	
B	11.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.224E-06	0.000E+00	0.000E+00	1.038E-06	
C	3.6	3.54	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.226E-07	0.000E+00	0.000E+00	4.207E-07	
C	6.0	1.42	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	3.243E-07	0.000E+00	0.000E+00	1.415E-07	
C	8.9	0.22	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.556E-05	0.000E+00	0.000E+00	2.224E-06	
C	11.6	0.11	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.224E-06	0.000E+00	0.000E+00	1.038E-06	
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	0.000E+00	0.000E+00	4.207E-07	
D	1.7	4.69	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	0.000E+00	0.000E+00	1.415E-07	
D	3.6	16.58	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	0.000E+00	0.000E+00	2.224E-06	
D	6.0	16.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	0.000E+00	0.000E+00	1.038E-06	
D	8.9	7.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	0.000E+00	0.000E+00	4.207E-07	
D	11.6	1.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	0.000E+00	0.000E+00	1.415E-07	
D	26.5	0.11	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	0.000E+00	0.000E+00	2.224E-06	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	0.000E+00	0.000E+00	1.262E-06	
E	1.8	3.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	0.000E+00	0.000E+00	3.534E-07	
E	3.9	10.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	0.000E+00	0.000E+00	1.841E-07	
E	6.5	14.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	0.000E+00	0.000E+00	4.813E-06	
E	9.6	3.44	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	6.875E-07	0.000E+00	0.000E+00	3.208E-07	
E	12.5	1.15	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.925E-07	0.000E+00	0.000E+00	1.301E-07	
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	4.375E-08	0.000E+00	0.000E+00	2.604E-07	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	0.000E+00	0.000E+00	6.875E-07	
F	1.8	1.25	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	0.000E+00	0.000E+00	1.925E-07	
F	3.9	2.84	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	0.000E+00	0.000E+00	8.032E-08	
F	6.5	1.31	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	0.000E+00	0.000E+00	6.875E-07	
F	9.6	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	0.000E+00	0.000E+00	1.925E-07	
F	28.5	0.05	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	8.032E-08	0.000E+00	0.000E+00	4.813E-06	

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08



**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

WNW SECTOR BOUNDARY DISTANCE = 300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.011	0.034	0.048	2.448	4.029	6.428	11.118	14.662	16.025	16.189
0.00045	0.00145	0.00207	0.10470	0.17234	0.27497	0.47557	0.62719	0.68550	0.69250
1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07
16.243	19.515	20.933	21.042	37.619	37.673	37.891	39.146	39.255	56.050
0.69483	0.83478	0.89543	0.90009	1.60918	1.61151	1.62084	1.67449	1.67915	2.39757
5.890E-07	5.516E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07
66.955	67.010	74.644	88.658	90.076	92.911	96.347	97.655	98.800	98.909
2.86408	2.86641	3.19296	3.79242	3.85307	3.97436	4.12131	4.17729	4.22627	4.23094
1.301E-07	8.032E-08	6.449E-08	4.375E-08	3.010E-08	1.806E-08				
99.018	99.237	99.509	99.564	99.891	100.000				
4.23560	4.24493	4.25659	4.25893	4.27292	4.27759				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.626  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 1.607

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.861  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.789

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
6	1	-11.07050	-15.46296	-0.98963
6	2	-12.41800	-16.17186	-1.22003
6	3	-13.12558	-17.72706	-1.84289
6	4	-13.77855	-18.81308	-2.34976
6	5	-14.34482	-22.06134	-4.05796
6	6	-14.85564	NUMXQ(K)= 6	
		5.219E-06	0.043	1.000
		3.754E-06	0.128	3.000
		3.094E-06	0.214	5.000
		2.344E-06	0.428	10.000
		1.964E-06	0.642	15.000
		1.621E-06	0.856	20.000
		1.391E-06	1.069	25.000
		1.223E-06	1.283	30.000
		1.094E-06	1.497	35.000
		9.792E-07	1.711	40.000
		8.749E-07	1.925	45.000
		7.896E-07	2.139	50.000
		7.187E-07	2.353	55.000
		6.586E-07	2.567	60.000
		6.072E-07	2.780	65.000
		5.441E-07	2.994	70.000
		4.806E-07	3.208	75.000
		4.273E-07	3.422	80.000
		3.822E-07	3.636	85.000
		2.196E-06	0.5	11.69

ANNUAL AVERAGE = 3.18E-09

K= 6 FIVEXQ(K)= 2.196E-06 FIVEPR(K)=11.689

FUMIGATION X/Q AT THE BOUNDARY: 1.22E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.071	10.361	13.469	19.045	66.278	99.291	100.000

Calculation No. PM-1055 Revision 0

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USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

CLASS	METER/SEC	PERCENT	METERS	METERS	METERS	SIGMA-Y	SIGMA-Z	MEANDER-SY	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS									CA=1292.SQ.METERS		
A	3.6	0.17	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06
A	6.0	0.87	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06
A	8.9	0.56	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06
B	1.7	0.09	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06
B	3.6	0.43	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06
B	6.0	1.17	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06
B	8.9	0.35	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06
B	11.6	0.04	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07
C	3.6	0.61	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06
C	6.0	2.69	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06
C	8.9	0.48	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	1.95	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	14.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	20.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	6.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	0.61	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	0.30	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	2.65	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	14.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	15.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	4.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	0.69	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.52	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.22	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	2.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	0.30	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
G	1.8	0.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.35	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06
0.004	0.023	0.110	0.124	0.298	0.732	1.601	3.555	4.163	5.335
0.00024	0.00125	0.00591	0.00667	0.01600	0.03932	0.08597	0.19094	0.22359	0.28657
1.640E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.226E-07	5.890E-07
5.900	8.548	11.241	11.588	26.309	26.352	26.830	28.046	48.803	63.784
0.31689	0.45918	0.60380	0.62246	1.41318	1.41551	1.44117	1.50648	2.62143	3.42615
4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	8.032E-08
70.775	85.931	86.538	90.056	94.311	96.396	97.091	97.395	97.698	98.220
3.80169	4.61574	4.64839	4.83733	5.06591	5.17788	5.21520	5.23152	5.24785	5.27584
6.449E-08	3.010E-08	1.806E-08	1.220E-08						
98.393	99.609	99.957	100.000						
5.28517	5.35048	5.36914	5.37148						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.191  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 1.412

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 3.423  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.612

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
7	1	-11.07050	-16.36184	-1.15635
7	2	-13.01641	-16.17063	-1.09026
7	3	-13.77855	-17.11755	-1.52184
7	4	-14.34482	-21.07552	-3.69421
7	5	-14.85564	NUMXQ(K)= 5	
		3.440E-06	0.054	1.000
		2.364E-06	0.161	3.000
		1.975E-06	0.269	5.000
		1.532E-06	0.537	10.000
		1.308E-06	0.806	15.000
		1.164E-06	1.074	20.000
		1.060E-06	1.343	25.000
		9.586E-07	1.611	30.000
		8.718E-07	1.880	35.000
		8.016E-07	2.149	40.000
		7.432E-07	2.417	45.000
		6.938E-07	2.686	50.000
		6.513E-07	2.954	55.000
		6.141E-07	3.223	60.000
		5.707E-07	3.491	65.000
		5.038E-07	3.760	70.000
		4.478E-07	4.029	75.000
		4.005E-07	4.297	80.000
		3.603E-07	4.566	85.000
		1.574E-06	0.5	9.31

ANNUAL AVERAGE = 9.00E-10

K= 7 FIVEXQ(K)= 1.574E-06 FIVEPR(K)= 9.308

FUMIGATION X/Q AT THE BOUNDARY: 1.22E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.607	5.385	7.469	14.605	59.944	98.220	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

CLASS	METER/SEC	PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS													
A	3.6	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06		
A	6.0	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06		
B	3.6	0.14	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.37	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.37	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
C	3.6	0.55	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.01	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	1.61	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	11.17	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	21.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	5.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.51	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.32	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	14.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	20.36	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	7.58	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.47	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	4.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	3.63	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	0.46	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		
G	6.5	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08		
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08		

CA=1292.SQ.METERS

Calculation No. PM-1055 Revision 0

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USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.262E-06
0.004	0.023	0.040	0.132	0.270	0.362	1.970	2.522	2.889	5.601
0.00018	0.00116	0.00203	0.00669	0.01369	0.01835	0.09999	0.12798	0.14664	0.28426
1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.207E-07
6.612	6.980	18.148	18.194	18.653	20.124	20.170	41.587	55.880	61.303
0.33558	0.35424	0.92104	0.92337	0.94670	1.02134	1.02367	2.11063	2.83604	3.11128
3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	8.032E-08	6.449E-08
81.662	82.168	86.304	93.887	97.518	98.024	98.345	98.713	98.805	99.219
4.14459	4.17025	4.38017	4.76504	4.94931	4.97497	4.99130	5.00996	5.01462	5.03561
3.010E-08	1.806E-08	1.220E-08							
99.678	99.954	100.000							
5.05894	5.07293	5.07527							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.100  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 0.920



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.833  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.141

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
8	1	-11.07050	-16.92746	-1.26549
8	2	-13.01641	-16.22955	-1.03967
8	3	-13.77855	-16.73458	-1.25389
8	4	-14.34482	-20.02675	-2.98127
8	5	-14.85564	NUMXQ(K)= 5	
		2.850E-06	0.051	1.000
		1.948E-06	0.152	3.000
		1.648E-06	0.254	5.000
		1.296E-06	0.508	10.000
		1.116E-06	0.761	15.000
		9.915E-07	1.015	20.000
		8.911E-07	1.269	25.000
		8.147E-07	1.523	30.000
		7.539E-07	1.776	35.000
		7.039E-07	2.030	40.000
		6.618E-07	2.284	45.000
		6.256E-07	2.538	50.000
		5.941E-07	2.791	55.000
		5.366E-07	3.045	60.000
		4.825E-07	3.299	65.000
		4.367E-07	3.553	70.000
		3.975E-07	3.806	75.000
		3.637E-07	4.060	80.000
		1.303E-06	0.5	9.85

ANNUAL AVERAGE = 1.43E-10

K= 8 FIVEXQ(K)= 1.303E-06 FIVEPR(K)= 9.852

FUMIGATION X/Q AT THE BOUNDARY: 1.22E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.184	2.252	3.171	12.793	53.241	98.805	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	6.0	0.28	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06				
A	8.9	0.16	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06				
B	3.6	0.07	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06				
B	6.0	0.58	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06				
B	8.9	0.72	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06				
B	11.6	0.12	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07				
B	26.5	0.02	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07				
C	3.6	0.44	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	1.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	1.56	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
C	11.6	0.21	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07				
C	26.5	0.02	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07				
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	0.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	7.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	16.51	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	11.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	2.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	1.63	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	20.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	12.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	1.49	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	0.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	3.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	3.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	1.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
G	1.8	0.40	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08				
G	3.9	0.79	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08				

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	0.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06	1.262E-06
0.002	0.014	0.020	0.090	0.370	1.326	1.769	2.352	2.515	4.148
0.00022	0.00138	0.00200	0.00900	0.03699	0.13262	0.17694	0.23525	0.25158	0.41485
1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.207E-07
5.827	6.550	13.547	13.663	15.226	15.762	15.972	32.484	42.629	53.870
0.58280	0.65510	1.35486	1.36652	1.52280	1.57645	1.59744	3.24887	4.26352	5.38780
3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
53.893	74.673	76.981	80.107	80.130	92.164	95.196	96.688	97.365	98.391
5.39013	7.46841	7.69933	8.01189	8.01422	9.21780	9.52103	9.67031	9.73795	9.84058
8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
98.531	98.927	99.720	99.953	100.000					
9.85458	9.89423	9.97354	9.99686	10.00153					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.132  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 4.260

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
9	1	-11.07050	-16.69575	-1.22412
9	2	-13.01641	-15.89735	-0.95849
9	3	-13.77855	-16.33691	-1.15733
9	4	-14.34482	-17.49364	-1.82936
9	5	-14.85564	NUMXQ(K) = 5	
		2.467E-06	0.100	1.000
		1.737E-06	0.300	3.000
		1.473E-06	0.500	5.000
		1.160E-06	1.000	10.000
		9.906E-07	1.500	15.000
		8.658E-07	2.000	20.000
		7.767E-07	2.500	25.000
		7.087E-07	3.000	30.000
		6.544E-07	3.501	35.000
		6.096E-07	4.001	40.000
		5.621E-07	4.501	45.000
		5.124E-07	5.001	50.000
		4.705E-07	5.501	55.000
		4.345E-07	6.001	60.000
		4.034E-07	6.501	65.000
		3.761E-07	7.001	70.000
		1.473E-06	0.5	5.00

ANNUAL AVERAGE = 4.19E-10

K= 9 FIVEXQ(K) = 1.473E-06 FIVEPR(K) = 4.999

FUMIGATION X/Q AT THE BOUNDARY: 1.22E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.443	4.361	5.877	13.603	52.296	98.531	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS		
A	3.6	0.08	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06			
A	6.0	0.28	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	0.12	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
B	3.6	0.16	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.56	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.36	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
C	3.6	0.20	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.47	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.95	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	7.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	16.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	6.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	0.64	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	12.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	22.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	9.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.76	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.27	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	5.61	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	4.42	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.12	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			
G	1.8	0.36	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			
G	6.5	0.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08			

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED: THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.002	0.018	0.033	0.112	0.271	0.550	1.465	1.664	2.221	2.340
0.00012	0.00105	0.00191	0.00658	0.01591	0.03224	0.08588	0.09755	0.13020	0.13720
1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.226E-07	5.890E-07	4.207E-07
4.568	6.039	6.397	13.995	14.075	15.030	16.303	33.209	45.939	52.542
0.26782	0.35412	0.37512	0.82063	0.82529	0.88127	0.95592	1.94724	2.69365	3.08085
3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08
75.495	76.132	81.741	90.811	95.226	95.982	96.340	97.255	97.375	97.534
4.42671	4.46403	4.79292	5.32473	5.58364	5.62796	5.64895	5.70260	5.70960	5.71893
6.449E-08	3.010E-08	1.806E-08	1.220E-08						
97.892	99.125	99.960	100.000						
5.73992	5.81223	5.86121	5.86355						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.001  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 0.086



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 0.820  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 2.691  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 4.423

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
10	1	-11.07050	-16.86574	-1.22926
10	2	-11.63677	-16.88443	-1.23365
10	3	-13.01641	-16.26591	-1.03638
10	4	-13.77855	-16.65940	-1.20033
10	5	-14.34482	-18.72800	-2.27310
10	6	-14.85564	NUMXQ(K) = 6	
		2.548E-06	0.059	1.000
		1.776E-06	0.176	3.000
		1.500E-06	0.293	5.000
		1.176E-06	0.586	10.000
		1.006E-06	0.880	15.000
		8.839E-07	1.173	20.000
		7.964E-07	1.466	25.000
		7.297E-07	1.759	30.000
		6.764E-07	2.052	35.000
		6.325E-07	2.345	40.000
		5.954E-07	2.639	45.000
		5.416E-07	2.932	50.000
		4.920E-07	3.225	55.000
		4.501E-07	3.518	60.000
		4.142E-07	3.811	65.000
		3.831E-07	4.104	70.000
		3.559E-07	4.398	75.000
		1.246E-06	0.5	8.53

ANNUAL AVERAGE = 3.18E-10

K= 10 FIVEXQ(K)= 1.246E-06 FIVEPR(K)= 8.527

FUMIGATION X/Q AT THE BOUNDARY: 1.22E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.477	3.103	4.256	16.603	49.623	97.534	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	USED	
AT 131.4 METERS											MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS		
A	3.6	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06		
A	6.0	0.23	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06		
A	8.9	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06		
B	3.6	0.14	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.61	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.28	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
C	3.6	0.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.41	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.99	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.19	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
C	26.5	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	1.50	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	7.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	13.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	5.92	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.75	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.14	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.77	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	13.19	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	16.62	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	7.32	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	7.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	1.83	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.69	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	2.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.38	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 300.0 METERS  
BUILDING WAKE CREDIT IS NOT INCLUDED.  
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.003	0.023	0.040	0.134	0.275	0.510	2.012	2.341	2.951	3.045
0.00017	0.00115	0.00201	0.00667	0.01367	0.02534	0.09998	0.11630	0.14663	0.15129
1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07
5.815	7.224	7.506	14.783	14.830	15.816	17.319	17.506	30.981	44.175
0.28891	0.35889	0.37288	0.73442	0.73676	0.78574	0.86038	0.86971	1.53914	2.19458
4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
50.091	66.711	67.463	74.787	74.834	84.976	92.347	93.192	93.333	95.164
2.48848	3.31419	3.35152	3.71539	3.71772	4.22155	4.58775	4.62974	4.63674	4.72770
8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
95.258	95.540	97.230	99.624	100.000					
4.73237	4.74636	4.83034	4.94929	4.96795					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.100  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.734

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.192  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 3.712

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
11	1	-11.07050	-16.88108	-1.25046
11	2	-13.01641	-16.63911	-1.17217
11	3	-13.77855	-17.03136	-1.33290
11	4	-14.34482	-19.65802	-2.63609
11	5	-14.95230	NUMXQ(K)= 5	
		2.862E-06	0.050	1.000
		1.931E-06	0.149	3.000
		1.599E-06	0.248	5.000
		1.220E-06	0.497	10.000
		1.030E-06	0.745	15.000
		8.947E-07	0.994	20.000
		7.990E-07	1.242	25.000
		7.266E-07	1.490	30.000
		6.693E-07	1.739	35.000
		6.223E-07	1.987	40.000
		5.771E-07	2.236	45.000
		5.130E-07	2.484	50.000
		4.604E-07	2.732	55.000
		4.164E-07	2.981	60.000
		3.792E-07	3.229	65.000
		3.474E-07	3.478	70.000
		1.217E-06	0.5	10.06

ANNUAL AVERAGE = 2.51E-10

K= 11 FIVEXQ(K)= 1.217E-06 FIVEPR(K)=10.065

FUMIGATION X/Q AT THE BOUNDARY: 1.22E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.423	3.381	4.460	22.507	51.573	95.258	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	6.0	0.33	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	0.14	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
A	11.6	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06			
A	26.5	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07			
B	3.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.38	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.89	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.09	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
B	26.5	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07			
C	3.6	0.14	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.22	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	1.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.19	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.71	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	6.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	9.93	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	8.94	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	1.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.54	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	8.80	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	13.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	12.75	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	1.41	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.05	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	5.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	8.33	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	5.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.85	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			

G	1.8	0.85	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	3.29	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06	1.264E-06
0.002	0.020	0.038	0.085	0.414	1.120	1.261	1.637	1.778	1.872
0.00008	0.00098	0.00186	0.00420	0.02052	0.05551	0.06251	0.08117	0.08817	0.09283
1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07
4.412	5.635	6.529	12.551	12.645	14.103	15.655	15.843	25.769	34.566
0.21879	0.27943	0.32375	0.62232	0.62698	0.69929	0.77626	0.78559	1.27776	1.71394
5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07
34.660	43.598	43.645	57.616	58.651	64.155	64.202	76.950	85.276	86.687
1.71860	2.16178	2.16411	2.85687	2.90819	3.18110	3.18343	3.81554	4.22840	4.29837
1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09	
86.970	92.097	92.944	92.991	93.838	95.437	98.730	99.953	100.000	
4.31237	4.56662	4.60860	4.61093	4.65292	4.73222	4.89550	4.95615	4.95848	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.001  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.055



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 0.622  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 1.712  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.178

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
12	1	-11.07050	-16.19649	-1.06775
12	2	-11.63677	-17.47494	-1.36713
12	3	-13.01641	-16.28004	-1.00073
12	4	-13.77855	-17.47979	-1.48070
12	5	-14.34482	-19.25415	-2.31876
12	6	-14.95230	NUMXQ(K) = 6	
		2.323E-06	0.050	1.000
		1.662E-06	0.149	3.000
		1.416E-06	0.248	5.000
		1.124E-06	0.496	10.000
		9.441E-07	0.744	15.000
		8.070E-07	0.992	20.000
		7.118E-07	1.240	25.000
		6.405E-07	1.488	30.000
		5.822E-07	1.735	35.000
		5.130E-07	1.983	40.000
		4.579E-07	2.231	45.000
		4.128E-07	2.479	50.000
		3.754E-07	2.727	55.000
		3.437E-07	2.975	60.000
		1.120E-06	0.5	10.08

ANNUAL AVERAGE = 2.62E-10

K= 12 FIVEXQ(K)= 1.120E-06 FIVEPR(K)=10.084

FUMIGATION X/Q AT THE BOUNDARY: 1.22E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.659	3.716	5.175	26.549	53.458	92.991	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

CLASS	METER/SEC	PERCENT	METERS	METERS	METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
			AT 131.4 METERS						CA=1292.SQ.METERS			
A	3.6	0.03	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06	
A	6.0	0.24	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06	
A	8.9	0.63	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06	
A	11.6	0.42	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06	
A	26.5	0.06	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07	
B	3.6	0.12	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06	
B	6.0	0.63	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06	
B	8.9	0.81	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06	
B	11.6	0.36	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07	
B	26.5	0.18	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07	
C	3.6	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06	
C	6.0	1.25	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06	
C	8.9	1.67	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07	
C	11.6	0.86	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07	
C	26.5	0.39	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07	
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	0.78	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	4.21	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	8.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	11.78	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	6.71	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	2.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	1.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	5.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	11.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	15.99	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	2.33	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	0.89	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	2.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	5.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	5.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	

Calculation No. PM-1055 Revision 0

Attachment J

F	12.5	0.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
G	1.8	0.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	2.06	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.16	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.002	0.013	0.024	0.053	0.173	0.411	1.187	1.336	1.962	2.589
0.00014	0.00103	0.00184	0.00417	0.01350	0.03216	0.09281	0.10447	0.15346	0.20244
1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07
3.006	4.617	5.869	6.675	10.880	11.238	12.908	13.803	14.668	23.646
0.23509	0.36105	0.45902	0.52199	0.85088	0.87887	1.00949	1.07947	1.14711	1.84920
5.890E-07	5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07
28.806	28.865	40.646	40.825	52.607	59.317	61.853	62.240	78.227	84.133
2.25273	2.25739	3.17874	3.19274	4.11408	4.63890	4.83717	4.86749	6.11772	6.57956
1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09
86.459	89.143	94.154	94.870	95.138	95.526	96.719	98.777	99.940	99.970
6.76150	6.97143	7.36329	7.41927	7.44026	7.47059	7.56389	7.72483	7.81580	7.81813
4.104E-09									
100.000									
7.82046									

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.093  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 0.850  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.250  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 4.834

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
13	1	-11.07050	-16.85765	-1.23409
13	2	-13.01641	-16.28464	-1.05000
13	3	-13.77855	-17.31495	-1.48167
13	4	-14.34482	-17.89132	-1.76920
13	5	-14.95230	NUMXQ(K)= 5	
		2.366E-06	0.078	1.000
		1.649E-06	0.235	3.000
		1.383E-06	0.391	5.000
		1.072E-06	0.782	10.000
		8.680E-07	1.173	15.000
		7.349E-07	1.564	20.000
		6.428E-07	1.955	25.000
		5.714E-07	2.346	30.000
		5.083E-07	2.737	35.000
		4.583E-07	3.128	40.000
		4.173E-07	3.519	45.000
		3.832E-07	3.910	50.000
		3.542E-07	4.301	55.000
		3.292E-07	4.692	60.000
		1.266E-06	0.5	6.39

ANNUAL AVERAGE = 7.69E-10

K= 13 FIVEXQ(K)= 1.266E-06 FIVEPR(K)= 6.393

FUMIGATION X/Q AT THE BOUNDARY: 1.22E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.372	5.697	7.785	22.857	57.994	95.138	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	USED
												MEANDER	BLDG WAKE
												CA=1292.SQ.METERS	
A	6.0	0.24	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06		
A	8.9	0.24	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06		
A	11.6	0.05	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06		
A	26.5	0.13	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07		
B	3.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.24	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.53	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.37	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
B	26.5	0.19	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07		
C	3.6	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	0.69	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	1.57	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.80	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
C	26.5	0.72	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	1.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	2.59	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	9.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	17.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	11.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	4.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	0.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	3.68	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	9.45	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	15.56	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	2.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.32	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	0.75	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	1.76	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	3.74	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	3.68	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
F	12.5	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07		

G	1.8	0.37	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06	1.264E-06
0.002	0.009	0.018	0.098	0.338	1.352	1.486	1.726	1.966	2.020
0.00020	0.00080	0.00155	0.00855	0.02954	0.11818	0.12984	0.15083	0.17183	0.17649
1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07
2.980	3.674	4.208	6.797	7.171	8.746	9.493	10.294	19.769	23.452
0.26046	0.32111	0.36776	0.59401	0.62667	0.76429	0.82960	0.89957	1.72762	2.04951
5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07
23.585	41.575	41.762	51.210	63.167	64.929	65.649	81.210	84.947	87.909
2.06117	3.63329	3.64962	4.47533	5.52030	5.67425	5.73723	7.09709	7.42365	7.68255
1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09	
91.939	95.623	96.103	96.423	96.797	97.731	98.906	99.947	100.000	
8.03477	8.35665	8.39864	8.42663	8.45928	8.54092	8.64355	8.73452	8.73919	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.118  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 0.593



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.047  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.670

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
14	1	-11.07050	-16.78363	-1.23898
14	2	-13.01641	-17.43472	-1.45311
14	3	-13.77855	-16.79696	-1.19964
14	4	-14.34482	-17.03831	-1.31771
14	5	-14.95230	NUMXQ(K)= 5	
		2.485E-06	0.087	1.000
		1.550E-06	0.262	3.000
		1.211E-06	0.437	5.000
		8.781E-07	0.874	10.000
		7.304E-07	1.311	15.000
		6.370E-07	1.748	20.000
		5.687E-07	2.185	25.000
		5.135E-07	2.622	30.000
		4.699E-07	3.059	35.000
		4.343E-07	3.496	40.000
		4.045E-07	3.933	45.000
		3.791E-07	4.370	50.000
		3.571E-07	4.807	55.000
		3.378E-07	5.244	60.000
		1.132E-06	0.5	5.72

ANNUAL AVERAGE = 4.30E-10

K= 14 FIVEXQ(K)= 1.132E-06 FIVEPR(K)= 5.721

FUMIGATION X/Q AT THE BOUNDARY: 1.22E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.667	4.591	6.005	16.423	63.481	96.423	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	6.0	0.04	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	0.06	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
A	26.5	0.02	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07			
B	3.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.04	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.19	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
C	3.6	0.06	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	0.55	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.74	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.59	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	4.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	11.52	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	22.08	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	11.54	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	3.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	0.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	3.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	11.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	13.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	1.89	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.13	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.00	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.78	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	1.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.49	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	1.95	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 300.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across various sectors.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.099
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.740

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 5.041  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 7.737

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
15	1	-11.07050	-16.94794	-1.27152
15	2	-13.01641	-16.61528	-1.16393
15	3	-13.77855	-16.54197	-1.13385
15	4	-14.68142	-16.72098	-1.24294
15	5	-14.95230	NUMXQ(K)= 5	
		2.149E-06	0.110	1.000
		1.438E-06	0.329	3.000
		1.175E-06	0.549	5.000
		8.797E-07	1.098	10.000
		7.352E-07	1.647	15.000
		6.432E-07	2.196	20.000
		5.774E-07	2.745	25.000
		5.270E-07	3.294	30.000
		4.868E-07	3.842	35.000
		4.536E-07	4.391	40.000
		4.255E-07	4.940	45.000
		3.996E-07	5.489	50.000
		3.766E-07	6.038	55.000
		3.564E-07	6.587	60.000
		3.385E-07	7.136	65.000
		3.224E-07	7.685	70.000
		1.220E-06	0.5	4.55

ANNUAL AVERAGE = 1.06E-10

K= 15 FIVEXQ(K)= 1.220E-06 FIVEPR(K)= 4.554

FUMIGATION X/Q AT THE BOUNDARY: 1.22E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.127	2.210	2.613	10.863	64.767	96.091	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
												MEANDER	BLDG WAKE	USED
												CA=1292.SQ.METERS		
A	3.6	0.02	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.045E-06
A	6.0	0.17	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.427E-06
A	8.9	0.32	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.640E-06
A	11.6	0.02	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.264E-06
A	26.5	0.02	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	5.516E-07
B	3.6	0.06	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.858E-06
B	6.0	0.48	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.715E-06
B	8.9	0.71	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.159E-06
B	11.6	0.11	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.931E-07
C	3.6	0.48	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.994E-06
C	6.0	2.16	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.196E-06
C	8.9	2.01	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.082E-07
C	11.6	0.37	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.230E-07
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	1.08	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	8.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	20.04	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	19.82	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	5.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	1.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	4.38	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	11.10	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	10.11	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	0.93	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	2.09	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	2.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	0.69	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.003E-07

**Calculation No. PM-1055 Revision 0****Attachment J**

G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	28.5	0.02	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.002	0.008	0.013	0.035	0.100	0.272	1.352	1.827	2.302	2.626
0.00026	0.00083	0.00142	0.00375	0.01075	0.02941	0.14604	0.19735	0.24867	0.28366
1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07
2.648	3.382	5.542	6.254	14.568	14.676	16.685	17.160	17.527	37.568
0.28599	0.36529	0.59855	0.67552	1.57354	1.58520	1.80213	1.85344	1.89310	4.05768
5.890E-07	5.516E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07
41.951	41.973	61.798	72.898	78.124	80.219	90.325	93.046	93.975	95.335
4.53118	4.53352	6.67477	7.87369	8.43816	8.66442	9.75604	10.04994	10.15024	10.29718
1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	4.104E-09		
96.026	96.134	96.350	96.761	98.035	99.870	99.978	100.000		
10.37183	10.38349	10.40681	10.45113	10.58875	10.78701	10.79868	10.80101		

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.197  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 4.528



K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
16	1	-11.07050	-16.67065	-1.22977
16	2	-13.12558	-15.69990	-0.89302
16	3	-13.77855	-16.43273	-1.23363
16	4	-14.34482	-17.31614	-1.75559
16	5	-14.68142	NUMXQ(K)= 5	
		2.502E-06	0.108	1.000
		1.728E-06	0.324	3.000
		1.480E-06	0.540	5.000
		1.182E-06	1.080	10.000
		1.023E-06	1.620	15.000
		8.846E-07	2.160	20.000
		7.868E-07	2.700	25.000
		7.127E-07	3.240	30.000
		6.539E-07	3.780	35.000
		6.056E-07	4.320	40.000
		5.553E-07	4.860	45.000
		5.074E-07	5.401	50.000
		4.669E-07	5.941	55.000
		4.320E-07	6.481	60.000
		1.516E-06	0.5	4.63

ANNUAL AVERAGE = 5.11E-10

K= 16 FIVEXQ(K)= 1.516E-06 FIVEPR(K)= 4.629

FUMIGATION X/Q AT THE BOUNDARY: 1.22E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.561	5.572	6.932	13.028	68.876	96.350	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
									MEANDER	BLDG WAKE	USED
	AT 131.4 METERS								CA=1292.SQ.METERS		
A	1.7	0.01	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	8.668E-06
A	3.6	0.51	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06
A	6.0	0.53	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06
A	8.9	0.28	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06
A	11.6	0.06	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06
A	26.5	0.03	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07
B	1.7	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06
B	3.6	0.47	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06
B	6.0	0.54	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06
B	8.9	0.44	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06
B	11.6	0.12	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07
B	26.5	0.03	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07
C	1.7	0.08	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06
C	3.6	0.77	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06
C	6.0	1.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06
C	8.9	1.04	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07
C	11.6	0.30	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07
C	26.5	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	2.07	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	9.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	15.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	12.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	4.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	1.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	1.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	8.90	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	9.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	1.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07

Calculation No. PM-1055 Revision 0

Attachment J

F	3.9	3.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.16	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
F	28.5	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08
G	1.8	0.43	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.14	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.31	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.01	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.00	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 300.0 METERS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	8.668E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06
0.005	0.019	0.026	0.072	0.084	0.161	0.674	1.145	1.677	3.744
0.00467	0.01866	0.02566	0.07231	0.08397	0.16094	0.67410	1.14527	1.67709	3.74370
1.994E-06	1.715E-06	1.640E-06	1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07
4.509	5.052	5.330	5.388	7.354	8.684	9.125	18.516	18.637	19.680
4.50877	5.05225	5.32982	5.38813	7.35445	8.68399	9.12484	18.51558	18.63687	19.67951
6.875E-07	6.230E-07	6.226E-07	5.890E-07	5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07
20.689	20.993	36.712	45.608	45.636	57.865	57.900	71.746	75.987	79.129
20.68949	20.99272	36.71161	45.60785	45.63584	57.86527	57.90026	71.74612	75.98666	79.12857
2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	4.375E-08
79.254	88.781	92.298	93.593	94.980	96.534	96.695	96.923	97.357	97.369
79.25452	88.78055	92.29800	93.59254	94.98039	96.53386	96.69480	96.92339	97.35724	97.36890
3.010E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54216	99.67810	99.98599	99.99532	99.99998					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

3.662E-06	1.000	1.000
2.436E-06	3.000	3.000
1.977E-06	5.000	5.000
1.446E-06	10.000	10.000
1.171E-06	15.000	15.000
9.978E-07	20.000	20.000
8.845E-07	25.000	25.000
7.938E-07	30.000	30.000
7.180E-07	35.000	35.000
6.529E-07	40.000	40.000
5.956E-07	45.000	45.000
5.478E-07	50.000	50.000
5.043E-07	55.000	55.000
4.636E-07	60.000	60.000
4.249E-07	65.000	65.000
3.877E-07	70.000	70.000
3.511E-07	75.000	75.000

1.977E-06 5.0 5.00

K= 17 FIVEXQ(K)= 1.977E-06 FIVEPR(K)= 5.000

FUMIGATION X/Q AT THE BOUNDARY: 1.22E-04

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.416	5.059	6.718	16.125	61.163	96.935	100.000

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	8.668E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06
0.005	0.019	0.026	0.072	0.084	0.161	0.674	1.145	1.677	3.744
0.00467	0.01866	0.02566	0.07231	0.08397	0.16094	0.67410	1.14527	1.67709	3.74370
1.994E-06	1.715E-06	1.640E-06	1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07
4.509	5.052	5.330	5.388	7.354	8.684	9.125	18.516	18.637	19.680
4.50877	5.05225	5.32982	5.38813	7.35445	8.68399	9.12484	18.51558	18.63688	19.67952
6.875E-07	6.230E-07	6.226E-07	5.890E-07	5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07
20.689	20.993	36.712	45.608	45.636	57.865	57.900	71.746	75.987	79.129
20.68950	20.99273	36.71161	45.60786	45.63585	57.86527	57.90026	71.74612	75.98665	79.12857
2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	4.375E-08
79.255	88.781	92.298	93.593	94.980	96.534	96.695	96.923	97.357	97.369
79.25453	88.78056	92.29800	93.59256	94.98041	96.53387	96.69481	96.92340	97.35724	97.36890
3.010E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54216	99.67809	99.98598	99.99532	99.99998					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q      WITH RESPECT TO      WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
18	1	-11.07050	-14.64728	-0.91538
18	2	-13.01641	-14.54922	-0.86034
18	3	-13.77855	-14.42414	-0.72071
18	4	-14.34482	-14.41743	-0.65976
18	5	-14.95230	NUMXQ(K)= 5	
		3.662E-06	1.000	1.000
		2.436E-06	3.000	3.000
		1.977E-06	5.000	5.000
		1.446E-06	10.000	10.000
		1.171E-06	15.000	15.000
		9.978E-07	20.000	20.000
		8.845E-07	25.000	25.000
		7.938E-07	30.000	30.000
		7.180E-07	35.000	35.000
		6.529E-07	40.000	40.000
		5.956E-07	45.000	45.000
		5.478E-07	50.000	50.000
		5.043E-07	55.000	55.000
		4.636E-07	60.000	60.000
		4.249E-07	65.000	65.000
		3.877E-07	70.000	70.000
		3.511E-07	75.000	75.000
		1.977E-06	5.0	5.00

K= 18 FIVEXQ(K)= 1.977E-06 FIVEPR(K)= 5.000

K	HIGHPR	PR	GRNDVT(K)
1	-3.06052	0.11048	6.21119
2	-2.00327	2.25740	3.52599
3	-2.79824	0.25691	3.10868
4	-2.68650	0.36103	3.53145
5	-2.57624	0.49942	4.76778
6	-2.75266	0.29557	4.27759
7	-3.06855	0.10756	5.37148
8	-3.25087	0.05753	5.07527
9	-3.17144	0.07585	10.00153
10	-3.29988	0.04837	5.86355
11	-3.25284	0.05714	4.96796
12	-3.40963	0.03253	4.95848
13	-3.27701	0.05246	7.82046
14	-3.20434	0.06769	8.73919
15	-3.25156	0.05739	10.97840
16	-3.13645	0.08551	10.80101

K	HOURS(K)	TOTHR
1	9.67833	9.67833
2	197.74830	207.42660
3	22.50566	229.93230

Calculation No. PM-1055 Revision 0

Attachment J

4	31.62634	261.55860
5	43.74879	305.30740
6	25.89224	331.19960
7	9.42196	340.62160
8	5.03966	345.66130
9	6.64419	352.30550
10	4.23714	356.54260
11	5.00520	361.54780
12	2.84982	364.39760
13	4.59585	368.99350
14	5.92991	374.92340
15	5.02765	379.95100
16	7.49057	387.44160

K	FIVEXQ	SVANN	SLTIME	TIMINT	I	TIME	XQT
1	1.547E-06	3.325E-10	-1.0072	-12.6811	1	8.0	-14.77549
					2	16.0	-15.47361
					3	72.0	-16.98848
					4	624.0	-19.16346
2	1.537E-06	7.303E-10	-0.9126	-12.7531	1	8.0	-14.65071
					2	16.0	-15.28325
					3	72.0	-16.65582
					4	624.0	-18.62648
3	1.997E-06	1.701E-09	-0.8429	-12.5396	1	8.0	-14.29239
					2	16.0	-14.87667
					3	72.0	-16.14449
					4	624.0	-17.96477
4	2.335E-06	2.819E-09	-0.8014	-12.4122	1	8.0	-14.07854
					2	16.0	-14.63400
					3	72.0	-15.83930
					4	624.0	-17.56982
5	2.724E-06	5.624E-09	-0.7373	-12.3024	1	8.0	-13.83571
					2	16.0	-14.34680
					3	72.0	-15.45582
					4	624.0	-17.04811
6	2.196E-06	3.184E-09	-0.7795	-12.4885	1	8.0	-14.10940
					2	16.0	-14.64971
					3	72.0	-15.82215
					4	624.0	-17.50549
7	1.574E-06	8.996E-10	-0.8905	-12.7446	1	8.0	-14.59642
					2	16.0	-15.21369
					3	72.0	-16.55312
					4	624.0	-18.47622
8	1.303E-06	1.429E-10	-1.0873	-12.7974	1	8.0	-15.05850
					2	16.0	-15.81219



Calculation No. PM-1055 Revision 0

Attachment J

				3	72.0	-17.44764
				4	624.0	-19.79574
9	1.473E-06	4.186E-10	-0.9739	-12.7530		
				1	8.0	-14.77812
				2	16.0	-15.45316
				3	72.0	-16.91793
				4	624.0	-19.02099
10	1.246E-06	3.177E-10	-0.9868	-12.9120		
				1	8.0	-14.96388
				2	16.0	-15.64785
				3	72.0	-17.13202
				4	624.0	-19.26291
11	1.217E-06	2.509E-10	-1.0121	-12.9178		
				1	8.0	-15.02242
				2	16.0	-15.72397
				3	72.0	-17.24627
				4	624.0	-19.43192
12	1.120E-06	2.624E-10	-0.9969	-13.0109		
				1	8.0	-15.08395
				2	16.0	-15.77497
				3	72.0	-17.27443
				4	624.0	-19.42728
13	1.266E-06	7.685E-10	-0.8834	-12.9673		
				1	8.0	-14.80418
				2	16.0	-15.41648
				3	72.0	-16.74510
				4	624.0	-18.65269
14	1.132E-06	4.297E-10	-0.9394	-13.0400		
				1	8.0	-14.99341
				2	16.0	-15.64453
				3	72.0	-17.05742
				4	624.0	-19.08597
15	1.220E-06	1.065E-10	-1.1147	-12.8441		
				1	8.0	-15.16199
				2	16.0	-15.93462
				3	72.0	-17.61118
				4	624.0	-20.01830
16	1.516E-06	5.114E-10	-0.9534	-12.7384		
				1	8.0	-14.72100
				2	16.0	-15.38187
				3	72.0	-16.81591
				4	624.0	-18.87483
17	1.977E-06	5.624E-09	-0.6992	-12.6492		
				1	8.0	-14.10301
				2	16.0	-14.58763
				3	72.0	-15.63921
				4	624.0	-17.14902
18	1.977E-06	5.624E-09	-0.6992	-12.6492		
				1	8.0	-14.10301
				2	16.0	-14.58763
				3	72.0	-15.63921
				4	624.0	-17.14902

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
VERSUS  
AVERAGING TIME

DOWNWIND SECTOR	DISTANCE (METERS)	RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)						HOURS PER YEAR MAX		DOWNWIND SECTOR
		0-2 HOURS	0-8 HOURS	8-24 HOURS	1-4 DAYS	4-30 DAYS	ANNUAL AVERAGE	0-2 HR X/Q IS EXCEEDED IN SECTOR		
S	300.	1.55E-06	3.83E-07	1.91E-07	4.19E-08	4.76E-09	3.32E-10	9.7	S	
SSW	300.	1.54E-06	4.34E-07	2.30E-07	5.84E-08	8.14E-09	7.30E-10	197.7	SSW	
SW	300.	2.00E-06	6.21E-07	3.46E-07	9.74E-08	1.58E-08	1.70E-09	22.5	SW	
WSW	300.	2.33E-06	7.69E-07	4.41E-07	1.32E-07	2.34E-08	2.82E-09	31.6	WSW	
W	300.	2.72E-06	9.80E-07	5.88E-07	1.94E-07	3.95E-08	5.62E-09	43.7	W	
WNW	300.	2.20E-06	7.45E-07	4.34E-07	1.34E-07	2.50E-08	3.18E-09	25.9	WNW	
NW	300.	1.57E-06	4.58E-07	2.47E-07	6.47E-08	9.46E-09	9.00E-10	9.4	NW	
NNW	300.	1.30E-06	2.89E-07	1.36E-07	2.65E-08	2.53E-09	1.43E-10	5.0	NNW	
N	300.	1.47E-06	3.82E-07	1.94E-07	4.49E-08	5.49E-09	4.19E-10	6.6	N	
NNE	300.	1.25E-06	3.17E-07	1.60E-07	3.63E-08	4.31E-09	3.18E-10	4.2	NNE	
NE	300.	1.22E-06	2.99E-07	1.48E-07	3.24E-08	3.64E-09	2.51E-10	5.0	NE	
ENE	300.	1.12E-06	2.81E-07	1.41E-07	3.15E-08	3.65E-09	2.62E-10	2.8	ENE	
E	300.	1.27E-06	3.72E-07	2.02E-07	5.34E-08	7.93E-09	7.69E-10	4.6	E	
ESE	300.	1.13E-06	3.08E-07	1.61E-07	3.91E-08	5.14E-09	4.30E-10	5.9	ESE	
SE	300.	1.22E-06	2.60E-07	1.20E-07	2.25E-08	2.02E-09	1.06E-10	5.0	SE	
SSE	300.	1.52E-06	4.04E-07	2.09E-07	4.98E-08	6.35E-09	5.11E-10	7.5	SSE	
MAX X/Q		2.72E-06					TOTAL HOURS AROUND SITE:	387.4		
SRP 2.3.4	300.	1.98E-06	7.50E-07	4.62E-07	1.61E-07	3.57E-08	5.62E-09			
SITE LIMIT		1.98E-06	7.50E-07	4.62E-07	1.61E-07	3.57E-08	5.62E-09			

0.5 PERCENT X/Q TO AN INDIVIDUAL IS LIMITING.

X/Q VALUES (SEC/CUBIC METER) FOR FUMIGATION AT THE BOUNDARY:

DOWNWIND DISTANCE FUMIGATION

SECTOR	(METERS)	X/Q
S	300.	1.22E-04
SSW	300.	1.22E-04
SW	300.	1.22E-04
WSW	300.	1.22E-04
W	300.	1.22E-04
WNW	300.	1.22E-04
NW	300.	1.22E-04
NNW	300.	1.22E-04
N	300.	1.22E-04
NNE	300.	1.22E-04
NE	300.	1.22E-04
ENE	300.	1.22E-04
E	300.	1.22E-04

**Calculation No. PM-1055 Revision 0**

**Attachment J**

ESE	300.	1.22E-04
SE	300.	1.22E-04
SSE	300.	1.22E-04

**\*\*NOTE\*\***: VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
CHECK THE REASONABLENESS OF THE ENVELOPES  
COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	3.6	0.23	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06				
A	8.9	0.08	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06				
A	11.6	0.08	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06				
B	3.6	0.49	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06				
B	6.0	0.15	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06				
B	8.9	0.38	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06				
B	11.6	0.04	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07				
C	3.6	1.16	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	1.58	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
C	11.6	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07				
C	26.5	0.04	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07				
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	2.22	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	12.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	19.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	14.87	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	2.74	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.56	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	2.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	8.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	13.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	5.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	0.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	3.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	3.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	0.15	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
F	12.5	0.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07				
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08				

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	1.77	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

S SECTOR BOUNDARY DISTANCE = 500.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06	1.264E-06
0.005	0.021	0.032	0.258	0.746	2.961	4.126	4.276	4.351	4.426
0.00031	0.00131	0.00201	0.01600	0.04633	0.18394	0.25625	0.26558	0.27025	0.27491
1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07
6.679	8.257	8.632	21.025	21.062	21.738	22.715	22.865	42.430	51.255
0.41486	0.51283	0.53616	1.30589	1.30822	1.35021	1.41085	1.42018	2.63543	3.18357
4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
66.127	79.909	82.650	86.368	86.406	92.264	95.306	96.170	96.733	96.883
4.10725	4.96329	5.13356	5.36448	5.36681	5.73069	5.91962	5.97327	6.00826	6.01759
1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08				
96.921	97.183	97.597	99.362	99.962	100.000				
6.01992	6.03625	6.06191	6.17153	6.20886	6.21119				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES  
 (BASED ON THE UPPER ENVELOPE OF THE  
 ORDERED X/Q-FREQUENCY VALUES, AND AS  
 PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.256  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.304

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 3.181  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5) = 4.960

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
1	1	-11.07050	-16.47142	-1.19518
1	2	-13.12558	-16.30722	-1.13653
1	3	-13.77855	-17.18353	-1.53040
1	4	-14.34482	-18.94210	-2.47847
1	5	-14.85564	NUMXQ(K) = 5	
		3.332E-06	0.062	1.000
		2.250E-06	0.186	3.000
		1.857E-06	0.311	5.000
		1.419E-06	0.621	10.000
		1.201E-06	0.932	15.000
		1.061E-06	1.242	20.000
		9.350E-07	1.553	25.000
		8.354E-07	1.863	30.000
		7.578E-07	2.174	35.000
		6.951E-07	2.484	40.000
		6.430E-07	2.795	45.000
		5.990E-07	3.106	50.000
		5.446E-07	3.416	55.000
		4.938E-07	3.727	60.000
		4.506E-07	4.037	65.000
		4.134E-07	4.348	70.000
		3.812E-07	4.658	75.000
		1.547E-06	0.5	8.05

ANNUAL AVERAGE = 1.72E-09

K= 1 FIVEXQ(K) = 1.547E-06 FIVEPR(K) = 8.050

FUMIGATION X/Q AT THE BOUNDARY: 7.68E-05

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.376	3.981	5.032	12.967	65.322	97.183	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
			AT 131.4 METERS									MEANDER	CA=1292.SQ.METERS	
A	3.6	0.60	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.045E-06
A	6.0	0.60	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.427E-06
A	8.9	0.26	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.640E-06
A	11.6	0.13	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.264E-06
B	1.7	0.13	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.124E-06
B	3.6	1.52	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.858E-06
B	6.0	0.99	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.715E-06
B	8.9	0.20	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.159E-06
B	11.6	0.13	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.931E-07
C	1.7	0.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.272E-06
C	3.6	1.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.994E-06
C	6.0	1.26	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.196E-06
C	8.9	0.53	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.082E-07
C	11.6	0.07	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.230E-07
C	26.5	0.26	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.719E-07
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	3.84	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	13.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	23.09	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	10.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	1.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	0.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	2.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	10.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	13.30	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	2.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	0.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.26	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	2.51	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	0.07	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.301E-07



G	1.8	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.26	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

Page 241 of 1411

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## LOW POPULATION ZONE CALCULATIONS:

SSW SECTOR BOUNDARY DISTANCE = 500.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06
0.009	0.029	0.162	0.176	0.507	1.102	2.624	3.219	7.056	8.511
0.00031	0.00104	0.00570	0.00621	0.01788	0.03887	0.09252	0.11351	0.24880	0.30011
1.715E-06	1.640E-06	1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07
9.504	9.768	9.901	12.811	14.068	14.267	28.225	28.357	28.886	30.143
0.33510	0.34443	0.34909	0.45172	0.49604	0.50304	0.99520	0.99987	1.01853	1.06285
6.230E-07	6.226E-07	5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07
30.209	53.296	64.145	74.333	87.630	89.416	91.929	92.194	94.708	96.362
1.06518	1.87923	2.26176	2.62097	3.08981	3.15279	3.24142	3.25075	3.33939	3.39770
1.841E-07	1.415E-07	1.301E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08			
96.891	97.354	97.420	97.486	98.412	99.669	100.000			
3.41636	3.43269	3.43502	3.43736	3.47001	3.51433	3.52599			

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
 ORDERED X/Q-FREQUENCY VALUES, AND AS  
 PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.249

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.994

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.259  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.087

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
2	1	-11.07050	-16.20624	-1.13559
2	2	-13.01641	-17.47309	-1.58660
2	3	-13.77855	-17.82714	-1.73864
2	4	-14.34482	-21.93911	-3.79166
2	5	-14.85564	NUMXQ(K)= 5	
		4.290E-06	0.035	1.000
		3.004E-06	0.106	3.000
		2.517E-06	0.176	5.000
		1.855E-06	0.353	10.000
		1.490E-06	0.529	15.000
		1.268E-06	0.705	20.000
		1.115E-06	0.881	25.000
		9.970E-07	1.058	30.000
		9.001E-07	1.234	35.000
		8.223E-07	1.410	40.000
		7.583E-07	1.587	45.000
		7.044E-07	1.763	50.000
		6.583E-07	1.939	55.000
		6.184E-07	2.116	60.000
		5.767E-07	2.292	65.000
		5.119E-07	2.468	70.000
		4.575E-07	2.644	75.000
		4.114E-07	2.821	80.000
		3.719E-07	2.997	85.000
		1.537E-06	0.5	14.18

ANNUAL AVERAGE = 3.66E-09

K= 2 FIVEXQ(K)= 1.537E-06 FIVEPR(K)=14.180

FUMIGATION X/Q AT THE BOUNDARY: 7.68E-05

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.588	5.491	8.467	13.973	67.300	97.486	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	1.73	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06			
A	6.0	1.50	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	0.68	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
B	1.7	0.15	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06			
B	3.6	1.35	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.98	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.15	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
C	1.7	0.90	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06			
C	3.6	2.10	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.30	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	8.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	17.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	18.83	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	6.38	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	0.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.90	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.70	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	11.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	11.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	1.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.60	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.08	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.83	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.65	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

G 6.5 0.30 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 500.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06
0.018	0.038	0.188	0.207	1.107	2.833	4.183	5.684	13.788	15.888
0.00057	0.00117	0.00583	0.00642	0.03441	0.08806	0.13005	0.17670	0.42861	0.49392
1.715E-06	1.640E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.226E-07
16.864	17.539	20.240	20.916	21.066	38.923	38.999	39.299	40.949	59.783
0.52424	0.54524	0.62921	0.65020	0.65487	1.21001	1.21234	1.22167	1.27298	1.85845
5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
71.037	77.415	89.120	90.096	92.647	94.598	95.573	96.173	97.074	97.149
2.20833	2.40659	2.77047	2.80079	2.88009	2.94074	2.97106	2.98972	3.01771	3.02005
8.032E-08	6.449E-08	3.010E-08	1.806E-08						
97.224	98.049	99.700	100.000						
3.02238	3.04804	3.09935	3.10868						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.088  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.428

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.209  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.206  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 2.768

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
3	1	-11.07050	-15.76030	-1.06849
3	2	-12.41800	-16.16917	-1.19920
3	3	-13.01641	-18.36423	-2.03412
3	4	-13.77855	-19.06598	-2.34541
3	5	-14.34482	-24.96016	-5.27354
3	6	-14.85564	NUMXQ(K) = 6	
		5.539E-06	0.031	1.000
		3.964E-06	0.093	3.000
		3.295E-06	0.155	5.000
		2.529E-06	0.311	10.000
		2.097E-06	0.466	15.000
		1.710E-06	0.622	20.000
		1.453E-06	0.777	25.000
		1.268E-06	0.933	30.000
		1.127E-06	1.088	35.000
		1.012E-06	1.243	40.000
		9.092E-07	1.399	45.000
		8.246E-07	1.554	50.000
		7.539E-07	1.710	55.000
		6.940E-07	1.865	60.000
		6.424E-07	2.021	65.000
		5.976E-07	2.176	70.000
		5.221E-07	2.332	75.000
		4.518E-07	2.487	80.000
		3.938E-07	2.642	85.000
		1.997E-06	0.5	16.08

ANNUAL AVERAGE = 6.99E-09

K= 3 FIVEXQ(K)= 1.997E-06 FIVEPR(K)=16.084

FUMIGATION X/Q AT THE BOUNDARY: 7.68E-05

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
3.902	7.878	10.580	15.851	68.917	97.224	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	2.58	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06			
A	6.0	1.92	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	1.19	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
A	11.6	0.07	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06			
B	1.7	0.59	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06			
B	3.6	1.65	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.99	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.07	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
C	1.7	0.99	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06			
C	3.6	2.44	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.12	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.20	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	7.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	22.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	18.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	4.43	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	0.73	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.13	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	4.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	14.46	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	6.67	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	1.92	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	0.53	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
G	1.8	0.66	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.25	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			
G	6.5	0.13	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08			



Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 500.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED: THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06
0.018	0.046	0.641	0.661	1.651	4.227	5.879	7.794	15.654	18.098
0.00063	0.00164	0.02263	0.02333	0.05832	0.14929	0.20760	0.27524	0.55282	0.63912
1.715E-06	1.640E-06	1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.082E-07	6.875E-07	6.226E-07
19.089	20.278	20.344	24.373	25.496	25.562	47.754	47.953	49.670	68.032
0.67411	0.71609	0.71842	0.86071	0.90036	0.90269	1.68642	1.69342	1.75407	2.40251
5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	8.032E-08
82.497	86.922	93.593	94.320	96.235	96.962	97.490	97.754	97.886	97.952
2.91333	3.06961	3.30519	3.33085	3.39849	3.42415	3.44281	3.45214	3.45681	3.45914
6.449E-08	3.010E-08	1.806E-08							
98.613	99.868	100.000							
3.48247	3.52678	3.53145							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 0.552  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 1.685

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
4	1	-11.07050	-15.27913	-0.96350
4	2	-12.41800	-16.56801	-1.39754
4	3	-13.01641	-17.65467	-1.82513
4	4	-13.77855	-19.01550	-2.46590
4	5	-14.34482	NUMXQ(K)= 5	
		6.050E-06	0.035	1.000
		4.471E-06	0.106	3.000
		3.762E-06	0.177	5.000
		2.753E-06	0.353	10.000
		2.270E-06	0.530	15.000
		1.898E-06	0.706	20.000
		1.636E-06	0.883	25.000
		1.445E-06	1.059	30.000
		1.297E-06	1.236	35.000
		1.180E-06	1.413	40.000
		1.084E-06	1.589	45.000
		9.912E-07	1.766	50.000
		9.005E-07	1.942	55.000
		8.240E-07	2.119	60.000
		7.585E-07	2.295	65.000
		7.019E-07	2.472	70.000
		6.524E-07	2.649	75.000
		6.089E-07	2.825	80.000
		2.335E-06	0.5	14.16

ANNUAL AVERAGE = 1.17E-08

K= 4 FIVEXQ(K)= 2.335E-06 FIVEPR(K)=14.158

FUMIGATION X/Q AT THE BOUNDARY: 7.68E-05

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.746	10.502	13.804	17.985	71.702	97.952	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

CLASS	METER/SEC	PERCENT	METERS	METERS	METERS	SIGMA-Y	SIGMA-Z	MEANDER-SY	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS									CA=1292.SQ.METERS		
A	1.7	0.15	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	8.668E-06
A	3.6	4.26	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06
A	6.0	2.25	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06
A	8.9	0.34	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06
B	1.7	0.24	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06
B	3.6	2.74	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06
B	6.0	0.59	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06
B	8.9	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06
C	1.7	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06
C	3.6	2.45	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06
C	6.0	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06
C	8.9	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07
C	11.6	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	5.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	21.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	16.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	6.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	1.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	0.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	2.94	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	7.88	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	2.84	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	0.59	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	1.66	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	0.64	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	28.5	0.20	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08
G	1.8	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.10	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 500.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	8.668E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06
0.013	0.034	0.180	0.425	0.442	0.491	4.748	7.487	9.738	15.364
0.00061	0.00160	0.00860	0.02026	0.02110	0.02343	0.22636	0.35698	0.46428	0.73252
1.994E-06	1.715E-06	1.640E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.082E-07	6.875E-07	6.230E-07
17.810	18.397	18.740	21.675	22.360	22.409	43.690	43.837	45.353	45.402
0.84914	0.87713	0.89346	1.03341	1.06607	1.06840	2.08305	2.09005	2.16235	2.16469
6.226E-07	5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07
61.596	75.441	81.899	89.775	91.341	93.004	95.842	96.478	97.065	97.456
2.93675	3.59686	3.90475	4.28029	4.35493	4.43423	4.56952	4.59984	4.62783	4.64649
8.032E-08	6.449E-08	4.375E-08	3.010E-08	1.806E-08					
98.434	99.070	99.266	99.902	100.000					
4.69314	4.72347	4.73280	4.76312	4.76779					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES  
 (BASED ON THE UPPER ENVELOPE OF THE  
 ORDERED X/Q-FREQUENCY VALUES, AND AS  
 PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.732  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 2.081

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 3.594  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 4.431

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
5	1	-11.07050	-14.90832	-0.87711
5	2	-12.41800	-16.68802	-1.50394
5	3	-13.01641	-17.62189	-1.88646
5	4	-13.77855	-18.63791	-2.38516
5	5	-14.34482	-25.59808	-6.25210
5	6	-14.95230	NUMXQ(K)= 6	
		6.082E-06	0.048	1.000
		4.587E-06	0.143	3.000
		3.946E-06	0.238	5.000
		2.792E-06	0.477	10.000
		2.253E-06	0.715	15.000
		1.853E-06	0.954	20.000
		1.580E-06	1.192	25.000
		1.382E-06	1.430	30.000
		1.231E-06	1.669	35.000
		1.111E-06	1.907	40.000
		1.008E-06	2.146	45.000
		9.065E-07	2.384	50.000
		8.225E-07	2.622	55.000
		7.516E-07	2.861	60.000
		6.910E-07	3.099	65.000
		6.385E-07	3.337	70.000
		5.928E-07	3.576	75.000
		4.980E-07	3.814	80.000
		4.178E-07	4.053	85.000
		3.535E-07	4.291	90.000
		2.724E-06	0.5	10.49

ANNUAL AVERAGE = 2.23E-08

K= 5 FIVEXQ(K)= 2.724E-06 FIVEPR(K)=10.487

FUMIGATION X/Q AT THE BOUNDARY: 7.68E-05

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
6.996	10.372	13.992	18.021	69.549	98.630	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
	AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	2.40	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.045E-06
A	6.0	2.40	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.427E-06
A	8.9	0.16	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.640E-06
A	11.6	0.05	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.264E-06
A	26.5	0.05	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	5.516E-07
B	3.6	1.58	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.858E-06
B	6.0	1.36	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.715E-06
B	8.9	0.11	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.159E-06
B	11.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.931E-07
C	3.6	3.54	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.994E-06
C	6.0	1.42	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.196E-06
C	8.9	0.22	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.082E-07
C	11.6	0.11	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.230E-07
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	4.69	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	16.58	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	16.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	7.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	1.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	0.11	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	3.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	10.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	14.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	3.44	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	1.15	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.25	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	2.84	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	1.31	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.301E-07
F	28.5	0.05	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.375E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 500.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.011	0.034	0.048	2.448	4.029	6.428	11.118	14.662	16.025	16.189
0.00045	0.00145	0.00207	0.10470	0.17234	0.27497	0.47557	0.62719	0.68550	0.69250
1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07
16.243	19.515	20.933	21.042	37.619	37.673	37.891	39.146	39.255	56.050
0.69483	0.83478	0.89543	0.90009	1.60918	1.61151	1.62084	1.67449	1.67915	2.39757
5.890E-07	5.516E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07
66.955	67.010	74.644	88.658	90.076	92.911	96.347	97.655	98.800	98.909
2.86408	2.86641	3.19296	3.79242	3.85307	3.97436	4.12131	4.17729	4.22627	4.23094
1.301E-07	8.032E-08	6.449E-08	4.375E-08	3.010E-08	1.806E-08				
99.018	99.237	99.509	99.564	99.891	100.000				
4.23560	4.24493	4.25659	4.25893	4.27292	4.27759				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.626  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 1.607

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.861  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.789

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
6	1	-11.07050	-15.46296	-0.98963
6	2	-12.41800	-16.17186	-1.22003
6	3	-13.12558	-17.72706	-1.84289
6	4	-13.77855	-18.81308	-2.34976
6	5	-14.34482	-22.06134	-4.05796
6	6	-14.85564	NUMXQ(K)= 6	
		5.219E-06	0.043	1.000
		3.754E-06	0.128	3.000
		3.094E-06	0.214	5.000
		2.344E-06	0.428	10.000
		1.964E-06	0.642	15.000
		1.621E-06	0.856	20.000
		1.391E-06	1.069	25.000
		1.223E-06	1.283	30.000
		1.094E-06	1.497	35.000
		9.792E-07	1.711	40.000
		8.749E-07	1.925	45.000
		7.896E-07	2.139	50.000
		7.187E-07	2.353	55.000
		6.586E-07	2.567	60.000
		6.072E-07	2.780	65.000
		5.441E-07	2.994	70.000
		4.806E-07	3.208	75.000
		4.273E-07	3.422	80.000
		3.822E-07	3.636	85.000
		2.196E-06	0.5	11.69

ANNUAL AVERAGE = 1.27E-08

K= 6 FIVEXQ(K)= 2.196E-06 FIVEPR(K)=11.689

FUMIGATION X/Q AT THE BOUNDARY: 7.68E-05

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.071	10.361	13.469	19.045	66.278	99.291	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS		
A	3.6	0.17	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06	
A	6.0	0.87	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06	
A	8.9	0.56	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06	
B	1.7	0.09	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06	
B	3.6	0.43	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06	
B	6.0	1.17	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06	
B	8.9	0.35	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06	
B	11.6	0.04	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07	
C	3.6	0.61	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06	
C	6.0	2.69	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06	
C	8.9	0.48	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07	
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	1.95	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	14.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	20.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	6.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	0.61	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.30	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.65	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	14.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	15.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	4.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.69	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.52	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.22	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	2.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	0.30	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
G	1.8	0.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	
G	6.5	0.35	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08	

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 500.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across various sectors.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.191
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.412

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 3.423  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 4.612

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
7	1	-11.07050	-16.36184	-1.15635
7	2	-13.01641	-16.17063	-1.09026
7	3	-13.77855	-17.11755	-1.52184
7	4	-14.34482	-21.07552	-3.69421
7	5	-14.85564	NUMXQ(K)= 5	
		3.440E-06	0.054	1.000
		2.364E-06	0.161	3.000
		1.975E-06	0.269	5.000
		1.532E-06	0.537	10.000
		1.308E-06	0.806	15.000
		1.164E-06	1.074	20.000
		1.060E-06	1.343	25.000
		9.586E-07	1.611	30.000
		8.718E-07	1.880	35.000
		8.016E-07	2.149	40.000
		7.432E-07	2.417	45.000
		6.938E-07	2.686	50.000
		6.513E-07	2.954	55.000
		6.141E-07	3.223	60.000
		5.707E-07	3.491	65.000
		5.038E-07	3.760	70.000
		4.478E-07	4.029	75.000
		4.005E-07	4.297	80.000
		3.603E-07	4.566	85.000
		1.574E-06	0.5	9.31

ANNUAL AVERAGE = 4.14E-09

K= 7 FIVEXQ(K)= 1.574E-06 FIVEPR(K)= 9.308

FUMIGATION X/Q AT THE BOUNDARY: 7.68E-05

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.607	5.385	7.469	14.605	59.944	98.220	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
	AT 131.4 METERS												CA=1292.SQ.METERS		
A	3.6	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06				
A	6.0	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06				
B	3.6	0.14	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06				
B	6.0	0.37	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06				
B	8.9	0.37	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06				
B	11.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07				
C	3.6	0.55	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	1.01	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	0.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
C	11.6	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07				
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	1.61	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	11.17	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	21.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	5.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	0.51	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.32	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	2.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	14.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	20.36	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	7.58	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	0.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.47	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	4.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	3.63	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	0.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08				
G	3.9	0.46	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08				
G	6.5	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08				
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08				

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 500.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.262E-06
0.004	0.023	0.040	0.132	0.270	0.362	1.970	2.522	2.889	5.601
0.00018	0.00116	0.00203	0.00669	0.01369	0.01835	0.09999	0.12798	0.14664	0.28426
1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.207E-07
6.612	6.980	18.148	18.194	18.653	20.124	20.170	41.587	55.880	61.303
0.33558	0.35424	0.92104	0.92337	0.94670	1.02134	1.02367	2.11063	2.83604	3.11128
3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	8.032E-08	6.449E-08
81.662	82.168	86.304	93.887	97.518	98.024	98.345	98.713	98.805	99.219
4.14459	4.17025	4.38017	4.76504	4.94931	4.97497	4.99130	5.00996	5.01462	5.03561
3.010E-08	1.806E-08	1.220E-08							
99.678	99.954	100.000							
5.05894	5.07293	5.07527							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.100  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.920



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.833  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 4.141

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
8	1	-11.07050	-16.92746	-1.26549
8	2	-13.01641	-16.22955	-1.03967
8	3	-13.77855	-16.73458	-1.25389
8	4	-14.34482	-20.02675	-2.98127
8	5	-14.85564	NUMXQ(K)= 5	
		2.850E-06	0.051	1.000
		1.948E-06	0.152	3.000
		1.648E-06	0.254	5.000
		1.296E-06	0.508	10.000
		1.116E-06	0.761	15.000
		9.915E-07	1.015	20.000
		8.911E-07	1.269	25.000
		8.147E-07	1.523	30.000
		7.539E-07	1.776	35.000
		7.039E-07	2.030	40.000
		6.618E-07	2.284	45.000
		6.256E-07	2.538	50.000
		5.941E-07	2.791	55.000
		5.366E-07	3.045	60.000
		4.825E-07	3.299	65.000
		4.367E-07	3.553	70.000
		3.975E-07	3.806	75.000
		3.637E-07	4.060	80.000
		1.303E-06	0.5	9.85

ANNUAL AVERAGE = 8.01E-10

K= 8 FIVEXQ(K)= 1.303E-06 FIVEPR(K)= 9.852

FUMIGATION X/Q AT THE BOUNDARY: 7.68E-05

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.184	2.252	3.171	12.793	53.241	98.805	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS											MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS		
A	6.0	0.28	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06		
A	8.9	0.16	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06		
B	3.6	0.07	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.58	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.72	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.12	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
B	26.5	0.02	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07		
C	3.6	0.44	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	1.56	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.21	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
C	26.5	0.02	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	0.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	7.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	16.51	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	11.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	2.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	1.63	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	20.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	12.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	1.49	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	0.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	3.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	3.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	1.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
G	1.8	0.40	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	0.79	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	0.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 500.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values and frequencies.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.132
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 4.260.

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
9	1	-11.07050	-16.69575	-1.22412
9	2	-13.01641	-15.89735	-0.95849
9	3	-13.77855	-16.33691	-1.15733
9	4	-14.34482	-17.49364	-1.82936
9	5	-14.85564	NUMXQ(K)= 5	
		2.467E-06	0.100	1.000
		1.737E-06	0.300	3.000
		1.473E-06	0.500	5.000
		1.160E-06	1.000	10.000
		9.906E-07	1.500	15.000
		8.658E-07	2.000	20.000
		7.767E-07	2.500	25.000
		7.087E-07	3.000	30.000
		6.544E-07	3.501	35.000
		6.096E-07	4.001	40.000
		5.621E-07	4.501	45.000
		5.124E-07	5.001	50.000
		4.705E-07	5.501	55.000
		4.345E-07	6.001	60.000
		4.034E-07	6.501	65.000
		3.761E-07	7.001	70.000
		1.473E-06	0.5	5.00

ANNUAL AVERAGE = 2.30E-09

K= 9 FIVEXQ(K)= 1.473E-06 FIVEPR(K)= 4.999

FUMIGATION X/Q AT THE BOUNDARY: 7.68E-05

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.443	4.361	5.877	13.603	52.296	98.531	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
												MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS		
A	3.6	0.08	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06			
A	6.0	0.28	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	0.12	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
B	3.6	0.16	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.56	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.36	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
C	3.6	0.20	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.47	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.95	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	7.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	16.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	6.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	0.64	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	12.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	22.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	9.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.76	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.27	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	5.61	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	4.42	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.12	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			
G	1.8	0.36	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			
G	6.5	0.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08			

G 9.6 0.04 90000.

0.

131.

1000.0 46.0

0.0

0.000E+00

0.000E+00 1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 500.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.002	0.018	0.033	0.112	0.271	0.550	1.465	1.664	2.221	2.340
0.00012	0.00105	0.00191	0.00658	0.01591	0.03224	0.08588	0.09755	0.13020	0.13720
1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.226E-07	5.890E-07	4.207E-07
4.568	6.039	6.397	13.995	14.075	15.030	16.303	33.209	45.939	52.542
0.26782	0.35412	0.37512	0.82063	0.82529	0.88127	0.95592	1.94724	2.69365	3.08085
3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08
75.495	76.132	81.741	90.811	95.226	95.982	96.340	97.255	97.375	97.534
4.42671	4.46403	4.79292	5.32473	5.58364	5.62796	5.64895	5.70260	5.70960	5.71893
6.449E-08	3.010E-08	1.806E-08	1.220E-08						
97.892	99.125	99.960	100.000						
5.73992	5.81223	5.86121	5.86355						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.001  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.086



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 0.820  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.691  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.423

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
10	1	-11.07050	-16.86574	-1.22926
10	2	-11.63677	-16.88443	-1.23365
10	3	-13.01641	-16.26591	-1.03638
10	4	-13.77855	-16.65940	-1.20033
10	5	-14.34482	-18.72800	-2.27310
10	6	-14.85564	NUMXQ(K)= 6	
		2.548E-06	0.059	1.000
		1.776E-06	0.176	3.000
		1.500E-06	0.293	5.000
		1.176E-06	0.586	10.000
		1.006E-06	0.880	15.000
		8.839E-07	1.173	20.000
		7.964E-07	1.466	25.000
		7.297E-07	1.759	30.000
		6.764E-07	2.052	35.000
		6.325E-07	2.345	40.000
		5.954E-07	2.639	45.000
		5.416E-07	2.932	50.000
		4.920E-07	3.225	55.000
		4.501E-07	3.518	60.000
		4.142E-07	3.811	65.000
		3.831E-07	4.104	70.000
		3.559E-07	4.398	75.000
		1.246E-06	0.5	8.53

ANNUAL AVERAGE = 1.56E-09

K= 10 FIVEXQ(K)= 1.246E-06 FIVEPR(K)= 8.527

FUMIGATION X/Q AT THE BOUNDARY: 7.68E-05

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.477	3.103	4.256	16.603	49.623	97.534	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06			
A	6.0	0.23	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
B	3.6	0.14	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.61	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.28	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
C	3.6	0.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.41	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.99	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.19	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	1.50	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	7.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	13.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	5.92	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	0.75	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.14	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.77	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	13.19	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	16.62	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	7.32	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	7.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	1.83	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.69	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	2.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.38	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 500.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.003	0.023	0.040	0.134	0.275	0.510	2.012	2.341	2.951	3.045
0.00017	0.00115	0.00201	0.00667	0.01367	0.02534	0.09998	0.11630	0.14663	0.15129
1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07
5.815	7.224	7.506	14.783	14.830	15.816	17.319	17.506	30.981	44.175
0.28891	0.35889	0.37288	0.73442	0.73676	0.78574	0.86038	0.86971	1.53914	2.19458
4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
50.091	66.711	67.463	74.787	74.834	84.976	92.347	93.192	93.333	95.164
2.48848	3.31419	3.35152	3.71539	3.71772	4.22155	4.58775	4.62974	4.63674	4.72770
8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
95.258	95.540	97.230	99.624	100.000					
4.73237	4.74636	4.83034	4.94929	4.96795					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.100  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 0.734

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.192  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 3.712

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
11	1	-11.07050	-16.88108	-1.25046
11	2	-13.01641	-16.63911	-1.17217
11	3	-13.77855	-17.03136	-1.33290
11	4	-14.34482	-19.65802	-2.63609
11	5	-14.95230	NUMXQ(K) = 5	
		2.862E-06	0.050	1.000
		1.931E-06	0.149	3.000
		1.599E-06	0.248	5.000
		1.220E-06	0.497	10.000
		1.030E-06	0.745	15.000
		8.947E-07	0.994	20.000
		7.990E-07	1.242	25.000
		7.266E-07	1.490	30.000
		6.693E-07	1.739	35.000
		6.223E-07	1.987	40.000
		5.771E-07	2.236	45.000
		5.130E-07	2.484	50.000
		4.604E-07	2.732	55.000
		4.164E-07	2.981	60.000
		3.792E-07	3.229	65.000
		3.474E-07	3.478	70.000
		1.217E-06	0.5	10.06

ANNUAL AVERAGE = 1.24E-09

K= 11 FIVEXQ(K)= 1.217E-06 FIVEPR(K)=10.065

FUMIGATION X/Q AT THE BOUNDARY: 7.68E-05

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.423	3.381	4.460	22.507	51.573	95.258	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	6.0	0.33	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06				
A	8.9	0.14	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06				
A	11.6	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06				
A	26.5	0.09	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07				
B	3.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06				
B	6.0	0.38	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06				
B	8.9	0.89	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06				
B	11.6	0.09	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07				
B	26.5	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07				
C	3.6	0.14	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	1.22	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	1.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
C	11.6	0.19	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07				
C	26.5	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07				
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	0.71	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	6.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	9.93	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	8.94	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	1.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	2.54	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	8.80	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	13.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	12.75	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	1.41	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.05	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	5.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	8.33	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	5.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
F	12.5	0.85	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07				

G	1.8	0.85	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	3.29	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 500.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across various sectors.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.001
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 0.055



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 0.622  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 1.712  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 3.178

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
12	1	-11.07050	-16.19649	-1.06775
12	2	-11.63677	-17.47494	-1.36713
12	3	-13.01641	-16.28004	-1.00073
12	4	-13.77855	-17.47979	-1.48070
12	5	-14.34482	-19.25415	-2.31876
12	6	-14.95230	NUMXQ(K) = 6	
		2.323E-06	0.050	1.000
		1.662E-06	0.149	3.000
		1.416E-06	0.248	5.000
		1.124E-06	0.496	10.000
		9.441E-07	0.744	15.000
		8.070E-07	0.992	20.000
		7.118E-07	1.240	25.000
		6.405E-07	1.488	30.000
		5.822E-07	1.735	35.000
		5.130E-07	1.983	40.000
		4.579E-07	2.231	45.000
		4.128E-07	2.479	50.000
		3.754E-07	2.727	55.000
		3.437E-07	2.975	60.000
		1.120E-06	0.5	10.08

ANNUAL AVERAGE = 1.29E-09

K= 12 FIVEXQ(K) = 1.120E-06 FIVEPR(K) = 10.084

FUMIGATION X/Q AT THE BOUNDARY: 7.68E-05

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.659	3.716	5.175	26.549	53.458	92.991	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	0.03	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06			
A	6.0	0.24	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	0.63	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
A	11.6	0.42	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06			
A	26.5	0.06	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07			
B	3.6	0.12	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.63	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.81	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.36	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
B	26.5	0.18	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07			
C	3.6	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.25	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	1.67	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.86	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.39	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.78	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	4.21	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	8.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	11.78	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	6.71	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	2.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	1.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	5.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	11.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	15.99	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	2.33	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.89	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	5.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	5.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			

Calculation No. PM-1055 Revision 0

Attachment J

F	12.5	0.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
G	1.8	0.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	2.06	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.16	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 500.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED:  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.002	0.013	0.024	0.053	0.173	0.411	1.187	1.336	1.962	2.589
0.00014	0.00103	0.00184	0.00417	0.01350	0.03216	0.09281	0.10447	0.15346	0.20244
1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07
3.006	4.617	5.869	6.675	10.880	11.238	12.908	13.803	14.668	23.646
0.23509	0.36105	0.45902	0.52199	0.85088	0.87887	1.00949	1.07947	1.14711	1.84920
5.890E-07	5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07
28.806	28.865	40.646	40.825	52.607	59.317	61.853	62.240	78.227	84.133
2.25273	2.25739	3.17874	3.19274	4.11408	4.63890	4.83717	4.86749	6.11772	6.57956
1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09
86.459	89.143	94.154	94.870	95.138	95.526	96.719	98.777	99.940	99.970
6.76150	6.97143	7.36329	7.41927	7.44026	7.47059	7.56389	7.72483	7.81580	7.81813
4.104E-09									
100.000									
7.82046									

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES  
 (BASED ON THE UPPER ENVELOPE OF THE  
 ORDERED X/Q-FREQUENCY VALUES, AND AS  
 PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

**Calculation No. PM-1055 Revision 0**

**Attachment J**

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.093  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 0.850  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.250  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.834

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
13	1	-11.07050	-16.85765	-1.23409
13	2	-13.01641	-16.28464	-1.05000
13	3	-13.77855	-17.31495	-1.48167
13	4	-14.34482	-17.89132	-1.76920
13	5	-14.95230	NUMXQ(K)= 5	
		2.366E-06	0.078	1.000
		1.649E-06	0.235	3.000
		1.383E-06	0.391	5.000
		1.072E-06	0.782	10.000
		8.680E-07	1.173	15.000
		7.349E-07	1.564	20.000
		6.428E-07	1.955	25.000
		5.714E-07	2.346	30.000
		5.083E-07	2.737	35.000
		4.583E-07	3.128	40.000
		4.173E-07	3.519	45.000
		3.832E-07	3.910	50.000
		3.542E-07	4.301	55.000
		3.292E-07	4.692	60.000
		1.266E-06	0.5	6.39

ANNUAL AVERAGE = 3.55E-09

K= 13 FIVEXQ(K)= 1.266E-06 FIVEPR(K)= 6.393

FUMIGATION X/Q AT THE BOUNDARY: 7.68E-05

**EXPONENTIAL TERM AND FREQUENCIES**

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.372	5.697	7.785	22.857	57.994	95.138	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

CLASS	METER/SEC	PERCENT	METERS	METERS	METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
									MEANDER	BLDG WAKE	USED
AT 131.4 METERS									CA=1292.SQ.METERS		
A	6.0	0.24	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06
A	8.9	0.24	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06
A	11.6	0.05	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06
A	26.5	0.13	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07
B	3.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06
B	6.0	0.24	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06
B	8.9	0.53	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06
B	11.6	0.37	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07
B	26.5	0.19	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07
C	3.6	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06
C	6.0	0.69	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06
C	8.9	1.57	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07
C	11.6	0.80	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07
C	26.5	0.72	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	1.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	2.59	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	9.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	17.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	11.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	4.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	0.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	3.68	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	9.45	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	15.56	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	2.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.32	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	0.75	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	1.76	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.74	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	3.68	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07

G	1.8	0.37	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 500.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06	1.264E-06
0.002	0.009	0.018	0.098	0.338	1.352	1.486	1.726	1.966	2.020
0.00020	0.00080	0.00155	0.00855	0.02954	0.11818	0.12984	0.15083	0.17183	0.17649
1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07
2.980	3.674	4.208	6.797	7.171	8.746	9.493	10.294	19.769	23.452
0.26046	0.32111	0.36776	0.59401	0.62667	0.76429	0.82960	0.89957	1.72762	2.04951
5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07
23.585	41.575	41.762	51.210	63.167	64.929	65.649	81.210	84.947	87.909
2.06117	3.63329	3.64962	4.47533	5.52030	5.67425	5.73723	7.09709	7.42365	7.68255
1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09	
91.939	95.623	96.103	96.423	96.797	97.731	98.906	99.947	100.000	
8.03477	8.35665	8.39864	8.42663	8.45928	8.54092	8.64355	8.73452	8.73919	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.118  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.593



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.047  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 5.670

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
14	1	-11.07050	-16.78363	-1.23898
14	2	-13.01641	-17.43472	-1.45311
14	3	-13.77855	-16.79696	-1.19964
14	4	-14.34482	-17.03831	-1.31771
14	5	-14.95230	NUMXQ(K)= 5	
		2.485E-06	0.087	1.000
		1.550E-06	0.262	3.000
		1.211E-06	0.437	5.000
		8.781E-07	0.874	10.000
		7.304E-07	1.311	15.000
		6.370E-07	1.748	20.000
		5.687E-07	2.185	25.000
		5.135E-07	2.622	30.000
		4.699E-07	3.059	35.000
		4.343E-07	3.496	40.000
		4.045E-07	3.933	45.000
		3.791E-07	4.370	50.000
		3.571E-07	4.807	55.000
		3.378E-07	5.244	60.000
		1.132E-06	0.5	5.72

ANNUAL AVERAGE = 2.08E-09

K= 14 FIVEXQ(K)= 1.132E-06 FIVEPR(K)= 5.721

FUMIGATION X/Q AT THE BOUNDARY: 7.68E-05

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.667	4.591	6.005	16.423	63.481	96.423	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS		
A	6.0	0.04	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06			
A	8.9	0.06	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06			
A	26.5	0.02	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07			
B	3.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.04	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.19	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
C	3.6	0.06	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	0.55	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.74	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.59	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	4.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	11.52	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	22.08	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	11.54	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	3.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	0.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	3.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	11.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	13.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	1.89	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.13	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.00	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.78	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	1.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.49	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	1.95	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 500.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06	1.262E-06
0.002	0.008	0.014	0.099	0.141	0.906	0.970	1.013	1.076	1.905
0.00019	0.00084	0.00154	0.01087	0.01553	0.09950	0.10650	0.11117	0.11816	0.20913
1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	5.516E-07
2.457	2.649	6.749	6.834	7.578	8.130	8.725	20.241	23.853	23.874
0.26978	0.29077	0.74095	0.75028	0.83192	0.89256	0.95787	2.22210	2.61863	2.62096
4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
45.949	56.976	68.513	70.510	70.637	84.469	88.251	90.142	94.051	95.963
5.04446	6.25504	7.52160	7.74085	7.75485	9.27332	9.68851	9.89611	10.32529	10.53522
8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
96.091	96.367	97.854	99.809	100.000					
10.54921	10.57954	10.74281	10.95741	10.97840					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.099  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.740

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 5.041  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 7.737

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
15	1	-11.07050	-16.94794	-1.27152
15	2	-13.01641	-16.61528	-1.16393
15	3	-13.77855	-16.54197	-1.13385
15	4	-14.68142	-16.72098	-1.24294
15	5	-14.95230	NUMXQ(K) = 5	
		2.149E-06	0.110	1.000
		1.438E-06	0.329	3.000
		1.175E-06	0.549	5.000
		8.797E-07	1.098	10.000
		7.352E-07	1.647	15.000
		6.432E-07	2.196	20.000
		5.774E-07	2.745	25.000
		5.270E-07	3.294	30.000
		4.868E-07	3.842	35.000
		4.536E-07	4.391	40.000
		4.255E-07	4.940	45.000
		3.996E-07	5.489	50.000
		3.766E-07	6.038	55.000
		3.564E-07	6.587	60.000
		3.385E-07	7.136	65.000
		3.224E-07	7.685	70.000
		1.220E-06	0.5	4.55

ANNUAL AVERAGE = 6.41E-10

K= 15 FIVEXQ(K)= 1.220E-06 FIVEPR(K)= 4.554

FUMIGATION X/Q AT THE BOUNDARY: 7.68E-05

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.127	2.210	2.613	10.863	64.767	96.091	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
									MEANDER	BLDG WAKE	USED
									CA=1292.SQ.METERS		
A	3.6	0.02	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06
A	6.0	0.17	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06
A	8.9	0.32	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06
A	11.6	0.02	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06
A	26.5	0.02	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07
B	3.6	0.06	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06
B	6.0	0.48	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06
B	8.9	0.71	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06
B	11.6	0.11	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07
C	3.6	0.48	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06
C	6.0	2.16	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06
C	8.9	2.01	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07
C	11.6	0.37	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	1.08	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	8.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	20.04	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	19.82	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	5.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	1.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	4.38	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	11.10	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	10.11	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	0.93	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	2.09	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	2.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	0.69	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	28.5	0.02	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 500.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06	1.994E-06	1.715E-06	1.640E-06
0.002	0.008	0.013	0.035	0.100	0.272	1.352	1.827	2.302	2.626
0.00026	0.00083	0.00142	0.00375	0.01075	0.02941	0.14604	0.19735	0.24867	0.28366
1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07
2.648	3.382	5.542	6.254	14.568	14.676	16.685	17.160	17.527	37.568
0.28599	0.36529	0.59855	0.67552	1.57354	1.58520	1.80213	1.85344	1.89310	4.05768
5.890E-07	5.516E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07
41.951	41.973	61.798	72.898	78.124	80.219	90.325	93.046	93.975	95.335
4.53118	4.53352	6.67477	7.87369	8.43816	8.66442	9.75604	10.04994	10.15024	10.29718
1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	4.104E-09		
96.026	96.134	96.350	96.761	98.035	99.870	99.978	100.000		
10.37183	10.38349	10.40681	10.45113	10.58875	10.78701	10.79868	10.80101		

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.197  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 4.528



K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
16	1	-11.07050	-16.67065	-1.22977
16	2	-13.12558	-15.69990	-0.89302
16	3	-13.77855	-16.43273	-1.23363
16	4	-14.34482	-17.31614	-1.75559
16	5	-14.68142	NUMXQ(K) = 5	
		2.502E-06	0.108	1.000
		1.728E-06	0.324	3.000
		1.480E-06	0.540	5.000
		1.182E-06	1.080	10.000
		1.023E-06	1.620	15.000
		8.846E-07	2.160	20.000
		7.868E-07	2.700	25.000
		7.127E-07	3.240	30.000
		6.539E-07	3.780	35.000
		6.056E-07	4.320	40.000
		5.553E-07	4.860	45.000
		5.074E-07	5.401	50.000
		4.669E-07	5.941	55.000
		4.320E-07	6.481	60.000
		1.516E-06	0.5	4.63

ANNUAL AVERAGE = 2.62E-09

K= 16 FIVEXQ(K) = 1.516E-06 FIVEPR(K) = 4.629

FUMIGATION X/Q AT THE BOUNDARY: 7.68E-05

EXPONENTIAL TERM AND FREQUENCIES

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.561	5.572	6.932	13.028	68.876	96.350	100.000

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	1.7	0.01	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	8.668E-06		
A	3.6	0.51	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	4.045E-06		
A	6.0	0.53	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	2.427E-06		
A	8.9	0.28	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.640E-06		
A	11.6	0.06	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	1.264E-06		
A	26.5	0.03	500.	0.	131.	100.2	123.6	0.0	0.000E+00	0.000E+00	5.516E-07		
B	1.7	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06		
B	3.6	0.47	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.54	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.44	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.12	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
B	26.5	0.03	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07		
C	1.7	0.08	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06		
C	3.6	0.77	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	1.04	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.30	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
C	26.5	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	2.07	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	9.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	15.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	12.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	4.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	1.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	1.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	8.90	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	9.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	1.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		

Calculation No. PM-1055 Revision 0

Attachment J

F	3.9	3.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.16	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
F	28.5	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08
G	1.8	0.43	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.14	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.31	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.01	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.00	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J****Page 299 of 1411**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## LOW POPULATION ZONE CALCULATIONS:

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 500.0 METERS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	8.668E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06
0.005	0.019	0.026	0.072	0.084	0.161	0.674	1.145	1.677	3.744
0.00467	0.01866	0.02566	0.07231	0.08397	0.16094	0.67410	1.14527	1.67709	3.74370
1.994E-06	1.715E-06	1.640E-06	1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07
4.509	5.052	5.330	5.388	7.354	8.684	9.125	18.516	18.637	19.680
4.50877	5.05225	5.32982	5.38813	7.35445	8.68399	9.12484	18.51558	18.63687	19.67951
6.875E-07	6.230E-07	6.226E-07	5.890E-07	5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07
20.689	20.993	36.712	45.608	45.636	57.865	57.900	71.746	75.987	79.129
20.68949	20.99272	36.71161	45.60785	45.63584	57.86527	57.90026	71.74612	75.98666	79.12857
2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	4.375E-08
79.254	88.781	92.298	93.593	94.980	96.534	96.695	96.923	97.357	97.369
79.25452	88.78055	92.29800	93.59254	94.98039	96.53386	96.69480	96.92339	97.35724	97.36890
3.010E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54216	99.67810	99.98599	99.99532	99.99998					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q                      WITH RESPECT TO                      WHEN THE WIND BLOWS

**Calculation No. PM-1055 Revision 0**

**Attachment J**

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

3.662E-06	1.000	1.000
2.436E-06	3.000	3.000
1.977E-06	5.000	5.000
1.446E-06	10.000	10.000
1.171E-06	15.000	15.000
9.978E-07	20.000	20.000
8.845E-07	25.000	25.000
7.938E-07	30.000	30.000
7.180E-07	35.000	35.000
6.529E-07	40.000	40.000
5.956E-07	45.000	45.000
5.478E-07	50.000	50.000
5.043E-07	55.000	55.000
4.636E-07	60.000	60.000
4.249E-07	65.000	65.000
3.877E-07	70.000	70.000
3.511E-07	75.000	75.000

1.977E-06 5.0 5.00

K= 17 FIVEXQ(K) = 1.977E-06 FIVEPR(K) = 5.000

FUMIGATION X/Q AT THE BOUNDARY: 7.68E-05

**EXPONENTIAL TERM AND FREQUENCIES**

5.684E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.416	5.059	6.718	16.125	61.163	96.935	100.000

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	8.668E-06	6.124E-06	4.813E-06	4.272E-06	4.045E-06	2.858E-06	2.427E-06	2.224E-06
0.005	0.019	0.026	0.072	0.084	0.161	0.674	1.145	1.677	3.744
0.00467	0.01866	0.02566	0.07231	0.08397	0.16094	0.67410	1.14527	1.67709	3.74370
1.994E-06	1.715E-06	1.640E-06	1.264E-06	1.262E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07
4.509	5.052	5.330	5.388	7.354	8.684	9.125	18.516	18.637	19.680
4.50877	5.05225	5.32982	5.38813	7.35445	8.68399	9.12484	18.51558	18.63688	19.67952
6.875E-07	6.230E-07	6.226E-07	5.890E-07	5.516E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07
20.689	20.993	36.712	45.608	45.636	57.865	57.900	71.746	75.987	79.129
20.68950	20.99273	36.71161	45.60786	45.63585	57.86527	57.90026	71.74612	75.98665	79.12857
2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	4.375E-08
79.255	88.781	92.298	93.593	94.980	96.534	96.695	96.923	97.357	97.369
79.25453	88.78056	92.29800	93.59256	94.98041	96.53387	96.69481	96.92340	97.35724	97.36890
3.010E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54216	99.67809	99.98598	99.99532	99.99998					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q      WITH RESPECT TO      WHEN THE WIND BLOWS

**Calculation No. PM-1055 Revision 0**

**Attachment J**

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
18	1	-11.07050	-14.64728	-0.91538
18	2	-13.01641	-14.54922	-0.86034
18	3	-13.77855	-14.42414	-0.72071
18	4	-14.34482	-14.41743	-0.65976
18	5	-14.95230	NUMXQ(K) = 5	
		3.662E-06	1.000	1.000
		2.436E-06	3.000	3.000
		1.977E-06	5.000	5.000
		1.446E-06	10.000	10.000
		1.171E-06	15.000	15.000
		9.978E-07	20.000	20.000
		8.845E-07	25.000	25.000
		7.938E-07	30.000	30.000
		7.180E-07	35.000	35.000
		6.529E-07	40.000	40.000
		5.956E-07	45.000	45.000
		5.478E-07	50.000	50.000
		5.043E-07	55.000	55.000
		4.636E-07	60.000	60.000
		4.249E-07	65.000	65.000
		3.877E-07	70.000	70.000
		3.511E-07	75.000	75.000
		1.977E-06	5.0	5.00

K= 18 FIVEXQ(K) = 1.977E-06 FIVEPR(K) = 5.000

K	HIGHPR	PR	GRNDVT(K)
1	-3.06052	0.11048	6.21119
2	-2.00327	2.25740	3.52599
3	-2.79824	0.25691	3.10868
4	-2.68650	0.36103	3.53145
5	-2.57624	0.49942	4.76778
6	-2.75266	0.29557	4.27759
7	-3.06855	0.10756	5.37148
8	-3.25087	0.05753	5.07527
9	-3.17144	0.07585	10.00153
10	-3.29988	0.04837	5.86355
11	-3.25284	0.05714	4.96796
12	-3.40963	0.03253	4.95848
13	-3.27701	0.05246	7.82046
14	-3.20434	0.06769	8.73919
15	-3.25156	0.05739	10.97840
16	-3.13645	0.08551	10.80101

K	HOURS(K)	TOTHR
1	9.67833	9.67833
2	197.74830	207.42660
3	22.50566	229.93230

Calculation No. PM-1055 Revision 0

Attachment J

4	31.62634	261.55860
5	43.74879	305.30740
6	25.89224	331.19960
7	9.42196	340.62160
8	5.03966	345.66130
9	6.64419	352.30550
10	4.23714	356.54260
11	5.00520	361.54780
12	2.84982	364.39760
13	4.59585	368.99350
14	5.92991	374.92340
15	5.02765	379.95100
16	7.49057	387.44160

K	FIVEXQ	SVANN	SLTIME	TIMINT	I	TIME	XQT
1	1.547E-06	1.719E-09	-0.8113	-12.8169	1	8.0	-14.50390
					2	16.0	-15.06623
					3	72.0	-16.28644
					4	624.0	-18.03836
2	1.537E-06	3.659E-09	-0.7204	-12.8863	1	8.0	-14.38432
					2	16.0	-14.88366
					3	72.0	-15.96719
					4	624.0	-17.52288
3	1.997E-06	6.989E-09	-0.6744	-12.6564	1	8.0	-14.05880
					2	16.0	-14.52627
					3	72.0	-15.54065
					4	624.0	-16.99704
4	2.335E-06	1.173E-08	-0.6313	-12.5300	1	8.0	-13.84281
					2	16.0	-14.28041
					3	72.0	-15.22995
					4	624.0	-16.59327
5	2.724E-06	2.232E-08	-0.5729	-12.4164	1	8.0	-13.60780
					2	16.0	-14.00494
					3	72.0	-14.86670
					4	624.0	-16.10397
6	2.196E-06	1.266E-08	-0.6149	-12.6026	1	8.0	-13.88121
					2	16.0	-14.30743
					3	72.0	-15.23229
					4	624.0	-16.56017
7	1.574E-06	4.141E-09	-0.7085	-12.8708	1	8.0	-14.34400
					2	16.0	-14.83506
					3	72.0	-15.90064
					4	624.0	-17.43054
8	1.303E-06	8.006E-10	-0.8819	-12.9398	1	8.0	-14.77367
					2	16.0	-15.38494



Calculation No. PM-1055 Revision 0

Attachment J

				3	72.0	-16.71135
				4	624.0	-18.61576
9	1.473E-06	2.304E-09	-0.7705	-12.8940		
				1	8.0	-14.49614
				2	16.0	-15.03019
				3	72.0	-16.18902
				4	624.0	-17.85283
10	1.246E-06	1.562E-09	-0.7968	-13.0436		
				1	8.0	-14.70058
				2	16.0	-15.25289
				3	72.0	-16.45137
				4	624.0	-18.17210
11	1.217E-06	1.245E-09	-0.8211	-13.0502		
				1	8.0	-14.75760
				2	16.0	-15.32674
				3	72.0	-16.56173
				4	624.0	-18.33486
12	1.120E-06	1.292E-09	-0.8068	-13.1427		
				1	8.0	-14.82034
				2	16.0	-15.37956
				3	72.0	-16.59302
				4	624.0	-18.33525
13	1.266E-06	3.555E-09	-0.7007	-13.0939		
				1	8.0	-14.55097
				2	16.0	-15.03666
				3	72.0	-16.09056
				4	624.0	-17.60370
14	1.132E-06	2.083E-09	-0.7511	-13.1705		
				1	8.0	-14.73245
				2	16.0	-15.25309
				3	72.0	-16.38285
				4	624.0	-18.00490
15	1.220E-06	6.412E-10	-0.9005	-12.9925		
				1	8.0	-14.86511
				2	16.0	-15.48930
				3	72.0	-16.84375
				4	624.0	-18.78841
16	1.516E-06	2.620E-09	-0.7586	-12.8734		
				1	8.0	-14.45091
				2	16.0	-14.97674
				3	72.0	-16.11773
				4	624.0	-17.75593
17	1.977E-06	2.232E-08	-0.5348	-12.7631		
				1	8.0	-13.87511
				2	16.0	-14.24577
				3	72.0	-15.05008
				4	624.0	-16.20488
18	1.977E-06	2.232E-08	-0.5348	-12.7631		
				1	8.0	-13.87511
				2	16.0	-14.24577
				3	72.0	-15.05008
				4	624.0	-16.20488

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
VERSUS  
AVERAGING TIME

DOWNWIND DISTANCE SECTOR (METERS)	RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER) VERSUS AVERAGING TIME					HOURS PER YEAR MAX 0-2 HR X/Q IS EXCEEDED		DOWNWIND SECTOR
	0-2 HOURS	0-8 HOURS	8-24 HOURS	1-4 DAYS	4-30 DAYS	ANNUAL AVERAGE	IN SECTOR	
S 500.	1.55E-06	5.02E-07	2.86E-07	8.45E-08	1.47E-08	1.72E-09	9.7	S
SSW 500.	1.54E-06	5.66E-07	3.44E-07	1.16E-07	2.45E-08	3.66E-09	197.7	SSW
SW 500.	2.00E-06	7.84E-07	4.91E-07	1.78E-07	4.15E-08	6.99E-09	22.5	SW
WSW 500.	2.33E-06	9.73E-07	6.28E-07	2.43E-07	6.22E-08	1.17E-08	31.6	WSW
W 500.	2.72E-06	1.23E-06	8.27E-07	3.50E-07	1.01E-07	2.23E-08	43.7	W
WNW 500.	2.20E-06	9.36E-07	6.11E-07	2.42E-07	6.43E-08	1.27E-08	25.9	WNW
NW 500.	1.57E-06	5.89E-07	3.61E-07	1.24E-07	2.69E-08	4.14E-09	9.4	NW
NNW 500.	1.30E-06	3.84E-07	2.08E-07	5.53E-08	8.23E-09	8.01E-10	5.0	NNW
N 500.	1.47E-06	5.06E-07	2.97E-07	9.32E-08	1.76E-08	2.30E-09	6.6	N
NNE 500.	1.25E-06	4.13E-07	2.38E-07	7.17E-08	1.28E-08	1.56E-09	4.2	NNE
NE 500.	1.22E-06	3.90E-07	2.21E-07	6.42E-08	1.09E-08	1.24E-09	5.0	NE
ENE 500.	1.12E-06	3.66E-07	2.09E-07	6.22E-08	1.09E-08	1.29E-09	2.8	ENE
E 500.	1.27E-06	4.79E-07	2.95E-07	1.03E-07	2.26E-08	3.55E-09	4.6	E
ESE 500.	1.13E-06	4.00E-07	2.38E-07	7.67E-08	1.52E-08	2.08E-09	5.9	ESE
SE 500.	1.22E-06	3.50E-07	1.88E-07	4.84E-08	6.92E-09	6.41E-10	5.0	SE
SSE 500.	1.52E-06	5.30E-07	3.13E-07	1.00E-07	1.94E-08	2.62E-09	7.5	SSE
MAX X/Q	2.72E-06					TOTAL HOURS AROUND SITE:	387.4	
SRP 2.3.4 500.	1.98E-06	9.42E-07	6.50E-07	2.91E-07	9.17E-08	2.23E-08		
SITE LIMIT	1.98E-06	9.42E-07	6.50E-07	2.91E-07	9.17E-08	2.23E-08		

0.5 PERCENT X/Q TO AN INDIVIDUAL IS LIMITING.

X/Q VALUES (SEC/CUBIC METER) FOR FUMIGATION AT THE BOUNDARY:

DOWNWIND DISTANCE FUMIGATION

SECTOR (METERS)	X/Q
S 500.	7.68E-05
SSW 500.	7.68E-05
SW 500.	7.68E-05
WSW 500.	7.68E-05
W 500.	7.68E-05
WNW 500.	7.68E-05
NW 500.	7.68E-05
NNW 500.	7.68E-05
N 500.	7.68E-05
NNE 500.	7.68E-05
NE 500.	7.68E-05
ENE 500.	7.68E-05
E 500.	7.68E-05

**Calculation No. PM-1055 Revision 0**

**Attachment J**

ESE	500.	7.68E-05
SE	500.	7.68E-05
SSE	500.	7.68E-05

**\*\*NOTE\*\***: VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
CHECK THE REASONABLENESS OF THE ENVELOPES  
COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.

**PAVAN Input**

Off Gas Stack to Control Room (Tower 2 320' wind and 316'-33' Delta T Stability Class; distances of 750 m and 1000 m)

1 1111

Peach Bottom

Stack Release

97.5 meters

10.1-96.3 meters

Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

7	1																			
2584.	54.31	31.4	97.5																	
0	0	0	2	6	5	0														
0.	0.	0.	0.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.	9.	23.	39.	87.	44.	4.	2.	0.	2.	2.	0.	1.	0.	0.	1.	0.	0.	1.	0.	1.
0.	9.	20.	29.	46.	44.	20.	2.	12.	7.	5.	7.	8.	9.	2.	8.					
2.	4.	9.	18.	7.	3.	13.	0.	7.	3.	2.	3.	21.	9.	3.	15.					
2.	2.	0.	1.	0.	1.	0.	0.	0.	0.	0.	2.	14.	2.	0.	1.					
0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	2.	2.	5.	1.	1.					
0.	2.	2.	9.	5.	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.					
13.	23.	18.	25.	56.	29.	10.	3.	3.	4.	3.	1.	4.	3.	4.	3.					
4.	15.	13.	15.	12.	25.	27.	8.	25.	14.	13.	8.	21.	9.	2.	22.					
10.	3.	2.	1.	1.	2.	8.	8.	31.	9.	6.	19.	27.	20.	9.	33.					
1.	2.	1.	0.	0.	1.	1.	1.	5.	2.	1.	2.	12.	14.	4.	5.					
0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	6.	7.	0.	0.					
0.	5.	12.	15.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.					
31.	22.	28.	37.	50.	65.	14.	12.	19.	5.	7.	3.	5.	5.	3.	22.					
42.	19.	9.	17.	14.	26.	62.	22.	72.	37.	30.	26.	42.	26.	26.	100.					
18.	8.	4.	3.	3.	4.	11.	10.	67.	24.	21.	31.	56.	59.	35.	93.					
4.	1.	0.	0.	1.	2.	0.	1.	9.	0.	4.	4.	29.	30.	28.	17.					
1.	4.	0.	0.	0.	0.	0.	0.	1.	0.	1.	1.	13.	27.	6.	0.					
59.	58.	108.	119.	115.	86.	45.	35.	41.	23.	32.	15.	26.	38.	36.	50.					
330.	211.	238.	336.	435.	304.	339.	243.	300.	191.	155.	128.	141.	97.	193.	385.					
521.	349.	251.	278.	331.	308.	478.	466.	708.	425.	287.	211.	301.	355.	542.	928.					
396.	154.	85.	67.	132.	140.	161.	118.	482.	166.	126.	190.	395.	674.	1039.	918.					
73.	27.	13.	11.	32.	26.	14.	11.	99.	16.	16.	22.	225.	448.	543.	242.					
15.	7.	12.	2.	8.	2.	7.	7.	29.	9.	3.	6.	90.	151.	184.	63.					
60.	44.	36.	61.	60.	60.	61.	59.	70.	56.	59.	54.	54.	36.	39.	34.					
235.	164.	150.	219.	283.	200.	345.	311.	435.	320.	281.	187.	173.	138.	170.	203.					
367.	201.	156.	101.	161.	257.	349.	443.	891.	577.	354.	297.	395.	354.	519.	514.					
156.	38.	26.	11.	58.	63.	98.	165.	516.	228.	216.	271.	536.	583.	651.	468.					
23.	8.	8.	4.	12.	21.	16.	11.	64.	19.	18.	30.	78.	111.	89.	43.					
7.	1.	1.	1.	20.	4.	12.	2.	6.	4.	2.	1.	9.	12.	6.	10.					
26.	19.	22.	26.	31.	23.	28.	32.	23.	32.	32.	33.	30.	28.	26.	22.					
99.	38.	34.	29.	34.	52.	81.	90.	134.	141.	156.	117.	85.	66.	94.	97.					
81.	25.	13.	8.	13.	24.	48.	79.	130.	111.	157.	177.	198.	140.	178.	126.					
4.	1.	1.	0.	0.	2.	7.	8.	44.	23.	39.	109.	168.	138.	90.	32.					
1.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	18.	24.	18.	0.	5.					
0.	0.	0.	0.	4.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.					
11.	14.	11.	10.	13.	5.	4.	9.	17.	9.	6.	18.	13.	14.	13.	19.					
47.	19.	22.	19.	13.	6.	28.	10.	34.	31.	36.	34.	40.	35.	70.	59.					
16.	5.	4.	2.	2.	2.	8.	6.	10.	21.	51.	70.	69.	44.	92.	85.					
1.	0.	0.	0.	0.	0.	1.	1.	2.	1.	8.	26.	39.	39.	9.	5.					



PAVAN Output

Off Gas Stack to Control Room (Tower 2 320' wind and 316'-33' Delta T Stability Class; distances of 750 m and 1000 m)

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USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PRINTOUT OF INPUT CARDS

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1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2      Peach Bottom
Stack Release
3      97.5 meters          10.1-96.3 meters
4
5      Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T          6          7 42872          1
7      0.500 2584.000    54.300 131.400    97.500
8      0.000 0.000 0.000 2.000 6.000 5.000 0.000
9      0.000 0.000 0.000 0.000 3.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      6.000 9.000 23.000 39.000 87.000 44.000 4.000 2.000 0.000 2.000 2.000 0.000 1.000 0.000 0.000 0.000 1.000
9      0.000 9.000 20.000 29.000 46.000 44.000 20.000 2.000 12.000 7.000 5.000 7.000 8.000 9.000 2.000 8.000
9      2.000 4.000 9.000 18.000 7.000 3.000 13.000 0.000 7.000 3.000 2.000 3.000 21.000 9.000 3.000 15.000
9      2.000 2.000 0.000 1.000 0.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 14.000 2.000 0.000 1.000
9      0.000 0.000 0.000 0.000 0.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 2.000 5.000 1.000 1.000
9      0.000 2.000 2.000 9.000 5.000 0.000 2.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      13.000 23.000 18.000 25.000 56.000 29.000 10.000 3.000 3.000 4.000 3.000 1.000 4.000 3.000 4.000 3.000 3.000
9      4.000 15.000 13.000 15.000 12.000 25.000 27.000 8.000 25.000 14.000 13.000 8.000 21.000 9.000 2.000 22.000
9      10.000 3.000 2.000 1.000 1.000 2.000 8.000 8.000 31.000 9.000 6.000 19.000 27.000 20.000 9.000 33.000
9      1.000 2.000 1.000 0.000 0.000 1.000 1.000 1.000 5.000 2.000 1.000 2.000 12.000 14.000 4.000 5.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 0.000 0.000 1.000 6.000 7.000 0.000 0.000
9      0.000 5.000 12.000 15.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      31.000 22.000 28.000 37.000 50.000 65.000 14.000 12.000 19.000 5.000 7.000 3.000 5.000 5.000 3.000 22.000
9      42.000 19.000 9.000 17.000 14.000 26.000 62.000 22.000 72.000 37.000 30.000 26.000 42.000 26.000 26.000 100.000
9      18.000 8.000 4.000 3.000 3.000 4.000 11.000 10.000 67.000 24.000 21.000 31.000 56.000 59.000 35.000 93.000
9      4.000 1.000 0.000 0.000 1.000 2.000 0.000 1.000 9.000 0.000 4.000 4.000 29.000 30.000 28.000 17.000
9      1.000 4.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 0.000 1.000 1.000 13.000 27.000 6.000 0.000
9      59.000 58.000 108.000 119.000 115.000 86.000 45.000 35.000 41.000 23.000 32.000 15.000 26.000 38.000 36.000 50.000
9      330.000 211.000 238.000 336.000 435.000 304.000 339.000 243.000 300.000 191.000 155.000 128.000 141.000 97.000 193.000 385.000
9      521.000 349.000 251.000 278.000 331.000 308.000 478.000 466.000 708.000 425.000 287.000 211.000 301.000 355.000 542.000 928.000
9      396.000 154.000 85.000 67.000 132.000 140.000 161.000 118.000 482.000 166.000 126.000 190.000 395.000 674.000 *****918.000
9      73.000 27.000 13.000 11.000 32.000 26.000 14.000 11.000 99.000 16.000 16.000 22.000 225.000 448.000 543.000 242.000
9      15.000 7.000 12.000 2.000 8.000 2.000 7.000 7.000 29.000 9.000 3.000 6.000 90.000 151.000 184.000 63.000
9      60.000 44.000 36.000 61.000 60.000 60.000 61.000 59.000 70.000 56.000 59.000 54.000 54.000 36.000 39.000 34.000
9      235.000 164.000 150.000 219.000 283.000 200.000 345.000 311.000 435.000 320.000 281.000 187.000 173.000 138.000 170.000 203.000
9      367.000 201.000 156.000 101.000 161.000 257.000 349.000 443.000 891.000 577.000 354.000 297.000 395.000 354.000 519.000 514.000
9      156.000 38.000 26.000 11.000 58.000 63.000 98.000 165.000 516.000 228.000 216.000 271.000 536.000 583.000 651.000 468.000
9      23.000 8.000 8.000 4.000 12.000 21.000 16.000 11.000 64.000 19.000 18.000 30.000 78.000 111.000 89.000 43.000
9      7.000 1.000 1.000 1.000 20.000 4.000 12.000 2.000 6.000 4.000 2.000 1.000 9.000 12.000 6.000 10.000
9      26.000 19.000 22.000 26.000 31.000 23.000 28.000 32.000 23.000 32.000 32.000 33.000 30.000 28.000 26.000 22.000
9      99.000 38.000 34.000 29.000 34.000 52.000 81.000 90.000 134.000 141.000 156.000 117.000 85.000 66.000 94.000 97.000
9      81.000 25.000 13.000 8.000 13.000 24.000 48.000 79.000 130.000 111.000 157.000 177.000 198.000 140.000 178.000 126.000
9      4.000 1.000 1.000 0.000 0.000 2.000 7.000 8.000 44.000 23.000 39.000 109.000 168.000 138.000 90.000 32.000

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Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS A

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007
3.35 3.61	0.014	0.021	0.054	0.091	0.203	0.103	0.009	0.005	0.000	0.005	0.005	0.000	0.002	0.000	0.000	0.002	0.513
5.59 6.02	0.000	0.021	0.047	0.068	0.107	0.103	0.047	0.005	0.028	0.016	0.012	0.016	0.019	0.021	0.005	0.019	0.532
8.27 8.91	0.005	0.009	0.021	0.042	0.016	0.007	0.030	0.000	0.016	0.007	0.005	0.007	0.049	0.021	0.007	0.035	0.278
10.73 11.56	0.005	0.005	0.000	0.002	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.005	0.033	0.005	0.000	0.002	0.058
24.59 26.49	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.012	0.002	0.002	0.028
TOTAL	0.02	0.06	0.12	0.20	0.33	0.22	0.09	0.01	0.04	0.03	0.02	0.03	0.11	0.06	0.01	0.06	1.42

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS B

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.005	0.005	0.021	0.012	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.047
3.35 3.61	0.030	0.054	0.042	0.058	0.131	0.068	0.023	0.007	0.007	0.009	0.007	0.002	0.009	0.007	0.009	0.007	0.471
5.59 6.02	0.009	0.035	0.030	0.035	0.028	0.058	0.063	0.019	0.058	0.033	0.030	0.019	0.049	0.021	0.005	0.051	0.543
8.27 8.91	0.023	0.007	0.005	0.002	0.002	0.005	0.019	0.019	0.072	0.021	0.014	0.044	0.063	0.047	0.021	0.077	0.441
10.73 11.56	0.002	0.005	0.002	0.000	0.000	0.002	0.002	0.002	0.012	0.005	0.002	0.005	0.028	0.033	0.009	0.012	0.121
24.59 26.49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.014	0.016	0.000	0.000	0.035
TOTAL	0.07	0.10	0.08	0.12	0.17	0.13	0.11	0.05	0.15	0.07	0.05	0.07	0.16	0.12	0.04	0.15	1.66

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS C

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.012	0.028	0.035	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.077
3.35 3.61	0.072	0.051	0.065	0.086	0.117	0.152	0.033	0.028	0.044	0.012	0.016	0.007	0.012	0.012	0.007	0.051	0.765
5.59 6.02	0.098	0.044	0.021	0.040	0.033	0.061	0.145	0.051	0.168	0.086	0.070	0.061	0.098	0.061	0.061	0.233	1.330
8.27 8.91	0.042	0.019	0.009	0.007	0.007	0.009	0.026	0.023	0.156	0.056	0.049	0.072	0.131	0.138	0.082	0.217	1.043
10.73 11.56	0.009	0.002	0.000	0.000	0.002	0.005	0.000	0.002	0.021	0.000	0.009	0.009	0.068	0.070	0.065	0.040	0.303
24.59 26.49	0.002	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.002	0.002	0.030	0.063	0.014	0.000	0.126
TOTAL	0.22	0.14	0.12	0.17	0.16	0.23	0.20	0.10	0.39	0.15	0.15	0.15	0.34	0.34	0.23	0.54	3.64

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS D

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005
1.56 1.69	0.138	0.135	0.252	0.278	0.268	0.201	0.105	0.082	0.096	0.054	0.075	0.035	0.061	0.089	0.084	0.117	2.067



**Calculation No. PM-1055 Revision 0**

**Attachment J**

3.35	3.61	0.770	0.492	0.555	0.784	1.015	0.709	0.791	0.567	0.700	0.446	0.362	0.299	0.329	0.226	0.450	0.898	9.391
5.59	6.02	1.215	0.814	0.585	0.648	0.772	0.718	1.115	1.087	1.651	0.991	0.669	0.492	0.702	0.828	1.264	2.165	15.719
8.27	8.91	0.924	0.359	0.198	0.156	0.308	0.327	0.376	0.275	1.124	0.387	0.294	0.443	0.921	1.572	2.423	2.141	12.229
10.73	11.56	0.170	0.063	0.030	0.026	0.075	0.061	0.033	0.026	0.231	0.037	0.037	0.051	0.525	1.045	1.267	0.564	4.241
24.59	26.49	0.035	0.016	0.028	0.005	0.019	0.005	0.016	0.016	0.068	0.021	0.007	0.014	0.210	0.352	0.429	0.147	1.388
<b>TOTAL</b>		<b>3.25</b>	<b>1.88</b>	<b>1.65</b>	<b>1.90</b>	<b>2.46</b>	<b>2.02</b>	<b>2.44</b>	<b>2.05</b>	<b>3.87</b>	<b>1.94</b>	<b>1.44</b>	<b>1.33</b>	<b>2.75</b>	<b>4.11</b>	<b>5.92</b>	<b>6.03</b>	<b>45.04</b>

**JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION**  
WIND SPEED (M/S)

**ATMOSPHERIC STABILITY CLASS E**

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.26	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.014
1.56 1.82	0.140	0.103	0.084	0.142	0.140	0.140	0.142	0.138	0.163	0.131	0.138	0.126	0.126	0.084	0.091	0.079	1.966
3.35 3.89	0.548	0.383	0.350	0.511	0.660	0.467	0.805	0.725	1.015	0.746	0.655	0.436	0.404	0.322	0.397	0.474	8.896
5.59 6.49	0.856	0.469	0.364	0.236	0.376	0.599	0.814	1.033	2.078	1.346	0.826	0.693	0.921	0.826	1.211	1.199	13.846
8.27 9.60	0.364	0.089	0.061	0.026	0.135	0.147	0.229	0.385	1.204	0.532	0.504	0.632	1.250	1.360	1.518	1.092	9.526
10.73 12.46	0.054	0.019	0.019	0.009	0.028	0.049	0.037	0.026	0.149	0.044	0.042	0.070	0.182	0.259	0.208	0.100	1.295
24.59 28.54	0.016	0.002	0.002	0.002	0.047	0.009	0.028	0.005	0.014	0.009	0.005	0.002	0.021	0.028	0.014	0.023	0.229
<b>TOTAL</b>	<b>1.98</b>	<b>1.06</b>	<b>0.88</b>	<b>0.93</b>	<b>1.39</b>	<b>1.41</b>	<b>2.06</b>	<b>2.31</b>	<b>4.62</b>	<b>2.81</b>	<b>2.17</b>	<b>1.96</b>	<b>2.90</b>	<b>2.88</b>	<b>3.44</b>	<b>2.97</b>	<b>35.77</b>

**JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION**  
WIND SPEED (M/S)

**ATMOSPHERIC STABILITY CLASS F**

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.26	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.012
1.56 1.82	0.061	0.044	0.051	0.061	0.072	0.054	0.065	0.075	0.054	0.075	0.075	0.077	0.070	0.065	0.061	0.051	1.010
3.35 3.89	0.231	0.089	0.079	0.068	0.079	0.121	0.189	0.210	0.313	0.329	0.364	0.273	0.198	0.154	0.219	0.226	3.142
5.59 6.49	0.189	0.058	0.030	0.019	0.030	0.056	0.112	0.184	0.303	0.259	0.366	0.413	0.462	0.327	0.415	0.294	3.517
8.27 9.60	0.009	0.002	0.002	0.000	0.000	0.005	0.016	0.019	0.103	0.054	0.091	0.254	0.392	0.322	0.210	0.075	1.553
10.73 12.46	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.042	0.056	0.042	0.000	0.012	0.161
24.59 28.54	0.000	0.000	0.000	0.000	0.009	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012
<b>TOTAL</b>	<b>0.49</b>	<b>0.19</b>	<b>0.16</b>	<b>0.15</b>	<b>0.19</b>	<b>0.24</b>	<b>0.38</b>	<b>0.49</b>	<b>0.77</b>	<b>0.72</b>	<b>0.90</b>	<b>1.06</b>	<b>1.18</b>	<b>0.91</b>	<b>0.91</b>	<b>0.66</b>	<b>9.41</b>

**JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION**  
WIND SPEED (M/S)

**ATMOSPHERIC STABILITY CLASS G**

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.82	0.026	0.033	0.026	0.023	0.030	0.012	0.009	0.021	0.040	0.021	0.014	0.042	0.030	0.033	0.030	0.044	0.434
3.35 3.89	0.110	0.044	0.051	0.044	0.030	0.014	0.065	0.023	0.079	0.072	0.084	0.079	0.093	0.082	0.163	0.138	1.173
5.59 6.49	0.037	0.012	0.009	0.005	0.005	0.005	0.019	0.014	0.023	0.049	0.119	0.163	0.161	0.103	0.215	0.198	1.136
8.27 9.60	0.002	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.005	0.002	0.019	0.061	0.091	0.091	0.021	0.012	0.308
10.73 12.46	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.005	0.000	0.000	0.009
24.59 28.54	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.005
<b>TOTAL</b>	<b>0.17</b>	<b>0.09</b>	<b>0.09</b>	<b>0.07</b>	<b>0.07</b>	<b>0.03</b>	<b>0.10</b>	<b>0.06</b>	<b>0.15</b>	<b>0.14</b>	<b>0.24</b>	<b>0.35</b>	<b>0.38</b>	<b>0.31</b>	<b>0.43</b>	<b>0.39</b>	<b>3.06</b>

WIND MEASURED AT 97.5 METERS.

WIND SPEED CORRECTED TO THE RELEASE HEIGHT OF 131.4 METERS.

**OVERALL WIND DIRECTION FREQUENCY**

WIND DIRECTION:	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
FREQUENCY:	6.2	3.5	3.1	3.5	4.8	4.3	5.4	5.1	10.0	5.9	5.0	5.0	7.8	8.7	11.0	10.8

OVERALL WIND SPEED FREQUENCY AS MEASURED ON THE TOWER:

MAX.WIND SPEED (M/S): 0.224 1.565 3.353 5.588 8.270 10.729 24.587  
 WIND SPEED FREQUENCY: 0.03 5.61 24.35 36.62 25.38 6.19 1.82

BUILDING AND RELEASE CHARACTERISTICS:

RELEASE HEIGHT: 131.40 METERS  
 MIXING VOLUME COEFFICIENT: 0.50  
 BUILDING CROSS-SECTIONAL AREA: 2584.00 SQUARE METERS

BOUNDARY DISTANCES (METERS) FROM THE SOURCE FOR EACH DOWNWIND SECTOR:

DOWNWIND SECTOR	S	SSW	SW	WSW	W	WNW	NW	NNW	N	NNE	NE	ENE	E	ESE	SE	SSE
BOUNDARY 1	750.	750.	750.	750.	750.	750.	750.	750.	750.	750.	750.	750.	750.	750.	750.	750.
BOUNDARY 2	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.

DISTANCES AND TERRAIN HEIGHTS (IN METERS) AS A FUNCTION OF THE DOWNWIND SECTOR:

SECTOR	S	SSW	SW	WSW	W	WNW	NW	NNW	N	NNE	NE	ENE	E	ESE	SE	SSE
DISTANCE	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.
ELEVATION	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

THE CONVERSION FACTOR APPLIED TO THE WIND SPEED CLASSES IS 0.447

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

Page 314 of 1411

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

WINDSPEEDS ADJUSTED TO 131.4 METERS.

PERCENT OF THE TIME A GIVEN WINDSPEED IS LOWER:

WINDSPEED (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.24	0.00
0.26	0.03
1.69	2.23
1.82	5.64
3.61	16.78
3.89	29.99
6.02	48.11
6.49	66.61
8.91	80.60
9.60	91.99
11.56	96.71
12.46	98.18
26.49	99.76
28.54	100.00

WINDSPEED (INTERPOLATED) (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.26	0.03
1.77	5.64
3.76	29.99
6.26	66.61
9.22	91.99
11.77	98.18
26.77	100.00

LOG-NORMAL INTERPOLATION PERCENTILES

WINDSPEED (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.81	1.00
1.30	3.00
1.66	5.00
2.19	10.00
2.61	15.00
3.00	20.00

3.38	25.00
3.76	30.00
4.05	35.00
4.35	40.00
4.66	45.00
4.98	50.00
5.32	55.00
5.70	60.00
6.11	65.00
6.50	70.00
6.90	75.00
7.37	80.00
8.11	85.00
8.78	90.00

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	0.23	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.062E-06			
A	8.9	0.08	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	8.360E-07			
A	11.6	0.08	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	6.444E-07			
B	3.6	0.49	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.15	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.38	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.04	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
C	3.6	1.16	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.58	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.04	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	2.22	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	12.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	19.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	14.87	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	2.74	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.56	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	8.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	13.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	5.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	3.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.15	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	1.77	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

S SECTOR BOUNDARY DISTANCE = 750.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.224E-06	2.062E-06	1.994E-06	1.715E-06	1.262E-06	1.196E-06
0.005	0.021	0.032	0.521	2.736	2.961	4.126	4.276	6.529	8.106
0.00031	0.00131	0.00201	0.03233	0.16995	0.18394	0.25625	0.26558	0.40553	0.50350
1.159E-06	1.038E-06	8.931E-07	8.360E-07	8.082E-07	6.875E-07	6.444E-07	6.230E-07	6.226E-07	5.890E-07
8.482	20.875	20.912	20.987	21.663	22.640	22.715	22.865	42.430	51.255
0.52683	1.29656	1.29889	1.30356	1.34554	1.40619	1.41085	1.42018	2.63543	3.18357
4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
66.127	79.909	82.650	86.368	86.406	92.264	95.306	96.170	96.733	96.883
4.10725	4.96329	5.13356	5.36448	5.36681	5.73069	5.91962	5.97327	6.00826	6.01759
1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08				
96.921	97.183	97.597	99.362	99.962	100.000				
6.01992	6.03625	6.06191	6.17153	6.20886	6.21119				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.256  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.295

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 3.181  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.960

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
1	1	-11.07050	-16.47142	-1.19518
1	2	-13.12558	-16.32272	-1.14207
1	3	-13.77855	-17.16233	-1.51897
1	4	-14.34482	-18.94210	-2.47847
1	5	-14.85564	NUMXQ(K)= 5	
		3.332E-06	0.062	1.000
		2.250E-06	0.186	3.000
		1.856E-06	0.311	5.000
		1.417E-06	0.621	10.000
		1.198E-06	0.932	15.000
		1.057E-06	1.242	20.000
		9.317E-07	1.553	25.000
		8.333E-07	1.863	30.000
		7.564E-07	2.174	35.000
		6.942E-07	2.484	40.000
		6.426E-07	2.795	45.000
		5.990E-07	3.106	50.000
		5.446E-07	3.416	55.000
		4.938E-07	3.727	60.000
		4.506E-07	4.037	65.000
		4.134E-07	4.348	70.000
		3.812E-07	4.658	75.000
		1.545E-06	0.5	8.05

ANNUAL AVERAGE = 2.69E-09

K= 1 FIVEXQ(K)= 1.545E-06 FIVEPR(K)= 8.050

FUMIGATION X/Q AT THE BOUNDARY: 5.32E-05

EXPONENTIAL TERM AND FREQUENCIES

8.805E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.376	3.981	5.032	12.967	65.322	97.183	100.000



Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	0.60	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.062E-06			
A	6.0	0.60	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	1.237E-06			
A	8.9	0.26	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	8.360E-07			
A	11.6	0.13	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	6.444E-07			
B	1.7	0.13	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06			
B	3.6	1.52	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.99	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.20	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.13	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
C	1.7	0.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06			
C	3.6	1.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.26	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.53	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.07	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.26	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	3.84	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	13.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	23.09	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	10.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	1.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	10.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	13.30	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	2.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.26	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.51	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.07	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			

G	1.8	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.26	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SSW SECTOR BOUNDARY DISTANCE = 750.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.272E-06	2.858E-06	2.224E-06	2.062E-06	1.994E-06	1.715E-06
0.009	0.029	0.162	0.176	0.507	2.028	5.865	6.461	7.916	8.908
0.00031	0.00104	0.00570	0.00621	0.01788	0.07152	0.20681	0.22780	0.27912	0.31411
1.262E-06	1.237E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.360E-07	8.082E-07	6.875E-07	6.444E-07
11.819	12.414	13.671	13.870	27.828	27.960	28.225	28.754	30.011	30.143
0.41674	0.43773	0.48205	0.48905	0.98121	0.98587	0.99520	1.01386	1.05818	1.06285
6.230E-07	6.226E-07	5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07
30.209	53.296	64.145	74.333	87.630	89.416	91.929	92.194	94.708	96.362
1.06518	1.87923	2.26176	2.62097	3.08981	3.15279	3.24142	3.25075	3.33939	3.39770
1.841E-07	1.415E-07	1.301E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08			
96.891	97.354	97.420	97.486	98.412	99.669	100.000			
3.41636	3.43269	3.43502	3.43736	3.47001	3.51433	3.52599			

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.279  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.980

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 2.259  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5) = 3.087

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
2	1	-11.07050	-16.37903	-1.17380
2	2	-13.12558	-17.25929	-1.49139
2	3	-13.77855	-17.77132	-1.71077
2	4	-14.34482	-21.93911	-3.79166
2	5	-14.85564	NUMXQ(K) = 5	
		4.108E-06	0.035	1.000
		2.842E-06	0.106	3.000
		2.367E-06	0.176	5.000
		1.777E-06	0.353	10.000
		1.447E-06	0.529	15.000
		1.243E-06	0.705	20.000
		1.101E-06	0.881	25.000
		9.887E-07	1.058	30.000
		8.940E-07	1.234	35.000
		8.179E-07	1.410	40.000
		7.552E-07	1.587	45.000
		7.024E-07	1.763	50.000
		6.572E-07	1.939	55.000
		6.179E-07	2.116	60.000
		5.767E-07	2.292	65.000
		5.119E-07	2.468	70.000
		4.575E-07	2.644	75.000
		4.114E-07	2.821	80.000
		3.719E-07	2.997	85.000
		1.489E-06	0.5	14.18

ANNUAL AVERAGE = 4.77E-09

K= 2 FIVEXQ(K) = 1.489E-06 FIVEPR(K) = 14.180

FUMIGATION X/Q AT THE BOUNDARY: 5.32E-05

EXPONENTIAL TERM AND FREQUENCIES

8.805E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.588	5.491	8.467	13.973	67.300	97.486	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
												MEANDER	BLDG WAKE	USED
AT 131.4 METERS														
A	3.6	1.73	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.062E-06			
A	6.0	1.50	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	1.237E-06			
A	8.9	0.68	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	8.360E-07			
B	1.7	0.15	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06			
B	3.6	1.35	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.98	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.15	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
C	1.7	0.90	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06			
C	3.6	2.10	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.30	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	8.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	17.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	18.83	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	6.38	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	0.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.90	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.70	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	11.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	11.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	1.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.60	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.08	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.83	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.65	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

G 6.5 0.30 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 750.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values and frequencies. Values range from 1.556E-05 to 3.10868.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.447
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.188

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.206  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.768

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
3	1	-11.07050	-16.15324	-1.15801
3	2	-13.12558	-17.95599	-1.84752
3	3	-13.77855	-18.93807	-2.28186
3	4	-14.34482	-24.96016	-5.27354
3	5	-14.85564	NUMXQ(K)= 5	
		5.079E-06	0.031	1.000
		3.543E-06	0.093	3.000
		2.964E-06	0.155	5.000
		2.296E-06	0.311	10.000
		1.942E-06	0.466	15.000
		1.613E-06	0.622	20.000
		1.391E-06	0.777	25.000
		1.229E-06	0.933	30.000
		1.105E-06	1.088	35.000
		9.976E-07	1.243	40.000
		8.986E-07	1.399	45.000
		8.171E-07	1.554	50.000
		7.489E-07	1.710	55.000
		6.909E-07	1.865	60.000
		6.409E-07	2.021	65.000
		5.974E-07	2.176	70.000
		5.221E-07	2.332	75.000
		4.518E-07	2.487	80.000
		3.938E-07	2.642	85.000
		1.857E-06	0.5	16.08

ANNUAL AVERAGE = 6.14E-09

K= 3 FIVEXQ(K)= 1.857E-06 FIVEPR(K)=16.084

FUMIGATION X/Q AT THE BOUNDARY: 5.32E-05

EXPONENTIAL TERM AND FREQUENCIES

8.805E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
3.902	7.878	10.580	15.851	68.917	97.224	100.000



Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	2.58	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.062E-06		
A	6.0	1.92	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	1.237E-06		
A	8.9	1.19	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	8.360E-07		
A	11.6	0.07	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	6.444E-07		
B	1.7	0.59	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06		
B	3.6	1.65	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.99	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.07	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
C	1.7	0.99	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06		
C	3.6	2.44	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.12	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.20	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	7.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	22.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	18.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	4.43	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.73	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.13	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	4.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	14.46	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	6.67	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	1.92	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	0.53	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
G	1.8	0.66	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.25	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		
G	6.5	0.13	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08		

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

WSW SECTOR BOUNDARY DISTANCE = 750.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.272E-06	2.858E-06	2.224E-06	2.062E-06	1.994E-06	1.715E-06
0.018	0.046	0.641	0.661	1.651	3.303	11.163	13.739	16.182	17.173
0.00063	0.00164	0.02263	0.02333	0.05832	0.11663	0.39420	0.48517	0.57148	0.60646
1.262E-06	1.237E-06	1.196E-06	1.159E-06	1.038E-06	8.360E-07	8.082E-07	6.875E-07	6.444E-07	6.226E-07
21.202	23.118	24.241	24.307	46.499	47.688	47.887	49.604	49.670	68.032
0.74875	0.81639	0.85604	0.85838	1.64210	1.68409	1.69109	1.75173	1.75407	2.40251
5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	8.032E-08
82.497	86.922	93.593	94.320	96.235	96.962	97.490	97.754	97.886	97.952
2.91333	3.06961	3.30519	3.33085	3.39849	3.42415	3.44281	3.45214	3.45681	3.45914
6.449E-08	3.010E-08	1.806E-08							
98.613	99.868	100.000							
3.48247	3.52678	3.53145							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.023  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.571

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.640  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.911  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.395

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
4	1	-11.07050	-15.80482	-1.08385
4	2	-12.00323	-16.02928	-1.14785
4	3	-13.12558	-17.30479	-1.65206
4	4	-13.77855	-18.80746	-2.35606
4	5	-14.34482	-31.14406	-8.86921
4	6	-14.95230	NUMXQ(K) = 6	
		5.335E-06	0.035	1.000
		3.721E-06	0.106	3.000
		3.112E-06	0.177	5.000
		2.408E-06	0.353	10.000
		2.055E-06	0.530	15.000
		1.761E-06	0.706	20.000
		1.539E-06	0.883	25.000
		1.375E-06	1.059	30.000
		1.248E-06	1.236	35.000
		1.145E-06	1.413	40.000
		1.060E-06	1.589	45.000
		9.685E-07	1.766	50.000
		8.836E-07	1.942	55.000
		8.117E-07	2.119	60.000
		7.500E-07	2.295	65.000
		6.964E-07	2.472	70.000
		6.495E-07	2.649	75.000
		6.080E-07	2.825	80.000
		5.242E-07	3.002	85.000
		4.187E-07	3.178	90.000
		2.103E-06	0.5	14.16

ANNUAL AVERAGE = 1.04E-08

K= 4 FIVEXQ(K)= 2.103E-06 FIVEPR(K)=14.158

FUMIGATION X/Q AT THE BOUNDARY: 5.32E-05

EXPONENTIAL TERM AND FREQUENCIES

8.805E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.746	10.502	13.804	17.985	71.702	97.952	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
	AT 131.4 METERS										CA=1292.SQ.METERS		
A	1.7	0.15	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	4.419E-06		
A	3.6	4.26	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.062E-06		
A	6.0	2.25	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	1.237E-06		
A	8.9	0.34	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	8.360E-07		
B	1.7	0.24	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06		
B	3.6	2.74	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.59	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
C	1.7	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06		
C	3.6	2.45	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	5.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	21.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	16.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	6.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	1.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.94	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	7.88	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	2.84	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.59	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	1.66	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	0.64	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	28.5	0.20	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08		
G	1.8	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.10	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 750.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and all-time frequencies across four rows of data.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.741
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 2.065

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 3.594  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 4.431

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
5	1	-11.07050	-15.70854	-1.06000
5	2	-13.12558	-17.14195	-1.64824
5	3	-13.77855	-18.57960	-2.35276
5	4	-14.34482	-25.59808	-6.25210
5	5	-14.95230	NUMXQ(K)= 5	
		4.999E-06	0.048	1.000
		3.556E-06	0.143	3.000
		3.001E-06	0.238	5.000
		2.352E-06	0.477	10.000
		2.022E-06	0.715	15.000
		1.713E-06	0.954	20.000
		1.490E-06	1.192	25.000
		1.326E-06	1.430	30.000
		1.198E-06	1.669	35.000
		1.096E-06	1.907	40.000
		1.000E-06	2.146	45.000
		9.012E-07	2.384	50.000
		8.187E-07	2.622	55.000
		7.491E-07	2.861	60.000
		6.895E-07	3.099	65.000
		6.378E-07	3.337	70.000
		5.927E-07	3.576	75.000
		4.980E-07	3.814	80.000
		4.178E-07	4.053	85.000
		3.535E-07	4.291	90.000
		2.311E-06	0.5	10.49

ANNUAL AVERAGE = 1.65E-08

K= 5 FIVEXQ(K)= 2.311E-06 FIVEPR(K)=10.487

FUMIGATION X/Q AT THE BOUNDARY: 5.32E-05

EXPONENTIAL TERM AND FREQUENCIES

8.805E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
6.996	10.372	13.992	18.021	69.549	98.630	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)			
												MEANDER	BLDG WAKE	USED	
AT 131.4 METERS													CA=1292.SQ.METERS		
A	3.6	2.40	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.062E-06				
A	6.0	2.40	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	1.237E-06				
A	8.9	0.16	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	8.360E-07				
A	11.6	0.05	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	6.444E-07				
A	26.5	0.05	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.812E-07				
B	3.6	1.58	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06				
B	6.0	1.36	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06				
B	8.9	0.11	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06				
B	11.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07				
C	3.6	3.54	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	1.42	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	0.22	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
C	11.6	0.11	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07				
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	4.69	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	16.58	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	16.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	7.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	1.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.11	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	3.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	10.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	14.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	3.44	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	1.15	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.25	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	2.84	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	1.31	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
F	28.5	0.05	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08				



**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 750.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.224E-06	2.062E-06	1.994E-06	1.715E-06	1.262E-06	1.237E-06
0.011	0.034	0.048	1.630	6.319	8.718	12.263	13.626	16.898	19.297
0.00045	0.00145	0.00207	0.06971	0.27031	0.37294	0.52455	0.58287	0.72282	0.82545
1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.360E-07	8.082E-07	6.875E-07	6.444E-07	6.230E-07	6.226E-07
20.715	20.824	37.401	37.455	37.619	37.837	39.091	39.146	39.255	56.050
0.88610	0.89076	1.59985	1.60218	1.60918	1.61851	1.67216	1.67449	1.67915	2.39757
5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.812E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07
66.955	74.589	88.603	90.021	92.857	92.911	96.347	97.655	98.800	98.909
2.86408	3.19063	3.79009	3.85073	3.97203	3.97436	4.12131	4.17729	4.22627	4.23094
1.301E-07	8.032E-08	6.449E-08	4.375E-08	3.010E-08	1.806E-08				
99.018	99.237	99.509	99.564	99.891	100.000				
4.23560	4.24493	4.25659	4.25893	4.27292	4.27759				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.524  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.598

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.861  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 3.787

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
6	1	-11.07050	-15.92528	-1.09380
6	2	-13.12558	-17.15561	-1.57447
6	3	-13.77855	-18.77038	-2.32731
6	4	-14.34482	-22.07870	-4.06709
6	5	-14.85564	NUMXQ(K)= 5	
		4.652E-06	0.043	1.000
		3.283E-06	0.128	3.000
		2.761E-06	0.214	5.000
		2.152E-06	0.428	10.000
		1.783E-06	0.642	15.000
		1.514E-06	0.856	20.000
		1.328E-06	1.069	25.000
		1.190E-06	1.283	30.000
		1.082E-06	1.497	35.000
		9.745E-07	1.711	40.000
		8.716E-07	1.925	45.000
		7.874E-07	2.139	50.000
		7.173E-07	2.353	55.000
		6.579E-07	2.567	60.000
		6.070E-07	2.780	65.000
		5.440E-07	2.994	70.000
		4.804E-07	3.208	75.000
		4.270E-07	3.422	80.000
		3.818E-07	3.636	85.000
		2.030E-06	0.5	11.69

ANNUAL AVERAGE = 9.84E-09

K= 6 FIVEXQ(K)= 2.030E-06 FIVEPR(K)=11.689

FUMIGATION X/Q AT THE BOUNDARY: 5.32E-05

EXPONENTIAL TERM AND FREQUENCIES

8.805E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.071	10.361	13.469	19.045	66.278	99.291	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

CLASS	METER/SEC	FREQUENCY	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	USED
											MEANDER	BLDG WAKE
AT 131.4 METERS											CA=1292.SQ.METERS	
A	3.6	0.17	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.062E-06	
A	6.0	0.87	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	1.237E-06	
A	8.9	0.56	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	8.360E-07	
B	1.7	0.09	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06	
B	3.6	0.43	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06	
B	6.0	1.17	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06	
B	8.9	0.35	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06	
B	11.6	0.04	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07	
C	3.6	0.61	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06	
C	6.0	2.69	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06	
C	8.9	0.48	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07	
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	1.95	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	14.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	20.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	6.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	0.61	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.30	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.65	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	14.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	15.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	4.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.69	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.52	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.22	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	2.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	0.30	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
G	1.8	0.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	
G	6.5	0.35	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08	

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 750.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	2.858E-06	2.224E-06	2.062E-06	1.994E-06	1.715E-06	1.262E-06
0.004	0.023	0.110	0.124	0.558	2.512	2.686	3.294	4.467	7.115
0.00024	0.00125	0.00591	0.00667	0.02999	0.13496	0.14429	0.17694	0.23992	0.38221
1.237E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.360E-07	8.082E-07	6.875E-07	6.226E-07	5.890E-07
7.984	10.676	11.024	25.744	25.788	26.352	26.830	28.046	48.803	63.784
0.42886	0.57347	0.59213	1.38286	1.38519	1.41551	1.44117	1.50648	2.62143	3.42615
4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	8.032E-08
70.775	85.931	86.538	90.056	94.311	96.396	97.091	97.395	97.698	98.220
3.80169	4.61574	4.64839	4.83733	5.06591	5.17788	5.21520	5.23152	5.24785	5.27584
6.449E-08	3.010E-08	1.806E-08	1.220E-08						
98.393	99.609	99.957	100.000						
5.28517	5.35048	5.36914	5.37148						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.135  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 3.423

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
7	1	-11.07050	-16.72216	-1.23509
7	2	-13.01641	-15.88259	-0.95527
7	3	-13.77855	-17.05557	-1.48782
7	4	-14.34482	-21.07552	-3.69421
7	5	-14.85564	NUMXQ(K) = 5	
		3.104E-06	0.054	1.000
		2.111E-06	0.161	3.000
		1.809E-06	0.269	5.000
		1.448E-06	0.537	10.000
		1.261E-06	0.806	15.000
		1.139E-06	1.074	20.000
		1.049E-06	1.343	25.000
		9.482E-07	1.611	30.000
		8.642E-07	1.880	35.000
		7.961E-07	2.149	40.000
		7.394E-07	2.417	45.000
		6.913E-07	2.686	50.000
		6.498E-07	2.954	55.000
		6.136E-07	3.223	60.000
		5.707E-07	3.491	65.000
		5.038E-07	3.760	70.000
		4.478E-07	4.029	75.000
		4.005E-07	4.297	80.000
		3.603E-07	4.566	85.000
		1.483E-06	0.5	9.31

ANNUAL AVERAGE = 4.71E-09

K= 7 FIVEXQ(K)= 1.483E-06 FIVEPR(K)= 9.308

FUMIGATION X/Q AT THE BOUNDARY: 5.32E-05

EXPONENTIAL TERM AND FREQUENCIES

8.805E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.607	5.385	7.469	14.605	59.944	98.220	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS		
A	3.6	0.09	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.062E-06			
A	6.0	0.09	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	1.237E-06			
B	3.6	0.14	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.37	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.37	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
C	3.6	0.55	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.01	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	1.61	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	11.17	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	21.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	5.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	0.51	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.32	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	14.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	20.36	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	7.58	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.47	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	4.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.63	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	0.46	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			
G	6.5	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08			
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08			



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 750.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.224E-06	2.062E-06	1.994E-06	1.715E-06	1.262E-06	1.237E-06
0.004	0.023	0.040	0.178	1.786	1.878	2.430	2.797	5.509	5.601
0.00018	0.00116	0.00203	0.00902	0.09066	0.09533	0.12332	0.14198	0.27960	0.28426
1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.207E-07
6.612	6.980	18.148	18.194	18.653	20.124	20.170	41.587	55.880	61.303
0.33558	0.35424	0.92104	0.92337	0.94670	1.02134	1.02367	2.11063	2.83604	3.11128
3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	8.032E-08	6.449E-08
81.662	82.168	86.304	93.887	97.518	98.024	98.345	98.713	98.805	99.219
4.14459	4.17025	4.38017	4.76504	4.94931	4.97497	4.99130	5.00996	5.01462	5.03561
3.010E-08	1.806E-08	1.220E-08							
99.678	99.954	100.000							
5.05894	5.07293	5.07527							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.123  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.833

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
8	1	-11.07050	-17.01333	-1.28404
8	2	-13.12558	-16.07522	-0.97420
8	3	-13.77855	-16.73458	-1.25389
8	4	-14.34482	-20.02675	-2.98127
8	5	-14.85564	NUMXQ(K) = 5	
		2.779E-06	0.051	1.000
		1.873E-06	0.152	3.000
		1.601E-06	0.254	5.000
		1.278E-06	0.508	10.000
		1.111E-06	0.761	15.000
		9.915E-07	1.015	20.000
		8.911E-07	1.269	25.000
		8.147E-07	1.523	30.000
		7.539E-07	1.776	35.000
		7.039E-07	2.030	40.000
		6.618E-07	2.284	45.000
		6.256E-07	2.538	50.000
		5.941E-07	2.791	55.000
		5.366E-07	3.045	60.000
		4.825E-07	3.299	65.000
		4.367E-07	3.553	70.000
		3.975E-07	3.806	75.000
		3.637E-07	4.060	80.000
		1.284E-06	0.5	9.85

ANNUAL AVERAGE = 1.35E-09

K= 8 FIVEXQ(K) = 1.284E-06 FIVEPR(K) = 9.852

FUMIGATION X/Q AT THE BOUNDARY: 5.32E-05

EXPONENTIAL TERM AND FREQUENCIES

8.805E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.184	2.252	3.171	12.793	53.241	98.805	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS									MEANDER	BLDG WAKE	USED
									CA=1292.SQ.METERS		
A	6.0	0.28	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	1.237E-06
A	8.9	0.16	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	8.360E-07
B	3.6	0.07	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06
B	6.0	0.58	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06
B	8.9	0.72	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06
B	11.6	0.12	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07
B	26.5	0.02	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07
C	3.6	0.44	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06
C	6.0	1.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06
C	8.9	1.56	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07
C	11.6	0.21	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07
C	26.5	0.02	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	0.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	7.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	16.51	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	11.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	2.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	0.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	1.63	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	20.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	12.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	1.49	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	0.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	3.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	1.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
G	1.8	0.40	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.79	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	0.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

N SECTOR BOUNDARY DISTANCE = 750.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.224E-06	1.994E-06	1.715E-06	1.262E-06	1.237E-06	1.196E-06
0.002	0.014	0.020	0.090	1.046	1.489	2.072	3.705	3.985	5.664
0.00022	0.00138	0.00200	0.00900	0.10463	0.14895	0.20726	0.37054	0.39853	0.56647
1.159E-06	1.038E-06	8.931E-07	8.360E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.207E-07
6.387	13.383	13.500	13.663	15.226	15.762	15.972	32.484	42.629	53.870
0.63878	1.33853	1.35020	1.36652	1.52280	1.57645	1.59744	3.24887	4.26352	5.38780
3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
53.893	74.673	76.981	80.107	80.130	92.164	95.196	96.688	97.365	98.391
5.39013	7.46841	7.69933	8.01189	8.01422	9.21780	9.52103	9.67031	9.73795	9.84058
8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
98.531	98.927	99.720	99.953	100.000					
9.85458	9.89423	9.97354	9.99686	10.00153					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.566  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 4.260

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
9	1	-11.07050	-16.78728	-1.24404
9	2	-13.63641	-14.77036	-0.44771
9	3	-13.77855	-16.31783	-1.14625
9	4	-14.34482	-17.49364	-1.82936
9	5	-14.85564	NUMXQ(K)= 5	
		2.394E-06	0.100	1.000
		1.564E-06	0.300	3.000
		1.262E-06	0.500	5.000
		1.091E-06	1.000	10.000
		9.857E-07	1.500	15.000
		8.626E-07	2.000	20.000
		7.747E-07	2.500	25.000
		7.075E-07	3.000	30.000
		6.538E-07	3.501	35.000
		6.094E-07	4.001	40.000
		5.621E-07	4.501	45.000
		5.124E-07	5.001	50.000
		4.705E-07	5.501	55.000
		4.345E-07	6.001	60.000
		4.034E-07	6.501	65.000
		3.761E-07	7.001	70.000
		1.263E-06	0.5	5.00

ANNUAL AVERAGE = 3.87E-09

K= 9 FIVEXQ(K)= 1.263E-06 FIVEPR(K)= 4.999

FUMIGATION X/Q AT THE BOUNDARY: 5.32E-05

EXPONENTIAL TERM AND FREQUENCIES

8.805E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.443	4.361	5.877	13.603	52.296	98.531	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)			
												MEANDER	BLDG WAKE	USED	
AT 131.4 METERS													CA=1292.SQ.METERS		
A	3.6	0.08	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.062E-06				
A	6.0	0.28	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	1.237E-06				
A	8.9	0.12	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	8.360E-07				
B	3.6	0.16	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06				
B	6.0	0.56	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06				
B	8.9	0.36	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06				
B	11.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07				
C	3.6	0.20	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	1.47	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	0.95	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	0.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	7.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	16.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	6.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	0.64	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	2.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	12.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	22.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	9.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	0.76	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.27	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	5.61	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	4.42	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	0.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
F	12.5	0.12	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07				
G	1.8	0.36	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08				
G	3.9	1.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08				
G	6.5	0.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08				

G 9.6 0.04 90000.

0. 131.

1000.0 46.0 0.0

0.000E+00 0.000E+00 1.220E-08



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 750.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.224E-06	2.062E-06	1.994E-06	1.715E-06	1.262E-06	1.237E-06
0.002	0.018	0.033	0.192	1.107	1.186	1.385	1.942	4.170	4.448
0.00012	0.00105	0.00191	0.01124	0.06489	0.06956	0.08122	0.11387	0.24450	0.26082
1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.360E-07	8.082E-07	6.875E-07	6.226E-07	5.890E-07	4.207E-07
5.920	6.278	13.876	13.956	14.075	15.030	16.303	33.209	45.939	52.542
0.34713	0.36812	0.81363	0.81830	0.82529	0.88127	0.95592	1.94724	2.69365	3.08085
3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08
75.495	76.132	81.741	90.811	95.226	95.982	96.340	97.255	97.375	97.534
4.42671	4.46403	4.79292	5.32473	5.58364	5.62796	5.64895	5.70260	5.70960	5.71893
6.449E-08	3.010E-08	1.806E-08	1.220E-08						
97.892	99.125	99.960	100.000						
5.73992	5.81223	5.86121	5.86355						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.001  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.347

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.691  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.423

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
10	1	-11.07050	-16.86574	-1.22926
10	2	-11.63677	-17.11110	-1.28694
10	3	-13.63641	-14.92951	-0.47893
10	4	-13.77855	-16.64412	-1.19241
10	5	-14.34482	-18.72800	-2.27310
10	6	-14.85564	NUMXQ(K)= 6	
		2.414E-06	0.059	1.000
		1.585E-06	0.176	3.000
		1.285E-06	0.293	5.000
		1.098E-06	0.586	10.000
		1.003E-06	0.880	15.000
		8.815E-07	1.173	20.000
		7.949E-07	1.466	25.000
		7.287E-07	1.759	30.000
		6.758E-07	2.052	35.000
		6.322E-07	2.345	40.000
		5.953E-07	2.639	45.000
		5.416E-07	2.932	50.000
		4.920E-07	3.225	55.000
		4.501E-07	3.518	60.000
		4.142E-07	3.811	65.000
		3.831E-07	4.104	70.000
		3.559E-07	4.398	75.000
		1.127E-06	0.5	8.53

ANNUAL AVERAGE = 2.10E-09

K= 10 FIVEXQ(K)= 1.127E-06 FIVEPR(K)= 8.527

FUMIGATION X/Q AT THE BOUNDARY: 5.32E-05

EXPONENTIAL TERM AND FREQUENCIES

8.805E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.477	3.103	4.256	16.603	49.623	97.534	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	USED	
	AT 131.4 METERS										MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS		
A	3.6	0.09	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.062E-06		
A	6.0	0.23	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	1.237E-06		
A	8.9	0.09	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	8.360E-07		
B	3.6	0.14	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.61	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.28	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
C	3.6	0.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.41	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.99	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.19	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
C	26.5	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	1.50	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	7.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	13.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	5.92	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.75	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.14	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.77	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	13.19	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	16.62	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	7.32	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	7.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	1.83	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.69	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	2.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.38	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

NE SECTOR BOUNDARY DISTANCE = 750.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.224E-06	2.062E-06	1.994E-06	1.715E-06	1.262E-06	1.237E-06
0.003	0.023	0.040	0.181	1.684	1.778	2.106	2.717	5.487	5.722
0.00017	0.00115	0.00201	0.00901	0.08365	0.08831	0.10464	0.13496	0.27258	0.28425
1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.360E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07
7.130	7.412	14.689	14.736	14.830	15.816	17.319	17.506	30.981	44.175
0.35422	0.36822	0.72976	0.73209	0.73676	0.78574	0.86038	0.86971	1.53914	2.19458
4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
50.091	66.711	67.463	74.787	74.834	84.976	92.347	93.192	93.333	95.164
2.48848	3.31419	3.35152	3.71539	3.71772	4.22155	4.58775	4.62974	4.63674	4.72770
8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
95.258	95.540	97.230	99.624	100.000					
4.73237	4.74636	4.83034	4.94929	4.96795					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.084  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.729

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 2.192  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5) = 3.712

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
11	1	-11.07050	-17.08419	-1.29417
11	2	-13.01641	-16.43637	-1.08807
11	3	-13.77855	-17.01689	-1.32572
11	4	-14.34482	-19.65802	-2.63609
11	5	-14.95230	NUMXQ(K) = 5	
		2.698E-06	0.050	1.000
		1.842E-06	0.149	3.000
		1.547E-06	0.248	5.000
		1.203E-06	0.497	10.000
		1.027E-06	0.745	15.000
		8.927E-07	0.994	20.000
		7.977E-07	1.242	25.000
		7.258E-07	1.490	30.000
		6.688E-07	1.739	35.000
		6.221E-07	1.987	40.000
		5.771E-07	2.236	45.000
		5.130E-07	2.484	50.000
		4.604E-07	2.732	55.000
		4.164E-07	2.981	60.000
		3.792E-07	3.229	65.000
		3.474E-07	3.478	70.000
		1.200E-06	0.5	10.06

ANNUAL AVERAGE = 1.74E-09

K= 11 FIVEXQ(K) = 1.200E-06 FIVEPR(K) = 10.065

FUMIGATION X/Q AT THE BOUNDARY: 5.32E-05

EXPONENTIAL TERM AND FREQUENCIES

8.805E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.423	3.381	4.460	22.507	51.573	95.258	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	6.0	0.33	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	1.237E-06				
A	8.9	0.14	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	8.360E-07				
A	11.6	0.09	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	6.444E-07				
A	26.5	0.09	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.812E-07				
B	3.6	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06				
B	6.0	0.38	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06				
B	8.9	0.89	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06				
B	11.6	0.09	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07				
B	26.5	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07				
C	3.6	0.14	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	1.22	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	1.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
C	11.6	0.19	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07				
C	26.5	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07				
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	0.71	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	6.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	9.93	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	8.94	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	1.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	2.54	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	8.80	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	13.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	12.75	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	1.41	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.05	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	5.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	8.33	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	5.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
F	12.5	0.85	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07				

G	1.8	0.85	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	3.29	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 750.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.224E-06	1.994E-06	1.715E-06	1.262E-06	1.237E-06	1.196E-06
0.002	0.020	0.038	0.085	0.790	0.931	1.308	3.848	4.177	5.400
0.00008	0.00098	0.00186	0.00420	0.03918	0.04618	0.06484	0.19080	0.20713	0.26777
1.159E-06	1.038E-06	8.931E-07	8.360E-07	8.082E-07	6.875E-07	6.444E-07	6.230E-07	6.226E-07	5.890E-07
6.294	12.315	12.409	12.551	14.009	15.561	15.655	15.843	25.769	34.566
0.31209	0.61065	0.61532	0.62232	0.69462	0.77160	0.77626	0.78559	1.27776	1.71394
4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.812E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07
43.504	43.551	57.522	58.557	64.061	64.155	64.202	76.950	85.276	86.687
2.15712	2.15945	2.85221	2.90353	3.17643	3.18110	3.18343	3.81554	4.22840	4.29838
1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09	
86.970	92.097	92.944	92.991	93.838	95.437	98.730	99.953	100.000	
4.31237	4.56662	4.60860	4.61093	4.65292	4.73222	4.89550	4.95615	4.95848	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.001

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.312

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 1.712  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.173

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
12	1	-11.07050	-16.19649	-1.06775
12	2	-11.63677	-17.28756	-1.32325
12	3	-13.66823	-14.98686	-0.48210
12	4	-13.77855	-17.42585	-1.45522
12	5	-14.34482	-19.26643	-2.32456
12	6	-14.95230	NUMXQ(K)= 6	
		2.424E-06	0.050	1.000
		1.582E-06	0.149	3.000
		1.279E-06	0.248	5.000
		1.075E-06	0.496	10.000
		9.364E-07	0.744	15.000
		8.027E-07	0.992	20.000
		7.095E-07	1.240	25.000
		6.396E-07	1.488	30.000
		5.821E-07	1.735	35.000
		5.128E-07	1.983	40.000
		4.576E-07	2.231	45.000
		4.125E-07	2.479	50.000
		3.750E-07	2.727	55.000
		3.432E-07	2.975	60.000
		1.073E-06	0.5	10.08

ANNUAL AVERAGE = 1.76E-09

K= 12 FIVEXQ(K)= 1.073E-06 FIVEPR(K)=10.084

FUMIGATION X/Q AT THE BOUNDARY: 5.32E-05

EXPONENTIAL TERM AND FREQUENCIES

8.805E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.659	3.716	5.175	26.549	53.458	92.991	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	0.03	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.062E-06			
A	6.0	0.24	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	1.237E-06			
A	8.9	0.63	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	8.360E-07			
A	11.6	0.42	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	6.444E-07			
A	26.5	0.06	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.812E-07			
B	3.6	0.12	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.63	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.81	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.36	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
B	26.5	0.18	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07			
C	3.6	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.25	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	1.67	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.86	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.39	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.78	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	4.21	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	8.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	11.78	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	6.71	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	2.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	1.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	5.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	11.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	15.99	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	2.33	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.89	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	5.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	5.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			

Calculation No. PM-1055 Revision 0

Attachment J

F	12.5	0.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
G	1.8	0.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	2.06	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.16	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

E SECTOR BOUNDARY DISTANCE = 750.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.224E-06	2.062E-06	1.994E-06	1.715E-06	1.262E-06	1.237E-06
0.002	0.013	0.024	0.143	0.918	0.948	1.097	1.724	3.334	3.573
0.00014	0.00103	0.00184	0.01117	0.07182	0.07415	0.08581	0.13480	0.26075	0.27941
1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.360E-07	8.082E-07	6.875E-07	6.444E-07	6.230E-07	6.226E-07
4.826	5.631	9.836	10.194	10.821	12.491	13.386	13.803	14.668	23.646
0.37738	0.44036	0.76924	0.79723	0.84622	0.97684	1.04681	1.07947	1.14711	1.84920
5.890E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.812E-07	2.719E-07	2.388E-07	1.925E-07
28.806	40.587	40.766	52.547	59.258	61.793	61.853	62.240	78.227	84.133
2.25273	3.17407	3.18807	4.10942	4.63424	4.83250	4.83716	4.86749	6.11772	6.57956
1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09
86.459	89.143	94.154	94.870	95.138	95.526	96.719	98.777	99.940	99.970
6.76150	6.97143	7.36329	7.41927	7.44026	7.47059	7.56389	7.72483	7.81580	7.81813
4.104E-09									
100.000									
7.82046									

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.072  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.250  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.829

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
13	1	-11.07050	-17.14626	-1.29563
13	2	-13.01641	-16.19662	-0.99771
13	3	-13.77855	-17.05369	-1.35134
13	4	-14.34482	-17.89612	-1.77160
13	5	-14.95230	NUMXQ(K)= 5	
		2.169E-06	0.078	1.000
		1.553E-06	0.235	3.000
		1.314E-06	0.391	5.000
		1.029E-06	0.782	10.000
		8.389E-07	1.173	15.000
		7.207E-07	1.564	20.000
		6.379E-07	1.955	25.000
		5.714E-07	2.346	30.000
		5.082E-07	2.737	35.000
		4.581E-07	3.128	40.000
		4.171E-07	3.519	45.000
		3.830E-07	3.910	50.000
		3.540E-07	4.301	55.000
		3.290E-07	4.692	60.000
		1.208E-06	0.5	6.39

ANNUAL AVERAGE = 4.19E-09

K= 13 FIVEXQ(K)= 1.208E-06 FIVEPR(K)= 6.393

FUMIGATION X/Q AT THE BOUNDARY: 5.32E-05

EXPONENTIAL TERM AND FREQUENCIES

8.805E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.372	5.697	7.785	22.857	57.994	95.138	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS			
AT 131.4 METERS														
A	6.0	0.24	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	1.237E-06			
A	8.9	0.24	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	8.360E-07			
A	11.6	0.05	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	6.444E-07			
A	26.5	0.13	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.812E-07			
B	3.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.24	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.53	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.37	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
B	26.5	0.19	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07			
C	3.6	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	0.69	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	1.57	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.80	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.72	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	1.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	2.59	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	9.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	17.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	11.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	4.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	0.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	3.68	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	9.45	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	15.56	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	2.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.32	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.75	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	1.76	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.74	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	3.68	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			

G	1.8	0.37	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T.

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 750.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.224E-06	1.994E-06	1.715E-06	1.262E-06	1.237E-06	1.196E-06
0.002	0.009	0.018	0.098	1.112	1.246	1.486	2.447	2.687	3.381
0.00020	0.00080	0.00155	0.00855	0.09719	0.10885	0.12984	0.21381	0.23480	0.29545
1.159E-06	1.038E-06	8.931E-07	8.360E-07	8.082E-07	6.875E-07	6.444E-07	6.230E-07	6.226E-07	5.890E-07
3.915	6.504	6.877	7.117	8.692	9.439	9.493	10.294	19.769	23.452
0.34210	0.56836	0.60101	0.62200	0.75962	0.82493	0.82960	0.89957	1.72762	2.04951
4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.812E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07
41.441	41.628	51.076	63.034	64.795	64.929	65.649	81.210	84.947	87.909
3.62163	3.63796	4.46367	5.50864	5.66259	5.67425	5.73723	7.09709	7.42365	7.68256
1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09	
91.939	95.623	96.103	96.423	96.797	97.731	98.906	99.947	100.000	
8.03477	8.35666	8.39864	8.42663	8.45929	8.54092	8.64356	8.73452	8.73919	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.097  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.568

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.047  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.659

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
14	1	-11.07050	-17.00428	-1.28683
14	2	-13.01641	-17.17925	-1.34329
14	3	-13.77855	-16.71889	-1.16145
14	4	-14.34482	-17.04431	-1.32064
14	5	-14.95230	NUMXQ(K)= 5	
		2.315E-06	0.087	1.000
		1.472E-06	0.262	3.000
		1.172E-06	0.437	5.000
		8.670E-07	0.874	10.000
		7.254E-07	1.311	15.000
		6.354E-07	1.748	20.000
		5.687E-07	2.185	25.000
		5.134E-07	2.622	30.000
		4.697E-07	3.059	35.000
		4.340E-07	3.496	40.000
		4.042E-07	3.933	45.000
		3.787E-07	4.370	50.000
		3.567E-07	4.807	55.000
		3.373E-07	5.244	60.000
		1.102E-06	0.5	5.72

ANNUAL AVERAGE = 2.81E-09

K= 14 FIVEXQ(K)= 1.102E-06 FIVEPR(K)= 5.721

FUMIGATION X/Q AT THE BOUNDARY: 5.32E-05

EXPONENTIAL TERM AND FREQUENCIES

8.805E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.667	4.591	6.005	16.423	63.481	96.423	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS			
AT 131.4 METERS														
A	6.0	0.04	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	1.237E-06			
A	8.9	0.06	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	8.360E-07			
A	26.5	0.02	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.812E-07			
B	3.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.04	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.19	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.08	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
C	3.6	0.06	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	0.55	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.74	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.59	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	4.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	11.52	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	22.08	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	11.54	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	3.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	0.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	3.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	11.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	13.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	1.89	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.13	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.00	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.78	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	1.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.49	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	1.95	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T.

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 750.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values and frequencies. Rows are grouped by CHI/Q values ranging from 1.556E-05 to 8.032E-08.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.095
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.733

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 5.038  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 7.735

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
15	1	-11.07050	-17.00308	-1.28344
15	2	-13.01641	-16.57320	-1.14505
15	3	-13.77855	-16.53477	-1.12930
15	4	-14.68142	-16.72066	-1.24258
15	5	-14.95230	NUMXQ(K) = 5	
		2.115E-06	0.110	1.000
		1.425E-06	0.329	3.000
		1.168E-06	0.549	5.000
		8.769E-07	1.098	10.000
		7.334E-07	1.647	15.000
		6.419E-07	2.196	20.000
		5.765E-07	2.745	25.000
		5.264E-07	3.294	30.000
		4.864E-07	3.842	35.000
		4.533E-07	4.391	40.000
		4.254E-07	4.940	45.000
		3.995E-07	5.489	50.000
		3.765E-07	6.038	55.000
		3.563E-07	6.587	60.000
		3.384E-07	7.136	65.000
		3.223E-07	7.685	70.000
		1.212E-06	0.5	4.55

ANNUAL AVERAGE = 1.30E-09

K= 15 FIVEXQ(K) = 1.212E-06 FIVEPR(K) = 4.554

FUMIGATION X/Q AT THE BOUNDARY: 5.32E-05

EXPONENTIAL TERM AND FREQUENCIES

8.805E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.127	2.210	2.613	10.863	64.767	96.091	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
			AT 131.4 METERS									MEANDER	CA=1292.SQ.METERS	
A	3.6	0.02	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.062E-06			
A	6.0	0.17	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	1.237E-06			
A	8.9	0.32	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	8.360E-07			
A	11.6	0.02	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	6.444E-07			
A	26.5	0.02	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.812E-07			
B	3.6	0.06	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06			
B	6.0	0.48	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06			
B	8.9	0.71	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06			
B	11.6	0.11	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07			
C	3.6	0.48	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	2.16	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	2.01	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.37	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	1.08	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	8.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	20.04	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	19.82	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	5.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	1.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	4.38	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	11.10	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	10.11	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.93	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.09	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	2.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.69	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	28.5	0.02	90000.	0.	131.	1000 0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09



**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

SSE SECTOR BOUNDARY DISTANCE = 750.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.858E-06	2.224E-06	2.062E-06	1.994E-06	1.715E-06	1.262E-06	1.237E-06
0.002	0.008	0.013	0.078	1.158	1.179	1.654	2.130	2.864	3.037
0.00026	0.00083	0.00142	0.00842	0.12504	0.12738	0.17869	0.23001	0.30931	0.32797
1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.360E-07	8.082E-07	6.875E-07	6.444E-07	6.230E-07	6.226E-07
5.196	5.909	14.223	14.331	14.655	16.663	17.138	17.160	17.527	37.568
0.56123	0.63820	1.53622	1.54788	1.58287	1.79980	1.85111	1.85344	1.89310	4.05768
5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.208E-07	2.812E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07
41.951	61.776	72.876	78.102	80.197	80.219	90.325	93.046	93.975	95.335
4.53118	6.67244	7.87136	8.43583	8.66208	8.66442	9.75604	10.04994	10.15024	10.29718
1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	4.104E-09		
96.026	96.134	96.350	96.761	98.035	99.870	99.978	100.000		
10.37183	10.38349	10.40681	10.45113	10.58875	10.78701	10.79868	10.80101		

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.179  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.528

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
16	1	-11.07050	-16.77701	-1.25313
16	2	-13.12558	-15.65308	-0.86741
16	3	-13.77855	-16.39015	-1.20848
16	4	-14.34482	-17.31894	-1.75724
16	5	-14.68142	NUMXQ(K) = 5	
		2.417E-06	0.108	1.000
		1.689E-06	0.324	3.000
		1.453E-06	0.540	5.000
		1.168E-06	1.080	10.000
		1.011E-06	1.620	15.000
		8.773E-07	2.160	20.000
		7.822E-07	2.700	25.000
		7.099E-07	3.240	30.000
		6.525E-07	3.780	35.000
		6.053E-07	4.320	40.000
		5.553E-07	4.860	45.000
		5.073E-07	5.401	50.000
		4.668E-07	5.941	55.000
		4.319E-07	6.481	60.000
		1.487E-06	0.5	4.63

ANNUAL AVERAGE = 4.25E-09

K= 16 FIVEXQ(K)= 1.487E-06 FIVEPR(K)= 4.629

FUMIGATION X/Q AT THE BOUNDARY: 5.32E-05

EXPONENTIAL TERM AND FREQUENCIES

8.805E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.561	5.572	6.932	13.028	68.876	96.350	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	1.7	0.01	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	4.419E-06		
A	3.6	0.51	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.062E-06		
A	6.0	0.53	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	1.237E-06		
A	8.9	0.28	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	8.360E-07		
A	11.6	0.06	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	6.444E-07		
A	26.5	0.03	750.	0.	131.	144.4	260.5	0.0	0.000E+00	0.000E+00	2.812E-07		
B	1.7	0.05	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	6.124E-06		
B	3.6	0.47	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	2.858E-06		
B	6.0	0.54	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.715E-06		
B	8.9	0.44	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	1.159E-06		
B	11.6	0.12	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	8.931E-07		
B	26.5	0.03	900.	0.	131.	128.1	98.0	0.0	0.000E+00	0.000E+00	3.897E-07		
C	1.7	0.08	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06		
C	3.6	0.77	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	1.04	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.30	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
C	26.5	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	2.07	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	9.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	15.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	12.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	4.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	1.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	1.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	8.90	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	9.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	1.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		

**Calculation No. PM-1055 Revision 0****Attachment J**

F	3.9	3.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.16	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
F	28.5	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08
G	1.8	0.43	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.14	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.31	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.01	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.00	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0****Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## SITE EXCLUSION BOUNDARY CALCULATIONS:

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 750.0 METERS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.419E-06	4.272E-06	2.858E-06	2.224E-06	2.062E-06	1.994E-06
0.005	0.019	0.065	0.077	0.084	0.161	0.632	2.699	3.212	3.977
0.00467	0.01866	0.06531	0.07697	0.08397	0.16094	0.63211	2.69873	3.21189	3.97695
1.715E-06	1.262E-06	1.237E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.360E-07	8.082E-07	6.875E-07
4.520	6.487	7.019	8.348	8.789	18.180	18.301	18.579	19.621	20.631
4.52043	6.48675	7.01857	8.34811	8.78895	18.17970	18.30099	18.57856	19.62120	20.63118
6.444E-07	6.230E-07	6.226E-07	5.890E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.812E-07
20.689	20.993	36.712	45.608	57.837	57.872	71.718	75.959	79.101	79.129
20.68950	20.99273	36.71161	45.60785	57.83728	57.87226	71.71813	75.95866	79.10057	79.12856
2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	4.375E-08
79.254	88.781	92.298	93.593	94.980	96.534	96.695	96.923	97.357	97.369
79.25452	88.78054	92.29799	93.59254	94.98039	96.53386	96.69480	96.92339	97.35724	97.36890
3.010E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54216	99.67810	99.98599	99.99532	99.99998					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

3.444E-06	1.000	1.000
2.251E-06	3.000	3.000
1.833E-06	5.000	5.000
1.384E-06	10.000	10.000
1.145E-06	15.000	15.000
9.895E-07	20.000	20.000
8.788E-07	25.000	25.000
7.900E-07	30.000	30.000
7.158E-07	35.000	35.000
6.518E-07	40.000	40.000
5.954E-07	45.000	45.000
5.477E-07	50.000	50.000
5.042E-07	55.000	55.000
4.635E-07	60.000	60.000
4.248E-07	65.000	65.000
3.875E-07	70.000	70.000
3.509E-07	75.000	75.000

1.833E-06 5.0 5.00

K= 17 FIVEXQ(K)= 1.833E-06 FIVEPR(K)= 5.000

FUMIGATION X/Q AT THE BOUNDARY: 5.32E-05

EXPONENTIAL TERM AND FREQUENCIES

8.805E-01	5.200E-01	4.072E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.416	5.059	6.718	16.125	61.163	96.935	100.000

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

Page 382 of 1411

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED:

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	6.124E-06	4.813E-06	4.419E-06	4.272E-06	2.858E-06	2.224E-06	2.062E-06	1.994E-06
0.005	0.019	0.065	0.077	0.084	0.161	0.632	2.699	3.212	3.977
0.00467	0.01866	0.06531	0.07697	0.08397	0.16094	0.63211	2.69873	3.21189	3.97696
1.715E-06	1.262E-06	1.237E-06	1.196E-06	1.159E-06	1.038E-06	8.931E-07	8.360E-07	8.082E-07	6.875E-07
4.520	6.487	7.019	8.348	8.789	18.180	18.301	18.579	19.621	20.631
4.52043	6.48675	7.01857	8.34811	8.78895	18.17970	18.30099	18.57857	19.62120	20.63118
6.444E-07	6.230E-07	6.226E-07	5.890E-07	4.207E-07	3.897E-07	3.534E-07	3.243E-07	3.208E-07	2.812E-07
20.689	20.993	36.712	45.608	57.837	57.872	71.718	75.959	79.101	79.129
20.68950	20.99273	36.71161	45.60786	57.83729	57.87227	71.71814	75.95866	79.10059	79.12858
2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	4.375E-08
79.255	88.781	92.298	93.593	94.980	96.534	96.695	96.923	97.357	97.369
79.25454	88.78056	92.29800	93.59257	94.98042	96.53387	96.69482	96.92341	97.35725	97.36891
3.010E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54217	99.67809	99.98599	99.99532	99.99999					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q      WITH RESPECT TO      WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
18	1	-11.07050	-14.79905	-0.95422
18	2	-13.12558	-14.48027	-0.77245
18	3	-13.77855	-14.42288	-0.70928
18	4	-14.34482	-14.41751	-0.66046
18	5	-14.95230	NUMXQ(K) = 5	
		3.444E-06	1.000	1.000
		2.251E-06	3.000	3.000
		1.833E-06	5.000	5.000
		1.384E-06	10.000	10.000
		1.145E-06	15.000	15.000
		9.895E-07	20.000	20.000
		8.788E-07	25.000	25.000
		7.900E-07	30.000	30.000
		7.158E-07	35.000	35.000
		6.518E-07	40.000	40.000
		5.954E-07	45.000	45.000
		5.477E-07	50.000	50.000
		5.042E-07	55.000	55.000
		4.635E-07	60.000	60.000
		4.248E-07	65.000	65.000
		3.875E-07	70.000	70.000
		3.509E-07	75.000	75.000
		1.833E-06	5.0	5.00

K= 18 FIVEXQ(K) = 1.833E-06 FIVEPR(K) = 5.000

K	HIGHPR	PR	GRNDVT(K)
1	-2.92313	0.17327	6.21119
2	-1.90869	2.81507	3.52599
3	-2.74220	0.30515	3.10868
4	-2.65850	0.39245	3.53145
5	-2.57624	0.49942	4.76778
6	-2.69478	0.35218	4.27759
7	-3.03170	0.12160	5.37148
8	-3.14289	0.08366	5.07527
9	-3.06225	0.10985	10.00153
10	-3.21178	0.06596	5.86355
11	-3.17304	0.07544	4.96796
12	-3.25699	0.05631	4.95848
13	-3.21736	0.06469	7.82046
14	-3.12904	0.08770	8.73919
15	-3.13636	0.08554	10.97840
16	-3.03183	0.12155	10.80101

K	HOURS(K)	TOTHR
1	15.17851	15.17851
2	246.60040	261.77900
3	26.73079	288.50970



Calculation No. PM-1055 Revision 0

Attachment J

4	34.37904	322.88880
5	43.74879	366.63760
6	30.85097	397.48850
7	10.65211	408.14060
8	7.32819	415.46880
9	9.62246	425.09130
10	5.77849	430.86980
11	6.60816	437.47790
12	4.93263	442.41050
13	5.66727	448.07780
14	7.68220	455.76000
15	7.49318	463.25320
16	10.64741	473.90060

K	FIVEXQ	SVANN	SLTIME	TIMINT	I	TIME	XQT
1	1.545E-06	2.689E-09	-0.7577	-12.8553	1	8.0	-14.43093
					2	16.0	-14.95616
					3	72.0	-16.09585
					4	624.0	-17.73218
2	1.489E-06	4.766E-09	-0.6851	-12.9422	1	8.0	-14.36689
					2	16.0	-14.84178
					3	72.0	-15.87224
					4	624.0	-17.35174
3	1.857E-06	6.142E-09	-0.6812	-12.7242	1	8.0	-14.14066
					2	16.0	-14.61283
					3	72.0	-15.63739
					4	624.0	-17.10840
4	2.103E-06	1.040E-08	-0.6332	-12.6333	1	8.0	-13.94991
					2	16.0	-14.38879
					3	72.0	-15.34111
					4	624.0	-16.70842
5	2.311E-06	1.651E-08	-0.5894	-12.5692	1	8.0	-13.79477
					2	16.0	-14.20328
					3	72.0	-15.08973
					4	624.0	-16.36244
6	2.030E-06	9.841E-09	-0.6356	-12.6669	1	8.0	-13.98850
					2	16.0	-14.42904
					3	72.0	-15.38500
					4	624.0	-16.75751
7	1.483E-06	4.709E-09	-0.6860	-12.9461	1	8.0	-14.37259
					2	16.0	-14.84809
					3	72.0	-15.87989
					4	624.0	-17.36130
8	1.284E-06	1.350E-09	-0.8178	-12.9986	1	8.0	-14.69917
					2	16.0	-15.26603

Calculation No. PM-1055 Revision 0

Attachment J

				3	72.0	-16.49608
				4	624.0	-18.26213
9	1.263E-06	3.865E-09	-0.6904	-13.1038		
				1	8.0	-14.53943
				2	16.0	-15.01797
				3	72.0	-16.05637
				4	624.0	-17.54725
10	1.127E-06	2.100E-09	-0.7496	-13.1761		
				1	8.0	-14.73486
				2	16.0	-15.25446
				3	72.0	-16.38195
				4	624.0	-18.00075
11	1.200E-06	1.742E-09	-0.7794	-13.0930		
				1	8.0	-14.71368
				2	16.0	-15.25390
				3	72.0	-16.42613
				4	624.0	-18.10915
12	1.073E-06	1.755E-09	-0.7652	-13.2145		
				1	8.0	-14.80558
				2	16.0	-15.33594
				3	72.0	-16.48679
				4	624.0	-18.13912
13	1.208E-06	4.193E-09	-0.6754	-13.1581		
				1	8.0	-14.56264
				2	16.0	-15.03082
				3	72.0	-16.04674
				4	624.0	-17.50534
14	1.102E-06	2.809E-09	-0.7122	-13.2249		
				1	8.0	-14.70595
				2	16.0	-15.19962
				3	72.0	-16.27084
				4	624.0	-17.80885
15	1.212E-06	1.297E-09	-0.8157	-13.0579		
				1	8.0	-14.75408
				2	16.0	-15.31949
				3	72.0	-16.54637
				4	624.0	-18.30787
16	1.487E-06	4.248E-09	-0.6987	-12.9341		
				1	8.0	-14.38699
				2	16.0	-14.87127
				3	72.0	-15.92212
				4	624.0	-17.43089
17	1.833E-06	1.651E-08	-0.5617	-12.8201		
				1	8.0	-13.98815
				2	16.0	-14.37751
				3	72.0	-15.22240
				4	624.0	-16.43545
18	1.833E-06	1.651E-08	-0.5617	-12.8201		
				1	8.0	-13.98815
				2	16.0	-14.37751
				3	72.0	-15.22240
				4	624.0	-16.43545

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
VERSUS  
AVERAGING TIME

DOWNWIND DISTANCE SECTOR (METERS)	RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER) VERSUS AVERAGING TIME						HOURS PER YEAR MAX 0-2 HR X/Q IS EXCEEDED		DOWNWIND SECTOR
	0-2 HOURS	0-8 HOURS	8-24 HOURS	1-4 DAYS	4-30 DAYS	ANNUAL AVERAGE	IN SECTOR		
S 750.	1.55E-06	5.40E-07	3.20E-07	1.02E-07	1.99E-08	2.69E-09	15.2	S	
SSW 750.	1.49E-06	5.76E-07	3.58E-07	1.28E-07	2.91E-08	4.77E-09	246.6	SSW	
SW 750.	1.86E-06	7.22E-07	4.51E-07	1.62E-07	3.71E-08	6.14E-09	26.7	SW	
WSW 750.	2.10E-06	8.74E-07	5.64E-07	2.17E-07	5.54E-08	1.04E-08	34.4	WSW	
W 750.	2.31E-06	1.02E-06	6.79E-07	2.80E-07	7.83E-08	1.65E-08	43.7	W	
WNW 750.	2.03E-06	8.41E-07	5.41E-07	2.08E-07	5.28E-08	9.84E-09	30.9	WNW	
NW 750.	1.48E-06	5.73E-07	3.56E-07	1.27E-07	2.88E-08	4.71E-09	10.7	NW	
NNW 750.	1.28E-06	4.13E-07	2.34E-07	6.85E-08	1.17E-08	1.35E-09	7.3	NNW	
N 750.	1.26E-06	4.85E-07	3.00E-07	1.06E-07	2.40E-08	3.87E-09	9.6	N	
NNE 750.	1.13E-06	3.99E-07	2.37E-07	7.68E-08	1.52E-08	2.10E-09	5.8	NNE	
NE 750.	1.20E-06	4.07E-07	2.37E-07	7.35E-08	1.37E-08	1.74E-09	6.6	NE	
ENE 750.	1.07E-06	3.72E-07	2.19E-07	6.92E-08	1.33E-08	1.76E-09	4.9	ENE	
E 750.	1.21E-06	4.74E-07	2.97E-07	1.07E-07	2.50E-08	4.19E-09	5.7	E	
ESE 750.	1.10E-06	4.10E-07	2.51E-07	8.58E-08	1.84E-08	2.81E-09	7.7	ESE	
SE 750.	1.21E-06	3.91E-07	2.22E-07	6.52E-08	1.12E-08	1.30E-09	7.5	SE	
SSE 750.	1.49E-06	5.65E-07	3.48E-07	1.22E-07	2.69E-08	4.25E-09	10.6	SSE	
MAX X/Q	2.31E-06					TOTAL HOURS AROUND SITE:	473.9		
SRP 2.3.4 750.	1.83E-06	8.41E-07	5.70E-07	2.45E-07	7.28E-08	1.65E-08			
SITE LIMIT	1.83E-06	8.41E-07	5.70E-07	2.45E-07	7.28E-08	1.65E-08			

THE FIVE-PERCENT-FOR-THE-ENTIRE-SITE X/Q IS LIMITING.

X/Q VALUES (SEC/CUBIC METER) FOR FUMIGATION AT THE BOUNDARY:

DOWNWIND DISTANCE FUMIGATION

SECTOR (METERS)	X/Q
S 750.	5.32E-05
SSW 750.	5.32E-05
SW 750.	5.32E-05
WSW 750.	5.32E-05
W 750.	5.32E-05
WNW 750.	5.32E-05
NW 750.	5.32E-05
NNW 750.	5.32E-05
N 750.	5.32E-05
NNE 750.	5.32E-05
NE 750.	5.32E-05
ENE 750.	5.32E-05
E 750.	5.32E-05

**Calculation No. PM-1055 Revision 0**

**Attachment J**

ESE	750.	5.32E-05
SE	750.	5.32E-05
SSE	750.	5.32E-05

**\*\*NOTE\*\***: VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
CHECK THE REASONABLENESS OF THE ENVELOPES  
COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	0.23	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	1.002E-06			
A	8.9	0.08	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	4.063E-07			
A	11.6	0.08	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	3.132E-07			
B	3.6	0.49	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	2.789E-06			
B	6.0	0.15	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.673E-06			
B	8.9	0.38	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.131E-06			
B	11.6	0.04	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	8.715E-07			
C	3.6	1.16	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.58	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.04	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	2.22	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	12.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	19.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	14.87	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	2.74	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.56	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	8.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	13.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	5.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	3.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.15	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	1.77	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

S SECTOR BOUNDARY DISTANCE = 1000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.789E-06	2.224E-06	1.994E-06	1.673E-06	1.262E-06	1.196E-06	1.131E-06
0.005	0.021	0.032	0.521	2.736	3.900	4.051	6.304	7.881	8.257
0.00031	0.00131	0.00201	0.03233	0.16995	0.24226	0.25159	0.39154	0.48950	0.51283
1.038E-06	1.002E-06	8.715E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.207E-07	4.063E-07
20.649	20.875	20.912	21.588	22.564	22.715	42.280	51.105	65.976	66.052
1.28256	1.29656	1.29889	1.34088	1.40152	1.41085	2.62610	3.17424	4.09792	4.10259
3.534E-07	3.243E-07	3.208E-07	3.132E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
79.834	82.575	86.293	86.368	86.406	92.264	95.306	96.169	96.733	96.883
4.95862	5.12890	5.35982	5.36448	5.36681	5.73069	5.91962	5.97327	6.00826	6.01759
1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08				
96.921	97.183	97.597	99.362	99.962	100.000				
6.01992	6.03625	6.06190	6.17153	6.20885	6.21119				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES  
 (BASED ON THE UPPER ENVELOPE OF THE  
 ORDERED X/Q-FREQUENCY VALUES, AND AS  
 PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.242  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 1.281

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4 ) = 3.171  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5 ) = 4.955  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6 ) = 5.356

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
1	1	-11.07050	-16.52881	-1.20789
1	2	-13.12558	-16.26715	-1.11501
1	3	-13.77855	-17.14253	-1.50723
1	4	-14.34482	-18.92640	-2.46826
1	5	-14.85564	-19.05410	-2.54569
1	6	-14.95230	NUMXQ(K) = 6	
		3.278E-06	0.062	1.000
		2.204E-06	0.186	3.000
		1.822E-06	0.311	5.000
		1.400E-06	0.621	10.000
		1.188E-06	0.932	15.000
		1.052E-06	1.242	20.000
		9.266E-07	1.553	25.000
		8.294E-07	1.863	30.000
		7.534E-07	2.174	35.000
		6.920E-07	2.484	40.000
		6.409E-07	2.795	45.000
		5.977E-07	3.106	50.000
		5.430E-07	3.416	55.000
		4.925E-07	3.727	60.000
		4.496E-07	4.037	65.000
		4.127E-07	4.348	70.000
		3.806E-07	4.658	75.000
		3.525E-07	4.969	80.000
		3.270E-07	5.280	85.000
		1.523E-06	0.5	8.05

ANNUAL AVERAGE = 3.67E-09

K= 1 FIVEXQ(K)= 1.523E-06 FIVEPR(K)= 8.050

FUMIGATION X/Q AT THE BOUNDARY: 4.11E-05

EXPONENTIAL TERM AND FREQUENCIES

9.582E-01	5.200E-01	4.914E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.376	3.981	5.032	12.967	65.322	97.183	100.000



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	3.6	0.60	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	1.002E-06				
A	6.0	0.60	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	6.013E-07				
A	8.9	0.26	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	4.063E-07				
A	11.6	0.13	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	3.132E-07				
B	1.7	0.13	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	5.976E-06				
B	3.6	1.52	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	2.789E-06				
B	6.0	0.99	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.673E-06				
B	8.9	0.20	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.131E-06				
B	11.6	0.13	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	8.715E-07				
C	1.7	0.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06				
C	3.6	1.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	1.26	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	0.53	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
C	11.6	0.07	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07				
C	26.5	0.26	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07				
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	3.84	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	13.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	23.09	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	10.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	1.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	2.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	10.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	13.30	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	2.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	0.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.26	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	2.51	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	0.07	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				

G	1.8	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.26	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSW SECTOR BOUNDARY DISTANCE = 1000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	5.976E-06	4.813E-06	4.272E-06	2.789E-06	2.224E-06	1.994E-06	1.673E-06	1.262E-06
0.009	0.029	0.162	0.176	0.507	2.028	5.865	7.321	8.313	11.224
0.00031	0.00104	0.00570	0.00621	0.01788	0.07152	0.20681	0.25813	0.29311	0.39574
1.196E-06	1.131E-06	1.038E-06	1.002E-06	8.715E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	6.013E-07
12.481	12.679	26.637	27.232	27.365	27.894	29.151	29.217	52.304	52.900
0.44006	0.44706	0.93922	0.96022	0.96488	0.98354	1.02786	1.03019	1.84424	1.86523
5.890E-07	4.207E-07	4.063E-07	3.534E-07	3.243E-07	3.208E-07	3.132E-07	2.719E-07	2.388E-07	1.925E-07
63.749	73.936	74.201	87.497	89.283	91.797	91.929	92.194	94.708	96.362
2.24777	2.60698	2.61631	3.08515	3.14812	3.23676	3.24142	3.25075	3.33939	3.39770
1.841E-07	1.415E-07	1.301E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08			
96.891	97.354	97.420	97.486	98.412	99.669	100.000			
3.41636	3.43269	3.43502	3.43736	3.47001	3.51433	3.52599			

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.207  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.938

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.245  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.082

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
2	1	-11.07050	-16.38931	-1.17607
2	2	-13.01641	-17.23837	-1.47213
2	3	-13.77855	-17.63933	-1.64273
2	4	-14.34482	-21.84093	-3.73776
2	5	-14.85564	NUMXQ(K)= 5	
		4.098E-06	0.035	1.000
		2.833E-06	0.106	3.000
		2.359E-06	0.176	5.000
		1.723E-06	0.353	10.000
		1.406E-06	0.529	15.000
		1.211E-06	0.705	20.000
		1.074E-06	0.881	25.000
		9.644E-07	1.058	30.000
		8.755E-07	1.234	35.000
		8.039E-07	1.410	40.000
		7.446E-07	1.587	45.000
		6.945E-07	1.763	50.000
		6.515E-07	1.939	55.000
		6.141E-07	2.116	60.000
		5.713E-07	2.292	65.000
		5.079E-07	2.468	70.000
		4.547E-07	2.644	75.000
		4.095E-07	2.821	80.000
		3.707E-07	2.997	85.000
		1.447E-06	0.5	14.18

ANNUAL AVERAGE = 5.17E-09

K= 2 FIVEXQ(K)= 1.447E-06 FIVEPR(K)=14.180

FUMIGATION X/Q AT THE BOUNDARY: 4.11E-05

EXPONENTIAL TERM AND FREQUENCIES

9.582E-01	5.200E-01	4.914E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.588	5.491	8.467	13.973	67.300	97.486	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS	
A	3.6	1.73	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	1.002E-06	
A	6.0	1.50	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	6.013E-07	
A	8.9	0.68	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	4.063E-07	
B	1.7	0.15	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	5.976E-06	
B	3.6	1.35	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	2.789E-06	
B	6.0	0.98	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.673E-06	
B	8.9	0.15	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.131E-06	
B	11.6	0.08	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	8.715E-07	
C	1.7	0.90	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06	
C	3.6	2.10	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06	
C	6.0	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06	
C	8.9	0.30	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07	
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	8.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	17.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	18.83	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	6.38	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	0.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.90	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.70	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	11.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	11.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	1.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.60	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.08	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	2.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	0.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
G	1.8	0.83	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	1.65	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	

G 6.5 0.30 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.806E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 1000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	5.976E-06	4.813E-06	4.272E-06	2.789E-06	2.224E-06	1.994E-06	1.673E-06	1.262E-06
0.018	0.038	0.188	0.207	1.107	2.458	10.561	12.662	13.637	16.339
0.00057	0.00117	0.00583	0.00642	0.03441	0.07640	0.32831	0.39362	0.42395	0.50792
1.196E-06	1.131E-06	1.038E-06	1.002E-06	8.715E-07	8.082E-07	6.875E-07	6.226E-07	6.013E-07	5.890E-07
17.014	17.164	35.022	36.748	36.823	37.123	38.773	57.607	59.107	70.362
0.52891	0.53357	1.08872	1.14236	1.14470	1.15403	1.20534	1.79081	1.83746	2.18733
4.207E-07	4.063E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
76.740	77.415	89.120	90.096	92.647	94.598	95.573	96.173	97.074	97.149
2.38560	2.40659	2.77047	2.80079	2.88009	2.94074	2.97106	2.98972	3.01771	3.02005
8.032E-08	6.449E-08	3.010E-08	1.806E-08						
97.224	98.049	99.700	100.000						
3.02238	3.04804	3.09935	3.10868						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES  
 (BASED ON THE UPPER ENVELOPE OF THE  
 ORDERED X/Q-FREQUENCY VALUES, AND AS  
 PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.328  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 1.087

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.141  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.185  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 2.768

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
3	1	-11.07050	-16.18261	-1.16470
3	2	-13.01641	-17.90589	-1.79862
3	3	-13.77855	-18.14374	-1.90227
3	4	-13.81337	-18.47590	-2.04818
3	5	-14.34482	-24.55913	-5.06425
3	6	-14.85564	NUMXQ(K)= 6	
		5.046E-06	0.031	1.000
		3.513E-06	0.093	3.000
		2.936E-06	0.155	5.000
		2.271E-06	0.311	10.000
		1.798E-06	0.466	15.000
		1.501E-06	0.622	20.000
		1.300E-06	0.777	25.000
		1.152E-06	0.933	30.000
		1.038E-06	1.088	35.000
		9.375E-07	1.243	40.000
		8.535E-07	1.399	45.000
		7.837E-07	1.554	50.000
		7.248E-07	1.710	55.000
		6.742E-07	1.865	60.000
		6.302E-07	2.021	65.000
		5.916E-07	2.176	70.000
		5.141E-07	2.332	75.000
		4.474E-07	2.487	80.000
		3.921E-07	2.642	85.000
		1.722E-06	0.5	16.08

ANNUAL AVERAGE = 5.96E-09

K= 3 FIVEXQ(K)= 1.722E-06 FIVEPR(K)=16.084

FUMIGATION X/Q AT THE BOUNDARY: 4.11E-05

EXPONENTIAL TERM AND FREQUENCIES

9.582E-01	5.200E-01	4.914E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
3.902	7.878	10.580	15.851	68.917	97.224	100.000



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	USED
												MEANDER	BLDG WAKE
												CA=1292.SQ.METERS	
A	3.6	2.58	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.002E-06
A	6.0	1.92	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	6.013E-07
A	8.9	1.19	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	4.063E-07
A	11.6	0.07	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	3.132E-07
B	1.7	0.59	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	5.976E-06
B	3.6	1.65	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	2.789E-06
B	6.0	0.99	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.673E-06
B	8.9	0.07	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.131E-06
C	1.7	0.99	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	4.272E-06
C	3.6	2.44	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.994E-06
C	6.0	1.12	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.196E-06
C	8.9	0.20	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	8.082E-07
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.556E-05
D	1.7	7.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	2.224E-06
D	3.6	22.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.038E-06
D	6.0	18.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	6.226E-07
D	8.9	4.43	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	4.207E-07
D	11.6	0.73	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	3.243E-07
D	26.5	0.13	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.415E-07
E	0.3	0.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	8.835E-06
E	1.8	4.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.262E-06
E	3.9	14.46	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	5.890E-07
E	6.5	6.67	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	3.534E-07
E	9.6	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	2.388E-07
E	12.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.841E-07
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	8.032E-08
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	4.813E-06
F	1.8	1.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	6.875E-07
F	3.9	1.92	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	3.208E-07
F	6.5	0.53	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.925E-07
G	1.8	0.66	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	6.449E-08
G	3.9	1.25	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	3.010E-08
G	6.5	0.13	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	1.806E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 1000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	5.976E-06	4.813E-06	4.272E-06	2.789E-06	2.224E-06	1.994E-06	1.673E-06	1.262E-06
0.018	0.046	0.641	0.661	1.651	3.303	11.163	13.607	14.597	18.626
0.00063	0.00164	0.02263	0.02333	0.05832	0.11663	0.39420	0.48051	0.51549	0.65778
1.196E-06	1.131E-06	1.038E-06	1.002E-06	8.082E-07	6.875E-07	6.226E-07	6.013E-07	5.890E-07	4.207E-07
19.749	19.815	42.008	44.584	44.782	46.499	64.861	66.777	81.242	85.667
0.69743	0.69976	1.48349	1.57446	1.58146	1.64210	2.29055	2.35819	2.86901	3.02529
4.063E-07	3.534E-07	3.243E-07	3.208E-07	3.132E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	8.032E-08
86.856	93.527	94.254	96.169	96.235	96.962	97.490	97.754	97.886	97.952
3.06728	3.30286	3.32852	3.39616	3.39850	3.42415	3.44281	3.45214	3.45681	3.45914
6.449E-08	3.010E-08	1.806E-08							
98.613	99.868	100.000							
3.48247	3.52678	3.53145							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.023

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.394

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.573  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.866  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.393

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
4	1	-11.07050	-15.92960	-1.11242
4	2	-12.02781	-16.10674	-1.16292
4	3	-13.01641	-17.20093	-1.57467
4	4	-13.81337	-18.37827	-2.12195
4	5	-14.34482	-29.76128	-8.11040
4	6	-14.95230	NUMXQ(K)= 6	
		5.196E-06	0.035	1.000
		3.607E-06	0.106	3.000
		3.009E-06	0.177	5.000
		2.321E-06	0.353	10.000
		1.896E-06	0.530	15.000
		1.615E-06	0.706	20.000
		1.421E-06	0.883	25.000
		1.277E-06	1.059	30.000
		1.164E-06	1.236	35.000
		1.072E-06	1.413	40.000
		9.943E-07	1.589	45.000
		9.088E-07	1.766	50.000
		8.367E-07	1.942	55.000
		7.751E-07	2.119	60.000
		7.218E-07	2.295	65.000
		6.752E-07	2.472	70.000
		6.341E-07	2.649	75.000
		5.975E-07	2.825	80.000
		5.014E-07	3.002	85.000
		4.082E-07	3.178	90.000
		1.957E-06	0.5	14.16

ANNUAL AVERAGE = 9.65E-09

K= 4 FIVEXQ(K)= 1.957E-06 FIVEPR(K)=14.158

FUMIGATION X/Q AT THE BOUNDARY: 4.11E-05

EXPONENTIAL TERM AND FREQUENCIES

9.582E-01	5.200E-01	4.914E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.746	10.502	13.804	17.985	71.702	97.952	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	1.7	0.15	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	2.147E-06				
A	3.6	4.26	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	1.002E-06				
A	6.0	2.25	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	6.013E-07				
A	8.9	0.34	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	4.063E-07				
B	1.7	0.24	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	5.976E-06				
B	3.6	2.74	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	2.789E-06				
B	6.0	0.59	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.673E-06				
B	8.9	0.05	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.131E-06				
C	1.7	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06				
C	3.6	2.45	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
C	11.6	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07				
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	5.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	21.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	16.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	6.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	1.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	2.94	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	7.88	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	2.84	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	0.59	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	1.66	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	0.64	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	28.5	0.20	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08				
G	1.8	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08				

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.10	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 1000.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across various sectors.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.415
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 0.538

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.957  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.577  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.431

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
5	1	-11.07050	-15.97581	-1.12108
5	2	-13.01641	-16.23424	-1.21898
5	3	-13.12558	-16.72301	-1.41064
5	4	-13.81337	-18.01891	-2.03891
5	5	-14.34482	-25.37596	-6.12165
5	6	-14.95230	NUMXQ(K) = 6	
		4.683E-06	0.048	1.000
		3.266E-06	0.143	3.000
		2.730E-06	0.238	5.000
		2.099E-06	0.477	10.000
		1.731E-06	0.715	15.000
		1.492E-06	0.954	20.000
		1.324E-06	1.192	25.000
		1.198E-06	1.430	30.000
		1.099E-06	1.669	35.000
		1.018E-06	1.907	40.000
		9.281E-07	2.146	45.000
		8.479E-07	2.384	50.000
		7.802E-07	2.622	55.000
		7.224E-07	2.861	60.000
		6.723E-07	3.099	65.000
		6.284E-07	3.337	70.000
		5.897E-07	3.576	75.000
		4.934E-07	3.814	80.000
		4.155E-07	4.053	85.000
		3.528E-07	4.291	90.000
		2.058E-06	0.5	10.49

ANNUAL AVERAGE = 1.27E-08

K= 5 FIVEXQ(K) = 2.058E-06 FIVEPR(K) = 10.487

FUMIGATION X/Q AT THE BOUNDARY: 4.11E-05

EXPONENTIAL TERM AND FREQUENCIES

9.582E-01	5.200E-01	4.914E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
6.996	10.372	13.992	18.021	69.549	98.630	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
												MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS		
A	3.6	2.40	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	1.002E-06			
A	6.0	2.40	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	6.013E-07			
A	8.9	0.16	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	4.063E-07			
A	11.6	0.05	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	3.132E-07			
A	26.5	0.05	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	1.367E-07			
B	3.6	1.58	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	2.789E-06			
B	6.0	1.36	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.673E-06			
B	8.9	0.11	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.131E-06			
B	11.6	0.05	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	8.715E-07			
C	3.6	3.54	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.42	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.22	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.11	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	4.69	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	16.58	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	16.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	7.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	1.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.11	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	3.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	10.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	14.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	3.44	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	1.15	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.25	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.84	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	1.31	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	28.5	0.05	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08			



**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 1000.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across four rows of data.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.421
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 1.496

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.852  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.784

K	I	XQSAVE (K, I)	XQINT (K, I)	XQSLOP (K, I)
6	1	-11.07050	-16.12652	-1.13914
6	2	-13.12558	-17.03788	-1.48508
6	3	-13.81337	-18.11481	-1.98107
6	4	-14.34482	-22.01463	-4.03037
6	5	-14.85564	NUMXQ (K)= 5	
		4.425E-06	0.043	1.000
		3.078E-06	0.128	3.000
		2.570E-06	0.214	5.000
		1.980E-06	0.428	10.000
		1.606E-06	0.642	15.000
		1.376E-06	0.856	20.000
		1.216E-06	1.069	25.000
		1.096E-06	1.283	30.000
		1.002E-06	1.497	35.000
		9.016E-07	1.711	40.000
		8.199E-07	1.925	45.000
		7.520E-07	2.139	50.000
		6.946E-07	2.353	55.000
		6.454E-07	2.567	60.000
		6.026E-07	2.780	65.000
		5.413E-07	2.994	70.000
		4.785E-07	3.208	75.000
		4.258E-07	3.422	80.000
		3.811E-07	3.636	85.000
		1.829E-06	0.5	11.69

ANNUAL AVERAGE = 8.57E-09

K= 6 FIVEXQ (K)= 1.829E-06 FIVEPR (K)=11.689

FUMIGATION X/Q AT THE BOUNDARY: 4.11E-05

EXPONENTIAL TERM AND FREQUENCIES

9.582E-01	5.200E-01	4.914E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.071	10.361	13.469	19.045	66.278	99.291	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS		
A	3.6	0.17	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	1.002E-06	
A	6.0	0.87	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	6.013E-07	
A	8.9	0.56	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	4.063E-07	
B	1.7	0.09	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	5.976E-06	
B	3.6	0.43	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	2.789E-06	
B	6.0	1.17	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.673E-06	
B	8.9	0.35	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.131E-06	
B	11.6	0.04	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	8.715E-07	
C	3.6	0.61	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06	
C	6.0	2.69	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06	
C	8.9	0.48	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07	
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	1.95	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	14.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	20.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	6.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	0.61	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.30	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.65	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	14.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	15.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	4.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.69	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.52	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.22	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	2.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	0.30	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
G	1.8	0.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	
G	6.5	0.35	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08	

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 1000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	5.976E-06	4.813E-06	2.789E-06	2.224E-06	1.994E-06	1.673E-06	1.262E-06	1.196E-06
0.004	0.023	0.110	0.124	0.558	2.512	3.120	4.293	6.942	9.634
0.00024	0.00125	0.00591	0.00667	0.02999	0.13496	0.16761	0.23059	0.37288	0.51749
1.131E-06	1.038E-06	1.002E-06	8.715E-07	8.082E-07	6.875E-07	6.226E-07	6.013E-07	5.890E-07	4.207E-07
9.981	24.702	24.876	24.919	25.397	26.613	47.370	48.238	63.220	70.211
0.53615	1.32688	1.33621	1.33854	1.36420	1.42951	2.54446	2.59111	3.39583	3.77136
4.063E-07	3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	8.032E-08
70.775	85.931	86.538	90.056	94.311	96.396	97.091	97.395	97.698	98.220
3.80169	4.61574	4.64839	4.83733	5.06591	5.17788	5.21520	5.23152	5.24785	5.27584
6.449E-08	3.010E-08	1.806E-08	1.220E-08						
98.393	99.609	99.957	100.000						
5.28517	5.35048	5.36914	5.37148						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.135  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 3.393

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
7	1	-11.07050	-16.72216	-1.23509
7	2	-13.01641	-15.94176	-0.97499
7	3	-13.77855	-16.97764	-1.44188
7	4	-14.34482	-20.90027	-3.59012
7	5	-14.85564	NUMXQ(K)= 5	
		3.104E-06	0.054	1.000
		2.109E-06	0.161	3.000
		1.801E-06	0.269	5.000
		1.435E-06	0.537	10.000
		1.246E-06	0.806	15.000
		1.123E-06	1.074	20.000
		1.031E-06	1.343	25.000
		9.290E-07	1.611	30.000
		8.491E-07	1.880	35.000
		7.841E-07	2.149	40.000
		7.300E-07	2.417	45.000
		6.839E-07	2.686	50.000
		6.441E-07	2.954	55.000
		6.093E-07	3.223	60.000
		5.631E-07	3.491	65.000
		4.988E-07	3.760	70.000
		4.448E-07	4.029	75.000
		3.991E-07	4.297	80.000
		3.601E-07	4.566	85.000
		1.470E-06	0.5	9.31

ANNUAL AVERAGE = 5.00E-09

K= 7 FIVEXQ(K)= 1.470E-06 FIVEPR(K)= 9.308

FUMIGATION X/Q AT THE BOUNDARY: 4.11E-05

EXPONENTIAL TERM AND FREQUENCIES

9.582E-01	5.200E-01	4.914E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.607	5.385	7.469	14.605	59.944	98.220	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS		
A	3.6	0.09	1000.	0.	131.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	1.002E-06
A	6.0	0.09	1000.	0.	131.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	6.013E-07
B	3.6	0.14	1000.	0.	131.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	2.789E-06
B	6.0	0.37	1000.	0.	131.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.673E-06
B	8.9	0.37	1000.	0.	131.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.131E-06
B	11.6	0.05	1000.	0.	131.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	8.715E-07
C	3.6	0.55	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06
C	6.0	1.01	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06
C	8.9	0.46	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07
C	11.6	0.05	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07
D	0.2	0.00	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	1.61	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	11.17	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	21.42	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	5.42	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	0.51	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	0.32	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.02	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	2.71	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	14.29	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	20.36	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	7.58	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	0.51	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.09	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.02	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.47	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	4.14	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.63	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	0.37	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
G	1.8	0.41	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.46	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.28	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08



**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

Page 416 of 1411

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 1000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.789E-06	2.224E-06	1.994E-06	1.673E-06	1.262E-06	1.196E-06	1.131E-06
0.004	0.023	0.040	0.178	1.786	2.338	2.706	5.417	6.428	6.796
0.00018	0.00116	0.00203	0.00902	0.09066	0.11865	0.13731	0.27493	0.32625	0.34491
1.038E-06	1.002E-06	8.715E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	6.013E-07	5.890E-07	4.207E-07
17.964	18.056	18.102	18.561	20.032	20.078	41.495	41.587	55.880	61.303
0.91171	0.91638	0.91871	0.94203	1.01667	1.01901	2.10596	2.11063	2.83604	3.11128
3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	8.032E-08	6.449E-08
81.662	82.168	86.304	93.887	97.518	98.024	98.345	98.713	98.805	99.219
4.14459	4.17025	4.38017	4.76504	4.94931	4.97497	4.99130	5.00996	5.01462	5.03561
3.010E-08	1.806E-08	1.220E-08							
99.678	99.954	100.000							
5.05894	5.07293	5.07527							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.091

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.911

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.833  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.141

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
8	1	-11.07050	-17.03991	-1.28978
8	2	-13.01641	-16.15192	-1.00513
8	3	-13.77855	-16.71476	-1.24349
8	4	-14.34482	-20.02675	-2.98127
8	5	-14.85564	NUMXQ(K)= 5	
		2.758E-06	0.051	1.000
		1.901E-06	0.152	3.000
		1.617E-06	0.254	5.000
		1.281E-06	0.508	10.000
		1.109E-06	0.761	15.000
		9.872E-07	1.015	20.000
		8.881E-07	1.269	25.000
		8.125E-07	1.523	30.000
		7.524E-07	1.776	35.000
		7.029E-07	2.030	40.000
		6.612E-07	2.284	45.000
		6.253E-07	2.538	50.000
		5.941E-07	2.791	55.000
		5.366E-07	3.045	60.000
		4.825E-07	3.299	65.000
		4.367E-07	3.553	70.000
		3.975E-07	3.806	75.000
		3.637E-07	4.060	80.000
		1.288E-06	0.5	9.85

ANNUAL AVERAGE = 1.83E-09

K= 8 FIVEXQ(K)= 1.288E-06 FIVEPR(K)= 9.852

FUMIGATION X/Q AT THE BOUNDARY: 4.11E-05

EXPONENTIAL TERM AND FREQUENCIES

9.582E-01	5.200E-01	4.914E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.184	2.252	3.171	12.793	53.241	98.805	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS		
A	6.0	0.28	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	6.013E-07	
A	8.9	0.16	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	4.063E-07	
B	3.6	0.07	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	2.789E-06	
B	6.0	0.58	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.673E-06	
B	8.9	0.72	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.131E-06	
B	11.6	0.12	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	8.715E-07	
B	26.5	0.02	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	3.803E-07	
C	3.6	0.44	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06	
C	6.0	1.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06	
C	8.9	1.56	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07	
C	11.6	0.21	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07	
C	26.5	0.02	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07	
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	0.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	7.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	16.51	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	11.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	2.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	1.63	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	20.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	12.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	1.49	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	0.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	3.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	3.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	1.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
G	1.8	0.40	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	0.79	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	0.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 1000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.789E-06	2.224E-06	1.994E-06	1.673E-06	1.262E-06	1.196E-06	1.131E-06
0.002	0.014	0.020	0.090	1.046	1.489	2.072	3.705	5.384	6.107
0.00022	0.00138	0.00200	0.00900	0.10463	0.14895	0.20726	0.37054	0.53848	0.61079
1.038E-06	8.715E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	6.013E-07	5.890E-07	4.207E-07	4.063E-07
13.103	13.220	14.783	15.319	15.529	32.041	32.320	42.465	53.706	53.870
1.31054	1.32221	1.47849	1.53213	1.55313	3.20455	3.23254	4.24719	5.37147	5.38780
3.803E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
53.893	74.673	76.981	80.107	80.130	92.164	95.196	96.688	97.365	98.391
5.39013	7.46841	7.69933	8.01189	8.01422	9.21780	9.52103	9.67031	9.73795	9.84058
8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
98.531	98.927	99.720	99.953	100.000					
9.85458	9.89423	9.97354	9.99686	10.00153					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.538  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 4.244

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
9	1	-11.07050	-16.83680	-1.25481
9	2	-13.63641	-14.74517	-0.43472
9	3	-13.77855	-16.29454	-1.13153
9	4	-14.34482	-17.47672	-1.81763
9	5	-14.85564	NUMXQ(K)= 5	
		2.355E-06	0.100	1.000
		1.533E-06	0.300	3.000
		1.235E-06	0.500	5.000
		1.085E-06	1.000	10.000
		9.772E-07	1.500	15.000
		8.567E-07	2.000	20.000
		7.704E-07	2.500	25.000
		7.044E-07	3.000	30.000
		6.515E-07	3.501	35.000
		6.079E-07	4.001	40.000
		5.604E-07	4.501	45.000
		5.112E-07	5.001	50.000
		4.696E-07	5.501	55.000
		4.340E-07	6.001	60.000
		4.030E-07	6.501	65.000
		3.759E-07	7.001	70.000
		1.235E-06	0.5	5.00

ANNUAL AVERAGE = 5.23E-09

K= 9 FIVEXQ(K)= 1.235E-06 FIVEPR(K)= 4.999

FUMIGATION X/Q AT THE BOUNDARY: 4.11E-05

EXPONENTIAL TERM AND FREQUENCIES

9.582E-01	5.200E-01	4.914E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.443	4.361	5.877	13.603	52.296	98.531	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	3.6	0.08	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	1.002E-06				
A	6.0	0.28	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	6.013E-07				
A	8.9	0.12	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	4.063E-07				
B	3.6	0.16	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	2.789E-06				
B	6.0	0.56	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.673E-06				
B	8.9	0.36	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.131E-06				
B	11.6	0.08	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	8.715E-07				
C	3.6	0.20	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	1.47	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	0.95	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	0.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	7.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	16.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	6.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	0.64	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	2.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	12.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	22.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	9.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	0.76	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.27	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	5.61	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	4.42	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	0.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
F	12.5	0.12	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07				
G	1.8	0.36	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08				
G	3.9	1.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08				
G	6.5	0.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08				

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08



**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 1000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.789E-06	2.224E-06	1.994E-06	1.673E-06	1.262E-06	1.196E-06	1.131E-06
0.002	0.018	0.033	0.192	1.107	1.306	1.863	4.090	5.562	5.920
0.00012	0.00105	0.00191	0.01124	0.06489	0.07655	0.10921	0.23983	0.32613	0.34713
1.038E-06	1.002E-06	8.715E-07	8.082E-07	6.875E-07	6.226E-07	6.013E-07	5.890E-07	4.207E-07	4.063E-07
13.518	13.598	13.677	14.632	15.905	32.811	33.090	45.820	52.423	52.542
0.79264	0.79730	0.80197	0.85795	0.93259	1.92391	1.94024	2.68665	3.07385	3.08085
3.534E-07	3.243E-07	3.208E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08
75.495	76.132	81.741	90.811	95.226	95.982	96.340	97.255	97.375	97.534
4.42671	4.46403	4.79292	5.32473	5.58364	5.62796	5.64895	5.70260	5.70960	5.71893
6.449E-08	3.010E-08	1.806E-08	1.220E-08						
97.892	99.125	99.960	100.000						
5.73992	5.81223	5.86121	5.86355						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.001  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.792

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.684  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.423

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
10	1	-11.07050	-16.86574	-1.22926
10	2	-11.63677	-16.58538	-1.16335
10	3	-13.77855	-16.60540	-1.17164
10	4	-14.34482	-18.70869	-2.26176
10	5	-14.85564	NUMXQ(K)= 5	
		2.735E-06	0.059	1.000
		1.869E-06	0.176	3.000
		1.546E-06	0.293	5.000
		1.176E-06	0.586	10.000
		9.923E-07	0.880	15.000
		8.742E-07	1.173	20.000
		7.897E-07	1.466	25.000
		7.250E-07	1.759	30.000
		6.733E-07	2.052	35.000
		6.305E-07	2.345	40.000
		5.944E-07	2.639	45.000
		5.404E-07	2.932	50.000
		4.912E-07	3.225	55.000
		4.496E-07	3.518	60.000
		4.139E-07	3.811	65.000
		3.830E-07	4.104	70.000
		3.559E-07	4.398	75.000
		1.255E-06	0.5	8.53

ANNUAL AVERAGE = 2.53E-09

K= 10 FIVEXQ(K)= 1.255E-06 FIVEPR(K)= 8.527

FUMIGATION X/Q AT THE BOUNDARY: 4.11E-05

EXPONENTIAL TERM AND FREQUENCIES

9.582E-01	5.200E-01	4.914E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.477	3.103	4.256	16.603	49.623	97.534	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	0.09	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	1.002E-06			
A	6.0	0.23	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	6.013E-07			
A	8.9	0.09	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	4.063E-07			
B	3.6	0.14	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	2.789E-06			
B	6.0	0.61	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.673E-06			
B	8.9	0.28	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.131E-06			
B	11.6	0.05	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	8.715E-07			
C	3.6	0.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.41	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.99	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.19	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	1.50	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	7.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	13.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	5.92	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	0.75	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.14	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.77	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	13.19	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	16.62	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	7.32	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	7.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	1.83	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.69	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	2.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.38	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 1000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.789E-06	2.224E-06	1.994E-06	1.673E-06	1.262E-06	1.196E-06	1.131E-06
0.003	0.023	0.040	0.181	1.684	2.012	2.623	5.393	6.801	7.083
0.00017	0.00115	0.00201	0.00901	0.08365	0.09998	0.13030	0.26792	0.33789	0.35189
1.038E-06	1.002E-06	8.715E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	6.013E-07	5.890E-07	4.207E-07
14.361	14.455	14.501	15.487	16.990	17.178	30.653	30.888	44.081	49.997
0.71343	0.71809	0.72043	0.76941	0.84405	0.85338	1.52282	1.53448	2.18992	2.48382
4.063E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07
50.091	66.711	67.463	74.787	74.834	84.976	92.347	93.192	93.333	95.164
2.48848	3.31419	3.35152	3.71539	3.71772	4.22155	4.58775	4.62974	4.63674	4.72770
8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
95.258	95.540	97.230	99.624	100.000					
4.73237	4.74636	4.83034	4.94929	4.96795					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED:  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES  
 (BASED ON THE UPPER ENVELOPE OF THE  
 ORDERED X/Q-FREQUENCY VALUES, AND AS  
 PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.084  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.713

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.188  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 3.712

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
11	1	-11.07050	-17.08419	-1.29417
11	2	-13.01641	-16.47666	-1.10089
11	3	-13.77855	-16.97336	-1.30355
11	4	-14.34482	-19.63989	-2.62593
11	5	-14.95230	NUMXQ(K) = 5	
		2.698E-06	0.050	1.000
		1.838E-06	0.149	3.000
		1.540E-06	0.248	5.000
		1.194E-06	0.497	10.000
		1.017E-06	0.745	15.000
		8.855E-07	0.994	20.000
		7.927E-07	1.242	25.000
		7.224E-07	1.490	30.000
		6.666E-07	1.739	35.000
		6.209E-07	1.987	40.000
		5.758E-07	2.236	45.000
		5.121E-07	2.484	50.000
		4.597E-07	2.732	55.000
		4.160E-07	2.981	60.000
		3.790E-07	3.229	65.000
		3.472E-07	3.478	70.000
		1.191E-06	0.5	10.06

ANNUAL AVERAGE = 2.18E-09

K= 11 FIVEXQ(K) = 1.191E-06 FIVEPR(K) = 10.065

FUMIGATION X/Q AT THE BOUNDARY: 4.11E-05

EXPONENTIAL TERM AND FREQUENCIES

9.582E-01	5.200E-01	4.914E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.423	3.381	4.460	22.507	51.573	95.258	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)			
												MEANDER	BLDG WAKE	USED	
AT 131.4 METERS													CA=1292.SQ.METERS		
A	6.0	0.33	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	6.013E-07				
A	8.9	0.14	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	4.063E-07				
A	11.6	0.09	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	3.132E-07				
A	26.5	0.09	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	1.367E-07				
B	3.6	0.05	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	2.789E-06				
B	6.0	0.38	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.673E-06				
B	8.9	0.89	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.131E-06				
B	11.6	0.09	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	8.715E-07				
B	26.5	0.05	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	3.803E-07				
C	3.6	0.14	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	1.22	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	1.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
C	11.6	0.19	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07				
C	26.5	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07				
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	0.71	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	6.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	9.93	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	8.94	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	1.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	2.54	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	8.80	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	13.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	12.75	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	1.41	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.05	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	5.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	8.33	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	5.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
F	12.5	0.85	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07				

G	1.8	0.85	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	3.29	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09



**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 1000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.789E-06	2.224E-06	1.994E-06	1.673E-06	1.262E-06	1.196E-06	1.131E-06
0.002	0.020	0.038	0.085	0.790	0.931	1.308	3.848	5.071	5.965
0.00008	0.00098	0.00186	0.00420	0.03918	0.04618	0.06484	0.19080	0.25144	0.29576
1.038E-06	8.715E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	6.013E-07	5.890E-07	4.207E-07	4.063E-07
11.986	12.080	13.538	15.091	15.279	25.205	25.534	34.331	43.268	43.410
0.59433	0.59899	0.67130	0.74827	0.75760	1.24977	1.26609	1.70227	2.14545	2.15245
3.803E-07	3.534E-07	3.243E-07	3.208E-07	3.132E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07
43.457	57.428	58.463	63.966	64.061	64.108	76.856	85.182	86.593	86.876
2.15478	2.84754	2.89886	3.17177	3.17643	3.17876	3.81088	4.22373	4.29371	4.30770
1.367E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09	
86.970	92.097	92.944	92.991	93.838	95.437	98.730	99.953	100.000	
4.31237	4.56662	4.60860	4.61093	4.65292	4.73222	4.89550	4.95615	4.95848	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.001  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.594

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.700  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.169  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.808

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
12	1	-11.07050	-16.19649	-1.06775
12	2	-11.63677	-16.84987	-1.22076
12	3	-13.77855	-17.37678	-1.43019
12	4	-14.34482	-19.23354	-2.30603
12	5	-14.95230	-21.55319	-3.55548
12	6	-15.24768	NUMXQ(K)= 6	
		2.680E-06	0.050	1.000
		1.808E-06	0.149	3.000
		1.486E-06	0.248	5.000
		1.121E-06	0.496	10.000
		9.253E-07	0.744	15.000
		7.953E-07	0.992	20.000
		7.044E-07	1.240	25.000
		6.362E-07	1.488	30.000
		5.785E-07	1.735	35.000
		5.101E-07	1.983	40.000
		4.556E-07	2.231	45.000
		4.110E-07	2.479	50.000
		3.739E-07	2.727	55.000
		3.425E-07	2.975	60.000
		3.128E-07	3.223	65.000
		2.779E-07	3.471	70.000
		2.485E-07	3.719	75.000
		1.117E-06	0.5	10.08

ANNUAL AVERAGE = 2.13E-09

K= 12 FIVEXQ(K)= 1.117E-06 FIVEPR(K)=10.084

FUMIGATION X/Q AT THE BOUNDARY: 4.11E-05

EXPONENTIAL TERM AND FREQUENCIES

9.582E-01	5.200E-01	4.914E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.659	3.716	5.175	26.549	53.458	92.991	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	3.6	0.03	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	1.002E-06				
A	6.0	0.24	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	6.013E-07				
A	8.9	0.63	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	4.063E-07				
A	11.6	0.42	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	3.132E-07				
A	26.5	0.06	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	1.367E-07				
B	3.6	0.12	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	2.789E-06				
B	6.0	0.63	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.673E-06				
B	8.9	0.81	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.131E-06				
B	11.6	0.36	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	8.715E-07				
B	26.5	0.18	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	3.803E-07				
C	3.6	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06				
C	6.0	1.25	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06				
C	8.9	1.67	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07				
C	11.6	0.86	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07				
C	26.5	0.39	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07				
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	0.78	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	4.21	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	8.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	11.78	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	6.71	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	2.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	1.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	5.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	11.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	15.99	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	2.33	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	0.89	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	2.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	5.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	5.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				

**Calculation No. PM-1055 Revision 0**

**Attachment J**

F	12.5	0.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
G	1.8	0.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	2.06	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.16	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 1000.0 METERS  
BUILDING WAKE CREDIT IS NOT INCLUDED.  
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.789E-06	2.224E-06	1.994E-06	1.673E-06	1.262E-06	1.196E-06	1.131E-06
0.002	0.013	0.024	0.143	0.918	1.067	1.694	3.304	4.557	5.362
0.00014	0.00103	0.00184	0.01117	0.07182	0.08348	0.13246	0.25842	0.35639	0.41936
1.038E-06	1.002E-06	8.715E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	6.013E-07	5.890E-07	4.207E-07
9.568	9.598	9.956	11.626	12.521	13.386	22.363	22.602	27.762	39.543
0.74825	0.75058	0.77857	0.90919	0.97917	1.04681	1.74890	1.76756	2.17109	3.09244
4.063E-07	3.803E-07	3.534E-07	3.243E-07	3.208E-07	3.132E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07
40.169	40.348	52.129	58.840	61.375	61.793	62.181	78.167	84.073	86.399
3.14142	3.15541	4.07676	4.60158	4.79984	4.83250	4.86282	6.11306	6.57490	6.75683
1.415E-07	1.367E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09
89.084	89.143	94.154	94.870	95.138	95.526	96.719	98.777	99.940	99.970
6.96676	6.97143	7.36329	7.41927	7.44026	7.47059	7.56389	7.72483	7.81580	7.81813
4.104E-09									
100.000									
7.82046									

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES  
(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

**Calculation No. PM-1055 Revision 0**

**Attachment J**

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.419  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.169  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.796  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 6.109

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
13	1	-11.07050	-17.06049	-1.27734
13	2	-13.69282	-14.80735	-0.42274
13	3	-13.77855	-17.11061	-1.36916
13	4	-14.34482	-17.80038	-1.71062
13	5	-14.95230	-19.07565	-2.47657
13	6	-15.24768	NUMXQ(K) = 6	
		2.214E-06	0.078	1.000
		1.444E-06	0.235	3.000
		1.165E-06	0.391	5.000
		1.015E-06	0.782	10.000
		8.251E-07	1.173	15.000
		7.075E-07	1.564	20.000
		6.251E-07	1.955	25.000
		5.570E-07	2.346	30.000
		4.975E-07	2.737	35.000
		4.500E-07	3.128	40.000
		4.111E-07	3.519	45.000
		3.785E-07	3.910	50.000
		3.508E-07	4.301	55.000
		3.269E-07	4.692	60.000
		2.995E-07	5.083	65.000
		2.738E-07	5.474	70.000
		2.514E-07	5.865	75.000
		1.102E-06	0.5	6.39

ANNUAL AVERAGE = 4.67E-09

K= 13 FIVEXQ(K)= 1.102E-06 FIVEPR(K)= 6.393

FUMIGATION X/Q AT THE BOUNDARY: 4.11E-05

**EXPONENTIAL TERM AND FREQUENCIES**

9.582E-01	5.200E-01	4.914E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.372	5.697	7.785	22.857	57.994	95.138	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
	AT 131.4 METERS										CA=1292.SQ.METERS			
A	6.0	0.24	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	6.013E-07			
A	8.9	0.24	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	4.063E-07			
A	11.6	0.05	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	3.132E-07			
A	26.5	0.13	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	1.367E-07			
B	3.6	0.08	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	2.789E-06			
B	6.0	0.24	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.673E-06			
B	8.9	0.53	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.131E-06			
B	11.6	0.37	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	8.715E-07			
B	26.5	0.19	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	3.803E-07			
C	3.6	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	0.69	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	1.57	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.80	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.72	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	1.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	2.59	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	9.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	17.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	11.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	4.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	0.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	3.68	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	9.45	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	15.56	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	2.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.32	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.75	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	1.76	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.74	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	3.68	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			

G	1.8	0.37	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09



**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

Page 440 of 1411

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## LOW POPULATION ZONE CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 1000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.789E-06	2.224E-06	1.994E-06	1.673E-06	1.262E-06	1.196E-06	1.131E-06
0.002	0.009	0.018	0.098	1.112	1.246	1.486	2.447	3.141	3.674
0.00020	0.00080	0.00155	0.00855	0.09719	0.10885	0.12984	0.21381	0.27446	0.32111
1.038E-06	8.715E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	6.013E-07	5.890E-07	4.207E-07	4.063E-07
6.263	6.637	8.212	8.959	9.760	19.235	19.475	23.158	41.148	41.388
0.54736	0.58002	0.71764	0.78295	0.85292	1.68097	1.70196	2.02385	3.59597	3.61697
3.803E-07	3.534E-07	3.243E-07	3.208E-07	3.132E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07
41.575	51.023	62.980	64.742	64.795	65.516	81.077	84.813	87.776	91.806
3.63329	4.45901	5.50398	5.65792	5.66259	5.72557	7.08543	7.41198	7.67089	8.02310
1.367E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09	
91.939	95.623	96.103	96.423	96.797	97.731	98.906	99.947	100.000	
8.03477	8.35666	8.39864	8.42663	8.45929	8.54092	8.64356	8.73452	8.73919	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.097

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.547

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.022  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.654  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 7.082

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
14	1	-11.07050	-17.00428	-1.28683
14	2	-13.01641	-17.27818	-1.37521
14	3	-13.77855	-16.68676	-1.14281
14	4	-14.34482	-17.02320	-1.30698
14	5	-14.95230	-19.03111	-2.57421
14	6	-15.24768	NUMXQ(K) = 6	
		2.315E-06	0.087	1.000
		1.458E-06	0.262	3.000
		1.155E-06	0.437	5.000
		8.565E-07	0.874	10.000
		7.187E-07	1.311	15.000
		6.308E-07	1.748	20.000
		5.650E-07	2.185	25.000
		5.106E-07	2.622	30.000
		4.676E-07	3.059	35.000
		4.324E-07	3.496	40.000
		4.030E-07	3.933	45.000
		3.779E-07	4.370	50.000
		3.561E-07	4.807	55.000
		3.370E-07	5.244	60.000
		3.192E-07	5.680	65.000
		2.901E-07	6.117	70.000
		2.650E-07	6.554	75.000
		2.431E-07	6.991	80.000
		1.084E-06	0.5	5.72

ANNUAL AVERAGE = 3.50E-09

K= 14 FIVEXQ(K)= 1.084E-06 FIVEPR(K)= 5.721

FUMIGATION X/Q AT THE BOUNDARY: 4.11E-05

EXPONENTIAL TERM AND FREQUENCIES

9.582E-01	5.200E-01	4.914E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.667	4.591	6.005	16.423	63.481	96.423	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
	AT 131.4 METERS									CA=1292.SQ.METERS		
A	6.0	0.04	1000.	0.	131.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	6.013E-07
A	8.9	0.06	1000.	0.	131.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	4.063E-07
A	26.5	0.02	1000.	0.	131.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	1.367E-07
B	3.6	0.08	1000.	0.	131.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	2.789E-06
B	6.0	0.04	1000.	0.	131.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.673E-06
B	8.9	0.19	1000.	0.	131.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.131E-06
B	11.6	0.08	1000.	0.	131.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	8.715E-07
C	3.6	0.06	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06
C	6.0	0.55	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06
C	8.9	0.74	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07
C	11.6	0.59	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07
C	26.5	0.13	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07
D	0.2	0.00	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	0.76	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	4.10	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	11.52	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	22.08	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	11.54	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	3.91	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.01	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	0.83	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	3.61	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	11.03	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	13.83	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	1.89	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.13	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	0.55	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	2.00	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.78	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	1.91	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
G	1.8	0.28	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.49	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	1.95	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 1000.0 METERS  
BUILDING WAKE CREDIT IS NOT INCLUDED.  
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.789E-06	2.224E-06	1.994E-06	1.673E-06	1.262E-06	1.196E-06	1.131E-06
0.002	0.008	0.014	0.099	0.864	0.928	0.970	1.799	2.351	2.542
0.00019	0.00084	0.00154	0.01087	0.09484	0.10184	0.10650	0.19747	0.25811	0.27911
1.038E-06	8.715E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	6.013E-07	5.890E-07	4.207E-07	4.063E-07
6.643	6.728	7.472	8.024	8.619	20.134	20.177	23.789	45.864	45.928
0.72929	0.73862	0.82025	0.88090	0.94621	2.21044	2.21510	2.61163	5.03513	5.04212
3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.367E-07	1.301E-07
56.955	68.491	70.489	70.616	84.448	88.229	90.120	94.030	94.051	95.963
6.25270	7.51926	7.73852	7.75252	9.27099	9.68618	9.89377	10.32296	10.32529	10.53522
8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
96.091	96.367	97.854	99.809	100.000					
10.54921	10.57954	10.74281	10.95741	10.97840					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.095  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.728

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 5.031  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 7.735

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
15	1	-11.07050	-17.00308	-1.28344
15	2	-13.01641	-16.58555	-1.14903
15	3	-13.77855	-16.53176	-1.12701
15	4	-14.68142	-16.71521	-1.23875
15	5	-14.95230	NUMXQ(K)= 5	
		2.115E-06	0.110	1.000
		1.422E-06	0.329	3.000
		1.165E-06	0.549	5.000
		8.749E-07	1.098	10.000
		7.320E-07	1.647	15.000
		6.409E-07	2.196	20.000
		5.757E-07	2.745	25.000
		5.258E-07	3.294	30.000
		4.859E-07	3.842	35.000
		4.529E-07	4.391	40.000
		4.251E-07	4.940	45.000
		3.992E-07	5.489	50.000
		3.763E-07	6.038	55.000
		3.562E-07	6.587	60.000
		3.384E-07	7.136	65.000
		3.223E-07	7.685	70.000
		1.209E-06	0.5	4.55

ANNUAL AVERAGE = 2.03E-09

K= 15 FIVEXQ(K)= 1.209E-06 FIVEPR(K)= 4.554

FUMIGATION X/Q AT THE BOUNDARY: 4.11E-05

EXPONENTIAL TERM AND FREQUENCIES

9.582E-01	5.200E-01	4.914E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.127	2.210	2.613	10.863	64.767	96.091	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS		
A	3.6	0.02	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.002E-06
A	6.0	0.17	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.013E-07
A	8.9	0.32	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.063E-07
A	11.6	0.02	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.132E-07
A	26.5	0.02	1000.	0.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.367E-07
B	3.6	0.06	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.789E-06
B	6.0	0.48	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.673E-06
B	8.9	0.71	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.131E-06
B	11.6	0.11	1000.	0.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.715E-07
C	3.6	0.48	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.994E-06
C	6.0	2.16	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.196E-06
C	8.9	2.01	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.082E-07
C	11.6	0.37	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.230E-07
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	1.08	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	8.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	20.04	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	19.82	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	5.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	1.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	4.38	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	11.10	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	10.11	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	0.93	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	2.09	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	2.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	0.69	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.003E-07

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	28.5	0.02	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 1000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED:  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.789E-06	2.224E-06	1.994E-06	1.673E-06	1.262E-06	1.196E-06	1.131E-06
0.002	0.008	0.013	0.078	1.158	1.633	2.108	2.842	5.002	5.714
0.00026	0.00083	0.00142	0.00842	0.12504	0.17636	0.22768	0.30698	0.54023	0.61721
1.038E-06	1.002E-06	8.715E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07	6.013E-07	5.890E-07	4.207E-07
14.029	14.050	14.158	16.167	16.642	17.009	37.049	37.222	41.606	61.431
1.51523	1.51756	1.52922	1.74615	1.79746	1.83712	4.00170	4.02036	4.49386	6.63512
4.063E-07	3.534E-07	3.243E-07	3.208E-07	3.132E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.367E-07
61.754	72.855	78.081	80.175	80.197	90.304	93.025	93.953	95.314	95.335
6.67011	7.86903	8.43350	8.65975	8.66208	9.75371	10.04760	10.14790	10.29485	10.29718
1.301E-07	1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08	4.104E-09		
96.026	96.134	96.350	96.761	98.035	99.870	99.978	100.000		
10.37183	10.38349	10.40681	10.45113	10.58875	10.78702	10.79868	10.80101		

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.176  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 4.490

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 6.631  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 8.656

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
16	1	-11.07050	-16.79131	-1.25627
16	2	-13.12558	-15.66123	-0.86898
16	3	-13.77855	-16.38822	-1.20454
16	4	-14.34482	-17.30977	-1.74777
16	5	-14.68142	-17.55833	-1.91305
16	6	-14.95230	NUMXQ(K) = 6	
		2.406E-06	0.108	1.000
		1.683E-06	0.324	3.000
		1.447E-06	0.540	5.000
		1.163E-06	1.080	10.000
		1.005E-06	1.620	15.000
		8.720E-07	2.160	20.000
		7.778E-07	2.700	25.000
		7.062E-07	3.240	30.000
		6.492E-07	3.780	35.000
		6.024E-07	4.320	40.000
		5.516E-07	4.860	45.000
		5.043E-07	5.401	50.000
		4.641E-07	5.941	55.000
		4.297E-07	6.481	60.000
		3.977E-07	7.021	65.000
		3.691E-07	7.561	70.000
		3.439E-07	8.101	75.000
		3.216E-07	8.641	80.000
		1.481E-06	0.5	4.63

ANNUAL AVERAGE = 6.12E-09

K= 16 FIVEXQ(K)= 1.481E-06 FIVEPR(K)= 4.629

FUMIGATION X/Q AT THE BOUNDARY: 4.11E-05

EXPONENTIAL TERM AND FREQUENCIES

9.582E-01	5.200E-01	4.914E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.561	5.572	6.932	13.028	68.876	96.350	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
										CA=1292.SQ.METERS		
A	1.7	0.01	1000.	0.	131.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	2.147E-06
A	3.6	0.51	1000.	0.	131.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	1.002E-06
A	6.0	0.53	1000.	0.	131.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	6.013E-07
A	8.9	0.28	1000.	0.	131.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	4.063E-07
A	11.6	0.06	1000.	0.	131.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	3.132E-07
A	26.5	0.03	1000.	0.	131.	131.	187.3	449.8	0.0	0.000E+00	0.000E+00	1.367E-07
B	1.7	0.05	1000.	0.	131.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	5.976E-06
B	3.6	0.47	1000.	0.	131.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	2.789E-06
B	6.0	0.54	1000.	0.	131.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.673E-06
B	8.9	0.44	1000.	0.	131.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	1.131E-06
B	11.6	0.12	1000.	0.	131.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	8.715E-07
B	26.5	0.03	1000.	0.	131.	131.	140.9	110.2	0.0	0.000E+00	0.000E+00	3.803E-07
C	1.7	0.08	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06
C	3.6	0.77	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06
C	6.0	1.33	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06
C	8.9	1.04	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07
C	11.6	0.30	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07
C	26.5	0.13	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07
D	0.2	0.00	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	2.07	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	9.39	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	15.72	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	12.23	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	4.24	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	1.39	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.01	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	1.97	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	8.90	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	13.85	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	9.53	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	1.29	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.23	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.01	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07

**Calculation No. PM-1055 Revision 0****Attachment J**

F	3.9	3.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.16	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
F	28.5	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08
G	1.8	0.43	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.14	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.31	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.01	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.00	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 1000.0 METERS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values and frequencies. The values decrease from top-left to bottom-right.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

3.291E-06	1.000	1.000
2.123E-06	3.000	3.000
1.752E-06	5.000	5.000
1.333E-06	10.000	10.000
1.108E-06	15.000	15.000
9.644E-07	20.000	20.000
8.604E-07	25.000	25.000
7.767E-07	30.000	30.000
7.063E-07	35.000	35.000
6.456E-07	40.000	40.000
5.918E-07	45.000	45.000
5.450E-07	50.000	50.000
5.019E-07	55.000	55.000
4.617E-07	60.000	60.000
4.234E-07	65.000	65.000
3.865E-07	70.000	70.000
3.502E-07	75.000	75.000
3.131E-07	80.000	80.000
2.716E-07	85.000	85.000
1.752E-06	5.0	5.00

K= 17 FIVEXQ(K)= 1.752E-06 FIVEPR(K)= 5.000

FUMIGATION X/Q AT THE BOUNDARY: 4.11E-05

EXPONENTIAL TERM AND FREQUENCIES

9.582E-01	5.200E-01	4.914E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.416	5.059	6.718	16.125	61.163	96.935	100.000

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	5.976E-06	4.813E-06	4.272E-06	2.789E-06	2.224E-06	2.147E-06	1.994E-06	1.673E-06
0.005	0.019	0.065	0.077	0.154	0.625	2.692	2.699	3.464	4.007
0.00467	0.01866	0.06531	0.07697	0.15395	0.62512	2.69173	2.69873	3.46380	4.00728
1.262E-06	1.196E-06	1.131E-06	1.038E-06	1.002E-06	8.715E-07	8.082E-07	6.875E-07	6.230E-07	6.226E-07
5.974	7.303	7.744	17.135	17.648	17.769	18.812	19.822	20.125	35.844
5.97360	7.30314	7.74398	17.13473	17.64789	17.76918	18.81182	19.82180	20.12503	35.84392
6.013E-07	5.890E-07	4.207E-07	4.063E-07	3.803E-07	3.534E-07	3.243E-07	3.208E-07	3.132E-07	2.719E-07
36.376	45.272	57.501	57.779	57.814	71.660	75.900	79.042	79.101	79.226
36.37573	45.27198	57.50141	57.77897	57.81396	71.65981	75.90034	79.04226	79.10056	79.22652
2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.367E-07	1.301E-07	1.003E-07	8.032E-08	6.449E-08	4.375E-08
88.753	92.270	93.565	94.952	94.980	96.534	96.695	96.923	97.357	97.369
88.75255	92.26999	93.56455	94.95240	94.98039	96.53385	96.69479	96.92339	97.35722	97.36889
3.010E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54214	99.67807	99.98597	99.99530	99.99997					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

**Calculation No. PM-1055 Revision 0**

**Attachment J**

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
18	1	-11.07050	-14.91189	-0.98310
18	2	-13.12558	-14.49210	-0.75206
18	3	-13.77855	-14.42565	-0.68203
18	4	-14.34482	-14.42255	-0.65587
18	5	-14.95230	-14.36453	-0.72771
18	6	-15.24768	NUMXQ(K) = 6	
		3.291E-06	1.000	1.000
		2.123E-06	3.000	3.000
		1.752E-06	5.000	5.000
		1.333E-06	10.000	10.000
		1.108E-06	15.000	15.000
		9.644E-07	20.000	20.000
		8.604E-07	25.000	25.000
		7.767E-07	30.000	30.000
		7.063E-07	35.000	35.000
		6.456E-07	40.000	40.000
		5.918E-07	45.000	45.000
		5.450E-07	50.000	50.000
		5.019E-07	55.000	55.000
		4.617E-07	60.000	60.000
		4.234E-07	65.000	65.000
		3.865E-07	70.000	70.000
		3.502E-07	75.000	75.000
		3.131E-07	80.000	80.000
		2.716E-07	85.000	85.000
		1.752E-06	5.0	5.00

K= 18 FIVEXQ(K) = 1.752E-06 FIVEPR(K) = 5.000

K	HIGHPR	PR	GRNDVT(K)
1	-2.84377	0.22292	6.21119
2	-1.84929	3.22081	3.52599
3	-2.67540	0.37321	3.10868
4	-2.60820	0.45510	3.53145
5	-2.57624	0.49942	4.76778
6	-2.66225	0.38811	4.27759
7	-2.92095	0.17449	5.37148
8	-3.04246	0.11733	5.07527
9	-2.98287	0.14279	10.00153
10	-3.00127	0.13443	5.86355
11	-3.07280	0.10604	4.96796
12	-3.07679	0.10463	4.95848
13	-3.10537	0.09503	7.82046
14	-3.04267	0.11725	8.73919
15	-3.03882	0.11876	10.97840
16	-2.94320	0.16243	10.80101

K HOURS (K) TOTHR



Calculation No. PM-1055 Revision 0

Attachment J

1	19.52791	19.52791
2	282.14280	301.67070
3	32.69307	334.36380
4	39.86670	374.23050
5	43.74879	417.97930
6	33.99841	451.97770
7	15.28503	467.26270
8	10.27826	477.54100
9	12.50831	490.04930
10	11.77627	501.82560
11	9.28881	511.11440
12	9.16559	520.28000
13	8.32442	528.60440
14	10.27095	538.87530
15	10.40357	549.27890
16	14.22875	563.50760

K	FIVEXQ	SVANN	SLTIME	TIMINT	I	TIME	XQT
1	1.523E-06	3.669E-09	-0.7190	-12.8962	1	8.0	-14.39133
					2	16.0	-14.88969
					3	72.0	-15.97110
					4	624.0	-17.52374
2	1.447E-06	5.168E-09	-0.6720	-12.9800	1	8.0	-14.37744
					2	16.0	-14.84325
					3	72.0	-15.85402
					4	624.0	-17.30523
3	1.722E-06	5.961E-09	-0.6757	-12.8038	1	8.0	-14.20894
					2	16.0	-14.67731
					3	72.0	-15.69362
					4	624.0	-17.15280
4	1.957E-06	9.654E-09	-0.6335	-12.7051	1	8.0	-14.02238
					2	16.0	-14.46147
					3	72.0	-15.41427
					4	624.0	-16.78224
5	2.058E-06	1.269E-08	-0.6068	-12.6732	1	8.0	-13.93511
					2	16.0	-14.35574
					3	72.0	-15.26847
					4	624.0	-16.57893
6	1.829E-06	8.571E-09	-0.6396	-12.7686	1	8.0	-14.09861
					2	16.0	-14.54193
					3	72.0	-15.50391
					4	624.0	-16.88507
7	1.470E-06	4.998E-09	-0.6779	-12.9601	1	8.0	-14.36972
					2	16.0	-14.83961
					3	72.0	-15.85922
					4	624.0	-17.32314

Calculation No. PM-1055 Revision 0

Attachment J

8	1.288E-06	1.826E-09	-0.7822	-13.0203				
					1	8.0	-14.64684	
					2	16.0	-15.18903	
					3	72.0	-16.36553	
					4	624.0	-18.05470	
9	1.235E-06	5.230E-09	-0.6517	-13.1524				
					1	8.0	-14.50760	
					2	16.0	-14.95935	
					3	72.0	-15.93961	
					4	624.0	-17.34702	
10	1.255E-06	2.527E-09	-0.7403	-13.0752				
					1	8.0	-14.61465	
					2	16.0	-15.12781	
					3	72.0	-16.24134	
					4	624.0	-17.84010	
11	1.191E-06	2.183E-09	-0.7516	-13.1195				
					1	8.0	-14.68246	
					2	16.0	-15.20343	
					3	72.0	-16.33390	
					4	624.0	-17.95698	
12	1.117E-06	2.127E-09	-0.7470	-13.1871				
					1	8.0	-14.74044	
					2	16.0	-15.25821	
					3	72.0	-16.38173	
					4	624.0	-17.99482	
13	1.102E-06	4.675E-09	-0.6515	-13.2667				
					1	8.0	-14.62144	
					2	16.0	-15.07303	
					3	72.0	-16.05293	
					4	624.0	-17.45983	
14	1.084E-06	3.498E-09	-0.6840	-13.2612				
					1	8.0	-14.68360	
					2	16.0	-15.15774	
					3	72.0	-16.18660	
					4	624.0	-17.66379	
15	1.209E-06	2.035E-09	-0.7618	-13.0974				
					1	8.0	-14.68141	
					2	16.0	-15.20943	
					3	72.0	-16.35519	
					4	624.0	-18.00022	
16	1.481E-06	6.119E-09	-0.6547	-12.9687				
					1	8.0	-14.33008	
					2	16.0	-14.78385	
					3	72.0	-15.76851	
					4	624.0	-17.18225	
17	1.752E-06	1.269E-08	-0.5876	-12.8475				
					1	8.0	-14.06944	
					2	16.0	-14.47676	
					3	72.0	-15.36063	
					4	624.0	-16.62964	
18	1.752E-06	1.269E-08	-0.5876	-12.8475				
					1	8.0	-14.06944	
					2	16.0	-14.47676	

3	72.0	-15.36063
4	624.0	-16.62964

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
VERSUS  
AVERAGING TIME

DOWNWIND DISTANCE SECTOR (METERS)	RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)					HOURS PER YEAR MAX 0-2 HR X/Q IS EXCEEDED			DOWNWIND SECTOR
	0-2 HOURS	0-8 HOURS	8-24 HOURS	1-4 DAYS	4-30 DAYS	ANNUAL AVERAGE	IN SECTOR		
S 1000.	1.52E-06	5.62E-07	3.42E-07	1.16E-07	2.45E-08	3.67E-09	19.5	S	
SSW 1000.	1.45E-06	5.70E-07	3.58E-07	1.30E-07	3.05E-08	5.17E-09	282.1	SSW	
SW 1000.	1.72E-06	6.75E-07	4.22E-07	1.53E-07	3.55E-08	5.96E-09	32.7	SW	
WSW 1000.	1.96E-06	8.13E-07	5.24E-07	2.02E-07	5.15E-08	9.65E-09	39.9	WSW	
W 1000.	2.06E-06	8.87E-07	5.83E-07	2.34E-07	6.31E-08	1.27E-08	43.7	W	
WNW 1000.	1.83E-06	7.53E-07	4.84E-07	1.85E-07	4.64E-08	8.57E-09	34.0	WNW	
NW 1000.	1.47E-06	5.75E-07	3.59E-07	1.30E-07	3.00E-08	5.00E-09	15.3	NW	
NNW 1000.	1.29E-06	4.35E-07	2.53E-07	7.81E-08	1.44E-08	1.83E-09	10.3	NNW	
N 1000.	1.24E-06	5.01E-07	3.19E-07	1.20E-07	2.93E-08	5.23E-09	12.5	N	
NNE 1000.	1.26E-06	4.50E-07	2.69E-07	8.84E-08	1.79E-08	2.53E-09	11.8	NNE	
NE 1000.	1.19E-06	4.20E-07	2.50E-07	8.06E-08	1.59E-08	2.18E-09	9.3	NE	
ENE 1000.	1.12E-06	3.97E-07	2.36E-07	7.68E-08	1.53E-08	2.13E-09	9.2	ENE	
E 1000.	1.10E-06	4.47E-07	2.84E-07	1.07E-07	2.61E-08	4.67E-09	8.3	E	
ESE 1000.	1.08E-06	4.20E-07	2.61E-07	9.34E-08	2.13E-08	3.50E-09	10.3	ESE	
SE 1000.	1.21E-06	4.21E-07	2.48E-07	7.89E-08	1.52E-08	2.03E-09	10.4	SE	
SSE 1000.	1.48E-06	5.98E-07	3.80E-07	1.42E-07	3.45E-08	6.12E-09	14.2	SSE	
MAX X/Q	2.06E-06					TOTAL HOURS AROUND SITE:	563.5		
SRP 2.3.4 1000.	1.75E-06	7.76E-07	5.16E-07	2.13E-07	6.00E-08	1.27E-08			
SITE LIMIT	1.75E-06	7.76E-07	5.16E-07	2.13E-07	6.00E-08	1.27E-08			

THE FIVE-PERCENT-FOR-THE-ENTIRE-SITE X/Q IS LIMITING.

X/Q VALUES (SEC/CUBIC METER) FOR FUMIGATION AT THE BOUNDARY:

DOWNWIND DISTANCE FUMIGATION

SECTOR (METERS)	X/Q
S 1000.	4.11E-05
SSW 1000.	4.11E-05
SW 1000.	4.11E-05
WSW 1000.	4.11E-05
W 1000.	4.11E-05
WNW 1000.	4.11E-05
NW 1000.	4.11E-05
NNW 1000.	4.11E-05
N 1000.	4.11E-05
NNE 1000.	4.11E-05
NE 1000.	4.11E-05
ENE 1000.	4.11E-05
E 1000.	4.11E-05

**Calculation No. PM-1055 Revision 0**

**Attachment J**

ESE	1000.	4.11E-05
SE	1000.	4.11E-05
SSE	1000.	4.11E-05

**\*\*NOTE\*\***: VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
CHECK THE REASONABLENESS OF THE ENVELOPES  
COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.

**PAVAN Input**

**Off Gas Stack to Control Room (Tower 2 320' wind and 316'-33' Delta T Stability Class; distances of 1500 m and 2000 m)**

1 1111

Peach Bottom

Stack Release

97.5 meters

10.1-96.3 meters

Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

7	1																		
2584.	54.3131.4	97.5																	
0	0	0	2	6	5	0													
0.	0.	0.	0.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.	9.	23.	39.	87.	44.	4.	2.	0.	2.	2.	0.	1.	0.	0.	0.	1.	0.	0.	1.
0.	9.	20.	29.	46.	44.	20.	2.	12.	7.	5.	7.	8.	9.	2.	8.				
2.	4.	9.	18.	7.	3.	13.	0.	7.	3.	2.	3.	21.	9.	3.	15.				
2.	2.	0.	1.	0.	1.	0.	0.	0.	0.	0.	2.	14.	2.	0.	1.				
0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	2.	2.	5.	1.	1.				
0.	2.	2.	9.	5.	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
13.	23.	18.	25.	56.	29.	10.	3.	3.	4.	3.	1.	4.	3.	4.	3.				
4.	15.	13.	15.	12.	25.	27.	8.	25.	14.	13.	8.	21.	9.	2.	22.				
10.	3.	2.	1.	1.	2.	8.	8.	31.	9.	6.	19.	27.	20.	9.	33.				
1.	2.	1.	0.	0.	1.	1.	1.	5.	2.	1.	2.	12.	14.	4.	5.				
0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	6.	7.	0.	0.				
0.	5.	12.	15.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
31.	22.	28.	37.	50.	65.	14.	12.	19.	5.	7.	3.	5.	5.	3.	22.				
42.	19.	9.	17.	14.	26.	62.	22.	72.	37.	30.	26.	42.	26.	26.	100.				
18.	8.	4.	3.	3.	4.	11.	10.	67.	24.	21.	31.	56.	59.	35.	93.				
4.	1.	0.	0.	1.	2.	0.	1.	9.	0.	4.	4.	29.	30.	28.	17.				
1.	4.	0.	0.	0.	0.	0.	0.	1.	0.	1.	1.	13.	27.	6.	0.				
59.	58.	108.	119.	115.	86.	45.	35.	41.	23.	32.	15.	26.	38.	36.	50.				
330.	211.	238.	336.	435.	304.	339.	243.	300.	191.	155.	128.	141.	97.	193.	385.				
521.	349.	251.	278.	331.	308.	478.	466.	708.	425.	287.	211.	301.	355.	542.	928.				
396.	154.	85.	67.	132.	140.	161.	118.	482.	166.	126.	190.	395.	674.	1039.	918.				
73.	27.	13.	11.	32.	26.	14.	11.	99.	16.	16.	22.	225.	448.	543.	242.				
15.	7.	12.	2.	8.	2.	7.	7.	29.	9.	3.	6.	90.	151.	184.	63.				
60.	44.	36.	61.	60.	60.	61.	59.	70.	56.	59.	54.	54.	36.	39.	34.				
235.	164.	150.	219.	283.	200.	345.	311.	435.	320.	281.	187.	173.	138.	170.	203.				
367.	201.	156.	101.	161.	257.	349.	443.	891.	577.	354.	297.	395.	354.	519.	514.				
156.	38.	26.	11.	58.	63.	98.	165.	516.	228.	216.	271.	536.	583.	651.	468.				
23.	8.	8.	4.	12.	21.	16.	11.	64.	19.	18.	30.	78.	111.	89.	43.				
7.	1.	1.	1.	20.	4.	12.	2.	6.	4.	2.	1.	9.	12.	6.	10.				
26.	19.	22.	26.	31.	23.	28.	32.	23.	32.	32.	33.	30.	28.	26.	22.				
99.	38.	34.	29.	34.	52.	81.	90.	134.	141.	156.	117.	85.	66.	94.	97.				
81.	25.	13.	8.	13.	24.	48.	79.	130.	111.	157.	177.	198.	140.	178.	126.				
4.	1.	1.	0.	0.	2.	7.	8.	44.	23.	39.	109.	168.	138.	90.	32.				
1.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	18.	24.	18.	0.	5.				
0.	0.	0.	0.	4.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.				
11.	14.	11.	10.	13.	5.	4.	9.	17.	9.	6.	18.	13.	14.	13.	19.				
47.	19.	22.	19.	13.	6.	28.	10.	34.	31.	36.	34.	40.	35.	70.	59.				
16.	5.	4.	2.	2.	2.	8.	6.	10.	21.	51.	70.	69.	44.	92.	85.				



**PAVAN Output**

**Off Gas Stack to Control Room (Tower 2 320' wind and 316'-33' Delta T Stability Class; distances of 1500 m and 2000 m)**

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USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 12/29/02

PRINTOUT OF INPUT CARDS

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1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2      Peach Bottom
Stack Release
3      97.5 meters          10.1-96.3 meters
4
5      Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T          6          7 42872      1
7      0.500 2584.000      54.300 131.400      97.500
8      0.000 0.000 0.000 2.000 6.000 5.000 0.000
9      0.000 0.000 0.000 0.000 3.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      6.000 9.000 23.000 39.000 87.000 44.000 4.000 2.000 0.000 2.000 2.000 0.000 1.000 0.000 0.000 0.000 1.000
9      0.000 9.000 20.000 29.000 46.000 44.000 20.000 2.000 12.000 7.000 5.000 7.000 8.000 9.000 2.000 8.000
9      2.000 4.000 9.000 18.000 7.000 3.000 13.000 0.000 7.000 3.000 2.000 3.000 21.000 9.000 3.000 15.000
9      2.000 2.000 0.000 1.000 0.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 14.000 2.000 0.000 1.000
9      0.000 0.000 0.000 0.000 0.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 2.000 5.000 1.000 1.000
9      0.000 2.000 2.000 9.000 5.000 0.000 2.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      13.000 23.000 18.000 25.000 56.000 29.000 10.000 3.000 3.000 4.000 3.000 1.000 4.000 3.000 4.000 3.000 3.000
9      4.000 15.000 13.000 15.000 12.000 25.000 27.000 8.000 25.000 14.000 13.000 8.000 21.000 9.000 2.000 22.000
9      10.000 3.000 2.000 1.000 1.000 2.000 8.000 8.000 31.000 9.000 6.000 19.000 27.000 20.000 9.000 33.000
9      1.000 2.000 1.000 0.000 0.000 1.000 1.000 1.000 5.000 2.000 1.000 2.000 12.000 14.000 4.000 5.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 0.000 0.000 1.000 6.000 7.000 0.000 0.000
9      0.000 5.000 12.000 15.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      31.000 22.000 28.000 37.000 50.000 65.000 14.000 12.000 19.000 5.000 7.000 3.000 5.000 5.000 3.000 22.000
9      42.000 19.000 9.000 17.000 14.000 26.000 62.000 22.000 72.000 37.000 30.000 26.000 42.000 26.000 26.000 100.000
9      18.000 8.000 4.000 3.000 3.000 4.000 11.000 10.000 67.000 24.000 21.000 31.000 56.000 59.000 35.000 93.000
9      4.000 1.000 0.000 0.000 1.000 2.000 0.000 1.000 9.000 0.000 4.000 4.000 29.000 30.000 28.000 17.000
9      1.000 4.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 0.000 1.000 1.000 13.000 27.000 6.000 0.000
9      59.000 58.000 108.000 119.000 115.000 86.000 45.000 35.000 41.000 23.000 32.000 15.000 26.000 38.000 36.000 50.000
9      330.000 211.000 238.000 336.000 435.000 304.000 339.000 243.000 300.000 191.000 155.000 128.000 141.000 97.000 193.000 385.000
9      521.000 349.000 251.000 278.000 331.000 308.000 478.000 466.000 708.000 425.000 287.000 211.000 301.000 355.000 542.000 928.000
9      396.000 154.000 85.000 67.000 132.000 140.000 161.000 118.000 482.000 166.000 126.000 190.000 395.000 674.000 *****918.000
9      73.000 27.000 13.000 11.000 32.000 26.000 14.000 11.000 99.000 16.000 16.000 22.000 225.000 448.000 543.000 242.000
9      15.000 7.000 12.000 2.000 8.000 2.000 7.000 7.000 29.000 9.000 3.000 6.000 90.000 151.000 184.000 63.000
9      60.000 44.000 36.000 61.000 60.000 60.000 61.000 59.000 70.000 56.000 59.000 54.000 54.000 36.000 39.000 34.000
9      235.000 164.000 150.000 219.000 283.000 200.000 345.000 311.000 435.000 320.000 281.000 187.000 173.000 138.000 170.000 203.000
9      367.000 201.000 156.000 101.000 161.000 257.000 349.000 443.000 891.000 577.000 354.000 297.000 395.000 354.000 519.000 514.000
9      156.000 38.000 26.000 11.000 58.000 63.000 98.000 165.000 516.000 228.000 216.000 271.000 536.000 583.000 651.000 468.000
9      23.000 8.000 8.000 4.000 12.000 21.000 16.000 11.000 64.000 19.000 18.000 30.000 78.000 111.000 89.000 43.000
9      7.000 1.000 1.000 1.000 20.000 4.000 12.000 2.000 6.000 4.000 2.000 1.000 9.000 12.000 6.000 10.000
9      26.000 19.000 22.000 26.000 31.000 23.000 28.000 32.000 23.000 32.000 33.000 32.000 33.000 30.000 28.000 26.000 22.000
9      99.000 38.000 34.000 29.000 34.000 52.000 81.000 90.000 134.000 141.000 156.000 117.000 85.000 66.000 94.000 97.000
9      81.000 25.000 13.000 8.000 13.000 24.000 48.000 79.000 130.000 111.000 157.000 177.000 198.000 140.000 178.000 126.000

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Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS A

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007
3.35 3.61	0.014	0.021	0.054	0.091	0.203	0.103	0.009	0.005	0.000	0.005	0.005	0.000	0.002	0.000	0.000	0.002	0.513
5.59 6.02	0.000	0.021	0.047	0.068	0.107	0.103	0.047	0.005	0.028	0.016	0.012	0.016	0.019	0.021	0.005	0.019	0.532
8.27 8.91	0.005	0.009	0.021	0.042	0.016	0.007	0.030	0.000	0.016	0.007	0.005	0.007	0.049	0.021	0.007	0.035	0.278
10.73 11.56	0.005	0.005	0.000	0.002	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.033	0.005	0.000	0.058
24.59 26.49	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.012	0.002	0.028
TOTAL	0.02	0.06	0.12	0.20	0.33	0.22	0.09	0.01	0.04	0.03	0.02	0.03	0.11	0.06	0.01	0.06	1.42

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS B

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.005	0.005	0.021	0.012	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.047
3.35 3.61	0.030	0.054	0.042	0.058	0.131	0.068	0.023	0.007	0.007	0.009	0.007	0.002	0.009	0.007	0.009	0.007	0.471
5.59 6.02	0.009	0.035	0.030	0.035	0.028	0.058	0.063	0.019	0.058	0.033	0.030	0.019	0.049	0.021	0.005	0.051	0.543
8.27 8.91	0.023	0.007	0.005	0.002	0.002	0.005	0.019	0.019	0.072	0.021	0.014	0.044	0.063	0.047	0.021	0.077	0.441
10.73 11.56	0.002	0.005	0.002	0.000	0.000	0.002	0.002	0.002	0.012	0.005	0.002	0.005	0.028	0.033	0.009	0.012	0.121
24.59 26.49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.014	0.016	0.000	0.000	0.035
TOTAL	0.07	0.10	0.08	0.12	0.17	0.13	0.11	0.05	0.15	0.07	0.05	0.07	0.16	0.12	0.04	0.15	1.66

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS C

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.012	0.028	0.035	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.077
3.35 3.61	0.072	0.051	0.065	0.086	0.117	0.152	0.033	0.028	0.044	0.012	0.016	0.007	0.012	0.012	0.007	0.051	0.765
5.59 6.02	0.098	0.044	0.021	0.040	0.033	0.061	0.145	0.051	0.168	0.086	0.070	0.061	0.098	0.061	0.061	0.233	1.330
8.27 8.91	0.042	0.019	0.009	0.007	0.007	0.009	0.026	0.023	0.156	0.056	0.049	0.072	0.131	0.138	0.082	0.217	1.043
10.73 11.56	0.009	0.002	0.000	0.000	0.002	0.005	0.000	0.002	0.021	0.000	0.009	0.009	0.068	0.070	0.065	0.040	0.303
24.59 26.49	0.002	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.002	0.002	0.030	0.063	0.014	0.000	0.126
TOTAL	0.22	0.14	0.12	0.17	0.16	0.23	0.20	0.10	0.39	0.15	0.15	0.15	0.34	0.34	0.23	0.54	3.64

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS D

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005
1.56 1.69	0.138	0.135	0.252	0.278	0.268	0.201	0.105	0.082	0.096	0.054	0.075	0.035	0.061	0.089	0.084	0.117	2.067

**Calculation No. PM-1055 Revision 0**

**Attachment J**

3.35	3.61	0.770	0.492	0.555	0.784	1.015	0.709	0.791	0.567	0.700	0.446	0.362	0.299	0.329	0.226	0.450	0.898	9.391
5.59	6.02	1.215	0.814	0.585	0.648	0.772	0.718	1.115	1.087	1.651	0.991	0.669	0.492	0.702	0.828	1.264	2.165	15.719
8.27	8.91	0.924	0.359	0.198	0.156	0.308	0.327	0.376	0.275	1.124	0.387	0.294	0.443	0.921	1.572	2.423	2.141	12.229
10.73	11.56	0.170	0.063	0.030	0.026	0.075	0.061	0.033	0.026	0.231	0.037	0.037	0.051	0.525	1.045	1.267	0.564	4.241
24.59	26.49	0.035	0.016	0.028	0.005	0.019	0.005	0.016	0.016	0.068	0.021	0.007	0.014	0.210	0.352	0.429	0.147	1.388
<b>TOTAL</b>		<b>3.25</b>	<b>1.88</b>	<b>1.65</b>	<b>1.90</b>	<b>2.46</b>	<b>2.02</b>	<b>2.44</b>	<b>2.05</b>	<b>3.87</b>	<b>1.94</b>	<b>1.44</b>	<b>1.33</b>	<b>2.75</b>	<b>4.11</b>	<b>5.92</b>	<b>6.03</b>	<b>45.04</b>

**JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION**  
WIND SPEED (M/S)

**ATMOSPHERIC STABILITY CLASS E**

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.26	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.014
1.56 1.82	0.140	0.103	0.084	0.142	0.140	0.140	0.142	0.138	0.163	0.131	0.138	0.126	0.126	0.084	0.091	0.079	1.966
3.35 3.89	0.548	0.383	0.350	0.511	0.660	0.467	0.805	0.725	1.015	0.746	0.655	0.436	0.404	0.322	0.397	0.474	8.896
5.59 6.49	0.856	0.469	0.364	0.236	0.376	0.599	0.814	1.033	2.078	1.346	0.826	0.693	0.921	0.826	1.211	1.199	13.846
8.27 9.60	0.364	0.089	0.061	0.026	0.135	0.147	0.229	0.385	1.204	0.532	0.504	0.632	1.250	1.360	1.518	1.092	9.526
10.73 12.46	0.054	0.019	0.019	0.009	0.028	0.049	0.037	0.026	0.149	0.044	0.042	0.070	0.182	0.259	0.208	0.100	1.295
24.59 28.54	0.016	0.002	0.002	0.002	0.047	0.009	0.028	0.005	0.014	0.009	0.005	0.002	0.021	0.028	0.014	0.023	0.229
<b>TOTAL</b>	<b>1.98</b>	<b>1.06</b>	<b>0.88</b>	<b>0.93</b>	<b>1.39</b>	<b>1.41</b>	<b>2.06</b>	<b>2.31</b>	<b>4.62</b>	<b>2.81</b>	<b>2.17</b>	<b>1.96</b>	<b>2.90</b>	<b>2.88</b>	<b>3.44</b>	<b>2.97</b>	<b>35.77</b>

**JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION**  
WIND SPEED (M/S)

**ATMOSPHERIC STABILITY CLASS F**

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.26	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.012
1.56 1.82	0.061	0.044	0.051	0.061	0.072	0.054	0.065	0.075	0.054	0.075	0.075	0.077	0.070	0.065	0.061	0.051	1.010
3.35 3.89	0.231	0.089	0.079	0.068	0.079	0.121	0.189	0.210	0.313	0.329	0.364	0.273	0.198	0.154	0.219	0.226	3.142
5.59 6.49	0.189	0.058	0.030	0.019	0.030	0.056	0.112	0.184	0.303	0.259	0.366	0.413	0.462	0.327	0.415	0.294	3.517
8.27 9.60	0.009	0.002	0.002	0.000	0.000	0.005	0.016	0.019	0.103	0.054	0.091	0.254	0.392	0.322	0.210	0.075	1.553
10.73 12.46	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.042	0.056	0.042	0.000	0.012	0.161
24.59 28.54	0.000	0.000	0.000	0.000	0.009	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012
<b>TOTAL</b>	<b>0.49</b>	<b>0.19</b>	<b>0.16</b>	<b>0.15</b>	<b>0.19</b>	<b>0.24</b>	<b>0.38</b>	<b>0.49</b>	<b>0.77</b>	<b>0.72</b>	<b>0.90</b>	<b>1.06</b>	<b>1.18</b>	<b>0.91</b>	<b>0.91</b>	<b>0.66</b>	<b>9.41</b>

**JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION**  
WIND SPEED (M/S)

**ATMOSPHERIC STABILITY CLASS G**

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.82	0.026	0.033	0.026	0.023	0.030	0.012	0.009	0.021	0.040	0.021	0.014	0.042	0.030	0.033	0.030	0.044	0.434
3.35 3.89	0.110	0.044	0.051	0.044	0.030	0.014	0.065	0.023	0.079	0.072	0.084	0.079	0.093	0.082	0.163	0.138	1.173
5.59 6.49	0.037	0.012	0.009	0.005	0.005	0.005	0.019	0.014	0.023	0.049	0.119	0.163	0.161	0.103	0.215	0.198	1.136
8.27 9.60	0.002	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.005	0.002	0.019	0.061	0.091	0.091	0.021	0.012	0.308
10.73 12.46	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.005	0.000	0.000	0.009
24.59 28.54	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.005
<b>TOTAL</b>	<b>0.17</b>	<b>0.09</b>	<b>0.09</b>	<b>0.07</b>	<b>0.07</b>	<b>0.03</b>	<b>0.10</b>	<b>0.06</b>	<b>0.15</b>	<b>0.14</b>	<b>0.24</b>	<b>0.35</b>	<b>0.38</b>	<b>0.31</b>	<b>0.43</b>	<b>0.39</b>	<b>3.06</b>

WIND MEASURED AT 97.5 METERS.

WIND SPEED CORRECTED TO THE RELEASE HEIGHT OF 131.4 METERS.

**OVERALL WIND DIRECTION FREQUENCY**

WIND DIRECTION:	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
FREQUENCY:	6.2	3.5	3.1	3.5	4.8	4.3	5.4	5.1	10.0	5.9	5.0	5.0	7.8	8.7	11.0	10.8

OVERALL WIND SPEED FREQUENCY AS MEASURED ON THE TOWER:

MAX.WIND SPEED (M/S): 0.224 1.565 3.353 5.588 8.270 10.729 24.587  
 WIND SPEED FREQUENCY: 0.03 5.61 24.35 36.62 25.38 6.19 1.82

BUILDING AND RELEASE CHARACTERISTICS:

RELEASE HEIGHT: 131.40 METERS  
 MIXING VOLUME COEFFICIENT: 0.50  
 BUILDING CROSS-SECTIONAL AREA: 2584.00 SQUARE METERS

BOUNDARY DISTANCES (METERS) FROM THE SOURCE FOR EACH DOWNWIND SECTOR:

DOWNWIND SECTOR	S	SSW	SW	WSW	W	WNW	NW	NNW	N	NNE	NE	ENE	E	ESE	SE	SSE
BOUNDARY 1	1500.	1500.	1500.	1500.	1500.	1500.	1500.	1500.	1500.	1500.	1500.	1500.	1500.	1500.	1500.	1500.
BOUNDARY 2	2000.	2000.	2000.	2000.	2000.	2000.	2000.	2000.	2000.	2000.	2000.	2000.	2000.	2000.	2000.	2000.

DISTANCES AND TERRAIN HEIGHTS (IN METERS) AS A FUNCTION OF THE DOWNWIND SECTOR:

SECTOR	S	SSW	SW	WSW	W	WNW	NW	NNW	N	NNE	NE	ENE	E	ESE	SE	SSE
DISTANCE	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.
ELEVATION	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

THE CONVERSION FACTOR APPLIED TO THE WIND SPEED CLASSES IS 0.447

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

**Page 468 of 1411**

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

WINDSPEEDS ADJUSTED TO 131.4 METERS.

PERCENT OF THE TIME A GIVEN WINDSPEED IS LOWER:

WINDSPEED (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.24	0.00
0.26	0.03
1.69	2.23
1.82	5.64
3.61	16.78
3.89	29.99
6.02	48.11
6.49	66.61
8.91	80.60
9.60	91.99
11.56	96.71
12.46	98.18
26.49	99.76
28.54	100.00

WINDSPEED (INTERPOLATED) (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.26	0.03
1.77	5.64
3.76	29.99
6.26	66.61
9.22	91.99
11.77	98.18
26.77	100.00

LOG-NORMAL INTERPOLATION PERCENTILES

WINDSPEED (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.81	1.00
1.30	3.00
1.66	5.00
2.19	10.00
2.61	15.00
3.00	20.00

3.38	25.00
3.76	30.00
4.05	35.00
4.35	40.00
4.66	45.00
4.98	50.00
5.32	55.00
5.70	60.00
6.11	65.00
6.50	70.00
6.90	75.00
7.37	80.00
8.11	85.00
8.78	90.00

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
												MEANDER CA=1292.SQ.METERS	BLDG WAKE	USED
AT 131.4 METERS														
A	3.6	0.23	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	3.234E-07			
A	8.9	0.08	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.311E-07			
A	11.6	0.08	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07			
B	3.6	0.49	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.888E-06			
B	6.0	0.15	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.133E-06			
B	8.9	0.38	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	7.655E-07			
B	11.6	0.04	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	5.901E-07			
C	3.6	1.16	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.141E-06			
C	6.0	1.58	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	1.285E-06			
C	8.9	0.68	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	8.679E-07			
C	11.6	0.15	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	6.690E-07			
C	26.5	0.04	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.919E-07			
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	2.22	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	12.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	19.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	14.87	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	2.74	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.56	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	8.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	13.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	5.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	3.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.15	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	1.77	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08



**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

Page 472 of 1411

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## SITE EXCLUSION BOUNDARY CALCULATIONS:

S SECTOR BOUNDARY DISTANCE = 1500.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	2.141E-06	1.888E-06	1.285E-06	1.262E-06	1.133E-06	1.038E-06
0.005	0.021	0.032	2.248	3.412	3.900	5.478	7.731	7.881	20.274
0.00031	0.00131	0.00201	0.13963	0.21193	0.24226	0.34022	0.48017	0.48950	1.25924
8.679E-07	7.655E-07	6.875E-07	6.690E-07	6.226E-07	5.901E-07	5.890E-07	4.207E-07	3.534E-07	3.243E-07
20.950	21.325	22.302	22.452	42.017	42.055	50.880	65.751	79.533	82.275
1.30122	1.32455	1.38519	1.39452	2.60977	2.61210	3.16025	4.08393	4.93996	5.11024
3.234E-07	3.208E-07	2.919E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.311E-07	1.301E-07	1.011E-07
82.500	86.218	86.255	92.114	95.156	96.019	96.583	96.658	96.808	96.883
5.12423	5.35515	5.35748	5.72136	5.91029	5.96394	5.99893	6.00359	6.01292	6.01759
1.003E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08				
96.921	97.183	97.597	99.362	99.962	100.000				
6.01992	6.03625	6.06190	6.17153	6.20885	6.21119				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.258  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 3.157

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 5.351  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 5.718

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
1	1	-11.07050	-16.43803	-1.18780
1	2	-13.77855	-17.10771	-1.48689
1	3	-14.34482	-18.92479	-2.46478
1	4	-14.95230	-29.48361	-9.01615
1	5	-15.24768	NUMXQ(K)= 5	
		3.364E-06	0.062	1.000
		2.277E-06	0.186	3.000
		1.874E-06	0.311	5.000
		1.415E-06	0.621	10.000
		1.188E-06	0.932	15.000
		1.044E-06	1.242	20.000
		9.183E-07	1.553	25.000
		8.232E-07	1.863	30.000
		7.487E-07	2.174	35.000
		6.884E-07	2.484	40.000
		6.383E-07	2.795	45.000
		5.958E-07	3.106	50.000
		5.405E-07	3.416	55.000
		4.903E-07	3.727	60.000
		4.476E-07	4.037	65.000
		4.109E-07	4.348	70.000
		3.790E-07	4.658	75.000
		3.511E-07	4.969	80.000
		3.264E-07	5.280	85.000
		2.650E-07	5.590	90.000
		1.549E-06	0.5	8.05

ANNUAL AVERAGE = 5.78E-09

K= 1 FIVEXQ(K)= 1.549E-06 FIVEPR(K)= 8.050

FUMIGATION X/Q AT THE BOUNDARY: 2.85E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	7.442E-01	3.613E-01	3.314E-01	2.419E-01	2.081E-01	1.693E-02
0.376	1.427	9.362	12.967	65.322	97.183	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	0.60	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	3.234E-07			
A	6.0	0.60	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.940E-07			
A	8.9	0.26	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.311E-07			
A	11.6	0.13	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07			
B	1.7	0.13	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	4.046E-06			
B	3.6	1.52	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.888E-06			
B	6.0	0.99	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.133E-06			
B	8.9	0.20	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	7.655E-07			
B	11.6	0.13	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	5.901E-07			
C	1.7	0.33	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	4.588E-06			
C	3.6	1.46	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.141E-06			
C	6.0	1.26	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	1.285E-06			
C	8.9	0.53	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	8.679E-07			
C	11.6	0.07	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	6.690E-07			
C	26.5	0.26	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.919E-07			
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	3.84	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	13.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	23.09	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	10.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	1.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	10.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	13.30	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	2.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.26	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.51	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.07	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			

G	1.8	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.26	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

SSW SECTOR BOUNDARY DISTANCE = 1500.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.588E-06	4.046E-06	2.224E-06	2.141E-06	1.888E-06	1.285E-06	1.262E-06
0.009	0.029	0.044	0.375	0.507	4.344	5.799	7.321	8.578	11.488
0.00031	0.00104	0.00155	0.01321	0.01788	0.15316	0.20448	0.25813	0.30244	0.40507
1.133E-06	1.038E-06	8.679E-07	7.655E-07	6.875E-07	6.690E-07	6.226E-07	5.901E-07	5.890E-07	4.207E-07
12.481	26.439	26.968	27.166	28.423	28.489	51.577	51.709	62.558	72.745
0.44006	0.93222	0.95089	0.95788	1.00220	1.00453	1.81858	1.82325	2.20578	2.56499
3.534E-07	3.243E-07	3.234E-07	3.208E-07	2.919E-07	2.388E-07	1.940E-07	1.925E-07	1.841E-07	1.415E-07
86.042	87.828	88.423	90.937	91.202	93.716	94.311	95.965	96.494	96.957
3.03383	3.09681	3.11780	3.20644	3.21577	3.30440	3.32539	3.38371	3.40237	3.41870
1.311E-07	1.301E-07	1.011E-07	8.032E-08	6.449E-08	3.010E-08	1.806E-08			
97.222	97.288	97.420	97.486	98.412	99.669	100.000			
3.42803	3.43036	3.43502	3.43736	3.47001	3.51433	3.52599			

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.204  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.931

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.203  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.031

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
2	1	-11.07050	-16.50457	-1.20156
2	2	-13.05427	-17.06529	-1.39683
2	3	-13.77855	-17.70237	-1.66758
2	4	-14.34482	-21.84322	-3.72420
2	5	-14.85564	NUMXQ(K)= 5	
		3.981E-06	0.035	1.000
		2.730E-06	0.106	3.000
		2.264E-06	0.176	5.000
		1.673E-06	0.353	10.000
		1.379E-06	0.529	15.000
		1.197E-06	0.705	20.000
		1.068E-06	0.881	25.000
		9.588E-07	1.058	30.000
		8.692E-07	1.234	35.000
		7.971E-07	1.410	40.000
		7.374E-07	1.587	45.000
		6.871E-07	1.763	50.000
		6.439E-07	1.939	55.000
		6.064E-07	2.116	60.000
		5.547E-07	2.292	65.000
		4.934E-07	2.468	70.000
		4.419E-07	2.644	75.000
		3.981E-07	2.821	80.000
		3.606E-07	2.997	85.000
		1.417E-06	0.5	14.18

ANNUAL AVERAGE = 5.71E-09

K= 2 FIVEXQ(K)= 1.417E-06 FIVEPR(K)=14.180

FUMIGATION X/Q AT THE BOUNDARY: 2.85E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	7.442E-01	3.613E-01	3.314E-01	2.419E-01	2.081E-01	1.693E-02
1.588	4.565	10.070	13.973	67.300	97.486	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
	AT 131.4 METERS										CA=1292.SQ.METERS		
A	3.6	1.73	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	3.234E-07		
A	6.0	1.50	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.940E-07		
A	8.9	0.68	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.311E-07		
B	1.7	0.15	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	4.046E-06		
B	3.6	1.35	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.888E-06		
B	6.0	0.98	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.133E-06		
B	8.9	0.15	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	7.655E-07		
B	11.6	0.08	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	5.901E-07		
C	1.7	0.90	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	4.588E-06		
C	3.6	2.10	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.141E-06		
C	6.0	0.68	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	1.285E-06		
C	8.9	0.30	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	8.679E-07		
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	8.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	17.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	18.83	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	6.38	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.90	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.70	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	11.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	11.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	1.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.60	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.08	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	2.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
G	1.8	0.83	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.65	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		

G 6.5 0.30 90000.0 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.806E-08



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 1500.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.588E-06	4.046E-06	2.224E-06	2.141E-06	1.888E-06	1.285E-06	1.262E-06
0.018	0.038	0.057	0.957	1.107	9.211	11.311	12.662	13.337	16.039
0.00057	0.00117	0.00176	0.02975	0.03441	0.28633	0.35164	0.39362	0.41462	0.49859
1.133E-06	1.038E-06	8.679E-07	7.655E-07	6.875E-07	6.226E-07	5.901E-07	5.890E-07	4.207E-07	3.534E-07
17.014	34.872	35.172	35.322	36.973	55.806	55.881	67.136	73.514	85.219
0.52891	1.08405	1.09338	1.09805	1.14936	1.73482	1.73716	2.08704	2.28530	2.64917
3.243E-07	3.234E-07	3.208E-07	2.388E-07	1.940E-07	1.925E-07	1.841E-07	1.415E-07	1.311E-07	1.301E-07
86.194	87.920	90.471	92.422	93.922	94.898	95.498	96.398	97.074	97.149
2.67950	2.73315	2.81245	2.87310	2.91975	2.95007	2.96873	2.99672	3.01771	3.02005
8.032E-08	6.449E-08	3.010E-08	1.806E-08						
97.224	98.049	99.700	100.000						
3.02238	3.04804	3.09935	3.10868						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.351  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.083

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.085  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.810

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
3	1	-11.07050	-16.21195	-1.17139
3	2	-13.05427	-17.94360	-1.81377
3	3	-13.77855	-18.78341	-2.17949
3	4	-14.34482	-24.08552	-4.78298
3	5	-14.95230	NUMXQ(K) = 5	
		5.014E-06	0.031	1.000
		3.483E-06	0.093	3.000
		2.908E-06	0.155	5.000
		2.246E-06	0.311	10.000
		1.801E-06	0.466	15.000
		1.501E-06	0.622	20.000
		1.298E-06	0.777	25.000
		1.150E-06	0.933	30.000
		1.035E-06	1.088	35.000
		9.255E-07	1.243	40.000
		8.375E-07	1.399	45.000
		7.649E-07	1.554	50.000
		7.038E-07	1.710	55.000
		6.516E-07	1.865	60.000
		6.065E-07	2.021	65.000
		5.419E-07	2.176	70.000
		4.717E-07	2.332	75.000
		4.136E-07	2.487	80.000
		3.652E-07	2.642	85.000
		3.244E-07	2.798	90.000
		1.724E-06	0.5	16.08

ANNUAL AVERAGE = 6.57E-09

K= 3 FIVEXQ(K) = 1.724E-06 FIVEPR(K) = 16.084

FUMIGATION X/Q AT THE BOUNDARY: 2.85E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	7.442E-01	3.613E-01	3.314E-01	2.419E-01	2.081E-01	1.693E-02
3.902	6.603	11.874	15.851	68.917	97.224	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS											MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS		
A	3.6	2.58	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	3.234E-07		
A	6.0	1.92	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.940E-07		
A	8.9	1.19	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.311E-07		
A	11.6	0.07	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07		
B	1.7	0.59	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	4.046E-06		
B	3.6	1.65	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.888E-06		
B	6.0	0.99	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.133E-06		
B	8.9	0.07	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	7.655E-07		
C	1.7	0.99	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	4.588E-06		
C	3.6	2.44	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.141E-06		
C	6.0	1.12	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	1.285E-06		
C	8.9	0.20	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	8.679E-07		
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	7.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	22.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	18.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	4.43	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.73	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.13	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	4.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	14.46	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	6.67	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	1.92	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	0.53	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
G	1.8	0.66	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.25	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		
G	6.5	0.13	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08		

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

WSW SECTOR BOUNDARY DISTANCE = 1500.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.588E-06	4.046E-06	2.224E-06	2.141E-06	1.888E-06	1.285E-06	1.262E-06
0.018	0.046	0.066	1.057	1.651	9.511	11.955	13.607	14.729	18.758
0.00063	0.00164	0.00234	0.03733	0.05832	0.33589	0.42219	0.48051	0.52016	0.66244
1.133E-06	1.038E-06	8.679E-07	7.655E-07	6.875E-07	6.226E-07	5.890E-07	4.207E-07	3.534E-07	3.243E-07
19.749	41.942	42.140	42.206	43.923	62.285	76.750	81.176	87.847	88.573
0.69743	1.48116	1.48816	1.49049	1.55114	2.19958	2.71040	2.86668	3.10226	3.12792
3.234E-07	3.208E-07	2.388E-07	1.940E-07	1.925E-07	1.841E-07	1.415E-07	1.311E-07	1.011E-07	8.032E-08
91.149	93.065	93.791	95.707	96.235	96.499	96.631	97.820	97.886	97.952
3.21889	3.28653	3.31219	3.37983	3.39849	3.40782	3.41249	3.45448	3.45681	3.45914
6.449E-08	3.010E-08	1.806E-08							
98.613	99.868	100.000							
3.48247	3.52678	3.53145							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.422  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.479

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 2.708  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5) = 3.284

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
4	1	-11.07050	-16.06810	-1.14412
4	2	-13.05427	-17.21410	-1.57917
4	3	-13.77855	-18.70747	-2.26561
4	4	-14.34482	-28.11817	-7.15277
4	5	-14.95230	NUMXQ(K) = 5	
		5.068E-06	0.035	1.000
		3.538E-06	0.106	3.000
		2.961E-06	0.177	5.000
		2.293E-06	0.353	10.000
		1.893E-06	0.530	15.000
		1.612E-06	0.706	20.000
		1.418E-06	0.883	25.000
		1.273E-06	1.059	30.000
		1.160E-06	1.236	35.000
		1.069E-06	1.413	40.000
		9.739E-07	1.589	45.000
		8.848E-07	1.766	50.000
		8.101E-07	1.942	55.000
		7.466E-07	2.119	60.000
		6.919E-07	2.295	65.000
		6.443E-07	2.472	70.000
		6.025E-07	2.649	75.000
		5.177E-07	2.825	80.000
		4.280E-07	3.002	85.000
		3.571E-07	3.178	90.000
		1.954E-06	0.5	14.16

ANNUAL AVERAGE = 9.48E-09

K= 4 FIVEXQ(K)= 1.954E-06 FIVEPR(K)=14.158

FUMIGATION X/Q AT THE BOUNDARY: 2.85E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	7.442E-01	3.613E-01	3.314E-01	2.419E-01	2.081E-01	1.693E-02
5.746	9.049	13.230	17.985	71.702	97.952	100.000

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	1.7	0.15	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	6.930E-07			
A	3.6	4.26	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	3.234E-07			
A	6.0	2.25	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.940E-07			
A	8.9	0.34	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.311E-07			
B	1.7	0.24	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	4.046E-06			
B	3.6	2.74	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.888E-06			
B	6.0	0.59	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.133E-06			
B	8.9	0.05	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	7.655E-07			
C	1.7	0.05	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	4.588E-06			
C	3.6	2.45	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.141E-06			
C	6.0	0.68	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	1.285E-06			
C	8.9	0.15	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	8.679E-07			
C	11.6	0.05	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	6.690E-07			
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	5.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	21.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	16.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	6.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	1.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.94	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	7.88	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	2.84	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.59	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	1.66	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	0.64	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	28.5	0.20	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08			
G	1.8	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.10	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

W SECTOR BOUNDARY DISTANCE = 1500.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.588E-06	4.046E-06	2.224E-06	2.141E-06	1.888E-06	1.285E-06	1.262E-06
0.013	0.034	0.051	0.100	0.345	5.971	8.417	11.157	11.841	14.777
0.00061	0.00160	0.00244	0.00477	0.01643	0.28467	0.40130	0.53192	0.56458	0.70453
1.133E-06	1.038E-06	8.679E-07	7.655E-07	6.930E-07	6.875E-07	6.690E-07	6.226E-07	5.890E-07	4.207E-07
15.364	36.645	36.792	36.841	36.988	38.504	38.553	54.747	68.592	75.049
0.73252	1.74716	1.75416	1.75649	1.76349	1.83580	1.83813	2.61020	3.27030	3.57820
3.534E-07	3.243E-07	3.234E-07	3.208E-07	2.388E-07	1.940E-07	1.925E-07	1.841E-07	1.415E-07	1.311E-07
82.926	84.492	88.748	90.411	93.249	95.499	96.135	96.722	97.114	97.456
3.95373	4.02837	4.23130	4.31061	4.44590	4.55319	4.58352	4.61151	4.63017	4.64649
8.032E-08	6.449E-08	4.375E-08	3.010E-08	1.806E-08					
98.434	99.070	99.266	99.902	100.000					
4.69314	4.72347	4.73280	4.76312	4.76779					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

**PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED**

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.401  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.531



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.745  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.267  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.307

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
5	1	-11.07050	-16.10488	-1.15058
5	2	-13.05427	-16.49988	-1.29956
5	3	-13.17981	-16.61483	-1.34455
5	4	-13.77855	-18.25954	-2.12424
5	5	-14.34482	-23.17538	-4.79171
5	6	-14.95230	NUMXQ(K) = 6	
		4.537E-06	0.048	1.000
		3.134E-06	0.143	3.000
		2.607E-06	0.238	5.000
		1.984E-06	0.477	10.000
		1.640E-06	0.715	15.000
		1.423E-06	0.954	20.000
		1.271E-06	1.192	25.000
		1.155E-06	1.430	30.000
		1.064E-06	1.669	35.000
		9.619E-07	1.907	40.000
		8.673E-07	2.146	45.000
		7.893E-07	2.384	50.000
		7.238E-07	2.622	55.000
		6.680E-07	2.861	60.000
		6.198E-07	3.099	65.000
		5.638E-07	3.337	70.000
		4.856E-07	3.576	75.000
		4.215E-07	3.814	80.000
		3.685E-07	4.053	85.000
		3.242E-07	4.291	90.000
		1.942E-06	0.5	10.49

ANNUAL AVERAGE = 1.03E-08

K= 5 FIVEXQ(K)= 1.942E-06 FIVEPR(K)=10.487

FUMIGATION X/Q AT THE BOUNDARY: 2.85E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	7.442E-01	3.613E-01	3.314E-01	2.419E-01	2.081E-01	1.693E-02
6.996	10.616	14.645	18.021	69.549	98.630	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS										MEANDER	BLDG WAKE	USED
										CA=1292.SQ.METERS		
A	3.6	2.40	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	3.234E-07	
A	6.0	2.40	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.940E-07	
A	8.9	0.16	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.311E-07	
A	11.6	0.05	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07	
A	26.5	0.05	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	4.410E-08	
B	3.6	1.58	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.888E-06	
B	6.0	1.36	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.133E-06	
B	8.9	0.11	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	7.655E-07	
B	11.6	0.05	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	5.901E-07	
C	3.6	3.54	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.141E-06	
C	6.0	1.42	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	1.285E-06	
C	8.9	0.22	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	8.679E-07	
C	11.6	0.11	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	6.690E-07	
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	4.69	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	16.58	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	16.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	7.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	1.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.11	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	3.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	10.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	14.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	3.44	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	1.15	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.25	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	2.84	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	1.31	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
F	28.5	0.05	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08	

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

WNW SECTOR BOUNDARY DISTANCE = 1500.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	2.141E-06	1.888E-06	1.285E-06	1.262E-06	1.133E-06	1.038E-06
0.011	0.034	0.048	4.738	8.282	9.864	11.281	14.553	15.916	32.493
0.00045	0.00145	0.00207	0.20267	0.35428	0.42192	0.48257	0.62252	0.68083	1.38992
8.679E-07	7.655E-07	6.875E-07	6.690E-07	6.226E-07	5.901E-07	5.890E-07	4.207E-07	3.534E-07	3.243E-07
32.711	32.820	34.074	34.184	50.978	51.033	61.939	69.573	83.587	85.005
1.39925	1.40392	1.45756	1.46223	2.18065	2.18298	2.64948	2.97604	3.57550	3.63614
3.234E-07	3.208E-07	2.388E-07	1.940E-07	1.925E-07	1.841E-07	1.415E-07	1.311E-07	1.301E-07	1.011E-07
87.404	90.239	93.675	96.074	97.383	98.528	98.637	98.800	98.909	98.964
3.73877	3.86006	4.00701	4.10964	4.16563	4.21461	4.21927	4.22627	4.23094	4.23327
8.032E-08	6.449E-08	4.410E-08	4.375E-08	3.010E-08	1.806E-08				
99.182	99.455	99.509	99.564	99.891	100.000				
4.24260	4.25426	4.25659	4.25893	4.27292	4.27759				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.354  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 1.388

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.647  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.857  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.211

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
6	1	-11.07050	-16.11545	-1.13664
6	2	-13.05427	-17.01398	-1.47027
6	3	-13.77855	-18.47851	-2.13580
6	4	-14.34482	-21.34840	-3.61861
6	5	-14.95230	-38.98705	-13.59773
6	6	-15.50797	NUMXQ(K) = 6	
		4.437E-06	0.043	1.000
		3.089E-06	0.128	3.000
		2.580E-06	0.214	5.000
		1.950E-06	0.428	10.000
		1.585E-06	0.642	15.000
		1.360E-06	0.856	20.000
		1.204E-06	1.069	25.000
		1.086E-06	1.283	30.000
		9.748E-07	1.497	35.000
		8.697E-07	1.711	40.000
		7.851E-07	1.925	45.000
		7.152E-07	2.139	50.000
		6.565E-07	2.353	55.000
		6.065E-07	2.567	60.000
		5.461E-07	2.780	65.000
		4.855E-07	2.994	70.000
		4.347E-07	3.208	75.000
		3.914E-07	3.422	80.000
		3.543E-07	3.636	85.000
		3.223E-07	3.850	90.000
		1.803E-06	0.5	11.69

ANNUAL AVERAGE = 8.32E-09

K= 6 FIVEXQ(K)= 1.803E-06 FIVEPR(K)=11.689

FUMIGATION X/Q AT THE BOUNDARY: 2.85E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	7.442E-01	3.613E-01	3.314E-01	2.419E-01	2.081E-01	1.693E-02
5.071	8.179	13.756	19.045	66.278	99.291	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
	AT 131.4 METERS									CA=1292.SQ.METERS		
A	3.6	0.17	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	3.234E-07	
A	6.0	0.87	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.940E-07	
A	8.9	0.56	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.311E-07	
B	1.7	0.09	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	4.046E-06	
B	3.6	0.43	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.888E-06	
B	6.0	1.17	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.133E-06	
B	8.9	0.35	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	7.655E-07	
B	11.6	0.04	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	5.901E-07	
C	3.6	0.61	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.141E-06	
C	6.0	2.69	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	1.285E-06	
C	8.9	0.48	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	8.679E-07	
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	1.95	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	14.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	20.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	6.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	0.61	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.30	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.65	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	14.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	15.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	4.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.69	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.52	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.22	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	2.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	0.30	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
G	1.8	0.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	
G	6.5	0.35	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08	

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 1500.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values and frequencies. Rows are grouped by scientific notation (e.g., 1.556E-05, 1.038E-06, etc.).

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.144
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 3.337



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.526  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.757

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
7	1	-11.07050	-16.75842	-1.24301
7	2	-13.05427	-15.91010	-0.95834
7	3	-13.77855	-17.00174	-1.44914
7	4	-14.34482	-20.99784	-3.62870
7	5	-14.85564	-21.74129	-4.06791
7	6	-14.95230	NUMXQ(K)= 6	
		3.072E-06	0.054	1.000
		2.072E-06	0.161	3.000
		1.775E-06	0.269	5.000
		1.420E-06	0.537	10.000
		1.236E-06	0.806	15.000
		1.116E-06	1.074	20.000
		1.022E-06	1.343	25.000
		9.211E-07	1.611	30.000
		8.415E-07	1.880	35.000
		7.768E-07	2.149	40.000
		7.229E-07	2.417	45.000
		6.770E-07	2.686	50.000
		6.374E-07	2.954	55.000
		6.028E-07	3.223	60.000
		5.477E-07	3.491	65.000
		4.845E-07	3.760	70.000
		4.316E-07	4.029	75.000
		3.868E-07	4.297	80.000
		3.480E-07	4.566	85.000
		1.454E-06	0.5	9.31

ANNUAL AVERAGE = 5.93E-09

K= 7 FIVEXQ(K)= 1.454E-06 FIVEPR(K)= 9.308

FUMIGATION X/Q AT THE BOUNDARY: 2.85E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	7.442E-01	3.613E-01	3.314E-01	2.419E-01	2.081E-01	1.693E-02
1.607	3.691	10.827	14.605	59.944	98.220	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
	AT 131.4 METERS									CA=1292.SQ.METERS		
A	3.6	0.09	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	3.234E-07	
A	6.0	0.09	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.940E-07	
B	3.6	0.14	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.888E-06	
B	6.0	0.37	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.133E-06	
B	8.9	0.37	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	7.655E-07	
B	11.6	0.05	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	5.901E-07	
C	3.6	0.55	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.141E-06	
C	6.0	1.01	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	1.285E-06	
C	8.9	0.46	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	8.679E-07	
C	11.6	0.05	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	6.690E-07	
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	1.61	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	11.17	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	21.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	5.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	0.51	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.32	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	14.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	20.36	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	7.58	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.47	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	4.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	3.63	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	0.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	0.46	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	
G	6.5	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08	
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08	

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom
DATA PERIOD:
TYPE OF RELEASE: Stack Release
SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 97.5 meters
DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 1500.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and all-time frequencies across various sectors.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.892
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 2.824

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
8	1	-11.07050	-16.61799	-1.19862
8	2	-13.77855	-16.68459	-1.22673
8	3	-14.34482	-20.01827	-2.97457
8	4	-14.85564	NUMXQ(K)= 4	
		3.117E-06	0.051	1.000
		2.116E-06	0.152	3.000
		1.745E-06	0.254	5.000
		1.322E-06	0.508	10.000
		1.113E-06	0.761	15.000
		9.786E-07	1.015	20.000
		8.816E-07	1.269	25.000
		8.076E-07	1.523	30.000
		7.486E-07	1.776	35.000
		7.000E-07	2.030	40.000
		6.590E-07	2.284	45.000
		6.237E-07	2.538	50.000
		5.930E-07	2.791	55.000
		5.344E-07	3.045	60.000
		4.807E-07	3.299	65.000
		4.352E-07	3.553	70.000
		3.962E-07	3.806	75.000
		3.625E-07	4.060	80.000
		1.330E-06	0.5	9.85

ANNUAL AVERAGE = 3.16E-09

K= 8 FIVEXQ(K)= 1.330E-06 FIVEPR(K)= 9.852

FUMIGATION X/Q AT THE BOUNDARY: 2.85E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	7.442E-01	3.613E-01	3.314E-01	2.419E-01	2.081E-01	1.693E-02
0.184	1.103	10.725	12.793	53.241	98.805	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02.

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
AT 131.4 METERS												
A	6.0	0.28	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.940E-07	
A	8.9	0.16	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.311E-07	
B	3.6	0.07	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.888E-06	
B	6.0	0.58	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.133E-06	
B	8.9	0.72	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	7.655E-07	
B	11.6	0.12	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	5.901E-07	
B	26.5	0.02	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	2.575E-07	
C	3.6	0.44	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.141E-06	
C	6.0	1.68	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	1.285E-06	
C	8.9	1.56	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	8.679E-07	
C	11.6	0.21	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	6.690E-07	
C	26.5	0.02	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.919E-07	
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	0.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	7.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	16.51	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	11.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	2.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	1.63	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	20.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	12.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	1.49	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	0.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	3.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	3.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	1.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
G	1.8	0.40	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	0.79	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	

CA=1292.SQ.METERS

**Calculation No. PM-1055 Revision 0**

**Attachment J**

**Page 501 of 1411**

G	6.5	0.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 1500.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	2.141E-06	1.888E-06	1.285E-06	1.262E-06	1.133E-06	1.038E-06
0.002	0.014	0.020	0.976	1.419	1.489	3.168	4.801	5.384	12.380
0.00022	0.00138	0.00200	0.09763	0.14195	0.14895	0.31689	0.48017	0.53848	1.23824
8.679E-07	7.655E-07	6.875E-07	6.690E-07	6.226E-07	5.901E-07	5.890E-07	4.207E-07	3.534E-07	3.243E-07
13.943	14.666	15.202	15.412	31.924	32.041	42.186	53.427	74.206	76.515
1.39451	1.46682	1.52047	1.54146	3.19289	3.20455	4.21920	5.34348	7.42176	7.65268
3.208E-07	2.919E-07	2.575E-07	2.388E-07	1.940E-07	1.925E-07	1.841E-07	1.415E-07	1.311E-07	1.301E-07
79.640	79.663	79.687	91.721	92.001	95.032	96.525	97.201	97.365	98.391
7.96524	7.96757	7.96990	9.17348	9.20148	9.50470	9.65398	9.72163	9.73796	9.84059
8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
98.531	98.927	99.720	99.953	100.000					
9.85458	9.89423	9.97354	9.99687	10.00153					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 1.237  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 4.216

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 7.418  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 7.962

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
9	1	-11.07050	-16.36633	-1.15243
9	2	-13.77855	-16.22705	-1.09041
9	3	-14.34482	-17.48474	-1.81900
9	4	-14.85564	-18.56257	-2.56472
9	5	-14.95230	NUMXQ(K)= 5	
		2.748E-06	0.100	1.000
		1.852E-06	0.300	3.000
		1.519E-06	0.500	5.000
		1.139E-06	1.000	10.000
		9.561E-07	1.500	15.000
		8.422E-07	2.000	20.000
		7.603E-07	2.500	25.000
		6.974E-07	3.000	30.000
		6.470E-07	3.501	35.000
		6.052E-07	4.001	40.000
		5.572E-07	4.501	45.000
		5.083E-07	5.001	50.000
		4.669E-07	5.501	55.000
		4.314E-07	6.001	60.000
		4.007E-07	6.501	65.000
		3.737E-07	7.001	70.000
		3.483E-07	7.501	75.000
		1.519E-06	0.5	5.00

ANNUAL AVERAGE = 7.50E-09

K= 9 FIVEXQ(K)= 1.519E-06 FIVEPR(K)= 4.999

FUMIGATION X/Q AT THE BOUNDARY: 2.85E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	7.442E-01	3.613E-01	3.314E-01	2.419E-01	2.081E-01	1.693E-02
0.443	1.959	9.685	13.603	52.296	98.531	100.000



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	0.08	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	3.234E-07		
A	6.0	0.28	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.940E-07		
A	8.9	0.12	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.311E-07		
B	3.6	0.16	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.888E-06		
B	6.0	0.56	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.133E-06		
B	8.9	0.36	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	7.655E-07		
B	11.6	0.08	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	5.901E-07		
C	3.6	0.20	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.141E-06		
C	6.0	1.47	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	1.285E-06		
C	8.9	0.95	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	8.679E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	0.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	7.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	16.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	6.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.64	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	12.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	22.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	9.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.76	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.27	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	5.61	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	4.42	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
F	12.5	0.12	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07		
G	1.8	0.36	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		
G	6.5	0.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08		

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

NNE SECTOR BOUNDARY DISTANCE = 1500.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	2.141E-06	1.888E-06	1.285E-06	1.262E-06	1.133E-06	1.038E-06
0.002	0.018	0.033	0.948	1.146	1.306	2.777	5.005	5.562	13.160
0.00012	0.00105	0.00191	0.05556	0.06722	0.07655	0.16286	0.29348	0.32613	0.77165
8.679E-07	7.655E-07	6.875E-07	6.226E-07	5.901E-07	5.890E-07	4.207E-07	3.534E-07	3.243E-07	3.234E-07
14.115	14.473	15.746	32.652	32.732	45.461	52.065	75.018	75.655	75.734
0.82763	0.84862	0.92326	1.91458	1.91925	2.66566	3.05286	4.39872	4.43604	4.44071
3.208E-07	2.388E-07	1.940E-07	1.925E-07	1.841E-07	1.415E-07	1.311E-07	1.301E-07	1.003E-07	8.032E-08
81.343	90.413	90.691	95.107	95.863	96.221	96.340	97.255	97.375	97.534
4.76959	5.30141	5.31774	5.57665	5.62096	5.64196	5.64895	5.70260	5.70960	5.71893
6.449E-08	3.010E-08	1.806E-08	1.220E-08						
97.892	99.125	99.960	100.000						
5.73992	5.81223	5.86121	5.86355						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.771  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 2.663

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 4.395  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5) = 4.766

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
10	1	-11.07050	-16.64085	-1.18155
10	2	-13.77855	-16.57989	-1.15639
10	3	-14.34482	-18.70878	-2.25784
10	4	-14.85564	-19.13159	-2.50560
10	5	-14.95230	NUMXQ(K) = 5	
		2.745E-06	0.059	1.000
		1.865E-06	0.176	3.000
		1.538E-06	0.293	5.000
		1.165E-06	0.586	10.000
		9.817E-07	0.880	15.000
		8.663E-07	1.173	20.000
		7.836E-07	1.466	25.000
		7.202E-07	1.759	30.000
		6.695E-07	2.052	35.000
		6.275E-07	2.345	40.000
		5.920E-07	2.639	45.000
		5.364E-07	2.932	50.000
		4.876E-07	3.225	55.000
		4.464E-07	3.518	60.000
		4.110E-07	3.811	65.000
		3.803E-07	4.104	70.000
		3.535E-07	4.398	75.000
		3.273E-07	4.691	80.000
		1.244E-06	0.5	8.53

ANNUAL AVERAGE = 3.55E-09

K= 10 FIVEXQ(K) = 1.244E-06 FIVEPR(K) = 8.527

FUMIGATION X/Q AT THE BOUNDARY: 2.85E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	7.442E-01	3.613E-01	3.314E-01	2.419E-01	2.081E-01	1.693E-02
0.477	1.631	13.978	16.603	49.623	97.534	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	0.09	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	3.234E-07		
A	6.0	0.23	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.940E-07		
A	8.9	0.09	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.311E-07		
B	3.6	0.14	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.888E-06		
B	6.0	0.61	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.133E-06		
B	8.9	0.28	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	7.655E-07		
B	11.6	0.05	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	5.901E-07		
C	3.6	0.33	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.141E-06		
C	6.0	1.41	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	1.285E-06		
C	8.9	0.99	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	8.679E-07		
C	11.6	0.19	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	6.690E-07		
C	26.5	0.05	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.919E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	1.50	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	7.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	13.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	5.92	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.75	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.14	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.77	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	13.19	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	16.62	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	7.32	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	7.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	1.83	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.69	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	2.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.38	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 1500.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across various sectors.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.699
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 2.171

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 3.696  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.202

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
11	1	-11.07050	-16.81968	-1.23725
11	2	-13.77855	-16.95348	-1.29168
11	3	-14.34482	-19.62263	-2.61332
11	4	-14.95230	-23.84048	-4.97344
11	5	-15.24768	NUMXQ(K)= 5	
		2.914E-06	0.050	1.000
		1.955E-06	0.149	3.000
		1.603E-06	0.248	5.000
		1.204E-06	0.497	10.000
		1.007E-06	0.745	15.000
		8.786E-07	0.994	20.000
		7.874E-07	1.242	25.000
		7.182E-07	1.490	30.000
		6.632E-07	1.739	35.000
		6.181E-07	1.987	40.000
		5.711E-07	2.236	45.000
		5.082E-07	2.484	50.000
		4.565E-07	2.732	55.000
		4.133E-07	2.981	60.000
		3.767E-07	3.229	65.000
		3.453E-07	3.478	70.000
		3.156E-07	3.726	75.000
		2.722E-07	3.974	80.000
		1.201E-06	0.5	10.06

ANNUAL AVERAGE = 3.09E-09

K= 11 FIVEXQ(K)= 1.201E-06 FIVEPR(K)=10.065

FUMIGATION X/Q AT THE BOUNDARY: 2.85E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	7.442E-01	3.613E-01	3.314E-01	2.419E-01	2.081E-01	1.693E-02
0.423	1.502	19.549	22.507	51.573	95.258	100.000



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RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS		
A	6.0	0.33	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.940E-07	
A	8.9	0.14	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.311E-07	
A	11.6	0.09	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07	
A	26.5	0.09	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	4.410E-08	
B	3.6	0.05	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.888E-06	
B	6.0	0.38	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.133E-06	
B	8.9	0.89	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	7.655E-07	
B	11.6	0.09	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	5.901E-07	
B	26.5	0.05	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	2.575E-07	
C	3.6	0.14	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.141E-06	
C	6.0	1.22	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	1.285E-06	
C	8.9	1.46	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	8.679E-07	
C	11.6	0.19	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	6.690E-07	
C	26.5	0.05	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.919E-07	
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	0.71	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	6.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	9.93	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	8.94	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	1.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.54	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	8.80	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	13.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	12.75	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	1.41	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.05	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	5.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	8.33	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	5.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
F	12.5	0.85	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07	

G	1.8	0.85	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	3.29	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

**Calculation No. PM-1055 Revision 0****Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## SITE EXCLUSION BOUNDARY CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 1500.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	2.141E-06	1.888E-06	1.285E-06	1.262E-06	1.133E-06	1.038E-06
0.002	0.020	0.038	0.743	0.884	0.931	2.154	4.695	5.071	11.092
0.00008	0.00098	0.00186	0.03685	0.04385	0.04618	0.10683	0.23278	0.25144	0.55001
8.679E-07	7.655E-07	6.875E-07	6.690E-07	6.226E-07	5.901E-07	5.890E-07	4.207E-07	3.534E-07	3.243E-07
12.551	13.444	14.997	15.185	25.111	25.205	34.001	42.939	56.910	57.945
0.62232	0.66663	0.74361	0.75294	1.24510	1.24977	1.68595	2.12913	2.82189	2.87320
3.208E-07	2.919E-07	2.575E-07	2.388E-07	1.940E-07	1.925E-07	1.841E-07	1.415E-07	1.311E-07	1.301E-07
63.449	63.496	63.543	76.291	76.621	84.947	86.358	86.640	86.781	91.909
3.14611	3.14844	3.15077	3.78289	3.79921	4.21207	4.28205	4.29604	4.30304	4.55728
1.011E-07	1.003E-07	8.032E-08	6.449E-08	4.410E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09	
92.003	92.850	92.897	93.744	93.838	95.437	98.730	99.953	100.000	
4.56195	4.60394	4.60627	4.64825	4.65292	4.73222	4.89550	4.95615	4.95848	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.001

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.549

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.684  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.143  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.780

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
12	1	-11.07050	-16.19649	-1.06775
12	2	-11.63677	-16.93195	-1.23998
12	3	-13.77855	-17.21345	-1.35067
12	4	-14.34482	-19.23746	-2.30366
12	5	-14.95230	-21.54826	-3.54592
12	6	-15.24768	NUMXQ(K) = 6	
		2.630E-06	0.050	1.000
		1.763E-06	0.149	3.000
		1.445E-06	0.248	5.000
		1.085E-06	0.496	10.000
		8.977E-07	0.744	15.000
		7.780E-07	0.992	20.000
		6.938E-07	1.240	25.000
		6.301E-07	1.488	30.000
		5.734E-07	1.735	35.000
		5.057E-07	1.983	40.000
		4.517E-07	2.231	45.000
		4.075E-07	2.479	50.000
		3.708E-07	2.727	55.000
		3.397E-07	2.975	60.000
		3.088E-07	3.223	65.000
		2.744E-07	3.471	70.000
		2.455E-07	3.719	75.000
		1.081E-06	0.5	10.08

ANNUAL AVERAGE = 2.80E-09

K= 12 FIVEXQ(K)= 1.081E-06 FIVEPR(K)=10.084

FUMIGATION X/Q AT THE BOUNDARY: 2.85E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	7.442E-01	3.613E-01	3.314E-01	2.419E-01	2.081E-01	1.693E-02
0.659	2.117	23.491	26.549	53.458	92.991	100.000

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RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS			
AT 131.4 METERS														
A	3.6	0.03	1500.	0.	131.		131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	3.234E-07	
A	6.0	0.24	1500.	0.	131.		131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.940E-07	
A	8.9	0.63	1500.	0.	131.		131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.311E-07	
A	11.6	0.42	1500.	0.	131.		131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07	
A	26.5	0.06	1500.	0.	131.		131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	4.410E-08	
B	3.6	0.12	1500.	0.	131.		131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.888E-06	
B	6.0	0.63	1500.	0.	131.		131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.133E-06	
B	8.9	0.81	1500.	0.	131.		131.	203.2	170.9	0.0	0.000E+00	0.000E+00	7.655E-07	
B	11.6	0.36	1500.	0.	131.		131.	203.2	170.9	0.0	0.000E+00	0.000E+00	5.901E-07	
B	26.5	0.18	1500.	0.	131.		131.	203.2	170.9	0.0	0.000E+00	0.000E+00	2.575E-07	
C	3.6	0.15	1500.	0.	131.		131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.141E-06	
C	6.0	1.25	1500.	0.	131.		131.	154.3	88.4	0.0	0.000E+00	0.000E+00	1.285E-06	
C	8.9	1.67	1500.	0.	131.		131.	154.3	88.4	0.0	0.000E+00	0.000E+00	8.679E-07	
C	11.6	0.86	1500.	0.	131.		131.	154.3	88.4	0.0	0.000E+00	0.000E+00	6.690E-07	
C	26.5	0.39	1500.	0.	131.		131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.919E-07	
D	0.2	0.00	4000.	0.	131.		131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	0.78	4000.	0.	131.		131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	4.21	4000.	0.	131.		131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	8.98	4000.	0.	131.		131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	11.78	4000.	0.	131.		131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	6.71	4000.	0.	131.		131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	2.68	4000.	0.	131.		131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.01	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	1.61	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	5.16	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	11.78	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	15.99	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	2.33	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.27	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	0.89	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	2.54	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	5.91	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	5.01	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	

**Calculation No. PM-1055 Revision 0****Attachment J**

F	12.5	0.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
G	1.8	0.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	2.06	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.16	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 1500.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and all-time frequencies across various sectors.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.684  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 2.148  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.715  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 6.009

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)	
13	1	-11.07050	-16.78032	-1.21760	
13	2	-13.77855	-16.94279	-1.28350	
13	3	-14.34482	-17.84853	-1.73097	
13	4	-14.95230	-19.10014	-2.47901	
13	5	-15.24768			NUMXQ(K)= 5
		2.426E-06	0.078		1.000
		1.613E-06	0.235		3.000
		1.315E-06	0.391		5.000
		9.760E-07	0.782		10.000
		8.037E-07	1.173		15.000
		6.958E-07	1.564		20.000
		6.196E-07	1.955		25.000
		5.528E-07	2.346		30.000
		4.930E-07	2.737		35.000
		4.454E-07	3.128		40.000
		4.065E-07	3.519		45.000
		3.739E-07	3.910		50.000
		3.462E-07	4.301		55.000
		3.223E-07	4.692		60.000
		2.935E-07	5.083		65.000
		2.682E-07	5.474		70.000
		2.463E-07	5.865		75.000
		1.188E-06	0.5		6.39

ANNUAL AVERAGE = 5.50E-09

K= 13 FIVEXQ(K)= 1.188E-06 FIVEPR(K)= 6.393

FUMIGATION X/Q AT THE BOUNDARY: 2.85E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	7.442E-01	3.613E-01	3.314E-01	2.419E-01	2.081E-01	1.693E-02
1.372	3.460	18.532	22.857	57.994	95.138	100.000



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS											MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS		
A	6.0	0.24	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.940E-07		
A	8.9	0.24	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.311E-07		
A	11.6	0.05	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07		
A	26.5	0.13	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	4.410E-08		
B	3.6	0.08	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.888E-06		
B	6.0	0.24	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.133E-06		
B	8.9	0.53	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	7.655E-07		
B	11.6	0.37	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	5.901E-07		
B	26.5	0.19	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	2.575E-07		
C	3.6	0.13	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.141E-06		
C	6.0	0.69	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	1.285E-06		
C	8.9	1.57	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	8.679E-07		
C	11.6	0.80	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	6.690E-07		
C	26.5	0.72	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.919E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	1.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	2.59	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	9.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	17.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	11.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	4.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	0.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	3.68	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	9.45	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	15.56	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	2.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.32	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	0.75	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	1.76	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	3.74	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	3.68	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
F	12.5	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07		

G	1.8	0.37	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters.

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 1500.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	2.141E-06	1.888E-06	1.285E-06	1.262E-06	1.133E-06	1.038E-06
0.002	0.009	0.018	1.032	1.165	1.246	1.939	2.900	3.141	5.730
0.00020	0.00080	0.00155	0.09019	0.10185	0.10885	0.16949	0.25346	0.27446	0.50071
8.679E-07	7.655E-07	6.875E-07	6.690E-07	6.226E-07	5.901E-07	5.890E-07	4.207E-07	3.534E-07	3.243E-07
7.304	7.838	8.585	9.386	18.861	19.235	22.918	40.907	50.356	62.313
0.63833	0.68498	0.75029	0.82027	1.64831	1.68097	2.00286	3.57498	4.40069	5.44566
3.208E-07	2.919E-07	2.575E-07	2.388E-07	1.940E-07	1.925E-07	1.841E-07	1.415E-07	1.311E-07	1.301E-07
64.075	64.795	64.982	80.543	80.783	84.520	87.482	91.512	91.753	95.436
5.59961	5.66259	5.67892	7.03878	7.05977	7.38632	7.64524	7.99745	8.01844	8.34033
1.011E-07	1.003E-07	8.032E-08	6.449E-08	4.410E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09	
95.489	95.970	96.290	96.664	96.797	97.731	98.906	99.947	100.000	
8.34499	8.38698	8.41497	8.44762	8.45929	8.54092	8.64356	8.73452	8.73919	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.102  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.500

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 2.001  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5) = 5.596  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6) = 7.035

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
14	1	-11.07050	-17.06457	-1.29990
14	2	-13.05427	-17.44133	-1.42203
14	3	-13.77855	-16.57194	-1.08450
14	4	-14.34482	-17.03368	-1.30934
14	5	-14.95230	-18.98474	-2.53670
14	6	-15.24768	NUMXQ(K) = 6	
		2.271E-06	0.087	1.000
		1.411E-06	0.262	3.000
		1.109E-06	0.437	5.000
		8.364E-07	0.874	10.000
		7.081E-07	1.311	15.000
		6.257E-07	1.748	20.000
		5.618E-07	2.185	25.000
		5.076E-07	2.622	30.000
		4.648E-07	3.059	35.000
		4.298E-07	3.496	40.000
		4.005E-07	3.933	45.000
		3.755E-07	4.370	50.000
		3.538E-07	4.807	55.000
		3.348E-07	5.244	60.000
		3.151E-07	5.680	65.000
		2.867E-07	6.117	70.000
		2.622E-07	6.554	75.000
		2.409E-07	6.991	80.000
		1.038E-06	0.5	5.72

ANNUAL AVERAGE = 5.05E-09

K= 14 FIVEXQ(K) = 1.038E-06 FIVEPR(K) = 5.721

FUMIGATION X/Q AT THE BOUNDARY: 2.85E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	7.442E-01	3.613E-01	3.314E-01	2.419E-01	2.081E-01	1.693E-02
0.667	2.082	12.500	16.423	63.481	96.423	100.000

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	6.0	0.04	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.940E-07			
A	8.9	0.06	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.311E-07			
A	26.5	0.02	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	4.410E-08			
B	3.6	0.08	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.888E-06			
B	6.0	0.04	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.133E-06			
B	8.9	0.19	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	7.655E-07			
B	11.6	0.08	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	5.901E-07			
C	3.6	0.06	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.141E-06			
C	6.0	0.55	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	1.285E-06			
C	8.9	0.74	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	8.679E-07			
C	11.6	0.59	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	6.690E-07			
C	26.5	0.13	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.919E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	4.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	11.52	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	22.08	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	11.54	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	3.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	0.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	3.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	11.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	13.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	1.89	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.13	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.00	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.78	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	1.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.49	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	1.95	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 1500.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	2.141E-06	1.888E-06	1.285E-06	1.262E-06	1.133E-06	1.038E-06
0.002	0.008	0.014	0.779	0.843	0.928	1.480	2.309	2.351	6.452
0.00019	0.00084	0.00154	0.08551	0.09251	0.10184	0.16248	0.25345	0.25811	0.70829
8.679E-07	7.655E-07	6.875E-07	6.690E-07	6.226E-07	5.901E-07	5.890E-07	4.207E-07	3.534E-07	3.243E-07
7.195	7.387	7.939	8.534	20.049	20.134	23.746	45.821	56.848	68.385
0.78993	0.81092	0.87157	0.93688	2.20111	2.21044	2.60697	5.03046	6.24104	7.50760
3.208E-07	2.919E-07	2.388E-07	1.940E-07	1.925E-07	1.841E-07	1.415E-07	1.311E-07	1.301E-07	8.032E-08
70.382	70.510	84.341	84.384	88.166	90.057	93.966	94.030	95.942	96.069
7.72686	7.74085	9.25933	9.26399	9.67918	9.88678	10.31596	10.32296	10.53289	10.54688
6.449E-08	4.410E-08	3.010E-08	1.806E-08	1.220E-08					
96.346	96.367	97.854	99.809	100.000					
10.57720	10.57954	10.74281	10.95741	10.97840					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.707  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 2.604

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 5.027  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 7.723

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
15	1	-11.07050	-16.84185	-1.24856
15	2	-13.77855	-16.49711	-1.10805
15	3	-14.34482	-16.52316	-1.12147
15	4	-14.68142	-16.71908	-1.24076
15	5	-14.95230	NUMXQ(K)= 5	
		2.220E-06	0.110	1.000
		1.443E-06	0.329	3.000
		1.162E-06	0.549	5.000
		8.672E-07	1.098	10.000
		7.278E-07	1.647	15.000
		6.386E-07	2.196	20.000
		5.745E-07	2.745	25.000
		5.249E-07	3.294	30.000
		4.853E-07	3.842	35.000
		4.525E-07	4.391	40.000
		4.248E-07	4.940	45.000
		3.989E-07	5.489	50.000
		3.761E-07	6.038	55.000
		3.559E-07	6.587	60.000
		3.380E-07	7.136	65.000
		3.220E-07	7.685	70.000
		1.210E-06	0.5	4.55

ANNUAL AVERAGE = 4.54E-09

K= 15 FIVEXQ(K)= 1.210E-06 FIVEPR(K)= 4.554

FUMIGATION X/Q AT THE BOUNDARY: 2.85E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	7.442E-01	3.613E-01	3.314E-01	2.419E-01	2.081E-01	1.693E-02
0.127	0.531	8.781	10.863	64.767	96.091	100.000



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	0.02	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	3.234E-07		
A	6.0	0.17	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.940E-07		
A	8.9	0.32	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.311E-07		
A	11.6	0.02	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07		
A	26.5	0.02	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	4.410E-08		
B	3.6	0.06	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.888E-06		
B	6.0	0.48	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.133E-06		
B	8.9	0.71	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	7.655E-07		
B	11.6	0.11	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	5.901E-07		
C	3.6	0.48	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.141E-06		
C	6.0	2.16	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	1.285E-06		
C	8.9	2.01	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	8.679E-07		
C	11.6	0.37	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	6.690E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	1.08	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	8.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	20.04	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	19.82	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	5.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	1.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	4.38	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	11.10	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	10.11	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.93	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	2.09	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	2.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.69	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
F	12.5	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07		

**Calculation No. PM-1055 Revision 0****Attachment J**

G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	28.5	0.02	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 1500.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	2.141E-06	1.888E-06	1.285E-06	1.262E-06	1.133E-06	1.038E-06
0.002	0.008	0.013	1.093	1.568	1.633	3.792	4.527	5.002	13.316
0.00026	0.00083	0.00142	0.11805	0.16936	0.17636	0.40961	0.48892	0.54023	1.43826
8.679E-07	7.655E-07	6.875E-07	6.690E-07	6.226E-07	5.901E-07	5.890E-07	4.207E-07	3.534E-07	3.243E-07
15.324	16.037	16.512	16.879	36.920	37.028	41.412	61.236	72.336	77.562
1.65518	1.73215	1.78347	1.82312	3.98770	3.99937	4.47287	6.61413	7.81304	8.37752
3.234E-07	3.208E-07	2.388E-07	1.940E-07	1.925E-07	1.841E-07	1.415E-07	1.311E-07	1.301E-07	1.011E-07
77.584	79.679	89.785	89.958	92.679	93.608	94.968	95.292	95.983	96.005
8.37985	8.60610	9.69773	9.71638	10.01028	10.11058	10.25753	10.29252	10.36716	10.36949
1.003E-07	8.032E-08	6.449E-08	4.410E-08	3.010E-08	1.806E-08	1.220E-08	4.104E-09		
96.113	96.329	96.739	96.761	98.035	99.870	99.978	100.000		
10.38116	10.40448	10.44880	10.45113	10.58875	10.78701	10.79868	10.80101		

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.437  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 4.469

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 6.610  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 8.603  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 9.694

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
16	1	-11.07050	-16.28116	-1.14424
16	2	-13.77855	-16.31390	-1.15921
16	3	-14.34482	-17.30459	-1.74244
16	4	-14.68142	-17.59806	-1.93737
16	5	-14.95230	-21.01945	-4.44270
16	6	-15.24768	NUMXQ(K) = 6	
		2.842E-06	0.108	1.000
		1.915E-06	0.324	3.000
		1.571E-06	0.540	5.000
		1.178E-06	1.080	10.000
		9.823E-07	1.620	15.000
		8.570E-07	2.160	20.000
		7.677E-07	2.700	25.000
		6.995E-07	3.240	30.000
		6.451E-07	3.780	35.000
		6.003E-07	4.320	40.000
		5.496E-07	4.860	45.000
		5.026E-07	5.401	50.000
		4.627E-07	5.941	55.000
		4.284E-07	6.481	60.000
		3.962E-07	7.021	65.000
		3.674E-07	7.561	70.000
		3.420E-07	8.101	75.000
		3.177E-07	8.641	80.000
		2.737E-07	9.181	85.000
		1.620E-06	0.5	4.63

ANNUAL AVERAGE = 9.67E-09

K= 16 FIVEXQ(K) = 1.620E-06 FIVEPR(K) = 4.629

FUMIGATION X/Q AT THE BOUNDARY: 2.85E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	7.442E-01	3.613E-01	3.314E-01	2.419E-01	2.081E-01	1.693E-02
0.561	1.922	8.017	13.028	68.876	96.350	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS		
A	1.7	0.01	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	6.930E-07			
A	3.6	0.51	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	3.234E-07			
A	6.0	0.53	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.940E-07			
A	8.9	0.28	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.311E-07			
A	11.6	0.06	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07			
A	26.5	0.03	1500.	0.	131.	270.1	1000.0	0.0	0.000E+00	0.000E+00	4.410E-08			
B	1.7	0.05	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	4.046E-06			
B	3.6	0.47	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.888E-06			
B	6.0	0.54	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	1.133E-06			
B	8.9	0.44	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	7.655E-07			
B	11.6	0.12	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	5.901E-07			
B	26.5	0.03	1500.	0.	131.	203.2	170.9	0.0	0.000E+00	0.000E+00	2.575E-07			
C	1.7	0.08	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	4.588E-06			
C	3.6	0.77	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.141E-06			
C	6.0	1.33	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	1.285E-06			
C	8.9	1.04	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	8.679E-07			
C	11.6	0.30	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	6.690E-07			
C	26.5	0.13	1500.	0.	131.	154.3	88.4	0.0	0.000E+00	0.000E+00	2.919E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	2.07	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	9.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	15.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	12.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	4.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	1.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	1.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	8.90	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	9.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	1.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			

**Calculation No. PM-1055 Revision 0****Attachment J**

F	3.9	3.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.16	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
F	28.5	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08
G	1.8	0.43	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.14	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.31	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.01	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.00	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 1500.0 METERS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.588E-06	4.046E-06	2.224E-06	2.141E-06	1.888E-06	1.285E-06	1.262E-06
0.005	0.019	0.030	0.107	0.154	2.221	2.986	3.457	4.786	6.753
0.00467	0.01866	0.03032	0.10730	0.15395	2.22056	2.98563	3.45680	4.78634	6.75266
1.133E-06	1.038E-06	8.679E-07	7.655E-07	6.930E-07	6.875E-07	6.690E-07	6.226E-07	5.901E-07	5.890E-07
7.296	16.687	17.730	18.170	18.177	19.187	19.491	35.209	35.331	44.227
7.29614	16.68688	17.72952	18.17037	18.17736	19.18735	19.49058	35.20946	35.33075	44.22700
4.207E-07	3.534E-07	3.243E-07	3.234E-07	3.208E-07	2.919E-07	2.575E-07	2.388E-07	1.940E-07	1.925E-07
56.456	70.302	74.543	75.056	78.198	78.324	78.359	87.885	88.417	91.934
56.45642	70.30229	74.54282	75.05598	78.19789	78.32384	78.35883	87.88486	88.41667	91.93412
1.841E-07	1.415E-07	1.311E-07	1.301E-07	1.011E-07	1.003E-07	8.032E-08	6.449E-08	4.410E-08	4.375E-08
93.229	94.616	94.894	96.448	96.506	96.667	96.895	97.329	97.357	97.369
93.22867	94.61652	94.89409	96.44756	96.50587	96.66681	96.89539	97.32925	97.35724	97.36890
3.010E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54216	99.67810	99.98599	99.99532	99.99998					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q                      WITH RESPECT TO                      WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

3.306E-06	1.000	1.000
2.137E-06	3.000	3.000
1.774E-06	5.000	5.000
1.331E-06	10.000	10.000
1.097E-06	15.000	15.000
9.519E-07	20.000	20.000
8.483E-07	25.000	25.000
7.649E-07	30.000	30.000
6.949E-07	35.000	35.000
6.345E-07	40.000	40.000
5.815E-07	45.000	45.000
5.355E-07	50.000	50.000
4.931E-07	55.000	55.000
4.534E-07	60.000	60.000
4.157E-07	65.000	65.000
3.794E-07	70.000	70.000
3.437E-07	75.000	75.000
3.060E-07	80.000	80.000
2.640E-07	85.000	85.000
1.774E-06	5.0	5.00

K= 17 FIVEXQ(K)= 1.774E-06 FIVEPR(K)= 5.000

FUMIGATION X/Q AT THE BOUNDARY: 2.85E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	7.442E-01	3.613E-01	3.314E-01	2.419E-01	2.081E-01	1.693E-02
1.416	3.074	12.481	16.125	61.163	96.935	100.000



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.588E-06	4.046E-06	2.224E-06	2.141E-06	1.888E-06	1.285E-06	1.262E-06
0.005	0.019	0.030	0.107	0.154	2.221	2.986	3.457	4.786	6.753
0.00467	0.01866	0.03032	0.10730	0.15395	2.22056	2.98563	3.45680	4.78634	6.75266
1.133E-06	1.038E-06	8.679E-07	7.655E-07	6.930E-07	6.875E-07	6.690E-07	6.226E-07	5.901E-07	5.890E-07
7.296	16.687	17.730	18.170	18.177	19.187	19.491	35.209	35.331	44.227
7.29614	16.68688	17.72952	18.17036	18.17736	19.18734	19.49057	35.20946	35.33074	44.22699
4.207E-07	3.534E-07	3.243E-07	3.234E-07	3.208E-07	2.919E-07	2.575E-07	2.388E-07	1.940E-07	1.925E-07
56.456	70.302	74.543	75.056	78.198	78.324	78.359	87.885	88.417	91.934
56.45641	70.30228	74.54280	75.05595	78.19787	78.32383	78.35882	87.88484	88.41667	91.93411
1.841E-07	1.415E-07	1.311E-07	1.301E-07	1.011E-07	1.003E-07	8.032E-08	6.449E-08	4.410E-08	4.375E-08
93.229	94.616	94.894	96.448	96.506	96.667	96.895	97.329	97.357	97.369
93.22868	94.61652	94.89408	96.44754	96.50584	96.66679	96.89538	97.32922	97.35721	97.36887
3.010E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54213	99.67805	99.98595	99.99529	99.99995					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

**Calculation No. PM-1055 Revision 0**

**Attachment J**

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
18	1	-11.07050	-14.90007	-0.98007
18	2	-13.05427	-14.54216	-0.79003
18	3	-13.77855	-14.44468	-0.68918
18	4	-14.34482	-14.44013	-0.65774
18	5	-14.95230	-14.36355	-0.75609
18	6	-15.24768	NUMXQ(K) = 6	
		3.306E-06	1.000	1.000
		2.137E-06	3.000	3.000
		1.774E-06	5.000	5.000
		1.331E-06	10.000	10.000
		1.097E-06	15.000	15.000
		9.519E-07	20.000	20.000
		8.483E-07	25.000	25.000
		7.649E-07	30.000	30.000
		6.949E-07	35.000	35.000
		6.345E-07	40.000	40.000
		5.815E-07	45.000	45.000
		5.355E-07	50.000	50.000
		4.931E-07	55.000	55.000
		4.534E-07	60.000	60.000
		4.157E-07	65.000	65.000
		3.794E-07	70.000	70.000
		3.437E-07	75.000	75.000
		3.060E-07	80.000	80.000
		2.640E-07	85.000	85.000
		1.774E-06	5.0	5.00

K= 18 FIVEXQ(K) = 1.774E-06 FIVEPR(K) = 5.000

K	HIGHPR	PR	GRNDVT(K)
1	-2.77173	0.27880	6.21119
2	-1.76750	3.85720	3.52599
3	-2.64522	0.40819	3.10868
4	-2.57624	0.49942	3.53145
5	-2.58095	0.49264	4.76778
6	-2.63094	0.42575	4.27759
7	-2.88449	0.19603	5.37148
8	-2.89684	0.18848	5.07527
9	-2.79457	0.25985	10.00153
10	-2.95803	0.15481	5.86355
11	-2.96941	0.14919	4.96796
12	-3.05342	0.11313	4.95848
13	-2.98501	0.14179	7.82046
14	-3.02072	0.12609	8.73919
15	-2.96026	0.15370	10.97840
16	-2.74014	0.30707	10.80101

K HOURS(K) TOTHR

Calculation No. PM-1055 Revision 0

Attachment J

1	24.42294	24.42294
2	337.89080	362.31380
3	35.75748	398.07130
4	43.74879	441.82000
5	43.15512	484.97520
6	37.29570	522.27090
7	17.17255	539.44340
8	16.51048	555.95390
9	22.76255	578.71650
10	13.56146	592.27800
11	13.06908	605.34700
12	9.91015	615.25720
13	12.42111	627.67830
14	11.04580	638.72410
15	13.46382	652.18790
16	26.89944	679.08730

K	FIVEXQ	SVANN	SLTIME	TIMINT	I	TIME	XQT
1	1.549E-06	5.783E-09	-0.6667	-12.9159	1	8.0	-14.30222
					2	16.0	-14.76434
					3	72.0	-15.76710
					4	624.0	-17.20683
2	1.417E-06	5.708E-09	-0.6577	-13.0109	1	8.0	-14.37847
					2	16.0	-14.83434
					3	72.0	-15.82354
					4	624.0	-17.24379
3	1.724E-06	6.571E-09	-0.6643	-12.8105	1	8.0	-14.19175
					2	16.0	-14.65217
					3	72.0	-15.65126
					4	624.0	-17.08570
4	1.954E-06	9.480E-09	-0.6355	-12.7053	1	8.0	-14.02670
					2	16.0	-14.46716
					3	72.0	-15.42294
					4	624.0	-16.79519
5	1.942E-06	1.026E-08	-0.6253	-12.7185	1	8.0	-14.01874
					2	16.0	-14.45216
					3	72.0	-15.39264
					4	624.0	-16.74294
6	1.803E-06	8.323E-09	-0.6414	-12.7816	1	8.0	-14.11536
					2	16.0	-14.55993
					3	72.0	-15.52462
					4	624.0	-16.90969
7	1.454E-06	5.932E-09	-0.6561	-12.9864	1	8.0	-14.35079
					2	16.0	-14.80559
					3	72.0	-15.79248
					4	624.0	-17.20941

Calculation No. PM-1055 Revision 0

Attachment J

8	1.330E-06	3.165E-09	-0.7205	-13.0307				
					1	8.0	-14.52882	
					2	16.0	-15.02821	
					3	72.0	-16.11183	
					4	624.0	-17.66764	
9	1.519E-06	7.504E-09	-0.6333	-12.9584				
					1	8.0	-14.27536	
					2	16.0	-14.71434	
					3	72.0	-15.66691	
					4	624.0	-17.03455	
10	1.244E-06	3.548E-09	-0.6989	-13.1125				
					1	8.0	-14.56573	
					2	16.0	-15.05015	
					3	72.0	-16.10130	
					4	624.0	-17.61050	
11	1.201E-06	3.092E-09	-0.7111	-13.1394				
					1	8.0	-14.61797	
					2	16.0	-15.11083	
					3	72.0	-16.18032	
					4	624.0	-17.71583	
12	1.081E-06	2.799E-09	-0.7104	-13.2451				
					1	8.0	-14.72224	
					2	16.0	-15.21462	
					3	72.0	-16.28306	
					4	624.0	-17.81707	
13	1.188E-06	5.495E-09	-0.6411	-13.1991				
					1	8.0	-14.53228	
					2	16.0	-14.97668	
					3	72.0	-15.94098	
					4	624.0	-17.32549	
14	1.038E-06	5.051E-09	-0.6352	-13.3376				
					1	8.0	-14.65836	
					2	16.0	-15.09861	
					3	72.0	-16.05393	
					4	624.0	-17.42553	
15	1.210E-06	4.536E-09	-0.6662	-13.1635				
					1	8.0	-14.54876	
					2	16.0	-15.01052	
					3	72.0	-16.01250	
					4	624.0	-17.45109	
16	1.620E-06	9.671E-09	-0.6107	-12.9100				
					1	8.0	-14.17995	
					2	16.0	-14.60326	
					3	72.0	-15.52182	
					4	624.0	-16.84064	
17	1.774E-06	1.026E-08	-0.6145	-12.8165				
					1	8.0	-14.09426	
					2	16.0	-14.52020	
					3	72.0	-15.44445	
					4	624.0	-16.77145	
18	1.774E-06	1.026E-08	-0.6145	-12.8165				
					1	8.0	-14.09426	
					2	16.0	-14.52020	

3	72.0	-15.44445
4	624.0	-16.77145

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
VERSUS  
AVERAGING TIME

HOURS PER YEAR MAX  
0-2 HR X/Q IS

DOWNWIND DISTANCE							EXCEEDED		DOWNWIND
SECTOR	(METERS)	0-2 HOURS	0-8 HOURS	8-24 HOURS	1-4 DAYS	4-30 DAYS	ANNUAL AVERAGE	IN SECTOR	SECTOR
S	1500.	1.55E-06	6.15E-07	3.87E-07	1.42E-07	3.37E-08	5.78E-09	24.4	S
SSW	1500.	1.42E-06	5.70E-07	3.61E-07	1.34E-07	3.24E-08	5.71E-09	337.9	SSW
SW	1500.	1.72E-06	6.86E-07	4.33E-07	1.59E-07	3.80E-08	6.57E-09	35.8	SW
WSW	1500.	1.95E-06	8.10E-07	5.21E-07	2.00E-07	5.08E-08	9.48E-09	43.7	WSW
W	1500.	1.94E-06	8.16E-07	5.29E-07	2.07E-07	5.35E-08	1.03E-08	43.2	W
WNW	1500.	1.80E-06	7.41E-07	4.75E-07	1.81E-07	4.53E-08	8.32E-09	37.3	WNW
NW	1500.	1.45E-06	5.86E-07	3.72E-07	1.38E-07	3.36E-08	5.93E-09	17.2	NW
NNW	1500.	1.33E-06	4.90E-07	2.97E-07	1.01E-07	2.12E-08	3.16E-09	16.5	NNW
N	1500.	1.52E-06	6.31E-07	4.07E-07	1.57E-07	4.00E-08	7.50E-09	22.8	N
NNE	1500.	1.24E-06	4.72E-07	2.91E-07	1.02E-07	2.25E-08	3.55E-09	13.6	NNE
NE	1500.	1.20E-06	4.48E-07	2.74E-07	9.40E-08	2.02E-08	3.09E-09	13.1	NE
ENE	1500.	1.08E-06	4.04E-07	2.47E-07	8.48E-08	1.83E-08	2.80E-09	9.9	ENE
E	1500.	1.19E-06	4.88E-07	3.13E-07	1.19E-07	2.99E-08	5.50E-09	12.4	E
ESE	1500.	1.04E-06	4.30E-07	2.77E-07	1.07E-07	2.71E-08	5.05E-09	11.0	ESE
SE	1500.	1.21E-06	4.80E-07	3.03E-07	1.11E-07	2.64E-08	4.54E-09	13.5	SE
SSE	1500.	1.62E-06	6.95E-07	4.55E-07	1.82E-07	4.86E-08	9.67E-09	26.9	SSE
MAX X/Q		1.95E-06						TOTAL HOURS AROUND SITE: 679.1	
SRP 2.3.4	1500.	1.77E-06	7.57E-07	4.94E-07	1.96E-07	5.20E-08	1.03E-08		
SITE LIMIT		1.77E-06	7.57E-07	4.94E-07	1.96E-07	5.20E-08	1.03E-08		

THE FIVE-PERCENT-FOR-THE-ENTIRE-SITE X/Q IS LIMITING.

X/Q VALUES (SEC/CUBIC METER) FOR FUMIGATION AT THE BOUNDARY:

DOWNWIND DISTANCE FUMIGATION

SECTOR	(METERS)	X/Q
S	1500.	2.85E-05
SSW	1500.	2.85E-05
SW	1500.	2.85E-05
WSW	1500.	2.85E-05
W	1500.	2.85E-05
WNW	1500.	2.85E-05
NW	1500.	2.85E-05
NNW	1500.	2.85E-05
N	1500.	2.85E-05
NNE	1500.	2.85E-05
NE	1500.	2.85E-05
ENE	1500.	2.85E-05
E	1500.	2.85E-05

**Calculation No. PM-1055 Revision 0**

**Attachment J**

ESE	1500.	2.85E-05
SE	1500.	2.85E-05
SSE	1500.	2.85E-05

**\*\*NOTE\*\***: VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
CHECK THE REASONABLENESS OF THE ENVELOPES  
COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	0.23	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	2.494E-07			
A	8.9	0.08	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07			
A	11.6	0.08	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	7.794E-08			
B	3.6	0.49	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.222E-06			
B	6.0	0.15	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	7.333E-07			
B	8.9	0.38	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	4.954E-07			
B	11.6	0.04	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	3.819E-07			
C	3.6	1.16	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.58	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.04	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	2.22	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	12.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	19.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	14.87	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	2.74	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.56	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	8.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	13.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	5.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	3.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.15	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			



**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	1.77	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0****Attachment J**

Page 545 of 1411

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

S SECTOR BOUNDARY DISTANCE = 2000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED:

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.994E-06	1.262E-06	1.222E-06	1.196E-06	1.038E-06	8.082E-07
0.005	0.021	0.032	2.248	3.412	5.665	6.154	7.731	20.123	20.799
0.00031	0.00131	0.00201	0.13963	0.21193	0.35189	0.38221	0.48017	1.24991	1.29189
7.333E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.954E-07	4.207E-07	3.819E-07	3.534E-07	3.243E-07
20.950	21.926	22.076	41.642	50.467	50.842	65.714	65.751	79.533	82.275
1.30122	1.36187	1.37120	2.58644	3.13459	3.15791	4.08159	4.08392	4.93996	5.11024
3.208E-07	2.719E-07	2.494E-07	2.388E-07	1.925E-07	1.841E-07	1.415E-07	1.301E-07	1.011E-07	1.003E-07
85.992	86.030	86.255	92.114	95.156	96.019	96.583	96.733	96.808	96.845
5.34116	5.34349	5.35748	5.72136	5.91029	5.96394	5.99893	6.00826	6.01292	6.01525
8.032E-08	7.794E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08				
97.108	97.183	97.597	99.362	99.962	100.000				
6.03158	6.03625	6.06190	6.17153	6.20885	6.21119				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.248  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 3.132

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.936  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.337

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
1	1	-11.07050	-16.44480	-1.18929
1	2	-13.77855	-17.11857	-1.48983
1	3	-14.34482	-18.85805	-2.42414
1	4	-14.85564	-19.04664	-2.53836
1	5	-14.95230	NUMXQ(K)= 5	
		3.358E-06	0.062	1.000
		2.272E-06	0.186	3.000
		1.869E-06	0.311	5.000
		1.411E-06	0.621	10.000
		1.185E-06	0.932	15.000
		1.041E-06	1.242	20.000
		9.141E-07	1.553	25.000
		8.193E-07	1.863	30.000
		7.450E-07	2.174	35.000
		6.849E-07	2.484	40.000
		6.350E-07	2.795	45.000
		5.926E-07	3.106	50.000
		5.365E-07	3.416	55.000
		4.875E-07	3.727	60.000
		4.457E-07	4.037	65.000
		4.097E-07	4.348	70.000
		3.784E-07	4.658	75.000
		3.509E-07	4.969	80.000
		3.255E-07	5.280	85.000
		1.544E-06	0.5	8.05

ANNUAL AVERAGE = 9.04E-09

K= 1 FIVEXQ(K)= 1.544E-06 FIVEPR(K)= 8.050

FUMIGATION X/Q AT THE BOUNDARY: 2.20E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	8.538E-01	5.200E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.376	1.427	5.032	12.967	65.322	97.183	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
AT 131.4 METERS										CA=1292 .SQ.METERS		
A	3.6	0.60	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	2.494E-07	
A	6.0	0.60	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.496E-07	
A	8.9	0.26	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07	
A	11.6	0.13	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	7.794E-08	
B	1.7	0.13	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	2.619E-06	
B	3.6	1.52	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.222E-06	
B	6.0	0.99	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	7.333E-07	
B	8.9	0.20	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	4.954E-07	
B	11.6	0.13	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	3.819E-07	
C	1.7	0.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06	
C	3.6	1.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06	
C	6.0	1.26	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06	
C	8.9	0.53	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07	
C	11.6	0.07	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07	
C	26.5	0.26	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07	
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	3.84	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	13.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	23.09	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	10.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	1.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	10.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	13.30	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	2.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.26	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	2.51	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	0.07	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	

G	1.8	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.26	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSW SECTOR BOUNDARY DISTANCE = 2000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.272E-06	2.619E-06	2.224E-06	1.994E-06	1.262E-06	1.222E-06	1.196E-06
0.009	0.029	0.044	0.375	0.507	4.344	5.799	8.710	10.231	11.488
0.00031	0.00104	0.00155	0.01321	0.01788	0.15316	0.20448	0.30711	0.36076	0.40507
1.038E-06	8.082E-07	7.333E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.954E-07	4.207E-07	3.819E-07
25.446	25.976	26.968	28.225	28.291	51.378	62.227	62.425	72.613	72.745
0.89724	0.91590	0.95089	0.99520	0.99754	1.81159	2.19412	2.20112	2.56033	2.56499
3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.494E-07	2.388E-07	1.925E-07	1.841E-07	1.496E-07	1.415E-07
86.042	87.828	90.342	90.606	91.202	93.716	95.369	95.899	96.494	96.957
3.03383	3.09681	3.18544	3.19477	3.21577	3.30440	3.36272	3.38138	3.40237	3.41870
1.301E-07	1.011E-07	8.032E-08	7.794E-08	6.449E-08	3.010E-08	1.806E-08			
97.023	97.288	97.354	97.486	98.412	99.669	100.000			
3.42103	3.43036	3.43269	3.43736	3.47001	3.51433	3.52599			

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.204  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.896

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.192  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 3.031  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 3.182

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
2	1	-11.07050	-16.69990	-1.24475
2	2	-13.12558	-16.84345	-1.29474
2	3	-13.77855	-17.59163	-1.61080
2	4	-14.34482	-21.73182	-3.66483
2	5	-14.85564	-23.23730	-4.46721
2	6	-14.95230	NUMXQ(K)= 6	
		3.791E-06	0.035	1.000
		2.564E-06	0.106	3.000
		2.112E-06	0.176	5.000
		1.586E-06	0.353	10.000
		1.326E-06	0.529	15.000
		1.163E-06	0.705	20.000
		1.046E-06	0.881	25.000
		9.397E-07	1.058	30.000
		8.547E-07	1.234	35.000
		7.861E-07	1.410	40.000
		7.292E-07	1.587	45.000
		6.811E-07	1.763	50.000
		6.397E-07	1.939	55.000
		6.036E-07	2.116	60.000
		5.507E-07	2.292	65.000
		4.908E-07	2.468	70.000
		4.403E-07	2.644	75.000
		3.973E-07	2.821	80.000
		3.604E-07	2.997	85.000
		3.233E-07	3.173	90.000
		1.360E-06	0.5	14.18

ANNUAL AVERAGE = 7.31E-09

K= 2 FIVEXQ(K)= 1.360E-06 FIVEPR(K)=14.180

FUMIGATION X/Q AT THE BOUNDARY: 2.20E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	8.538E-01	5.200E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.588	4.565	8.467	13.973	67.300	97.486	100.000

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	1.73	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	2.494E-07		
A	6.0	1.50	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.496E-07		
A	8.9	0.68	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07		
B	1.7	0.15	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	2.619E-06		
B	3.6	1.35	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.222E-06		
B	6.0	0.98	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	7.333E-07		
B	8.9	0.15	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	4.954E-07		
B	11.6	0.08	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	3.819E-07		
C	1.7	0.90	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06		
C	3.6	2.10	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.30	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	8.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	17.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	18.83	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	6.38	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.90	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.70	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	11.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	11.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	1.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.60	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.08	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	2.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
G	1.8	0.83	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.65	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		



G 6.5 0.30 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 2000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.272E-06	2.619E-06	2.224E-06	1.994E-06	1.262E-06	1.222E-06	1.196E-06
0.018	0.038	0.057	0.957	1.107	9.211	11.311	14.013	15.363	16.039
0.00057	0.00117	0.00176	0.02975	0.03441	0.28633	0.35164	0.43561	0.47759	0.49859
1.038E-06	8.082E-07	7.333E-07	6.875E-07	6.226E-07	5.890E-07	4.954E-07	4.207E-07	3.819E-07	3.534E-07
33.896	34.196	35.172	36.823	55.656	66.911	67.061	73.438	73.514	85.219
1.05373	1.06306	1.09338	1.14470	1.73016	2.08004	2.08470	2.28297	2.28530	2.64917
3.243E-07	3.208E-07	2.494E-07	2.388E-07	1.925E-07	1.841E-07	1.496E-07	1.415E-07	1.301E-07	1.011E-07
86.194	88.745	90.471	92.422	93.397	93.997	95.498	96.398	96.473	97.149
2.67950	2.75880	2.81245	2.87310	2.90342	2.92208	2.96873	2.99672	2.99905	3.02005
8.032E-08	6.449E-08	3.010E-08	1.806E-08						
97.224	98.049	99.700	100.000						
3.02238	3.04804	3.09935	3.10868						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.286  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.351

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.052  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.078  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 2.647  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 2.756

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
3	1	-11.07050	-16.32397	-1.19691
3	2	-13.01641	-17.46994	-1.61160
3	3	-13.12558	-17.65530	-1.68037
3	4	-13.77855	-18.63234	-2.10386
3	5	-14.34482	-24.50639	-4.98622
3	6	-14.85564	-25.50283	-5.50105
3	7	-14.95230	NUMXQ(K)= 7	
		4.892E-06	0.031	1.000
		3.371E-06	0.093	3.000
		2.804E-06	0.155	5.000
		2.129E-06	0.311	10.000
		1.698E-06	0.466	15.000
		1.435E-06	0.622	20.000
		1.254E-06	0.777	25.000
		1.121E-06	0.933	30.000
		1.012E-06	1.088	35.000
		9.084E-07	1.243	40.000
		8.249E-07	1.399	45.000
		7.557E-07	1.554	50.000
		6.974E-07	1.710	55.000
		6.474E-07	1.865	60.000
		6.041E-07	2.021	65.000
		5.362E-07	2.176	70.000
		4.640E-07	2.332	75.000
		4.046E-07	2.487	80.000
		3.554E-07	2.642	85.000
		1.631E-06	0.5	16.08

ANNUAL AVERAGE = 8.50E-09

K= 3 FIVEXQ(K)= 1.631E-06 FIVEPR(K)=16.084

FUMIGATION X/Q AT THE BOUNDARY: 2.20E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	8.538E-01	5.200E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
3.902	6.603	10.580	15.851	68.917	97.224	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	2.58	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	2.494E-07		
A	6.0	1.92	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.496E-07		
A	8.9	1.19	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07		
A	11.6	0.07	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	7.794E-08		
B	1.7	0.59	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	2.619E-06		
B	3.6	1.65	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.222E-06		
B	6.0	0.99	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	7.333E-07		
B	8.9	0.07	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	4.954E-07		
C	1.7	0.99	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06		
C	3.6	2.44	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.12	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.20	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	7.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	22.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	18.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	4.43	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.73	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.13	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	4.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	14.46	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	6.67	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	1.92	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	0.53	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
G	1.8	0.66	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.25	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		
G	6.5	0.13	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08		

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

Page 556 of 1411

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## LOW POPULATION ZONE CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 2000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.272E-06	2.619E-06	2.224E-06	1.994E-06	1.262E-06	1.222E-06	1.196E-06
0.018	0.046	0.066	1.057	1.651	9.511	11.955	15.984	17.636	18.758
0.00063	0.00164	0.00234	0.03733	0.05832	0.33589	0.42219	0.56448	0.62279	0.66244
1.038E-06	8.082E-07	7.333E-07	6.875E-07	6.226E-07	5.890E-07	4.954E-07	4.207E-07	3.534E-07	3.243E-07
40.951	41.149	42.140	43.857	62.219	76.684	76.750	81.176	87.847	88.573
1.44617	1.45317	1.48816	1.54880	2.19725	2.70807	2.71040	2.86668	3.10226	3.12792
3.208E-07	2.494E-07	2.388E-07	1.925E-07	1.841E-07	1.496E-07	1.415E-07	1.011E-07	8.032E-08	7.794E-08
90.489	93.065	93.791	94.320	94.584	96.499	96.631	97.820	97.886	97.952
3.19557	3.28653	3.31219	3.33085	3.34018	3.40782	3.41249	3.45448	3.45681	3.45914
6.449E-08	3.010E-08	1.806E-08							
98.613	99.868	100.000							
3.48247	3.52678	3.53145							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.336

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.422

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.445  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.705  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.193  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 3.309

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
4	1	-11.07050	-16.19967	-1.17425
4	2	-13.01641	-16.87397	-1.42298
4	3	-13.12558	-16.95463	-1.45360
4	4	-13.77855	-18.55563	-2.18633
4	5	-14.34482	-30.42542	-8.34935
4	6	-14.95230	-49.09881	-18.42558
4	7	-15.24768	NUMXQ(K)= 7	
		4.920E-06	0.035	1.000
		3.403E-06	0.106	3.000
		2.834E-06	0.177	5.000
		2.171E-06	0.353	10.000
		1.780E-06	0.530	15.000
		1.535E-06	0.706	20.000
		1.364E-06	0.883	25.000
		1.236E-06	1.059	30.000
		1.134E-06	1.236	35.000
		1.052E-06	1.413	40.000
		9.562E-07	1.589	45.000
		8.715E-07	1.766	50.000
		8.004E-07	1.942	55.000
		7.398E-07	2.119	60.000
		6.875E-07	2.295	65.000
		6.418E-07	2.472	70.000
		6.015E-07	2.649	75.000
		5.051E-07	2.825	80.000
		4.045E-07	3.002	85.000
		3.274E-07	3.178	90.000
		1.833E-06	0.5	14.16

ANNUAL AVERAGE = 1.13E-08

K= 4 FIVEXQ(K)= 1.833E-06 FIVEPR(K)=14.158

FUMIGATION X/Q AT THE BOUNDARY: 2.20E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	8.538E-01	5.200E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.746	9.049	13.804	17.985	71.702	97.952	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	1.7	0.15	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	5.344E-07			
A	3.6	4.26	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	2.494E-07			
A	6.0	2.25	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.496E-07			
A	8.9	0.34	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07			
B	1.7	0.24	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	2.619E-06			
B	3.6	2.74	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.222E-06			
B	6.0	0.59	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	7.333E-07			
B	8.9	0.05	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	4.954E-07			
C	1.7	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06			
C	3.6	2.45	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	0.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	5.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	21.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	16.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	6.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	1.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.94	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	7.88	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	2.84	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.59	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	1.66	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	0.64	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	28.5	0.20	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08			
G	1.8	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.10	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 2000.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across various levels.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.401
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 1.717

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 3.258  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 4.104  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 4.442

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
5	1	-11.07050	-16.28584	-1.19194
5	2	-13.12558	-16.35930	-1.21964
5	3	-13.77855	-18.18657	-2.08319
5	4	-14.34482	-24.96866	-5.76079
5	5	-14.95230	-28.75765	-7.93999
5	6	-15.24768	NUMXQ(K) = 6	
		4.340E-06	0.048	1.000
		2.959E-06	0.143	3.000
		2.445E-06	0.238	5.000
		1.856E-06	0.477	10.000
		1.559E-06	0.715	15.000
		1.371E-06	0.954	20.000
		1.237E-06	1.192	25.000
		1.135E-06	1.430	30.000
		1.053E-06	1.669	35.000
		9.503E-07	1.907	40.000
		8.585E-07	2.146	45.000
		7.827E-07	2.384	50.000
		7.190E-07	2.622	55.000
		6.646E-07	2.861	60.000
		6.175E-07	3.099	65.000
		5.548E-07	3.337	70.000
		4.636E-07	3.576	75.000
		3.910E-07	3.814	80.000
		3.327E-07	4.053	85.000
		2.727E-07	4.291	90.000
		1.819E-06	0.5	10.49

ANNUAL AVERAGE = 1.23E-08

K= 5 FIVEXQ(K)= 1.819E-06 FIVEPR(K)=10.487

FUMIGATION X/Q AT THE BOUNDARY: 2.20E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	8.538E-01	5.200E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
6.996	10.616	13.992	18.021	69.549	98.630	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
												MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS		
A	3.6	2.40	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	2.494E-07			
A	6.0	2.40	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.496E-07			
A	8.9	0.16	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07			
A	11.6	0.05	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	7.794E-08			
A	26.5	0.05	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	3.401E-08			
B	3.6	1.58	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.222E-06			
B	6.0	1.36	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	7.333E-07			
B	8.9	0.11	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	4.954E-07			
B	11.6	0.05	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	3.819E-07			
C	3.6	3.54	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.42	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.22	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.11	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	4.69	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	16.58	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	16.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	7.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	1.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.11	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	3.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	10.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	14.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	3.44	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	1.15	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.25	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.84	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	1.31	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	28.5	0.05	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

Page 564 of 1411

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## LOW POPULATION ZONE CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 2000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.994E-06	1.262E-06	1.222E-06	1.196E-06	1.038E-06	8.082E-07
0.011	0.034	0.048	4.738	8.282	11.554	13.135	14.553	31.130	31.348
0.00045	0.00145	0.00207	0.20267	0.35428	0.49423	0.56187	0.62252	1.33161	1.34094
7.333E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.954E-07	4.207E-07	3.819E-07	3.534E-07	3.243E-07
32.711	33.965	34.074	50.869	61.775	61.884	69.518	69.573	83.587	85.005
1.39925	1.45290	1.45756	2.17598	2.64249	2.64715	2.97370	2.97604	3.57550	3.63614
3.208E-07	2.494E-07	2.388E-07	1.925E-07	1.841E-07	1.496E-07	1.415E-07	1.301E-07	1.011E-07	8.032E-08
87.840	90.239	93.675	94.983	96.128	98.528	98.637	98.746	98.909	99.128
3.75743	3.86006	4.00701	4.06299	4.11198	4.21461	4.21927	4.22394	4.23094	4.24027
7.794E-08	6.449E-08	4.375E-08	3.401E-08	3.010E-08	1.806E-08				
99.182	99.455	99.509	99.564	99.891	100.000				
4.24260	4.25426	4.25659	4.25893	4.27292	4.27759				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.354

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.330

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.640  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 3.572  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 3.754

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
6	1	-11.07050	-16.29680	-1.17750
6	2	-13.12558	-16.82107	-1.37217
6	3	-13.77855	-18.25103	-2.01707
6	4	-14.34482	-21.73028	-3.81367
6	5	-14.85564	-22.53970	-4.26270
6	6	-14.95230	NUMXQ(K) = 6	
		4.242E-06	0.043	1.000
		2.914E-06	0.128	3.000
		2.419E-06	0.214	5.000
		1.827E-06	0.428	10.000
		1.506E-06	0.642	15.000
		1.306E-06	0.856	20.000
		1.165E-06	1.069	25.000
		1.058E-06	1.283	30.000
		9.457E-07	1.497	35.000
		8.491E-07	1.711	40.000
		7.708E-07	1.925	45.000
		7.059E-07	2.139	50.000
		6.511E-07	2.353	55.000
		6.041E-07	2.567	60.000
		5.415E-07	2.780	65.000
		4.784E-07	2.994	70.000
		4.257E-07	3.208	75.000
		3.812E-07	3.422	80.000
		3.421E-07	3.636	85.000
		1.698E-06	0.5	11.69

ANNUAL AVERAGE = 1.01E-08

K= 6 FIVEXQ(K) = 1.698E-06 FIVEPR(K) = 11.689

FUMIGATION X/Q AT THE BOUNDARY: 2.20E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	8.538E-01	5.200E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.071	8.179	13.469	19.045	66.278	99.291	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	0.17	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	2.494E-07		
A	6.0	0.87	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.496E-07		
A	8.9	0.56	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07		
B	1.7	0.09	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	2.619E-06		
B	3.6	0.43	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.222E-06		
B	6.0	1.17	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	7.333E-07		
B	8.9	0.35	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	4.954E-07		
B	11.6	0.04	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	3.819E-07		
C	3.6	0.61	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	2.69	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	0.48	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	1.95	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	14.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	20.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	6.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.61	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.30	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.65	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	14.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	15.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	4.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.69	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.52	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.22	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	2.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.30	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
G	1.8	0.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		
G	6.5	0.35	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08		

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 2000.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values and frequencies. Rows are grouped by CHI/Q values ranging from 1.556E-05 to 6.449E-08.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 1.244
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 3.316

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 4.526  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 4.747

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
7	1	-11.07050	-16.38296	-1.16096
7	2	-13.77855	-16.89941	-1.39118
7	3	-14.34482	-20.87674	-3.55715
7	4	-14.85564	-22.02550	-4.23582
7	5	-14.95230	NUMXQ(K)= 5	
		3.420E-06	0.054	1.000
		2.346E-06	0.161	3.000
		1.944E-06	0.269	5.000
		1.484E-06	0.537	10.000
		1.254E-06	0.806	15.000
		1.108E-06	1.074	20.000
		9.962E-07	1.343	25.000
		9.012E-07	1.611	30.000
		8.263E-07	1.880	35.000
		7.652E-07	2.149	40.000
		7.142E-07	2.417	45.000
		6.706E-07	2.686	50.000
		6.329E-07	2.954	55.000
		5.999E-07	3.223	60.000
		5.430E-07	3.491	65.000
		4.815E-07	3.760	70.000
		4.299E-07	4.029	75.000
		3.861E-07	4.297	80.000
		3.478E-07	4.566	85.000
		1.527E-06	0.5	9.31

ANNUAL AVERAGE = 8.31E-09

K= 7 FIVEXQ(K)= 1.527E-06 FIVEPR(K)= 9.308

FUMIGATION X/Q AT THE BOUNDARY: 2.20E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	8.538E-01	5.200E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.607	3.691	7.469	14.605	59.944	98.220	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS		
A	3.6	0.09	2000.	0.	131.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	2.494E-07
A	6.0	0.09	2000.	0.	131.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.496E-07
B	3.6	0.14	2000.	0.	131.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.222E-06
B	6.0	0.37	2000.	0.	131.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	7.333E-07
B	8.9	0.37	2000.	0.	131.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	4.954E-07
B	11.6	0.05	2000.	0.	131.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	3.819E-07
C	3.6	0.55	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06
C	6.0	1.01	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06
C	8.9	0.46	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07
C	11.6	0.05	2000.	0.	131.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07
D	0.2	0.00	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	1.61	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	11.17	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	21.42	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	5.42	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	0.51	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	0.32	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.02	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	2.71	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	14.29	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	20.36	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	7.58	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	0.51	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.09	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.02	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.47	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	4.14	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.63	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	0.37	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
G	1.8	0.41	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.46	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.28	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 2000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.994E-06	1.262E-06	1.222E-06	1.196E-06	1.038E-06	8.082E-07
0.004	0.023	0.040	1.648	2.200	4.912	5.049	6.060	17.228	17.688
0.00018	0.00116	0.00203	0.08366	0.11165	0.24927	0.25627	0.30759	0.87439	0.89772
7.333E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.954E-07	4.207E-07	3.819E-07	3.534E-07	3.243E-07
18.056	19.526	19.572	40.989	55.282	55.650	61.073	61.119	81.479	81.984
0.91638	0.99102	0.99335	2.08031	2.80572	2.82438	3.09962	3.10195	4.13526	4.16092
3.208E-07	2.494E-07	2.388E-07	1.925E-07	1.841E-07	1.496E-07	1.415E-07	1.301E-07	8.032E-08	6.449E-08
86.120	86.212	93.796	97.426	97.932	98.024	98.345	98.713	98.805	99.219
4.37084	4.37551	4.76038	4.94465	4.97030	4.97497	4.99130	5.00996	5.01462	5.03561
3.010E-08	1.806E-08	1.220E-08							
99.678	99.954	100.000							
5.05894	5.07293	5.07527							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.873  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 2.803

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 4.132  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 4.367

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
8	1	-11.07050	-16.63721	-1.20277
8	2	-13.77855	-16.66571	-1.21476
8	3	-14.34482	-19.92232	-2.91929
8	4	-14.85564	-21.30169	-3.71404
8	5	-14.95230	NUMXQ(K)= 5	
		3.100E-06	0.051	1.000
		2.102E-06	0.152	3.000
		1.732E-06	0.254	5.000
		1.311E-06	0.508	10.000
		1.103E-06	0.761	15.000
		9.699E-07	1.015	20.000
		8.747E-07	1.269	25.000
		8.020E-07	1.523	30.000
		7.439E-07	1.776	35.000
		6.960E-07	2.030	40.000
		6.556E-07	2.284	45.000
		6.209E-07	2.538	50.000
		5.906E-07	2.791	55.000
		5.303E-07	3.045	60.000
		4.779E-07	3.299	65.000
		4.335E-07	3.553	70.000
		3.953E-07	3.806	75.000
		3.623E-07	4.060	80.000
		3.283E-07	4.314	85.000
		1.319E-06	0.5	9.85

ANNUAL AVERAGE = 5.55E-09

K= 8 FIVEXQ(K)= 1.319E-06 FIVEPR(K)= 9.852

FUMIGATION X/Q AT THE BOUNDARY: 2.20E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	8.538E-01	5.200E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.184	1.103	3.171	12.793	53.241	98.805	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
	AT 131.4 METERS										CA=1292.SQ.METERS			
A	6.0	0.28	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.496E-07			
A	8.9	0.16	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07			
B	3.6	0.07	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.222E-06			
B	6.0	0.58	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	7.333E-07			
B	8.9	0.72	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	4.954E-07			
B	11.6	0.12	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	3.819E-07			
B	26.5	0.02	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.667E-07			
C	3.6	0.44	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.68	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	1.56	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.21	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.02	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	7.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	16.51	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	11.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	2.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	1.63	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	20.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	12.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	1.49	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	3.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	1.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.40	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	0.79	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	0.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 2000.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across various sectors.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 1.179
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 4.132



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 7.418  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 7.962

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
9	1	-11.07050	-16.40848	-1.16160
9	2	-13.77855	-16.20458	-1.07155
9	3	-14.34482	-17.39950	-1.76002
9	4	-14.85564	-18.56257	-2.56472
9	5	-14.95230	NUMXQ(K)= 5	
		2.710E-06	0.100	1.000
		1.821E-06	0.300	3.000
		1.491E-06	0.500	5.000
		1.116E-06	1.000	10.000
		9.387E-07	1.500	15.000
		8.286E-07	2.000	20.000
		7.494E-07	2.500	25.000
		6.884E-07	3.000	30.000
		6.394E-07	3.501	35.000
		5.988E-07	4.001	40.000
		5.491E-07	4.501	45.000
		5.023E-07	5.001	50.000
		4.627E-07	5.501	55.000
		4.286E-07	6.001	60.000
		3.990E-07	6.501	65.000
		3.730E-07	7.001	70.000
		3.483E-07	7.501	75.000
		1.491E-06	0.5	5.00

ANNUAL AVERAGE = 1.08E-08

K= 9 FIVEXQ(K)= 1.491E-06 FIVEPR(K)= 4.999

FUMIGATION X/Q AT THE BOUNDARY: 2.20E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	8.538E-01	5.200E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.443	1.959	5.877	13.603	52.296	98.531	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS	
A	3.6	0.08	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	2.494E-07	
A	6.0	0.28	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.496E-07	
A	8.9	0.12	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07	
B	3.6	0.16	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.222E-06	
B	6.0	0.56	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	7.333E-07	
B	8.9	0.36	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	4.954E-07	
B	11.6	0.08	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	3.819E-07	
C	3.6	0.20	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06	
C	6.0	1.47	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06	
C	8.9	0.95	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07	
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	0.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	7.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	16.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	6.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	0.64	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	12.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	22.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	9.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.76	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.27	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	5.61	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	4.42	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	0.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
F	12.5	0.12	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07	
G	1.8	0.36	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	1.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	
G	6.5	0.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08	

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 2000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.994E-06	1.262E-06	1.222E-06	1.196E-06	1.038E-06	8.082E-07
0.002	0.018	0.033	0.948	1.146	3.374	3.533	5.005	12.603	13.558
0.00012	0.00105	0.00191	0.05556	0.06722	0.19784	0.20717	0.29348	0.73899	0.79497
7.333E-07	6.875E-07	6.226E-07	5.890E-07	4.954E-07	4.207E-07	3.819E-07	3.534E-07	3.243E-07	3.208E-07
14.115	15.388	32.294	45.024	45.382	51.985	52.065	75.018	75.655	81.264
0.82763	0.90227	1.89359	2.64000	2.66099	3.04819	3.05286	4.39872	4.43604	4.76493
2.494E-07	2.388E-07	1.925E-07	1.841E-07	1.496E-07	1.415E-07	1.301E-07	1.011E-07	1.003E-07	8.032E-08
81.343	90.413	94.829	95.584	95.863	96.221	97.136	97.255	97.374	97.534
4.76959	5.30141	5.56032	5.60464	5.62096	5.64196	5.69561	5.70260	5.70960	5.71893
6.449E-08	3.010E-08	1.806E-08	1.220E-08						
97.892	99.125	99.960	100.000						
5.73992	5.81223	5.86121	5.86355						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.738  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 2.637

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 4.395  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 4.761

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
10	1	-11.07050	-16.67920	-1.18969
10	2	-13.77855	-16.53336	-1.12987
10	3	-14.34482	-18.63892	-2.21690
10	4	-14.85564	-19.18435	-2.53651
10	5	-14.95230	NUMXQ(K) = 5	
		2.712E-06	0.059	1.000
		1.838E-06	0.176	3.000
		1.514E-06	0.293	5.000
		1.145E-06	0.586	10.000
		9.657E-07	0.880	15.000
		8.546E-07	1.173	20.000
		7.748E-07	1.466	25.000
		7.135E-07	1.759	30.000
		6.644E-07	2.052	35.000
		6.237E-07	2.345	40.000
		5.892E-07	2.639	45.000
		5.323E-07	2.932	50.000
		4.848E-07	3.225	55.000
		4.445E-07	3.518	60.000
		4.099E-07	3.811	65.000
		3.798E-07	4.104	70.000
		3.535E-07	4.398	75.000
		3.270E-07	4.691	80.000
		1.223E-06	0.5	8.53

ANNUAL AVERAGE = 5.45E-09

K= 10 FIVEXQ(K) = 1.223E-06 FIVEPR(K) = 8.527

FUMIGATION X/Q AT THE BOUNDARY: 2.20E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	8.538E-01	5.200E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.477	1.631	4.256	16.603	49.623	97.534	100.000

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

Page 581 of 1411

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	3.6	0.09	2000.		0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	2.494E-07			
A	6.0	0.23	2000.		0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.496E-07			
A	8.9	0.09	2000.		0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07			
B	3.6	0.14	2000.		0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.222E-06			
B	6.0	0.61	2000.		0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	7.333E-07			
B	8.9	0.28	2000.		0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	4.954E-07			
B	11.6	0.05	2000.		0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	3.819E-07			
C	3.6	0.33	2000.		0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	1.41	2000.		0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.99	2000.		0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.19	2000.		0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.05	2000.		0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.		0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	1.50	4000.		0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	7.28	4000.		0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	13.48	4000.		0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	5.92	4000.		0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	0.75	4000.		0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.14	4000.		0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.		0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.77	9000.		0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	13.19	9000.		0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	16.62	9000.		0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	10.14	9000.		0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.85	9000.		0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.09	9000.		0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.02	90000.		0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.50	90000.		0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	7.32	90000.		0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	7.37	90000.		0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	1.83	90000.		0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.28	90000.		0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.69	90000.		0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	2.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.38	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 2000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.994E-06	1.262E-06	1.222E-06	1.196E-06	1.038E-06	8.082E-07
0.003	0.023	0.040	1.543	1.872	4.642	4.783	6.191	13.469	14.455
0.00017	0.00115	0.00201	0.07665	0.09298	0.23060	0.23759	0.30757	0.66911	0.71809
7.333E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.954E-07	4.207E-07	3.819E-07	3.534E-07	3.243E-07
15.065	16.567	16.755	30.230	43.424	43.705	49.621	49.668	66.289	67.040
0.74842	0.82306	0.83239	1.50182	2.15726	2.17126	2.46516	2.46749	3.29320	3.33052
3.208E-07	2.719E-07	2.494E-07	2.388E-07	1.925E-07	1.841E-07	1.496E-07	1.415E-07	1.301E-07	1.011E-07
74.365	74.411	74.505	84.647	92.018	92.863	93.098	93.239	95.070	95.164
3.69440	3.69673	3.70139	4.20522	4.57142	4.61341	4.62507	4.63207	4.72304	4.72770
8.032E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
95.258	95.540	97.230	99.624	100.000					
4.73237	4.74636	4.83034	4.94929	4.96795					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES  
 (BASED ON THE UPPER ENVELOPE OF THE  
 ORDERED X/Q-FREQUENCY VALUES, AND AS  
 PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.668  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 2.155



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 3.691  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.202

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
11	1	-11.07050	-16.86169	-1.24629
11	2	-13.77855	-16.88387	-1.25525
11	3	-14.34482	-19.57294	-2.58468
11	4	-14.95230	-23.75774	-4.92555
11	5	-15.24768	NUMXQ(K) = 5	
		2.879E-06	0.050	1.000
		1.926E-06	0.149	3.000
		1.577E-06	0.248	5.000
		1.182E-06	0.497	10.000
		9.884E-07	0.745	15.000
		8.653E-07	0.994	20.000
		7.779E-07	1.242	25.000
		7.113E-07	1.490	30.000
		6.584E-07	1.739	35.000
		6.148E-07	1.987	40.000
		5.667E-07	2.236	45.000
		5.049E-07	2.484	50.000
		4.541E-07	2.732	55.000
		4.116E-07	2.981	60.000
		3.755E-07	3.229	65.000
		3.445E-07	3.478	70.000
		3.147E-07	3.726	75.000
		2.718E-07	3.974	80.000
		1.179E-06	0.5	10.06

ANNUAL AVERAGE = 4.63E-09

K= 11 FIVEXQ(K)= 1.179E-06 FIVEPR(K)=10.065

FUMIGATION X/Q AT THE BOUNDARY: 2.20E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	8.538E-01	5.200E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.423	1.502	4.460	22.507	51.573	95.258	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR..

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	6.0	0.33	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.496E-07		
A	8.9	0.14	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07		
A	11.6	0.09	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	7.794E-08		
A	26.5	0.09	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	3.401E-08		
B	3.6	0.05	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.222E-06		
B	6.0	0.38	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	7.333E-07		
B	8.9	0.89	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	4.954E-07		
B	11.6	0.09	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	3.819E-07		
B	26.5	0.05	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.667E-07		
C	3.6	0.14	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.22	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	1.46	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.19	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
C	26.5	0.05	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	0.71	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	6.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	9.93	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	8.94	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	1.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.54	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	8.80	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	13.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	12.75	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	1.41	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.05	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	5.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	8.33	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	5.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
F	12.5	0.85	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07		

G	1.8	0.85	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	3.29	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 2000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.994E-06	1.262E-06	1.222E-06	1.196E-06	1.038E-06	8.082E-07
0.002	0.020	0.038	0.743	0.884	3.425	3.472	4.695	10.716	12.174
0.00008	0.00098	0.00186	0.03685	0.04385	0.16981	0.17214	0.23278	0.53135	0.60366
7.333E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.954E-07	4.207E-07	3.819E-07	3.534E-07	3.243E-07
12.551	14.103	14.291	24.217	33.013	33.907	42.845	42.939	56.910	57.945
0.62232	0.69929	0.70862	1.20078	1.63696	1.68128	2.12446	2.12913	2.82189	2.87320
3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.667E-07	1.496E-07	1.415E-07	1.301E-07	1.011E-07
63.449	63.496	76.244	84.571	85.982	86.029	86.358	86.640	91.768	91.909
3.14611	3.14844	3.78055	4.19341	4.26339	4.26572	4.28205	4.29604	4.55029	4.55728
1.003E-07	8.032E-08	7.794E-08	6.449E-08	3.401E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09	
92.756	92.803	92.897	93.744	93.838	95.437	98.730	99.953	100.000	
4.59927	4.60160	4.60627	4.64825	4.65292	4.73222	4.89550	4.95615	4.95848	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.001  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.531

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 1.635  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 3.143  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 3.777

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
12	1	-11.07050	-16.19649	-1.06775
12	2	-11.63677	-16.96910	-1.24868
12	3	-13.77855	-17.22817	-1.35007
12	4	-14.34482	-19.05319	-2.20460
12	5	-14.95230	-21.57077	-3.55802
12	6	-15.24768	NUMXQ(K) = 6	
		2.608E-06	0.050	1.000
		1.743E-06	0.149	3.000
		1.427E-06	0.248	5.000
		1.069E-06	0.496	10.000
		8.833E-07	0.744	15.000
		7.656E-07	0.992	20.000
		6.827E-07	1.240	25.000
		6.201E-07	1.488	30.000
		5.592E-07	1.735	35.000
		4.959E-07	1.983	40.000
		4.451E-07	2.231	45.000
		4.034E-07	2.479	50.000
		3.685E-07	2.727	55.000
		3.388E-07	2.975	60.000
		3.088E-07	3.223	65.000
		2.743E-07	3.471	70.000
		2.453E-07	3.719	75.000
		1.065E-06	0.5	10.08

ANNUAL AVERAGE = 3.95E-09

K= 12 FIVEXQ(K)= 1.065E-06 FIVEPR(K)=10.084

FUMIGATION X/Q AT THE BOUNDARY: 2.20E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	8.538E-01	5.200E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.659	2.117	5.175	26.549	53.458	92.991	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

CLASS	METER/SEC	PERCENT	METERS	METERS	METERS	SIGMA-Y	SIGMA-Z	MEANDER-SY	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS									CA=1292.SQ.METERS			
A	3.6	0.03	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	2.494E-07	
A	6.0	0.24	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.496E-07	
A	8.9	0.63	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07	
A	11.6	0.42	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	7.794E-08	
A	26.5	0.06	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	3.401E-08	
B	3.6	0.12	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.222E-06	
B	6.0	0.63	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	7.333E-07	
B	8.9	0.81	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	4.954E-07	
B	11.6	0.36	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	3.819E-07	
B	26.5	0.18	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.667E-07	
C	3.6	0.15	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06	
C	6.0	1.25	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06	
C	8.9	1.67	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07	
C	11.6	0.86	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07	
C	26.5	0.39	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07	
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	0.78	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	4.21	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	8.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	11.78	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	6.71	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	2.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	1.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	5.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	11.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	15.99	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	2.33	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	0.89	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	2.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	5.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	5.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	

Calculation No. PM-1055 Revision 0

Attachment J

F	12.5	0.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
G	1.8	0.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	2.06	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.16	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0****Attachment J**

Page 591 of 1411

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## LOW POPULATION ZONE CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 2000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.994E-06	1.262E-06	1.222E-06	1.196E-06	1.038E-06	8.082E-07
0.002	0.013	0.024	0.799	0.948	2.559	2.678	3.931	8.136	9.806
0.00014	0.00103	0.00184	0.06249	0.07415	0.20011	0.20944	0.30740	0.63629	0.76691
7.333E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.954E-07	4.207E-07	3.819E-07	3.534E-07	3.243E-07
10.433	11.328	12.193	21.170	26.330	27.135	38.917	39.274	51.056	57.767
0.81589	0.88587	0.95351	1.65560	2.05913	2.12211	3.04345	3.07144	3.99279	4.51761
3.208E-07	2.719E-07	2.494E-07	2.388E-07	1.925E-07	1.841E-07	1.667E-07	1.496E-07	1.415E-07	1.301E-07
60.302	60.689	60.719	76.706	82.611	84.938	85.117	85.355	88.040	93.051
4.71587	4.74620	4.74853	5.99876	6.46060	6.64254	6.65654	6.67520	6.88512	7.27699
1.011E-07	1.003E-07	8.032E-08	7.794E-08	6.449E-08	3.401E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09
93.677	94.393	94.661	95.079	95.466	95.526	96.719	98.777	99.940	99.970
7.32597	7.38195	7.40294	7.43560	7.46592	7.47059	7.56389	7.72483	7.81580	7.81813
4.104E-09									
100.000									
7.82046									

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
 ORDERED X/Q-FREQUENCY VALUES, AND AS  
 PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS



Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.636  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 2.057  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.712  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.995

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
13	1	-11.07050	-16.84906	-1.23226
13	2	-13.77855	-16.91658	-1.25935
13	3	-14.34482	-17.70941	-1.64759
13	4	-14.95230	-19.13362	-2.49867
13	5	-15.24768	NUMXQ(K)= 5	
		2.372E-06	0.078	1.000
		1.570E-06	0.235	3.000
		1.277E-06	0.391	5.000
		9.451E-07	0.782	10.000
		7.811E-07	1.173	15.000
		6.781E-07	1.564	20.000
		6.051E-07	1.955	25.000
		5.383E-07	2.346	30.000
		4.827E-07	2.737	35.000
		4.383E-07	3.128	40.000
		4.017E-07	3.519	45.000
		3.710E-07	3.910	50.000
		3.448E-07	4.301	55.000
		3.221E-07	4.692	60.000
		2.931E-07	5.083	65.000
		2.676E-07	5.474	70.000
		2.456E-07	5.865	75.000
		1.151E-06	0.5	6.39

ANNUAL AVERAGE = 7.14E-09

K= 13 FIVEXQ(K)= 1.151E-06 FIVEPR(K)= 6.393

FUMIGATION X/Q AT THE BOUNDARY: 2.20E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	8.538E-01	5.200E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.372	3.460	7.785	22.857	57.994	95.138	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS		
A	6.0	0.24	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.496E-07	
A	8.9	0.24	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07	
A	11.6	0.05	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	7.794E-08	
A	26.5	0.13	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	3.401E-08	
B	3.6	0.08	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.222E-06	
B	6.0	0.24	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	7.333E-07	
B	8.9	0.53	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	4.954E-07	
B	11.6	0.37	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	3.819E-07	
B	26.5	0.19	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.667E-07	
C	3.6	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06	
C	6.0	0.69	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06	
C	8.9	1.57	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07	
C	11.6	0.80	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07	
C	26.5	0.72	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07	
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	1.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	2.59	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	9.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	17.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	11.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	4.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	0.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	3.68	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	9.45	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	15.56	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	2.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.32	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	0.75	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	1.76	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	3.74	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	3.68	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
F	12.5	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07	

G	1.8	0.37	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 2000.0 METERS  
BUILDING WAKE CREDIT IS NOT INCLUDED.  
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.994E-06	1.262E-06	1.222E-06	1.196E-06	1.038E-06	8.082E-07
0.002	0.009	0.018	1.032	1.165	2.126	2.206	2.900	5.489	7.064
0.00020	0.00080	0.00155	0.09019	0.10185	0.18582	0.19282	0.25346	0.47972	0.61734
7.333E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.954E-07	4.207E-07	3.819E-07	3.534E-07	3.243E-07
7.304	8.052	8.852	18.327	22.011	22.544	40.534	40.907	50.356	62.313
0.63833	0.70364	0.77362	1.60166	1.92355	1.97020	3.54232	3.57498	4.40069	5.44566
3.208E-07	2.719E-07	2.388E-07	1.925E-07	1.841E-07	1.667E-07	1.496E-07	1.415E-07	1.301E-07	1.011E-07
64.075	64.795	80.356	84.093	87.055	87.242	87.482	91.512	95.196	95.436
5.59961	5.66259	7.02245	7.34900	7.60791	7.62424	7.64524	7.99745	8.31933	8.34033
1.003E-07	8.032E-08	7.794E-08	6.449E-08	3.401E-08	3.010E-08	1.806E-08	1.220E-08	9.405E-09	
95.916	96.237	96.290	96.664	96.797	97.731	98.906	99.947	100.000	
8.38231	8.41030	8.41497	8.44762	8.45929	8.54092	8.64356	8.73452	8.73919	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.090  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.479

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.921  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.596  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 7.019

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
14	1	-11.07050	-17.09216	-1.30589
14	2	-13.01641	-17.49995	-1.43654
14	3	-13.77855	-16.59804	-1.08839
14	4	-14.34482	-16.96161	-1.26400
14	5	-14.95230	-19.02718	-2.56340
14	6	-15.24768	NUMXQ(K)= 6	
		2.251E-06	0.087	1.000
		1.386E-06	0.262	3.000
		1.086E-06	0.437	5.000
		8.224E-07	0.874	10.000
		6.959E-07	1.311	15.000
		6.146E-07	1.748	20.000
		5.510E-07	2.185	25.000
		4.996E-07	2.622	30.000
		4.588E-07	3.059	35.000
		4.254E-07	3.496	40.000
		3.974E-07	3.933	45.000
		3.734E-07	4.370	50.000
		3.526E-07	4.807	55.000
		3.343E-07	5.244	60.000
		3.150E-07	5.680	65.000
		2.864E-07	6.117	70.000
		2.617E-07	6.554	75.000
		2.402E-07	6.991	80.000
		1.022E-06	0.5	5.72

ANNUAL AVERAGE = 7.65E-09

K= 14 FIVEXQ(K)= 1.022E-06 FIVEPR(K)= 5.721

FUMIGATION X/Q AT THE BOUNDARY: 2.20E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	8.538E-01	5.200E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.667	2.082	6.005	16.423	63.481	96.423	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	6.0	0.04	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.496E-07			
A	8.9	0.06	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07			
A	26.5	0.02	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	3.401E-08			
B	3.6	0.08	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.222E-06			
B	6.0	0.04	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	7.333E-07			
B	8.9	0.19	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	4.954E-07			
B	11.6	0.08	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	3.819E-07			
C	3.6	0.06	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06			
C	6.0	0.55	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06			
C	8.9	0.74	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07			
C	11.6	0.59	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07			
C	26.5	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	4.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	11.52	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	22.08	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	11.54	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	3.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	0.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	3.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	11.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	13.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	1.89	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.13	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.00	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.78	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	1.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.49	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	1.95	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 2000.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across five rows of data.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.703
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 5.017



Calculation No. PM-1055 Revision 0

Attachment J

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 7.723  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 9.256

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
15	1	-11.07050	-16.84818	-1.24993
15	2	-13.77855	-16.50697	-1.11099
15	3	-14.68142	-16.71181	-1.23566
15	4	-14.95230	-19.20998	-2.99005
15	5	-15.24768	NUMXQ(K)= 5	
		2.216E-06	0.110	1.000
		1.439E-06	0.329	3.000
		1.158E-06	0.549	5.000
		8.645E-07	1.098	10.000
		7.252E-07	1.647	15.000
		6.361E-07	2.196	20.000
		5.723E-07	2.745	25.000
		5.233E-07	3.294	30.000
		4.841E-07	3.842	35.000
		4.518E-07	4.391	40.000
		4.244E-07	4.940	45.000
		3.986E-07	5.489	50.000
		3.758E-07	6.038	55.000
		3.558E-07	6.587	60.000
		3.380E-07	7.136	65.000
		3.220E-07	7.685	70.000
		2.897E-07	8.234	75.000
		2.607E-07	8.783	80.000
		1.206E-06	0.5	4.55

ANNUAL AVERAGE = 8.85E-09

K= 15 FIVEXQ(K)= 1.206E-06 FIVEPR(K)= 4.554

FUMIGATION X/Q AT THE BOUNDARY: 2.20E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	8.538E-01	5.200E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.127	0.531	2.613	10.863	64.767	96.091	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
	AT 131.4 METERS										CA=1292 .SQ.METERS		
A	3.6	0.02	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	2.494E-07		
A	6.0	0.17	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.496E-07		
A	8.9	0.32	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07		
A	11.6	0.02	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	7.794E-08		
A	26.5	0.02	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	3.401E-08		
B	3.6	0.06	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.222E-06		
B	6.0	0.48	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	7.333E-07		
B	8.9	0.71	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	4.954E-07		
B	11.6	0.11	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	3.819E-07		
C	3.6	0.48	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	2.16	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	2.01	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.37	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	1.08	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	8.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	20.04	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	19.82	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	5.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	1.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	4.38	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	11.10	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	10.11	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.93	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	2.09	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	2.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.69	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
F	12.5	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07		

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	28.5	0.02	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 2000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.994E-06	1.262E-06	1.222E-06	1.196E-06	1.038E-06	8.082E-07
0.002	0.008	0.013	1.093	1.568	2.302	2.367	4.527	12.841	14.849
0.00026	0.00083	0.00142	0.11805	0.16936	0.24867	0.25567	0.48892	1.38694	1.60386
7.333E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	4.954E-07	4.207E-07	3.819E-07	3.534E-07	3.243E-07
15.324	15.799	16.167	36.207	40.591	41.304	61.128	61.236	72.336	77.562
1.65518	1.70650	1.74615	3.91073	4.38423	4.46121	6.60247	6.61413	7.81305	8.37752
3.208E-07	2.494E-07	2.388E-07	1.925E-07	1.841E-07	1.496E-07	1.415E-07	1.301E-07	1.011E-07	1.003E-07
79.657	79.679	89.785	92.506	93.435	93.608	94.968	95.659	95.983	96.091
8.60377	8.60610	9.69773	9.99162	10.09192	10.11058	10.25753	10.33217	10.36716	10.37882
8.032E-08	7.794E-08	6.449E-08	3.401E-08	3.010E-08	1.806E-08	1.220E-08	4.104E-09		
96.307	96.329	96.739	96.761	98.035	99.870	99.978	100.000		
10.40215	10.40448	10.44880	10.45113	10.58875	10.78702	10.79868	10.80101		

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.385  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 4.381

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 6.599  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 8.600  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 9.694

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
16	1	-11.07050	-16.31277	-1.15118
16	2	-13.77855	-16.30564	-1.14794
16	3	-14.34482	-17.19472	-1.66845
16	4	-14.68142	-17.58405	-1.92690
16	5	-14.95230	-21.00659	-4.43280
16	6	-15.24768	NUMXQ(K) = 6	
		2.812E-06	0.108	1.000
		1.891E-06	0.324	3.000
		1.549E-06	0.540	5.000
		1.159E-06	1.080	10.000
		9.669E-07	1.620	15.000
		8.447E-07	2.160	20.000
		7.575E-07	2.700	25.000
		6.908E-07	3.240	30.000
		6.376E-07	3.780	35.000
		5.937E-07	4.320	40.000
		5.426E-07	4.860	45.000
		4.980E-07	5.401	50.000
		4.601E-07	5.941	55.000
		4.274E-07	6.481	60.000
		3.956E-07	7.021	65.000
		3.670E-07	7.561	70.000
		3.418E-07	8.101	75.000
		3.175E-07	8.641	80.000
		2.737E-07	9.181	85.000
		1.598E-06	0.5	4.63

ANNUAL AVERAGE = 1.45E-08

K= 16 FIVEXQ(K) = 1.598E-06 FIVEPR(K) = 4.629

FUMIGATION X/Q AT THE BOUNDARY: 2.20E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	8.538E-01	5.200E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.561	1.922	6.932	13.028	68.876	96.350	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS											MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS		
A	1.7	0.01	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	5.344E-07		
A	3.6	0.51	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	2.494E-07		
A	6.0	0.53	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.496E-07		
A	8.9	0.28	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	1.011E-07		
A	11.6	0.06	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	7.794E-08		
A	26.5	0.03	2000.	0.	131.	350.3	1000.0	0.0	0.000E+00	0.000E+00	3.401E-08		
B	1.7	0.05	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	2.619E-06		
B	3.6	0.47	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.222E-06		
B	6.0	0.54	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	7.333E-07		
B	8.9	0.44	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	4.954E-07		
B	11.6	0.12	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	3.819E-07		
B	26.5	0.03	2000.	0.	131.	263.4	233.7	0.0	0.000E+00	0.000E+00	1.667E-07		
C	1.7	0.08	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	4.272E-06		
C	3.6	0.77	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.994E-06		
C	6.0	1.33	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	1.196E-06		
C	8.9	1.04	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	8.082E-07		
C	11.6	0.30	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	6.230E-07		
C	26.5	0.13	2000.	0.	131.	200.0	114.9	0.0	0.000E+00	0.000E+00	2.719E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	2.07	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	9.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	15.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	12.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	4.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	1.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	1.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	8.90	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	9.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	1.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		

**Calculation No. PM-1055 Revision 0****Attachment J****Page 606 of 1411**

F	3.9	3.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.16	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
F	28.5	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08
G	1.8	0.43	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.14	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.31	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.01	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.00	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 2000.0 METERS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED:
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values and frequencies. The values range from 1.556E-05 to 99.99998.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS



**Calculation No. PM-1055 Revision 0**

**Attachment J**

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 2.983

3.127E-06	1.000	1.000
1.990E-06	3.000	3.000
1.676E-06	5.000	5.000
1.285E-06	10.000	10.000
1.075E-06	15.000	15.000
9.385E-07	20.000	20.000
8.372E-07	25.000	25.000
7.556E-07	30.000	30.000
6.871E-07	35.000	35.000
6.279E-07	40.000	40.000
5.760E-07	45.000	45.000
5.302E-07	50.000	50.000
4.881E-07	55.000	55.000
4.487E-07	60.000	60.000
4.113E-07	65.000	65.000
3.752E-07	70.000	70.000
3.398E-07	75.000	75.000
3.027E-07	80.000	80.000
2.627E-07	85.000	85.000
1.676E-06	5.0	5.00

K= 17 FIVEXQ(K)= 1.676E-06 FIVEPR(K)= 5.000

FUMIGATION X/Q AT THE BOUNDARY: 2.20E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	8.538E-01	5.200E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.416	3.074	6.718	16.125	61.163	96.935	100.000

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	4.272E-06	2.619E-06	2.224E-06	1.994E-06	1.262E-06	1.222E-06	1.196E-06
0.005	0.019	0.030	0.107	0.154	2.221	2.986	4.952	5.423	6.753
0.00467	0.01866	0.03032	0.10730	0.15395	2.22056	2.98563	4.95195	5.42312	6.75266
1.038E-06	8.082E-07	7.333E-07	6.875E-07	6.230E-07	6.226E-07	5.890E-07	5.344E-07	4.954E-07	4.207E-07
16.143	17.186	17.730	18.739	19.043	34.762	43.658	43.665	44.106	56.335
16.14340	17.18604	17.72952	18.73950	19.04273	34.76162	43.65786	43.66486	44.10571	56.33513
3.819E-07	3.534E-07	3.243E-07	3.208E-07	2.719E-07	2.494E-07	2.388E-07	1.925E-07	1.841E-07	1.667E-07
56.456	70.302	74.543	77.685	77.811	78.324	87.850	91.367	92.662	92.697
56.45641	70.30227	74.54279	77.68472	77.81068	78.32382	87.84985	91.36729	92.66185	92.69684
1.496E-07	1.415E-07	1.301E-07	1.011E-07	1.003E-07	8.032E-08	7.794E-08	6.449E-08	4.375E-08	3.401E-08
93.229	94.616	96.170	96.447	96.608	96.837	96.895	97.329	97.341	97.369
93.22867	94.61652	96.16998	96.44753	96.60847	96.83707	96.89537	97.32921	97.34087	97.36887
3.010E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54212	99.67805	99.98595	99.99528	99.99995					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 2.983

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
18	1	-11.07050	-15.03773	-1.01530
18	2	-13.12558	-14.49994	-0.72975
18	3	-13.77855	-14.45362	-0.68289
18	4	-14.34482	-14.44994	-0.65982
18	5	-14.95230	-14.39872	-0.72709
18	6	-15.24768	NUMXQ(K) = 6	
		3.127E-06	1.000	1.000
		1.990E-06	3.000	3.000
		1.676E-06	5.000	5.000
		1.285E-06	10.000	10.000
		1.075E-06	15.000	15.000
		9.385E-07	20.000	20.000
		8.372E-07	25.000	25.000
		7.556E-07	30.000	30.000
		6.871E-07	35.000	35.000
		6.279E-07	40.000	40.000
		5.760E-07	45.000	45.000
		5.302E-07	50.000	50.000
		4.881E-07	55.000	55.000
		4.487E-07	60.000	60.000
		4.113E-07	65.000	65.000
		3.752E-07	70.000	70.000
		3.398E-07	75.000	75.000
		3.027E-07	80.000	80.000
		2.627E-07	85.000	85.000
		1.676E-06	5.0	5.00

K= 18 FIVEXQ(K) = 1.676E-06 FIVEPR(K) = 5.000

K	HIGHPR	PR	GRNDVT(K)
1	-2.72009	0.32632	6.21119
2	-1.76790	3.85383	3.52599
3	-2.64555	0.40780	3.10868
4	-2.57624	0.49942	3.53145
5	-2.58231	0.49071	4.76778
6	-2.63180	0.42468	4.27759
7	-2.73321	0.31361	5.37148
8	-2.84958	0.21889	5.07527
9	-2.75366	0.29467	10.00153
10	-2.91622	0.17716	5.86355
11	-2.93020	0.16938	4.96796
12	-3.01062	0.13037	4.95848
13	-2.95332	0.15720	7.82046
14	-2.98643	0.14114	8.73919
15	-2.91085	0.18023	10.97840
16	-2.69545	0.35147	10.80101

Calculation No. PM-1055 Revision 0

Attachment J

K	HOURS (K)	TOTHR
1	28.58594	28.58594
2	337.59580	366.18180
3	35.72303	401.90480
4	43.74879	445.65360
5	42.98647	488.64000
6	37.20172	525.84170
7	27.47222	553.31400
8	19.17495	572.48890
9	25.81287	598.30180
10	15.51895	613.82070
11	14.83756	628.65830
12	11.42017	640.07840
13	13.77031	653.84880
14	12.36367	666.21240
15	15.78837	682.00080
16	30.78883	712.78960

K	FIVEXQ	SVANN	SLTIME	TIMINT	I	TIME	XQT
1	1.544E-06	9.038E-09	-0.6131	-12.9559			
					1	8.0	-14.23084
					2	16.0	-14.65581
					3	72.0	-15.57796
					4	624.0	-16.90195
2	1.360E-06	7.306E-09	-0.6233	-13.0758			
					1	8.0	-14.37201
					2	16.0	-14.80407
					3	72.0	-15.74161
					4	624.0	-17.08769
3	1.631E-06	8.496E-09	-0.6270	-12.8917			
					1	8.0	-14.19548
					2	16.0	-14.63008
					3	72.0	-15.57313
					4	624.0	-16.92711
4	1.833E-06	1.129E-08	-0.6070	-12.7891			
					1	8.0	-14.05126
					2	16.0	-14.47198
					3	72.0	-15.38492
					4	624.0	-16.69567
5	1.819E-06	1.226E-08	-0.5963	-12.8039			
					1	8.0	-14.04386
					2	16.0	-14.45719
					3	72.0	-15.35407
					4	624.0	-16.64178
6	1.698E-06	1.012E-08	-0.6109	-12.8626			
					1	8.0	-14.13297
					2	16.0	-14.55642
					3	72.0	-15.47530
					4	624.0	-16.79458
7	1.527E-06	8.306E-09	-0.6218	-12.9610			
					1	8.0	-14.25411
					2	16.0	-14.68514
					3	72.0	-15.62045

Calculation No. PM-1055 Revision 0

Attachment J

8	1.319E-06	5.546E-09	-0.6525	-13.0863	4	624.0	-16.96333
					1	8.0	-14.44320
					2	16.0	-14.89551
					3	72.0	-15.87700
					4	624.0	-17.28617
9	1.491E-06	1.081E-08	-0.5876	-13.0086	1	8.0	-14.23051
					2	16.0	-14.63781
					3	72.0	-15.52162
					4	624.0	-16.79055
10	1.223E-06	5.452E-09	-0.6456	-13.1668	1	8.0	-14.50921
					2	16.0	-14.95668
					3	72.0	-15.92765
					4	624.0	-17.32173
11	1.179E-06	4.629E-09	-0.6607	-13.1930	1	8.0	-14.56687
					2	16.0	-15.02483
					3	72.0	-16.01856
					4	624.0	-17.44532
12	1.065E-06	3.955E-09	-0.6674	-13.2896	1	8.0	-14.67742
					2	16.0	-15.14002
					3	72.0	-16.14384
					4	624.0	-17.58507
13	1.151E-06	7.138E-09	-0.6062	-13.2543	1	8.0	-14.51491
					2	16.0	-14.93513
					3	72.0	-15.84698
					4	624.0	-17.15616
14	1.022E-06	7.651E-09	-0.5837	-13.3895	1	8.0	-14.60328
					2	16.0	-15.00787
					3	72.0	-15.88580
					4	624.0	-17.14629
15	1.206E-06	8.855E-09	-0.5861	-13.2218	1	8.0	-14.44052
					2	16.0	-14.84676
					3	72.0	-15.72826
					4	624.0	-16.99388
16	1.598E-06	1.450E-08	-0.5608	-12.9584	1	8.0	-14.12442
					2	16.0	-14.51311
					3	72.0	-15.35653
					4	624.0	-16.56748
17	1.676E-06	1.450E-08	-0.5664	-12.9067	1	8.0	-14.08461
					2	16.0	-14.47724
					3	72.0	-15.32922
					4	624.0	-16.55245
18	1.676E-06	1.450E-08	-0.5664	-12.9067	1	8.0	-14.08461

2	16.0	-14.47724
3	72.0	-15.32922
4	624.0	-16.55245

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
VERSUS  
AVERAGING TIME

DOWNWIND DISTANCE SECTOR (METERS)	RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)					HOURS PER YEAR MAX 0-2 HR X/Q IS EXCEEDED		DOWNWIND SECTOR
	0-2 HOURS	0-8 HOURS	8-24 HOURS	1-4 DAYS	4-30 DAYS	ANNUAL AVERAGE	IN SECTOR	
S 2000.	1.54E-06	6.60E-07	4.32E-07	1.72E-07	4.57E-08	9.04E-09	28.6	S
SSW 2000.	1.36E-06	5.73E-07	3.72E-07	1.46E-07	3.79E-08	7.31E-09	337.6	SSW
SW 2000.	1.63E-06	6.84E-07	4.43E-07	1.72E-07	4.45E-08	8.50E-09	35.7	SW
WSW 2000.	1.83E-06	7.90E-07	5.19E-07	2.08E-07	5.61E-08	1.13E-08	43.7	WSW
W 2000.	1.82E-06	7.96E-07	5.26E-07	2.15E-07	5.92E-08	1.23E-08	43.0	W
WNW 2000.	1.70E-06	7.28E-07	4.77E-07	1.90E-07	5.08E-08	1.01E-08	37.2	WNW
NW 2000.	1.53E-06	6.45E-07	4.19E-07	1.64E-07	4.29E-08	8.31E-09	27.5	NW
NNW 2000.	1.32E-06	5.34E-07	3.40E-07	1.27E-07	3.11E-08	5.55E-09	19.2	NNW
N 2000.	1.49E-06	6.60E-07	4.39E-07	1.82E-07	5.10E-08	1.08E-08	25.8	N
NNE 2000.	1.22E-06	5.00E-07	3.19E-07	1.21E-07	3.00E-08	5.45E-09	15.5	NNE
NE 2000.	1.18E-06	4.72E-07	2.98E-07	1.10E-07	2.65E-08	4.63E-09	14.8	NE
ENE 2000.	1.07E-06	4.22E-07	2.66E-07	9.75E-08	2.31E-08	3.95E-09	11.4	ENE
E 2000.	1.15E-06	4.97E-07	3.26E-07	1.31E-07	3.54E-08	7.14E-09	13.8	E
ESE 2000.	1.02E-06	4.55E-07	3.04E-07	1.26E-07	3.58E-08	7.65E-09	12.4	ESE
SE 2000.	1.21E-06	5.35E-07	3.57E-07	1.48E-07	4.17E-08	8.85E-09	15.8	SE
SSE 2000.	1.60E-06	7.34E-07	4.98E-07	2.14E-07	6.38E-08	1.45E-08	30.8	SSE
MAX X/Q	1.83E-06					TOTAL HOURS AROUND SITE:	712.8	
SRP 2.3.4 2000.	1.68E-06	7.64E-07	5.16E-07	2.20E-07	6.48E-08	1.45E-08		
SITE LIMIT	1.68E-06	7.64E-07	5.16E-07	2.20E-07	6.48E-08	1.45E-08		

THE FIVE-PERCENT-FOR-THE-ENTIRE-SITE X/Q IS LIMITING.

X/Q VALUES (SEC/CUBIC METER) FOR FUMIGATION AT THE BOUNDARY:

DOWNWIND DISTANCE FUMIGATION

SECTOR (METERS)	X/Q
S 2000.	2.20E-05
SSW 2000.	2.20E-05
SW 2000.	2.20E-05
WSW 2000.	2.20E-05
W 2000.	2.20E-05
WNW 2000.	2.20E-05
NW 2000.	2.20E-05
NNW 2000.	2.20E-05
N 2000.	2.20E-05
NNE 2000.	2.20E-05
NE 2000.	2.20E-05
ENE 2000.	2.20E-05
E 2000.	2.20E-05

**Calculation No. PM-1055 Revision 0**

ESE	2000.	2.20E-05
SE	2000.	2.20E-05
SSE	2000.	2.20E-05

**Attachment J**

**Page 615 of 1411**

**\*\*NOTE\*\***: VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
CHECK THE REASONABLENESS OF THE ENVELOPES  
COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.



**PAVAN Input**

**Off Gas Stack to Control Room (Tower 2 320' wind and 316'-33' Delta T Stability Class; distances of 3000 m and 4000 m)**

1 1111

Peach Bottom  
97.5 meters

10.1-96.3 meters

Stack Release

Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

7	1																	
2584.	54.31	131.4	97.5															
0	0	0	2	6	5	0												
0.	0.	0.	0.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.	9.	23.	39.	87.	44.	4.	2.	0.	2.	2.	0.	1.	0.	0.	1.	0.	0.	1.
0.	9.	20.	29.	46.	44.	20.	2.	12.	7.	5.	7.	8.	9.	2.	8.	0.	0.	8.
2.	4.	9.	18.	7.	3.	13.	0.	7.	3.	2.	3.	21.	9.	3.	15.	0.	0.	15.
2.	2.	0.	1.	0.	1.	0.	0.	0.	0.	0.	2.	14.	2.	0.	1.	0.	0.	1.
0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	2.	2.	5.	1.	1.	0.	0.	1.
0.	2.	2.	9.	5.	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13.	23.	18.	25.	56.	29.	10.	3.	3.	4.	3.	1.	4.	3.	4.	3.	0.	0.	3.
4.	15.	13.	15.	12.	25.	27.	8.	25.	14.	13.	8.	21.	9.	2.	22.	0.	0.	22.
10.	3.	2.	1.	1.	2.	8.	8.	31.	9.	6.	19.	27.	20.	9.	33.	0.	0.	33.
1.	2.	1.	0.	0.	1.	1.	1.	5.	2.	1.	2.	12.	14.	4.	5.	0.	0.	5.
0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	6.	7.	0.	0.	0.	0.	0.
0.	5.	12.	15.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31.	22.	28.	37.	50.	65.	14.	12.	19.	5.	7.	3.	5.	5.	3.	22.	0.	0.	22.
42.	19.	9.	17.	14.	26.	62.	22.	72.	37.	30.	26.	42.	26.	26.	100.	0.	0.	100.
18.	8.	4.	3.	3.	4.	11.	10.	67.	24.	21.	31.	56.	59.	35.	93.	0.	0.	93.
4.	1.	0.	0.	1.	2.	0.	1.	9.	0.	4.	4.	29.	30.	28.	17.	0.	0.	17.
1.	4.	0.	0.	0.	0.	0.	0.	1.	0.	1.	1.	13.	27.	6.	0.	0.	0.	0.
59.	58.	108.	119.	115.	86.	45.	35.	41.	23.	32.	15.	26.	38.	36.	50.	0.	0.	50.
330.	211.	238.	336.	435.	304.	339.	243.	300.	191.	155.	128.	141.	97.	193.	385.	0.	0.	385.
521.	349.	251.	278.	331.	308.	478.	466.	708.	425.	287.	211.	301.	355.	542.	928.	0.	0.	928.
396.	154.	85.	67.	132.	140.	161.	118.	482.	166.	126.	190.	395.	674.	1039.	918.	0.	0.	918.
73.	27.	13.	11.	32.	26.	14.	11.	99.	16.	16.	22.	225.	448.	543.	242.	0.	0.	242.
15.	7.	12.	2.	8.	2.	7.	7.	29.	9.	3.	6.	90.	151.	184.	63.	0.	0.	63.
60.	44.	36.	61.	60.	60.	61.	59.	70.	56.	59.	54.	54.	36.	39.	34.	0.	0.	34.
235.	164.	150.	219.	283.	200.	345.	311.	435.	320.	281.	187.	173.	138.	170.	203.	0.	0.	203.
367.	201.	156.	101.	161.	257.	349.	443.	891.	577.	354.	297.	395.	354.	519.	514.	0.	0.	514.
156.	38.	26.	11.	58.	63.	98.	165.	516.	228.	216.	271.	536.	583.	651.	468.	0.	0.	468.
23.	8.	8.	4.	12.	21.	16.	11.	64.	19.	18.	30.	78.	111.	89.	43.	0.	0.	43.
7.	1.	1.	1.	20.	4.	12.	2.	6.	4.	2.	1.	9.	12.	6.	10.	0.	0.	10.
26.	19.	22.	26.	31.	23.	28.	32.	23.	32.	32.	33.	30.	28.	26.	22.	0.	0.	22.
99.	38.	34.	29.	34.	52.	81.	90.	134.	141.	156.	117.	85.	66.	94.	97.	0.	0.	97.
81.	25.	13.	8.	13.	24.	48.	79.	130.	111.	157.	177.	198.	140.	178.	126.	0.	0.	126.
4.	1.	1.	0.	0.	2.	7.	8.	44.	23.	39.	109.	168.	138.	90.	32.	0.	0.	32.
1.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	18.	24.	18.	0.	5.	0.	0.	5.
0.	0.	0.	0.	4.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11.	14.	11.	10.	13.	5.	4.	9.	17.	9.	6.	18.	13.	14.	13.	19.	0.	0.	19.
47.	19.	22.	19.	13.	6.	28.	10.	34.	31.	36.	34.	40.	35.	70.	59.	0.	0.	59.
16.	5.	4.	2.	2.	2.	8.	6.	10.	21.	51.	70.	69.	44.	92.	85.	0.	0.	85.
1.	0.	0.	0.	0.	0.	1.	1.	2.	1.	8.	26.	39.	39.	9.	5.	0.	0.	5.



**PAVAN Input**

**Off Gas Stack to Control Room (Tower 2 320' wind and 316'-33' Delta T Stability Class; distances of 3000 m and 4000 m)**

1 1111  
 Peach Bottom  
 97.5 meters  
 10.1-96.3 meters  
 Stack Release

Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

7	1	0	0	0	2	6	5	0	0	0	0	0	0	0	0	0	0	0
2584.	54.	313	1.4	97.5														
0.	0.	0.	0.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.	9.	23.	39.	87.	44.	4.	2.	0.	2.	2.	0.	1.	0.	0.	1.	0.	0.	1.
0.	9.	20.	29.	46.	44.	20.	2.	12.	7.	5.	7.	8.	9.	2.	8.			
2.	4.	9.	18.	7.	3.	13.	0.	7.	3.	2.	3.	21.	9.	3.	15.			
2.	2.	0.	1.	0.	1.	0.	0.	0.	0.	0.	2.	14.	2.	0.	1.			
0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	2.	2.	5.	1.	1.			
0.	2.	2.	9.	5.	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.			
13.	23.	18.	25.	56.	29.	10.	3.	3.	4.	3.	1.	4.	3.	4.	3.			
4.	15.	13.	15.	12.	25.	27.	8.	25.	14.	13.	8.	21.	9.	2.	22.			
10.	3.	2.	1.	1.	2.	8.	8.	31.	9.	6.	19.	27.	20.	9.	33.			
1.	2.	1.	0.	0.	1.	1.	1.	5.	2.	1.	2.	12.	14.	4.	5.			
0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	6.	7.	0.	0.			
0.	5.	12.	15.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.			
31.	22.	28.	37.	50.	65.	14.	12.	19.	5.	7.	3.	5.	5.	3.	22.			
42.	19.	9.	17.	14.	26.	62.	22.	72.	37.	30.	26.	42.	26.	26.	100.			
18.	8.	4.	3.	3.	4.	11.	10.	67.	24.	21.	31.	56.	59.	35.	93.			
4.	1.	0.	0.	1.	2.	0.	1.	9.	0.	4.	4.	29.	30.	28.	17.			
1.	4.	0.	0.	0.	0.	0.	0.	1.	0.	1.	1.	13.	27.	6.	0.			
59.	58.	108.	119.	115.	86.	45.	35.	41.	23.	32.	15.	26.	38.	36.	50.			
330.	211.	238.	336.	435.	304.	339.	243.	300.	191.	155.	128.	141.	97.	193.	385.			
521.	349.	251.	278.	331.	308.	478.	466.	708.	425.	287.	211.	301.	355.	542.	928.			
396.	154.	85.	67.	132.	140.	161.	118.	482.	166.	126.	190.	395.	674.	1039.	918.			
73.	27.	13.	11.	32.	26.	14.	11.	99.	16.	16.	22.	225.	448.	543.	242.			
15.	7.	12.	2.	8.	2.	7.	7.	29.	9.	3.	6.	90.	151.	184.	63.			
60.	44.	36.	61.	60.	60.	61.	59.	70.	56.	59.	54.	54.	36.	39.	34.			
235.	164.	150.	219.	283.	200.	345.	311.	435.	320.	281.	187.	173.	138.	170.	203.			
367.	201.	156.	101.	161.	257.	349.	443.	891.	577.	354.	297.	395.	354.	519.	514.			
156.	38.	26.	11.	58.	63.	98.	165.	516.	228.	216.	271.	536.	583.	651.	468.			
23.	8.	8.	4.	12.	21.	16.	11.	64.	19.	18.	30.	78.	111.	89.	43.			
7.	1.	1.	1.	20.	4.	12.	2.	6.	4.	2.	1.	9.	12.	6.	10.			
26.	19.	22.	26.	31.	23.	28.	32.	23.	32.	32.	33.	30.	28.	26.	22.			
99.	38.	34.	29.	34.	52.	81.	90.	134.	141.	156.	117.	85.	66.	94.	97.			
81.	25.	13.	8.	13.	24.	48.	79.	130.	111.	157.	177.	198.	140.	178.	126.			
4.	1.	1.	0.	0.	2.	7.	8.	44.	23.	39.	109.	168.	138.	90.	32.			
1.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	18.	24.	18.	0.	5.			
0.	0.	0.	0.	4.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.			
11.	14.	11.	10.	13.	5.	4.	9.	17.	9.	6.	18.	13.	14.	13.	19.			
47.	19.	22.	19.	13.	6.	28.	10.	34.	31.	36.	34.	40.	35.	70.	59.			
16.	5.	4.	2.	2.	2.	8.	6.	10.	21.	51.	70.	69.	44.	92.	85.			
1.	0.	0.	0.	0.	0.	1.	1.	2.	1.	8.	26.	39.	39.	9.	5.			



PAVAN Output

Off Gas Stack to Control Room (distances of 3000 m and 4000 m)

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USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PRINTOUT OF INPUT CARDS

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1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2      Peach Bottom
Stack Release
3      97.5 meters          10.1-96.3 meters
4
5      Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T          6          7 42872          1
7      0.500 2584.000    54.300 131.400    97.500
8      0.000 0.000 0.000 2.000 6.000 5.000 0.000
9      0.000 0.000 0.000 0.000 3.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      6.000 9.000 23.000 39.000 87.000 44.000 4.000 2.000 0.000 2.000 2.000 0.000 1.000 0.000 0.000 1.000
9      0.000 9.000 20.000 29.000 46.000 44.000 20.000 2.000 12.000 7.000 5.000 7.000 8.000 9.000 2.000 8.000
9      2.000 4.000 9.000 18.000 7.000 3.000 13.000 0.000 7.000 3.000 2.000 3.000 21.000 9.000 3.000 15.000
9      2.000 2.000 0.000 1.000 0.000 1.000 0.000 0.000 0.000 0.000 0.000 2.000 14.000 2.000 0.000 1.000
9      0.000 0.000 0.000 0.000 0.000 1.000 0.000 0.000 0.000 0.000 0.000 2.000 2.000 5.000 1.000 1.000
9      0.000 2.000 2.000 9.000 5.000 0.000 2.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      13.000 23.000 18.000 25.000 56.000 29.000 10.000 3.000 3.000 4.000 3.000 1.000 4.000 3.000 4.000 3.000
9      4.000 15.000 13.000 15.000 12.000 25.000 27.000 8.000 25.000 14.000 13.000 8.000 21.000 9.000 2.000 22.000
9      10.000 3.000 2.000 1.000 1.000 2.000 8.000 8.000 31.000 9.000 6.000 19.000 27.000 20.000 9.000 33.000
9      1.000 2.000 1.000 0.000 0.000 1.000 1.000 1.000 5.000 2.000 1.000 2.000 12.000 14.000 4.000 5.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 0.000 0.000 1.000 6.000 7.000 0.000 0.000
9      0.000 5.000 12.000 15.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      31.000 22.000 28.000 37.000 50.000 65.000 14.000 12.000 19.000 5.000 7.000 3.000 5.000 5.000 3.000 22.000
9      42.000 19.000 9.000 17.000 14.000 26.000 62.000 22.000 72.000 37.000 30.000 26.000 42.000 26.000 26.000 100.000
9      18.000 8.000 4.000 3.000 3.000 4.000 11.000 10.000 67.000 24.000 21.000 31.000 56.000 59.000 35.000 93.000
9      4.000 1.000 0.000 0.000 1.000 2.000 0.000 1.000 9.000 0.000 4.000 4.000 29.000 30.000 28.000 17.000
9      1.000 4.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 0.000 1.000 1.000 13.000 27.000 6.000 0.000
9      59.000 58.000 108.000 119.000 115.000 86.000 45.000 35.000 41.000 23.000 32.000 15.000 26.000 38.000 36.000 50.000
9      330.000 211.000 238.000 336.000 435.000 304.000 339.000 243.000 300.000 191.000 155.000 128.000 141.000 97.000 193.000 385.000
9      521.000 349.000 251.000 278.000 331.000 308.000 478.000 466.000 708.000 425.000 287.000 211.000 301.000 355.000 542.000 928.000
9      396.000 154.000 85.000 67.000 132.000 140.000 161.000 118.000 482.000 166.000 126.000 190.000 395.000 674.000 *****918.000
9      73.000 27.000 13.000 11.000 32.000 26.000 14.000 11.000 99.000 16.000 16.000 22.000 225.000 448.000 543.000 242.000
9      15.000 7.000 12.000 2.000 8.000 2.000 7.000 7.000 29.000 9.000 3.000 6.000 90.000 151.000 184.000 63.000
9      60.000 44.000 36.000 61.000 60.000 60.000 61.000 59.000 70.000 56.000 59.000 54.000 54.000 36.000 39.000 34.000
9      235.000 164.000 150.000 219.000 283.000 200.000 345.000 311.000 435.000 320.000 281.000 187.000 173.000 138.000 170.000 203.000
9      367.000 201.000 156.000 101.000 161.000 257.000 349.000 443.000 891.000 577.000 354.000 297.000 395.000 354.000 519.000 514.000
9      156.000 38.000 26.000 11.000 58.000 63.000 98.000 165.000 516.000 228.000 216.000 271.000 536.000 583.000 651.000 468.000
9      23.000 8.000 8.000 4.000 12.000 21.000 16.000 11.000 64.000 19.000 18.000 30.000 78.000 111.000 89.000 43.000
9      7.000 1.000 1.000 1.000 20.000 4.000 12.000 2.000 6.000 4.000 2.000 1.000 9.000 12.000 6.000 10.000
9      26.000 19.000 22.000 26.000 31.000 23.000 28.000 32.000 23.000 32.000 32.000 33.000 30.000 28.000 26.000 22.000
9      99.000 38.000 34.000 29.000 34.000 52.000 81.000 90.000 134.000 141.000 156.000 117.000 85.000 66.000 94.000 97.000
9      81.000 25.000 13.000 8.000 13.000 24.000 48.000 79.000 130.000 111.000 157.000 177.000 198.000 140.000 178.000 126.000
9      4.000 1.000 1.000 0.000 0.000 2.000 7.000 8.000 44.000 23.000 39.000 109.000 168.000 138.000 90.000 32.000
9      1.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 3.000 0.000 18.000 24.000 18.000 0.000 5.000

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Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS A

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007
3.35 3.61	0.014	0.021	0.054	0.091	0.203	0.103	0.009	0.005	0.000	0.005	0.005	0.000	0.002	0.000	0.000	0.002	0.513
5.59 6.02	0.000	0.021	0.047	0.068	0.107	0.103	0.047	0.005	0.028	0.016	0.012	0.016	0.019	0.021	0.005	0.019	0.532
8.27 8.91	0.005	0.009	0.021	0.042	0.016	0.007	0.030	0.000	0.016	0.007	0.005	0.007	0.049	0.021	0.007	0.035	0.278
10.73 11.56	0.005	0.005	0.000	0.002	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.005	0.033	0.005	0.000	0.002	0.058
24.59 26.49	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.012	0.002	0.002	0.028
TOTAL	0.02	0.06	0.12	0.20	0.33	0.22	0.09	0.01	0.04	0.03	0.02	0.03	0.11	0.06	0.01	0.06	1.42

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS B

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.005	0.005	0.021	0.012	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.047
3.35 3.61	0.030	0.054	0.042	0.058	0.131	0.068	0.023	0.007	0.007	0.009	0.007	0.002	0.009	0.007	0.009	0.007	0.471
5.59 6.02	0.009	0.035	0.030	0.035	0.028	0.058	0.063	0.019	0.058	0.033	0.030	0.019	0.049	0.021	0.005	0.051	0.543
8.27 8.91	0.023	0.007	0.005	0.002	0.002	0.005	0.019	0.019	0.072	0.021	0.014	0.044	0.063	0.047	0.021	0.077	0.441
10.73 11.56	0.002	0.005	0.002	0.000	0.000	0.002	0.002	0.002	0.012	0.005	0.002	0.005	0.028	0.033	0.009	0.012	0.121
24.59 26.49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.014	0.016	0.000	0.000	0.035
TOTAL	0.07	0.10	0.08	0.12	0.17	0.13	0.11	0.05	0.15	0.07	0.05	0.07	0.16	0.12	0.04	0.15	1.66

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS C

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.012	0.028	0.035	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.077
3.35 3.61	0.072	0.051	0.065	0.086	0.117	0.152	0.033	0.028	0.044	0.012	0.016	0.007	0.012	0.012	0.007	0.051	0.765
5.59 6.02	0.098	0.044	0.021	0.040	0.033	0.061	0.145	0.051	0.168	0.086	0.070	0.061	0.098	0.061	0.061	0.233	1.330
8.27 8.91	0.042	0.019	0.009	0.007	0.007	0.009	0.026	0.023	0.156	0.056	0.049	0.072	0.131	0.138	0.082	0.217	1.043
10.73 11.56	0.009	0.002	0.000	0.000	0.002	0.005	0.000	0.002	0.021	0.000	0.009	0.009	0.068	0.070	0.065	0.040	0.303
24.59 26.49	0.002	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.002	0.002	0.030	0.063	0.014	0.000	0.126
TOTAL	0.22	0.14	0.12	0.17	0.16	0.23	0.20	0.10	0.39	0.15	0.15	0.15	0.34	0.34	0.23	0.54	3.64

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS D

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005
1.56 1.69	0.138	0.135	0.252	0.278	0.268	0.201	0.105	0.082	0.096	0.054	0.075	0.035	0.061	0.089	0.084	0.117	2.067

Calculation No. PM-1055 Revision 0

Attachment J

Table with 18 columns of numerical data representing various parameters and their totals.

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS E

Table showing joint frequency distribution for Class E stability with 18 columns including wind directions and total frequency.

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS F

Table showing joint frequency distribution for Class F stability with 18 columns including wind directions and total frequency.

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS G

Table showing joint frequency distribution for Class G stability with 18 columns including wind directions and total frequency.

WIND MEASURED AT 97.5 METERS. WIND SPEED CORRECTED TO THE RELEASE HEIGHT OF 131.4 METERS.

OVERALL WIND DIRECTION FREQUENCY

Summary table for overall wind direction frequency with 18 columns for directions and their respective frequencies.



OVERALL WIND SPEED FREQUENCY AS MEASURED ON THE TOWER:

MAX.WIND SPEED (M/S): 0.224 1.565 3.353 5.588 8.270 10.729 24.587  
 WIND SPEED FREQUENCY: 0.03 5.61 24.35 36.62 25.38 6.19 1.82

BUILDING AND RELEASE CHARACTERISTICS:

RELEASE HEIGHT: 131.40 METERS  
 MIXING VOLUME COEFFICIENT: 0.50  
 BUILDING CROSS-SECTIONAL AREA: 2584.00 SQUARE METERS

BOUNDARY DISTANCES (METERS) FROM THE SOURCE FOR EACH DOWNWIND SECTOR:

DOWNWIND SECTOR	S	SSW	SW	WSW	W	WNW	NW	NNW	N	NNE	NE	ENE	E	ESE	SE	SSE
BOUNDARY 1	3000.	3000.	3000.	3000.	3000.	3000.	3000.	3000.	3000.	3000.	3000.	3000.	3000.	3000.	3000.	3000.
BOUNDARY 2	4000.	4000.	4000.	4000.	4000.	4000.	4000.	4000.	4000.	4000.	4000.	4000.	4000.	4000.	4000.	4000.

DISTANCES AND TERRAIN HEIGHTS (IN METERS) AS A FUNCTION OF THE DOWNWIND SECTOR:

SECTOR	S	SSW	SW	WSW	W	WNW	NW	NNW	N	NNE	NE	ENE	E	ESE	SE	SSE
DISTANCE	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.
ELEVATION	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

THE CONVERSION FACTOR APPLIED TO THE WIND SPEED CLASSES IS 0.447

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

Page 625 of 1411

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

WINDSPEEDS ADJUSTED TO 131.4 METERS.

PERCENT OF THE TIME A GIVEN WINDSPEED IS LOWER:

WINDSPEED (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.24	0.00
0.26	0.03
1.69	2.23
1.82	5.64
3.61	16.78
3.89	29.99
6.02	48.11
6.49	66.61
8.91	80.60
9.60	91.99
11.56	96.71
12.46	98.18
26.49	99.76
28.54	100.00

WINDSPEED (INTERPOLATED) (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.26	0.03
1.77	5.64
3.76	29.99
6.26	66.61
9.22	91.99
11.77	98.18
26.77	100.00

LOG-NORMAL INTERPOLATION PERCENTILES

WINDSPEED (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.81	1.00
1.30	3.00
1.66	5.00
2.19	10.00
2.61	15.00
3.00	20.00

3.38	25.00
3.76	30.00
4.05	35.00
4.35	40.00
4.66	45.00
4.98	50.00
5.32	55.00
5.70	60.00
6.11	65.00
6.50	70.00
6.90	75.00
7.37	80.00
8.11	85.00
8.78	90.00

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	USED	
	AT 131.4 METERS										MEANDER	BLDG WAKE	
											CA=1292.SQ.METERS		
A	3.6	0.23	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.729E-07		
A	8.9	0.08	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	7.011E-08		
A	11.6	0.08	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	5.404E-08		
B	3.6	0.49	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	5.975E-07		
B	6.0	0.15	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	3.585E-07		
B	8.9	0.38	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	2.422E-07		
B	11.6	0.04	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.867E-07		
C	3.6	1.16	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.344E-06		
C	6.0	1.58	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	8.066E-07		
C	8.9	0.68	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	5.450E-07		
C	11.6	0.15	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	4.201E-07		
C	26.5	0.04	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.833E-07		
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	2.22	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	12.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	19.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	14.87	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	2.74	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.56	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	8.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	13.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	5.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	3.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	3.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.15	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
F	12.5	0.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07		
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	1.77	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

S SECTOR BOUNDARY DISTANCE = 3000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED:  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.344E-06	1.262E-06	1.038E-06	8.066E-07	6.875E-07	6.226E-07
0.005	0.021	0.032	2.248	3.412	5.665	18.058	19.635	20.612	40.177
0.00031	0.00131	0.00201	0.13963	0.21193	0.35189	1.12162	1.21958	1.28023	2.49548
5.975E-07	5.890E-07	5.450E-07	4.207E-07	4.201E-07	3.585E-07	3.534E-07	3.243E-07	3.208E-07	2.422E-07
40.665	49.490	50.166	65.038	65.188	65.338	79.120	81.862	85.579	85.955
2.52580	3.07394	3.11593	4.03961	4.04894	4.05827	4.91430	5.08458	5.31550	5.33882
2.388E-07	1.925E-07	1.867E-07	1.841E-07	1.833E-07	1.729E-07	1.415E-07	1.301E-07	1.003E-07	8.032E-08
91.813	94.855	94.893	95.756	95.794	96.019	96.583	96.733	96.770	97.033
5.70270	5.89163	5.89396	5.94761	5.94994	5.96394	5.99893	6.00826	6.01059	6.02692
7.011E-08	6.449E-08	5.404E-08	3.010E-08	1.806E-08	1.220E-08				
97.108	97.521	97.597	99.362	99.962	100.000				
6.03158	6.05724	6.06190	6.17153	6.20885	6.21119				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.120  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 3.071

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.911  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.312  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 5.699

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
1	1	-11.07050	-16.54465	-1.21139
1	2	-13.77855	-16.90969	-1.37126
1	3	-14.34482	-18.75052	-2.35542
1	4	-14.85564	-19.03634	-2.52827
1	5	-14.95230	-28.66915	-8.49156
1	6	-15.24768	NUMXQ(K)= 6	
		3.263E-06	0.062	1.000
		2.192E-06	0.186	3.000
		1.797E-06	0.311	5.000
		1.350E-06	0.621	10.000
		1.129E-06	0.932	15.000
		9.834E-07	1.242	20.000
		8.723E-07	1.553	25.000
		7.886E-07	1.863	30.000
		7.226E-07	2.174	35.000
		6.688E-07	2.484	40.000
		6.237E-07	2.795	45.000
		5.827E-07	3.106	50.000
		5.271E-07	3.416	55.000
		4.802E-07	3.727	60.000
		4.401E-07	4.037	65.000
		4.056E-07	4.348	70.000
		3.755E-07	4.658	75.000
		3.487E-07	4.969	80.000
		3.236E-07	5.280	85.000
		2.598E-07	5.590	90.000
		1.479E-06	0.5	8.05

ANNUAL AVERAGE = 1.43E-08

K= 1 FIVEXQ(K)= 1.479E-06 FIVEPR(K)= 8.050

FUMIGATION X/Q AT THE BOUNDARY: 1.52E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.368E-01	7.317E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.376	1.427	5.032	12.967	65.322	97.183	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)			
												MEANDER	BLDG WAKE	USED	
AT 131.4 METERS													CA=1292.SQ.METERS		
A	3.6	0.60	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.729E-07				
A	6.0	0.60	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.038E-07				
A	8.9	0.26	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	7.011E-08				
A	11.6	0.13	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	5.404E-08				
B	1.7	0.13	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.280E-06				
B	3.6	1.52	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	5.975E-07				
B	6.0	0.99	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	3.585E-07				
B	8.9	0.20	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	2.422E-07				
B	11.6	0.13	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.867E-07				
C	1.7	0.33	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	2.881E-06				
C	3.6	1.46	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.344E-06				
C	6.0	1.26	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	8.066E-07				
C	8.9	0.53	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	5.450E-07				
C	11.6	0.07	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	4.201E-07				
C	26.5	0.26	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.833E-07				
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	3.84	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	13.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	23.09	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	10.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	1.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	2.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	10.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	13.30	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	2.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	0.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.26	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	2.51	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	0.07	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				



G	1.8	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.26	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

SSW SECTOR BOUNDARY DISTANCE = 3000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.881E-06	2.224E-06	1.344E-06	1.280E-06	1.262E-06	1.038E-06	8.066E-07
0.009	0.029	0.044	0.375	4.211	5.667	5.799	8.710	22.668	23.925
0.00031	0.00104	0.00155	0.01321	0.14850	0.19981	0.20448	0.30711	0.79927	0.84359
6.875E-07	6.226E-07	5.975E-07	5.890E-07	5.450E-07	4.207E-07	4.201E-07	3.585E-07	3.534E-07	3.243E-07
25.182	48.269	49.790	60.639	61.169	71.356	71.422	72.414	85.711	87.497
0.88791	1.70196	1.75561	2.13814	2.15680	2.51601	2.51834	2.55333	3.02217	3.08514
3.208E-07	2.422E-07	2.388E-07	1.925E-07	1.867E-07	1.841E-07	1.833E-07	1.729E-07	1.415E-07	1.301E-07
90.011	90.209	92.723	94.377	94.509	95.039	95.303	95.899	96.362	96.428
3.17378	3.18078	3.26941	3.32773	3.33239	3.35105	3.36038	3.38138	3.39770	3.40004
1.038E-07	8.032E-08	7.011E-08	6.449E-08	5.404E-08	3.010E-08	1.806E-08			
97.023	97.089	97.354	98.280	98.412	99.669	100.000			
3.42103	3.42336	3.43269	3.46535	3.47001	3.51433	3.52599			

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.148  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.798

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.136  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.019  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.171

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
2	1	-11.07050	-16.74321	-1.25433
2	2	-13.01641	-17.04942	-1.35739
2	3	-13.77855	-17.33920	-1.47764
2	4	-14.34482	-21.31597	-3.44007
2	5	-14.85564	-23.21877	-4.45330
2	6	-14.95230	NUMXQ(K)= 6	
		3.750E-06	0.035	1.000
		2.529E-06	0.106	3.000
		2.069E-06	0.176	5.000
		1.528E-06	0.353	10.000
		1.267E-06	0.529	15.000
		1.104E-06	0.705	20.000
		9.840E-07	0.881	25.000
		8.898E-07	1.058	30.000
		8.157E-07	1.234	35.000
		7.554E-07	1.410	40.000
		7.051E-07	1.587	45.000
		6.623E-07	1.763	50.000
		6.253E-07	1.939	55.000
		5.929E-07	2.116	60.000
		5.328E-07	2.292	65.000
		4.782E-07	2.468	70.000
		4.319E-07	2.644	75.000
		3.922E-07	2.821	80.000
		3.579E-07	2.997	85.000
		3.209E-07	3.173	90.000
		1.301E-06	0.5	14.18

ANNUAL AVERAGE = 1.02E-08

K= 2 FIVEXQ(K)= 1.301E-06 FIVEPR(K)=14.180

FUMIGATION X/Q AT THE BOUNDARY: 1.52E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.368E-01	7.317E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.588	4.565	8.467	13.973	67.300	97.486	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS											MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS		
A	3.6	1.73	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.729E-07		
A	6.0	1.50	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.038E-07		
A	8.9	0.68	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	7.011E-08		
B	1.7	0.15	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.280E-06		
B	3.6	1.35	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	5.975E-07		
B	6.0	0.98	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	3.585E-07		
B	8.9	0.15	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	2.422E-07		
B	11.6	0.08	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.867E-07		
C	1.7	0.90	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	2.881E-06		
C	3.6	2.10	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.344E-06		
C	6.0	0.68	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	8.066E-07		
C	8.9	0.30	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	5.450E-07		
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	8.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	17.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	18.83	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	6.38	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.90	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.70	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	11.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	11.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	1.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.60	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.08	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	2.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
G	1.8	0.83	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.65	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		

G 6.5 0.30 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 3000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.881E-06	2.224E-06	1.344E-06	1.280E-06	1.262E-06	1.038E-06	8.066E-07
0.018	0.038	0.057	0.957	9.060	11.161	11.311	14.013	31.870	32.546
0.00057	0.00117	0.00176	0.02975	0.28166	0.34697	0.35164	0.43561	0.99075	1.01174
6.875E-07	6.226E-07	5.975E-07	5.890E-07	5.450E-07	4.207E-07	3.585E-07	3.534E-07	3.243E-07	3.208E-07
34.196	53.030	54.380	65.635	65.935	72.313	73.288	84.993	85.969	88.520
1.06306	1.64852	1.69051	2.04039	2.04972	2.24798	2.27830	2.64218	2.67250	2.75181
2.422E-07	2.388E-07	1.925E-07	1.867E-07	1.841E-07	1.729E-07	1.415E-07	1.301E-07	1.038E-07	8.032E-08
88.670	90.621	91.596	91.671	92.272	93.997	94.898	94.973	96.473	96.549
2.75647	2.81712	2.84744	2.84977	2.86843	2.92208	2.95007	2.95240	2.99905	3.00139
7.011E-08	6.449E-08	3.010E-08	1.806E-08						
97.224	98.049	99.700	100.000						
3.02238	3.04804	3.09935	3.10868						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.281  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.990

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.038  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.640  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 2.749

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
3	1	-11.07050	-16.34133	-1.20086
3	2	-13.01641	-17.82872	-1.73807
3	3	-13.77855	-18.41909	-1.99142
3	4	-14.34482	-23.90730	-4.67393
3	5	-14.85564	-25.48603	-5.48913
3	6	-14.95230	NUMXQ(K)= 6	
		4.873E-06	0.031	1.000
		3.354E-06	0.093	3.000
		2.788E-06	0.155	5.000
		2.102E-06	0.311	10.000
		1.659E-06	0.466	15.000
		1.394E-06	0.622	20.000
		1.213E-06	0.777	25.000
		1.079E-06	0.933	30.000
		9.672E-07	1.088	35.000
		8.736E-07	1.243	40.000
		7.974E-07	1.399	45.000
		7.340E-07	1.554	50.000
		6.802E-07	1.710	55.000
		6.340E-07	1.865	60.000
		5.938E-07	2.021	65.000
		5.196E-07	2.176	70.000
		4.537E-07	2.332	75.000
		3.991E-07	2.487	80.000
		3.533E-07	2.642	85.000
		1.591E-06	0.5	16.08

ANNUAL AVERAGE = 1.16E-08

K= 3 FIVEXQ(K)= 1.591E-06 FIVEPR(K)=16.084

FUMIGATION X/Q AT THE BOUNDARY: 1.52E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.368E-01	7.317E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
3.902	6.603	10.580	15.851	68.917	97.224	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	2.58	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.729E-07			
A	6.0	1.92	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.038E-07			
A	8.9	1.19	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	7.011E-08			
A	11.6	0.07	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	5.404E-08			
B	1.7	0.59	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.280E-06			
B	3.6	1.65	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	5.975E-07			
B	6.0	0.99	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	3.585E-07			
B	8.9	0.07	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	2.422E-07			
C	1.7	0.99	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	2.881E-06			
C	3.6	2.44	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.344E-06			
C	6.0	1.12	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	8.066E-07			
C	8.9	0.20	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	5.450E-07			
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	7.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	22.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	18.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	4.43	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	0.73	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.13	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	4.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	14.46	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	6.67	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	1.92	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	0.53	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
G	1.8	0.66	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.25	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			
G	6.5	0.13	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08			



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 3000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.881E-06	2.224E-06	1.344E-06	1.280E-06	1.262E-06	1.038E-06	8.066E-07
0.018	0.046	0.066	1.057	8.917	11.361	11.955	15.984	38.177	39.300
0.00063	0.00164	0.00234	0.03733	0.31490	0.40120	0.42219	0.56448	1.34821	1.38786
6.875E-07	6.226E-07	5.975E-07	5.890E-07	5.450E-07	4.207E-07	3.585E-07	3.534E-07	3.243E-07	3.208E-07
41.017	59.379	61.030	75.495	75.694	80.119	81.110	87.781	88.507	90.423
1.44850	2.09695	2.15526	2.66608	2.67308	2.82936	2.86435	3.09993	3.12559	3.19323
2.422E-07	2.388E-07	1.925E-07	1.841E-07	1.729E-07	1.415E-07	1.038E-07	8.032E-08	7.011E-08	6.449E-08
90.489	91.215	91.744	92.008	94.584	94.716	96.631	96.698	97.886	98.547
3.19557	3.22122	3.23988	3.24921	3.34018	3.34485	3.41249	3.41482	3.45681	3.48013
5.404E-08	3.010E-08	1.806E-08							
98.613	99.868	100.000							
3.48247	3.52678	3.53145							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.315  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.347

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.663  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.190  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.337

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
4	1	-11.07050	-16.26655	-1.18956
4	2	-13.01641	-17.02285	-1.46636
4	3	-13.77855	-18.25708	-2.02421
4	4	-14.34482	-29.16994	-7.67055
4	5	-14.95230	-71.85244	-30.69813
4	6	-15.57040	NUMXQ(K)= 6	
		4.847E-06	0.035	1.000
		3.336E-06	0.106	3.000
		2.772E-06	0.177	5.000
		2.103E-06	0.353	10.000
		1.718E-06	0.530	15.000
		1.480E-06	0.706	20.000
		1.313E-06	0.883	25.000
		1.188E-06	1.059	30.000
		1.090E-06	1.236	35.000
		1.000E-06	1.413	40.000
		9.099E-07	1.589	45.000
		8.351E-07	1.766	50.000
		7.718E-07	1.942	55.000
		7.175E-07	2.119	60.000
		6.704E-07	2.295	65.000
		6.290E-07	2.472	70.000
		5.924E-07	2.649	75.000
		4.856E-07	2.825	80.000
		3.960E-07	3.002	85.000
		3.260E-07	3.178	90.000
		1.769E-06	0.5	14.16

ANNUAL AVERAGE = 1.45E-08

K= 4 FIVEXQ(K)= 1.769E-06 FIVEPR(K)=14.158

FUMIGATION X/Q AT THE BOUNDARY: 1.52E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.368E-01	7.317E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.746	9.049	13.804	17.985	71.702	97.952	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS			
A	1.7	0.15	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	3.706E-07		
A	3.6	4.26	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.729E-07		
A	6.0	2.25	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.038E-07		
A	8.9	0.34	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	7.011E-08		
B	1.7	0.24	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.280E-06		
B	3.6	2.74	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	5.975E-07		
B	6.0	0.59	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	3.585E-07		
B	8.9	0.05	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	2.422E-07		
C	1.7	0.05	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	2.881E-06		
C	3.6	2.45	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.344E-06		
C	6.0	0.68	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	8.066E-07		
C	8.9	0.15	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	5.450E-07		
C	11.6	0.05	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	4.201E-07		
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	5.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	21.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	16.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	6.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	1.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.94	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	7.88	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	2.84	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.59	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	1.66	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	0.64	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	28.5	0.20	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08		
G	1.8	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.10	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 3000.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across various sectors.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.273
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 1.554

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 3.221  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.102  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.501

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
5	1	-11.07050	-16.40331	-1.21878
5	2	-13.01641	-16.41644	-1.22351
5	3	-13.77855	-17.75925	-1.84633
5	4	-14.34482	-24.52711	-5.50600
5	5	-14.95230	-39.57753	-14.16076
5	6	-15.57040	NUMXQ(K) = 6	
		4.217E-06	0.048	1.000
		2.850E-06	0.143	3.000
		2.345E-06	0.238	5.000
		1.770E-06	0.477	10.000
		1.487E-06	0.715	15.000
		1.307E-06	0.954	20.000
		1.179E-06	1.192	25.000
		1.081E-06	1.430	30.000
		9.853E-07	1.669	35.000
		8.915E-07	1.907	40.000
		8.147E-07	2.146	45.000
		7.507E-07	2.384	50.000
		6.962E-07	2.622	55.000
		6.493E-07	2.861	60.000
		6.084E-07	3.099	65.000
		5.407E-07	3.337	70.000
		4.554E-07	3.576	75.000
		3.871E-07	3.814	80.000
		3.317E-07	4.053	85.000
		2.392E-07	4.291	90.000
		1.735E-06	0.5	10.49

ANNUAL AVERAGE = 1.64E-08

K= 5 FIVEXQ(K)= 1.735E-06 FIVEPR(K)=10.487

FUMIGATION X/Q AT THE BOUNDARY: 1.52E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.368E-01	7.317E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
6.996	10.616	13.992	18.021	69.549	98.630	100.000

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	2.40	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.729E-07		
A	6.0	2.40	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.038E-07		
A	8.9	0.16	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	7.011E-08		
A	11.6	0.05	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	5.404E-08		
A	26.5	0.05	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	2.358E-08		
B	3.6	1.58	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	5.975E-07		
B	6.0	1.36	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	3.585E-07		
B	8.9	0.11	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	2.422E-07		
B	11.6	0.05	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.867E-07		
C	3.6	3.54	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.344E-06		
C	6.0	1.42	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	8.066E-07		
C	8.9	0.22	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	5.450E-07		
C	11.6	0.11	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	4.201E-07		
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	4.69	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	16.58	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	16.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	7.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	1.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.11	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	3.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	10.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	14.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	3.44	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	1.15	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.25	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	2.84	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	1.31	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
F	28.5	0.05	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08		

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08



**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

WNW SECTOR BOUNDARY DISTANCE = 3000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.344E-06	1.262E-06	1.038E-06	8.066E-07	6.875E-07	6.226E-07
0.011	0.034	0.048	4.738	8.282	11.554	28.131	29.549	30.803	47.598
0.00045	0.00145	0.00207	0.20267	0.35428	0.49423	1.20332	1.26396	1.31761	2.03603
5.975E-07	5.890E-07	5.450E-07	4.207E-07	4.201E-07	3.585E-07	3.534E-07	3.243E-07	3.208E-07	2.422E-07
49.179	60.085	60.303	67.937	68.046	69.409	83.423	84.841	87.676	87.785
2.10367	2.57018	2.57951	2.90606	2.91073	2.96904	3.56850	3.62914	3.75044	3.75510
2.388E-07	1.925E-07	1.867E-07	1.841E-07	1.729E-07	1.415E-07	1.301E-07	1.038E-07	8.032E-08	7.011E-08
91.221	92.530	92.584	93.729	96.128	96.237	96.347	98.746	98.964	99.128
3.90205	3.95803	3.96036	4.00935	4.11198	4.11664	4.12131	4.22394	4.23327	4.24027
6.449E-08	5.404E-08	4.375E-08	3.010E-08	2.358E-08	1.806E-08				
99.400	99.455	99.509	99.836	99.891	100.000				
4.25193	4.25426	4.25659	4.27059	4.27292	4.27759				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 1.202  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 2.568

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 3.565  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.747  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.109

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
6	1	-11.07050	-16.57913	-1.24111
6	2	-13.77855	-17.92739	-1.83861
6	3	-14.34482	-21.20910	-3.52281
6	4	-14.85564	-22.53152	-4.25605
6	5	-14.95230	-40.79952	-14.51431
6	6	-15.57040	NUMXQ(K)= 6	
		3.954E-06	0.043	1.000
		2.662E-06	0.128	3.000
		2.187E-06	0.214	5.000
		1.649E-06	0.428	10.000
		1.384E-06	0.642	15.000
		1.217E-06	0.856	20.000
		1.097E-06	1.069	25.000
		9.913E-07	1.283	30.000
		8.872E-07	1.497	35.000
		8.042E-07	1.711	40.000
		7.363E-07	1.925	45.000
		6.796E-07	2.139	50.000
		6.313E-07	2.353	55.000
		5.897E-07	2.567	60.000
		5.225E-07	2.780	65.000
		4.660E-07	2.994	70.000
		4.184E-07	3.208	75.000
		3.778E-07	3.422	80.000
		3.408E-07	3.636	85.000
		2.694E-07	3.850	90.000
		1.543E-06	0.5	11.69

ANNUAL AVERAGE = 1.33E-08

K= 6 FIVEXQ(K)= 1.543E-06 FIVEPR(K)=11.689

FUMIGATION X/Q AT THE BOUNDARY: 1.52E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.368E-01	7.317E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.071	8.179	13.469	19.045	66.278	99.291	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

CLASS	METER/SEC	PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS	
A	3.6	0.17	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.729E-07	
A	6.0	0.87	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.038E-07	
A	8.9	0.56	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	7.011E-08	
B	1.7	0.09	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.280E-06	
B	3.6	0.43	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	5.975E-07	
B	6.0	1.17	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	3.585E-07	
B	8.9	0.35	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	2.422E-07	
B	11.6	0.04	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.867E-07	
C	3.6	0.61	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.344E-06	
C	6.0	2.69	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	8.066E-07	
C	8.9	0.48	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	5.450E-07	
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	1.95	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	14.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	20.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	6.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	0.61	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.30	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.65	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	14.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	15.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	4.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.69	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.52	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.22	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	2.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	0.30	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
G	1.8	0.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	
G	6.5	0.35	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08	

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

NW SECTOR BOUNDARY DISTANCE = 3000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.344E-06	1.280E-06	1.262E-06	1.038E-06	8.066E-07	6.875E-07
0.004	0.023	0.037	1.991	2.599	2.686	5.335	20.056	22.748	23.964
0.00024	0.00125	0.00200	0.10697	0.13962	0.14429	0.28657	1.07730	1.22191	1.28722
6.226E-07	5.975E-07	5.890E-07	5.450E-07	4.207E-07	3.585E-07	3.534E-07	3.243E-07	3.208E-07	2.422E-07
44.721	45.155	60.136	60.614	67.605	68.778	83.933	84.541	88.058	88.406
2.40217	2.42550	3.23022	3.25588	3.63141	3.69439	4.50844	4.54110	4.73003	4.74869
2.388E-07	1.925E-07	1.867E-07	1.841E-07	1.729E-07	1.415E-07	1.301E-07	1.038E-07	8.032E-08	7.011E-08
92.661	94.746	94.789	95.484	95.658	95.962	96.265	97.134	97.655	98.220
4.97728	5.08924	5.09157	5.12889	5.13822	5.15455	5.17088	5.21753	5.24552	5.27584
6.449E-08	3.010E-08	1.806E-08	1.220E-08						
98.393	99.609	99.957	100.000						
5.28517	5.35048	5.36914	5.37148						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 1.076  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 3.227

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.505  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.726  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.974

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
7	1	-11.07050	-16.51221	-1.18921
7	2	-13.77855	-16.66913	-1.25747
7	3	-14.34482	-20.49533	-3.32748
7	4	-14.85564	-22.00885	-4.22047
7	5	-14.95230	-35.06060	-12.02664
7	6	-15.24768	NUMXQ(K) = 6	
		3.296E-06	0.054	1.000
		2.240E-06	0.161	3.000
		1.848E-06	0.269	5.000
		1.401E-06	0.537	10.000
		1.180E-06	0.806	15.000
		1.039E-06	1.074	20.000
		9.328E-07	1.343	25.000
		8.521E-07	1.611	30.000
		7.878E-07	1.880	35.000
		7.349E-07	2.149	40.000
		6.905E-07	2.417	45.000
		6.523E-07	2.686	50.000
		6.191E-07	2.954	55.000
		5.898E-07	3.223	60.000
		5.243E-07	3.491	65.000
		4.685E-07	3.760	70.000
		4.214E-07	4.029	75.000
		3.811E-07	4.297	80.000
		3.446E-07	4.566	85.000
		2.828E-07	4.834	90.000
		1.443E-06	0.5	9.31

ANNUAL AVERAGE = 1.26E-08

K= 7 FIVEXQ(K)= 1.443E-06 FIVEPR(K)= 9.308

FUMIGATION X/Q AT THE BOUNDARY: 1.52E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.368E-01	7.317E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.607	3.691	7.469	14.605	59.944	98.220	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
AT 131.4 METERS												
A	3.6	0.09	3000.	0.	131.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.729E-07
A	6.0	0.09	3000.	0.	131.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.038E-07
B	3.6	0.14	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	5.975E-07
B	6.0	0.37	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	3.585E-07
B	8.9	0.37	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	2.422E-07
B	11.6	0.05	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.867E-07
C	3.6	0.55	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.344E-06
C	6.0	1.01	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	8.066E-07
C	8.9	0.46	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	5.450E-07
C	11.6	0.05	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	4.201E-07
D	0.2	0.00	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	1.61	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	11.17	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	21.42	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	5.42	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	0.51	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	0.32	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.02	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	2.71	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	14.29	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	20.36	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	7.58	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	0.51	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.09	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.02	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.47	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	4.14	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.63	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	0.37	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
G	1.8	0.41	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.46	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.28	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

CA=1292.SQ.METERS

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

NNW SECTOR BOUNDARY DISTANCE = 3000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.344E-06	1.262E-06	1.038E-06	8.066E-07	6.875E-07	6.226E-07
0.004	0.023	0.040	1.648	2.200	4.912	16.079	17.091	18.561	39.978
0.00018	0.00116	0.00203	0.08366	0.11165	0.24927	0.81608	0.86739	0.94203	2.02899
5.975E-07	5.890E-07	5.450E-07	4.207E-07	4.201E-07	3.585E-07	3.534E-07	3.243E-07	3.208E-07	2.422E-07
40.116	54.409	54.869	60.292	60.338	60.705	81.065	81.571	85.707	86.075
2.03599	2.76140	2.78473	3.05997	3.06230	3.08096	4.11427	4.13992	4.34985	4.36851
2.388E-07	1.925E-07	1.867E-07	1.841E-07	1.729E-07	1.415E-07	1.301E-07	1.038E-07	8.032E-08	6.449E-08
93.658	97.288	97.334	97.840	97.932	98.254	98.621	98.713	98.805	99.219
4.75338	4.93765	4.93998	4.96564	4.97030	4.98663	5.00529	5.00996	5.01462	5.03561
3.010E-08	1.806E-08	1.220E-08							
99.678	99.954	100.000							
5.05894	5.07293	5.07527							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q	WITH RESPECT TO	WHEN THE WIND BLOWS
SEC/CUBIC METER	THE TOTAL TIME	INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.815  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 2.759



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.111  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.346

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
8	1	-11.07050	-16.70061	-1.21647
8	2	-13.77855	-16.58558	-1.16858
8	3	-14.34482	-19.80051	-2.84521
8	4	-14.85564	-21.28469	-3.69918
8	5	-14.95230	NUMXQ(K)= 5	
		3.043E-06	0.051	1.000
		2.054E-06	0.152	3.000
		1.689E-06	0.254	5.000
		1.274E-06	0.508	10.000
		1.070E-06	0.761	15.000
		9.440E-07	1.015	20.000
		8.547E-07	1.269	25.000
		7.862E-07	1.523	30.000
		7.314E-07	1.776	35.000
		6.861E-07	2.030	40.000
		6.477E-07	2.284	45.000
		6.147E-07	2.538	50.000
		5.812E-07	2.791	55.000
		5.214E-07	3.045	60.000
		4.711E-07	3.299	65.000
		4.283E-07	3.553	70.000
		3.916E-07	3.806	75.000
		3.597E-07	4.060	80.000
		3.255E-07	4.314	85.000
		1.283E-06	0.5	9.85

ANNUAL AVERAGE = 9.74E-09

K= 8 FIVEXQ(K)= 1.283E-06 FIVEPR(K)= 9.852

FUMIGATION X/Q AT THE BOUNDARY: 1.52E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.368E-01	7.317E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.184	1.103	3.171	12.793	53.241	98.805	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	6.0	0.28	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.038E-07			
A	8.9	0.16	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	7.011E-08			
B	3.6	0.07	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	5.975E-07			
B	6.0	0.58	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	3.585E-07			
B	8.9	0.72	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	2.422E-07			
B	11.6	0.12	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.867E-07			
B	26.5	0.02	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	8.148E-08			
C	3.6	0.44	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.344E-06			
C	6.0	1.68	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	8.066E-07			
C	8.9	1.56	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	5.450E-07			
C	11.6	0.21	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	4.201E-07			
C	26.5	0.02	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.833E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	7.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	16.51	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	11.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	2.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	1.63	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	20.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	12.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	1.49	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	3.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	1.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.40	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	0.79	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	0.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

N SECTOR BOUNDARY DISTANCE = 3000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.344E-06	1.262E-06	1.038E-06	8.066E-07	6.875E-07	6.226E-07
0.002	0.014	0.020	0.976	1.419	3.052	10.048	11.727	12.264	28.776
0.00022	0.00138	0.00200	0.09763	0.14195	0.30523	1.00498	1.17292	1.22657	2.87800
5.975E-07	5.890E-07	5.450E-07	4.207E-07	4.201E-07	3.585E-07	3.534E-07	3.243E-07	3.208E-07	2.422E-07
28.846	38.990	40.553	51.794	52.004	52.587	73.367	75.675	78.801	79.524
2.88500	3.89965	4.05592	5.18020	5.20119	5.25951	7.33779	7.56871	7.88127	7.95357
2.388E-07	1.925E-07	1.867E-07	1.841E-07	1.833E-07	1.415E-07	1.301E-07	1.038E-07	8.148E-08	8.032E-08
91.558	94.589	94.706	96.199	96.222	96.898	97.924	98.204	98.228	98.367
9.15716	9.46038	9.47205	9.62133	9.62366	9.69130	9.79393	9.82192	9.82426	9.83825
7.011E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
98.531	98.927	99.720	99.953	100.000					
9.85458	9.89423	9.97354	9.99686	10.00153					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

**PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED**

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.004  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 3.896

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 7.334  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 7.878  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 9.154

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
9	1	-11.07050	-16.55160	-1.19275
9	2	-13.77855	-16.12080	-1.00745
9	3	-14.34482	-17.23583	-1.63997
9	4	-14.85564	-18.54704	-2.54340
9	5	-14.95230	-20.04292	-3.60179
9	6	-15.24768		

NUMXQ(K) = 6

2.586E-06	0.100	1.000
1.719E-06	0.300	3.000
1.400E-06	0.500	5.000
1.040E-06	1.000	10.000
8.881E-07	1.500	15.000
7.899E-07	2.000	20.000
7.187E-07	2.500	25.000
6.636E-07	3.000	30.000
6.191E-07	3.501	35.000
5.777E-07	4.001	40.000
5.276E-07	4.501	45.000
4.856E-07	5.001	50.000
4.498E-07	5.501	55.000
4.189E-07	6.001	60.000
3.919E-07	6.501	65.000
3.680E-07	7.001	70.000
3.431E-07	7.501	75.000
3.116E-07	8.001	80.000
2.768E-07	8.501	85.000
2.471E-07	9.001	90.000
1.400E-06	0.5	5.00

ANNUAL AVERAGE = 1.67E-08

K= 9 FIVEXQ(K) = 1.400E-06 FIVEPR(K) = 4.999

FUMIGATION X/Q AT THE BOUNDARY: 1.52E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.368E-01	7.317E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.443	1.959	5.877	13.603	52.296	98.531	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	3.6	0.08	3000.		0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.729E-07			
A	6.0	0.28	3000.		0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.038E-07			
A	8.9	0.12	3000.		0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	7.011E-08			
B	3.6	0.16	3000.		0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	5.975E-07			
B	6.0	0.56	3000.		0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	3.585E-07			
B	8.9	0.36	3000.		0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	2.422E-07			
B	11.6	0.08	3000.		0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.867E-07			
C	3.6	0.20	3000.		0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.344E-06			
C	6.0	1.47	3000.		0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	8.066E-07			
C	8.9	0.95	3000.		0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	5.450E-07			
D	0.2	0.00	4000.		0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.91	4000.		0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	7.60	4000.		0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	16.91	4000.		0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	6.60	4000.		0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	0.64	4000.		0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.36	4000.		0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.		0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.23	9000.		0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	12.73	9000.		0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	22.95	9000.		0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	9.07	9000.		0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.76	9000.		0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.16	9000.		0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.		0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.27	90000.		0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	5.61	90000.		0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	4.42	90000.		0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.91	90000.		0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.12	90000.		0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			
G	1.8	0.36	90000.		0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.23	90000.		0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			
G	6.5	0.84	90000.		0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08			

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

NNE SECTOR BOUNDARY DISTANCE = 3000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.344E-06	1.262E-06	1.038E-06	8.066E-07	6.875E-07	6.226E-07
0.002	0.018	0.033	0.948	1.146	3.374	10.972	12.444	13.717	30.624
0.00012	0.00105	0.00191	0.05556	0.06722	0.19784	0.64336	0.72966	0.80430	1.79562
5.975E-07	5.890E-07	5.450E-07	4.207E-07	3.585E-07	3.534E-07	3.243E-07	3.208E-07	2.422E-07	2.388E-07
30.783	43.512	44.467	51.070	51.627	74.581	75.217	80.826	81.184	90.254
1.80495	2.55136	2.60734	2.99454	3.02720	4.37306	4.41038	4.73927	4.76026	5.29208
1.925E-07	1.867E-07	1.841E-07	1.729E-07	1.415E-07	1.301E-07	1.038E-07	1.003E-07	8.032E-08	7.011E-08
94.669	94.749	95.505	95.584	95.942	96.857	97.136	97.255	97.414	97.534
5.55099	5.55565	5.59997	5.60464	5.62563	5.67928	5.69561	5.70260	5.71193	5.71893
6.449E-08	3.010E-08	1.806E-08	1.220E-08						
97.892	99.125	99.960	100.000						
5.73992	5.81223	5.86121	5.86355						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.643  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 2.549



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.370  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.736  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 5.288

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
10	1	-11.07050	-16.80436	-1.21624
10	2	-13.77855	-16.40606	-1.05614
10	3	-14.34482	-18.45844	-2.10774
10	4	-14.85564	-19.17181	-2.52507
10	5	-14.95230	-24.17399	-5.51852
10	6	-15.24768	NUMXQ(K) = 6	
		2.608E-06	0.059	1.000
		1.752E-06	0.176	3.000
		1.437E-06	0.293	5.000
		1.080E-06	0.586	10.000
		9.206E-07	0.880	15.000
		8.213E-07	1.173	20.000
		7.493E-07	1.466	25.000
		6.938E-07	1.759	30.000
		6.490E-07	2.052	35.000
		6.118E-07	2.345	40.000
		5.713E-07	2.639	45.000
		5.187E-07	2.932	50.000
		4.745E-07	3.225	55.000
		4.369E-07	3.518	60.000
		4.045E-07	3.811	65.000
		3.763E-07	4.104	70.000
		3.511E-07	4.398	75.000
		3.249E-07	4.691	80.000
		2.806E-07	4.984	85.000
		2.406E-07	5.277	90.000
		1.155E-06	0.5	8.53

ANNUAL AVERAGE = 9.03E-09

K= 10 FIVEXQ(K)= 1.155E-06 FIVEPR(K)= 8.527

FUMIGATION X/Q AT THE BOUNDARY: 1.52E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.368E-01	7.317E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.477	1.631	4.256	16.603	49.623	97.534	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	3.6	0.09	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.729E-07				
A	6.0	0.23	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.038E-07				
A	8.9	0.09	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	7.011E-08				
B	3.6	0.14	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	5.975E-07				
B	6.0	0.61	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	3.585E-07				
B	8.9	0.28	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	2.422E-07				
B	11.6	0.05	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.867E-07				
C	3.6	0.33	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.344E-06				
C	6.0	1.41	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	8.066E-07				
C	8.9	0.99	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	5.450E-07				
C	11.6	0.19	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	4.201E-07				
C	26.5	0.05	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.833E-07				
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	1.50	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	7.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	13.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	5.92	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	0.75	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.14	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	2.77	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	13.19	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	16.62	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	0.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	7.32	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	7.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	1.83	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08				
G	3.9	1.69	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08				

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	2.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.38	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

NE SECTOR BOUNDARY DISTANCE = 3000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.344E-06	1.262E-06	1.038E-06	8.066E-07	6.875E-07	6.226E-07
0.003	0.023	0.040	1.543	1.872	4.642	11.919	13.328	14.830	28.305
0.00017	0.00115	0.00201	0.07665	0.09298	0.23060	0.59214	0.66211	0.73676	1.40619
5.975E-07	5.890E-07	5.450E-07	4.207E-07	4.201E-07	3.585E-07	3.534E-07	3.243E-07	3.208E-07	2.422E-07
28.446	41.639	42.625	48.541	48.729	49.339	65.960	66.711	74.036	74.318
1.41319	2.06863	2.11761	2.41151	2.42084	2.45116	3.27687	3.31419	3.67807	3.69206
2.388E-07	1.925E-07	1.867E-07	1.841E-07	1.833E-07	1.729E-07	1.415E-07	1.301E-07	1.038E-07	8.032E-08
84.459	91.830	91.877	92.723	92.769	92.863	93.004	94.835	95.070	95.164
4.19589	4.56209	4.56443	4.60641	4.60875	4.61341	4.62041	4.71138	4.72304	4.72770
7.011E-08	6.449E-08	3.010E-08	1.806E-08	1.220E-08					
95.258	95.540	97.230	99.624	100.000					
4.73237	4.74636	4.83034	4.94929	4.96795					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.591  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 2.066

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 3.675  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.192

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
11	1	-11.07050	-16.97960	-1.27166
11	2	-13.77855	-16.76686	-1.18715
11	3	-14.34482	-19.29282	-2.42524
11	4	-14.95230	-23.62529	-4.84597
11	5	-15.24768	NUMXQ(K)= 5	
		2.781E-06	0.050	1.000
		1.846E-06	0.149	3.000
		1.505E-06	0.248	5.000
		1.122E-06	0.497	10.000
		9.413E-07	0.745	15.000
		8.301E-07	0.994	20.000
		7.505E-07	1.242	25.000
		6.896E-07	1.490	30.000
		6.410E-07	1.739	35.000
		6.008E-07	1.987	40.000
		5.445E-07	2.236	45.000
		4.886E-07	2.484	50.000
		4.423E-07	2.732	55.000
		4.033E-07	2.981	60.000
		3.700E-07	3.229	65.000
		3.413E-07	3.478	70.000
		3.118E-07	3.726	75.000
		2.699E-07	3.974	80.000
		1.119E-06	0.5	10.06

ANNUAL AVERAGE = 7.50E-09

K= 11 FIVEXQ(K)= 1.119E-06 FIVEPR(K)=10.065

FUMIGATION X/Q AT THE BOUNDARY: 1.52E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.368E-01	7.317E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.423	1.502	4.460	22.507	51.573	95.258	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
AT 131.4 METERS												
CA=1292.SQ.METERS												
A	6.0	0.33	3000.	0.	131.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.038E-07
A	8.9	0.14	3000.	0.	131.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	7.011E-08
A	11.6	0.09	3000.	0.	131.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	5.404E-08
A	26.5	0.09	3000.	0.	131.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	2.358E-08
B	3.6	0.05	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	5.975E-07
B	6.0	0.38	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	3.585E-07
B	8.9	0.89	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	2.422E-07
B	11.6	0.09	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.867E-07
B	26.5	0.05	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	8.148E-08
C	3.6	0.14	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.344E-06
C	6.0	1.22	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	8.066E-07
C	8.9	1.46	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	5.450E-07
C	11.6	0.19	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	4.201E-07
C	26.5	0.05	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.833E-07
D	0.2	0.00	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	0.71	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	6.02	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	9.93	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	8.94	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	1.03	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	0.28	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.02	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	2.54	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	8.80	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	13.97	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	12.75	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	1.41	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.05	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.02	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.55	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	5.50	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	8.33	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	5.13	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.85	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07

G	1.8	0.85	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	3.29	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

ENE SECTOR BOUNDARY DISTANCE = 3000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.344E-06	1.262E-06	1.038E-06	8.066E-07	6.875E-07	6.226E-07
0.002	0.020	0.038	0.743	0.884	3.425	9.446	10.669	12.221	22.147
0.00008	0.00098	0.00186	0.03685	0.04385	0.16981	0.46837	0.52901	0.60599	1.09815
5.975E-07	5.890E-07	5.450E-07	4.207E-07	4.201E-07	3.585E-07	3.534E-07	3.243E-07	3.208E-07	2.422E-07
22.194	30.991	32.449	41.387	41.575	41.951	55.922	56.957	62.461	63.355
1.10048	1.53667	1.60897	2.05215	2.06148	2.08014	2.77290	2.82422	3.09712	3.14144
2.388E-07	1.925E-07	1.867E-07	1.841E-07	1.833E-07	1.415E-07	1.301E-07	1.038E-07	1.003E-07	8.148E-08
76.103	84.429	84.523	85.935	85.982	86.264	91.391	91.721	92.567	92.615
3.77356	4.18641	4.19108	4.26105	4.26339	4.27738	4.53163	4.54795	4.58994	4.59227
8.032E-08	7.011E-08	6.449E-08	5.404E-08	3.010E-08	2.358E-08	1.806E-08	1.220E-08	9.405E-09	
92.662	92.803	93.649	93.744	95.343	95.437	98.730	99.953	100.000	
4.59460	4.60160	4.64359	4.64825	4.72756	4.73222	4.89550	4.95615	4.95848	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.001  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.468



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.535  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.094  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.770  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 4.183

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
12	1	-11.07050	-16.19649	-1.06775
12	2	-11.63677	-17.10820	-1.28125
12	3	-13.77855	-17.13988	-1.29344
12	4	-14.34482	-18.81252	-2.06747
12	5	-14.95230	-21.13972	-3.31388
12	6	-15.24768	-23.20281	-4.47423
12	7	-15.46313	NUMXQ(K)= 7	
		2.526E-06	0.050	1.000
		1.671E-06	0.149	3.000
		1.360E-06	0.248	5.000
		1.012E-06	0.496	10.000
		8.405E-07	0.744	15.000
		7.329E-07	0.992	20.000
		6.567E-07	1.240	25.000
		5.989E-07	1.488	30.000
		5.325E-07	1.735	35.000
		4.757E-07	1.983	40.000
		4.299E-07	2.231	45.000
		3.920E-07	2.479	50.000
		3.601E-07	2.727	55.000
		3.329E-07	2.975	60.000
		3.025E-07	3.223	65.000
		2.709E-07	3.471	70.000
		2.441E-07	3.719	75.000
		2.154E-07	3.967	80.000
		1.008E-06	0.5	10.08

ANNUAL AVERAGE = 6.17E-09

K= 12 FIVEXQ(K)= 1.008E-06 FIVEPR(K)=10.084

FUMIGATION X/Q AT THE BOUNDARY: 1.52E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.368E-01	7.317E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.659	2.117	5.175	26.549	53.458	92.991	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
			AT 131.4 METERS							MEANDER	CA=1292.SQ.METERS	
A	3.6	0.03	3000.	0.	131.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.729E-07
A	6.0	0.24	3000.	0.	131.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.038E-07
A	8.9	0.63	3000.	0.	131.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	7.011E-08
A	11.6	0.42	3000.	0.	131.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	5.404E-08
A	26.5	0.06	3000.	0.	131.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	2.358E-08
B	3.6	0.12	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	5.975E-07
B	6.0	0.63	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	3.585E-07
B	8.9	0.81	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	2.422E-07
B	11.6	0.36	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.867E-07
B	26.5	0.18	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	8.148E-08
C	3.6	0.15	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.344E-06
C	6.0	1.25	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	8.066E-07
C	8.9	1.67	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	5.450E-07
C	11.6	0.86	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	4.201E-07
C	26.5	0.39	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.833E-07
D	0.2	0.00	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	0.78	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	4.21	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	8.98	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	11.78	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	6.71	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	2.68	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.01	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	1.61	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	5.16	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	11.78	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	15.99	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	2.33	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.27	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	0.89	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	2.54	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	5.91	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	5.01	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07

**Calculation No. PM-1055 Revision 0**

**Attachment J**

F	12.5	0.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
G	1.8	0.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	2.06	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.16	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

Page 675 of 1411

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## SITE EXCLUSION BOUNDARY CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 3000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.344E-06	1.262E-06	1.038E-06	8.066E-07	6.875E-07	6.226E-07
0.002	0.013	0.024	0.799	0.948	2.559	6.764	8.017	8.912	17.889
0.00014	0.00103	0.00184	0.06249	0.07415	0.20011	0.52899	0.62696	0.69693	1.39902
5.975E-07	5.890E-07	5.450E-07	4.207E-07	4.201E-07	3.585E-07	3.534E-07	3.243E-07	3.208E-07	2.422E-07
18.009	23.168	24.839	36.620	37.485	38.111	49.892	56.603	59.138	59.944
1.40835	1.81188	1.94250	2.86385	2.93149	2.98048	3.90182	4.42664	4.62491	4.68788
2.388E-07	1.925E-07	1.867E-07	1.841E-07	1.833E-07	1.729E-07	1.415E-07	1.301E-07	1.038E-07	1.003E-07
75.930	81.836	82.194	84.520	84.908	84.938	87.622	92.633	92.872	93.587
5.93812	6.39996	6.42795	6.60988	6.64021	6.64254	6.85247	7.24433	7.26299	7.31897
8.148E-08	8.032E-08	7.011E-08	6.449E-08	5.404E-08	3.010E-08	2.358E-08	1.806E-08	1.220E-08	9.405E-09
93.766	94.035	94.661	95.049	95.466	96.659	96.719	98.777	99.940	99.970
7.33297	7.35396	7.40294	7.43326	7.46592	7.55922	7.56389	7.72483	7.81580	7.81813
4.104E-09									
100.000									
7.82046									

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
 ORDERED X/Q-FREQUENCY VALUES, AND AS  
 PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.528  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 1.810  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.621  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.934  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 6.636

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
13	1	-11.07050	-17.02495	-1.26976
13	2	-13.77855	-16.91227	-1.22569
13	3	-14.34482	-17.43370	-1.47462
13	4	-14.95230	-19.01254	-2.41288
13	5	-15.24768	-22.49907	-4.64738
13	6	-15.51202	NUMXQ(K)= 6	
		2.240E-06	0.078	1.000
		1.464E-06	0.235	3.000
		1.183E-06	0.391	5.000
		8.750E-07	0.782	10.000
		7.269E-07	1.173	15.000
		6.334E-07	1.564	20.000
		5.626E-07	1.955	25.000
		5.028E-07	2.346	30.000
		4.561E-07	2.737	35.000
		4.184E-07	3.128	40.000
		3.870E-07	3.519	45.000
		3.604E-07	3.910	50.000
		3.375E-07	4.301	55.000
		3.155E-07	4.692	60.000
		2.875E-07	5.083	65.000
		2.633E-07	5.474	70.000
		2.424E-07	5.865	75.000
		2.112E-07	6.256	80.000
		1.064E-06	0.5	6.39

ANNUAL AVERAGE = 1.02E-08

K= 13 FIVEXQ(K)= 1.064E-06 FIVEPR(K)= 6.393

FUMIGATION X/Q AT THE BOUNDARY: 1.52E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.368E-01	7.317E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.372	3.460	7.785	22.857	57.994	95.138	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS											MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS		
A	6.0	0.24	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.038E-07		
A	8.9	0.24	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	7.011E-08		
A	11.6	0.05	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	5.404E-08		
A	26.5	0.13	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	2.358E-08		
B	3.6	0.08	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	5.975E-07		
B	6.0	0.24	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	3.585E-07		
B	8.9	0.53	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	2.422E-07		
B	11.6	0.37	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.867E-07		
B	26.5	0.19	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	8.148E-08		
C	3.6	0.13	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.344E-06		
C	6.0	0.69	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	8.066E-07		
C	8.9	1.57	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	5.450E-07		
C	11.6	0.80	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	4.201E-07		
C	26.5	0.72	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.833E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	1.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	2.59	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	9.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	17.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	11.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	4.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	0.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	3.68	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	9.45	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	15.56	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	2.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.32	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	0.75	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	1.76	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	3.74	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	3.68	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
F	12.5	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07		

G	1.8	0.37	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 3000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.344E-06	1.262E-06	1.038E-06	8.066E-07	6.875E-07	6.226E-07
0.002	0.009	0.018	1.032	1.165	2.126	4.715	5.409	6.157	15.632
0.00020	0.00080	0.00155	0.09019	0.10185	0.18582	0.41208	0.47272	0.53803	1.36608
5.975E-07	5.890E-07	5.450E-07	4.207E-07	4.201E-07	3.585E-07	3.534E-07	3.243E-07	3.208E-07	2.422E-07
15.712	19.395	20.970	38.959	39.760	40.000	49.448	61.406	63.167	63.701
1.37308	1.69496	1.83258	3.40471	3.47468	3.49567	4.32139	5.36636	5.52031	5.56696
2.388E-07	1.925E-07	1.867E-07	1.841E-07	1.833E-07	1.415E-07	1.301E-07	1.038E-07	1.003E-07	8.148E-08
79.262	82.998	83.372	86.335	87.055	91.085	94.769	95.009	95.489	95.676
6.92682	7.25337	7.28603	7.54494	7.60791	7.96013	8.28201	8.30301	8.34499	8.36132
8.032E-08	7.011E-08	6.449E-08	5.404E-08	3.010E-08	2.358E-08	1.806E-08	1.220E-08	9.405E-09	
95.996	96.237	96.610	96.664	97.598	97.731	98.906	99.947	100.000	
8.38931	8.41030	8.44296	8.44762	8.52926	8.54092	8.64356	8.73452	8.73919	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.090

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.693



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 3.472  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.517  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 6.923  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 7.604

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
14	1	-11.07050	-17.09216	-1.30589
14	2	-13.01641	-17.16515	-1.32927
14	3	-14.34482	-16.68710	-1.10396
14	4	-14.68275	-16.91855	-1.23144
14	5	-14.95230	-19.04797	-2.56507
14	6	-15.24768	-23.18534	-5.35766
14	7	-15.51202	NUMXQ(K) = 7	
		2.251E-06	0.087	1.000
		1.436E-06	0.262	3.000
		1.146E-06	0.437	5.000
		8.269E-07	0.874	10.000
		6.743E-07	1.311	15.000
		5.810E-07	1.748	20.000
		5.250E-07	2.185	25.000
		4.819E-07	2.622	30.000
		4.474E-07	3.059	35.000
		4.187E-07	3.496	40.000
		3.918E-07	3.933	45.000
		3.687E-07	4.370	50.000
		3.487E-07	4.807	55.000
		3.310E-07	5.244	60.000
		3.094E-07	5.680	65.000
		2.812E-07	6.117	70.000
		2.569E-07	6.554	75.000
		2.327E-07	6.991	80.000
		1.962E-07	7.428	85.000
		1.078E-06	0.5	5.72

ANNUAL AVERAGE = 1.20E-08

K= 14 FIVEXQ(K)= 1.078E-06 FIVEPR(K)= 5.721

FUMIGATION X/Q AT THE BOUNDARY: 1.52E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.368E-01	7.317E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.667	2.082	6.005	16.423	63.481	96.423	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	6.0	0.04	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.038E-07			
A	8.9	0.06	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	7.011E-08			
A	26.5	0.02	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	2.358E-08			
B	3.6	0.08	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	5.975E-07			
B	6.0	0.04	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	3.585E-07			
B	8.9	0.19	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	2.422E-07			
B	11.6	0.08	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.867E-07			
C	3.6	0.06	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.344E-06			
C	6.0	0.55	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	8.066E-07			
C	8.9	0.74	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	5.450E-07			
C	11.6	0.59	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	4.201E-07			
C	26.5	0.13	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.833E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	0.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	4.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	11.52	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	22.08	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	11.54	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	3.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	0.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	3.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	11.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	13.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	1.89	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.13	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.00	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.78	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	1.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.49	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	1.95	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

SE SECTOR BOUNDARY DISTANCE = 3000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.344E-06	1.262E-06	1.038E-06	8.066E-07	6.875E-07	6.226E-07
0.002	0.008	0.014	0.779	0.843	1.671	5.772	6.324	6.877	18.392
0.00019	0.00084	0.00154	0.08551	0.09251	0.18347	0.63365	0.69430	0.75494	2.01917
5.975E-07	5.890E-07	5.450E-07	4.207E-07	4.201E-07	3.585E-07	3.534E-07	3.243E-07	3.208E-07	2.422E-07
18.477	22.089	22.833	44.908	45.503	45.545	56.572	68.109	70.106	70.297
2.02850	2.42503	2.50667	4.93016	4.99547	5.00014	6.21072	7.47728	7.69654	7.71753
2.388E-07	1.925E-07	1.867E-07	1.841E-07	1.833E-07	1.415E-07	1.301E-07	1.038E-07	8.032E-08	7.011E-08
84.129	87.911	87.996	89.887	90.014	93.923	95.836	95.878	96.006	96.069
9.23600	9.65119	9.66052	9.86812	9.88211	10.31130	10.52122	10.52589	10.53988	10.54688
6.449E-08	3.010E-08	2.358E-08	1.806E-08	1.220E-08					
96.346	97.833	97.854	99.809	100.000					
10.57720	10.74048	10.74281	10.95740	10.97840					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 2.017  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 4.992

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 7.693  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 9.233

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
15	1	-11.07050	-16.85513	-1.25144
15	2	-14.28938	-15.76828	-0.72133
15	3	-14.34482	-16.37957	-1.03110
15	4	-14.68275	-16.70270	-1.22745
15	5	-14.95230	-19.18667	-2.96931
15	6	-15.24768	NUMXQ(K)= 6	
		2.210E-06	0.110	1.000
		1.435E-06	0.329	3.000
		1.155E-06	0.549	5.000
		8.421E-07	1.098	10.000
		6.908E-07	1.647	15.000
		6.071E-07	2.196	20.000
		5.576E-07	2.745	25.000
		5.132E-07	3.294	30.000
		4.774E-07	3.842	35.000
		4.477E-07	4.391	40.000
		4.224E-07	4.940	45.000
		3.970E-07	5.489	50.000
		3.744E-07	6.038	55.000
		3.546E-07	6.587	60.000
		3.370E-07	7.136	65.000
		3.212E-07	7.685	70.000
		2.881E-07	8.234	75.000
		2.594E-07	8.783	80.000
		1.202E-06	0.5	4.55

ANNUAL AVERAGE = 1.59E-08

K= 15 FIVEXQ(K)= 1.202E-06 FIVEPR(K)= 4.554

FUMIGATION X/Q AT THE BOUNDARY: 1.52E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.368E-01	7.317E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.127	0.531	2.613	10.863	64.767	96.091	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS			
A	3.6	0.02	3000.	0.	131.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.729E-07	
A	6.0	0.17	3000.	0.	131.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.038E-07	
A	8.9	0.32	3000.	0.	131.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	7.011E-08	
A	11.6	0.02	3000.	0.	131.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	5.404E-08	
A	26.5	0.02	3000.	0.	131.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	2.358E-08	
B	3.6	0.06	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	5.975E-07	
B	6.0	0.48	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	3.585E-07	
B	8.9	0.71	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	2.422E-07	
B	11.6	0.11	3000.	0.	131.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.867E-07	
C	3.6	0.48	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.344E-06	
C	6.0	2.16	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	8.066E-07	
C	8.9	2.01	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	5.450E-07	
C	11.6	0.37	3000.	0.	131.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	4.201E-07	
D	0.2	0.00	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	1.08	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	8.31	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	20.04	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	19.82	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	5.23	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	1.36	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.01	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	0.73	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	4.38	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	11.10	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	10.11	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.93	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.22	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	0.48	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	2.09	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	2.72	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	0.69	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
F	12.5	0.11	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07	

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	28.5	0.02	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 3000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.344E-06	1.262E-06	1.038E-06	8.066E-07	6.875E-07	6.226E-07
0.002	0.008	0.013	1.093	1.568	2.302	10.617	12.776	13.251	33.292
0.00026	0.00083	0.00142	0.11805	0.16936	0.24867	1.14669	1.37994	1.43126	3.59584
5.975E-07	5.890E-07	5.450E-07	4.207E-07	4.201E-07	3.585E-07	3.534E-07	3.243E-07	3.208E-07	2.422E-07
33.356	37.740	39.749	59.573	59.940	60.416	71.516	76.742	78.836	79.549
3.60284	4.07634	4.29327	6.43452	6.47418	6.52549	7.72441	8.28888	8.51513	8.59211
2.388E-07	1.925E-07	1.867E-07	1.841E-07	1.729E-07	1.415E-07	1.301E-07	1.038E-07	1.003E-07	8.032E-08
89.656	92.377	92.485	93.413	93.435	94.795	95.487	95.659	95.767	95.983
9.68373	9.97763	9.98929	10.08959	10.09192	10.23887	10.31351	10.33217	10.34383	10.36716
7.011E-08	6.449E-08	5.404E-08	3.010E-08	2.358E-08	1.806E-08	1.220E-08	4.104E-09		
96.307	96.717	96.739	98.013	98.035	99.870	99.978	100.000		
10.40215	10.44647	10.44880	10.58642	10.58875	10.78701	10.79868	10.80101		

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 3.593  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 6.470



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 8.512  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 9.680  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 10.087

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)	
16	1	-11.07050	-16.39345	-1.16890	
16	2	-14.28938	-16.01698	-0.95975	
16	3	-14.34482	-16.95189	-1.49635	
16	4	-14.68275	-17.50211	-1.85919	
16	5	-14.95230	-20.61899	-4.13186	
16	6	-15.24768	-29.74677	-11.15336	
16	7	-15.50797	NUMXQ(K)= 7		
		2.739E-06	0.108		1.000
		1.831E-06	0.324		3.000
		1.495E-06	0.540		5.000
		1.114E-06	1.080		10.000
		9.262E-07	1.620		15.000
		8.072E-07	2.160		20.000
		7.224E-07	2.700		25.000
		6.577E-07	3.240		30.000
		6.091E-07	3.780		35.000
		5.655E-07	4.320		40.000
		5.199E-07	4.860		45.000
		4.815E-07	5.401		50.000
		4.485E-07	5.941		55.000
		4.197E-07	6.481		60.000
		3.886E-07	7.021		65.000
		3.614E-07	7.561		70.000
		3.374E-07	8.101		75.000
		3.104E-07	8.641		80.000
		2.702E-07	9.181		85.000
		2.331E-07	9.721		90.000
		1.543E-06	0.5		4.63

ANNUAL AVERAGE = 2.19E-08

K= 16 FIVEXQ(K)= 1.543E-06 FIVEPR(K)= 4.629

FUMIGATION X/Q AT THE BOUNDARY: 1.52E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.368E-01	7.317E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.561	1.922	6.932	13.028	68.876	96.350	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE METERS	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	1.7	0.01	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	3.706E-07		
A	3.6	0.51	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.729E-07		
A	6.0	0.53	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	1.038E-07		
A	8.9	0.28	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	7.011E-08		
A	11.6	0.06	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	5.404E-08		
A	26.5	0.03	3000.	0.	131.	505.2	1000.0	0.0	0.000E+00	0.000E+00	2.358E-08		
B	1.7	0.05	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.280E-06		
B	3.6	0.47	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	5.975E-07		
B	6.0	0.54	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	3.585E-07		
B	8.9	0.44	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	2.422E-07		
B	11.6	0.12	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	1.867E-07		
B	26.5	0.03	3000.	0.	131.	379.9	363.6	0.0	0.000E+00	0.000E+00	8.148E-08		
C	1.7	0.08	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	2.881E-06		
C	3.6	0.77	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.344E-06		
C	6.0	1.33	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	8.066E-07		
C	8.9	1.04	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	5.450E-07		
C	11.6	0.30	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	4.201E-07		
C	26.5	0.13	3000.	0.	131.	288.5	166.2	0.0	0.000E+00	0.000E+00	1.833E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	2.07	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	9.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	15.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	12.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	4.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	1.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	1.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	8.90	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	9.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	1.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		

**Calculation No. PM-1055 Revision 0****Attachment J**

F	3.9	3.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.16	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
F	28.5	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08
G	1.8	0.43	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.14	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.31	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.01	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.00	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

**Page 691 of 1411**

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 3000.0 METERS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED:

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.881E-06	2.224E-06	1.344E-06	1.280E-06	1.262E-06	1.038E-06	8.066E-07
0.005	0.019	0.030	0.107	2.174	2.939	2.986	4.952	14.343	15.672
0.00467	0.01866	0.03032	0.10730	2.17391	2.93898	2.98563	4.95195	14.34269	15.67223
6.875E-07	6.226E-07	5.975E-07	5.890E-07	5.450E-07	4.207E-07	4.201E-07	3.706E-07	3.585E-07	3.534E-07
16.682	32.401	32.872	41.768	42.811	55.041	55.344	55.351	55.894	69.740
16.68221	32.40110	32.87226	41.76851	42.81115	55.04058	55.34380	55.35080	55.89428	69.74014
3.243E-07	3.208E-07	2.422E-07	2.388E-07	1.925E-07	1.867E-07	1.841E-07	1.833E-07	1.729E-07	1.415E-07
73.981	77.123	77.563	87.089	90.607	90.728	92.023	92.149	92.662	94.050
73.98067	77.12259	77.56344	87.08946	90.60691	90.72820	92.02275	92.14870	92.66186	94.04971
1.301E-07	1.038E-07	1.003E-07	8.148E-08	8.032E-08	7.011E-08	6.449E-08	5.404E-08	4.375E-08	3.010E-08
95.603	96.135	96.296	96.331	96.559	96.837	97.271	97.329	97.341	98.514
95.60317	96.13499	96.29594	96.33092	96.55951	96.83708	97.27094	97.32925	97.34091	98.51417
2.358E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54216	99.67810	99.98599	99.99532	99.99998					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.

THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q      WITH RESPECT TO      WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

3.452E-06	1.000	1.000
2.258E-06	3.000	3.000
1.803E-06	5.000	5.000
1.276E-06	10.000	10.000
1.018E-06	15.000	15.000
8.952E-07	20.000	20.000
8.016E-07	25.000	25.000
7.259E-07	30.000	30.000
6.622E-07	35.000	35.000
6.070E-07	40.000	40.000
5.589E-07	45.000	45.000
5.158E-07	50.000	50.000
4.761E-07	55.000	55.000
4.388E-07	60.000	60.000
4.033E-07	65.000	65.000
3.690E-07	70.000	70.000
3.352E-07	75.000	75.000
2.976E-07	80.000	80.000
2.566E-07	85.000	85.000
2.075E-07	90.000	90.000
1.803E-06	5.0	5.00

K= 17 FIVEXQ(K)= 1.803E-06 FIVEPR(K)= 5.000

FUMIGATION X/Q AT THE BOUNDARY: 1.52E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.368E-01	7.317E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.416	3.074	6.718	16.125	61.163	96.935	100.000

**Calculation No. PM-1055 Revision 0****Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.881E-06	2.224E-06	1.344E-06	1.280E-06	1.262E-06	1.038E-06	8.066E-07
0.005	0.019	0.030	0.107	2.174	2.939	2.986	4.952	14.343	15.672
0.00467	0.01866	0.03032	0.10730	2.17391	2.93898	2.98563	4.95195	14.34270	15.67224
6.875E-07	6.226E-07	5.975E-07	5.890E-07	5.450E-07	4.207E-07	4.201E-07	3.706E-07	3.585E-07	3.534E-07
16.682	32.401	32.872	41.769	42.811	55.041	55.344	55.351	55.894	69.740
16.68222	32.40110	32.87227	41.76852	42.81116	55.04059	55.34381	55.35081	55.89429	69.74016
3.243E-07	3.208E-07	2.422E-07	2.388E-07	1.925E-07	1.867E-07	1.841E-07	1.833E-07	1.729E-07	1.415E-07
73.981	77.123	77.563	87.089	90.607	90.728	92.023	92.149	92.662	94.050
73.98068	77.12260	77.56346	87.08949	90.60693	90.72823	92.02279	92.14875	92.66190	94.04974
1.301E-07	1.038E-07	1.003E-07	8.148E-08	8.032E-08	7.011E-08	6.449E-08	5.404E-08	4.375E-08	3.010E-08
95.603	96.135	96.296	96.331	96.560	96.837	97.271	97.329	97.341	98.514
95.60320	96.13503	96.29597	96.33096	96.55956	96.83711	97.27095	97.32925	97.34092	98.51418
2.358E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54217	99.67809	99.98599	99.99532	99.99999					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q      WITH RESPECT TO      WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
18	1	-11.07050	-14.79329	-0.95274
18	2	-13.77855	-14.48178	-0.66027
18	3	-14.34482	-14.47745	-0.63940
18	4	-14.95230	-14.38701	-0.76119
18	5	-15.24768	-14.19785	-0.92848
18	6	-15.51202	NUMXQ(K)= 6	
		3.452E-06	1.000	1.000
		2.258E-06	3.000	3.000
		1.803E-06	5.000	5.000
		1.276E-06	10.000	10.000
		1.018E-06	15.000	15.000
		8.952E-07	20.000	20.000
		8.016E-07	25.000	25.000
		7.259E-07	30.000	30.000
		6.622E-07	35.000	35.000
		6.070E-07	40.000	40.000
		5.589E-07	45.000	45.000
		5.158E-07	50.000	50.000
		4.761E-07	55.000	55.000
		4.388E-07	60.000	60.000
		4.033E-07	65.000	65.000
		3.690E-07	70.000	70.000
		3.352E-07	75.000	75.000
		2.976E-07	80.000	80.000
		2.566E-07	85.000	85.000
		2.075E-07	90.000	90.000
		1.803E-06	5.0	5.00

K= 18 FIVEXQ(K)= 1.803E-06 FIVEPR(K)= 5.000

K	HIGHPR	PR	GRNDVT(K)
1	-2.72372	0.32276	6.21119
2	-1.62492	5.20893	3.52599
3	-2.63716	0.41802	3.10868
4	-2.57624	0.49942	3.53145
5	-2.59196	0.47715	4.76778
6	-2.68629	0.36126	4.27759
7	-2.74725	0.30049	5.37148
8	-2.84056	0.22518	5.07527
9	-2.77212	0.27847	10.00153
10	-2.92641	0.17146	5.86355
11	-2.93666	0.16589	4.96796
12	-3.01506	0.12847	4.95848
13	-2.97677	0.14566	7.82046
14	-2.94898	0.15942	8.73919
15	-2.88466	0.19592	10.97840
16	-2.69338	0.35366	10.80101

Calculation No. PM-1055 Revision 0

Attachment J

K	HOURS (K)	TOTHR
1	28.27370	28.27370
2	456.30200	484.57570
3	36.61849	521.19420
4	43.74879	564.94300
5	41.79861	606.74160
6	31.64670	638.38830
7	26.32300	664.71130
8	19.72580	684.43710
9	24.39370	708.83080
10	15.01978	723.85060
11	14.53211	738.38270
12	11.25413	749.63680
13	12.75998	762.39680
14	13.96507	776.36190
15	17.16263	793.52450
16	30.98046	824.50500

K	FIVEXQ	SVANN	SLTIME	TIMINT	I	TIME	XQT
1	1.479E-06	1.428E-08	-0.5535	-13.0402	1	8.0	-14.19107
					2	16.0	-14.57469
					3	72.0	-15.40712
					4	624.0	-16.60229
2	1.301E-06	1.016E-08	-0.5787	-13.1513	1	8.0	-14.35475
					2	16.0	-14.75589
					3	72.0	-15.62633
					4	624.0	-16.87607
3	1.591E-06	1.159E-08	-0.5870	-12.9442	1	8.0	-14.16475
					2	16.0	-14.57160
					3	72.0	-15.45444
					4	624.0	-16.72198
4	1.769E-06	1.449E-08	-0.5730	-12.8480	1	8.0	-14.03953
					2	16.0	-14.43672
					3	72.0	-15.29859
					4	624.0	-16.53602
5	1.735E-06	1.635E-08	-0.5563	-12.8788	1	8.0	-14.03557
					2	16.0	-14.42116
					3	72.0	-15.25785
					4	624.0	-16.45914
6	1.543E-06	1.328E-08	-0.5671	-12.9886	1	8.0	-14.16792
					2	16.0	-14.56101
					3	72.0	-15.41399
					4	624.0	-16.63866
7	1.443E-06	1.256E-08	-0.5658	-13.0563	1	8.0	-14.23289
					2	16.0	-14.62507
					3	72.0	-15.47607



Calculation No. PM-1055 Revision 0

Attachment J

8	1.283E-06	9.739E-09	-0.5820	-13.1633	4	624.0	-16.69790
					1	8.0	-14.37356
					2	16.0	-14.77700
					3	72.0	-15.65242
					4	624.0	-16.90932
9	1.400E-06	1.665E-08	-0.5286	-13.1124	1	8.0	-14.21153
					2	16.0	-14.57790
					3	72.0	-15.37289
					4	624.0	-16.51431
					10	1.155E-06	9.035E-09
					2	16.0	-14.87410
					3	72.0	-15.74428
					4	624.0	-16.99365
					11	1.119E-06	7.497E-09
					2	16.0	-14.94477
					3	72.0	-15.84259
					4	624.0	-17.13165
					12	1.008E-06	6.167E-09
					2	16.0	-15.07153
					3	72.0	-15.98569
					4	624.0	-17.29819
					13	1.064E-06	1.020E-08
					2	16.0	-14.90621
					3	72.0	-15.73980
					4	624.0	-16.93664
					14	1.078E-06	1.200E-08
					2	16.0	-14.85610
					3	72.0	-15.66293
					4	624.0	-16.82135
					15	1.202E-06	1.590E-08
					2	16.0	-14.70396
					3	72.0	-15.47995
					4	624.0	-16.59407
					16	1.543E-06	2.188E-08
					2	16.0	-14.43743
					3	72.0	-15.20076
					4	624.0	-16.29673
					17	1.803E-06	2.188E-08
					2	16.0	-14.31992
					3	72.0	-15.11128
					4	624.0	-16.24749
					18	1.803E-06	2.188E-08

2	16.0	-14.31992
3	72.0	-15.11128
4	624.0	-16.24749

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
VERSUS  
AVERAGING TIME

DOWNWIND SECTOR	DISTANCE (METERS)	RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)					HOURS PER YEAR MAX		DOWNWIND SECTOR
		0-2 HOURS	0-8 HOURS	8-24 HOURS	1-4 DAYS	4-30 DAYS	ANNUAL AVERAGE	0-2 HR X/Q IS EXCEEDED IN SECTOR	
S	3000.	1.48E-06	6.87E-07	4.68E-07	2.04E-07	6.16E-08	1.43E-08	28.3	S
SSW	3000.	1.30E-06	5.83E-07	3.90E-07	1.64E-07	4.69E-08	1.02E-08	456.3	SSW
SW	3000.	1.59E-06	7.05E-07	4.69E-07	1.94E-07	5.47E-08	1.16E-08	36.6	SW
WSW	3000.	1.77E-06	7.99E-07	5.37E-07	2.27E-07	6.58E-08	1.45E-08	43.7	WSW
W	3000.	1.74E-06	8.02E-07	5.46E-07	2.36E-07	7.11E-08	1.64E-08	41.8	W
WNW	3000.	1.54E-06	7.03E-07	4.74E-07	2.02E-07	5.94E-08	1.33E-08	31.6	WNW
NW	3000.	1.44E-06	6.59E-07	4.45E-07	1.90E-07	5.60E-08	1.26E-08	26.3	NW
NNW	3000.	1.28E-06	5.72E-07	3.82E-07	1.59E-07	4.53E-08	9.74E-09	19.7	NNW
N	3000.	1.40E-06	6.73E-07	4.67E-07	2.11E-07	6.73E-08	1.67E-08	24.4	N
NNE	3000.	1.16E-06	5.18E-07	3.47E-07	1.45E-07	4.17E-08	9.03E-09	15.0	NNE
NE	3000.	1.12E-06	4.89E-07	3.23E-07	1.32E-07	3.63E-08	7.50E-09	14.5	NE
ENE	3000.	1.01E-06	4.34E-07	2.85E-07	1.14E-07	3.07E-08	6.17E-09	11.3	ENE
E	3000.	1.06E-06	4.93E-07	3.36E-07	1.46E-07	4.41E-08	1.02E-08	12.8	E
ESE	3000.	1.08E-06	5.12E-07	3.53E-07	1.58E-07	4.95E-08	1.20E-08	14.0	ESE
SE	3000.	1.20E-06	5.88E-07	4.11E-07	1.89E-07	6.21E-08	1.59E-08	17.2	SE
SSE	3000.	1.54E-06	7.63E-07	5.37E-07	2.50E-07	8.36E-08	2.19E-08	31.0	SSE
MAX X/Q		1.77E-06						TOTAL HOURS AROUND SITE: 824.5	
SRP 2.3.4	3000.	1.80E-06	8.70E-07	6.04E-07	2.74E-07	8.79E-08	2.19E-08		
SITE LIMIT		1.80E-06	8.70E-07	6.04E-07	2.74E-07	8.79E-08	2.19E-08		

THE FIVE-PERCENT-FOR-THE-ENTIRE-SITE X/Q IS LIMITING.

X/Q VALUES (SEC/CUBIC METER) FOR FUMIGATION AT THE BOUNDARY:

DOWNWIND DISTANCE FUMIGATION

SECTOR	(METERS)	X/Q
S	3000.	1.52E-05
SSW	3000.	1.52E-05
SW	3000.	1.52E-05
WSW	3000.	1.52E-05
W	3000.	1.52E-05
WNW	3000.	1.52E-05
NW	3000.	1.52E-05
NNW	3000.	1.52E-05
N	3000.	1.52E-05
NNE	3000.	1.52E-05
NE	3000.	1.52E-05
ENE	3000.	1.52E-05
E	3000.	1.52E-05

**Calculation No. PM-1055 Revision 0**

**Attachment J**

ESE	3000.	1.52E-05
SE	3000.	1.52E-05
SSE	3000.	1.52E-05

**\*\*NOTE\*\***: VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
CHECK THE REASONABLENESS OF THE ENVELOPES  
COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	3.6	0.23	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.334E-07				
A	8.9	0.08	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	5.407E-08				
A	11.6	0.08	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	4.168E-08				
B	3.6	0.49	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	3.469E-07				
B	6.0	0.15	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	2.082E-07				
B	8.9	0.38	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.406E-07				
B	11.6	0.04	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.084E-07				
C	3.6	1.16	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	9.062E-07				
C	6.0	1.58	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	5.437E-07				
C	8.9	0.68	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	3.674E-07				
C	11.6	0.15	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	2.832E-07				
C	26.5	0.04	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	1.236E-07				
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	2.22	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	12.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	19.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	14.87	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	2.74	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.56	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	2.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	8.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	13.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	5.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	0.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	3.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	3.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	0.15	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
F	12.5	0.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07				
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08				

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	1.77	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

S SECTOR BOUNDARY DISTANCE = 4000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.262E-06	1.038E-06	9.062E-07	6.875E-07	6.226E-07	5.890E-07
0.005	0.021	0.032	2.248	4.501	16.894	18.058	19.034	38.600	47.425
0.00031	0.00131	0.00201	0.13963	0.27958	1.04931	1.12162	1.18226	2.39751	2.94565
5.437E-07	4.207E-07	3.674E-07	3.534E-07	3.469E-07	3.243E-07	3.208E-07	2.832E-07	2.388E-07	2.082E-07
49.002	63.873	64.549	78.332	78.820	81.561	85.279	85.429	91.288	91.438
3.04362	3.96730	4.00928	4.86532	4.89564	5.06592	5.29684	5.30617	5.67004	5.67937
1.925E-07	1.841E-07	1.415E-07	1.406E-07	1.334E-07	1.301E-07	1.236E-07	1.084E-07	1.003E-07	8.032E-08
94.480	95.343	95.907	96.282	96.507	96.658	96.695	96.733	96.770	97.033
5.86831	5.92195	5.95694	5.98027	5.99426	6.00359	6.00592	6.00826	6.01059	6.02692
6.449E-08	5.407E-08	4.168E-08	3.010E-08	1.806E-08	1.220E-08				
97.446	97.521	97.597	99.362	99.962	100.000				
6.05258	6.05724	6.06190	6.17153	6.20885	6.21119				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.048  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 2.943

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.862  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.293  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 5.666  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 5.918

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
1	1	-11.07050	-16.60723	-1.22524
1	2	-13.77855	-16.89560	-1.35015
1	3	-14.34482	-18.52547	-2.21285
1	4	-14.85564	-18.73314	-2.33807
1	5	-14.95230	-29.14655	-8.77772
1	6	-15.24768	-34.20506	-11.97239
1	7	-15.50797	NUMXQ(K)= 7	
		3.206E-06	0.062	1.000
		2.143E-06	0.186	3.000
		1.753E-06	0.311	5.000
		1.312E-06	0.621	10.000
		1.096E-06	0.932	15.000
		9.512E-07	1.242	20.000
		8.453E-07	1.553	25.000
		7.654E-07	1.863	30.000
		7.023E-07	2.174	35.000
		6.507E-07	2.484	40.000
		6.076E-07	2.795	45.000
		5.594E-07	3.106	50.000
		5.090E-07	3.416	55.000
		4.663E-07	3.727	60.000
		4.297E-07	4.037	65.000
		3.979E-07	4.348	70.000
		3.701E-07	4.658	75.000
		3.451E-07	4.969	80.000
		3.221E-07	5.280	85.000
		2.541E-07	5.590	90.000
		1.440E-06	0.5	8.05

ANNUAL AVERAGE = 1.62E-08

K= 1 FIVEXQ(K)= 1.440E-06 FIVEPR(K)= 8.050

FUMIGATION X/Q AT THE BOUNDARY: 1.17E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.658E-01	8.311E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.376	1.427	5.032	12.967	65.322	97.183	100.000



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS									CA=1292.SQ.METERS		
A	3.6	0.60	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.334E-07
A	6.0	0.60	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	8.002E-08
A	8.9	0.26	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	5.407E-08
A	11.6	0.13	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	4.168E-08
B	1.7	0.13	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	7.434E-07
B	3.6	1.52	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	3.469E-07
B	6.0	0.99	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	2.082E-07
B	8.9	0.20	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.406E-07
B	11.6	0.13	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.084E-07
C	1.7	0.33	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	1.942E-06
C	3.6	1.46	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	9.062E-07
C	6.0	1.26	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	5.437E-07
C	8.9	0.53	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	3.674E-07
C	11.6	0.07	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	2.832E-07
C	26.5	0.26	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	1.236E-07
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	3.84	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	13.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	23.09	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	10.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	1.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	0.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	2.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	10.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	13.30	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	2.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	0.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.26	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	2.51	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	0.07	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07

G	1.8	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.26	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSW SECTOR BOUNDARY DISTANCE = 4000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.942E-06	1.262E-06	1.038E-06	9.062E-07	7.434E-07	6.875E-07
0.009	0.029	0.044	3.881	4.211	7.122	21.080	22.536	22.668	23.925
0.00031	0.00104	0.00155	0.13683	0.14850	0.25113	0.74329	0.79461	0.79927	0.84359
6.226E-07	5.890E-07	5.437E-07	4.207E-07	3.674E-07	3.534E-07	3.469E-07	3.243E-07	3.208E-07	2.832E-07
47.012	57.861	59.118	69.305	69.835	83.131	84.653	86.439	88.953	89.019
1.65764	2.04017	2.08449	2.44370	2.46236	2.93120	2.98485	3.04782	3.13646	3.13879
2.388E-07	2.082E-07	1.925E-07	1.841E-07	1.415E-07	1.406E-07	1.334E-07	1.301E-07	1.236E-07	1.084E-07
91.533	92.525	94.179	94.708	95.171	95.369	95.965	96.031	96.295	96.428
3.22743	3.26242	3.32073	3.33939	3.35572	3.36272	3.38371	3.38604	3.39537	3.40004
8.032E-08	8.002E-08	6.449E-08	5.407E-08	4.168E-08	3.010E-08	1.806E-08			
96.494	97.089	98.015	98.280	98.412	99.669	100.000			
3.40237	3.42336	3.45602	3.46535	3.47001	3.51433	3.52599			

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.137  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 0.742

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.038  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.982  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.134  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 3.336

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
2	1	-11.07050	-16.83622	-1.27489
2	2	-13.01641	-17.09323	-1.36067
2	3	-13.77855	-17.31472	-1.45159
2	4	-14.34482	-21.00876	-3.25712
2	5	-14.87415	-21.58800	-3.56467
2	6	-14.95230	-51.87828	-19.83645
2	7	-15.50797	NUMXQ(K)= 7	
		3.663E-06	0.035	1.000
		2.455E-06	0.106	3.000
		1.999E-06	0.176	5.000
		1.475E-06	0.353	10.000
		1.223E-06	0.529	15.000
		1.065E-06	0.705	20.000
		9.479E-07	0.881	25.000
		8.587E-07	1.058	30.000
		7.884E-07	1.234	35.000
		7.311E-07	1.410	40.000
		6.832E-07	1.587	45.000
		6.425E-07	1.763	50.000
		6.072E-07	1.939	55.000
		5.608E-07	2.116	60.000
		5.027E-07	2.292	65.000
		4.538E-07	2.468	70.000
		4.120E-07	2.644	75.000
		3.761E-07	2.821	80.000
		3.447E-07	2.997	85.000
		2.894E-07	3.173	90.000
		1.256E-06	0.5	14.18

ANNUAL AVERAGE = 1.11E-08

K= 2 FIVEVQ(K)= 1.256E-06 FIVEPR(K)=14.180

FUMIGATION X/Q AT THE BOUNDARY: 1.17E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.658E-01	8.311E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.588	4.565	8.467	13.973	67.300	97.486	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	1.73	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.334E-07		
A	6.0	1.50	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	8.002E-08		
A	8.9	0.68	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	5.407E-08		
B	1.7	0.15	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	7.434E-07		
B	3.6	1.35	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	3.469E-07		
B	6.0	0.98	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	2.082E-07		
B	8.9	0.15	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.406E-07		
B	11.6	0.08	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.084E-07		
C	1.7	0.90	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	1.942E-06		
C	3.6	2.10	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	9.062E-07		
C	6.0	0.68	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	5.437E-07		
C	8.9	0.30	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	3.674E-07		
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	8.10	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	17.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	18.83	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	6.38	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.90	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.70	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	11.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	11.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	1.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.60	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.08	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	2.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
G	1.8	0.83	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.65	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		

G 6.5 0.30 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 4000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.942E-06	1.262E-06	1.038E-06	9.062E-07	7.434E-07	6.875E-07
0.018	0.038	0.057	8.160	9.060	11.762	29.619	31.720	31.870	33.521
0.00057	0.00117	0.00176	0.25367	0.28166	0.36563	0.92077	0.98608	0.99075	1.04206
6.226E-07	5.890E-07	5.437E-07	4.207E-07	3.674E-07	3.534E-07	3.469E-07	3.243E-07	3.208E-07	2.388E-07
52.354	63.609	64.284	70.662	70.962	82.667	84.018	84.993	87.545	89.495
1.62753	1.97741	1.99840	2.19666	2.20599	2.56987	2.61185	2.64218	2.72148	2.78213
2.082E-07	1.925E-07	1.841E-07	1.415E-07	1.406E-07	1.334E-07	1.301E-07	1.084E-07	8.032E-08	8.002E-08
90.471	91.446	92.047	92.947	93.097	94.823	94.898	94.973	95.048	96.549
2.81245	2.84277	2.86143	2.88942	2.89409	2.94774	2.95007	2.95240	2.95474	3.00139
6.449E-08	5.407E-08	3.010E-08	1.806E-08						
97.374	98.049	99.700	100.000						
3.02704	3.04804	3.09935	3.10868						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.253  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.920

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.975  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.719  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 2.945

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)	
3	1	-11.07050	-16.45404	-1.22654	
3	2	-13.01641	-17.81539	-1.71227	
3	3	-13.77855	-18.24778	-1.89567	
3	4	-14.34482	-23.60605	-4.49819	
3	5	-14.95230	-63.37848	-25.17179	
3	6	-15.83020	NUMXQ(K)= 6		
		4.753E-06	0.031		1.000
		3.246E-06	0.093		3.000
		2.687E-06	0.155		5.000
		1.985E-06	0.311		10.000
		1.572E-06	0.466		15.000
		1.324E-06	0.622		20.000
		1.154E-06	0.777		25.000
		1.028E-06	0.933		30.000
		9.215E-07	1.088		35.000
		8.364E-07	1.243		40.000
		7.668E-07	1.399		45.000
		7.086E-07	1.554		50.000
		6.591E-07	1.710		55.000
		6.164E-07	1.865		60.000
		5.658E-07	2.021		65.000
		4.925E-07	2.176		70.000
		4.322E-07	2.332		75.000
		3.820E-07	2.487		80.000
		3.398E-07	2.642		85.000
		2.370E-07	2.798		90.000
		1.509E-06	0.5		16.08

ANNUAL AVERAGE = 1.25E-08

K= 3 FIVEXQ(K)= 1.509E-06 FIVEPR(K)=16.084

FUMIGATION X/Q AT THE BOUNDARY: 1.17E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.658E-01	8.311E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
3.902	6.603	10.580	15.851	68.917	97.224	100.000



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292 .SQ.METERS			
A	3.6	2.58	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.334E-07				
A	6.0	1.92	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	8.002E-08				
A	8.9	1.19	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	5.407E-08				
A	11.6	0.07	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	4.168E-08				
B	1.7	0.59	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	7.434E-07				
B	3.6	1.65	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	3.469E-07				
B	6.0	0.99	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	2.082E-07				
B	8.9	0.07	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.406E-07				
C	1.7	0.99	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	1.942E-06				
C	3.6	2.44	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	9.062E-07				
C	6.0	1.12	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	5.437E-07				
C	8.9	0.20	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	3.674E-07				
D	0.2	0.02	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	7.86	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	22.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	18.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	4.43	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	0.73	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.13	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	4.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	14.46	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	6.67	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	1.92	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	0.53	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
G	1.8	0.66	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08				
G	3.9	1.25	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08				
G	6.5	0.13	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08				

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 4000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.942E-06	1.262E-06	1.038E-06	9.062E-07	7.434E-07	6.875E-07
0.018	0.046	0.066	7.926	8.917	12.946	35.139	37.583	38.177	39.894
0.00063	0.00164	0.00234	0.27991	0.31490	0.45718	1.24091	1.32721	1.34821	1.40885
6.226E-07	5.890E-07	5.437E-07	4.207E-07	3.674E-07	3.534E-07	3.469E-07	3.243E-07	3.208E-07	2.388E-07
58.256	72.721	73.844	78.270	78.468	85.139	86.790	87.517	89.432	90.159
2.05729	2.56812	2.60777	2.76405	2.77105	3.00663	3.06494	3.09060	3.15825	3.18390
2.082E-07	1.925E-07	1.841E-07	1.415E-07	1.406E-07	1.334E-07	8.032E-08	8.002E-08	6.449E-08	5.407E-08
91.149	91.678	91.942	92.074	92.140	94.716	94.782	96.697	97.358	98.547
3.21889	3.23755	3.24688	3.25155	3.25388	3.34485	3.34718	3.41482	3.43815	3.48013
4.168E-08	3.010E-08	1.806E-08							
98.613	99.868	100.000							
3.48247	3.52678	3.53145							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.280  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.239

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.566  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.155  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.342

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
4	1	-11.07050	-16.39203	-1.21828
4	2	-13.01641	-17.03007	-1.44855
4	3	-13.77855	-18.07572	-1.91439
4	4	-14.34482	-27.43738	-6.71803
4	5	-14.95230	-78.51459	-34.20189
4	6	-15.83020	NUMXQ(K) = 6	
		4.712E-06	0.035	1.000
		3.215E-06	0.106	3.000
		2.659E-06	0.177	5.000
		1.990E-06	0.353	10.000
		1.629E-06	0.530	15.000
		1.406E-06	0.706	20.000
		1.250E-06	0.883	25.000
		1.132E-06	1.059	30.000
		1.040E-06	1.236	35.000
		9.421E-07	1.413	40.000
		8.616E-07	1.589	45.000
		7.945E-07	1.766	50.000
		7.374E-07	1.942	55.000
		6.883E-07	2.119	60.000
		6.455E-07	2.295	65.000
		6.077E-07	2.472	70.000
		5.387E-07	2.649	75.000
		4.463E-07	2.825	80.000
		3.732E-07	3.002	85.000
		2.914E-07	3.178	90.000
		1.677E-06	0.5	14.16

ANNUAL AVERAGE = 1.54E-08

K= 4 FIVEXQ(K) = 1.677E-06 FIVEPR(K) = 14.158

FUMIGATION X/Q AT THE BOUNDARY: 1.17E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.658E-01	8.311E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.746	9.049	13.804	17.985	71.702	97.952	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS										MEANDER	BLDG WAKE	USED
										CA=1292.SQ.METERS		
A	1.7	0.15	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	2.858E-07	
A	3.6	4.26	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.334E-07	
A	6.0	2.25	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	8.002E-08	
A	8.9	0.34	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	5.407E-08	
B	1.7	0.24	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	7.434E-07	
B	3.6	2.74	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	3.469E-07	
B	6.0	0.59	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	2.082E-07	
B	8.9	0.05	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.406E-07	
C	1.7	0.05	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	1.942E-06	
C	3.6	2.45	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	9.062E-07	
C	6.0	0.68	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	5.437E-07	
C	8.9	0.15	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	3.674E-07	
C	11.6	0.05	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	2.832E-07	
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05	
D	1.7	5.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06	
D	3.6	21.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06	
D	6.0	16.19	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07	
D	8.9	6.46	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07	
D	11.6	1.57	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07	
D	26.5	0.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.94	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	7.88	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	2.84	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.59	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	1.66	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	0.64	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	28.5	0.20	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08	
G	1.8	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.10	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 4000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.942E-06	1.262E-06	1.038E-06	9.062E-07	7.434E-07	6.875E-07
0.013	0.034	0.051	5.677	5.726	8.661	29.943	32.389	32.634	34.150
0.00061	0.00160	0.00244	0.27068	0.27301	0.41296	1.42761	1.54424	1.55590	1.62821
6.226E-07	5.890E-07	5.437E-07	4.207E-07	3.674E-07	3.534E-07	3.469E-07	3.243E-07	3.208E-07	2.858E-07
50.344	64.189	64.874	71.331	71.478	79.355	82.094	83.660	85.323	85.470
2.40027	3.06038	3.09303	3.40093	3.40792	3.78346	3.91408	3.98872	4.06803	4.07502
2.832E-07	2.388E-07	2.082E-07	1.925E-07	1.841E-07	1.415E-07	1.406E-07	1.334E-07	8.032E-08	8.002E-08
85.519	88.356	88.943	89.579	90.167	90.558	90.607	94.863	95.842	98.092
4.07736	4.21264	4.24063	4.27096	4.29895	4.31761	4.31994	4.52287	4.56952	4.67682
6.449E-08	5.407E-08	4.375E-08	3.010E-08	1.806E-08					
98.728	99.070	99.266	99.902	100.000					
4.70714	4.72347	4.73280	4.76312	4.76779					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.270  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.426

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 3.057  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.065  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.519

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
5	1	-11.07050	-16.41263	-1.22091
5	2	-13.01641	-16.59972	-1.28817
5	3	-13.77855	-17.68273	-1.78268
5	4	-14.34482	-23.15024	-4.70272
5	5	-14.95230	-45.63967	-17.60370
5	6	-15.83020	NUMXQ(K)= 6	
		4.208E-06	0.048	1.000
		2.842E-06	0.143	3.000
		2.338E-06	0.238	5.000
		1.743E-06	0.477	10.000
		1.450E-06	0.715	15.000
		1.266E-06	0.954	20.000
		1.136E-06	1.192	25.000
		1.036E-06	1.430	30.000
		9.290E-07	1.669	35.000
		8.434E-07	1.907	40.000
		7.732E-07	2.146	45.000
		7.144E-07	2.384	50.000
		6.643E-07	2.622	55.000
		6.210E-07	2.861	60.000
		5.738E-07	3.099	65.000
		4.911E-07	3.337	70.000
		4.241E-07	3.576	75.000
		3.692E-07	3.814	80.000
		3.235E-07	4.053	85.000
		2.067E-07	4.291	90.000
		1.706E-06	0.5	10.49

ANNUAL AVERAGE = 1.77E-08

K= 5 FIVEXQ(K)= 1.706E-06 FIVEPR(K)=10.487

FUMIGATION X/Q AT THE BOUNDARY: 1.17E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.658E-01	8.311E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
6.996	10.616	13.992	18.021	69.549	98.630	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS		
A	3.6	2.40	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.334E-07			
A	6.0	2.40	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	8.002E-08			
A	8.9	0.16	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	5.407E-08			
A	11.6	0.05	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	4.168E-08			
A	26.5	0.05	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.819E-08			
B	3.6	1.58	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	3.469E-07			
B	6.0	1.36	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	2.082E-07			
B	8.9	0.11	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.406E-07			
B	11.6	0.05	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.084E-07			
C	3.6	3.54	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	9.062E-07			
C	6.0	1.42	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	5.437E-07			
C	8.9	0.22	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	3.674E-07			
C	11.6	0.11	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	2.832E-07			
D	0.2	0.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	4.69	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	16.58	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	16.79	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	7.63	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	1.42	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.11	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	3.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	10.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	14.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	3.44	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	1.15	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.25	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.84	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	1.31	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	28.5	0.05	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08			



**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 4000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.262E-06	1.038E-06	9.062E-07	6.875E-07	6.226E-07	5.890E-07
0.011	0.034	0.048	4.738	8.010	24.586	28.131	29.385	46.180	57.086
0.00045	0.00145	0.00207	0.20267	0.34262	1.05170	1.20332	1.25697	1.97538	2.44189
5.437E-07	4.207E-07	3.674E-07	3.534E-07	3.469E-07	3.243E-07	3.208E-07	2.832E-07	2.388E-07	2.082E-07
58.503	66.137	66.356	80.370	81.951	83.369	86.204	86.313	89.749	91.112
2.50254	2.82909	2.83842	3.43788	3.50552	3.56617	3.68746	3.69212	3.83907	3.89738
1.925E-07	1.841E-07	1.415E-07	1.406E-07	1.334E-07	1.301E-07	1.084E-07	8.032E-08	8.002E-08	6.449E-08
92.420	93.566	93.675	93.784	96.183	96.292	96.347	96.565	98.964	99.237
3.95337	4.00235	4.00701	4.01168	4.11431	4.11897	4.12131	4.13064	4.23327	4.24493
5.407E-08	4.375E-08	4.168E-08	3.010E-08	1.819E-08	1.806E-08				
99.400	99.455	99.509	99.836	99.891	100.000				
4.25193	4.25426	4.25659	4.27059	4.27292	4.27759				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES  
 (BASED ON THE UPPER ENVELOPE OF THE  
 ORDERED X/Q-FREQUENCY VALUES, AND AS  
 PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.202  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 1.050

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.439  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.502  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.684  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 3.999  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8)= 4.111

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
6	1	-11.07050	-16.59230	-1.24408
6	2	-13.01641	-16.88327	-1.34531
6	3	-13.77855	-17.65210	-1.67845
6	4	-14.34482	-20.91147	-3.33259
6	5	-14.87415	-21.02014	-3.39257
6	6	-14.95230	-41.27074	-14.71482
6	7	-15.50797	-59.43034	-25.08697
6	8	-15.83020	NUMXQ(K)= 8	
		3.941E-06	0.043	1.000
		2.651E-06	0.128	3.000
		2.173E-06	0.214	5.000
		1.600E-06	0.428	10.000
		1.324E-06	0.642	15.000
		1.151E-06	0.856	20.000
		1.027E-06	1.069	25.000
		9.132E-07	1.283	30.000
		8.251E-07	1.497	35.000
		7.544E-07	1.711	40.000
		6.961E-07	1.925	45.000
		6.469E-07	2.139	50.000
		6.049E-07	2.353	55.000
		5.486E-07	2.567	60.000
		4.889E-07	2.780	65.000
		4.387E-07	2.994	70.000
		3.962E-07	3.208	75.000
		3.598E-07	3.422	80.000
		3.279E-07	3.636	85.000
		2.398E-07	3.850	90.000
		1.489E-06	0.5	11.69

ANNUAL AVERAGE = 1.43E-08

K= 6 FIVEXQ(K)= 1.489E-06 FIVEPR(K)=11.689

FUMIGATION X/Q AT THE BOUNDARY: 1.17E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.658E-01	8.311E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
5.071	8.179	13.469	19.045	66.278	99.291	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	0.17	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.334E-07			
A	6.0	0.87	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	8.002E-08			
A	8.9	0.56	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	5.407E-08			
B	1.7	0.09	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	7.434E-07			
B	3.6	0.43	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	3.469E-07			
B	6.0	1.17	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	2.082E-07			
B	8.9	0.35	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.406E-07			
B	11.6	0.04	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.084E-07			
C	3.6	0.61	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	9.062E-07			
C	6.0	2.69	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	5.437E-07			
C	8.9	0.48	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	3.674E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	1.95	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	14.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	20.76	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	6.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	0.61	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.30	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.65	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	14.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	15.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	4.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.69	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.52	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.22	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	2.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.30	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			
G	6.5	0.35	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08			

G	9.6	0.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
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Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 4000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.262E-06	1.038E-06	9.062E-07	7.434E-07	6.875E-07	6.226E-07
0.004	0.023	0.037	1.991	4.640	19.361	19.969	20.056	21.272	42.029
0.00024	0.00125	0.00200	0.10697	0.24925	1.03998	1.07263	1.07730	1.14261	2.25756
5.890E-07	5.437E-07	4.207E-07	3.674E-07	3.534E-07	3.469E-07	3.243E-07	3.208E-07	2.388E-07	2.082E-07
57.010	59.702	66.694	67.171	82.326	82.761	83.368	86.886	91.141	92.314
3.06228	3.20689	3.58243	3.60809	4.42214	4.44546	4.47812	4.66705	4.89564	4.95862
1.925E-07	1.841E-07	1.415E-07	1.406E-07	1.334E-07	1.301E-07	1.084E-07	8.032E-08	8.002E-08	6.449E-08
94.398	95.093	95.397	95.744	95.918	96.222	96.265	96.787	97.655	97.829
5.07058	5.10790	5.12423	5.14289	5.15222	5.16855	5.17088	5.19887	5.24552	5.25485
5.407E-08	3.010E-08	1.806E-08	1.220E-08						
98.393	99.609	99.957	100.000						
5.28517	5.35048	5.36914	5.37148						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 1.039  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 3.059

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.419  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.663  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 5.104

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
7	1	-11.07050	-16.54423	-1.19621
7	2	-13.77855	-16.75471	-1.28724
7	3	-14.34482	-20.03426	-3.03901
7	4	-14.85564	-21.27771	-3.76871
7	5	-14.95230	-36.36005	-12.75486
7	6	-15.50797	NUMXQ(K) = 6	
		3.266E-06	0.054	1.000
		2.215E-06	0.161	3.000
		1.825E-06	0.269	5.000
		1.382E-06	0.537	10.000
		1.162E-06	0.806	15.000
		1.021E-06	1.074	20.000
		9.147E-07	1.343	25.000
		8.337E-07	1.611	30.000
		7.693E-07	1.880	35.000
		7.166E-07	2.149	40.000
		6.722E-07	2.417	45.000
		6.342E-07	2.686	50.000
		6.011E-07	2.954	55.000
		5.497E-07	3.223	60.000
		4.928E-07	3.491	65.000
		4.447E-07	3.760	70.000
		4.036E-07	4.029	75.000
		3.682E-07	4.297	80.000
		3.338E-07	4.566	85.000
		2.586E-07	4.834	90.000
		1.423E-06	0.5	9.31

ANNUAL AVERAGE = 1.43E-08

K= 7 FIVEXQ(K)= 1.423E-06 FIVEPR(K)= 9.308

FUMIGATION X/Q AT THE BOUNDARY: 1.17E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.658E-01	8.311E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.607	3.691	7.469	14.605	59.944	98.220	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS		
A	3.6	0.09	4000.	0.	131.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.334E-07
A	6.0	0.09	4000.	0.	131.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	8.002E-08
B	3.6	0.14	4000.	0.	131.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	3.469E-07
B	6.0	0.37	4000.	0.	131.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	2.082E-07
B	8.9	0.37	4000.	0.	131.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.406E-07
B	11.6	0.05	4000.	0.	131.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.084E-07
C	3.6	0.55	4000.	0.	131.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	9.062E-07
C	6.0	1.01	4000.	0.	131.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	5.437E-07
C	8.9	0.46	4000.	0.	131.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	3.674E-07
C	11.6	0.05	4000.	0.	131.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	2.832E-07
D	0.2	0.00	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	1.61	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	11.17	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	21.42	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	5.42	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	0.51	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	0.32	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.02	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	2.71	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	14.29	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	20.36	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	7.58	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	0.51	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.09	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.02	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.47	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	4.14	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.63	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	0.37	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
G	1.8	0.41	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.46	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.28	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 4000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.262E-06	1.038E-06	9.062E-07	6.875E-07	6.226E-07	5.890E-07
0.004	0.023	0.040	1.648	4.360	15.528	16.079	17.550	38.967	53.260
0.00018	0.00116	0.00203	0.08366	0.22128	0.78809	0.81608	0.89072	1.97767	2.70309
5.437E-07	4.207E-07	3.674E-07	3.534E-07	3.469E-07	3.243E-07	3.208E-07	2.832E-07	2.388E-07	2.082E-07
54.271	59.694	60.154	80.514	80.651	81.157	85.293	85.339	92.922	93.290
2.75441	3.02964	3.05297	4.08628	4.09327	4.11893	4.32886	4.33119	4.71606	4.73472
1.925E-07	1.841E-07	1.415E-07	1.406E-07	1.334E-07	1.301E-07	1.084E-07	8.032E-08	8.002E-08	6.449E-08
96.921	97.426	97.748	98.116	98.208	98.575	98.621	98.713	98.805	99.219
4.91899	4.94465	4.96097	4.97963	4.98430	5.00296	5.00529	5.00996	5.01462	5.03561
3.010E-08	1.806E-08	1.220E-08							
99.678	99.954	100.000							
5.05894	5.07293	5.07527							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 2.700  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 4.083

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 4.325  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 4.712

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
8	1	-11.07050	-16.68017	-1.21206
8	2	-14.34482	-19.64730	-2.75201
8	3	-14.85564	-21.08134	-3.57563
8	4	-14.95230	-27.38730	-7.25447
8	5	-15.24768	NUMXQ(K) = 5	
		3.061E-06	0.051	1.000
		2.069E-06	0.152	3.000
		1.703E-06	0.254	5.000
		1.286E-06	0.508	10.000
		1.081E-06	0.761	15.000
		9.500E-07	1.015	20.000
		8.569E-07	1.269	25.000
		7.858E-07	1.523	30.000
		7.290E-07	1.776	35.000
		6.823E-07	2.030	40.000
		6.427E-07	2.284	45.000
		6.088E-07	2.538	50.000
		5.668E-07	2.791	55.000
		5.103E-07	3.045	60.000
		4.626E-07	3.299	65.000
		4.219E-07	3.553	70.000
		3.868E-07	3.806	75.000
		3.563E-07	4.060	80.000
		3.227E-07	4.314	85.000
		2.668E-07	4.568	90.000
		1.294E-06	0.5	9.85

ANNUAL AVERAGE = 1.17E-08

K= 8 FIVEXQ(K)= 1.294E-06 FIVEPR(K)= 9.852

FUMIGATION X/Q AT THE BOUNDARY: 1.17E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.658E-01	8.311E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.184	1.103	3.171	12.793	53.241	98.805	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	6.0	0.28	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	8.002E-08				
A	8.9	0.16	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	5.407E-08				
B	3.6	0.07	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	3.469E-07				
B	6.0	0.58	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	2.082E-07				
B	8.9	0.72	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.406E-07				
B	11.6	0.12	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.084E-07				
B	26.5	0.02	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	4.731E-08				
C	3.6	0.44	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	9.062E-07				
C	6.0	1.68	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	5.437E-07				
C	8.9	1.56	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	3.674E-07				
C	11.6	0.21	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	2.832E-07				
C	26.5	0.02	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	1.236E-07				
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	0.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	7.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	16.51	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	11.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	2.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	0.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	1.63	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	20.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	12.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	1.49	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	0.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	3.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	3.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	1.03	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
G	1.8	0.40	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08				
G	3.9	0.79	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08				

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	0.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 4000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.262E-06	1.038E-06	9.062E-07	6.875E-07	6.226E-07	5.890E-07
0.002	0.014	0.020	0.976	2.609	9.605	10.048	10.585	27.096	37.241
0.00022	0.00138	0.00200	0.09763	0.26091	0.96067	1.00498	1.05863	2.71006	3.72471
5.437E-07	4.207E-07	3.674E-07	3.534E-07	3.469E-07	3.243E-07	3.208E-07	2.832E-07	2.388E-07	2.082E-07
38.921	50.162	51.724	72.504	72.574	74.883	78.008	78.218	90.252	90.835
3.89265	5.01692	5.17320	7.25148	7.25848	7.48940	7.80196	7.82295	9.02653	9.08485
1.925E-07	1.841E-07	1.415E-07	1.406E-07	1.301E-07	1.236E-07	1.084E-07	8.032E-08	8.002E-08	6.449E-08
93.866	95.359	96.035	96.758	97.784	97.808	97.924	98.064	98.344	98.741
9.38807	9.53736	9.60500	9.67731	9.77994	9.78227	9.79393	9.80793	9.83592	9.87557
5.407E-08	4.731E-08	3.010E-08	1.806E-08	1.220E-08					
98.904	98.927	99.720	99.953	100.000					
9.89190	9.89423	9.97354	9.99686	10.00153					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 3.721  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 7.248

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 7.798  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 9.023  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 9.534

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
9	1	-11.07050	-16.42253	-1.16466
9	2	-14.34482	-17.13700	-1.56516
9	3	-14.85564	-18.48535	-2.49021
9	4	-14.95230	-20.22770	-3.71827
9	5	-15.24768	-26.57732	-8.45915
9	6	-15.50797	NUMXQ(K) = 6	
		2.698E-06	0.100	1.000
		1.810E-06	0.300	3.000
		1.482E-06	0.500	5.000
		1.108E-06	1.000	10.000
		9.239E-07	1.500	15.000
		8.068E-07	2.000	20.000
		7.233E-07	2.500	25.000
		6.596E-07	3.000	30.000
		6.087E-07	3.501	35.000
		5.594E-07	4.001	40.000
		5.130E-07	4.501	45.000
		4.740E-07	5.001	50.000
		4.406E-07	5.501	55.000
		4.116E-07	6.001	60.000
		3.862E-07	6.501	65.000
		3.637E-07	7.001	70.000
		3.380E-07	7.501	75.000
		3.051E-07	8.001	80.000
		2.700E-07	8.501	85.000
		2.402E-07	9.001	90.000
		1.482E-06	0.5	5.00

ANNUAL AVERAGE = 1.94E-08

K= 9 FIVEXQ(K)= 1.482E-06 FIVEPR(K)= 4.999

FUMIGATION X/Q AT THE BOUNDARY: 1.17E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.658E-01	8.311E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.443	1.959	5.877	13.603	52.296	98.531	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS											MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS		
A	3.6	0.08	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.334E-07		
A	6.0	0.28	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	8.002E-08		
A	8.9	0.12	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	5.407E-08		
B	3.6	0.16	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	3.469E-07		
B	6.0	0.56	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	2.082E-07		
B	8.9	0.36	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.406E-07		
B	11.6	0.08	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.084E-07		
C	3.6	0.20	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	9.062E-07		
C	6.0	1.47	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	5.437E-07		
C	8.9	0.95	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	3.674E-07		
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05		
D	1.7	0.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06		
D	3.6	7.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06		
D	6.0	16.91	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07		
D	8.9	6.60	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07		
D	11.6	0.64	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07		
D	26.5	0.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	12.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	22.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	9.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.76	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.27	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	5.61	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	4.42	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		
F	12.5	0.12	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07		
G	1.8	0.36	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08		
G	3.9	1.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08		
G	6.5	0.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08		

G 9.6 0.04 9000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08



**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

**Page 736 of 1411**

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## LOW POPULATION ZONE CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 4000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED:  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.262E-06	1.038E-06	9.062E-07	6.875E-07	6.226E-07	5.890E-07
0.002	0.018	0.033	0.948	3.175	10.773	10.972	12.245	29.152	41.881
0.00012	0.00105	0.00191	0.05556	0.18618	0.63169	0.64336	0.71800	1.70932	2.45573
5.437E-07	4.207E-07	3.674E-07	3.534E-07	3.469E-07	3.243E-07	3.208E-07	2.388E-07	2.082E-07	1.925E-07
43.353	49.957	50.911	73.864	74.024	74.660	80.269	89.339	89.896	94.311
2.54203	2.92923	2.98521	4.33108	4.34041	4.37773	4.70661	5.23843	5.27109	5.53000
1.841E-07	1.415E-07	1.406E-07	1.334E-07	1.301E-07	1.084E-07	1.003E-07	8.032E-08	8.002E-08	6.449E-08
95.067	95.425	95.783	95.863	96.778	96.857	96.977	97.136	97.414	97.772
5.57431	5.59531	5.61630	5.62097	5.67461	5.67928	5.68628	5.69561	5.71193	5.73293
5.407E-08	3.010E-08	1.806E-08	1.220E-08						
97.892	99.125	99.960	100.000						
5.73992	5.81223	5.86121	5.86355						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

X/Q PERCENTILES  
 (BASED ON THE UPPER ENVELOPE OF THE  
 ORDERED X/Q-FREQUENCY VALUES, AND AS  
 PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 2.453  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 4.328

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.703  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.235  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 5.526

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
10	1	-11.07050	-16.69114	-1.19222
10	2	-14.34482	-18.30038	-2.00991
10	3	-14.85564	-19.04784	-2.44603
10	4	-14.95230	-24.49152	-5.69724
10	5	-15.24768	-28.35438	-8.07802
10	6	-15.46313	NUMXQ(K)= 6	
		2.702E-06	0.059	1.000
		1.830E-06	0.176	3.000
		1.506E-06	0.293	5.000
		1.138E-06	0.586	10.000
		9.563E-07	0.880	15.000
		8.406E-07	1.173	20.000
		7.580E-07	1.466	25.000
		6.949E-07	1.759	30.000
		6.445E-07	2.052	35.000
		6.029E-07	2.345	40.000
		5.536E-07	2.639	45.000
		5.049E-07	2.932	50.000
		4.638E-07	3.225	55.000
		4.287E-07	3.518	60.000
		3.983E-07	3.811	65.000
		3.718E-07	4.104	70.000
		3.472E-07	4.398	75.000
		3.221E-07	4.691	80.000
		2.742E-07	4.984	85.000
		2.319E-07	5.277	90.000
		1.216E-06	0.5	8.53

ANNUAL AVERAGE = 1.09E-08

K= 10 FIVEXQ(K)= 1.216E-06 FIVEPR(K)= 8.527

FUMIGATION X/Q AT THE BOUNDARY: 1.17E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.658E-01	8.311E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.477	1.631	4.256	16.603	49.623	97.534	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	0.09	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.334E-07			
A	6.0	0.23	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	8.002E-08			
A	8.9	0.09	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	5.407E-08			
B	3.6	0.14	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	3.469E-07			
B	6.0	0.61	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	2.082E-07			
B	8.9	0.28	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.406E-07			
B	11.6	0.05	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.084E-07			
C	3.6	0.33	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	9.062E-07			
C	6.0	1.41	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	5.437E-07			
C	8.9	0.99	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	3.674E-07			
C	11.6	0.19	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	2.832E-07			
C	26.5	0.05	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	1.236E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	1.50	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	7.28	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	13.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	5.92	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	0.75	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	0.14	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.77	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	13.19	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	16.62	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	7.32	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	7.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	1.83	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.69	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	2.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.38	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 4000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.262E-06	1.038E-06	9.062E-07	6.875E-07	6.226E-07	5.890E-07
0.003	0.023	0.040	1.543	4.313	11.591	11.919	13.422	26.897	40.090
0.00017	0.00115	0.00201	0.07665	0.21427	0.57581	0.59214	0.66678	1.33621	1.99165
5.437E-07	4.207E-07	3.674E-07	3.534E-07	3.469E-07	3.243E-07	3.208E-07	2.832E-07	2.388E-07	2.082E-07
41.499	47.414	48.400	65.021	65.162	65.913	73.238	73.425	83.567	84.177
2.06163	2.35553	2.40451	3.23022	3.23722	3.27454	3.63842	3.64775	4.15157	4.18189
1.925E-07	1.841E-07	1.415E-07	1.406E-07	1.334E-07	1.301E-07	1.236E-07	1.084E-07	8.032E-08	8.002E-08
91.549	92.394	92.535	92.816	92.910	94.741	94.788	94.835	94.929	95.164
4.54810	4.59009	4.59708	4.61108	4.61574	4.70671	4.70904	4.71138	4.71604	4.72770
6.449E-08	5.407E-08	3.010E-08	1.806E-08	1.220E-08					
95.446	95.540	97.230	99.624	100.000					
4.74170	4.74636	4.83034	4.94929	4.96795					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 1.990  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 3.635

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 4.148  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 4.545

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
11	1	-11.07050	-16.94310	-1.26381
11	2	-14.34482	-19.12573	-2.32544
11	3	-14.95230	-23.65204	-4.84751
11	4	-15.24768	-23.92830	-5.00685
11	5	-15.46313	NUMXQ(K)= 5	
		2.811E-06	0.050	1.000
		1.870E-06	0.149	3.000
		1.527E-06	0.248	5.000
		1.140E-06	0.497	10.000
		9.512E-07	0.745	15.000
		8.320E-07	0.994	20.000
		7.474E-07	1.242	25.000
		6.830E-07	1.490	30.000
		6.318E-07	1.739	35.000
		5.897E-07	1.987	40.000
		5.267E-07	2.236	45.000
		4.747E-07	2.484	50.000
		4.315E-07	2.732	55.000
		3.950E-07	2.981	60.000
		3.637E-07	3.229	65.000
		3.365E-07	3.478	70.000
		3.044E-07	3.726	75.000
		2.635E-07	3.974	80.000
		2.295E-07	4.223	85.000
		2.005E-07	4.471	90.000
		1.137E-06	0.5	10.06

ANNUAL AVERAGE = 8.98E-09

K= 11 FIVEXQ(K)= 1.137E-06 FIVEPR(K)=10.065

FUMIGATION X/Q AT THE BOUNDARY: 1.17E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.658E-01	8.311E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.423	1.502	4.460	22.507	51.573	95.258	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF. PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS										MEANDER	BLDG WAKE	USED
										CA=1292.SQ.METERS		
A	6.0	0.33	4000.	0.	131.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	8.002E-08
A	8.9	0.14	4000.	0.	131.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	5.407E-08
A	11.6	0.09	4000.	0.	131.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	4.168E-08
A	26.5	0.09	4000.	0.	131.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.819E-08
B	3.6	0.05	4000.	0.	131.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	3.469E-07
B	6.0	0.38	4000.	0.	131.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	2.082E-07
B	8.9	0.89	4000.	0.	131.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.406E-07
B	11.6	0.09	4000.	0.	131.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.084E-07
B	26.5	0.05	4000.	0.	131.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	4.731E-08
C	3.6	0.14	4000.	0.	131.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	9.062E-07
C	6.0	1.22	4000.	0.	131.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	5.437E-07
C	8.9	1.46	4000.	0.	131.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	3.674E-07
C	11.6	0.19	4000.	0.	131.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	2.832E-07
C	26.5	0.05	4000.	0.	131.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	1.236E-07
D	0.2	0.00	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	0.71	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	6.02	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	9.93	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	8.94	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	1.03	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	0.28	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.02	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	2.54	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	8.80	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	13.97	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	12.75	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	1.41	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.05	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.02	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.55	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	5.50	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	8.33	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	5.13	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.85	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07

G	1.8	0.85	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	3.29	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 4000.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values and frequencies. The values range from 1.556E-05 to 9.405E-09.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.001
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 0.461

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.472  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.066  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.707  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 4.139  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8)= 4.209

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
12	1	-11.07050	-16.19649	-1.06775
12	2	-11.63677	-17.12516	-1.28522
12	3	-13.77855	-17.23676	-1.32808
12	4	-14.34482	-18.66225	-1.98272
12	5	-14.95230	-21.42127	-3.45722
12	6	-15.24768	-22.80731	-4.23341
12	7	-15.46313	-25.38305	-5.71814
12	8	-15.50797	NUMXQ(K) = 8	
		2.516E-06	0.050	1.000
		1.662E-06	0.149	3.000
		1.352E-06	0.248	5.000
		1.004E-06	0.496	10.000
		8.300E-07	0.744	15.000
		7.211E-07	0.992	20.000
		6.443E-07	1.240	25.000
		5.847E-07	1.488	30.000
		5.174E-07	1.735	35.000
		4.644E-07	1.983	40.000
		4.214E-07	2.231	45.000
		3.857E-07	2.479	50.000
		3.555E-07	2.727	55.000
		3.297E-07	2.975	60.000
		2.976E-07	3.223	65.000
		2.652E-07	3.471	70.000
		2.378E-07	3.719	75.000
		2.096E-07	3.967	80.000
		1.000E-06	0.5	10.08

ANNUAL AVERAGE = 7.34E-09

K= 12 FIVEXQ(K)= 1.000E-06 FIVEPR(K)=10.084

FUMIGATION X/Q AT THE BOUNDARY: 1.17E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.658E-01	8.311E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.659	2.117	5.175	26.549	53.458	92.991	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS									MEANDER	BLDG WAKE	USED
									CA=1292.SQ.METERS		
A	3.6	0.03	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.334E-07
A	6.0	0.24	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	8.002E-08
A	8.9	0.63	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	5.407E-08
A	11.6	0.42	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	4.168E-08
A	26.5	0.06	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.819E-08
B	3.6	0.12	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	3.469E-07
B	6.0	0.63	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	2.082E-07
B	8.9	0.81	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.406E-07
B	11.6	0.36	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.084E-07
B	26.5	0.18	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	4.731E-08
C	3.6	0.15	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	9.062E-07
C	6.0	1.25	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	5.437E-07
C	8.9	1.67	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	3.674E-07
C	11.6	0.86	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	2.832E-07
C	26.5	0.39	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	1.236E-07
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	0.78	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	4.21	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	8.98	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	11.78	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	6.71	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	2.68	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	1.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	5.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	11.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	15.99	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	2.33	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	0.89	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	2.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	5.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	5.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07

Calculation No. PM-1055 Revision 0

Attachment J

F	12.5	0.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
G	1.8	0.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	2.06	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.16	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 4000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.262E-06	1.038E-06	9.062E-07	6.875E-07	6.226E-07	5.890E-07
0.002	0.013	0.024	0.799	2.410	6.615	6.764	7.659	16.637	21.796
0.00014	0.00103	0.00184	0.06249	0.18844	0.51733	0.52899	0.59897	1.30106	1.70458
5.437E-07	4.207E-07	3.674E-07	3.534E-07	3.469E-07	3.243E-07	3.208E-07	2.832E-07	2.388E-07	2.082E-07
23.049	34.830	36.501	48.282	48.401	55.112	57.647	58.512	74.499	75.125
1.80255	2.72390	2.85452	3.77587	3.78520	4.31001	4.50828	4.57592	5.82616	5.87514
1.925E-07	1.841E-07	1.415E-07	1.406E-07	1.334E-07	1.301E-07	1.236E-07	1.084E-07	1.003E-07	8.032E-08
81.031	83.357	86.041	86.847	86.877	91.887	92.275	92.633	93.349	93.617
6.33698	6.51892	6.72884	6.79182	6.79415	7.18602	7.21634	7.24433	7.30031	7.32130
8.002E-08	6.449E-08	5.407E-08	4.731E-08	4.168E-08	3.010E-08	1.819E-08	1.806E-08	1.220E-08	9.405E-09
93.856	94.244	94.870	95.049	95.466	96.659	96.719	98.777	99.940	99.970
7.33996	7.37029	7.41927	7.43326	7.46592	7.55922	7.56389	7.72483	7.81580	7.81813
4.104E-09									
100.000									
7.82046									

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES  
 (BASED ON THE UPPER ENVELOPE OF THE  
 ORDERED X/Q-FREQUENCY VALUES, AND AS  
 PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 1.703  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 4.505  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 5.822  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 6.515  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 7.182

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
13	1	-11.07050	-17.04510	-1.27406
13	2	-14.34482	-17.37762	-1.43095
13	3	-14.95230	-18.95640	-2.36244
13	4	-15.24768	-22.42273	-4.57048
13	5	-15.50797	-25.89736	-6.86713
13	6	-15.85517	NUMXQ(K) = 6	
		2.226E-06	0.078	1.000
		1.452E-06	0.235	3.000
		1.173E-06	0.391	5.000
		8.612E-07	0.782	10.000
		7.102E-07	1.173	15.000
		6.155E-07	1.564	20.000
		5.437E-07	1.955	25.000
		4.876E-07	2.346	30.000
		4.436E-07	2.737	35.000
		4.079E-07	3.128	40.000
		3.782E-07	3.519	45.000
		3.530E-07	3.910	50.000
		3.312E-07	4.301	55.000
		3.067E-07	4.692	60.000
		2.800E-07	5.083	65.000
		2.569E-07	5.474	70.000
		2.352E-07	5.865	75.000
		2.026E-07	6.256	80.000
		1.718E-07	6.647	85.000
		1.401E-07	7.038	90.000
		1.054E-06	0.5	6.39

ANNUAL AVERAGE = 1.16E-08

K= 13 FIVEXQ(K)= 1.054E-06 FIVEPR(K)= 6.393

FUMIGATION X/Q AT THE BOUNDARY: 1.17E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.658E-01	8.311E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.372	3.460	7.785	22.857	57.994	95.138	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	6.0	0.24	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	8.002E-08				
A	8.9	0.24	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	5.407E-08				
A	11.6	0.05	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	4.168E-08				
A	26.5	0.13	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.819E-08				
B	3.6	0.08	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	3.469E-07				
B	6.0	0.24	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	2.082E-07				
B	8.9	0.53	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.406E-07				
B	11.6	0.37	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.084E-07				
B	26.5	0.19	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	4.731E-08				
C	3.6	0.13	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	9.062E-07				
C	6.0	0.69	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	5.437E-07				
C	8.9	1.57	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	3.674E-07				
C	11.6	0.80	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	2.832E-07				
C	26.5	0.72	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	1.236E-07				
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	1.01	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	2.59	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	9.48	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	17.99	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	11.96	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	4.03	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	0.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	3.68	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	9.45	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	15.56	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	2.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.32	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	0.75	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	1.76	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	3.74	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	3.68	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
F	12.5	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07				

G	1.8	0.37	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 4000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.262E-06	1.038E-06	9.062E-07	6.875E-07	6.226E-07	5.890E-07
0.002	0.009	0.018	1.032	1.993	4.582	4.715	5.463	14.938	18.621
0.00020	0.00080	0.00155	0.09019	0.17416	0.40041	0.41208	0.47739	1.30543	1.62732
5.437E-07	4.207E-07	3.674E-07	3.534E-07	3.469E-07	3.243E-07	3.208E-07	2.832E-07	2.388E-07	2.082E-07
19.315	37.304	38.879	48.327	48.407	60.365	62.126	62.927	78.488	78.728
1.68797	3.26009	3.39771	4.22342	4.23042	5.27539	5.42934	5.49931	6.85917	6.88017
1.925E-07	1.841E-07	1.415E-07	1.406E-07	1.301E-07	1.236E-07	1.084E-07	1.003E-07	8.032E-08	8.002E-08
82.464	85.427	89.457	89.991	93.674	94.395	94.769	95.249	95.569	95.810
7.20672	7.46563	7.81784	7.86449	8.18638	8.24936	8.28201	8.32400	8.35199	8.37298
6.449E-08	5.407E-08	4.731E-08	4.168E-08	3.010E-08	1.819E-08	1.806E-08	1.220E-08	9.405E-09	
96.183	96.423	96.610	96.664	97.598	97.731	98.906	99.947	100.000	
8.40564	8.42663	8.44296	8.44762	8.52926	8.54092	8.64355	8.73452	8.73919	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.090  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 3.257

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 5.426  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 6.855  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 7.462  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 8.183

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
14	1	-11.07050	-17.09216	-1.30589
14	2	-13.01641	-17.08651	-1.30408
14	3	-14.68142	-16.76853	-1.13166
14	4	-14.95230	-18.96078	-2.49762
14	5	-15.24768	-23.95891	-5.85962
14	6	-15.50797	-25.65541	-7.03592
14	7	-15.85517	NUMXQ(K)= 7	
		2.251E-06	0.087	1.000
		1.448E-06	0.262	3.000
		1.161E-06	0.437	5.000
		8.426E-07	0.874	10.000
		6.897E-07	1.311	15.000
		5.943E-07	1.748	20.000
		5.272E-07	2.185	25.000
		4.766E-07	2.622	30.000
		4.365E-07	3.059	35.000
		4.060E-07	3.496	40.000
		3.819E-07	3.933	45.000
		3.612E-07	4.370	50.000
		3.431E-07	4.807	55.000
		3.271E-07	5.244	60.000
		3.034E-07	5.680	65.000
		2.765E-07	6.117	70.000
		2.532E-07	6.554	75.000
		2.253E-07	6.991	80.000
		1.869E-07	7.428	85.000
		1.514E-07	7.865	90.000
		1.093E-06	0.5	5.72

ANNUAL AVERAGE = 1.37E-08

K= 14 FIVEXQ(K)= 1.093E-06 FIVEPR(K)= 5.721

FUMIGATION X/Q AT THE BOUNDARY: 1.17E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.658E-01	8.311E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.667	2.082	6.005	16.423	63.481	96.423	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS		
A	6.0	0.04	4000.	0.	131.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	8.002E-08
A	8.9	0.06	4000.	0.	131.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	5.407E-08
A	26.5	0.02	4000.	0.	131.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.819E-08
B	3.6	0.08	4000.	0.	131.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	3.469E-07
B	6.0	0.04	4000.	0.	131.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	2.082E-07
B	8.9	0.19	4000.	0.	131.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.406E-07
B	11.6	0.08	4000.	0.	131.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.084E-07
C	3.6	0.06	4000.	0.	131.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	9.062E-07
C	6.0	0.55	4000.	0.	131.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	5.437E-07
C	8.9	0.74	4000.	0.	131.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	3.674E-07
C	11.6	0.59	4000.	0.	131.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	2.832E-07
C	26.5	0.13	4000.	0.	131.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	1.236E-07
D	0.2	0.00	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05
D	1.7	0.76	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06
D	3.6	4.10	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06
D	6.0	11.52	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07
D	8.9	22.08	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07
D	11.6	11.54	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07
D	26.5	3.91	4000.	0.	131.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07
E	0.3	0.01	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	0.83	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	3.61	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	11.03	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	13.83	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	1.89	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.13	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	0.55	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	2.00	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.78	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	1.91	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
G	1.8	0.28	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.49	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	1.95	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 4000.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across five rows of data.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 2.353
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 4.836

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 7.623  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 9.207  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 9.835

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
15	1	-11.07050	-16.81099	-1.24189
15	2	-14.34482	-16.40273	-1.03630
15	3	-14.68142	-16.63680	-1.17722
15	4	-14.95230	-19.06417	-2.87360
15	5	-15.24768	-24.56874	-7.01824
15	6	-15.50797	NUMXQ(K) = 6	
		2.244E-06	0.110	1.000
		1.461E-06	0.329	3.000
		1.178E-06	0.549	5.000
		8.610E-07	1.098	10.000
		7.074E-07	1.647	15.000
		6.110E-07	2.196	20.000
		5.503E-07	2.745	25.000
		5.063E-07	3.294	30.000
		4.708E-07	3.842	35.000
		4.414E-07	4.391	40.000
		4.158E-07	4.940	45.000
		3.913E-07	5.489	50.000
		3.700E-07	6.038	55.000
		3.512E-07	6.587	60.000
		3.344E-07	7.136	65.000
		3.171E-07	7.685	70.000
		2.851E-07	8.234	75.000
		2.576E-07	8.783	80.000
		2.268E-07	9.332	85.000
		1.226E-06	0.5	4.55

ANNUAL AVERAGE = 1.87E-08

K= 15 FIVEXQ(K)= 1.226E-06 FIVEPR(K)= 4.554

FUMIGATION X/Q AT THE BOUNDARY: 1.17E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.658E-01	8.311E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.127	0.531	2.613	10.863	64.767	96.091	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS		
A	3.6	0.02	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.334E-07			
A	6.0	0.17	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	8.002E-08			
A	8.9	0.32	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	5.407E-08			
A	11.6	0.02	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	4.168E-08			
A	26.5	0.02	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.819E-08			
B	3.6	0.06	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	3.469E-07			
B	6.0	0.48	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	2.082E-07			
B	8.9	0.71	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.406E-07			
B	11.6	0.11	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.084E-07			
C	3.6	0.48	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	9.062E-07			
C	6.0	2.16	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	5.437E-07			
C	8.9	2.01	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	3.674E-07			
C	11.6	0.37	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	2.832E-07			
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05			
D	1.7	1.08	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06			
D	3.6	8.31	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06			
D	6.0	20.04	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07			
D	8.9	19.82	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07			
D	11.6	5.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07			
D	26.5	1.36	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	4.38	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	11.10	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	10.11	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.93	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.09	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	2.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.69	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	28.5	0.02	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 4000.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values and frequencies. The values range from 1.556E-05 to 10.80101.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 3.833
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 6.207

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 7.623  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 8.421  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 9.552  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 9.998  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8)= 10.299

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
16	1	-11.07050	-16.42751	-1.17638
16	2	-14.34482	-16.90488	-1.44602
16	3	-14.68142	-17.19148	-1.63240
16	4	-14.85564	-17.43642	-1.80358
16	5	-14.95230	-20.77856	-4.23012
16	6	-15.24768	-28.42556	-10.07868
16	7	-15.50797	-41.72990	-20.45912
16	8	-15.85517	NUMXQ(K) = 8	
		2.709E-06	0.108	1.000
		1.806E-06	0.324	3.000
		1.473E-06	0.540	5.000
		1.095E-06	1.080	10.000
		9.096E-07	1.620	15.000
		7.920E-07	2.160	20.000
		7.083E-07	2.700	25.000
		6.445E-07	3.240	30.000
		5.937E-07	3.780	35.000
		5.437E-07	4.320	40.000
		5.013E-07	4.860	45.000
		4.654E-07	5.401	50.000
		4.346E-07	5.941	55.000
		4.060E-07	6.481	60.000
		3.795E-07	7.021	65.000
		3.561E-07	7.561	70.000
		3.334E-07	8.101	75.000
		3.025E-07	8.641	80.000
		2.625E-07	9.181	85.000
		2.166E-07	9.721	90.000
		1.520E-06	0.5	4.63

ANNUAL AVERAGE = 2.43E-08

K= 16 FIVEXQ(K)= 1.520E-06 FIVEPR(K)= 4.629

FUMIGATION X/Q AT THE BOUNDARY: 1.17E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.658E-01	8.311E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
0.561	1.922	6.932	13.028	68.876	96.350	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)			
												MEANDER	BLDG WAKE	USED	
AT 131.4 METERS													CA=1292.SQ.METERS		
A	1.7	0.01	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	2.858E-07				
A	3.6	0.51	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.334E-07				
A	6.0	0.53	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	8.002E-08				
A	8.9	0.28	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	5.407E-08				
A	11.6	0.06	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	4.168E-08				
A	26.5	0.03	4000.	0.	131.	655.0	1000.0	0.0	0.000E+00	0.000E+00	1.819E-08				
B	1.7	0.05	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	7.434E-07				
B	3.6	0.47	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	3.469E-07				
B	6.0	0.54	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	2.082E-07				
B	8.9	0.44	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.406E-07				
B	11.6	0.12	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	1.084E-07				
B	26.5	0.03	4000.	0.	131.	492.6	497.9	0.0	0.000E+00	0.000E+00	4.731E-08				
C	1.7	0.08	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	1.942E-06				
C	3.6	0.77	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	9.062E-07				
C	6.0	1.33	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	5.437E-07				
C	8.9	1.04	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	3.674E-07				
C	11.6	0.30	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	2.832E-07				
C	26.5	0.13	4000.	0.	131.	374.1	216.1	0.0	0.000E+00	0.000E+00	1.236E-07				
D	0.2	0.00	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.556E-05				
D	1.7	2.07	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	2.224E-06				
D	3.6	9.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.038E-06				
D	6.0	15.72	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	6.226E-07				
D	8.9	12.23	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	4.207E-07				
D	11.6	4.24	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	3.243E-07				
D	26.5	1.39	4000.	0.	131.	263.4	78.0	0.0	0.000E+00	0.000E+00	1.415E-07				
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	1.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	8.90	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	9.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	1.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				

Calculation No. PM-1055 Revision 0

Attachment J

F	3.9	3.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.16	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
F	28.5	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08
G	1.8	0.43	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.14	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.31	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.01	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.00	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 4000.0 METERS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.942E-06	1.262E-06	1.038E-06	9.062E-07	7.434E-07	6.875E-07
0.005	0.019	0.030	2.097	2.174	4.140	13.531	14.296	14.343	15.353
0.00467	0.01866	0.03032	2.09694	2.17391	4.14023	13.53097	14.29604	14.34269	15.35268
6.226E-07	5.890E-07	5.437E-07	4.207E-07	3.674E-07	3.534E-07	3.469E-07	3.243E-07	3.208E-07	2.858E-07
31.072	39.968	41.297	53.527	54.569	68.415	68.886	73.127	76.269	76.276
31.07156	39.96781	41.29735	53.52678	54.56941	68.41528	68.88644	73.12698	76.26889	76.27589
2.832E-07	2.388E-07	2.082E-07	1.925E-07	1.841E-07	1.415E-07	1.406E-07	1.334E-07	1.301E-07	1.236E-07
76.579	86.105	86.649	90.166	91.461	92.848	93.289	93.802	95.356	95.482
76.57912	86.10514	86.64862	90.16607	91.46062	92.84846	93.28931	93.80247	95.35593	95.48188
1.084E-07	1.003E-07	8.032E-08	8.002E-08	6.449E-08	5.407E-08	4.731E-08	4.375E-08	4.168E-08	3.010E-08
95.603	95.764	95.993	96.524	96.958	97.236	97.271	97.283	97.341	98.514
95.60317	95.76411	95.99270	96.52452	96.95837	97.23595	97.27094	97.28260	97.34091	98.51417
1.819E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54216	99.67810	99.98599	99.99532	99.99998					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

3.385E-06	1.000	1.000
2.202E-06	3.000	3.000
1.753E-06	5.000	5.000
1.235E-06	10.000	10.000
9.934E-07	15.000	15.000
8.721E-07	20.000	20.000
7.799E-07	25.000	25.000
7.055E-07	30.000	30.000
6.429E-07	35.000	35.000
5.887E-07	40.000	40.000
5.434E-07	45.000	45.000
5.023E-07	50.000	50.000
4.643E-07	55.000	55.000
4.286E-07	60.000	60.000
3.946E-07	65.000	65.000
3.616E-07	70.000	70.000
3.291E-07	75.000	75.000
2.900E-07	80.000	80.000
2.482E-07	85.000	85.000
1.995E-07	90.000	90.000
1.753E-06	5.0	5.00

K= 17 FIVEXQ(K)= 1.753E-06 FIVEPR(K)= 5.000

FUMIGATION X/Q AT THE BOUNDARY: 1.17E-05

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.658E-01	8.311E-01	3.613E-01	2.419E-01	2.081E-01	1.693E-02
1.416	3.074	6.718	16.125	61.163	96.935	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.556E-05	8.835E-06	4.813E-06	2.224E-06	1.942E-06	1.262E-06	1.038E-06	9.062E-07	7.434E-07	6.875E-07
0.005	0.019	0.030	2.097	2.174	4.140	13.531	14.296	14.343	15.353
0.00467	0.01866	0.03032	2.09694	2.17391	4.14023	13.53098	14.29604	14.34269	15.35268
6.226E-07	5.890E-07	5.437E-07	4.207E-07	3.674E-07	3.534E-07	3.469E-07	3.243E-07	3.208E-07	2.858E-07
31.072	39.968	41.297	53.527	54.569	68.415	68.886	73.127	76.269	76.276
31.07156	39.96781	41.29735	53.52678	54.56942	68.41528	68.88644	73.12697	76.26889	76.27589
2.832E-07	2.388E-07	2.082E-07	1.925E-07	1.841E-07	1.415E-07	1.406E-07	1.334E-07	1.301E-07	1.236E-07
76.579	86.105	86.649	90.166	91.461	92.848	93.289	93.802	95.356	95.482
76.57912	86.10514	86.64861	90.16605	91.46062	92.84846	93.28932	93.80247	95.35593	95.48189
1.084E-07	1.003E-07	8.032E-08	8.002E-08	6.449E-08	5.407E-08	4.731E-08	4.375E-08	4.168E-08	3.010E-08
95.603	95.764	95.993	96.525	96.958	97.236	97.271	97.283	97.341	98.514
95.60319	95.76413	95.99272	96.52455	96.95839	97.23595	97.27094	97.28260	97.34090	98.51416
1.819E-08	1.806E-08	1.220E-08	9.405E-09	4.104E-09					
98.542	99.678	99.986	99.995	100.000					
98.54215	99.67808	99.98598	99.99531	99.99998					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
18	1	-11.07050	-14.84188	-0.96518
18	2	-13.77855	-14.51429	-0.66783
18	3	-14.34482	-14.50399	-0.62726
18	4	-14.95230	-14.38231	-0.79751
18	5	-15.24768	-14.25606	-0.91386
18	6	-15.50797	-13.97788	-1.11693
18	7	-15.85517	NUMXQ(K) = 7	
		3.385E-06	1.000	1.000
		2.202E-06	3.000	3.000
		1.753E-06	5.000	5.000
		1.235E-06	10.000	10.000
		9.934E-07	15.000	15.000
		8.721E-07	20.000	20.000
		7.799E-07	25.000	25.000
		7.055E-07	30.000	30.000
		6.429E-07	35.000	35.000
		5.887E-07	40.000	40.000
		5.434E-07	45.000	45.000
		5.023E-07	50.000	50.000
		4.643E-07	55.000	55.000
		4.286E-07	60.000	60.000
		3.946E-07	65.000	65.000
		3.616E-07	70.000	70.000
		3.291E-07	75.000	75.000
		2.900E-07	80.000	80.000
		2.482E-07	85.000	85.000
		1.995E-07	90.000	90.000
		1.753E-06	5.0	5.00

K= 18 FIVEXQ(K) = 1.753E-06 FIVEPR(K) = 5.000

K	HIGHPR	PR	GRNDVT(K)
1	-2.71469	0.33170	6.21119
2	-1.61710	5.29286	3.52599
3	-2.64812	0.40471	3.10868
4	-2.58808	0.48256	3.53145
5	-2.57624	0.49942	4.76778
6	-2.67759	0.37078	4.27759
7	-2.72791	0.31869	5.37148
8	-2.80439	0.25206	5.07527
9	-2.69730	0.34953	10.00153
10	-2.86025	0.21166	5.86355
11	-2.89760	0.18802	4.96796
12	-2.99098	0.13905	4.95848
13	-2.95434	0.15668	7.82046
14	-2.91809	0.17610	8.73919
15	-2.84237	0.22390	10.97840
16	-2.67467	0.37403	10.80101



K	HOURS (K)	TOTHR
1	29.05691	29.05691
2	463.65480	492.71170
3	35.45256	528.16420
4	42.27219	570.43640
5	43.74879	614.18520
6	32.48003	646.66520
7	27.91708	674.58230
8	22.08064	696.66290
9	30.61862	727.28150
10	18.54160	745.82310
11	16.47080	762.29390
12	12.18093	774.47490
13	13.72488	788.19980
14	15.42601	803.62580
15	19.61407	823.23990
16	32.76460	856.00450

K	FIVEXQ	SVANN	SLTIME	TIMINT	I	TIME	XQT
1	1.440E-06	1.622E-08	-0.5351	-13.0798	1	8.0	-14.19247
					2	16.0	-14.56334
					3	72.0	-15.36811
					4	624.0	-16.52356
2	1.256E-06	1.113E-08	-0.5635	-13.1972	1	8.0	-14.36906
					2	16.0	-14.75968
					3	72.0	-15.60730
					4	624.0	-16.82428
3	1.509E-06	1.248E-08	-0.5719	-13.0078	1	8.0	-14.19695
					2	16.0	-14.59335
					3	72.0	-15.45349
					4	624.0	-16.68844
4	1.677E-06	1.535E-08	-0.5598	-12.9102	1	8.0	-14.07426
					2	16.0	-14.46226
					3	72.0	-15.30420
					4	624.0	-16.51301
5	1.706E-06	1.767E-08	-0.5450	-12.9033	1	8.0	-14.03667
					2	16.0	-14.41446
					3	72.0	-15.23425
					4	624.0	-16.41125
6	1.489E-06	1.429E-08	-0.5541	-13.0334	1	8.0	-14.18557
					2	16.0	-14.56964
					3	72.0	-15.40304
					4	624.0	-16.59959
7	1.423E-06	1.432E-08	-0.5485	-13.0824	1	8.0	-14.22284
					2	16.0	-14.60299

Calculation No. PM-1055 Revision 0

Attachment J

				3	72.0	-15.42791
				4	624.0	-16.61228
8	1.294E-06	1.170E-08	-0.5613	-13.1686		
				1	8.0	-14.33574
				2	16.0	-14.72480
				3	72.0	-15.56903
				4	624.0	-16.78113
9	1.482E-06	1.939E-08	-0.5172	-13.0636		
				1	8.0	-14.13906
				2	16.0	-14.49755
				3	72.0	-15.27543
				4	624.0	-16.39229
10	1.216E-06	1.089E-08	-0.5624	-13.2299		
				1	8.0	-14.39934
				2	16.0	-14.78916
				3	72.0	-15.63505
				4	624.0	-16.84953
11	1.137E-06	8.981E-09	-0.5773	-13.2871		
				1	8.0	-14.48757
				2	16.0	-14.88774
				3	72.0	-15.75608
				4	624.0	-17.00280
12	1.000E-06	7.341E-09	-0.5861	-13.4091		
				1	8.0	-14.62781
				2	16.0	-15.03406
				3	72.0	-15.91559
				4	624.0	-17.18125
13	1.054E-06	1.161E-08	-0.5377	-13.3901		
				1	8.0	-14.50816
				2	16.0	-14.88084
				3	72.0	-15.68952
				4	624.0	-16.85058
14	1.093E-06	1.373E-08	-0.5220	-13.3651		
				1	8.0	-14.45052
				2	16.0	-14.81234
				3	72.0	-15.59744
				4	624.0	-16.72466
15	1.226E-06	1.866E-08	-0.4991	-13.2656		
				1	8.0	-14.30350
				2	16.0	-14.64946
				3	72.0	-15.40015
				4	624.0	-16.47797
16	1.520E-06	2.426E-08	-0.4935	-13.0548		
				1	8.0	-14.08095
				2	16.0	-14.42299
				3	72.0	-15.16518
				4	624.0	-16.23078
17	1.753E-06	2.426E-08	-0.5105	-12.9001		
				1	8.0	-13.96165
				2	16.0	-14.31550
				3	72.0	-15.08333
				4	624.0	-16.18575
18	1.753E-06	2.426E-08	-0.5105	-12.9001		

1	8.0	-13.96165
2	16.0	-14.31550
3	72.0	-15.08333
4	624.0	-16.18575

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
 VERSUS  
 AVERAGING TIME

DOWNWIND DISTANCE SECTOR (METERS)	RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER) VERSUS AVERAGING TIME					HOURS PER YEAR MAX 0-2 HR X/Q IS EXCEEDED		DOWNWIND SECTOR
	0-2 HOURS	0-8 HOURS	8-24 HOURS	1-4 DAYS	4-30 DAYS	ANNUAL AVERAGE	IN SECTOR	
S 4000.	1.44E-06	6.86E-07	4.73E-07	2.12E-07	6.67E-08	1.62E-08	29.1	S
SSW 4000.	1.26E-06	5.75E-07	3.89E-07	1.67E-07	4.94E-08	1.11E-08	463.7	SSW
SW 4000.	1.51E-06	6.83E-07	4.59E-07	1.94E-07	5.65E-08	1.25E-08	35.5	SW
WSW 4000.	1.68E-06	7.72E-07	5.24E-07	2.26E-07	6.74E-08	1.54E-08	42.3	WSW
W 4000.	1.71E-06	8.02E-07	5.49E-07	2.42E-07	7.46E-08	1.77E-08	43.7	W
WNW 4000.	1.49E-06	6.91E-07	4.70E-07	2.04E-07	6.18E-08	1.43E-08	32.5	WNW
NW 4000.	1.42E-06	6.65E-07	4.55E-07	1.99E-07	6.10E-08	1.43E-08	27.9	NW
NNW 4000.	1.29E-06	5.94E-07	4.03E-07	1.73E-07	5.15E-08	1.17E-08	22.1	NNW
N 4000.	1.48E-06	7.24E-07	5.06E-07	2.32E-07	7.60E-08	1.94E-08	30.6	N
NNE 4000.	1.22E-06	5.58E-07	3.78E-07	1.62E-07	4.81E-08	1.09E-08	18.5	NNE
NE 4000.	1.14E-06	5.11E-07	3.42E-07	1.44E-07	4.13E-08	8.98E-09	16.5	NE
ENE 4000.	1.00E-06	4.44E-07	2.96E-07	1.22E-07	3.45E-08	7.34E-09	12.2	ENE
E 4000.	1.05E-06	5.00E-07	3.45E-07	1.54E-07	4.81E-08	1.16E-08	13.7	E
ESE 4000.	1.09E-06	5.30E-07	3.69E-07	1.68E-07	5.45E-08	1.37E-08	15.4	ESE
SE 4000.	1.23E-06	6.14E-07	4.34E-07	2.05E-07	6.98E-08	1.87E-08	19.6	SE
SSE 4000.	1.52E-06	7.67E-07	5.45E-07	2.59E-07	8.93E-08	2.43E-08	32.8	SSE
MAX X/Q	1.71E-06					TOTAL HOURS AROUND SITE:	856.0	
SRP 2.3.4 4000.	1.75E-06	8.64E-07	6.07E-07	2.81E-07	9.35E-08	2.43E-08		
SITE LIMIT	1.75E-06	8.64E-07	6.07E-07	2.81E-07	9.35E-08	2.43E-08		

THE FIVE-PERCENT-FOR-THE-ENTIRE-SITE X/Q IS LIMITING.

X/Q VALUES (SEC/CUBIC METER) FOR FUMIGATION AT THE BOUNDARY:

DOWNWIND DISTANCE FUMIGATION SECTOR (METERS)	X/Q
S 4000.	1.17E-05
SSW 4000.	1.17E-05
SW 4000.	1.17E-05
WSW 4000.	1.17E-05
W 4000.	1.17E-05
WNW 4000.	1.17E-05
NW 4000.	1.17E-05
NNW 4000.	1.17E-05
N 4000.	1.17E-05
NNE 4000.	1.17E-05
NE 4000.	1.17E-05
ENE 4000.	1.17E-05
E 4000.	1.17E-05

**Calculation No. PM-1055 Revision 0**

**Attachment J**

ESE	4000.	1.17E-05
SE	4000.	1.17E-05
SSE	4000.	1.17E-05

**\*\*NOTE\*\***: VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
CHECK THE REASONABLENESS OF THE ENVELOPES  
COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.

**PAVAN Input**

**Off Gas Stack to Control Room (Tower 2 320' wind and 316'-33' Delta T Stability Class; distances of 5000 m and 6000 m)**

1 1111		Stack Release													
Peach Bottom		10.1-96.3 meters													
97.5 meters															
Peach Bottom, Tower 2 1984-1988 met data															
7	1														
2584.	54.3131.4	97.5													
0	0	0	2	6	5	0									
0.	0.	0.	0.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.	9.	23.	39.	87.	44.	4.	2.	0.	2.	2.	0.	1.	0.	0.	1.
0.	9.	20.	29.	46.	44.	20.	2.	12.	7.	5.	7.	8.	9.	2.	8.
2.	4.	9.	18.	7.	3.	13.	0.	7.	3.	2.	3.	21.	9.	3.	15.
2.	2.	0.	1.	0.	1.	0.	0.	0.	0.	0.	2.	14.	2.	0.	1.
0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	2.	2.	5.	1.	1.
0.	2.	2.	9.	5.	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13.	23.	18.	25.	56.	29.	10.	3.	3.	4.	3.	1.	4.	3.	4.	3.
4.	15.	13.	15.	12.	25.	27.	8.	25.	14.	13.	8.	21.	9.	2.	22.
10.	3.	2.	1.	1.	2.	8.	8.	31.	9.	6.	19.	27.	20.	9.	33.
1.	2.	1.	0.	0.	1.	1.	1.	5.	2.	1.	2.	12.	14.	4.	5.
0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	6.	7.	0.	0.
0.	5.	12.	15.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31.	22.	28.	37.	50.	65.	14.	12.	19.	5.	7.	3.	5.	5.	3.	22.
42.	19.	9.	17.	14.	26.	62.	22.	72.	37.	30.	26.	42.	26.	26.	100.
18.	8.	4.	3.	3.	4.	11.	10.	67.	24.	21.	31.	56.	59.	35.	93.
4.	1.	0.	0.	1.	2.	0.	1.	9.	0.	4.	4.	29.	30.	28.	17.
1.	4.	0.	0.	0.	0.	0.	0.	1.	0.	1.	1.	13.	27.	6.	0.
59.	58.	108.	119.	115.	86.	45.	35.	41.	23.	32.	15.	26.	38.	36.	50.
330.	211.	238.	336.	435.	304.	339.	243.	300.	191.	155.	128.	141.	97.	193.	385.
521.	349.	251.	278.	331.	308.	478.	466.	708.	425.	287.	211.	301.	355.	542.	928.
396.	154.	85.	67.	132.	140.	161.	118.	482.	166.	126.	190.	395.	674.	1039.	918.
73.	27.	13.	11.	32.	26.	14.	11.	99.	16.	16.	22.	225.	448.	543.	242.
15.	7.	12.	2.	8.	2.	7.	7.	29.	9.	3.	6.	90.	151.	184.	63.
60.	44.	36.	61.	60.	60.	61.	59.	70.	56.	59.	54.	54.	36.	39.	34.
235.	164.	150.	219.	283.	200.	345.	311.	435.	320.	281.	187.	173.	138.	170.	203.
367.	201.	156.	101.	161.	257.	349.	443.	891.	577.	354.	297.	395.	354.	519.	514.
156.	38.	26.	11.	58.	63.	98.	165.	516.	228.	216.	271.	536.	583.	651.	468.
23.	8.	8.	4.	12.	21.	16.	11.	64.	19.	18.	30.	78.	111.	89.	43.
7.	1.	1.	1.	20.	4.	12.	2.	6.	4.	2.	1.	9.	12.	6.	10.
26.	19.	22.	26.	31.	23.	28.	32.	23.	32.	32.	33.	30.	28.	26.	22.
99.	38.	34.	29.	34.	52.	81.	90.	134.	141.	156.	117.	85.	66.	94.	97.
81.	25.	13.	8.	13.	24.	48.	79.	130.	111.	157.	177.	198.	140.	178.	126.
4.	1.	1.	0.	0.	2.	7.	8.	44.	23.	39.	109.	168.	138.	90.	32.
1.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	18.	24.	18.	0.	5.
0.	0.	0.	0.	4.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11.	14.	11.	10.	13.	5.	4.	9.	17.	9.	6.	18.	13.	14.	13.	19.
47.	19.	22.	19.	13.	6.	28.	10.	34.	31.	36.	34.	40.	35.	70.	59.
16.	5.	4.	2.	2.	2.	8.	6.	10.	21.	51.	70.	69.	44.	92.	85.
1.	0.	0.	0.	0.	0.	1.	1.	2.	1.	8.	26.	39.	39.	9.	5.



PAVAN Output

Off Gas Stack to Control Room (Tower 2 320' wind and 316'-33' Delta T Stability Class; distances of 5000 m and 6000 m)

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USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PRINTOUT OF INPUT CARDS

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1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2      Peach Bottom
Stack Release
3      97.5 meters          10.1-96.3 meters
4
5      Peach Bottom, Tower 2 1984-1988 met data                                6          7 42872      1
7      0.500 2584.000    54.300 131.400    97.500
8      0.000 0.000 0.000 2.000 6.000 5.000 0.000
9      0.000 0.000 0.000 0.000 3.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      6.000 9.000 23.000 39.000 87.000 44.000 4.000 2.000 0.000 2.000 2.000 0.000 1.000 0.000 0.000 1.000
9      0.000 9.000 20.000 29.000 46.000 44.000 20.000 2.000 12.000 7.000 5.000 7.000 8.000 9.000 2.000 8.000
9      2.000 4.000 9.000 18.000 7.000 3.000 13.000 0.000 7.000 3.000 2.000 3.000 21.000 9.000 3.000 15.000
9      2.000 2.000 0.000 1.000 0.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 14.000 2.000 0.000 1.000
9      0.000 0.000 0.000 0.000 0.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 2.000 5.000 1.000 1.000
9      0.000 2.000 2.000 9.000 5.000 0.000 2.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      13.000 23.000 18.000 25.000 56.000 29.000 10.000 3.000 3.000 4.000 3.000 1.000 4.000 3.000 4.000 3.000
9      4.000 15.000 13.000 15.000 12.000 25.000 27.000 8.000 25.000 14.000 13.000 8.000 21.000 9.000 2.000 22.000
9      10.000 3.000 2.000 1.000 1.000 2.000 8.000 8.000 31.000 9.000 6.000 19.000 27.000 20.000 9.000 33.000
9      1.000 2.000 1.000 0.000 0.000 1.000 1.000 1.000 5.000 2.000 1.000 2.000 12.000 14.000 4.000 5.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 0.000 0.000 1.000 6.000 7.000 0.000 0.000
9      0.000 5.000 12.000 15.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      31.000 22.000 28.000 37.000 50.000 65.000 14.000 12.000 19.000 5.000 7.000 3.000 5.000 5.000 3.000 22.000
9      42.000 19.000 9.000 17.000 14.000 26.000 62.000 22.000 72.000 37.000 30.000 26.000 42.000 26.000 26.000 100.000
9      18.000 8.000 4.000 3.000 3.000 4.000 11.000 10.000 67.000 24.000 21.000 31.000 56.000 59.000 35.000 93.000
9      4.000 1.000 0.000 0.000 1.000 2.000 0.000 1.000 9.000 0.000 4.000 4.000 29.000 30.000 28.000 17.000
9      1.000 4.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 0.000 1.000 1.000 13.000 27.000 6.000 0.000
9      59.000 58.000 108.000 119.000 115.000 86.000 45.000 35.000 41.000 23.000 32.000 15.000 26.000 38.000 36.000 50.000
9      330.000 211.000 238.000 336.000 435.000 304.000 339.000 243.000 300.000 191.000 155.000 128.000 141.000 97.000 193.000 385.000
9      521.000 349.000 251.000 278.000 331.000 308.000 478.000 466.000 708.000 425.000 287.000 211.000 301.000 355.000 542.000 928.000
9      396.000 154.000 85.000 67.000 132.000 140.000 161.000 118.000 482.000 166.000 126.000 190.000 395.000 674.000 *****918.000
9      73.000 27.000 13.000 11.000 32.000 26.000 14.000 11.000 99.000 16.000 16.000 22.000 225.000 448.000 543.000 242.000
9      15.000 7.000 12.000 2.000 8.000 2.000 7.000 7.000 29.000 9.000 3.000 6.000 90.000 151.000 184.000 63.000
9      60.000 44.000 36.000 61.000 60.000 60.000 61.000 59.000 70.000 56.000 59.000 54.000 54.000 36.000 39.000 34.000
9      235.000 164.000 150.000 219.000 283.000 200.000 345.000 311.000 435.000 320.000 281.000 187.000 173.000 138.000 170.000 203.000
9      367.000 201.000 156.000 101.000 161.000 257.000 349.000 443.000 891.000 577.000 354.000 297.000 395.000 354.000 519.000 514.000
9      156.000 38.000 26.000 11.000 58.000 63.000 98.000 165.000 516.000 228.000 216.000 271.000 536.000 583.000 651.000 468.000
9      23.000 8.000 8.000 4.000 12.000 21.000 16.000 11.000 64.000 19.000 18.000 30.000 78.000 111.000 89.000 43.000
9      7.000 1.000 1.000 1.000 20.000 4.000 12.000 2.000 6.000 4.000 2.000 1.000 9.000 12.000 6.000 10.000
9      26.000 19.000 22.000 26.000 31.000 23.000 28.000 32.000 23.000 32.000 32.000 33.000 30.000 28.000 26.000 22.000
9      99.000 38.000 34.000 29.000 34.000 52.000 81.000 90.000 134.000 141.000 156.000 117.000 85.000 66.000 94.000 97.000
9      81.000 25.000 13.000 8.000 13.000 24.000 48.000 79.000 130.000 111.000 157.000 177.000 198.000 140.000 178.000 126.000

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Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS A

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007
3.35 3.61	0.014	0.021	0.054	0.091	0.203	0.103	0.009	0.005	0.000	0.005	0.005	0.000	0.002	0.000	0.000	0.002	0.513
5.59 6.02	0.000	0.021	0.047	0.068	0.107	0.103	0.047	0.005	0.028	0.016	0.012	0.016	0.019	0.021	0.005	0.019	0.532
8.27 8.91	0.005	0.009	0.021	0.042	0.016	0.007	0.030	0.000	0.016	0.007	0.005	0.007	0.049	0.021	0.007	0.035	0.278
10.73 11.56	0.005	0.005	0.000	0.002	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.033	0.005	0.000	0.002	0.058
24.59 26.49	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.012	0.002	0.002	0.028
TOTAL	0.02	0.06	0.12	0.20	0.33	0.22	0.09	0.01	0.04	0.03	0.02	0.03	0.11	0.06	0.01	0.06	1.42

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS B

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.005	0.005	0.021	0.012	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.047
3.35 3.61	0.030	0.054	0.042	0.058	0.131	0.068	0.023	0.007	0.007	0.009	0.007	0.002	0.009	0.007	0.009	0.007	0.471
5.59 6.02	0.009	0.035	0.030	0.035	0.028	0.058	0.063	0.019	0.058	0.033	0.030	0.019	0.049	0.021	0.005	0.051	0.543
8.27 8.91	0.023	0.007	0.005	0.002	0.002	0.005	0.019	0.019	0.072	0.021	0.014	0.044	0.063	0.047	0.021	0.077	0.441
10.73 11.56	0.002	0.005	0.002	0.000	0.000	0.002	0.002	0.002	0.012	0.005	0.002	0.005	0.028	0.033	0.009	0.012	0.121
24.59 26.49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.014	0.016	0.000	0.000	0.035
TOTAL	0.07	0.10	0.08	0.12	0.17	0.13	0.11	0.05	0.15	0.07	0.05	0.07	0.16	0.12	0.04	0.15	1.66

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS C

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.69	0.000	0.012	0.028	0.035	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.077
3.35 3.61	0.072	0.051	0.065	0.086	0.117	0.152	0.033	0.028	0.044	0.012	0.016	0.007	0.012	0.012	0.007	0.051	0.765
5.59 6.02	0.098	0.044	0.021	0.040	0.033	0.061	0.145	0.051	0.168	0.086	0.070	0.061	0.098	0.061	0.061	0.233	1.330
8.27 8.91	0.042	0.019	0.009	0.007	0.007	0.009	0.026	0.023	0.156	0.056	0.049	0.072	0.131	0.138	0.082	0.217	1.043
10.73 11.56	0.009	0.002	0.000	0.000	0.002	0.005	0.000	0.002	0.021	0.000	0.009	0.009	0.068	0.070	0.065	0.040	0.303
24.59 26.49	0.002	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.002	0.002	0.030	0.063	0.014	0.000	0.126
TOTAL	0.22	0.14	0.12	0.17	0.16	0.23	0.20	0.10	0.39	0.15	0.15	0.15	0.34	0.34	0.23	0.54	3.64

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS D

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.24	0.000	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005
1.56 1.69	0.138	0.135	0.252	0.278	0.268	0.201	0.105	0.082	0.096	0.054	0.075	0.035	0.061	0.089	0.084	0.117	2.067

Calculation No. PM-1055 Revision 0

Attachment J

3.35	3.61	0.770	0.492	0.555	0.784	1.015	0.709	0.791	0.567	0.700	0.446	0.362	0.299	0.329	0.226	0.450	0.898	9.391
5.59	6.02	1.215	0.814	0.585	0.648	0.772	0.718	1.115	1.087	1.651	0.991	0.669	0.492	0.702	0.828	1.264	2.165	15.719
8.27	8.91	0.924	0.359	0.198	0.156	0.308	0.327	0.376	0.275	1.124	0.387	0.294	0.443	0.921	1.572	2.423	2.141	12.229
10.73	11.56	0.170	0.063	0.030	0.026	0.075	0.061	0.033	0.026	0.231	0.037	0.037	0.051	0.525	1.045	1.267	0.564	4.241
24.59	26.49	0.035	0.016	0.028	0.005	0.019	0.005	0.016	0.016	0.068	0.021	0.007	0.014	0.210	0.352	0.429	0.147	1.388
TOTAL		3.25	1.88	1.65	1.90	2.46	2.02	2.44	2.05	3.87	1.94	1.44	1.33	2.75	4.11	5.92	6.03	45.04

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS E

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.26	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.014
1.56 1.82	0.140	0.103	0.084	0.142	0.140	0.140	0.140	0.138	0.163	0.131	0.138	0.126	0.126	0.084	0.091	0.079	1.966
3.35 3.89	0.548	0.383	0.350	0.511	0.660	0.467	0.805	0.725	1.015	0.746	0.655	0.436	0.404	0.322	0.397	0.474	8.896
5.59 6.49	0.856	0.469	0.364	0.236	0.376	0.599	0.814	1.033	2.078	1.346	0.826	0.693	0.921	0.826	1.211	1.199	13.846
8.27 9.60	0.364	0.089	0.061	0.026	0.135	0.147	0.229	0.385	1.204	0.532	0.504	0.632	1.250	1.360	1.518	1.092	9.526
10.73 12.46	0.054	0.019	0.019	0.009	0.028	0.049	0.037	0.026	0.149	0.044	0.042	0.070	0.182	0.259	0.208	0.100	1.295
24.59 28.54	0.016	0.002	0.002	0.002	0.047	0.009	0.028	0.005	0.014	0.009	0.005	0.002	0.021	0.028	0.014	0.023	0.229
TOTAL	1.98	1.06	0.88	0.93	1.39	1.41	2.06	2.31	4.62	2.81	2.17	1.96	2.90	2.88	3.44	2.97	35.77

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS F

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.26	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.012
1.56 1.82	0.061	0.044	0.051	0.061	0.072	0.054	0.065	0.075	0.054	0.075	0.075	0.077	0.070	0.065	0.061	0.051	1.010
3.35 3.89	0.231	0.089	0.079	0.068	0.079	0.121	0.189	0.210	0.313	0.329	0.364	0.273	0.198	0.154	0.219	0.226	3.142
5.59 6.49	0.189	0.058	0.030	0.019	0.030	0.056	0.112	0.184	0.303	0.259	0.366	0.413	0.462	0.327	0.415	0.294	3.517
8.27 9.60	0.009	0.002	0.002	0.000	0.000	0.005	0.016	0.019	0.103	0.054	0.091	0.254	0.392	0.322	0.210	0.075	1.553
10.73 12.46	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.042	0.056	0.042	0.000	0.012	0.161
24.59 28.54	0.000	0.000	0.000	0.000	0.009	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012
TOTAL	0.49	0.19	0.16	0.15	0.19	0.24	0.38	0.49	0.77	0.72	0.90	1.06	1.18	0.91	0.91	0.66	9.41

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS G

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.22 0.26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.56 1.82	0.026	0.033	0.026	0.023	0.030	0.012	0.009	0.021	0.040	0.021	0.014	0.042	0.030	0.033	0.030	0.044	0.434
3.35 3.89	0.110	0.044	0.051	0.044	0.030	0.014	0.065	0.023	0.079	0.072	0.084	0.079	0.093	0.082	0.163	0.138	1.173
5.59 6.49	0.037	0.012	0.009	0.005	0.005	0.005	0.019	0.014	0.023	0.049	0.119	0.163	0.161	0.103	0.215	0.198	1.136
8.27 9.60	0.002	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.005	0.002	0.019	0.061	0.091	0.091	0.021	0.012	0.308
10.73 12.46	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.005	0.000	0.000	0.009
24.59 28.54	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.005
TOTAL	0.17	0.09	0.09	0.07	0.07	0.03	0.10	0.06	0.15	0.14	0.24	0.35	0.38	0.31	0.43	0.39	3.06

WIND MEASURED AT 97.5 METERS.

WIND SPEED CORRECTED TO THE RELEASE HEIGHT OF 131.4 METERS.

OVERALL WIND DIRECTION FREQUENCY

WIND DIRECTION:	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
FREQUENCY:	6.2	3.5	3.1	3.5	4.8	4.3	5.4	5.1	10.0	5.9	5.0	5.0	7.8	8.7	11.0	10.8

OVERALL WIND SPEED FREQUENCY AS MEASURED ON THE TOWER:

MAX.WIND SPEED (M/S): 0.224 1.565 3.353 5.588 8.270 10.729 24.587  
 WIND SPEED FREQUENCY: 0.03 5.61 24.35 36.62 25.38 6.19 1.82

BUILDING AND RELEASE CHARACTERISTICS:

RELEASE HEIGHT: 131.40 METERS  
 MIXING VOLUME COEFFICIENT: 0.50  
 BUILDING CROSS-SECTIONAL AREA: 2584.00 SQUARE METERS

BOUNDARY DISTANCES (METERS) FROM THE SOURCE FOR EACH DOWNWIND SECTOR:

DOWNWIND SECTOR	S	SSW	SW	WSW	W	WNW	NW	NNW	N	NNE	NE	ENE	E	ESE	SE	SSE
BOUNDARY 1	5000.	5000.	5000.	5000.	5000.	5000.	5000.	5000.	5000.	5000.	5000.	5000.	5000.	5000.	5000.	5000.
BOUNDARY 2	6000.	6000.	6000.	6000.	6000.	6000.	6000.	6000.	6000.	6000.	6000.	6000.	6000.	6000.	6000.	6000.

DISTANCES AND TERRAIN HEIGHTS (IN METERS) AS A FUNCTION OF THE DOWNWIND SECTOR:

SECTOR	S	SSW	SW	WSW	W	WNW	NW	NNW	N	NNE	NE	ENE	E	ESE	SE	SSE
DISTANCE	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.	500.
ELEVATION	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

THE CONVERSION FACTOR APPLIED TO THE WIND SPEED CLASSES IS 0.447

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

Page 780 of 1411

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

WINDSPEEDS ADJUSTED TO 131.4 METERS.

PERCENT OF THE TIME A GIVEN WINDSPEED IS LOWER:

WINDSPEED (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.24	0.00
0.26	0.03
1.69	2.23
1.82	5.64
3.61	16.78
3.89	29.99
6.02	48.11
6.49	66.61
8.91	80.60
9.60	91.99
11.56	96.71
12.46	98.18
26.49	99.76
28.54	100.00

WINDSPEED (INTERPOLATED) (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.26	0.03
1.77	5.64
3.76	29.99
6.26	66.61
9.22	91.99
11.77	98.18
26.77	100.00

LOG-NORMAL INTERPOLATION PERCENTILES

WINDSPEED (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.81	1.00
1.30	3.00
1.66	5.00
2.19	10.00
2.61	15.00
3.00	20.00

3.38	25.00
3.76	30.00
4.05	35.00
4.35	40.00
4.66	45.00
4.98	50.00
5.32	55.00
5.70	60.00
6.11	65.00
6.50	70.00
6.90	75.00
7.37	80.00
8.11	85.00
8.78	90.00

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE USED
											MEANDER	CA=1292.SQ.METERS
A	3.6	0.23	5000.	0.	131.		131.	801.3	1000.0	0.0	0.000E+00	1.090E-07
A	8.9	0.08	5000.	0.	131.		131.	801.3	1000.0	0.0	0.000E+00	4.420E-08
A	11.6	0.08	5000.	0.	131.		131.	801.3	1000.0	0.0	0.000E+00	3.407E-08
B	3.6	0.49	5000.	0.	131.		131.	602.6	635.6	0.0	0.000E+00	2.252E-07
B	6.0	0.15	5000.	0.	131.		131.	602.6	635.6	0.0	0.000E+00	1.351E-07
B	8.9	0.38	5000.	0.	131.		131.	602.6	635.6	0.0	0.000E+00	9.129E-08
B	11.6	0.04	5000.	0.	131.		131.	602.6	635.6	0.0	0.000E+00	7.037E-08
C	3.6	1.16	5000.	0.	131.		131.	457.6	264.8	0.0	0.000E+00	6.430E-07
C	6.0	1.58	5000.	0.	131.		131.	457.6	264.8	0.0	0.000E+00	3.858E-07
C	8.9	0.68	5000.	0.	131.		131.	457.6	264.8	0.0	0.000E+00	2.607E-07
C	11.6	0.15	5000.	0.	131.		131.	457.6	264.8	0.0	0.000E+00	2.009E-07
C	26.5	0.04	5000.	0.	131.		131.	457.6	264.8	0.0	0.000E+00	8.769E-08
D	0.2	0.01	5000.	0.	131.		131.	322.2	89.1	0.0	0.000E+00	1.552E-05
D	1.7	2.22	5000.	0.	131.		131.	322.2	89.1	0.0	0.000E+00	2.217E-06
D	3.6	12.39	5000.	0.	131.		131.	322.2	89.1	0.0	0.000E+00	1.035E-06
D	6.0	19.57	5000.	0.	131.		131.	322.2	89.1	0.0	0.000E+00	6.207E-07
D	8.9	14.87	5000.	0.	131.		131.	322.2	89.1	0.0	0.000E+00	4.194E-07
D	11.6	2.74	5000.	0.	131.		131.	322.2	89.1	0.0	0.000E+00	3.233E-07
D	26.5	0.56	5000.	0.	131.		131.	322.2	89.1	0.0	0.000E+00	1.411E-07
E	0.3	0.02	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	8.835E-06
E	1.8	2.25	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	1.262E-06
E	3.9	8.83	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	5.890E-07
E	6.5	13.78	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	3.534E-07
E	9.6	5.86	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	2.388E-07
E	12.5	0.86	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	1.841E-07
E	28.5	0.26	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	4.813E-06
F	1.8	0.98	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	6.875E-07
F	3.9	3.72	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	3.208E-07
F	6.5	3.04	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	1.925E-07
F	9.6	0.15	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	1.301E-07
F	12.5	0.04	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	1.003E-07
G	1.8	0.41	90000.	0.	131.		131.	1000.0	46.0	0.0	0.000E+00	6.449E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	1.77	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08



**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

S SECTOR BOUNDARY DISTANCE = 5000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.552E-05	8.835E-06	4.813E-06	2.217E-06	1.262E-06	1.035E-06	6.875E-07	6.430E-07	6.207E-07	5.890E-07
0.005	0.021	0.032	2.248	4.501	16.894	17.870	19.034	38.600	47.425
0.00031	0.00131	0.00201	0.13963	0.27958	1.04931	1.10996	1.18226	2.39751	2.94565
4.194E-07	3.858E-07	3.534E-07	3.233E-07	3.208E-07	2.607E-07	2.388E-07	2.252E-07	2.009E-07	1.925E-07
62.296	63.873	77.656	80.397	84.115	84.791	90.649	91.137	91.288	94.329
3.86933	3.96730	4.82334	4.99361	5.22453	5.26651	5.63039	5.66071	5.67004	5.85898
1.841E-07	1.411E-07	1.351E-07	1.301E-07	1.090E-07	1.003E-07	9.129E-08	8.769E-08	8.032E-08	7.037E-08
95.193	95.756	95.907	96.057	96.282	96.320	96.695	96.733	96.996	97.033
5.91262	5.94761	5.95694	5.96627	5.98027	5.98260	6.00592	6.00826	6.02458	6.02692
6.449E-08	4.420E-08	3.407E-08	3.010E-08	1.806E-08	1.220E-08				
97.446	97.521	97.597	99.362	99.962	100.000				
6.05258	6.05724	6.06190	6.17153	6.20885	6.21119				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.048  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 2.943

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.820  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.221  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 5.627  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 5.909  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8)= 5.962

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
1	1	-11.07347	-16.61019	-1.22524
1	2	-13.78152	-16.88224	-1.34308
1	3	-14.34482	-18.60250	-2.25362
1	4	-14.85564	-18.99944	-2.49237
1	5	-14.95230	-27.95224	-8.00582
1	6	-15.24768	-32.14872	-10.65024
1	7	-15.50797	-134.96260	-76.45212
1	8	-15.85517	NUMXQ(K) = 8	

3.196E-06	0.062	1.000
2.137E-06	0.186	3.000
1.748E-06	0.311	5.000
1.308E-06	0.621	10.000
1.093E-06	0.932	15.000
9.488E-07	1.242	20.000
8.437E-07	1.553	25.000
7.643E-07	1.863	30.000
7.016E-07	2.174	35.000
6.504E-07	2.484	40.000
6.075E-07	2.795	45.000
5.588E-07	3.106	50.000
5.076E-07	3.416	55.000
4.643E-07	3.727	60.000
4.272E-07	4.037	65.000
3.951E-07	4.348	70.000
3.670E-07	4.658	75.000
3.410E-07	4.969	80.000
3.079E-07	5.280	85.000
2.457E-07	5.590	90.000
1.436E-06	0.5	8.05

ANNUAL AVERAGE = 1.63E-08

K= 1 FIVEXQ(K) = 1.436E-06 FIVEPR(K) = 8.050

FUMIGATION X/Q AT THE BOUNDARY: 9.60E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.789E-01	8.841E-01	3.613E-01	3.371E-01	2.081E-01	1.693E-02
0.376	1.427	5.032	12.967	65.322	97.183	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
									MEANDER	BLDG WAKE	USED
AT 131.4 METERS									CA=1292.SQ.METERS		
A	3.6	0.60	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.090E-07
A	6.0	0.60	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	6.541E-08
A	8.9	0.26	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	4.420E-08
A	11.6	0.13	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	3.407E-08
B	1.7	0.13	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	4.825E-07
B	3.6	1.52	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	2.252E-07
B	6.0	0.99	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	1.351E-07
B	8.9	0.20	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	9.129E-08
B	11.6	0.13	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	7.037E-08
C	1.7	0.33	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	1.378E-06
C	3.6	1.46	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	6.430E-07
C	6.0	1.26	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	3.858E-07
C	8.9	0.53	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.607E-07
C	11.6	0.07	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.009E-07
C	26.5	0.26	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	8.769E-08
D	0.2	0.01	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.552E-05
D	1.7	3.84	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	2.217E-06
D	3.6	13.96	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.035E-06
D	6.0	23.09	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	6.207E-07
D	8.9	10.19	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	4.194E-07
D	11.6	1.79	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	3.233E-07
D	26.5	0.46	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.411E-07
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	2.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	10.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	13.30	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	2.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	0.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.26	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	2.51	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	0.07	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07

G	1.8	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.26	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SSW SECTOR BOUNDARY DISTANCE = 5000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.552E-05	8.835E-06	4.813E-06	2.217E-06	1.378E-06	1.262E-06	1.035E-06	6.875E-07	6.430E-07	6.207E-07
0.009	0.029	0.044	3.881	4.211	7.122	21.080	22.337	23.793	46.880
0.00031	0.00104	0.00155	0.13683	0.14850	0.25113	0.74329	0.78761	0.83892	1.65297
5.890E-07	4.825E-07	4.194E-07	3.858E-07	3.534E-07	3.233E-07	3.208E-07	2.607E-07	2.388E-07	2.252E-07
57.729	57.861	68.048	69.305	82.602	84.388	86.902	87.431	89.945	91.466
2.03551	2.04017	2.39938	2.44370	2.91254	2.97552	3.06415	3.08281	3.17145	3.22510
2.009E-07	1.925E-07	1.841E-07	1.411E-07	1.351E-07	1.301E-07	1.090E-07	9.129E-08	8.769E-08	8.032E-08
91.533	93.186	93.716	94.179	95.171	95.237	95.832	96.031	96.295	96.362
3.22743	3.28574	3.30440	3.32073	3.35572	3.35805	3.37904	3.38604	3.39537	3.39770
7.037E-08	6.541E-08	6.449E-08	4.420E-08	3.407E-08	3.010E-08	1.806E-08			
96.494	97.089	98.015	98.280	98.412	99.669	100.000			
3.40237	3.42336	3.45602	3.46535	3.47001	3.51433	3.52599			

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.137  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.742

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.033  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.910  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.061  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 3.222  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8)= 3.301

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
2	1	-11.07347	-16.83918	-1.27489
2	2	-13.01938	-17.09619	-1.36067
2	3	-13.78152	-17.30774	-1.44751
2	4	-14.34482	-21.19314	-3.34569
2	5	-14.85564	-23.04319	-4.32237
2	6	-14.95230	-44.07473	-15.55797
2	7	-15.30636	-49.59945	-18.54575
2	8	-15.50797	NUMXQ(K)= 8	
		3.652E-06	0.035	1.000
		2.448E-06	0.106	3.000
		1.993E-06	0.176	5.000
		1.471E-06	0.353	10.000
		1.219E-06	0.529	15.000
		1.062E-06	0.705	20.000
		9.453E-07	0.881	25.000
		8.566E-07	1.058	30.000
		7.866E-07	1.234	35.000
		7.296E-07	1.410	40.000
		6.820E-07	1.587	45.000
		6.414E-07	1.763	50.000
		6.063E-07	1.939	55.000
		5.583E-07	2.116	60.000
		4.990E-07	2.292	65.000
		4.491E-07	2.468	70.000
		4.068E-07	2.644	75.000
		3.704E-07	2.821	80.000
		3.347E-07	2.997	85.000
		2.519E-07	3.173	90.000
		1.252E-06	0.5	14.18

ANNUAL AVERAGE = 1.10E-08

K= 2 FIVEXQ(K)= 1.252E-06 FIVEPR(K)=14.180

FUMIGATION X/Q AT THE BOUNDARY: 9.60E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.789E-01	8.841E-01	3.613E-01	3.371E-01	2.081E-01	1.693E-02
1.588	4.565	8.467	13.973	67.300	97.486	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	3.6	1.73	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.090E-07				
A	6.0	1.50	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	6.541E-08				
A	8.9	0.68	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	4.420E-08				
B	1.7	0.15	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	4.825E-07				
B	3.6	1.35	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	2.252E-07				
B	6.0	0.98	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	1.351E-07				
B	8.9	0.15	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	9.129E-08				
B	11.6	0.08	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	7.037E-08				
C	1.7	0.90	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	1.378E-06				
C	3.6	2.10	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	6.430E-07				
C	6.0	0.68	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	3.858E-07				
C	8.9	0.30	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.607E-07				
D	0.2	0.02	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.552E-05				
D	1.7	8.10	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	2.217E-06				
D	3.6	17.86	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.035E-06				
D	6.0	18.83	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	6.207E-07				
D	8.9	6.38	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	4.194E-07				
D	11.6	0.98	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	3.233E-07				
D	26.5	0.90	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.411E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	2.70	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	11.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	11.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	1.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	0.60	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.08	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	2.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	0.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
G	1.8	0.83	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08				
G	3.9	1.65	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08				

G 6.5 0.30 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.806E-08



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 5000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.552E-05	8.835E-06	4.813E-06	2.217E-06	1.378E-06	1.262E-06	1.035E-06	6.875E-07	6.430E-07	6.207E-07
0.018	0.038	0.057	8.160	9.060	11.762	29.619	31.270	33.371	52.204
0.00057	0.00117	0.00176	0.25367	0.28166	0.36563	0.92077	0.97209	1.03740	1.62286
5.890E-07	4.825E-07	4.194E-07	3.858E-07	3.534E-07	3.233E-07	3.208E-07	2.607E-07	2.388E-07	2.252E-07
63.459	63.609	69.987	70.662	82.367	83.343	85.894	86.194	88.145	89.495
1.97274	1.97741	2.17567	2.19666	2.56054	2.59086	2.67017	2.67950	2.74014	2.78213
1.925E-07	1.841E-07	1.411E-07	1.351E-07	1.301E-07	1.090E-07	9.129E-08	8.032E-08	7.037E-08	6.541E-08
90.471	91.071	91.972	92.947	93.022	94.748	94.898	94.973	95.048	96.549
2.81245	2.83111	2.85910	2.88942	2.89176	2.94541	2.95007	2.95240	2.95474	3.00139
6.449E-08	4.420E-08	3.010E-08	1.806E-08						
97.374	98.049	99.700	100.000						
3.02704	3.04804	3.09935	3.10868						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED.

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.253  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.920

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.971  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.558  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 2.668  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 2.779  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8)= 2.828

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
3	1	-11.07347	-16.45701	-1.22654
3	2	-13.01938	-17.81836	-1.71227
3	3	-13.78152	-18.24187	-1.89191
3	4	-14.34482	-23.93557	-4.65604
3	5	-14.85564	-25.28885	-5.34998
3	6	-14.95230	-53.33327	-19.86519
3	7	-15.30636	-66.01868	-26.49202
3	8	-15.50797	NUMXQ(K) = 8	

4.739E-06	0.031	1.000
3.237E-06	0.093	3.000
2.679E-06	0.155	5.000
1.979E-06	0.311	10.000
1.568E-06	0.466	15.000
1.320E-06	0.622	20.000
1.151E-06	0.777	25.000
1.025E-06	0.933	30.000
9.190E-07	1.088	35.000
8.343E-07	1.243	40.000
7.650E-07	1.399	45.000
7.071E-07	1.554	50.000
6.578E-07	1.710	55.000
6.152E-07	1.865	60.000
5.625E-07	2.021	65.000
4.872E-07	2.176	70.000
4.256E-07	2.332	75.000
3.746E-07	2.487	80.000
3.287E-07	2.642	85.000
2.110E-07	2.798	90.000
1.504E-06	0.5	16.08

ANNUAL AVERAGE = 1.22E-08

K= 3 FIVEXQ(K)= 1.504E-06 FIVEPR(K)=16.084

FUMIGATION X/Q AT THE BOUNDARY: 9.60E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.789E-01	8.841E-01	3.613E-01	3.371E-01	2.081E-01	1.693E-02
3.902	6.603	10.580	15.851	68.917	97.224	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	HT EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS										CA=1292 .SQ.METERS		
A	3.6	2.58	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.090E-07	
A	6.0	1.92	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	6.541E-08	
A	8.9	1.19	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	4.420E-08	
A	11.6	0.07	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	3.407E-08	
B	1.7	0.59	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	4.825E-07	
B	3.6	1.65	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	2.252E-07	
B	6.0	0.99	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	1.351E-07	
B	8.9	0.07	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	9.129E-08	
C	1.7	0.99	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	1.378E-06	
C	3.6	2.44	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	6.430E-07	
C	6.0	1.12	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	3.858E-07	
C	8.9	0.20	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.607E-07	
D	0.2	0.02	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.552E-05	
D	1.7	7.86	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	2.217E-06	
D	3.6	22.19	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.035E-06	
D	6.0	18.36	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	6.207E-07	
D	8.9	4.43	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	4.194E-07	
D	11.6	0.73	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	3.233E-07	
D	26.5	0.13	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.411E-07	
E	0.3	0.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	4.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	14.46	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	6.67	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	1.92	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	0.53	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
G	1.8	0.66	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	1.25	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	
G	6.5	0.13	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08	

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 5000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.552E-05	8.835E-06	4.813E-06	2.217E-06	1.378E-06	1.262E-06	1.035E-06	6.875E-07	6.430E-07	6.207E-07
0.018	0.046	0.066	7.926	8.917	12.946	35.139	36.856	39.300	57.662
0.00063	0.00164	0.00234	0.27991	0.31490	0.45718	1.24091	1.30156	1.38786	2.03630
5.890E-07	4.825E-07	4.194E-07	3.858E-07	3.534E-07	3.233E-07	3.208E-07	2.607E-07	2.388E-07	2.252E-07
72.127	72.721	77.147	78.270	84.941	85.667	87.583	87.781	88.507	90.159
2.54712	2.56812	2.72440	2.76405	2.99963	3.02529	3.09293	3.09993	3.12559	3.18390
1.925E-07	1.841E-07	1.411E-07	1.351E-07	1.090E-07	9.129E-08	8.032E-08	6.541E-08	6.449E-08	4.420E-08
90.687	90.951	91.083	92.074	94.650	94.716	94.782	96.697	97.358	98.547
3.20256	3.21189	3.21656	3.25155	3.34251	3.34485	3.34718	3.41482	3.43815	3.48013
3.407E-08	3.010E-08	1.806E-08							
98.613	99.868	100.000							
3.48247	3.52678	3.53145							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.280  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 1.239

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.545  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.090  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.181

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
4	1	-11.07347	-16.39500	-1.21828
4	2	-13.01938	-17.03303	-1.44855
4	3	-13.78152	-18.10773	-1.92733
4	4	-14.34482	-28.35265	-7.17470
4	5	-14.95230	-66.28492	-27.48405
4	6	-15.30636	NUMXQ(K)= 6	
		4.698E-06	0.035	1.000
		3.205E-06	0.106	3.000
		2.651E-06	0.177	5.000
		1.984E-06	0.353	10.000
		1.625E-06	0.530	15.000
		1.402E-06	0.706	20.000
		1.246E-06	0.883	25.000
		1.129E-06	1.059	30.000
		1.037E-06	1.236	35.000
		9.387E-07	1.413	40.000
		8.580E-07	1.589	45.000
		7.907E-07	1.766	50.000
		7.336E-07	1.942	55.000
		6.844E-07	2.119	60.000
		6.415E-07	2.295	65.000
		6.037E-07	2.472	70.000
		5.221E-07	2.649	75.000
		4.270E-07	2.825	80.000
		3.528E-07	3.002	85.000
		2.301E-07	3.178	90.000
		1.672E-06	0.5	14.16

ANNUAL AVERAGE = 1.49E-08

K= 4 FIVEXQ(K)= 1.672E-06 FIVEPR(K)=14.158

FUMIGATION X/Q AT THE BOUNDARY: 9.60E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.789E-01	8.841E-01	3.613E-01	3.371E-01	2.081E-01	1.693E-02
5.746	9.049	13.804	17.985	71.702	97.952	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	1.7	0.15	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	2.336E-07				
A	3.6	4.26	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.090E-07				
A	6.0	2.25	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	6.541E-08				
A	8.9	0.34	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	4.420E-08				
B	1.7	0.24	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	4.825E-07				
B	3.6	2.74	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	2.252E-07				
B	6.0	0.59	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	1.351E-07				
B	8.9	0.05	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	9.129E-08				
C	1.7	0.05	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	1.378E-06				
C	3.6	2.45	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	6.430E-07				
C	6.0	0.68	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	3.858E-07				
C	8.9	0.15	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.607E-07				
C	11.6	0.05	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.009E-07				
D	0.2	0.01	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.552E-05				
D	1.7	5.63	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	2.217E-06				
D	3.6	21.28	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.035E-06				
D	6.0	16.19	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	6.207E-07				
D	8.9	6.46	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	4.194E-07				
D	11.6	1.57	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	3.233E-07				
D	26.5	0.39	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.411E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	2.94	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	7.88	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	2.84	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	0.59	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	1.66	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	0.64	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	28.5	0.20	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08				
G	1.8	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08				

G	3.9	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.10	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 5000.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values and frequencies. The values are arranged in four groups of three rows each, showing a general decrease in CHI/Q values from top to bottom.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.270
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 1.426



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 3.046  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.927  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.207  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 4.517

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
5	1	-11.07347	-16.41560	-1.22091
5	2	-13.01938	-16.60268	-1.28817
5	3	-13.78152	-17.68601	-1.78282
5	4	-14.34482	-24.25434	-5.28761
5	5	-14.95230	-34.39073	-11.04951
5	6	-15.30636	-52.63703	-21.61379
5	7	-16.03172	NUMXQ(K)= 7	
		4.195E-06	0.048	1.000
		2.833E-06	0.143	3.000
		2.331E-06	0.238	5.000
		1.738E-06	0.477	10.000
		1.446E-06	0.715	15.000
		1.262E-06	0.954	20.000
		1.132E-06	1.192	25.000
		1.033E-06	1.430	30.000
		9.262E-07	1.669	35.000
		8.408E-07	1.907	40.000
		7.709E-07	2.146	45.000
		7.123E-07	2.384	50.000
		6.623E-07	2.622	55.000
		6.192E-07	2.861	60.000
		5.669E-07	3.099	65.000
		4.759E-07	3.337	70.000
		4.036E-07	3.576	75.000
		3.452E-07	3.814	80.000
		2.742E-07	4.053	85.000
		1.857E-07	4.291	90.000
		1.701E-06	0.5	10.49

ANNUAL AVERAGE = 1.73E-08

K= 5 FIVEXQ(K)= 1.701E-06 FIVEPR(K)=10.487

FUMIGATION X/Q AT THE BOUNDARY: 9.60E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.789E-01	8.841E-01	3.613E-01	3.371E-01	2.081E-01	1.693E-02
6.996	10.616	13.992	18.021	69.549	98.630	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
										MEANDER	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS		
A	3.6	2.40	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.090E-07	
A	6.0	2.40	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	6.541E-08	
A	8.9	0.16	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	4.420E-08	
A	11.6	0.05	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	3.407E-08	
A	26.5	0.05	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.487E-08	
B	3.6	1.58	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	2.252E-07	
B	6.0	1.36	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	1.351E-07	
B	8.9	0.11	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	9.129E-08	
B	11.6	0.05	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	7.037E-08	
C	3.6	3.54	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	6.430E-07	
C	6.0	1.42	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	3.858E-07	
C	8.9	0.22	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.607E-07	
C	11.6	0.11	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.009E-07	
D	0.2	0.01	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.552E-05	
D	1.7	4.69	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	2.217E-06	
D	3.6	16.58	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.035E-06	
D	6.0	16.79	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	6.207E-07	
D	8.9	7.63	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	4.194E-07	
D	11.6	1.42	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	3.233E-07	
D	26.5	0.11	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.411E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	3.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	10.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	14.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	3.44	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	1.15	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.25	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	2.84	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	1.31	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
F	28.5	0.05	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08	

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 5000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.552E-05	8.835E-06	4.813E-06	2.217E-06	1.262E-06	1.035E-06	6.875E-07	6.430E-07	6.207E-07	5.890E-07
0.011	0.034	0.048	4.738	8.010	24.586	25.841	29.385	46.180	57.086
0.00045	0.00145	0.00207	0.20267	0.34262	1.05170	1.10535	1.25697	1.97538	2.44189
4.194E-07	3.858E-07	3.534E-07	3.233E-07	3.208E-07	2.607E-07	2.388E-07	2.252E-07	2.009E-07	1.925E-07
64.720	66.137	80.151	81.569	84.405	84.623	88.058	89.639	89.749	91.057
2.76844	2.82909	3.42855	3.48919	3.61048	3.61981	3.76676	3.83441	3.83907	3.89505
1.841E-07	1.411E-07	1.351E-07	1.301E-07	1.090E-07	9.129E-08	8.032E-08	7.037E-08	6.541E-08	6.449E-08
92.202	92.311	93.675	93.784	96.183	96.292	96.510	96.565	98.964	99.237
3.94403	3.94870	4.00701	4.01168	4.11431	4.11897	4.12830	4.13064	4.23327	4.24493
4.420E-08	4.375E-08	3.407E-08	3.010E-08	1.806E-08	1.487E-08				
99.400	99.455	99.509	99.836	99.945	100.000				
4.25193	4.25426	4.25659	4.27059	4.27525	4.27759				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.202  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 1.050

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.439  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.425  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.607  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 3.831  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8)= 3.941  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 9)= 4.111

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
6	1	-11.07347	-16.59526	-1.24408
6	2	-13.01938	-16.88623	-1.34531
6	3	-13.78152	-17.63477	-1.66966
6	4	-14.34482	-21.10955	-3.43311
6	5	-14.85564	-22.36490	-4.12224
6	6	-14.95230	-38.04827	-12.84396
6	7	-15.30636	-42.72429	-15.48485
6	8	-15.50797	-62.35400	-26.65326
6	9	-16.03172	NUMXQ(K)= 9	

3.929E-06	0.043	1.000
2.643E-06	0.128	3.000
2.167E-06	0.214	5.000
1.595E-06	0.428	10.000
1.320E-06	0.642	15.000
1.147E-06	0.856	20.000
1.024E-06	1.069	25.000
9.111E-07	1.283	30.000
8.237E-07	1.497	35.000
7.535E-07	1.711	40.000
6.955E-07	1.925	45.000
6.466E-07	2.139	50.000
6.048E-07	2.353	55.000
5.475E-07	2.567	60.000
4.861E-07	2.780	65.000
4.349E-07	2.994	70.000
3.915E-07	3.208	75.000
3.544E-07	3.422	80.000
3.079E-07	3.636	85.000
2.188E-07	3.850	90.000
1.485E-06	0.5	11.69

ANNUAL AVERAGE = 1.40E-08

K= 6 FIVEXQ(K)= 1.485E-06 FIVEPR(K)=11.689

FUMIGATION X/Q AT THE BOUNDARY: 9.60E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.789E-01	8.841E-01	3.613E-01	3.371E-01	2.081E-01	1.693E-02
5.071	8.179	13.469	19.045	66.278	99.291	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	3.6	0.17	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.090E-07				
A	6.0	0.87	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	6.541E-08				
A	8.9	0.56	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	4.420E-08				
B	1.7	0.09	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	4.825E-07				
B	3.6	0.43	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	2.252E-07				
B	6.0	1.17	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	1.351E-07				
B	8.9	0.35	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	9.129E-08				
B	11.6	0.04	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	7.037E-08				
C	3.6	0.61	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	6.430E-07				
C	6.0	2.69	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	3.858E-07				
C	8.9	0.48	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.607E-07				
D	0.2	0.00	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.552E-05				
D	1.7	1.95	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	2.217E-06				
D	3.6	14.72	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.035E-06				
D	6.0	20.76	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	6.207E-07				
D	8.9	6.99	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	4.194E-07				
D	11.6	0.61	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	3.233E-07				
D	26.5	0.30	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.411E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	2.65	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	14.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	15.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	4.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	0.69	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.52	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.22	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	2.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	0.30	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
G	1.8	0.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08				
G	3.9	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08				
G	6.5	0.35	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08				

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 5000.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across four rows of data.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 1.039
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 3.055



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.393  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.614  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.869  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 5.041

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
7	1	-11.07347	-16.54720	-1.19621
7	2	-13.78152	-16.74663	-1.28246
7	3	-14.34482	-20.10755	-3.07705
7	4	-14.85564	-21.91845	-4.13804
7	5	-14.95230	-34.28811	-11.48588
7	6	-15.24768	-40.84837	-15.44327
7	7	-15.50797	NUMXQ(K)= 7	
		3.256E-06	0.054	1.000
		2.208E-06	0.161	3.000
		1.820E-06	0.269	5.000
		1.377E-06	0.537	10.000
		1.159E-06	0.806	15.000
		1.018E-06	1.074	20.000
		9.124E-07	1.343	25.000
		8.319E-07	1.611	30.000
		7.679E-07	1.880	35.000
		7.154E-07	2.149	40.000
		6.713E-07	2.417	45.000
		6.335E-07	2.686	50.000
		6.006E-07	2.954	55.000
		5.481E-07	3.223	60.000
		4.906E-07	3.491	65.000
		4.422E-07	3.760	70.000
		4.009E-07	4.029	75.000
		3.653E-07	4.297	80.000
		3.281E-07	4.566	85.000
		2.494E-07	4.834	90.000
		1.419E-06	0.5	9.31

ANNUAL AVERAGE = 1.45E-08

K= 7 FIVEXQ(K)= 1.419E-06 FIVEPR(K)= 9.308

FUMIGATION X/Q AT THE BOUNDARY: 9.60E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.789E-01	8.841E-01	3.613E-01	3.371E-01	2.081E-01	1.693E-02
1.607	3.691	7.469	14.605	59.944	98.220	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
									MEANDER	BLDG WAKE	USED
	AT 131.4 METERS								CA=1292.SQ.METERS		
A	3.6	0.09	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.090E-07
A	6.0	0.09	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	6.541E-08
B	3.6	0.14	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	2.252E-07
B	6.0	0.37	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	1.351E-07
B	8.9	0.37	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	9.129E-08
B	11.6	0.05	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	7.037E-08
C	3.6	0.55	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	6.430E-07
C	6.0	1.01	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	3.858E-07
C	8.9	0.46	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.607E-07
C	11.6	0.05	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.009E-07
D	0.2	0.00	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.552E-05
D	1.7	1.61	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	2.217E-06
D	3.6	11.17	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.035E-06
D	6.0	21.42	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	6.207E-07
D	8.9	5.42	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	4.194E-07
D	11.6	0.51	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	3.233E-07
D	26.5	0.32	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.411E-07
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	2.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	14.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	20.36	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	7.58	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	0.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.47	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	4.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.63	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	0.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.46	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 5000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.552E-05	8.835E-06	4.813E-06	2.217E-06	1.262E-06	1.035E-06	6.875E-07	6.430E-07	6.207E-07	5.890E-07
0.004	0.023	0.040	1.648	4.360	15.528	16.999	17.550	38.967	53.260
0.00018	0.00116	0.00203	0.08366	0.22128	0.78809	0.86273	0.89072	1.97767	2.70309
4.194E-07	3.858E-07	3.534E-07	3.233E-07	3.208E-07	2.607E-07	2.388E-07	2.252E-07	2.009E-07	1.925E-07
58.683	59.694	80.054	80.559	84.696	85.155	92.739	92.876	92.922	96.553
2.97833	3.02964	4.06295	4.08861	4.29854	4.32186	4.70673	4.71373	4.71606	4.90033
1.841E-07	1.411E-07	1.351E-07	1.301E-07	1.090E-07	9.129E-08	8.032E-08	7.037E-08	6.541E-08	6.449E-08
97.059	97.380	97.748	98.116	98.208	98.575	98.667	98.713	98.805	99.219
4.92599	4.94231	4.96097	4.97963	4.98430	5.00296	5.00762	5.00996	5.01462	5.03561
3.010E-08	1.806E-08	1.220E-08							
99.678	99.954	100.000							
5.05894	5.07293	5.07527							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 2.700  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 4.060

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4 ) = 4.295  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5 ) = 4.703  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6 ) = 4.897

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
8	1	-11.07347	-16.67805	-1.21096
8	2	-14.34482	-19.72460	-2.79213
8	3	-14.85564	-21.24304	-3.66288
8	4	-14.95230	-26.72820	-6.85671
8	5	-15.24768	-33.85044	-11.11045
8	6	-15.46313	NUMXQ(K) = 6	

3.057E-06	0.051	1.000
2.067E-06	0.152	3.000
1.701E-06	0.254	5.000
1.285E-06	0.508	10.000
1.080E-06	0.761	15.000
9.496E-07	1.015	20.000
8.566E-07	1.269	25.000
7.856E-07	1.523	30.000
7.289E-07	1.776	35.000
6.822E-07	2.030	40.000
6.427E-07	2.284	45.000
6.088E-07	2.538	50.000
5.665E-07	2.791	55.000
5.092E-07	3.045	60.000
4.610E-07	3.299	65.000
4.199E-07	3.553	70.000
3.845E-07	3.806	75.000
3.537E-07	4.060	80.000
3.172E-07	4.314	85.000
2.634E-07	4.568	90.000
1.293E-06	0.5	9.85

ANNUAL AVERAGE = 1.22E-08

K= 8 FIVEXQ(K) = 1.293E-06 FIVEPR(K) = 9.852

FUMIGATION X/Q AT THE BOUNDARY: 9.60E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.789E-01	8.841E-01	3.613E-01	3.371E-01	2.081E-01	1.693E-02
0.184	1.103	3.171	12.793	53.241	98.805	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS		
A	6.0	0.28	5000.	0.	131.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	6.541E-08
A	8.9	0.16	5000.	0.	131.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	4.420E-08
B	3.6	0.07	5000.	0.	131.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	2.252E-07
B	6.0	0.58	5000.	0.	131.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	1.351E-07
B	8.9	0.72	5000.	0.	131.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	9.129E-08
B	11.6	0.12	5000.	0.	131.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	7.037E-08
B	26.5	0.02	5000.	0.	131.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	3.071E-08
C	3.6	0.44	5000.	0.	131.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	6.430E-07
C	6.0	1.68	5000.	0.	131.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	3.858E-07
C	8.9	1.56	5000.	0.	131.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.607E-07
C	11.6	0.21	5000.	0.	131.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.009E-07
C	26.5	0.02	5000.	0.	131.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	8.769E-08
D	0.2	0.00	5000.	0.	131.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.552E-05
D	1.7	0.96	5000.	0.	131.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	2.217E-06
D	3.6	7.00	5000.	0.	131.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.035E-06
D	6.0	16.51	5000.	0.	131.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	6.207E-07
D	8.9	11.24	5000.	0.	131.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	4.194E-07
D	11.6	2.31	5000.	0.	131.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	3.233E-07
D	26.5	0.68	5000.	0.	131.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.411E-07
E	0.3	0.01	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	1.63	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	10.14	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	20.78	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	12.03	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	1.49	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.14	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	0.54	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	3.13	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.03	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	1.03	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
G	1.8	0.40	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.79	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08

G	6.5	0.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

N SECTOR BOUNDARY DISTANCE = 5000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.552E-05	8.835E-06	4.813E-06	2.217E-06	1.262E-06	1.035E-06	6.875E-07	6.430E-07	6.207E-07	5.890E-07
0.002	0.014	0.020	0.976	2.609	9.605	10.142	10.585	27.096	37.241
0.00022	0.00138	0.00200	0.09763	0.26091	0.96067	1.01431	1.05863	2.71006	3.72471
4.194E-07	3.858E-07	3.534E-07	3.233E-07	3.208E-07	2.607E-07	2.388E-07	2.252E-07	2.009E-07	1.925E-07
48.482	50.162	70.941	73.250	76.375	77.938	89.972	90.042	90.252	93.283
4.84898	5.01692	7.09520	7.32612	7.63868	7.79496	8.99854	9.00554	9.02654	9.32976
1.841E-07	1.411E-07	1.351E-07	1.301E-07	9.129E-08	8.769E-08	8.032E-08	7.037E-08	6.541E-08	6.449E-08
94.776	95.452	96.035	97.061	97.784	97.808	97.948	98.064	98.344	98.741
9.47904	9.54669	9.60500	9.70763	9.77994	9.78227	9.79627	9.80793	9.83592	9.87557
4.420E-08	3.071E-08	3.010E-08	1.806E-08	1.220E-08					
98.904	98.927	99.720	99.953	100.000					
9.89190	9.89423	9.97354	9.99686	10.00153					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 3.721  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 7.091

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 7.635  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 8.995  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 9.476  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 9.704

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
9	1	-11.07347	-16.42065	-1.16361
9	2	-14.34482	-17.23833	-1.62195
9	3	-14.85564	-18.50069	-2.48127
9	4	-14.95230	-19.69819	-3.31865
9	5	-15.24768	-27.26647	-8.96216
9	6	-15.50797	-49.41096	-25.84037
9	7	-15.85517	NUMXQ(K)= 7	
		2.694E-06	0.100	1.000
		1.809E-06	0.300	3.000
		1.481E-06	0.500	5.000
		1.108E-06	1.000	10.000
		9.235E-07	1.500	15.000
		8.066E-07	2.000	20.000
		7.232E-07	2.500	25.000
		6.595E-07	3.000	30.000
		6.087E-07	3.501	35.000
		5.584E-07	4.001	40.000
		5.104E-07	4.501	45.000
		4.703E-07	5.001	50.000
		4.360E-07	5.501	55.000
		4.063E-07	6.001	60.000
		3.804E-07	6.501	65.000
		3.574E-07	7.001	70.000
		3.286E-07	7.501	75.000
		2.955E-07	8.001	80.000
		2.649E-07	8.501	85.000
		2.384E-07	9.001	90.000
		1.481E-06	0.5	5.00

ANNUAL AVERAGE = 2.00E-08

K= 9 FIVEXQ(K)= 1.481E-06 FIVEPR(K)= 4.999

FUMIGATION X/Q AT THE BOUNDARY: 9.60E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.789E-01	8.841E-01	3.613E-01	3.371E-01	2.081E-01	1.693E-02
0.443	1.959	5.877	13.603	52.296	98.531	100.000



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS									CA=1292 .SQ.METERS			
A	3.6	0.08	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.090E-07	
A	6.0	0.28	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	6.541E-08	
A	8.9	0.12	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	4.420E-08	
B	3.6	0.16	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	2.252E-07	
B	6.0	0.56	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	1.351E-07	
B	8.9	0.36	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	9.129E-08	
B	11.6	0.08	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	7.037E-08	
C	3.6	0.20	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	6.430E-07	
C	6.0	1.47	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	3.858E-07	
C	8.9	0.95	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.607E-07	
D	0.2	0.00	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.552E-05	
D	1.7	0.91	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	2.217E-06	
D	3.6	7.60	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.035E-06	
D	6.0	16.91	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	6.207E-07	
D	8.9	6.60	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	4.194E-07	
D	11.6	0.64	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	3.233E-07	
D	26.5	0.36	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.411E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	12.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	22.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	9.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.76	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.27	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	5.61	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	4.42	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	0.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
F	12.5	0.12	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07	
G	1.8	0.36	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	1.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	
G	6.5	0.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08	

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08

Calculation No. PM-1055 Revision 0

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USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 5000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.552E-05	8.835E-06	4.813E-06	2.217E-06	1.262E-06	1.035E-06	6.875E-07	6.430E-07	6.207E-07	5.890E-07
0.002	0.018	0.033	0.948	3.175	10.773	12.046	12.245	29.152	41.881
0.00012	0.00105	0.00191	0.05556	0.18618	0.63169	0.70634	0.71800	1.70932	2.45573
4.194E-07	3.858E-07	3.534E-07	3.233E-07	3.208E-07	2.607E-07	2.388E-07	2.252E-07	1.925E-07	1.841E-07
48.485	49.957	72.910	73.546	79.155	80.110	89.180	89.339	93.755	94.510
2.84293	2.92923	4.27510	4.31242	4.64130	4.69729	5.22910	5.23843	5.49734	5.54166
1.411E-07	1.351E-07	1.301E-07	1.090E-07	1.003E-07	9.129E-08	8.032E-08	7.037E-08	6.541E-08	6.449E-08
94.868	95.425	96.340	96.420	96.539	96.897	97.056	97.136	97.414	97.772
5.56265	5.59531	5.64895	5.65362	5.66062	5.68161	5.69094	5.69561	5.71193	5.73293
4.420E-08	3.010E-08	1.806E-08	1.220E-08						
97.892	99.125	99.960	100.000						
5.73992	5.81223	5.86121	5.86355						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 2.453  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 4.272

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.638  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.225  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 5.494  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 5.538

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
10	1	-11.07347	-16.68901	-1.19114
10	2	-14.34482	-18.39806	-2.05955
10	3	-14.85564	-19.12338	-2.48124
10	4	-14.95230	-23.56408	-5.12287
10	5	-15.24768	-29.45826	-8.75367
10	6	-15.46313	-33.50119	-11.28244
10	7	-15.50797	NUMXQ(K)= 7	
		2.698E-06	0.059	1.000
		1.828E-06	0.176	3.000
		1.505E-06	0.293	5.000
		1.138E-06	0.586	10.000
		9.559E-07	0.880	15.000
		8.404E-07	1.173	20.000
		7.579E-07	1.466	25.000
		6.948E-07	1.759	30.000
		6.444E-07	2.052	35.000
		6.029E-07	2.345	40.000
		5.528E-07	2.639	45.000
		5.030E-07	2.932	50.000
		4.611E-07	3.225	55.000
		4.254E-07	3.518	60.000
		3.945E-07	3.811	65.000
		3.676E-07	4.104	70.000
		3.419E-07	4.398	75.000
		3.126E-07	4.691	80.000
		2.692E-07	4.984	85.000
		2.296E-07	5.277	90.000
		1.215E-06	0.5	8.53

ANNUAL AVERAGE = 1.15E-08

K= 10 FIVEXQ(K)= 1.215E-06 FIVEPR(K)= 8.527

FUMIGATION X/Q AT THE BOUNDARY: 9.60E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.789E-01	8.841E-01	3.613E-01	3.371E-01	2.081E-01	1.693E-02
0.477	1.631	4.256	16.603	49.623	97.534	100.000

Calculation No. PM-1055 Revision 0

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RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	0.09	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.090E-07			
A	6.0	0.23	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	6.541E-08			
A	8.9	0.09	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	4.420E-08			
B	3.6	0.14	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	2.252E-07			
B	6.0	0.61	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	1.351E-07			
B	8.9	0.28	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	9.129E-08			
B	11.6	0.05	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	7.037E-08			
C	3.6	0.33	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	6.430E-07			
C	6.0	1.41	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	3.858E-07			
C	8.9	0.99	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.607E-07			
C	11.6	0.19	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.009E-07			
C	26.5	0.05	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	8.769E-08			
D	0.2	0.00	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.552E-05			
D	1.7	1.50	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	2.217E-06			
D	3.6	7.28	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.035E-06			
D	6.0	13.48	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	6.207E-07			
D	8.9	5.92	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	4.194E-07			
D	11.6	0.75	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	3.233E-07			
D	26.5	0.14	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.411E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.77	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	13.19	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	16.62	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	10.14	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	7.32	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	7.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	1.83	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.69	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	2.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.38	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

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RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

NE SECTOR BOUNDARY DISTANCE = 5000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.552E-05	8.835E-06	4.813E-06	2.217E-06	1.262E-06	1.035E-06	6.875E-07	6.430E-07	6.207E-07	5.890E-07
0.003	0.023	0.040	1.543	4.313	11.591	13.093	13.422	26.897	40.090
0.00017	0.00115	0.00201	0.07665	0.21427	0.57581	0.65045	0.66678	1.33621	1.99165
4.194E-07	3.858E-07	3.534E-07	3.233E-07	3.208E-07	2.607E-07	2.388E-07	2.252E-07	2.009E-07	1.925E-07
46.006	47.414	64.035	64.786	72.111	73.097	83.238	83.379	83.567	90.938
2.28555	2.35553	3.18124	3.21856	3.58243	3.63142	4.13524	4.14224	4.15157	4.51778
1.841E-07	1.411E-07	1.351E-07	1.301E-07	1.090E-07	9.129E-08	8.769E-08	8.032E-08	7.037E-08	6.541E-08
91.783	91.924	92.535	94.366	94.460	94.741	94.788	94.882	94.929	95.164
4.55976	4.56676	4.59708	4.68805	4.69272	4.70671	4.70904	4.71371	4.71604	4.72770
6.449E-08	4.420E-08	3.010E-08	1.806E-08	1.220E-08					
95.446	95.540	97.230	99.624	100.000					
4.74170	4.74636	4.83034	4.94929	4.96795					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

**PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED**

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.990  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 3.579

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.132  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.514  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.556

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
11	1	-11.07347	-16.94075	-1.26266
11	2	-14.34482	-19.25861	-2.39007
11	3	-14.95230	-22.99686	-4.46487
11	4	-15.24768	-24.21664	-5.16767
11	5	-15.46313	-32.72462	-10.19039
11	6	-15.50797	NUMXQ(K) = 6	
		2.807E-06	0.050	1.000
		1.868E-06	0.149	3.000
		1.525E-06	0.248	5.000
		1.139E-06	0.497	10.000
		9.508E-07	0.745	15.000
		8.317E-07	0.994	20.000
		7.472E-07	1.242	25.000
		6.829E-07	1.490	30.000
		6.318E-07	1.739	35.000
		5.897E-07	1.987	40.000
		5.250E-07	2.236	45.000
		4.719E-07	2.484	50.000
		4.278E-07	2.732	55.000
		3.906E-07	2.981	60.000
		3.588E-07	3.229	65.000
		3.314E-07	3.478	70.000
		2.962E-07	3.726	75.000
		2.593E-07	3.974	80.000
		2.270E-07	4.223	85.000
		1.975E-07	4.471	90.000
		1.136E-06	0.5	10.06

ANNUAL AVERAGE = 9.46E-09

K= 11 FIVEXQ(K) = 1.136E-06 FIVEPR(K) = 10.065

FUMIGATION X/Q AT THE BOUNDARY: 9.60E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.789E-01	8.841E-01	3.613E-01	3.371E-01	2.081E-01	1.693E-02
0.423	1.502	4.460	22.507	51.573	95.258	100.000



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

CLASS	METER/SEC	PERCENT	METERS	TERRAIN METERS	HT EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS			
A	6.0	0.33	5000.	0.	131.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	6.541E-08	
A	8.9	0.14	5000.	0.	131.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	4.420E-08	
A	11.6	0.09	5000.	0.	131.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	3.407E-08	
A	26.5	0.09	5000.	0.	131.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.487E-08	
B	3.6	0.05	5000.	0.	131.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	2.252E-07	
B	6.0	0.38	5000.	0.	131.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	1.351E-07	
B	8.9	0.89	5000.	0.	131.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	9.129E-08	
B	11.6	0.09	5000.	0.	131.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	7.037E-08	
B	26.5	0.05	5000.	0.	131.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	3.071E-08	
C	3.6	0.14	5000.	0.	131.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	6.430E-07	
C	6.0	1.22	5000.	0.	131.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	3.858E-07	
C	8.9	1.46	5000.	0.	131.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.607E-07	
C	11.6	0.19	5000.	0.	131.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.009E-07	
C	26.5	0.05	5000.	0.	131.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	8.769E-08	
D	0.2	0.00	5000.	0.	131.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.552E-05	
D	1.7	0.71	5000.	0.	131.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	2.217E-06	
D	3.6	6.02	5000.	0.	131.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.035E-06	
D	6.0	9.93	5000.	0.	131.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	6.207E-07	
D	8.9	8.94	5000.	0.	131.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	4.194E-07	
D	11.6	1.03	5000.	0.	131.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	3.233E-07	
D	26.5	0.28	5000.	0.	131.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.411E-07	
E	0.3	0.02	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.54	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	8.80	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	13.97	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	12.75	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	1.41	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.05	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.02	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.55	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	5.50	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	8.33	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	5.13	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
F	12.5	0.85	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07	

G	1.8	0.85	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	3.29	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 5000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.552E-05	8.835E-06	4.813E-06	2.217E-06	1.262E-06	1.035E-06	6.875E-07	6.430E-07	6.207E-07	5.890E-07
0.002	0.020	0.038	0.743	3.283	9.305	10.857	10.998	20.924	29.721
0.00008	0.00098	0.00186	0.03685	0.16281	0.46137	0.53834	0.54534	1.03751	1.47369
4.194E-07	3.858E-07	3.534E-07	3.233E-07	3.208E-07	2.607E-07	2.388E-07	2.252E-07	2.009E-07	1.925E-07
38.658	39.881	53.853	54.888	60.391	61.850	74.598	74.645	74.833	83.159
1.91687	1.97751	2.67027	2.72159	2.99449	3.06680	3.69892	3.70125	3.71058	4.12344
1.841E-07	1.411E-07	1.351E-07	1.301E-07	1.003E-07	9.129E-08	8.769E-08	8.032E-08	7.037E-08	6.541E-08
84.570	84.853	85.229	90.357	91.203	92.097	92.144	92.191	92.285	92.615
4.19341	4.20741	4.22607	4.48031	4.52230	4.56661	4.56895	4.57128	4.57594	4.59227
6.449E-08	4.420E-08	3.407E-08	3.071E-08	3.010E-08	1.806E-08	1.487E-08	1.220E-08	9.405E-09	
93.461	93.602	93.696	93.744	95.343	98.636	98.730	99.953	100.000	
4.63426	4.64126	4.64592	4.64825	4.72756	4.89084	4.89550	4.95615	4.95848	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.001  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.461

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.472  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.992  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.696  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 4.120  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8)= 4.190

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
12	1	-11.07347	-16.17260	-1.06216
12	2	-11.63677	-17.13276	-1.28700
12	3	-13.78152	-17.22161	-1.32112
12	4	-14.34482	-18.82116	-2.05569
12	5	-14.95230	-20.81177	-3.11339
12	6	-15.24768	-22.91409	-4.28974
12	7	-15.46313	-25.35916	-5.69744
12	8	-15.50797	NUMXQ(K)= 8	
		2.512E-06	0.050	1.000
		1.659E-06	0.149	3.000
		1.349E-06	0.248	5.000
		1.001E-06	0.496	10.000
		8.286E-07	0.744	15.000
		7.204E-07	0.992	20.000
		6.440E-07	1.240	25.000
		5.845E-07	1.488	30.000
		5.150E-07	1.735	35.000
		4.603E-07	1.983	40.000
		4.162E-07	2.231	45.000
		3.797E-07	2.479	50.000
		3.490E-07	2.727	55.000
		3.227E-07	2.975	60.000
		2.899E-07	3.223	65.000
		2.613E-07	3.471	70.000
		2.363E-07	3.719	75.000
		2.080E-07	3.967	80.000
		9.974E-07	0.5	10.08

ANNUAL AVERAGE = 7.73E-09

K= 12 FIVEXQ(K)= 9.974E-07 FIVEPR(K)=10.084

FUMIGATION X/Q AT THE BOUNDARY: 9.60E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.789E-01	8.841E-01	3.613E-01	3.371E-01	2.081E-01	1.693E-02
0.659	2.117	5.175	26.549	53.458	92.991	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS		
A	3.6	0.03	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.090E-07	
A	6.0	0.24	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	6.541E-08	
A	8.9	0.63	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	4.420E-08	
A	11.6	0.42	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	3.407E-08	
A	26.5	0.06	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.487E-08	
B	3.6	0.12	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	2.252E-07	
B	6.0	0.63	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	1.351E-07	
B	8.9	0.81	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	9.129E-08	
B	11.6	0.36	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	7.037E-08	
B	26.5	0.18	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	3.071E-08	
C	3.6	0.15	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	6.430E-07	
C	6.0	1.25	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	3.858E-07	
C	8.9	1.67	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.607E-07	
C	11.6	0.86	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.009E-07	
C	26.5	0.39	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	8.769E-08	
D	0.2	0.00	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.552E-05	
D	1.7	0.78	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	2.217E-06	
D	3.6	4.21	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.035E-06	
D	6.0	8.98	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	6.207E-07	
D	8.9	11.78	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	4.194E-07	
D	11.6	6.71	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	3.233E-07	
D	26.5	2.68	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.411E-07	
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	1.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	5.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	11.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	15.99	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	2.33	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	0.89	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	2.54	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	5.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	5.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	

**Calculation No. PM-1055 Revision 0****Attachment J**

F	12.5	0.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
G	1.8	0.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	2.06	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.16	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 5000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.552E-05	8.835E-06	4.813E-06	2.217E-06	1.262E-06	1.035E-06	6.875E-07	6.430E-07	6.207E-07	5.890E-07
0.002	0.013	0.024	0.799	2.410	6.615	7.510	7.659	16.637	21.796
0.00014	0.00103	0.00184	0.06249	0.18844	0.51733	0.58731	0.59897	1.30106	1.70458
4.194E-07	3.858E-07	3.534E-07	3.233E-07	3.208E-07	2.607E-07	2.388E-07	2.252E-07	2.009E-07	1.925E-07
33.578	34.830	46.612	53.322	55.858	57.528	73.515	73.634	74.499	80.404
2.62593	2.72390	3.64525	4.17006	4.36833	4.49895	5.74918	5.75851	5.82616	6.28800
1.841E-07	1.411E-07	1.351E-07	1.301E-07	1.090E-07	1.003E-07	9.129E-08	8.769E-08	8.032E-08	7.037E-08
82.731	85.415	86.041	91.052	91.082	91.798	92.603	92.991	93.259	93.617
6.46993	6.67986	6.72884	7.12071	7.12304	7.17902	7.24200	7.27232	7.29331	7.32130
6.541E-08	6.449E-08	4.420E-08	3.407E-08	3.071E-08	3.010E-08	1.806E-08	1.487E-08	1.220E-08	9.405E-09
93.856	94.244	94.870	95.287	95.466	96.659	98.717	98.777	99.940	99.970
7.33996	7.37029	7.41927	7.45192	7.46592	7.55922	7.72017	7.72483	7.81580	7.81813
4.104E-09									
100.000									
7.82046									

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.703  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 4.365  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 5.745  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 6.466  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 7.117

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
13	1	-11.07347	-17.04265	-1.27291
13	2	-14.34482	-17.48821	-1.48313
13	3	-14.95230	-18.74064	-2.21562
13	4	-15.24768	-22.11750	-4.35759
13	5	-15.50797	-26.11669	-6.99422
13	6	-15.85517	NUMXQ(K) = 6	
		2.223E-06	0.078	1.000
		1.451E-06	0.235	3.000
		1.172E-06	0.391	5.000
		8.609E-07	0.782	10.000
		7.101E-07	1.173	15.000
		6.154E-07	1.564	20.000
		5.422E-07	1.955	25.000
		4.843E-07	2.346	30.000
		4.391E-07	2.737	35.000
		4.025E-07	3.128	40.000
		3.721E-07	3.519	45.000
		3.464E-07	3.910	50.000
		3.243E-07	4.301	55.000
		2.976E-07	4.692	60.000
		2.731E-07	5.083	65.000
		2.520E-07	5.474	70.000
		2.286E-07	5.865	75.000
		1.983E-07	6.256	80.000
		1.670E-07	6.647	85.000
		1.357E-07	7.038	90.000
		1.054E-06	0.5	6.39

ANNUAL AVERAGE = 1.19E-08

K= 13 FIVEXQ(K) = 1.054E-06 FIVEPR(K) = 6.393

FUMIGATION X/Q AT THE BOUNDARY: 9.60E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.789E-01	8.841E-01	3.613E-01	3.371E-01	2.081E-01	1.693E-02
1.372	3.460	7.785	22.857	57.994	95.138	100.000



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	6.0	0.24	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	6.541E-08				
A	8.9	0.24	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	4.420E-08				
A	11.6	0.05	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	3.407E-08				
A	26.5	0.13	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.487E-08				
B	3.6	0.08	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	2.252E-07				
B	6.0	0.24	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	1.351E-07				
B	8.9	0.53	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	9.129E-08				
B	11.6	0.37	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	7.037E-08				
B	26.5	0.19	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	3.071E-08				
C	3.6	0.13	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	6.430E-07				
C	6.0	0.69	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	3.858E-07				
C	8.9	1.57	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.607E-07				
C	11.6	0.80	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.009E-07				
C	26.5	0.72	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	8.769E-08				
D	0.2	0.00	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.552E-05				
D	1.7	1.01	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	2.217E-06				
D	3.6	2.59	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.035E-06				
D	6.0	9.48	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	6.207E-07				
D	8.9	17.99	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	4.194E-07				
D	11.6	11.96	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	3.233E-07				
D	26.5	4.03	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.411E-07				
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	0.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	3.68	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	9.45	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	15.56	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	2.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.32	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	0.75	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	1.76	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	3.74	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	3.68	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
F	12.5	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07				

G	1.8	0.37	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 5000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.552E-05	8.835E-06	4.813E-06	2.217E-06	1.262E-06	1.035E-06	6.875E-07	6.430E-07	6.207E-07	5.890E-07
0.002	0.009	0.018	1.032	1.993	4.582	5.329	5.463	14.938	18.621
0.00020	0.00080	0.00155	0.09019	0.17416	0.40041	0.46572	0.47739	1.30543	1.62732
4.194E-07	3.858E-07	3.534E-07	3.233E-07	3.208E-07	2.607E-07	2.388E-07	2.252E-07	2.009E-07	1.925E-07
36.610	37.304	46.753	58.710	60.472	62.046	77.607	77.687	78.488	82.224
3.19944	3.26009	4.08580	5.13077	5.28472	5.42234	6.78220	6.78920	6.85917	7.18573
1.841E-07	1.411E-07	1.351E-07	1.301E-07	1.003E-07	9.129E-08	8.769E-08	8.032E-08	7.037E-08	6.541E-08
85.187	89.217	89.457	93.141	93.621	94.155	94.875	95.196	95.569	95.810
7.44464	7.79685	7.81784	8.13973	8.18172	8.22836	8.29134	8.31933	8.35199	8.37298
6.449E-08	4.420E-08	3.407E-08	3.071E-08	3.010E-08	1.806E-08	1.487E-08	1.220E-08	9.405E-09	
96.183	96.423	96.477	96.664	97.598	98.772	98.906	99.947	100.000	
8.40564	8.42663	8.43129	8.44762	8.52926	8.63189	8.64355	8.73452	8.73919	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.090  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 3.196

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 5.281  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 6.778  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 7.441  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 8.136

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
14	1	-11.07347	-17.09512	-1.30589
14	2	-13.01938	-17.11639	-1.31270
14	3	-14.68439	-16.80129	-1.14262
14	4	-14.95230	-18.75509	-2.35001
14	5	-15.24768	-23.21138	-5.33579
14	6	-15.50797	-26.00667	-7.27196
14	7	-15.85517	NUMXQ(K)= 7	
		2.244E-06	0.087	1.000
		1.439E-06	0.262	3.000
		1.152E-06	0.437	5.000
		8.347E-07	0.874	10.000
		6.824E-07	1.311	15.000
		5.874E-07	1.748	20.000
		5.207E-07	2.185	25.000
		4.704E-07	2.622	30.000
		4.306E-07	3.059	35.000
		4.008E-07	3.496	40.000
		3.768E-07	3.933	45.000
		3.562E-07	4.370	50.000
		3.382E-07	4.807	55.000
		3.223E-07	5.244	60.000
		2.950E-07	5.680	65.000
		2.703E-07	6.117	70.000
		2.489E-07	6.554	75.000
		2.195E-07	6.991	80.000
		1.852E-07	7.428	85.000
		1.488E-07	7.865	90.000
		1.084E-06	0.5	5.72

ANNUAL AVERAGE = 1.39E-08

K= 14 FIVEVQ(K)= 1.084E-06 FIVEPR(K)= 5.721

FUMIGATION X/Q AT THE BOUNDARY: 9.60E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.789E-01	8.841E-01	3.613E-01	3.371E-01	2.081E-01	1.693E-02
0.667	2.082	6.005	16.423	63.481	96.423	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	6.0	0.04	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	6.541E-08				
A	8.9	0.06	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	4.420E-08				
A	26.5	0.02	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.487E-08				
B	3.6	0.08	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	2.252E-07				
B	6.0	0.04	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	1.351E-07				
B	8.9	0.19	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	9.129E-08				
B	11.6	0.08	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	7.037E-08				
C	3.6	0.06	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	6.430E-07				
C	6.0	0.55	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	3.858E-07				
C	8.9	0.74	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.607E-07				
C	11.6	0.59	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.009E-07				
C	26.5	0.13	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	8.769E-08				
D	0.2	0.00	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.552E-05				
D	1.7	0.76	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	2.217E-06				
D	3.6	4.10	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.035E-06				
D	6.0	11.52	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	6.207E-07				
D	8.9	22.08	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	4.194E-07				
D	11.6	11.54	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	3.233E-07				
D	26.5	3.91	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.411E-07				
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	0.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	3.61	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	11.03	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	13.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	1.89	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.13	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	0.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	2.00	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	3.78	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	9.6	1.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07				
G	1.8	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08				
G	3.9	1.49	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08				

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	1.95	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

SE SECTOR BOUNDARY DISTANCE = 5000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.552E-05	8.835E-06	4.813E-06	2.217E-06	1.262E-06	1.035E-06	6.875E-07	6.430E-07	6.207E-07	5.890E-07
0.002	0.008	0.014	0.779	1.607	5.708	6.260	6.324	17.840	21.452
0.00019	0.00084	0.00154	0.08551	0.17648	0.62665	0.68730	0.69430	1.95853	2.35505
4.194E-07	3.858E-07	3.534E-07	3.233E-07	3.208E-07	2.607E-07	2.388E-07	2.252E-07	2.009E-07	1.925E-07
43.527	44.079	55.106	66.643	68.640	69.384	83.215	83.300	83.895	87.677
4.77855	4.83919	6.04977	7.31633	7.53559	7.61723	9.13570	9.14503	9.21034	9.62553
1.841E-07	1.411E-07	1.351E-07	1.301E-07	9.129E-08	8.769E-08	8.032E-08	7.037E-08	6.541E-08	6.449E-08
89.568	93.477	93.520	95.432	95.623	95.751	95.878	95.963	96.006	96.282
9.83313	10.26231	10.26698	10.47691	10.49790	10.51189	10.52589	10.53522	10.53988	10.57021
4.420E-08	3.010E-08	1.806E-08	1.487E-08	1.220E-08					
96.346	97.833	99.788	99.809	100.000					
10.57720	10.74048	10.95507	10.95741	10.97840					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 2.353  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 4.775

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 7.532  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 9.132  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 9.830  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 10.474

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
15	1	-11.07347	-16.80875	-1.24076
15	2	-14.34482	-16.46040	-1.06534
15	3	-14.68439	-16.62802	-1.16589
15	4	-14.95230	-19.00974	-2.82298
15	5	-15.24768	-23.63590	-6.29437
15	6	-15.50797	-27.85695	-9.56320
15	7	-15.85517	NUMXQ(K) = 7	
		2.241E-06	0.110	1.000
		1.460E-06	0.329	3.000
		1.177E-06	0.549	5.000
		8.607E-07	1.098	10.000
		7.073E-07	1.647	15.000
		6.110E-07	2.196	20.000
		5.492E-07	2.745	25.000
		5.041E-07	3.294	30.000
		4.679E-07	3.842	35.000
		4.378E-07	4.391	40.000
		4.116E-07	4.940	45.000
		3.876E-07	5.489	50.000
		3.667E-07	6.038	55.000
		3.482E-07	6.587	60.000
		3.318E-07	7.136	65.000
		3.115E-07	7.685	70.000
		2.806E-07	8.234	75.000
		2.540E-07	8.783	80.000
		2.216E-07	9.332	85.000
		1.793E-07	9.881	90.000
		1.225E-06	0.5	4.55

ANNUAL AVERAGE = 1.90E-08

K= 15 FIVEXQ(K) = 1.225E-06 FIVEPR(K) = 4.554

FUMIGATION X/Q AT THE BOUNDARY: 9.60E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.789E-01	8.841E-01	3.613E-01	3.371E-01	2.081E-01	1.693E-02
0.127	0.531	2.613	10.863	64.767	96.091	100.000



Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1 96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	0.02	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.090E-07			
A	6.0	0.17	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	6.541E-08			
A	8.9	0.32	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	4.420E-08			
A	11.6	0.02	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	3.407E-08			
A	26.5	0.02	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.487E-08			
B	3.6	0.06	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	2.252E-07			
B	6.0	0.48	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	1.351E-07			
B	8.9	0.71	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	9.129E-08			
B	11.6	0.11	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	7.037E-08			
C	3.6	0.48	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	6.430E-07			
C	6.0	2.16	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	3.858E-07			
C	8.9	2.01	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.607E-07			
C	11.6	0.37	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.009E-07			
D	0.2	0.00	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.552E-05			
D	1.7	1.08	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	2.217E-06			
D	3.6	8.31	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.035E-06			
D	6.0	20.04	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	6.207E-07			
D	8.9	19.82	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	4.194E-07			
D	11.6	5.23	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	3.233E-07			
D	26.5	1.36	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.411E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	4.38	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	11.10	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	10.11	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.93	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.09	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	2.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.69	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	28.5	0.02	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 5000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.552E-05	8.835E-06	4.813E-06	2.217E-06	1.262E-06	1.035E-06	6.875E-07	6.430E-07	6.207E-07	5.890E-07
0.002	0.008	0.013	1.093	1.827	10.141	10.617	11.092	31.132	35.516
0.00026	0.00083	0.00142	0.11805	0.19735	1.09537	1.14669	1.19801	3.36259	3.83609
4.194E-07	3.858E-07	3.534E-07	3.233E-07	3.208E-07	2.607E-07	2.388E-07	2.252E-07	2.009E-07	1.925E-07
55.341	57.500	68.600	73.826	75.921	77.929	88.036	88.101	88.468	91.189
5.97735	6.21060	7.40952	7.97399	8.20024	8.41717	9.50879	9.51579	9.55544	9.84934
1.841E-07	1.411E-07	1.351E-07	1.301E-07	1.090E-07	1.003E-07	9.129E-08	8.032E-08	7.037E-08	6.541E-08
92.118	93.478	93.953	94.644	94.666	94.774	95.487	95.703	95.810	95.983
9.94964	10.09659	10.14790	10.22254	10.22488	10.23654	10.31351	10.33684	10.34850	10.36716
6.449E-08	4.420E-08	3.407E-08	3.010E-08	1.806E-08	1.487E-08	1.220E-08	4.104E-09		
96.394	96.717	96.739	98.013	99.849	99.870	99.978	100.000		
10.41148	10.44647	10.44880	10.58642	10.78468	10.78701	10.79868	10.80101		

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 3.833  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 7.406

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 8.197  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 9.505  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 9.947  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 7)= 10.220

K I XQSAVE(K, I) XQINT(K, I) XQSLOP(K, I)

16	1	-11.07347	-16.42562	-1.17531
16	2	-14.34482	-17.13437	-1.57564
16	3	-14.85564	-17.43216	-1.78155
16	4	-14.95230	-19.98394	-3.61476
16	5	-15.24768	-28.54404	-10.14792
16	6	-15.50797	-44.34973	-22.45184
16	7	-15.85517	NUMXQ(K)= 7	
		2.705E-06	0.108	1.000
		1.804E-06	0.324	3.000
		1.472E-06	0.540	5.000
		1.095E-06	1.080	10.000
		9.093E-07	1.620	15.000
		7.918E-07	2.160	20.000
		7.082E-07	2.700	25.000
		6.445E-07	3.240	30.000
		5.937E-07	3.780	35.000
		5.398E-07	4.320	40.000
		4.941E-07	4.860	45.000
		4.557E-07	5.401	50.000
		4.229E-07	5.941	55.000
		3.944E-07	6.481	60.000
		3.695E-07	7.021	65.000
		3.467E-07	7.561	70.000
		3.246E-07	8.101	75.000
		2.894E-07	8.641	80.000
		2.564E-07	9.181	85.000
		2.105E-07	9.721	90.000
		1.519E-06	0.5	4.63

ANNUAL AVERAGE = 2.40E-08

K= 16 FIVEXQ(K)= 1.519E-06 FIVEPR(K)= 4.629

FUMIGATION X/Q AT THE BOUNDARY: 9.60E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.789E-01	8.841E-01	3.613E-01	3.371E-01	2.081E-01	1.693E-02
0.561	1.922	6.932	13.028	68.876	96.350	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE USED
												MEANDER	CA=1292.SQ.METERS
	AT 131.4 METERS												
A	1.7	0.01	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	2.336E-07		
A	3.6	0.51	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.090E-07		
A	6.0	0.53	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	6.541E-08		
A	8.9	0.28	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	4.420E-08		
A	11.6	0.06	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	3.407E-08		
A	26.5	0.03	5000.	0.	131.	801.3	1000.0	0.0	0.000E+00	0.000E+00	1.487E-08		
B	1.7	0.05	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	4.825E-07		
B	3.6	0.47	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	2.252E-07		
B	6.0	0.54	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	1.351E-07		
B	8.9	0.44	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	9.129E-08		
B	11.6	0.12	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	7.037E-08		
B	26.5	0.03	5000.	0.	131.	602.6	635.6	0.0	0.000E+00	0.000E+00	3.071E-08		
C	1.7	0.08	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	1.378E-06		
C	3.6	0.77	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	6.430E-07		
C	6.0	1.33	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	3.858E-07		
C	8.9	1.04	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.607E-07		
C	11.6	0.30	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	2.009E-07		
C	26.5	0.13	5000.	0.	131.	457.6	264.8	0.0	0.000E+00	0.000E+00	8.769E-08		
D	0.2	0.00	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.552E-05		
D	1.7	2.07	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	2.217E-06		
D	3.6	9.39	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.035E-06		
D	6.0	15.72	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	6.207E-07		
D	8.9	12.23	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	4.194E-07		
D	11.6	4.24	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	3.233E-07		
D	26.5	1.39	5000.	0.	131.	322.2	89.1	0.0	0.000E+00	0.000E+00	1.411E-07		
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	1.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	8.90	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	9.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	1.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		

**Calculation No. PM-1055 Revision 0****Attachment J**

F	3.9	3.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.16	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
F	28.5	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08
G	1.8	0.43	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.14	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.31	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.01	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.00	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 5000.0 METERS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.552E-05	8.835E-06	4.813E-06	2.217E-06	1.378E-06	1.262E-06	1.035E-06	6.875E-07	6.430E-07	6.207E-07
0.005	0.019	0.030	2.097	2.174	4.140	13.531	14.541	15.306	31.025
0.00467	0.01866	0.03032	2.09694	2.17391	4.14023	13.53097	14.54096	15.30603	31.02491
5.890E-07	4.825E-07	4.194E-07	3.858E-07	3.534E-07	3.233E-07	3.208E-07	2.607E-07	2.388E-07	2.336E-07
39.921	39.968	52.197	53.527	67.373	71.613	74.755	75.798	85.324	85.331
39.92116	39.96781	52.19723	53.52677	67.37263	71.61317	74.75508	75.79772	85.32375	85.33074
2.252E-07	2.009E-07	1.925E-07	1.841E-07	1.411E-07	1.351E-07	1.301E-07	1.090E-07	1.003E-07	9.129E-08
85.802	86.105	89.623	90.917	92.305	92.848	94.402	94.915	95.076	95.517
85.80191	86.10514	89.62259	90.91714	92.30499	92.84847	94.40193	94.91508	95.07603	95.51688
8.769E-08	8.032E-08	7.037E-08	6.541E-08	6.449E-08	4.420E-08	4.375E-08	3.407E-08	3.071E-08	3.010E-08
95.643	95.871	95.993	96.524	96.958	97.236	97.248	97.306	97.341	98.514
95.64283	95.87141	95.99271	96.52453	96.95838	97.23595	97.24762	97.30593	97.34092	98.51418
1.806E-08	1.487E-08	1.220E-08	9.405E-09	4.104E-09					
99.650	99.678	99.986	99.995	100.000					
99.65012	99.67811	99.98600	99.99533	99.99999					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

**Calculation No. PM-1055 Revision 0**

**Attachment J**

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

3.494E-06	1.000	1.000
2.295E-06	3.000	3.000
1.837E-06	5.000	5.000
1.304E-06	10.000	10.000
1.035E-06	15.000	15.000
8.609E-07	20.000	20.000
7.352E-07	25.000	25.000
6.381E-07	30.000	30.000
6.060E-07	35.000	35.000
5.882E-07	40.000	40.000
5.408E-07	45.000	45.000
4.979E-07	50.000	50.000
4.584E-07	55.000	55.000
4.214E-07	60.000	60.000
3.863E-07	65.000	65.000
3.524E-07	70.000	70.000
3.190E-07	75.000	75.000
2.804E-07	80.000	80.000
2.414E-07	85.000	85.000
1.934E-07	90.000	90.000
1.837E-06	5.0	5.00

K= 17 FIVEXQ(K)= 1.837E-06 FIVEPR(K)= 5.000

FUMIGATION X/Q AT THE BOUNDARY: 9.60E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.789E-01	8.841E-01	3.613E-01	3.371E-01	2.081E-01	1.693E-02
1.416	3.074	6.718	16.125	61.163	96.935	100.000



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR..

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.552E-05	8.835E-06	4.813E-06	2.217E-06	1.378E-06	1.262E-06	1.035E-06	6.875E-07	6.430E-07	6.207E-07
0.005	0.019	0.030	2.097	2.174	4.140	13.531	14.541	15.306	31.025
0.00467	0.01866	0.03032	2.09694	2.17391	4.14023	13.53098	14.54096	15.30603	31.02491
5.890E-07	4.825E-07	4.194E-07	3.858E-07	3.534E-07	3.233E-07	3.208E-07	2.607E-07	2.388E-07	2.336E-07
39.921	39.968	52.197	53.527	67.373	71.613	74.755	75.798	85.324	85.331
39.92117	39.96782	52.19724	53.52678	67.37266	71.61318	74.75510	75.79774	85.32377	85.33076
2.252E-07	2.009E-07	1.925E-07	1.841E-07	1.411E-07	1.351E-07	1.301E-07	1.090E-07	1.003E-07	9.129E-08
85.802	86.105	89.623	90.917	92.305	92.848	94.402	94.915	95.076	95.517
85.80193	86.10516	89.62260	90.91716	92.30501	92.84848	94.40194	94.91508	95.07603	95.51688
8.769E-08	8.032E-08	7.037E-08	6.541E-08	6.449E-08	4.420E-08	4.375E-08	3.407E-08	3.071E-08	3.010E-08
95.643	95.871	95.993	96.525	96.958	97.236	97.248	97.306	97.341	98.514
95.64285	95.87144	95.99274	96.52457	96.95840	97.23596	97.24763	97.30593	97.34092	98.51418
1.806E-08	1.487E-08	1.220E-08	9.405E-09	4.104E-09					
99.650	99.678	99.986	99.995	100.000					
99.65010	99.67809	99.98599	99.99532	99.99999					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS.

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
18	1	-11.07347	-14.75898	-0.94320
18	2	-14.29235	-14.40062	-0.21885
18	3	-14.34482	-14.51291	-0.65925
18	4	-14.95230	-14.43952	-0.76937
18	5	-15.24768	-14.28987	-0.91183
18	6	-15.50797	-13.96256	-1.15684
18	7	-18.48202	NUMXQ(K) = 7	
		3.494E-06	1.000	1.000
		2.295E-06	3.000	3.000
		1.837E-06	5.000	5.000
		1.304E-06	10.000	10.000
		1.035E-06	15.000	15.000
		8.609E-07	20.000	20.000
		7.352E-07	25.000	25.000
		6.381E-07	30.000	30.000
		6.060E-07	35.000	35.000
		5.882E-07	40.000	40.000
		5.408E-07	45.000	45.000
		4.979E-07	50.000	50.000
		4.584E-07	55.000	55.000
		4.214E-07	60.000	60.000
		3.863E-07	65.000	65.000
		3.524E-07	70.000	70.000
		3.190E-07	75.000	75.000
		2.804E-07	80.000	80.000
		2.414E-07	85.000	85.000
		1.934E-07	90.000	90.000
		1.837E-06	5.0	5.00

K= 18 FIVEXQ(K) = 1.837E-06 FIVEPR(K) = 5.000

K	HIGHPR	PR	GRNDVT(K)
1	-2.71468	0.33170	6.21119
2	-1.56373	5.89399	3.52599
3	-2.64812	0.40471	3.10868
4	-2.58808	0.48257	3.53145
5	-2.57624	0.49942	4.76778
6	-2.67759	0.37078	4.27759
7	-2.72791	0.31869	5.37148
8	-2.80274	0.25336	5.07527
9	-2.69558	0.35134	10.00153
10	-2.85857	0.21278	5.86355
11	-2.89601	0.18898	4.96796
12	-2.99044	0.13930	4.95848
13	-2.95276	0.15748	7.82046
14	-2.91943	0.17534	8.73919
15	-2.84075	0.22504	10.97840
16	-2.67296	0.37593	10.80101

K	HOURS (K)	TOTHR
1	29.05691	29.05691
2	516.31380	545.37070
3	35.45256	580.82320
4	42.27271	623.09590
5	43.74879	666.84470
6	32.48003	699.32480
7	27.91760	727.24240
8	22.19446	749.43680
9	30.77735	780.21420
10	18.63976	798.85390
11	16.55434	815.40830
12	12.20233	827.61060
13	13.79537	841.40590
14	15.36022	856.76620
15	19.71379	876.48000
16	32.93168	909.41170

K	FIVEXQ	SVANN	SLTIME	TIMINT	I	TIME	XQT
1	1.436E-06	1.628E-08	-0.5342	-13.0834			
					1	8.0	-14.19426
					2	16.0	-14.56454
					3	72.0	-15.36803
					4	624.0	-16.52164
2	1.252E-06	1.101E-08	-0.5646	-13.1994			
					1	8.0	-14.37346
					2	16.0	-14.76480
					3	72.0	-15.61398
					4	624.0	-16.83319
3	1.504E-06	1.215E-08	-0.5746	-13.0088			
					1	8.0	-14.20376
					2	16.0	-14.60208
					3	72.0	-15.46639
					4	624.0	-16.70732
4	1.672E-06	1.489E-08	-0.5631	-12.9109			
					1	8.0	-14.08184
					2	16.0	-14.47215
					3	72.0	-15.31910
					4	624.0	-16.53511
5	1.701E-06	1.732E-08	-0.5471	-12.9048			
					1	8.0	-14.04251
					2	16.0	-14.42174
					3	72.0	-15.24463
					4	624.0	-16.42610
6	1.485E-06	1.403E-08	-0.5559	-13.0350			
					1	8.0	-14.19111
					2	16.0	-14.57647
					3	72.0	-15.41266
					4	624.0	-16.61322
7	1.419E-06	1.453E-08	-0.5464	-13.0867			
					1	8.0	-14.22297
					2	16.0	-14.60172

Calculation No. PM-1055 Revision 0

Attachment J

				3	72.0	-15.42356
				4	624.0	-16.60353
8	1.293E-06	1.220E-08	-0.5561	-13.1728		
				1	8.0	-14.32932
				2	16.0	-14.71481
				3	72.0	-15.55130
				4	624.0	-16.75229
9	1.481E-06	2.002E-08	-0.5132	-13.0672		
				1	8.0	-14.13441
				2	16.0	-14.49015
				3	72.0	-15.26208
				4	624.0	-16.37038
10	1.215E-06	1.149E-08	-0.5559	-13.2350		
				1	8.0	-14.39098
				2	16.0	-14.77629
				3	72.0	-15.61239
				4	624.0	-16.81282
11	1.136E-06	9.462E-09	-0.5710	-13.2920		
				1	8.0	-14.47945
				2	16.0	-14.87526
				3	72.0	-15.73413
				4	624.0	-16.96727
12	9.974E-07	7.733E-09	-0.5796	-13.4164		
				1	8.0	-14.62153
				2	16.0	-15.02325
				3	72.0	-15.89495
				4	624.0	-17.14651
13	1.054E-06	1.189E-08	-0.5348	-13.3926		
				1	8.0	-14.50476
				2	16.0	-14.87546
				3	72.0	-15.67987
				4	624.0	-16.83480
14	1.084E-06	1.391E-08	-0.5195	-13.3744		
				1	8.0	-14.45480
				2	16.0	-14.81492
				3	72.0	-15.59635
				4	624.0	-16.71829
15	1.225E-06	1.901E-08	-0.4969	-13.2678		
				1	8.0	-14.30106
				2	16.0	-14.64546
				3	72.0	-15.39279
				4	624.0	-16.46578
16	1.519E-06	2.395E-08	-0.4949	-13.0547		
				1	8.0	-14.08375
				2	16.0	-14.42676
				3	72.0	-15.17106
				4	624.0	-16.23969
17	1.837E-06	2.395E-08	-0.5176	-12.8485		
				1	8.0	-13.92472
				2	16.0	-14.28348
				3	72.0	-15.06195
				4	624.0	-16.17965
18	1.837E-06	2.395E-08	-0.5176	-12.8485		

1	8.0	-13.92472
2	16.0	-14.28348
3	72.0	-15.06195
4	624.0	-16.17965

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
VERSUS  
AVERAGING TIME

DOWNWIND DISTANCE SECTOR (METERS)	RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER) VERSUS AVERAGING TIME						HOURS PER YEAR MAX 0-2 HR X/Q IS EXCEEDED		DOWNWIND SECTOR
	0-2 HOURS	0-8 HOURS	8-24 HOURS	1-4 DAYS	4-30 DAYS	ANNUAL AVERAGE	IN SECTOR		
S 5000.	1.44E-06	6.85E-07	4.73E-07	2.12E-07	6.68E-08	1.63E-08	29.1	S	
SSW 5000.	1.25E-06	5.72E-07	3.87E-07	1.66E-07	4.89E-08	1.10E-08	516.3	SSW	
SW 5000.	1.50E-06	6.78E-07	4.55E-07	1.92E-07	5.55E-08	1.22E-08	35.5	SW	
WSW 5000.	1.67E-06	7.66E-07	5.19E-07	2.22E-07	6.59E-08	1.49E-08	42.3	WSW	
W 5000.	1.70E-06	7.97E-07	5.45E-07	2.40E-07	7.35E-08	1.73E-08	43.7	W	
WNW 5000.	1.48E-06	6.87E-07	4.67E-07	2.02E-07	6.09E-08	1.40E-08	32.5	WNW	
NW 5000.	1.42E-06	6.65E-07	4.56E-07	2.00E-07	6.15E-08	1.45E-08	27.9	NW	
NNW 5000.	1.29E-06	5.98E-07	4.07E-07	1.76E-07	5.30E-08	1.22E-08	22.2	NNW	
N 5000.	1.48E-06	7.27E-07	5.09E-07	2.35E-07	7.77E-08	2.00E-08	30.8	N	
NNE 5000.	1.22E-06	5.62E-07	3.83E-07	1.66E-07	4.99E-08	1.15E-08	18.6	NNE	
NE 5000.	1.14E-06	5.15E-07	3.47E-07	1.47E-07	4.28E-08	9.46E-09	16.6	NE	
ENE 5000.	9.97E-07	4.47E-07	2.99E-07	1.25E-07	3.58E-08	7.73E-09	12.2	ENE	
E 5000.	1.05E-06	5.02E-07	3.46E-07	1.55E-07	4.88E-08	1.19E-08	13.8	E	
ESE 5000.	1.08E-06	5.28E-07	3.68E-07	1.68E-07	5.49E-08	1.39E-08	15.4	ESE	
SE 5000.	1.23E-06	6.15E-07	4.36E-07	2.07E-07	7.06E-08	1.90E-08	19.7	SE	
SSE 5000.	1.52E-06	7.65E-07	5.43E-07	2.58E-07	8.86E-08	2.40E-08	32.9	SSE	
MAX X/Q	1.70E-06						TOTAL HOURS AROUND SITE: 909.4		
SRP 2.3.4 5000.	1.84E-06	8.97E-07	6.26E-07	2.88E-07	9.40E-08	2.40E-08			
SITE LIMIT	1.84E-06	8.97E-07	6.26E-07	2.88E-07	9.40E-08	2.40E-08			

THE FIVE-PERCENT-FOR-THE-ENTIRE-SITE X/Q IS LIMITING.

X/Q VALUES (SEC/CUBIC METER) FOR FUMIGATION AT THE BOUNDARY:

DOWNWIND DISTANCE FUMIGATION

SECTOR (METERS)	X/Q
S 5000.	9.60E-06
SSW 5000.	9.60E-06
SW 5000.	9.60E-06
WSW 5000.	9.60E-06
W 5000.	9.60E-06
WNW 5000.	9.60E-06
NW 5000.	9.60E-06
NNW 5000.	9.60E-06
N 5000.	9.60E-06
NNE 5000.	9.60E-06
NE 5000.	9.60E-06
ENE 5000.	9.60E-06
E 5000.	9.60E-06

**Calculation No. PM-1055 Revision 0**

**Attachment J**

ESE	5000.	9.60E-06
SE	5000.	9.60E-06
SSE	5000.	9.60E-06

**\*\*NOTE\*\***: VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
CHECK THE REASONABLENESS OF THE ENVELOPES  
COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS			
A	3.6	0.23	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	9.247E-08			
A	8.9	0.08	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	3.749E-08			
A	11.6	0.08	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	2.890E-08			
B	3.6	0.49	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	1.575E-07			
B	6.0	0.15	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	9.452E-08			
B	8.9	0.38	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	6.387E-08			
B	11.6	0.04	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	4.923E-08			
C	3.6	1.16	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	4.783E-07			
C	6.0	1.58	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	2.870E-07			
C	8.9	0.68	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.939E-07			
C	11.6	0.15	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.495E-07			
C	26.5	0.04	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	6.522E-08			
D	0.2	0.01	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.458E-05			
D	1.7	2.22	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	2.083E-06			
D	3.6	12.39	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	9.723E-07			
D	6.0	19.57	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	5.834E-07			
D	8.9	14.87	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.942E-07			
D	11.6	2.74	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.038E-07			
D	26.5	0.56	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.326E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.25	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	8.83	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	13.78	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	5.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.86	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.98	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	3.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.15	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.04	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			



**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	1.77	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

S SECTOR BOUNDARY DISTANCE = 6000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.458E-05	8.835E-06	4.813E-06	2.083E-06	1.262E-06	9.723E-07	6.875E-07	5.890E-07	5.834E-07	4.783E-07
0.005	0.021	0.032	2.248	4.501	16.894	17.870	26.695	46.261	47.425
0.00031	0.00131	0.00201	0.13963	0.27958	1.04931	1.10996	1.65810	2.87334	2.94565
3.942E-07	3.534E-07	3.208E-07	3.038E-07	2.870E-07	2.388E-07	1.939E-07	1.925E-07	1.841E-07	1.575E-07
62.296	76.078	79.796	82.538	84.115	89.973	90.649	93.691	94.555	95.043
3.86933	4.72537	4.95629	5.12656	5.22453	5.58840	5.63039	5.81932	5.87297	5.90329
1.495E-07	1.326E-07	1.301E-07	1.003E-07	9.452E-08	9.247E-08	8.032E-08	6.522E-08	6.449E-08	6.387E-08
95.193	95.756	95.907	95.944	96.094	96.320	96.583	96.620	97.033	97.409
5.91262	5.94761	5.95694	5.95927	5.96860	5.98260	5.99893	6.00126	6.02692	6.05024
4.923E-08	3.749E-08	3.010E-08	2.890E-08	1.806E-08	1.220E-08				
97.446	97.521	99.286	99.362	99.962	100.000				
6.05257	6.05724	6.16687	6.17153	6.20885	6.21119				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 1.048  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 2.871

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 4.722  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 5.123  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 5.585  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 5.869  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8) = 5.953

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
1	1	-11.13557	-16.67229	-1.22524
1	2	-13.84362	-16.73055	-1.25047
1	3	-14.35445	-18.53672	-2.20100
1	4	-14.85564	-21.27152	-3.83621
1	5	-15.00677	-24.28045	-5.67872
1	6	-15.24768	-31.95580	-10.50406
1	7	-15.50797	-91.74384	-48.68644
1	8	-15.85517	NUMXQ(K) = 8	
		3.004E-06	0.062	1.000
		2.008E-06	0.186	3.000
		1.643E-06	0.311	5.000
		1.230E-06	0.621	10.000
		1.027E-06	0.932	15.000
		8.970E-07	1.242	20.000
		8.041E-07	1.553	25.000
		7.335E-07	1.863	30.000
		6.773E-07	2.174	35.000
		6.311E-07	2.484	40.000
		5.922E-07	2.795	45.000
		5.410E-07	3.106	50.000
		4.925E-07	3.416	55.000
		4.515E-07	3.727	60.000
		4.162E-07	4.037	65.000
		3.856E-07	4.348	70.000
		3.588E-07	4.658	75.000
		3.220E-07	4.969	80.000
		2.800E-07	5.280	85.000
		2.384E-07	5.590	90.000
		1.349E-06	0.5	8.05

ANNUAL AVERAGE = 1.56E-08

K= 1 FIVEXQ(K)= 1.349E-06 FIVEPR(K)= 8.050

FUMIGATION X/Q AT THE BOUNDARY: 8.14E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.858E-01	9.154E-01	4.157E-01	3.613E-01	2.081E-01	1.693E-02
0.376	1.427	5.032	57.387	65.322	97.183	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS											MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS		
A	3.6	0.60	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	9.247E-08		
A	6.0	0.60	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	5.548E-08		
A	8.9	0.26	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	3.749E-08		
A	11.6	0.13	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	2.890E-08		
B	1.7	0.13	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	3.376E-07		
B	3.6	1.52	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	1.575E-07		
B	6.0	0.99	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	9.452E-08		
B	8.9	0.20	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	6.387E-08		
B	11.6	0.13	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	4.923E-08		
C	1.7	0.33	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.025E-06		
C	3.6	1.46	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	4.783E-07		
C	6.0	1.26	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	2.870E-07		
C	8.9	0.53	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.939E-07		
C	11.6	0.07	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.495E-07		
C	26.5	0.26	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	6.522E-08		
D	0.2	0.01	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.458E-05		
D	1.7	3.84	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	2.083E-06		
D	3.6	13.96	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	9.723E-07		
D	6.0	23.09	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	5.834E-07		
D	8.9	10.19	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.942E-07		
D	11.6	1.79	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.038E-07		
D	26.5	0.46	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.326E-07		
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06		
E	1.8	2.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06		
E	3.9	10.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07		
E	6.5	13.30	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07		
E	9.6	2.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07		
E	12.5	0.53	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07		
E	28.5	0.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08		
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06		
F	1.8	1.26	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07		
F	3.9	2.51	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07		
F	6.5	1.65	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07		
F	9.6	0.07	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07		

G	1.8	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.26	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSW SECTOR BOUNDARY DISTANCE = 6000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.458E-05	8.835E-06	4.813E-06	2.083E-06	1.262E-06	1.025E-06	9.723E-07	6.875E-07	5.890E-07	5.834E-07
0.009	0.029	0.044	3.881	6.791	7.122	21.080	22.337	33.186	56.273
0.00031	0.00104	0.00155	0.13683	0.23947	0.25113	0.74329	0.78761	1.17014	1.98419
4.783E-07	3.942E-07	3.534E-07	3.376E-07	3.208E-07	3.038E-07	2.870E-07	2.388E-07	1.939E-07	1.925E-07
57.729	67.916	81.213	81.345	83.859	85.645	86.902	89.416	89.945	91.599
2.03551	2.39472	2.86356	2.86822	2.95686	3.01983	3.06415	3.15279	3.17145	3.22976
1.841E-07	1.575E-07	1.495E-07	1.326E-07	1.301E-07	9.452E-08	9.247E-08	8.032E-08	6.522E-08	6.449E-08
92.128	93.649	93.716	94.179	94.245	95.237	95.832	95.899	96.163	97.089
3.24842	3.30207	3.30440	3.32073	3.32306	3.35805	3.37904	3.38138	3.39071	3.42336
6.387E-08	5.548E-08	4.923E-08	3.749E-08	3.010E-08	2.890E-08	1.806E-08			
97.288	97.883	98.015	98.280	99.537	99.669	100.000			
3.43036	3.45135	3.45602	3.46535	3.50966	3.51433	3.52599			

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED WITH RESPECT TO WHEN THE WIND BLOWS SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.137  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 1.982

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.861  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 3.017  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 3.061  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 3.150  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8) = 3.245  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 9) = 3.299

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
2	1	-11.13557	-16.90128	-1.27489
2	2	-13.08148	-17.14452	-1.35607
2	3	-14.35445	-20.97289	-3.21680
2	4	-14.85564	-27.16205	-6.47141
2	5	-15.00677	-31.64734	-8.85935
2	6	-15.06383	-42.26543	-14.53182
2	7	-15.24768	-51.56333	-19.53280
2	8	-15.50797	-54.67776	-21.22003
2	9	-15.66360	NUMXQ(K) = 9	
		3.432E-06	0.035	1.000
		2.300E-06	0.106	3.000
		1.874E-06	0.176	5.000
		1.384E-06	0.353	10.000
		1.148E-06	0.529	15.000
		1.000E-06	0.705	20.000
		8.958E-07	0.881	25.000
		8.168E-07	1.058	30.000
		7.541E-07	1.234	35.000
		7.028E-07	1.410	40.000
		6.597E-07	1.587	45.000
		6.229E-07	1.763	50.000
		5.909E-07	1.939	55.000
		5.355E-07	2.116	60.000
		4.807E-07	2.292	65.000
		4.345E-07	2.468	70.000
		3.950E-07	2.644	75.000
		3.610E-07	2.821	80.000
		3.105E-07	2.997	85.000
		2.256E-07	3.173	90.000
		1.179E-06	0.5	14.18

ANNUAL AVERAGE = 1.04E-08

K= 2 FIVEXQ(K) = 1.179E-06 FIVEPR(K) = 14.180

FUMIGATION X/Q AT THE BOUNDARY: 8.14E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.858E-01	9.154E-01	4.157E-01	3.613E-01	2.081E-01	1.693E-02
1.588	4.565	8.467	61.795	67.300	97.486	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
											MEANDER	BLDG WAKE	USED
AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	1.73	6000.	0.	131.		131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	9.247E-08
A	6.0	1.50	6000.	0.	131.		131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	5.548E-08
A	8.9	0.68	6000.	0.	131.		131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	3.749E-08
B	1.7	0.15	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	3.376E-07
B	3.6	1.35	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	1.575E-07
B	6.0	0.98	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	9.452E-08
B	8.9	0.15	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	6.387E-08
B	11.6	0.08	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	4.923E-08
C	1.7	0.90	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.025E-06
C	3.6	2.10	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	4.783E-07
C	6.0	0.68	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	2.870E-07
C	8.9	0.30	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.939E-07
D	0.2	0.02	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.458E-05
D	1.7	8.10	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	2.083E-06
D	3.6	17.86	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	9.723E-07
D	6.0	18.83	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	5.834E-07
D	8.9	6.38	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.942E-07
D	11.6	0.98	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.038E-07
D	26.5	0.90	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.326E-07
E	0.3	0.02	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	2.70	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	11.25	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	11.71	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	1.95	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	0.60	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.08	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.02	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.65	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	2.55	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	0.98	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	0.08	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
G	1.8	0.83	90000.	0.	131.		131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.65	90000.	0.	131.		131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08



G 6.5 0.30 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 6000.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across four rows of data.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.253
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.920

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.905  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.532  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 2.616  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 2.647  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8)= 2.668  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 9)= 2.728  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (10)= 2.828

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
3	1	-11.13557	-16.51911	-1.22654
3	2	-13.08148	-17.88046	-1.71227
3	3	-13.84362	-18.08573	-1.79934
3	4	-14.35445	-23.07111	-4.20345
3	5	-14.85564	-28.33931	-6.89892
3	6	-14.95230	-36.23275	-10.96676
3	7	-15.00677	-47.38208	-16.72725
3	8	-15.06383	-51.57294	-18.89635
3	9	-15.24768	-66.16190	-26.48551
3	10	-15.66360	NUMXQ(K) = 10	
		4.454E-06	0.031	1.000
		3.042E-06	0.093	3.000
		2.518E-06	0.155	5.000
		1.860E-06	0.311	10.000
		1.473E-06	0.466	15.000
		1.241E-06	0.622	20.000
		1.082E-06	0.777	25.000
		9.640E-07	0.933	30.000
		8.687E-07	1.088	35.000
		7.924E-07	1.243	40.000
		7.296E-07	1.399	45.000
		6.770E-07	1.554	50.000
		6.320E-07	1.710	55.000
		5.931E-07	1.865	60.000
		5.279E-07	2.021	65.000
		4.638E-07	2.176	70.000
		4.105E-07	2.332	75.000
		3.658E-07	2.487	80.000
		3.076E-07	2.642	85.000
		1.806E-07	2.798	90.000
		1.414E-06	0.5	16.08

ANNUAL AVERAGE = 1.14E-08

K= 3 FIVEXQ(K)= 1.414E-06 FIVEPR(K)=16.084

FUMIGATION X/Q AT THE BOUNDARY: 8.14E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.858E-01	9.154E-01	4.157E-01	3.613E-01	2.081E-01	1.693E-02
3.902	6.603	10.580	63.646	68.917	97.224	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
AT 131.4 METERS											MEANDER	BLDG WAKE	USED
											CA=1292.SQ.METERS		
A	3.6	2.58	6000.	0.	131.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	9.247E-08	
A	6.0	1.92	6000.	0.	131.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	5.548E-08	
A	8.9	1.19	6000.	0.	131.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	3.749E-08	
A	11.6	0.07	6000.	0.	131.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	2.890E-08	
B	1.7	0.59	6000.	0.	131.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	3.376E-07	
B	3.6	1.65	6000.	0.	131.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	1.575E-07	
B	6.0	0.99	6000.	0.	131.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	9.452E-08	
B	8.9	0.07	6000.	0.	131.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	6.387E-08	
C	1.7	0.99	6000.	0.	131.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.025E-06	
C	3.6	2.44	6000.	0.	131.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	4.783E-07	
C	6.0	1.12	6000.	0.	131.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	2.870E-07	
C	8.9	0.20	6000.	0.	131.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.939E-07	
D	0.2	0.02	6000.	0.	131.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.458E-05	
D	1.7	7.86	6000.	0.	131.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	2.083E-06	
D	3.6	22.19	6000.	0.	131.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	9.723E-07	
D	6.0	18.36	6000.	0.	131.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	5.834E-07	
D	8.9	4.43	6000.	0.	131.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.942E-07	
D	11.6	0.73	6000.	0.	131.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.038E-07	
D	26.5	0.13	6000.	0.	131.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.326E-07	
E	0.3	0.03	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	4.03	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	14.46	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	6.67	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	0.73	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.26	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.07	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.02	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.72	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	1.92	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	0.53	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
G	1.8	0.66	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	1.25	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	
G	6.5	0.13	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08	

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 6000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.458E-05	8.835E-06	4.813E-06	2.083E-06	1.262E-06	1.025E-06	9.723E-07	6.875E-07	5.890E-07	5.834E-07
0.018	0.046	0.066	7.926	11.955	12.946	35.139	36.856	51.321	69.683
0.00063	0.00164	0.00234	0.27991	0.42219	0.45718	1.24091	1.30156	1.81238	2.46082
4.783E-07	3.942E-07	3.534E-07	3.376E-07	3.208E-07	3.038E-07	2.870E-07	2.388E-07	1.939E-07	1.925E-07
72.127	76.552	83.223	83.818	85.733	86.460	87.583	88.309	88.507	89.036
2.54712	2.70340	2.93899	2.95998	3.02762	3.05328	3.09293	3.11859	3.12559	3.14425
1.841E-07	1.575E-07	1.326E-07	9.452E-08	9.247E-08	8.032E-08	6.449E-08	6.387E-08	5.548E-08	3.749E-08
89.300	90.951	91.083	92.074	94.650	94.716	95.377	95.443	97.358	98.547
3.15358	3.21189	3.21656	3.25155	3.34251	3.34485	3.36817	3.37050	3.43815	3.48013
3.010E-08	2.890E-08	1.806E-08							
99.802	99.868	100.000							
3.52445	3.52678	3.53145							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.280  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 1.239

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.458  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 2.936  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 3.025  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 3.090  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8) = 3.339

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
4	1	-11.13557	-16.45710	-1.21828
4	2	-13.08148	-17.09514	-1.44855
4	3	-13.84362	-17.97535	-1.84069
4	4	-14.35445	-27.17761	-6.51867
4	5	-14.85564	-28.81307	-7.38388
4	6	-14.95230	-37.12135	-11.80984
4	7	-15.06383	-76.13788	-32.69972
4	8	-16.19638	NUMXQ(K) = 8	
4		4.416E-06	0.035	1.000
4		3.012E-06	0.106	3.000
4		2.491E-06	0.177	5.000
4		1.865E-06	0.353	10.000
4		1.527E-06	0.530	15.000
4		1.318E-06	0.706	20.000
4		1.171E-06	0.883	25.000
4		1.061E-06	1.059	30.000
4		9.744E-07	1.236	35.000
4		8.861E-07	1.413	40.000
4		8.132E-07	1.589	45.000
4		7.521E-07	1.766	50.000
4		7.001E-07	1.942	55.000
4		6.552E-07	2.119	60.000
4		6.159E-07	2.295	65.000
4		5.760E-07	2.472	70.000
4		4.749E-07	2.649	75.000
4		3.956E-07	2.825	80.000
4		3.300E-07	3.002	85.000
4		1.932E-07	3.178	90.000
4		1.572E-06	0.5	14.16

ANNUAL AVERAGE = 1.39E-08

K= 4 FIVEXQ(K)= 1.572E-06 FIVEPR(K)=14.158

FUMIGATION X/Q AT THE BOUNDARY: 8.14E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.858E-01	9.154E-01	4.157E-01	3.613E-01	2.081E-01	1.693E-02
5.746	9.049	13.804	67.521	71.702	97.952	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	1.7	0.15	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	1.982E-07				
A	3.6	4.26	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	9.247E-08				
A	6.0	2.25	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	5.548E-08				
A	8.9	0.34	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	3.749E-08				
B	1.7	0.24	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	3.376E-07				
B	3.6	2.74	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	1.575E-07				
B	6.0	0.59	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	9.452E-08				
B	8.9	0.05	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	6.387E-08				
C	1.7	0.05	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.025E-06				
C	3.6	2.45	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	4.783E-07				
C	6.0	0.68	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	2.870E-07				
C	8.9	0.15	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.939E-07				
C	11.6	0.05	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.495E-07				
D	0.2	0.01	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.458E-05				
D	1.7	5.63	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	2.083E-06				
D	3.6	21.28	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	9.723E-07				
D	6.0	16.19	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	5.834E-07				
D	8.9	6.46	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.942E-07				
D	11.6	1.57	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.038E-07				
D	26.5	0.39	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.326E-07				
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06				
E	1.8	2.94	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06				
E	3.9	13.85	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07				
E	6.5	7.88	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07				
E	9.6	2.84	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07				
E	12.5	0.59	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07				
E	28.5	0.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08				
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06				
F	1.8	1.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07				
F	3.9	1.66	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07				
F	6.5	0.64	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07				
F	28.5	0.20	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08				
G	1.8	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08				

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	3.9	0.64	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.10	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 6000.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across various sectors.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.270
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 1.426

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.929  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.729  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.894  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 4.062  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8)= 4.265

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
5	1	-11.13557	-16.47770	-1.22091
5	2	-13.08148	-16.66479	-1.28817
5	3	-13.84362	-17.58813	-1.70978
5	4	-14.35445	-23.11195	-4.63044
5	5	-14.85564	-28.34212	-7.56371
5	6	-15.00677	-36.71175	-12.31090
5	7	-15.24768	-47.06718	-18.25034
5	8	-15.66360	NUMXQ(K)= 8	
		3.943E-06	0.048	1.000
		2.663E-06	0.143	3.000
		2.190E-06	0.238	5.000
		1.633E-06	0.477	10.000
		1.359E-06	0.715	15.000
		1.186E-06	0.954	20.000
		1.064E-06	1.192	25.000
		9.710E-07	1.430	30.000
		8.744E-07	1.669	35.000
		7.970E-07	1.907	40.000
		7.332E-07	2.146	45.000
		6.797E-07	2.384	50.000
		6.339E-07	2.622	55.000
		5.942E-07	2.861	60.000
		5.209E-07	3.099	65.000
		4.470E-07	3.337	70.000
		3.869E-07	3.576	75.000
		3.277E-07	3.814	80.000
		2.432E-07	4.053	85.000
		1.599E-06	0.5	10.49

ANNUAL AVERAGE = 1.63E-08

K= 5 FIVEXQ(K)= 1.599E-06 FIVEPR(K)=10.487

FUMIGATION X/Q AT THE BOUNDARY: 8.14E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.858E-01	9.154E-01	4.157E-01	3.613E-01	2.081E-01	1.693E-02
6.996	10.616	13.992	65.520	69.549	98.630	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

CLASS	METER/SEC	PERCENT	METERS	METERS	METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS									CA=1292.SQ.METERS		
A	3.6	2.40	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	9.247E-08
A	6.0	2.40	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	5.548E-08
A	8.9	0.16	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	3.749E-08
A	11.6	0.05	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	2.890E-08
A	26.5	0.05	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	1.261E-08
B	3.6	1.58	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	1.575E-07
B	6.0	1.36	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	9.452E-08
B	8.9	0.11	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	6.387E-08
B	11.6	0.05	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	4.923E-08
C	3.6	3.54	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	4.783E-07
C	6.0	1.42	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	2.870E-07
C	8.9	0.22	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.939E-07
C	11.6	0.11	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.495E-07
D	0.2	0.01	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.458E-05
D	1.7	4.69	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	2.083E-06
D	3.6	16.58	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	9.723E-07
D	6.0	16.79	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	5.834E-07
D	8.9	7.63	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.942E-07
D	11.6	1.42	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.038E-07
D	26.5	0.11	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.326E-07
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	3.27	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	10.91	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	14.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	3.44	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	1.15	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.25	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	2.84	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	1.31	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	28.5	0.05	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.33	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 6000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.458E-05	8.835E-06	4.813E-06	2.083E-06	1.262E-06	9.723E-07	6.875E-07	5.890E-07	5.834E-07	4.783E-07
0.011	0.034	0.048	4.738	8.010	24.586	25.841	36.746	53.541	57.086
0.00045	0.00145	0.00207	0.20267	0.34262	1.05170	1.10535	1.57186	2.29028	2.44189
3.942E-07	3.534E-07	3.208E-07	3.038E-07	2.870E-07	2.388E-07	1.939E-07	1.925E-07	1.841E-07	1.575E-07
64.720	78.734	81.569	82.987	84.405	87.840	88.058	89.367	90.512	92.093
2.76844	3.36790	3.48919	3.54984	3.61048	3.75743	3.76676	3.82274	3.87173	3.93937
1.495E-07	1.326E-07	1.301E-07	9.452E-08	9.247E-08	8.032E-08	6.449E-08	6.387E-08	5.548E-08	4.923E-08
92.202	92.311	92.420	93.784	96.183	96.401	96.674	96.783	99.182	99.237
3.94403	3.94870	3.95336	4.01168	4.11431	4.12364	4.13530	4.13997	4.24260	4.24493
4.375E-08	3.749E-08	3.010E-08	2.890E-08	1.806E-08	1.261E-08				
99.291	99.455	99.782	99.836	99.945	100.000				
4.24726	4.25426	4.26826	4.27059	4.27525	4.27759				

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.202  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.050

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.288  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 3.365  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 3.486  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 3.547  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8) = 3.607  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 9) = 3.754  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (10) = 3.868  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (11) = 3.936

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
6	1	-11.13557	-16.65736	-1.24408
6	2	-13.08148	-16.94834	-1.34531
6	3	-13.84362	-17.64411	-1.64679
6	4	-14.35445	-20.31646	-2.98456
6	5	-14.85564	-25.92956	-6.05236
6	6	-14.95230	-27.59503	-6.97062
6	7	-15.00677	-28.37700	-7.40363
6	8	-15.06383	-33.18738	-10.07874
6	9	-15.24768	-48.84393	-18.87478
6	10	-15.50797	-49.84187	-19.43982
6	11	-15.66360	NUMXQ(K) = 11	
		3.693E-06	0.043	1.000
		2.484E-06	0.128	3.000
		2.036E-06	0.214	5.000
		1.499E-06	0.428	10.000
		1.240E-06	0.642	15.000
		1.078E-06	0.856	20.000
		9.622E-07	1.069	25.000
		8.577E-07	1.283	30.000
		7.765E-07	1.497	35.000
		7.112E-07	1.711	40.000
		6.572E-07	1.925	45.000
		6.116E-07	2.139	50.000
		5.639E-07	2.353	55.000
		5.048E-07	2.567	60.000
		4.552E-07	2.780	65.000
		4.132E-07	2.994	70.000
		3.771E-07	3.208	75.000
		3.384E-07	3.422	80.000
		2.779E-07	3.636	85.000
		1.934E-07	3.850	90.000
		1.395E-06	0.5	11.69

ANNUAL AVERAGE = 1.32E-08

K= 6 FIVEXQ(K) = 1.395E-06 FIVEPR(K) = 11.689

FUMIGATION X/Q AT THE BOUNDARY: 8.14E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01 9.858E-01 9.154E-01 4.157E-01 3.613E-01 2.081E-01 1.693E-02

5.071

8.179

13.469

60.701

66.278

99.291

100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS			
A	3.6	0.17	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	9.247E-08	
A	6.0	0.87	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	5.548E-08	
A	8.9	0.56	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.749E-08	
B	1.7	0.09	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.376E-07	
B	3.6	0.43	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.575E-07	
B	6.0	1.17	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	9.452E-08	
B	8.9	0.35	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.387E-08	
B	11.6	0.04	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.923E-08	
C	3.6	0.61	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.783E-07	
C	6.0	2.69	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.870E-07	
C	8.9	0.48	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.939E-07	
D	0.2	0.00	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.458E-05	
D	1.7	1.95	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.083E-06	
D	3.6	14.72	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	9.723E-07	
D	6.0	20.76	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	5.834E-07	
D	8.9	6.99	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.942E-07	
D	11.6	0.61	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.038E-07	
D	26.5	0.30	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.326E-07	
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.65	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	14.98	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	15.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	4.26	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.69	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.52	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.22	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	2.08	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	0.30	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.301E-07	
G	1.8	0.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.010E-08	
G	6.5	0.35	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.806E-08	



G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 6000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.458E-05	8.835E-06	4.813E-06	2.083E-06	1.262E-06	9.723E-07	6.875E-07	5.890E-07	5.834E-07	4.783E-07
0.004	0.023	0.037	1.991	4.640	19.361	20.577	35.558	56.315	56.923
0.00024	0.00125	0.00200	0.10697	0.24925	1.03998	1.10529	1.91001	3.02496	3.05761
3.942E-07	3.534E-07	3.376E-07	3.208E-07	3.038E-07	2.870E-07	2.388E-07	1.939E-07	1.925E-07	1.841E-07
63.914	79.069	79.156	82.674	83.282	85.974	90.230	90.707	92.792	93.486
3.43315	4.24720	4.25186	4.44080	4.47345	4.61807	4.84666	4.87231	4.98428	5.02160
1.575E-07	1.326E-07	1.301E-07	9.452E-08	9.247E-08	8.032E-08	6.449E-08	6.387E-08	5.548E-08	4.923E-08
93.921	94.225	94.529	95.701	95.875	96.396	96.569	96.917	97.785	97.829
5.04492	5.06125	5.07758	5.14055	5.14989	5.17788	5.18721	5.20587	5.25252	5.25485
3.749E-08	3.010E-08	1.806E-08	1.220E-08						
98.393	99.609	99.957	100.000						
5.28517	5.35048	5.36914	5.37148						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 3.022  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 4.244

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 4.437  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 4.614  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 4.843  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 5.018  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8) = 5.249

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
7	1	-11.13557	-16.59419	-1.19290
7	2	-14.35445	-20.44596	-3.24438
7	3	-14.85564	-22.77790	-4.59774
7	4	-14.95230	-25.15130	-5.99217
7	5	-15.06383	-28.42161	-7.93481
7	6	-15.24768	-40.44551	-15.17694
7	7	-15.50797	-105.38750	-54.70049
7	8	-16.70720	NUMXQ(K) = 8	
		3.073E-06	0.054	1.000
		2.087E-06	0.161	3.000
		1.721E-06	0.269	5.000
		1.303E-06	0.537	10.000
		1.097E-06	0.806	15.000
		9.653E-07	1.074	20.000
		8.715E-07	1.343	25.000
		7.997E-07	1.611	30.000
		7.424E-07	1.880	35.000
		6.951E-07	2.149	40.000
		6.551E-07	2.417	45.000
		6.207E-07	2.686	50.000
		5.907E-07	2.954	55.000
		5.325E-07	3.223	60.000
		4.738E-07	3.491	65.000
		4.246E-07	3.760	70.000
		3.829E-07	4.029	75.000
		3.446E-07	4.297	80.000
		2.965E-07	4.566	85.000
		2.411E-07	4.834	90.000
		1.342E-06	0.5	9.31

ANNUAL AVERAGE = 1.40E-08

K= 7 FIVEXQ(K) = 1.342E-06 FIVEPR(K) = 9.308

FUMIGATION X/Q AT THE BOUNDARY: 8.14E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.858E-01	9.154E-01	4.157E-01	3.613E-01	2.081E-01	1.693E-02
1.607	3.691	7.469	52.808	59.944	98.220	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS		
A	3.6	0.09	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	9.247E-08
A	6.0	0.09	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	5.548E-08
B	3.6	0.14	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.575E-07
B	6.0	0.37	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	9.452E-08
B	8.9	0.37	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.387E-08
B	11.6	0.05	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.923E-08
C	3.6	0.55	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.783E-07
C	6.0	1.01	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.870E-07
C	8.9	0.46	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.939E-07
C	11.6	0.05	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.495E-07
D	0.2	0.00	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.458E-05
D	1.7	1.61	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.083E-06
D	3.6	11.17	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	9.723E-07
D	6.0	21.42	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	5.834E-07
D	8.9	5.42	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.942E-07
D	11.6	0.51	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.038E-07
D	26.5	0.32	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.326E-07
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	2.71	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	14.29	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	20.36	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	7.58	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	0.51	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.09	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.47	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	4.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.63	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	0.37	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.301E-07
G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.46	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	0.28	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 6000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.458E-05	8.835E-06	4.813E-06	2.083E-06	1.262E-06	9.723E-07	6.875E-07	5.890E-07	5.834E-07	4.783E-07
0.004	0.023	0.040	1.648	4.360	15.528	16.999	31.292	52.709	53.260
0.00018	0.00116	0.00203	0.08366	0.22128	0.78809	0.86273	1.58814	2.67510	2.70309
3.942E-07	3.534E-07	3.208E-07	3.038E-07	2.870E-07	2.388E-07	1.939E-07	1.925E-07	1.841E-07	1.575E-07
58.683	79.043	83.179	83.685	84.696	92.279	92.739	96.369	96.875	97.013
2.97833	4.01164	4.22156	4.24722	4.29854	4.68340	4.70673	4.89100	4.91666	4.92365
1.495E-07	1.326E-07	1.301E-07	9.452E-08	9.247E-08	8.032E-08	6.449E-08	6.387E-08	5.548E-08	4.923E-08
97.059	97.380	97.748	98.116	98.208	98.300	98.713	99.081	99.173	99.219
4.92599	4.94231	4.96097	4.97963	4.98430	4.98896	5.00996	5.02862	5.03328	5.03561
3.010E-08	1.806E-08	1.220E-08							
99.678	99.954	100.000							
5.05894	5.07293	5.07527							

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 2.672  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 4.008

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 4.218  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 4.680  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 4.887  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 4.913

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
8	1	-11.13557	-16.65947	-1.19352
8	2	-14.35445	-19.68611	-2.76069
8	3	-14.85564	-21.95877	-4.05956
8	4	-14.95230	-25.31620	-6.00487
8	5	-15.24768	-32.57346	-10.33310
8	6	-15.46313	-44.84048	-17.74126
8	7	-15.50797	NUMXQ(K) = 7	
		2.941E-06	0.051	1.000
		2.000E-06	0.152	3.000
		1.650E-06	0.254	5.000
		1.252E-06	0.508	10.000
		1.055E-06	0.761	15.000
		9.291E-07	1.015	20.000
		8.393E-07	1.269	25.000
		7.707E-07	1.523	30.000
		7.159E-07	1.776	35.000
		6.706E-07	2.030	40.000
		6.323E-07	2.284	45.000
		5.994E-07	2.538	50.000
		5.544E-07	2.791	55.000
		4.989E-07	3.045	60.000
		4.522E-07	3.299	65.000
		4.123E-07	3.553	70.000
		3.779E-07	3.806	75.000
		3.455E-07	4.060	80.000
		3.018E-07	4.314	85.000
		2.565E-07	4.568	90.000
		1.260E-06	0.5	9.85

ANNUAL AVERAGE = 1.20E-08

K= 8 FIVEXQ(K) = 1.260E-06 FIVEPR(K) = 9.852

FUMIGATION X/Q AT THE BOUNDARY: 8.14E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.858E-01	9.154E-01	4.157E-01	3.613E-01	2.081E-01	1.693E-02
0.184	1.103	3.171	43.618	53.241	98.805	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
	AT 131.4 METERS										CA=1292.SQ.METERS			
A	6.0	0.28	6000.	0.	131.		131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	5.548E-08	
A	8.9	0.16	6000.	0.	131.		131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	3.749E-08	
B	3.6	0.07	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	1.575E-07	
B	6.0	0.58	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	9.452E-08	
B	8.9	0.72	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	6.387E-08	
B	11.6	0.12	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	4.923E-08	
B	26.5	0.02	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	2.148E-08	
C	3.6	0.44	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	4.783E-07	
C	6.0	1.68	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	2.870E-07	
C	8.9	1.56	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.939E-07	
C	11.6	0.21	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.495E-07	
C	26.5	0.02	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	6.522E-08	
D	0.2	0.00	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.458E-05	
D	1.7	0.96	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	2.083E-06	
D	3.6	7.00	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	9.723E-07	
D	6.0	16.51	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	5.834E-07	
D	8.9	11.24	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.942E-07	
D	11.6	2.31	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.038E-07	
D	26.5	0.68	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.326E-07	
E	0.3	0.01	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	1.63	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	10.14	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	20.78	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	12.03	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	1.49	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.14	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	0.54	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	3.13	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	3.03	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	1.03	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
G	1.8	0.40	90000.	0.	131.		131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	0.79	90000.	0.	131.		131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	0.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 6000.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and all-time frequencies across four rows of data.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 3.677
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 6.923

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 8.839  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 9.448  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 9.646

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
9	1	-11.13557	-16.40726	-1.14718
9	2	-14.35445	-17.26705	-1.62766
9	3	-14.85564	-19.29724	-2.99800
9	4	-15.24768	-24.73082	-7.02063
9	5	-15.50797	-54.51611	-29.69384
9	6	-15.85517	NUMXQ(K)= 6	
		2.595E-06	0.100	1.000
		1.752E-06	0.300	3.000
		1.438E-06	0.500	5.000
		1.080E-06	1.000	10.000
		9.032E-07	1.500	15.000
		7.903E-07	2.000	20.000
		7.097E-07	2.500	25.000
		6.481E-07	3.000	30.000
		5.988E-07	3.501	35.000
		5.480E-07	4.001	40.000
		5.008E-07	4.501	45.000
		4.612E-07	5.001	50.000
		4.275E-07	5.501	55.000
		3.983E-07	6.001	60.000
		3.728E-07	6.501	65.000
		3.476E-07	7.001	70.000
		3.118E-07	7.501	75.000
		2.812E-07	8.001	80.000
		2.548E-07	8.501	85.000
		2.228E-07	9.001	90.000
		1.439E-06	0.5	5.00

ANNUAL AVERAGE = 1.96E-08

K= 9 FIVEXQ(K)= 1.439E-06 FIVEPR(K)= 4.999

FUMIGATION X/Q AT THE BOUNDARY: 8.14E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.858E-01	9.154E-01	4.157E-01	3.613E-01	2.081E-01	1.693E-02
0.443	1.959	5.877	44.570	52.296	98.531	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS		
A	3.6	0.08	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	9.247E-08			
A	6.0	0.28	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	5.548E-08			
A	8.9	0.12	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	3.749E-08			
B	3.6	0.16	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	1.575E-07			
B	6.0	0.56	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	9.452E-08			
B	8.9	0.36	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	6.387E-08			
B	11.6	0.08	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	4.923E-08			
C	3.6	0.20	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	4.783E-07			
C	6.0	1.47	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	2.870E-07			
C	8.9	0.95	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.939E-07			
D	0.2	0.00	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.458E-05			
D	1.7	0.91	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	2.083E-06			
D	3.6	7.60	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	9.723E-07			
D	6.0	16.91	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	5.834E-07			
D	8.9	6.60	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.942E-07			
D	11.6	0.64	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.038E-07			
D	26.5	0.36	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.326E-07			
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	2.23	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	12.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	22.95	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	9.07	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.76	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.16	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	1.27	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	5.61	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	4.42	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.91	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.12	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			
G	1.8	0.36	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08			
G	3.9	1.23	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08			
G	6.5	0.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08			

G 9.6 0.04 90000. 0. 131. 1000.0 46.0 0.0 0.000E+00 0.000E+00 1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 6000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.458E-05	8.835E-06	4.813E-06	2.083E-06	1.262E-06	9.723E-07	6.875E-07	5.890E-07	5.834E-07	4.783E-07
0.002	0.018	0.033	0.948	3.175	10.773	12.046	24.776	41.682	41.881
0.00012	0.00105	0.00191	0.05556	0.18618	0.63169	0.70634	1.45274	2.44407	2.45573
3.942E-07	3.534E-07	3.208E-07	3.038E-07	2.870E-07	2.388E-07	1.939E-07	1.925E-07	1.841E-07	1.575E-07
48.485	71.438	77.047	77.683	79.155	88.225	89.180	93.595	94.351	94.510
2.84293	4.18879	4.51768	4.55500	4.64130	5.17312	5.22910	5.48801	5.53233	5.54166
1.326E-07	1.301E-07	1.003E-07	9.452E-08	9.247E-08	8.032E-08	6.449E-08	6.387E-08	5.548E-08	4.923E-08
94.868	95.783	95.903	96.460	96.539	96.698	97.056	97.414	97.693	97.772
5.56265	5.61630	5.62330	5.65595	5.66062	5.66995	5.69094	5.71193	5.72826	5.73293
3.749E-08	3.010E-08	1.806E-08	1.220E-08						
97.892	99.125	99.960	100.000						
5.73992	5.81223	5.86121	5.86355						

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.001  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 2.442

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 4.185  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 4.514  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 5.169  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 5.484  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8) = 5.529

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
10	1	-11.13557	-16.26488	-1.08800
10	2	-11.63677	-16.69887	-1.19003
10	3	-14.35445	-18.46020	-2.08408
10	4	-14.85564	-19.54358	-2.71046
10	5	-14.95230	-22.61910	-4.52610
10	6	-15.24768	-27.33281	-7.42035
10	7	-15.46313	-33.48742	-11.26791
10	8	-15.50797	NUMXQ(K) = 8	
		2.662E-06	0.059	1.000
		1.804E-06	0.176	3.000
		1.486E-06	0.293	5.000
		1.123E-06	0.586	10.000
		9.441E-07	0.880	15.000
		8.300E-07	1.173	20.000
		7.486E-07	1.466	25.000
		6.864E-07	1.759	30.000
		6.367E-07	2.052	35.000
		5.956E-07	2.345	40.000
		5.448E-07	2.639	45.000
		4.951E-07	2.932	50.000
		4.534E-07	3.225	55.000
		4.179E-07	3.518	60.000
		3.872E-07	3.811	65.000
		3.605E-07	4.104	70.000
		3.321E-07	4.398	75.000
		2.958E-07	4.691	80.000
		2.592E-07	4.984	85.000
		2.221E-07	5.277	90.000
		1.200E-06	0.5	8.53

ANNUAL AVERAGE = 1.14E-08

K= 10 FIVEXQ(K)= 1.200E-06 FIVEPR(K)= 8.527

FUMIGATION X/Q AT THE BOUNDARY: 8.14E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.858E-01	9.154E-01	4.157E-01	3.613E-01	2.081E-01	1.693E-02
0.477	1.631	4.256	37.276	49.623	97.534	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

CLASS	METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	MEANDER	BLDG WAKE	USED
AT 131.4 METERS										CA=1292.SQ.METERS			
A	3.6	0.09	6000.	0.	131.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	9.247E-08	
A	6.0	0.23	6000.	0.	131.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	5.548E-08	
A	8.9	0.09	6000.	0.	131.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	3.749E-08	
B	3.6	0.14	6000.	0.	131.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	1.575E-07	
B	6.0	0.61	6000.	0.	131.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	9.452E-08	
B	8.9	0.28	6000.	0.	131.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	6.387E-08	
B	11.6	0.05	6000.	0.	131.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	4.923E-08	
C	3.6	0.33	6000.	0.	131.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	4.783E-07	
C	6.0	1.41	6000.	0.	131.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	2.870E-07	
C	8.9	0.99	6000.	0.	131.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.939E-07	
C	11.6	0.19	6000.	0.	131.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.495E-07	
C	26.5	0.05	6000.	0.	131.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	6.522E-08	
D	0.2	0.00	6000.	0.	131.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.458E-05	
D	1.7	1.50	6000.	0.	131.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	2.083E-06	
D	3.6	7.28	6000.	0.	131.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	9.723E-07	
D	6.0	13.48	6000.	0.	131.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	5.834E-07	
D	8.9	5.92	6000.	0.	131.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.942E-07	
D	11.6	0.75	6000.	0.	131.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.038E-07	
D	26.5	0.14	6000.	0.	131.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.326E-07	
E	0.3	0.02	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	2.77	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	13.19	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	16.62	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	10.14	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	0.85	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.09	9000.	0.	131.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.02	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	1.50	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	7.32	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	7.37	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	1.83	90000.	0.	131.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
G	1.8	0.28	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	1.69	90000.	0.	131.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	2.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.38	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08



Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 6000.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across various categories.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.001
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 1.973

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4 ) = 3.472  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5 ) = 4.083  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6 ) = 4.498  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7 ) = 4.540

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
11	1	-11.13557	-16.77721	-1.21410
11	2	-11.63677	-16.92802	-1.24972
11	3	-14.35445	-19.40500	-2.45254
11	4	-14.95230	-22.16106	-3.97058
11	5	-15.24768	-23.48635	-4.73173
11	6	-15.46313	-32.69267	-10.16121
11	7	-15.50797	NUMXQ(K) = 7	
		2.725E-06	0.050	1.000
		1.821E-06	0.149	3.000
		1.490E-06	0.248	5.000
		1.116E-06	0.497	10.000
		9.331E-07	0.745	15.000
		8.174E-07	0.994	20.000
		7.351E-07	1.242	25.000
		6.725E-07	1.490	30.000
		6.226E-07	1.739	35.000
		5.798E-07	1.987	40.000
		5.141E-07	2.236	45.000
		4.608E-07	2.484	50.000
		4.167E-07	2.732	55.000
		3.795E-07	2.981	60.000
		3.479E-07	3.229	65.000
		3.204E-07	3.478	70.000
		2.829E-07	3.726	75.000
		2.513E-07	3.974	80.000
		2.220E-07	4.223	85.000
		1.954E-07	4.471	90.000
		1.113E-06	0.5	10.06

ANNUAL AVERAGE = 9.41E-09

K= 11 FIVEXQ(K) = 1.113E-06 FIVEPR(K) = 10.065

FUMIGATION X/Q AT THE BOUNDARY: 8.14E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.858E-01	9.154E-01	4.157E-01	3.613E-01	2.081E-01	1.693E-02
0.423	1.502	4.460	33.527	51.573	95.258	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

CLASS	METER/SEC	PERCENT	METERS	METERS	METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
AT 131.4 METERS									CA=1292.SQ.METERS		
A	6.0	0.33	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	5.548E-08
A	8.9	0.14	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	3.749E-08
A	11.6	0.09	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	2.890E-08
A	26.5	0.09	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	1.261E-08
B	3.6	0.05	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	1.575E-07
B	6.0	0.38	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	9.452E-08
B	8.9	0.89	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	6.387E-08
B	11.6	0.09	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	4.923E-08
B	26.5	0.05	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	2.148E-08
C	3.6	0.14	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	4.783E-07
C	6.0	1.22	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	2.870E-07
C	8.9	1.46	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.939E-07
C	11.6	0.19	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.495E-07
C	26.5	0.05	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	6.522E-08
D	0.2	0.00	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.458E-05
D	1.7	0.71	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	2.083E-06
D	3.6	6.02	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	9.723E-07
D	6.0	9.93	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	5.834E-07
D	8.9	8.94	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.942E-07
D	11.6	1.03	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.038E-07
D	26.5	0.28	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.326E-07
E	0.3	0.02	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	2.54	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	8.80	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	13.97	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	12.75	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	1.41	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.05	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.02	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	5.50	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	8.33	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	5.13	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.85	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07

G	1.8	0.85	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.60	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	3.29	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.22	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.196.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 6000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.458E-05	8.835E-06	4.813E-06	2.083E-06	1.262E-06	9.723E-07	6.875E-07	5.890E-07	5.834E-07	4.783E-07
0.002	0.020	0.038	0.743	3.283	9.305	10.857	19.654	29.579	29.721
0.00008	0.00098	0.00186	0.03685	0.16281	0.46137	0.53834	0.97453	1.46669	1.47369
3.942E-07	3.534E-07	3.208E-07	3.038E-07	2.870E-07	2.388E-07	1.939E-07	1.925E-07	1.841E-07	1.575E-07
38.658	52.630	58.133	59.168	60.391	73.140	74.598	82.924	84.335	84.382
1.91687	2.60963	2.88253	2.93385	2.99449	3.62661	3.69892	4.11177	4.18175	4.18408
1.495E-07	1.326E-07	1.301E-07	1.003E-07	9.452E-08	8.032E-08	6.522E-08	6.449E-08	6.387E-08	5.548E-08
84.570	84.853	89.980	90.827	91.203	91.250	91.297	92.144	93.038	93.367
4.19341	4.20741	4.46165	4.50364	4.52230	4.52463	4.52696	4.56895	4.61327	4.62959
4.923E-08	3.749E-08	3.010E-08	2.890E-08	2.148E-08	1.806E-08	1.261E-08	1.220E-08	9.405E-09	
93.461	93.602	95.202	95.296	95.343	98.636	98.730	99.953	100.000	
4.63426	4.64126	4.72056	4.72523	4.72756	4.89084	4.89550	4.95615	4.95848	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.465  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.607

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.880  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.623  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 4.108  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8)= 4.178  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 9)= 4.458  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (10)= 4.610

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
12	1	-11.13557	-15.67254	-0.94506
12	2	-11.63677	-17.18708	-1.29972
12	3	-14.35445	-18.95474	-2.11079
12	4	-14.85564	-19.20028	-2.23723
12	5	-14.95230	-20.41875	-2.87895
12	6	-15.24768	-21.92897	-3.71975
12	7	-15.46313	-25.34424	-5.68453
12	8	-15.50797	-35.18932	-11.37414
12	9	-15.85517	-91.92118	-44.74910
12	10	-16.56647	NUMXQ(K) = 10	
		2.481E-06	0.050	1.000
		1.631E-06	0.149	3.000
		1.324E-06	0.248	5.000
		9.808E-07	0.496	10.000
		8.141E-07	0.744	15.000
		7.094E-07	0.992	20.000
		6.353E-07	1.240	25.000
		5.765E-07	1.488	30.000
		5.062E-07	1.735	35.000
		4.511E-07	1.983	40.000
		4.068E-07	2.231	45.000
		3.702E-07	2.479	50.000
		3.387E-07	2.727	55.000
		3.083E-07	2.975	60.000
		2.783E-07	3.223	65.000
		2.529E-07	3.471	70.000
		2.288E-07	3.719	75.000
		2.048E-07	3.967	80.000
		1.765E-07	4.215	85.000
		1.295E-07	4.463	90.000
		9.771E-07	0.5	10.08

ANNUAL AVERAGE = 7.70E-09

K= 12 FIVEXQ(K) = 9.771E-07 FIVEPR(K) = 10.084

FUMIGATION X/Q AT THE BOUNDARY: 8.14E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.858E-01	9.154E-01	4.157E-01	3.613E-01	2.081E-01	1.693E-02
0.659	2.117	5.175	32.084	53.458	92.991	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
												MEANDER	BLDG WAKE	USED
AT 131.4 METERS												CA=1292.SQ.METERS		
A	3.6	0.03	6000.	0.	131.		131.		944.7	1000.0	0.0	0.000E+00	0.000E+00	9.247E-08
A	6.0	0.24	6000.	0.	131.		131.		944.7	1000.0	0.0	0.000E+00	0.000E+00	5.548E-08
A	8.9	0.63	6000.	0.	131.		131.		944.7	1000.0	0.0	0.000E+00	0.000E+00	3.749E-08
A	11.6	0.42	6000.	0.	131.		131.		944.7	1000.0	0.0	0.000E+00	0.000E+00	2.890E-08
A	26.5	0.06	6000.	0.	131.		131.		944.7	1000.0	0.0	0.000E+00	0.000E+00	1.261E-08
B	3.6	0.12	6000.	0.	131.		131.		710.5	776.1	0.0	0.000E+00	0.000E+00	1.575E-07
B	6.0	0.63	6000.	0.	131.		131.		710.5	776.1	0.0	0.000E+00	0.000E+00	9.452E-08
B	8.9	0.81	6000.	0.	131.		131.		710.5	776.1	0.0	0.000E+00	0.000E+00	6.387E-08
B	11.6	0.36	6000.	0.	131.		131.		710.5	776.1	0.0	0.000E+00	0.000E+00	4.923E-08
B	26.5	0.18	6000.	0.	131.		131.		710.5	776.1	0.0	0.000E+00	0.000E+00	2.148E-08
C	3.6	0.15	6000.	0.	131.		131.		539.5	312.6	0.0	0.000E+00	0.000E+00	4.783E-07
C	6.0	1.25	6000.	0.	131.		131.		539.5	312.6	0.0	0.000E+00	0.000E+00	2.870E-07
C	8.9	1.67	6000.	0.	131.		131.		539.5	312.6	0.0	0.000E+00	0.000E+00	1.939E-07
C	11.6	0.86	6000.	0.	131.		131.		539.5	312.6	0.0	0.000E+00	0.000E+00	1.495E-07
C	26.5	0.39	6000.	0.	131.		131.		539.5	312.6	0.0	0.000E+00	0.000E+00	6.522E-08
D	0.2	0.00	6000.	0.	131.		131.		379.9	99.2	0.0	0.000E+00	0.000E+00	1.458E-05
D	1.7	0.78	6000.	0.	131.		131.		379.9	99.2	0.0	0.000E+00	0.000E+00	2.083E-06
D	3.6	4.21	6000.	0.	131.		131.		379.9	99.2	0.0	0.000E+00	0.000E+00	9.723E-07
D	6.0	8.98	6000.	0.	131.		131.		379.9	99.2	0.0	0.000E+00	0.000E+00	5.834E-07
D	8.9	11.78	6000.	0.	131.		131.		379.9	99.2	0.0	0.000E+00	0.000E+00	3.942E-07
D	11.6	6.71	6000.	0.	131.		131.		379.9	99.2	0.0	0.000E+00	0.000E+00	3.038E-07
D	26.5	2.68	6000.	0.	131.		131.		379.9	99.2	0.0	0.000E+00	0.000E+00	1.326E-07
E	0.3	0.01	9000.	0.	131.		131.		389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	1.61	9000.	0.	131.		131.		389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	5.16	9000.	0.	131.		131.		389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	11.78	9000.	0.	131.		131.		389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	15.99	9000.	0.	131.		131.		389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	2.33	9000.	0.	131.		131.		389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.27	9000.	0.	131.		131.		389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.		131.		1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	0.89	90000.	0.	131.		131.		1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07
F	3.9	2.54	90000.	0.	131.		131.		1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	5.91	90000.	0.	131.		131.		1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	5.01	90000.	0.	131.		131.		1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07

**Calculation No. PM-1055 Revision 0****Attachment J**

F	12.5	0.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
G	1.8	0.39	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	2.06	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.16	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.03	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09



**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

**Page 904 of 1411**

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## LOW POPULATION ZONE CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 6000.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.458E-05	8.835E-06	4.813E-06	2.083E-06	1.262E-06	9.723E-07	6.875E-07	5.890E-07	5.834E-07	4.783E-07
0.002	0.013	0.024	0.799	2.410	6.615	7.510	12.670	21.647	21.796
0.00014	0.00103	0.00184	0.06249	0.18844	0.51733	0.58731	0.99083	1.69292	1.70458
3.942E-07	3.534E-07	3.208E-07	3.038E-07	2.870E-07	2.388E-07	1.939E-07	1.925E-07	1.841E-07	1.575E-07
33.578	45.359	47.894	54.605	55.858	71.844	73.515	79.420	81.747	81.866
2.62593	3.54728	3.74554	4.27036	4.36833	5.61856	5.74918	6.21102	6.39296	6.40229
1.495E-07	1.326E-07	1.301E-07	1.003E-07	9.452E-08	9.247E-08	8.032E-08	6.522E-08	6.449E-08	6.387E-08
82.731	85.415	90.426	91.142	91.768	91.798	92.066	92.454	92.842	93.647
6.46993	6.67986	7.07172	7.12770	7.17669	7.17902	7.20001	7.23033	7.26066	7.32364
5.548E-08	4.923E-08	3.749E-08	3.010E-08	2.890E-08	2.148E-08	1.806E-08	1.261E-08	1.220E-08	9.405E-09
93.886	94.244	94.870	96.063	96.481	96.659	98.717	98.777	99.940	99.970
7.34230	7.37029	7.41927	7.51257	7.54523	7.55922	7.72017	7.72483	7.81580	7.81813
4.104E-09									
100.000									
7.82046									

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES  
 (BASED ON THE UPPER ENVELOPE OF THE  
 ORDERED X/Q-FREQUENCY VALUES, AND AS  
 PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 0.001  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 1.691  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 3.544  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.267  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 5.615  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 6.389  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8)= 7.068  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 9)= 7.320

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
13	1	-11.13557	-16.57738	-1.16045
13	2	-11.63677	-17.05544	-1.27273
13	3	-14.35445	-17.72073	-1.58623
13	4	-14.85564	-18.04054	-1.76329
13	5	-15.00677	-18.13363	-1.81739
13	6	-15.24768	-21.60121	-4.00106
13	7	-15.50797	-25.64651	-6.65736
13	8	-15.85517	-72.78736	-38.70951
13	9	-16.56647	NUMXQ(K) = 9	

2.193E-06	0.078	1.000
1.432E-06	0.235	3.000
1.157E-06	0.391	5.000
8.496E-07	0.782	10.000
7.008E-07	1.173	15.000
6.074E-07	1.564	20.000
5.315E-07	1.955	25.000
4.711E-07	2.346	30.000
4.242E-07	2.737	35.000
3.865E-07	3.128	40.000
3.554E-07	3.519	45.000
3.267E-07	3.910	50.000
3.020E-07	4.301	55.000
2.801E-07	4.692	60.000
2.611E-07	5.083	65.000
2.444E-07	5.474	70.000
2.191E-07	5.865	75.000
1.924E-07	6.256	80.000
1.611E-07	6.647	85.000
1.322E-07	7.038	90.000
1.040E-06	0.5	6.39

ANNUAL AVERAGE = 1.16E-08

K= 13 FIVEXQ(K)= 1.040E-06 FIVEPR(K)= 6.393

FUMIGATION X/Q AT THE BOUNDARY: 8.14E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01 9.858E-01 9.154E-01 4.157E-01 3.613E-01 2.081E-01 1.693E-02

1.372      3.460      7.785

42.921      57.994

95.138      100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

STABILITY CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	BLDG WAKE	USED
	AT 131.4 METERS											CA=1292.SQ.METERS		
A	6.0	0.24	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	5.548E-08			
A	8.9	0.24	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	3.749E-08			
A	11.6	0.05	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	2.890E-08			
A	26.5	0.13	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	1.261E-08			
B	3.6	0.08	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	1.575E-07			
B	6.0	0.24	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	9.452E-08			
B	8.9	0.53	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	6.387E-08			
B	11.6	0.37	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	4.923E-08			
B	26.5	0.19	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	2.148E-08			
C	3.6	0.13	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	4.783E-07			
C	6.0	0.69	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	2.870E-07			
C	8.9	1.57	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.939E-07			
C	11.6	0.80	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.495E-07			
C	26.5	0.72	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	6.522E-08			
D	0.2	0.00	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.458E-05			
D	1.7	1.01	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	2.083E-06			
D	3.6	2.59	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	9.723E-07			
D	6.0	9.48	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	5.834E-07			
D	8.9	17.99	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.942E-07			
D	11.6	11.96	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.038E-07			
D	26.5	4.03	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.326E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	0.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	3.68	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	9.45	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	15.56	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	2.96	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.32	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.75	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	1.76	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	3.74	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	3.68	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			

G	1.8	0.37	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	0.93	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	1.04	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.05	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 6000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.458E-05	8.835E-06	4.813E-06	2.083E-06	1.262E-06	9.723E-07	6.875E-07	5.890E-07	5.834E-07	4.783E-07
0.002	0.009	0.018	1.032	1.993	4.582	5.329	9.012	18.488	18.621
0.00020	0.00080	0.00155	0.09019	0.17416	0.40041	0.46572	0.78761	1.61566	1.62732
3.942E-07	3.534E-07	3.208E-07	3.038E-07	2.870E-07	2.388E-07	1.939E-07	1.925E-07	1.841E-07	1.575E-07
36.610	46.059	47.820	59.778	60.472	76.032	77.607	81.343	84.306	84.386
3.19944	4.02516	4.17910	5.22407	5.28472	6.64458	6.78220	7.10875	7.36766	7.37466
1.495E-07	1.326E-07	1.301E-07	1.003E-07	9.452E-08	8.032E-08	6.522E-08	6.449E-08	6.387E-08	5.548E-08
85.187	89.217	92.900	93.381	93.621	93.941	94.662	95.036	95.569	95.810
7.44464	7.79685	8.11874	8.16072	8.18172	8.20971	8.27268	8.30534	8.35199	8.37298
4.923E-08	3.749E-08	3.010E-08	2.890E-08	2.148E-08	1.806E-08	1.261E-08	1.220E-08	9.405E-09	
96.183	96.423	97.358	97.411	97.598	98.772	98.906	99.947	100.000	
8.40564	8.42663	8.50827	8.51293	8.52926	8.63189	8.64355	8.73452	8.73919	

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 1.614  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 5.220

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 6.641  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 7.364  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 8.115  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 8.348

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
14	1	-11.13557	-17.14429	-1.30308
14	2	-14.35445	-17.05526	-1.26150
14	3	-15.00677	-18.24634	-1.99498
14	4	-15.24768	-22.50907	-4.83095
14	5	-15.50797	-25.21372	-6.69723
14	6	-15.85517	-80.56750	-46.30991
14	7	-16.56647	NUMXQ(K) = 7	
		2.118E-06	0.087	1.000
		1.363E-06	0.262	3.000
		1.093E-06	0.437	5.000
		7.934E-07	0.874	10.000
		6.495E-07	1.311	15.000
		5.605E-07	1.748	20.000
		4.992E-07	2.185	25.000
		4.527E-07	2.622	30.000
		4.159E-07	3.059	35.000
		3.857E-07	3.496	40.000
		3.603E-07	3.933	45.000
		3.386E-07	4.370	50.000
		3.197E-07	4.807	55.000
		3.027E-07	5.244	60.000
		2.798E-07	5.680	65.000
		2.598E-07	6.117	70.000
		2.422E-07	6.554	75.000
		2.102E-07	6.991	80.000
		1.788E-07	7.428	85.000
		1.458E-07	7.865	90.000
		1.029E-06	0.5	5.72

ANNUAL AVERAGE = 1.34E-08

K= 14 FIVEXQ(K) = 1.029E-06 FIVEPR(K) = 5.721

FUMIGATION X/Q AT THE BOUNDARY: 8.14E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.858E-01	9.154E-01	4.157E-01	3.613E-01	2.081E-01	1.693E-02
0.667	2.082	6.005	53.063	63.481	96.423	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)			
											MEANDER	BLDG WAKE	USED	
AT 131.4 METERS												CA=1292.SQ.METERS		
A	6.0	0.04	6000.	0.	131.		131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	5.548E-08	
A	8.9	0.06	6000.	0.	131.		131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	3.749E-08	
A	26.5	0.02	6000.	0.	131.		131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	1.261E-08	
B	3.6	0.08	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	1.575E-07	
B	6.0	0.04	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	9.452E-08	
B	8.9	0.19	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	6.387E-08	
B	11.6	0.08	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	4.923E-08	
C	3.6	0.06	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	4.783E-07	
C	6.0	0.55	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	2.870E-07	
C	8.9	0.74	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.939E-07	
C	11.6	0.59	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.495E-07	
C	26.5	0.13	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	6.522E-08	
D	0.2	0.00	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.458E-05	
D	1.7	0.76	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	2.083E-06	
D	3.6	4.10	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	9.723E-07	
D	6.0	11.52	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	5.834E-07	
D	8.9	22.08	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.942E-07	
D	11.6	11.54	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.038E-07	
D	26.5	3.91	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.326E-07	
E	0.3	0.01	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06	
E	1.8	0.83	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06	
E	3.9	3.61	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07	
E	6.5	11.03	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07	
E	9.6	13.83	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07	
E	12.5	1.89	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07	
E	28.5	0.13	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08	
F	0.3	0.01	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06	
F	1.8	0.55	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07	
F	3.9	2.00	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07	
F	6.5	3.78	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07	
F	9.6	1.91	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07	
G	1.8	0.28	90000.	0.	131.		131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08	
G	3.9	1.49	90000.	0.	131.		131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08	



**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	6.5	1.95	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.19	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 6000.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total time frequencies.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 2.346
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 5.985

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 7.471  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 9.051  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 9.755  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 10.469

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
15	1	-11.13557	-16.78156	-1.22144
15	2	-14.35445	-16.66476	-1.16267
15	3	-14.85564	-16.91057	-1.32064
15	4	-15.00677	-18.34843	-2.31806
15	5	-15.24768	-23.53292	-6.19389
15	6	-15.50797	-26.65115	-8.60064
15	7	-15.85517	NUMXQ(K) = 7	
		2.170E-06	0.110	1.000
		1.423E-06	0.329	3.000
		1.151E-06	0.549	5.000
		8.462E-07	1.098	10.000
		6.975E-07	1.647	15.000
		6.039E-07	2.196	20.000
		5.397E-07	2.745	25.000
		4.915E-07	3.294	30.000
		4.531E-07	3.842	35.000
		4.214E-07	4.391	40.000
		3.947E-07	4.940	45.000
		3.717E-07	5.489	50.000
		3.515E-07	6.038	55.000
		3.315E-07	6.587	60.000
		3.138E-07	7.136	65.000
		2.936E-07	7.685	70.000
		2.694E-07	8.234	75.000
		2.483E-07	8.783	80.000
		2.151E-07	9.332	85.000
		1.732E-07	9.881	90.000
		1.198E-06	0.5	4.55

ANNUAL AVERAGE = 1.83E-08

K= 15 FIVEXQ(K) = 1.198E-06 FIVEPR(K) = 4.554

FUMIGATION X/Q AT THE BOUNDARY: 8.14E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.858E-01	9.154E-01	4.157E-01	3.613E-01	2.081E-01	1.693E-02
0.127	0.531	2.613	56.517	64.767	96.091	100.000

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1 96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME METERS	HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)		
												MEANDER	BLDG WAKE	USED
	AT 131.4 METERS											CA=1292.SQ.METERS		
A	3.6	0.02	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	9.247E-08			
A	6.0	0.17	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	5.548E-08			
A	8.9	0.32	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	3.749E-08			
A	11.6	0.02	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	2.890E-08			
A	26.5	0.02	6000.	0.	131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	1.261E-08			
B	3.6	0.06	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	1.575E-07			
B	6.0	0.48	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	9.452E-08			
B	8.9	0.71	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	6.387E-08			
B	11.6	0.11	6000.	0.	131.	710.5	776.1	0.0	0.000E+00	0.000E+00	4.923E-08			
C	3.6	0.48	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	4.783E-07			
C	6.0	2.16	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	2.870E-07			
C	8.9	2.01	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.939E-07			
C	11.6	0.37	6000.	0.	131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.495E-07			
D	0.2	0.00	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.458E-05			
D	1.7	1.08	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	2.083E-06			
D	3.6	8.31	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	9.723E-07			
D	6.0	20.04	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	5.834E-07			
D	8.9	19.82	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.942E-07			
D	11.6	5.23	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.038E-07			
D	26.5	1.36	6000.	0.	131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.326E-07			
E	0.3	0.01	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06			
E	1.8	0.73	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06			
E	3.9	4.38	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07			
E	6.5	11.10	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07			
E	9.6	10.11	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07			
E	12.5	0.93	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07			
E	28.5	0.22	9000.	0.	131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08			
F	0.3	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06			
F	1.8	0.48	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07			
F	3.9	2.09	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07			
F	6.5	2.72	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07			
F	9.6	0.69	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07			
F	12.5	0.11	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07			

**Calculation No. PM-1055 Revision 0**

**Attachment J**

G	1.8	0.41	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.27	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.84	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.11	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	28.5	0.02	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 6000.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.458E-05	8.835E-06	4.813E-06	2.083E-06	1.262E-06	9.723E-07	6.875E-07	5.890E-07	5.834E-07	4.783E-07
0.002	0.008	0.013	1.093	1.827	10.141	10.617	15.000	35.041	35.516
0.00026	0.00083	0.00142	0.11805	0.19735	1.09537	1.14669	1.62019	3.78478	3.83609
3.942E-07	3.534E-07	3.208E-07	3.038E-07	2.870E-07	2.388E-07	1.939E-07	1.925E-07	1.841E-07	1.575E-07
55.341	66.441	68.535	73.762	75.921	86.028	88.036	90.757	91.686	91.751
5.97735	7.17627	7.40252	7.96699	8.20024	9.29187	9.50879	9.80269	9.90299	9.90998
1.495E-07	1.326E-07	1.301E-07	1.003E-07	9.452E-08	9.247E-08	8.032E-08	6.449E-08	6.387E-08	5.548E-08
92.118	93.478	94.169	94.277	94.752	94.774	94.990	95.400	96.113	96.286
9.94964	10.09659	10.17123	10.18289	10.23421	10.23654	10.25986	10.30418	10.38116	10.39982
4.923E-08	3.749E-08	3.010E-08	2.890E-08	1.806E-08	1.261E-08	1.220E-08	4.104E-09		
96.394	96.717	97.992	98.013	99.849	99.870	99.978	100.000		
10.41148	10.44647	10.58408	10.58642	10.78468	10.78701	10.79868	10.80101		

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 3.781  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 7.172

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 7.963  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 9.288  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 9.800  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 9.900  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8) = 10.168  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 9) = 10.782

K	I	XQSAVE(K, I)	XQINT(K, I)	XQSLOP(K, I)
16	1	-11.13557	-16.41363	-1.15904
16	2	-14.35445	-17.19425	-1.59843
16	3	-14.85564	-18.83811	-2.72199
16	4	-15.00677	-19.02687	-2.85611
16	5	-15.24768	-24.70701	-7.14884
16	6	-15.46313	-25.49299	-7.75668
16	7	-15.50797	-44.80865	-22.76171
16	8	-15.85517	-90.12701	-58.38862
16	9	-17.82970	NUMXQ(K) = 9	
		2.605E-06	0.108	1.000
		1.747E-06	0.324	3.000
		1.429E-06	0.540	5.000
		1.067E-06	1.080	10.000
		8.887E-07	1.620	15.000
		7.754E-07	2.160	20.000
		6.946E-07	2.700	25.000
		6.330E-07	3.240	30.000
		5.837E-07	3.780	35.000
		5.287E-07	4.320	40.000
		4.833E-07	4.860	45.000
		4.452E-07	5.401	50.000
		4.127E-07	5.941	55.000
		3.846E-07	6.481	60.000
		3.599E-07	7.021	65.000
		3.279E-07	7.561	70.000
		2.961E-07	8.101	75.000
		2.679E-07	8.641	80.000
		2.434E-07	9.181	85.000
		1.992E-07	9.721	90.000
		1.474E-06	0.5	4.63

ANNUAL AVERAGE = 2.26E-08

K= 16 FIVEXQ(K) = 1.474E-06 FIVEPR(K) = 4.629

FUMIGATION X/Q AT THE BOUNDARY: 8.14E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.858E-01	9.154E-01	4.157E-01	3.613E-01	2.081E-01	1.693E-02
0.561	1.922	6.932	62.780	68.876	96.350	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

CLASS	WINDSPEED METER/SEC	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN METERS	HT METERS	EFF METERS	PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER)	USED	
											MEANDER	BLDG WAKE	
											CA=1292.SQ.METERS		
	AT 131.4 METERS												
A	1.7	0.01	6000.	0.	131.		131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	1.982E-07
A	3.6	0.51	6000.	0.	131.		131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	9.247E-08
A	6.0	0.53	6000.	0.	131.		131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	5.548E-08
A	8.9	0.28	6000.	0.	131.		131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	3.749E-08
A	11.6	0.06	6000.	0.	131.		131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	2.890E-08
A	26.5	0.03	6000.	0.	131.		131.	944.7	1000.0	0.0	0.000E+00	0.000E+00	1.261E-08
B	1.7	0.05	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	3.376E-07
B	3.6	0.47	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	1.575E-07
B	6.0	0.54	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	9.452E-08
B	8.9	0.44	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	6.387E-08
B	11.6	0.12	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	4.923E-08
B	26.5	0.03	6000.	0.	131.		131.	710.5	776.1	0.0	0.000E+00	0.000E+00	2.148E-08
C	1.7	0.08	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.025E-06
C	3.6	0.77	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	4.783E-07
C	6.0	1.33	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	2.870E-07
C	8.9	1.04	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.939E-07
C	11.6	0.30	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	1.495E-07
C	26.5	0.13	6000.	0.	131.		131.	539.5	312.6	0.0	0.000E+00	0.000E+00	6.522E-08
D	0.2	0.00	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.458E-05
D	1.7	2.07	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	2.083E-06
D	3.6	9.39	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	9.723E-07
D	6.0	15.72	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	5.834E-07
D	8.9	12.23	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.942E-07
D	11.6	4.24	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	3.038E-07
D	26.5	1.39	6000.	0.	131.		131.	379.9	99.2	0.0	0.000E+00	0.000E+00	1.326E-07
E	0.3	0.01	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.835E-06
E	1.8	1.97	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.262E-06
E	3.9	8.90	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	5.890E-07
E	6.5	13.85	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	3.534E-07
E	9.6	9.53	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	2.388E-07
E	12.5	1.29	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	1.841E-07
E	28.5	0.23	9000.	0.	131.		131.	389.6	74.2	0.0	0.000E+00	0.000E+00	8.032E-08
F	0.3	0.01	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.813E-06
F	1.8	1.01	90000.	0.	131.		131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	6.875E-07



**Calculation No. PM-1055 Revision 0****Attachment J**

F	3.9	3.14	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	3.208E-07
F	6.5	3.52	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.925E-07
F	9.6	1.55	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.301E-07
F	12.5	0.16	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	1.003E-07
F	28.5	0.01	90000.	0.	131.	1000.0	92.1	0.0	0.000E+00	0.000E+00	4.375E-08
G	1.8	0.43	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	6.449E-08
G	3.9	1.17	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	3.010E-08
G	6.5	1.14	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.806E-08
G	9.6	0.31	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	1.220E-08
G	12.5	0.01	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	9.405E-09
G	28.5	0.00	90000.	0.	131.	1000.0	46.0	0.0	0.000E+00	0.000E+00	4.104E-09

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 6000.0 METERS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.458E-05	8.835E-06	4.813E-06	2.083E-06	1.262E-06	1.025E-06	9.723E-07	6.875E-07	5.890E-07	5.834E-07
0.005	0.019	0.030	2.097	4.063	4.140	13.531	14.541	23.437	39.156
0.00467	0.01866	0.03032	2.09694	4.06326	4.14023	13.53097	14.54096	23.43721	39.15609
4.783E-07	3.942E-07	3.534E-07	3.376E-07	3.208E-07	3.038E-07	2.870E-07	2.388E-07	1.982E-07	1.939E-07
39.921	52.151	65.996	66.043	69.185	73.426	74.755	84.281	84.288	85.331
39.92116	52.15059	65.99645	66.04311	69.18501	73.42554	74.75509	84.28111	84.28811	85.33075
1.925E-07	1.841E-07	1.575E-07	1.495E-07	1.326E-07	1.301E-07	1.003E-07	9.452E-08	9.247E-08	8.032E-08
88.848	90.143	90.614	90.917	92.305	93.858	94.019	94.563	95.076	95.305
88.84820	90.14275	90.61391	90.91714	92.30499	93.85845	94.01939	94.56287	95.07603	95.30461
6.522E-08	6.449E-08	6.387E-08	5.548E-08	4.923E-08	4.375E-08	3.749E-08	3.010E-08	2.890E-08	2.148E-08
95.431	95.864	96.305	96.837	96.958	96.970	97.248	98.421	98.479	98.514
95.43056	95.86442	96.30527	96.83709	96.95838	96.97005	97.24762	98.42088	98.47919	98.51418
1.806E-08	1.261E-08	1.220E-08	9.405E-09	4.104E-09					
99.650	99.678	99.986	99.995	100.000					
99.65012	99.67811	99.98600	99.99533	99.99999					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q                      WITH RESPECT TO                      WHEN THE WIND BLOWS

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

3.594E-06	1.000	1.000
2.422E-06	3.000	3.000
1.965E-06	5.000	5.000
1.424E-06	10.000	10.000
1.146E-06	15.000	15.000
9.638E-07	20.000	20.000
8.311E-07	25.000	25.000
7.275E-07	30.000	30.000
6.431E-07	35.000	35.000
5.745E-07	40.000	40.000
5.256E-07	45.000	45.000
4.816E-07	50.000	50.000
4.413E-07	55.000	55.000
4.037E-07	60.000	60.000
3.683E-07	65.000	65.000
3.342E-07	70.000	70.000
3.010E-07	75.000	75.000
2.678E-07	80.000	80.000
2.322E-07	85.000	85.000
1.855E-07	90.000	90.000
1.965E-06	5.0	5.00

K= 17 FIVEXQ(K)= 1.965E-06 FIVEPR(K)= 5.000

FUMIGATION X/Q AT THE BOUNDARY: 8.14E-06

EXPONENTIAL TERM AND FREQUENCIES

9.914E-01	9.858E-01	9.154E-01	4.157E-01	3.613E-01	2.081E-01	1.693E-02
1.416	3.074	6.718	51.756	61.163	96.935	100.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

1.458E-05	8.835E-06	4.813E-06	2.083E-06	1.262E-06	1.025E-06	9.723E-07	6.875E-07	5.890E-07	5.834E-07
0.005	0.019	0.030	2.097	4.063	4.140	13.531	14.541	23.437	39.156
0.00467	0.01866	0.03032	2.09694	4.06326	4.14023	13.53098	14.54096	23.43721	39.15609
4.783E-07	3.942E-07	3.534E-07	3.376E-07	3.208E-07	3.038E-07	2.870E-07	2.388E-07	1.982E-07	1.939E-07
39.921	52.151	65.996	66.043	69.185	73.426	74.755	84.281	84.288	85.331
39.92115	52.15058	65.99645	66.04310	69.18502	73.42554	74.75509	84.28111	84.28811	85.33075
1.925E-07	1.841E-07	1.575E-07	1.495E-07	1.326E-07	1.301E-07	1.003E-07	9.452E-08	9.247E-08	8.032E-08
88.848	90.143	90.614	90.917	92.305	93.858	94.019	94.563	95.076	95.305
88.84819	90.14275	90.61391	90.91714	92.30499	93.85845	94.01939	94.56287	95.07601	95.30460
6.522E-08	6.449E-08	6.387E-08	5.548E-08	4.923E-08	4.375E-08	3.749E-08	3.010E-08	2.890E-08	2.148E-08
95.431	95.864	96.305	96.837	96.958	96.970	97.248	98.421	98.479	98.514
95.43056	95.86440	96.30526	96.83709	96.95839	96.97005	97.24761	98.42087	98.47917	98.51416
1.806E-08	1.261E-08	1.220E-08	9.405E-09	4.104E-09					
99.650	99.678	99.986	99.995	100.000					
99.65009	99.67808	99.98598	99.99531	99.99998					

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.556E-05      DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
18	1	-11.13557	-14.59797	-0.88611
18	2	-14.35445	-14.54610	-0.69736
18	3	-15.24768	-14.32519	-0.91695
18	4	-15.50797	-13.74062	-1.37013
18	5	-15.85517	-14.13937	-1.11176
18	6	-18.48202	NUMXQ(K)= 6	
		3.594E-06	1.000	1.000
		2.422E-06	3.000	3.000
		1.965E-06	5.000	5.000
		1.424E-06	10.000	10.000
		1.146E-06	15.000	15.000
		9.638E-07	20.000	20.000
		8.311E-07	25.000	25.000
		7.275E-07	30.000	30.000
		6.431E-07	35.000	35.000
		5.745E-07	40.000	40.000
		5.256E-07	45.000	45.000
		4.816E-07	50.000	50.000
		4.413E-07	55.000	55.000
		4.037E-07	60.000	60.000
		3.683E-07	65.000	65.000
		3.342E-07	70.000	70.000
		3.010E-07	75.000	75.000
		2.678E-07	80.000	80.000
		2.322E-07	85.000	85.000
		1.855E-07	90.000	90.000
		1.965E-06	5.0	5.00

K= 18 FIVEXQ(K) = 1.965E-06 FIVEPR(K) = 5.000

K	HIGHPR	PR	GRNDVT(K)
1	-2.71468	0.33170	6.21119
2	-1.41271	7.88698	3.52599
3	-2.64812	0.40471	3.10868
4	-2.58808	0.48257	3.53145
5	-2.57624	0.49942	4.76778
6	-2.67759	0.37078	4.27759
7	-2.72279	0.32367	5.37148
8	-2.77607	0.27511	5.07527
9	-2.66837	0.38110	10.00153
10	-2.81734	0.24212	5.86355
11	-2.86612	0.20778	4.96796
12	-2.95519	0.15625	4.95848
13	-2.91442	0.17818	7.82046
14	-2.91473	0.17800	8.73919
15	-2.81257	0.24574	10.97840
16	-2.64656	0.40658	10.80101

Calculation No. PM-1055 Revision 0

Attachment J

K	HOURS (K)	TOTHR
1	29.05691	29.05691
2	690.89960	719.95650
3	35.45256	755.40910
4	42.27271	797.68180
5	43.74879	841.43050
6	32.48003	873.91060
7	28.35307	902.26370
8	24.09922	926.36290
9	33.38438	959.74730
10	21.20971	980.95700
11	18.20116	999.15820
12	13.68729	1012.84600
13	15.60875	1028.45400
14	15.59309	1044.04700
15	21.52665	1065.57400
16	35.61651	1101.19000

K	FIVEXQ	SVANN	SLTIME	TIMINT	I	TIME	XQT
1	1.349E-06	1.557E-08	-0.5322	-13.1469	1	8.0	-14.25354
					2	16.0	-14.62242
					3	72.0	-15.42285
					4	624.0	-16.57208
2	1.179E-06	1.042E-08	-0.5639	-13.2601	1	8.0	-14.43266
					2	16.0	-14.82352
					3	72.0	-15.67165
					4	624.0	-16.88935
3	1.414E-06	1.138E-08	-0.5751	-13.0706	1	8.0	-14.26649
					2	16.0	-14.66512
					3	72.0	-15.53011
					4	624.0	-16.77203
4	1.572E-06	1.392E-08	-0.5637	-12.9726	1	8.0	-14.14482
					2	16.0	-14.53557
					3	72.0	-15.38346
					4	624.0	-16.60083
5	1.599E-06	1.630E-08	-0.5469	-12.9670	1	8.0	-14.10438
					2	16.0	-14.48349
					3	72.0	-15.30612
					4	624.0	-16.48723
6	1.395E-06	1.325E-08	-0.5554	-13.0976	1	8.0	-14.25241
					2	16.0	-14.63737
					3	72.0	-15.47269
					4	624.0	-16.67201
7	1.342E-06	1.402E-08	-0.5440	-13.1439	1	8.0	-14.27514
					2	16.0	-14.65222
					3	72.0	-15.47045

Calculation No. PM-1055 Revision 0

Attachment J

8	1.260E-06	1.200E-08	-0.5550	-13.2000	4	624.0	-16.64523
					1	8.0	-14.35401
					2	16.0	-14.73868
					3	72.0	-15.57339
					4	624.0	-16.77183
9	1.439E-06	1.962E-08	-0.5122	-13.0968	1	8.0	-14.16193
					2	16.0	-14.51697
					3	72.0	-15.28738
					4	624.0	-16.39350
					10	1.200E-06	1.143E-08
2	16.0	-14.78714					
3	72.0	-15.62188					
4	624.0	-16.82036					
11	1.113E-06	9.413E-09	-0.5692	-13.3139			
					2	16.0	-14.89205
					3	72.0	-15.74817
					4	624.0	-16.97735
					12	9.771E-07	7.704E-09
2	16.0	-15.03967					
3	72.0	-15.90836					
4	624.0	-17.15557					
13	1.040E-06	1.160E-08	-0.5362	-13.4049			
					2	16.0	-14.89151
					3	72.0	-15.69795
					4	624.0	-16.85579
					14	1.029E-06	1.340E-08
2	16.0	-14.86375					
3	72.0	-15.64240					
4	624.0	-16.76035					
15	1.198E-06	1.831E-08	-0.4986	-13.2892			
					2	16.0	-14.67173
					3	72.0	-15.42172
					4	624.0	-16.49854
					16	1.474E-06	2.261E-08
2	16.0	-14.46362					
3	72.0	-15.21294					
4	624.0	-16.28878					
17	1.965E-06	2.261E-08	-0.5325	-12.7711			
					2	16.0	-14.24741
					3	72.0	-15.04830
					4	624.0	-16.19818
					18	1.965E-06	2.261E-08

2	16.0	-14.24741
3	72.0	-15.04830
4	624.0	-16.19818



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
VERSUS  
AVERAGING TIME

DOWNWIND SECTOR	DISTANCE (METERS)	RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)					HOURS PER YEAR MAX		DOWNWIND SECTOR
		0-2 HOURS	0-8 HOURS	8-24 HOURS	1-4 DAYS	4-30 DAYS	ANNUAL AVERAGE	0-2 HR X/Q IS EXCEEDED IN SECTOR	
S	6000.	1.35E-06	6.45E-07	4.46E-07	2.00E-07	6.35E-08	1.56E-08	29.1	S
SSW	6000.	1.18E-06	5.39E-07	3.65E-07	1.56E-07	4.62E-08	1.04E-08	690.9	SSW
SW	6000.	1.41E-06	6.37E-07	4.28E-07	1.80E-07	5.20E-08	1.14E-08	35.5	SW
WSW	6000.	1.57E-06	7.19E-07	4.87E-07	2.08E-07	6.17E-08	1.39E-08	42.3	WSW
W	6000.	1.60E-06	7.49E-07	5.13E-07	2.25E-07	6.91E-08	1.63E-08	43.7	W
WNW	6000.	1.40E-06	6.46E-07	4.40E-07	1.91E-07	5.75E-08	1.32E-08	32.5	WNW
NW	6000.	1.34E-06	6.32E-07	4.33E-07	1.91E-07	5.90E-08	1.40E-08	28.4	NW
NNW	6000.	1.26E-06	5.84E-07	3.97E-07	1.72E-07	5.20E-08	1.20E-08	24.1	NNW
N	6000.	1.44E-06	7.07E-07	4.96E-07	2.29E-07	7.59E-08	1.96E-08	33.4	N
NNE	6000.	1.20E-06	5.56E-07	3.78E-07	1.64E-07	4.95E-08	1.14E-08	21.2	NNE
NE	6000.	1.11E-06	5.06E-07	3.41E-07	1.45E-07	4.23E-08	9.41E-09	18.2	NE
ENE	6000.	9.77E-07	4.39E-07	2.94E-07	1.23E-07	3.54E-08	7.70E-09	13.7	ENE
E	6000.	1.04E-06	4.94E-07	3.41E-07	1.52E-07	4.78E-08	1.16E-08	15.6	E
ESE	6000.	1.03E-06	5.02E-07	3.51E-07	1.61E-07	5.26E-08	1.34E-08	15.6	ESE
SE	6000.	1.20E-06	6.00E-07	4.25E-07	2.01E-07	6.84E-08	1.83E-08	21.5	SE
SSE	6000.	1.47E-06	7.39E-07	5.23E-07	2.47E-07	8.43E-08	2.26E-08	35.6	SSE
MAX X/Q		1.60E-06						TOTAL HOURS AROUND SITE: *****	
SRP 2.3.4	6000.	1.96E-06	9.39E-07	6.49E-07	2.91E-07	9.23E-08	2.26E-08		
SITE LIMIT		1.96E-06	9.39E-07	6.49E-07	2.91E-07	9.23E-08	2.26E-08		

THE FIVE-PERCENT-FOR-THE-ENTIRE-SITE X/Q IS LIMITING.

X/Q VALUES (SEC/CUBIC METER) FOR FUMIGATION AT THE BOUNDARY:

DOWNWIND DISTANCE FUMIGATION

SECTOR	(METERS)	X/Q
S	6000.	8.14E-06
SSW	6000.	8.14E-06
SW	6000.	8.14E-06
WSW	6000.	8.14E-06
W	6000.	8.14E-06
WNW	6000.	8.14E-06
NW	6000.	8.14E-06
NNW	6000.	8.14E-06
N	6000.	8.14E-06
NNE	6000.	8.14E-06
NE	6000.	8.14E-06
ENE	6000.	8.14E-06
E	6000.	8.14E-06

**Calculation No. PM-1055 Revision 0**

**Attachment J**

ESE	6000.	8.14E-06
SE	6000.	8.14E-06
SSE	6000.	8.14E-06

**\*\*NOTE\*\***: VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
CHECK THE REASONABLENESS OF THE ENVELOPES  
COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.

PAVAN Input

Off Gas Stack to EAB and LPZ (Tower 2 320' wind and 316'-33' Delta T Stability Class)

1 1111  
Peach Bottom Stack Release  
97.5 meters 10.1-96.3 meters

Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

7	2	0	0	0	2	6	5	0	0	0	0	0	0	0	0	0	0
2584.	54.31	52.4	97.5														
0.	0.	0.	0.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6.	9.	23.	39.	87.	44.	4.	2.	0.	2.	2.	0.	1.	0.	0.	0.	1.	
0.	9.	20.	29.	46.	44.	20.	2.	12.	7.	5.	7.	8.	9.	2.	8.		
2.	4.	9.	18.	7.	3.	13.	0.	7.	3.	2.	3.	21.	9.	3.	15.		
2.	2.	0.	1.	0.	1.	0.	0.	0.	0.	0.	2.	14.	2.	0.	1.		
0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	2.	2.	5.	1.	1.		
0.	2.	2.	9.	5.	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.		
13.	23.	18.	25.	56.	29.	10.	3.	3.	4.	3.	1.	4.	3.	4.	3.		
4.	15.	13.	15.	12.	25.	27.	8.	25.	14.	13.	8.	21.	9.	2.	22.		
10.	3.	2.	1.	1.	2.	8.	8.	31.	9.	6.	19.	27.	20.	9.	33.		
1.	2.	1.	0.	0.	1.	1.	1.	5.	2.	1.	2.	12.	14.	4.	5.		
0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	6.	7.	0.	0.		
0.	5.	12.	15.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.		
31.	22.	28.	37.	50.	65.	14.	12.	19.	5.	7.	3.	5.	5.	3.	22.		
42.	19.	9.	17.	14.	26.	62.	22.	72.	37.	30.	26.	42.	26.	26.	100.		
18.	8.	4.	3.	3.	4.	11.	10.	67.	24.	21.	31.	56.	59.	35.	93.		
4.	1.	0.	0.	1.	2.	0.	1.	9.	0.	4.	4.	29.	30.	28.	17.		
1.	4.	0.	0.	0.	0.	0.	0.	1.	0.	1.	1.	13.	27.	6.	0.		
59.	58.	108.	119.	115.	86.	45.	35.	41.	23.	32.	15.	26.	38.	36.	50.		
330.	211.	238.	336.	435.	304.	339.	243.	300.	191.	155.	128.	141.	97.	193.	385.		
521.	349.	251.	278.	331.	308.	478.	466.	708.	425.	287.	211.	301.	355.	542.	928.		
396.	154.	85.	67.	132.	140.	161.	118.	482.	166.	126.	190.	395.	674.	1039.	918.		
73.	27.	13.	11.	32.	26.	14.	11.	99.	16.	16.	22.	225.	448.	543.	242.		
15.	7.	12.	2.	8.	2.	7.	7.	29.	9.	3.	6.	90.	151.	184.	63.		
60.	44.	36.	61.	60.	60.	61.	59.	70.	56.	59.	54.	54.	36.	39.	34.		
235.	164.	150.	219.	283.	200.	345.	311.	435.	320.	281.	187.	173.	138.	170.	203.		
367.	201.	156.	101.	161.	257.	349.	443.	891.	577.	354.	297.	395.	354.	519.	514.		
156.	38.	26.	11.	58.	63.	98.	165.	516.	228.	216.	271.	536.	583.	651.	468.		
23.	8.	8.	4.	12.	21.	16.	11.	64.	19.	18.	30.	78.	111.	89.	43.		
7.	1.	1.	1.	20.	4.	12.	2.	6.	4.	2.	1.	9.	12.	6.	10.		
26.	19.	22.	26.	31.	23.	28.	32.	23.	32.	32.	33.	30.	28.	26.	22.		
99.	38.	34.	29.	34.	52.	81.	90.	134.	141.	156.	117.	85.	66.	94.	97.		
81.	25.	13.	8.	13.	24.	48.	79.	130.	111.	157.	177.	198.	140.	178.	126.		
4.	1.	1.	0.	0.	2.	7.	8.	44.	23.	39.	109.	168.	138.	90.	32.		
1.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	18.	24.	18.	0.	5.		
0.	0.	0.	0.	4.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.		
11.	14.	11.	10.	13.	5.	4.	9.	17.	9.	6.	18.	13.	14.	13.	19.		
47.	19.	22.	19.	13.	6.	28.	10.	34.	31.	36.	34.	40.	35.	70.	59.		
16.	5.	4.	2.	2.	2.	8.	6.	10.	21.	51.	70.	69.	44.	92.	85.		

Calculation No. PM-1055 Revision 0

Attachment J

1. 0. 0. 0. 0. 0. 1. 1. 2. 1. 8. 26. 39. 39. 9. 5.  
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0823.0823.0823.0823.0823.0823.0823.0823.0823.0823.0823.0823.0823.0823.0823.0823.  
0031.0018.0012.0024.0031.0031.0024.0000.0000.0000.0000.0000.0000.0000.0000.0031.  
7300.7300.7300.7300.7300.7300.7300.7300.7300.7300.7300.7300.7300.7300.7300.7300.  
0055.0061.0128.0104.0073.0098.0104.0085.0110.0085.0085.0067.0048.0067.0043.0043.

**PAVAN Output**

**Off Gas Stack to EAB and LPZ (Tower 2 320' wind and 316'-33' Delta T Stability Class)**

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USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PRINTOUT OF INPUT CARDS

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1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2      Peach Bottom
Stack Release
3      97.5 meters          10.1-96.3 meters
4
5      Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T          6          7 42872          2
7      0.500 2584.000    54.300 152.400    97.500
8      0.000 0.000 0.000 2.000 6.000 5.000 0.000
9      0.000 0.000 0.000 0.000 3.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      6.000 9.000 23.000 39.000 87.000 44.000 4.000 2.000 0.000 2.000 2.000 0.000 1.000 0.000 0.000 1.000
9      0.000 9.000 20.000 29.000 46.000 44.000 20.000 2.000 12.000 7.000 5.000 7.000 8.000 9.000 2.000 8.000
9      2.000 4.000 9.000 18.000 7.000 3.000 13.000 0.000 7.000 3.000 2.000 3.000 21.000 9.000 3.000 15.000
9      2.000 2.000 0.000 1.000 0.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 14.000 2.000 0.000 1.000
9      0.000 0.000 0.000 0.000 0.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 2.000 5.000 1.000 1.000
9      0.000 2.000 2.000 9.000 5.000 0.000 2.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      13.000 23.000 18.000 25.000 56.000 29.000 10.000 3.000 3.000 4.000 3.000 1.000 4.000 3.000 4.000 3.000
9      4.000 15.000 13.000 15.000 12.000 25.000 27.000 8.000 25.000 14.000 13.000 8.000 21.000 9.000 2.000 22.000
9      10.000 3.000 2.000 1.000 1.000 2.000 8.000 8.000 31.000 9.000 6.000 19.000 27.000 20.000 9.000 33.000
9      1.000 2.000 1.000 0.000 0.000 1.000 1.000 1.000 5.000 2.000 1.000 2.000 12.000 14.000 4.000 5.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 0.000 0.000 1.000 6.000 7.000 0.000 0.000
9      0.000 5.000 12.000 15.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      31.000 22.000 28.000 37.000 50.000 65.000 14.000 12.000 19.000 5.000 7.000 3.000 5.000 5.000 3.000 22.000
9      42.000 19.000 9.000 17.000 14.000 26.000 62.000 22.000 72.000 37.000 30.000 26.000 42.000 26.000 26.000 100.000
9      18.000 8.000 4.000 3.000 3.000 4.000 11.000 10.000 67.000 24.000 21.000 31.000 56.000 59.000 35.000 93.000
9      4.000 1.000 0.000 0.000 1.000 2.000 0.000 1.000 9.000 0.000 4.000 4.000 29.000 30.000 28.000 17.000
9      1.000 4.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 0.000 1.000 1.000 13.000 27.000 6.000 0.000
9      59.000 58.000 108.000 119.000 115.000 86.000 45.000 35.000 41.000 23.000 32.000 15.000 26.000 38.000 36.000 50.000
9      330.000 211.000 238.000 336.000 435.000 304.000 339.000 243.000 300.000 191.000 155.000 128.000 141.000 97.000 193.000 385.000
9      521.000 349.000 251.000 278.000 331.000 308.000 478.000 466.000 708.000 425.000 287.000 211.000 301.000 355.000 542.000 928.000
9      396.000 154.000 85.000 67.000 132.000 140.000 161.000 118.000 482.000 166.000 126.000 190.000 395.000 674.000 *****918.000
9      73.000 27.000 13.000 11.000 32.000 26.000 14.000 11.000 99.000 16.000 16.000 22.000 225.000 448.000 543.000 242.000
9      15.000 7.000 12.000 2.000 8.000 2.000 7.000 7.000 29.000 9.000 3.000 6.000 90.000 151.000 184.000 63.000
9      60.000 44.000 36.000 61.000 60.000 60.000 61.000 59.000 70.000 56.000 59.000 54.000 54.000 36.000 39.000 34.000
9      235.000 164.000 150.000 219.000 283.000 200.000 345.000 311.000 435.000 320.000 281.000 187.000 173.000 138.000 170.000 203.000
9      367.000 201.000 156.000 101.000 161.000 257.000 349.000 443.000 891.000 577.000 354.000 297.000 395.000 354.000 519.000 514.000
9      156.000 38.000 26.000 11.000 58.000 63.000 98.000 165.000 516.000 228.000 216.000 271.000 536.000 583.000 651.000 468.000
9      23.000 8.000 8.000 4.000 12.000 21.000 16.000 11.000 64.000 19.000 18.000 30.000 78.000 111.000 89.000 43.000
9      7.000 1.000 1.000 1.000 20.000 4.000 12.000 2.000 6.000 4.000 2.000 1.000 9.000 12.000 6.000 10.000
9      26.000 19.000 22.000 26.000 31.000 23.000 28.000 32.000 23.000 32.000 32.000 33.000 30.000 30.000 28.000 26.000 22.000
9      99.000 38.000 34.000 29.000 34.000 52.000 81.000 90.000 134.000 141.000 156.000 117.000 85.000 66.000 94.000 97.000
9      81.000 25.000 13.000 8.000 13.000 24.000 48.000 79.000 130.000 111.000 157.000 177.000 198.000 140.000 178.000 126.000

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|       |        |        |        |        |        |        |        |        |        |        |        |         |         |         |        |        |       |       |    |  |       |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|--------|--------|-------|-------|----|--|-------|
| 9     | 4.000  | 1.000  | 1.000  | 0.000  | 0.000  | 2.000  | 7.000  | 8.000  | 44.000 | 23.000 | 39.000 | 109.000 | 168.000 | 138.000 | 90.000 | 32.000 |       |       |    |  |       |
| 9     | 1.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 3.000  | 0.000  | 18.000  | 24.000  | 18.000  | 0.000  | 5.000  |       |       |    |  |       |
| 9     | 0.000  | 0.000  | 0.000  | 0.000  | 4.000  | 1.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000   | 0.000   | 0.000   | 0.000  | 0.000  |       |       |    |  |       |
| 9     | 11.000 | 14.000 | 11.000 | 10.000 | 13.000 | 5.000  | 4.000  | 9.000  | 17.000 | 9.000  | 6.000  | 18.000  | 13.000  | 14.000  | 13.000 | 19.000 |       |       |    |  |       |
| 9     | 47.000 | 19.000 | 22.000 | 19.000 | 13.000 | 6.000  | 28.000 | 10.000 | 34.000 | 31.000 | 36.000 | 34.000  | 40.000  | 35.000  | 70.000 | 59.000 |       |       |    |  |       |
| 9     | 16.000 | 5.000  | 4.000  | 2.000  | 2.000  | 2.000  | 8.000  | 6.000  | 10.000 | 21.000 | 51.000 | 70.000  | 69.000  | 44.000  | 92.000 | 85.000 |       |       |    |  |       |
| 9     | 1.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 1.000  | 1.000  | 2.000  | 1.000  | 8.000  | 26.000  | 39.000  | 39.000  | 9.000  | 5.000  |       |       |    |  |       |
| 9     | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000   | 1.000   | 1.000   | 2.000  | 0.000  | 0.000 |       |    |  |       |
| 9     | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000   | 0.000   | 1.000   | 0.000  | 0.000  | 1.000 | 10    |    |  | 101.  |
| 0.500 | 3.500  | 7.500  | 12.500 | 18.500 | 24.000 | 55.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000   | 0.000   | 11      |        | 823.   | 823.  | 823.  |    |  | 823.  |
| 823.  | 823.   | 823.   | 823.   | 823.   | 823.   | 823.   | 823.   | 823.   | 823.   | 823.   | 11     |         | 7300.   | 7300.   | 7300.  | 7300.  | 7300. | 7300. |    |  | 7300. |
| 7300. | 7300.  | 7300.  | 7300.  | 7300.  | 7300.  | 7300.  | 7300.  | 7300.  | 7300.  | 12     |        |         | 1.0     | 1.0     | 1.0    | 1.0    | 1.0   | 1.0   |    |  | 1.0   |
| 1.0   | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    |        |        |        |        |        |         |         |         |        |        |       |       |    |  |       |
| 12    | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    | 1.0     | 1.0     | 1.0     | 1.0    | 1.0    | 1.0   | 1.0   |    |  | 13    |
| 823.  | 823.   | 823.   | 823.   | 823.   | 823.   | 823.   | 823.   | 823.   | 823.   | 823.   | 823.   | 823.    | 823.    | 823.    |        |        |       |       |    |  | 823.  |
| 14    | 31.    | 18.    | 12.    | 24.    | 31.    | 31.    | 24.    | 0.     | 0.     | 0.     | 0.     | 0.      | 0.      | 0.      | 0.     | 0.     | 0.    | 31.   | 13 |  | 7300. |
| 7300. | 7300.  | 7300.  | 7300.  | 7300.  | 7300.  | 7300.  | 7300.  | 7300.  | 7300.  | 7300.  | 7300.  | 7300.   | 7300.   | 7300.   | 7300.  | 7300.  |       |       |    |  |       |
| 14    | 55.    | 61.    | 128.   | 104.   | 73.    | 98.    | 104.   | 85.    | 110.   | 85.    | 85.    | 67.     | 48.     | 67.     | 43.    | 43.    |       |       |    |  |       |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS A

WIND SPEED (M/S)

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.25     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1.56 1.75     | 0.000 | 0.000 | 0.000 | 0.000 | 0.007 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.007 |
| 3.35 3.75     | 0.014 | 0.021 | 0.054 | 0.091 | 0.203 | 0.103 | 0.009 | 0.005 | 0.000 | 0.005 | 0.005 | 0.000 | 0.002 | 0.000 | 0.000 | 0.002 | 0.513 |
| 5.59 6.25     | 0.000 | 0.021 | 0.047 | 0.068 | 0.107 | 0.103 | 0.047 | 0.005 | 0.028 | 0.016 | 0.012 | 0.016 | 0.019 | 0.021 | 0.005 | 0.019 | 0.532 |
| 8.27 9.25     | 0.005 | 0.009 | 0.021 | 0.042 | 0.016 | 0.007 | 0.030 | 0.000 | 0.016 | 0.007 | 0.005 | 0.007 | 0.049 | 0.021 | 0.007 | 0.035 | 0.278 |
| 10.73 12.00   | 0.005 | 0.005 | 0.000 | 0.002 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.005 | 0.033 | 0.005 | 0.000 | 0.002 | 0.058 |
| 24.59 27.49   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.005 | 0.005 | 0.012 | 0.002 | 0.002 | 0.028 |
| TOTAL         | 0.02  | 0.06  | 0.12  | 0.20  | 0.33  | 0.22  | 0.09  | 0.01  | 0.04  | 0.03  | 0.02  | 0.03  | 0.11  | 0.06  | 0.01  | 0.06  | 1.42  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS B

WIND SPEED (M/S)

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.25     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1.56 1.75     | 0.000 | 0.005 | 0.005 | 0.021 | 0.012 | 0.000 | 0.005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.047 |
| 3.35 3.75     | 0.030 | 0.054 | 0.042 | 0.058 | 0.131 | 0.068 | 0.023 | 0.007 | 0.007 | 0.009 | 0.007 | 0.002 | 0.009 | 0.007 | 0.009 | 0.007 | 0.471 |
| 5.59 6.25     | 0.009 | 0.035 | 0.030 | 0.035 | 0.028 | 0.058 | 0.063 | 0.019 | 0.058 | 0.033 | 0.030 | 0.019 | 0.049 | 0.021 | 0.005 | 0.051 | 0.543 |
| 8.27 9.25     | 0.023 | 0.007 | 0.005 | 0.002 | 0.002 | 0.005 | 0.019 | 0.019 | 0.072 | 0.021 | 0.014 | 0.044 | 0.063 | 0.047 | 0.021 | 0.077 | 0.441 |
| 10.73 12.00   | 0.002 | 0.005 | 0.002 | 0.000 | 0.000 | 0.002 | 0.002 | 0.002 | 0.012 | 0.005 | 0.002 | 0.005 | 0.028 | 0.033 | 0.009 | 0.012 | 0.121 |
| 24.59 27.49   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.002 | 0.014 | 0.016 | 0.000 | 0.000 | 0.035 |
| TOTAL         | 0.07  | 0.10  | 0.08  | 0.12  | 0.17  | 0.13  | 0.11  | 0.05  | 0.15  | 0.07  | 0.05  | 0.07  | 0.16  | 0.12  | 0.04  | 0.15  | 1.66  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS C

WIND SPEED (M/S)

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.25     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1.56 1.75     | 0.000 | 0.012 | 0.028 | 0.035 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.077 |
| 3.35 3.75     | 0.072 | 0.051 | 0.065 | 0.086 | 0.117 | 0.152 | 0.033 | 0.028 | 0.044 | 0.012 | 0.016 | 0.007 | 0.012 | 0.012 | 0.007 | 0.051 | 0.765 |
| 5.59 6.25     | 0.098 | 0.044 | 0.021 | 0.040 | 0.033 | 0.061 | 0.145 | 0.051 | 0.168 | 0.086 | 0.070 | 0.061 | 0.098 | 0.061 | 0.061 | 0.233 | 1.330 |
| 8.27 9.25     | 0.042 | 0.019 | 0.009 | 0.007 | 0.007 | 0.009 | 0.026 | 0.023 | 0.156 | 0.056 | 0.049 | 0.072 | 0.131 | 0.138 | 0.082 | 0.217 | 1.043 |
| 10.73 12.00   | 0.009 | 0.002 | 0.000 | 0.000 | 0.002 | 0.005 | 0.000 | 0.002 | 0.021 | 0.000 | 0.009 | 0.009 | 0.068 | 0.070 | 0.065 | 0.040 | 0.303 |
| 24.59 27.49   | 0.002 | 0.009 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.002 | 0.002 | 0.030 | 0.063 | 0.014 | 0.000 | 0.126 |
| TOTAL         | 0.22  | 0.14  | 0.12  | 0.17  | 0.16  | 0.23  | 0.20  | 0.10  | 0.39  | 0.15  | 0.15  | 0.15  | 0.34  | 0.34  | 0.23  | 0.54  | 3.64  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS D

WIND SPEED (M/S)

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.25     | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.005 |
| 1.56 1.75     | 0.138 | 0.135 | 0.252 | 0.278 | 0.268 | 0.201 | 0.105 | 0.082 | 0.096 | 0.054 | 0.075 | 0.035 | 0.061 | 0.089 | 0.084 | 0.117 | 2.067 |

Calculation No. PM-1055 Revision 0

Attachment J

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |        |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 3.35  | 3.75  | 0.770 | 0.492 | 0.555 | 0.784 | 1.015 | 0.709 | 0.791 | 0.567 | 0.700 | 0.446 | 0.362 | 0.299 | 0.329 | 0.226 | 0.450 | 0.898 | 9.391  |
| 5.59  | 6.25  | 1.215 | 0.814 | 0.585 | 0.648 | 0.772 | 0.718 | 1.115 | 1.087 | 1.651 | 0.991 | 0.669 | 0.492 | 0.702 | 0.828 | 1.264 | 2.165 | 15.719 |
| 8.27  | 9.25  | 0.924 | 0.359 | 0.198 | 0.156 | 0.308 | 0.327 | 0.376 | 0.275 | 1.124 | 0.387 | 0.294 | 0.443 | 0.921 | 1.572 | 2.423 | 2.141 | 12.229 |
| 10.73 | 12.00 | 0.170 | 0.063 | 0.030 | 0.026 | 0.075 | 0.061 | 0.033 | 0.026 | 0.231 | 0.037 | 0.037 | 0.051 | 0.525 | 1.045 | 1.267 | 0.564 | 4.241  |
| 24.59 | 27.49 | 0.035 | 0.016 | 0.028 | 0.005 | 0.019 | 0.005 | 0.016 | 0.016 | 0.068 | 0.021 | 0.007 | 0.014 | 0.210 | 0.352 | 0.429 | 0.147 | 1.388  |
| TOTAL |       | 3.25  | 1.88  | 1.65  | 1.90  | 2.46  | 2.02  | 2.44  | 2.05  | 3.87  | 1.94  | 1.44  | 1.33  | 2.75  | 4.11  | 5.92  | 6.03  | 45.04  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS E

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL  |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 0.22 0.28     | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.014  |
| 1.56 1.96     | 0.140 | 0.103 | 0.084 | 0.142 | 0.140 | 0.140 | 0.142 | 0.138 | 0.163 | 0.131 | 0.138 | 0.126 | 0.126 | 0.084 | 0.091 | 0.079 | 1.966  |
| 3.35 4.19     | 0.548 | 0.383 | 0.350 | 0.511 | 0.660 | 0.467 | 0.805 | 0.725 | 1.015 | 0.746 | 0.655 | 0.436 | 0.404 | 0.322 | 0.397 | 0.474 | 8.896  |
| 5.59 6.99     | 0.856 | 0.469 | 0.364 | 0.236 | 0.376 | 0.599 | 0.814 | 1.033 | 2.078 | 1.346 | 0.826 | 0.693 | 0.921 | 0.826 | 1.211 | 1.199 | 13.846 |
| 8.27 10.34    | 0.364 | 0.089 | 0.061 | 0.026 | 0.135 | 0.147 | 0.229 | 0.385 | 1.204 | 0.532 | 0.504 | 0.632 | 1.250 | 1.360 | 1.518 | 1.092 | 9.526  |
| 10.73 13.41   | 0.054 | 0.019 | 0.019 | 0.009 | 0.028 | 0.049 | 0.037 | 0.026 | 0.149 | 0.044 | 0.042 | 0.070 | 0.182 | 0.259 | 0.208 | 0.100 | 1.295  |
| 24.59 30.74   | 0.016 | 0.002 | 0.002 | 0.002 | 0.047 | 0.009 | 0.028 | 0.005 | 0.014 | 0.009 | 0.005 | 0.002 | 0.021 | 0.028 | 0.014 | 0.023 | 0.229  |
| TOTAL         | 1.98  | 1.06  | 0.88  | 0.93  | 1.39  | 1.41  | 2.06  | 2.31  | 4.62  | 2.81  | 2.17  | 1.96  | 2.90  | 2.88  | 3.44  | 2.97  | 35.77  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS F

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.28     | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.012 |
| 1.56 1.96     | 0.061 | 0.044 | 0.051 | 0.061 | 0.072 | 0.054 | 0.065 | 0.075 | 0.054 | 0.075 | 0.075 | 0.077 | 0.070 | 0.065 | 0.061 | 0.051 | 1.010 |
| 3.35 4.19     | 0.231 | 0.089 | 0.079 | 0.068 | 0.079 | 0.121 | 0.189 | 0.210 | 0.313 | 0.329 | 0.364 | 0.273 | 0.198 | 0.154 | 0.219 | 0.226 | 3.142 |
| 5.59 6.99     | 0.189 | 0.058 | 0.030 | 0.019 | 0.030 | 0.056 | 0.112 | 0.184 | 0.303 | 0.259 | 0.366 | 0.413 | 0.462 | 0.327 | 0.415 | 0.294 | 3.517 |
| 8.27 10.34    | 0.009 | 0.002 | 0.002 | 0.000 | 0.000 | 0.005 | 0.016 | 0.019 | 0.103 | 0.054 | 0.091 | 0.254 | 0.392 | 0.322 | 0.210 | 0.075 | 1.553 |
| 10.73 13.41   | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.007 | 0.000 | 0.042 | 0.056 | 0.042 | 0.000 | 0.012 | 0.161 |
| 24.59 30.74   | 0.000 | 0.000 | 0.000 | 0.000 | 0.009 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.012 |
| TOTAL         | 0.49  | 0.19  | 0.16  | 0.15  | 0.19  | 0.24  | 0.38  | 0.49  | 0.77  | 0.72  | 0.90  | 1.06  | 1.18  | 0.91  | 0.91  | 0.66  | 9.41  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS G

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.28     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1.56 1.96     | 0.026 | 0.033 | 0.026 | 0.023 | 0.030 | 0.012 | 0.009 | 0.021 | 0.040 | 0.021 | 0.014 | 0.042 | 0.030 | 0.033 | 0.030 | 0.044 | 0.434 |
| 3.35 4.19     | 0.110 | 0.044 | 0.051 | 0.044 | 0.030 | 0.014 | 0.065 | 0.023 | 0.079 | 0.072 | 0.084 | 0.079 | 0.093 | 0.082 | 0.163 | 0.138 | 1.173 |
| 5.59 6.99     | 0.037 | 0.012 | 0.009 | 0.005 | 0.005 | 0.005 | 0.019 | 0.014 | 0.023 | 0.049 | 0.119 | 0.163 | 0.161 | 0.103 | 0.215 | 0.198 | 1.136 |
| 8.27 10.34    | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.002 | 0.005 | 0.002 | 0.019 | 0.061 | 0.091 | 0.091 | 0.021 | 0.012 | 0.308 |
| 10.73 13.41   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.002 | 0.005 | 0.000 | 0.000 | 0.009 |
| 24.59 30.74   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.002 | 0.005 |
| TOTAL         | 0.17  | 0.09  | 0.09  | 0.07  | 0.07  | 0.03  | 0.10  | 0.06  | 0.15  | 0.14  | 0.24  | 0.35  | 0.38  | 0.31  | 0.43  | 0.39  | 3.06  |

WIND MEASURED AT 97.5 METERS.

WIND SPEED CORRECTED TO THE RELEASE HEIGHT OF 152.4 METERS.

OVERALL WIND DIRECTION FREQUENCY

| WIND DIRECTION: | N   | NNE | NE  | ENE | E   | ESE | SE  | SSE | S    | SSW | SW  | WSW | W   | WNW | NW   | NNW  |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|------|------|
| FREQUENCY:      | 6.2 | 3.5 | 3.1 | 3.5 | 4.8 | 4.3 | 5.4 | 5.1 | 10.0 | 5.9 | 5.0 | 5.0 | 7.8 | 8.7 | 11.0 | 10.8 |



OVERALL WIND SPEED FREQUENCY AS MEASURED ON THE TOWER:

MAX.WIND SPEED (M/S): 0.224 1.565 3.353 5.588 8.270 10.729 24.587  
 WIND SPEED FREQUENCY: 0.03 5.61 24.35 36.62 25.38 6.19 1.82

BUILDING AND RELEASE CHARACTERISTICS:

RELEASE HEIGHT: 152.40 METERS  
 MIXING VOLUME COEFFICIENT: 0.50  
 BUILDING CROSS-SECTIONAL AREA: 2584.00 SQUARE METERS

BOUNDARY DISTANCES (METERS) FROM THE SOURCE FOR EACH DOWNWIND SECTOR:

| DOWNWIND SECTOR | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| BOUNDARY 1      | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  |
| BOUNDARY 2      | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. |

DISTANCES AND TERRAIN HEIGHTS (IN METERS) AS A FUNCTION OF THE DOWNWIND SECTOR:

| SECTOR    | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DISTANCE  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  |
| ELEVATION | 31.   | 18.   | 12.   | 24.   | 31.   | 31.   | 24.   | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 31.   |
| DISTANCE  | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. |
| ELEVATION | 55.   | 61.   | 128.  | 104.  | 73.   | 98.   | 104.  | 85.   | 110.  | 85.   | 85.   | 67.   | 48.   | 67.   | 43.   | 43.   |

THE CONVERSION FACTOR APPLIED TO THE WIND SPEED CLASSES IS 0.447

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

Page 937 of 1411

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

WINDSPEEDS ADJUSTED TO 152.4 METERS.

PERCENT OF THE TIME A GIVEN WINDSPEED IS LOWER:

| WINDSPEED<br>(METER/SEC) | CUMULATIVE FREQUENCY<br>(PERCENT) |
|--------------------------|-----------------------------------|
| 0.25                     | 0.00                              |
| 0.28                     | 0.03                              |
| 1.75                     | 2.23                              |
| 1.96                     | 5.64                              |
| 3.75                     | 16.78                             |
| 4.19                     | 29.99                             |
| 6.25                     | 48.11                             |
| 6.99                     | 66.61                             |
| 9.25                     | 80.60                             |
| 10.34                    | 91.99                             |
| 12.00                    | 96.71                             |
| 13.41                    | 98.18                             |
| 27.49                    | 99.76                             |
| 30.74                    | 100.00                            |

| WINDSPEED<br>(INTERPOLATED)<br>(METER/SEC) | CUMULATIVE FREQUENCY<br>(PERCENT) |
|--|-----------------------------------|
| 0.27                                       | 0.03                              |
| 1.88                                       | 5.64                              |
| 3.99                                       | 29.99                             |
| 6.62                                       | 66.61                             |
| 9.74                                       | 91.99                             |
| 12.33                                      | 98.18                             |
| 27.93                                      | 100.00                            |

LOG-NORMAL INTERPOLATION PERCENTILES

| WINDSPEED<br>(METER/SEC) | CUMULATIVE FREQUENCY<br>(PERCENT) |
|--------------------------|-----------------------------------|
| 0.87                     | 1.00                              |
| 1.38                     | 3.00                              |
| 1.76                     | 5.00                              |
| 2.33                     | 10.00                             |
| 2.77                     | 15.00                             |
| 3.18                     | 20.00                             |

|      |       |
|------|-------|
| 3.58 | 25.00 |
| 3.99 | 30.00 |
| 4.30 | 35.00 |
| 4.61 | 40.00 |
| 4.93 | 45.00 |
| 5.27 | 50.00 |
| 5.64 | 55.00 |
| 6.03 | 60.00 |
| 6.47 | 65.00 |
| 6.88 | 70.00 |
| 7.30 | 75.00 |
| 7.79 | 80.00 |
| 8.57 | 85.00 |
| 9.27 | 90.00 |

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

| CLASS           | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | BLDG WAKE<br>USED |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|
| AT 152.4 METERS |                        |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |                   |
| A               | 3.7                    | 0.23                 | 823.               | 31.               | 121.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 1.614E-06                         |                   |
| A               | 9.2                    | 0.08                 | 823.               | 31.               | 121.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 6.545E-07                         |                   |
| A               | 12.0                   | 0.08                 | 823.               | 31.               | 121.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 5.045E-07                         |                   |
| B               | 3.7                    | 0.49                 | 823.               | 31.               | 121.         | 118.1         | 88.8               | 0.0               | 0.000E+00         | 0.000E+00            | 3.178E-06                         |                   |
| B               | 6.2                    | 0.15                 | 823.               | 31.               | 121.         | 118.1         | 88.8               | 0.0               | 0.000E+00         | 0.000E+00            | 1.907E-06                         |                   |
| B               | 9.2                    | 0.38                 | 823.               | 31.               | 121.         | 118.1         | 88.8               | 0.0               | 0.000E+00         | 0.000E+00            | 1.289E-06                         |                   |
| B               | 12.0                   | 0.04                 | 823.               | 31.               | 121.         | 118.1         | 88.8               | 0.0               | 0.000E+00         | 0.000E+00            | 9.932E-07                         |                   |
| C               | 3.7                    | 1.16                 | 2000.              | 35.               | 117.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 2.199E-06                         |                   |
| C               | 6.2                    | 1.58                 | 2000.              | 35.               | 117.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 1.319E-06                         |                   |
| C               | 9.2                    | 0.68                 | 2000.              | 35.               | 117.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 8.915E-07                         |                   |
| C               | 12.0                   | 0.15                 | 2000.              | 35.               | 117.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 6.872E-07                         |                   |
| C               | 27.5                   | 0.04                 | 2000.              | 35.               | 117.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 2.999E-07                         |                   |
| D               | 0.2                    | 0.01                 | 4000.              | 43.               | 110.         | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 2.309E-05                         |                   |
| D               | 1.7                    | 2.22                 | 4000.              | 43.               | 110.         | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 3.298E-06                         |                   |
| D               | 3.7                    | 12.39                | 4000.              | 43.               | 110.         | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 1.539E-06                         |                   |
| D               | 6.2                    | 19.57                | 4000.              | 43.               | 110.         | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 9.234E-07                         |                   |
| D               | 9.2                    | 14.87                | 4000.              | 43.               | 110.         | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 6.239E-07                         |                   |
| D               | 12.0                   | 2.74                 | 4000.              | 43.               | 110.         | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 4.810E-07                         |                   |
| D               | 27.5                   | 0.56                 | 4000.              | 43.               | 110.         | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 2.099E-07                         |                   |
| E               | 0.3                    | 0.02                 | 7000.              | 54.               | 99.          | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 1.831E-05                         |                   |
| E               | 2.0                    | 2.25                 | 7000.              | 54.               | 99.          | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 2.615E-06                         |                   |
| E               | 4.2                    | 8.83                 | 7000.              | 54.               | 99.          | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 1.220E-06                         |                   |
| E               | 7.0                    | 13.78                | 7000.              | 54.               | 99.          | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 7.323E-07                         |                   |
| E               | 10.3                   | 5.86                 | 7000.              | 54.               | 99.          | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 4.948E-07                         |                   |
| E               | 13.4                   | 0.86                 | 7000.              | 54.               | 99.          | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 3.814E-07                         |                   |
| E               | 30.7                   | 0.26                 | 7000.              | 54.               | 99.          | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 1.664E-07                         |                   |
| F               | 0.3                    | 0.01                 | 10000.             | 55.               | 97.          | 295.8         | 46.1               | 0.0               | 0.000E+00         | 0.000E+00            | 8.984E-06                         |                   |
| F               | 2.0                    | 0.98                 | 10000.             | 55.               | 97.          | 295.8         | 46.1               | 0.0               | 0.000E+00         | 0.000E+00            | 1.283E-06                         |                   |
| F               | 4.2                    | 3.72                 | 10000.             | 55.               | 97.          | 295.8         | 46.1               | 0.0               | 0.000E+00         | 0.000E+00            | 5.990E-07                         |                   |
| F               | 7.0                    | 3.04                 | 10000.             | 55.               | 97.          | 295.8         | 46.1               | 0.0               | 0.000E+00         | 0.000E+00            | 3.594E-07                         |                   |
| F               | 10.3                   | 0.15                 | 10000.             | 55.               | 97.          | 295.8         | 46.1               | 0.0               | 0.000E+00         | 0.000E+00            | 2.428E-07                         |                   |
| F               | 13.4                   | 0.04                 | 10000.             | 55.               | 97.          | 295.8         | 46.1               | 0.0               | 0.000E+00         | 0.000E+00            | 1.872E-07                         |                   |
| G               | 2.0                    | 0.41                 | 90000.             | 55.               | 97.          | 1000.0        | 46.0               | 0.0               | 0.000E+00         | 0.000E+00            | 3.762E-07                         |                   |

**Calculation No. PM-1055 Revision 0****Attachment J****Page 940 of 1411**

|   |      |      |        |     |     |        |      |     |           |           |           |
|---|------|------|--------|-----|-----|--------|------|-----|-----------|-----------|-----------|
| G | 4.2  | 1.77 | 90000. | 55. | 97. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.755E-07 |
| G | 7.0  | 0.60 | 90000. | 55. | 97. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.053E-07 |
| G | 10.3 | 0.04 | 90000. | 55. | 97. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 7.117E-08 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

S SECTOR BOUNDARY DISTANCE = 823.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.309E-05 | 1.831E-05 | 8.984E-06 | 3.298E-06 | 3.178E-06 | 2.615E-06 | 2.199E-06 | 1.907E-06 | 1.614E-06 | 1.539E-06 |
| 0.005     | 0.021     | 0.032     | 2.248     | 2.736     | 4.989     | 6.154     | 6.304     | 6.529     | 18.922    |
| 0.00031   | 0.00131   | 0.00201   | 0.13963   | 0.16995   | 0.30990   | 0.38221   | 0.39154   | 0.40553   | 1.17527   |
| 1.319E-06 | 1.289E-06 | 1.283E-06 | 1.220E-06 | 9.932E-07 | 9.234E-07 | 8.915E-07 | 7.323E-07 | 6.872E-07 | 6.545E-07 |
| 20.499    | 20.875    | 21.851    | 30.676    | 30.714    | 50.279    | 50.955    | 64.737    | 64.887    | 64.962    |
| 1.27323   | 1.29656   | 1.35720   | 1.90535   | 1.90768   | 3.12293   | 3.16491   | 4.02095   | 4.03028   | 4.03494   |
| 6.239E-07 | 5.990E-07 | 5.045E-07 | 4.948E-07 | 4.810E-07 | 3.814E-07 | 3.762E-07 | 3.594E-07 | 2.999E-07 | 2.428E-07 |
| 79.834    | 83.551    | 83.627    | 89.485    | 92.226    | 93.090    | 93.503    | 96.545    | 96.583    | 96.733    |
| 4.95862   | 5.18954   | 5.19421   | 5.55808   | 5.72835   | 5.78200   | 5.80766   | 5.99659   | 5.99893   | 6.00826   |
| 2.099E-07 | 1.872E-07 | 1.755E-07 | 1.664E-07 | 1.053E-07 | 7.117E-08 |           |           |           |           |
| 97.296    | 97.334    | 99.099    | 99.362    | 99.962    | 100.000   |           |           |           |           |
| 6.04324   | 6.04558   | 6.15521   | 6.17153   | 6.20885   | 6.21119   |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 2.309E-05 DISTANCE = 4000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.174  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 1.903

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 3.120  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 4.955  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 5.186

| K | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|---|---|-------------|-------------|-------------|
| 1 | 1 | -10.67628   | -14.01285   | -0.73836    |
| 1 | 2 | -10.90824   | -16.27717   | -1.27688    |
| 1 | 3 | -13.38433   | -16.12975   | -1.21180    |
| 1 | 4 | -13.61629   | -16.36144   | -1.32351    |
| 1 | 5 | -13.89516   | -17.30567   | -1.83022    |
| 1 | 6 | -14.28720   | -17.33310   | -1.84686    |
| 1 | 7 | -14.32809   | NUMXQ(K)= 7 |             |
|   |   | 5.268E-06   | 0.062       | 1.000       |
|   |   | 3.463E-06   | 0.186       | 3.000       |
|   |   | 2.809E-06   | 0.311       | 5.000       |
|   |   | 2.077E-06   | 0.621       | 10.000      |
|   |   | 1.721E-06   | 0.932       | 15.000      |
|   |   | 1.500E-06   | 1.242       | 20.000      |
|   |   | 1.349E-06   | 1.553       | 25.000      |
|   |   | 1.234E-06   | 1.863       | 30.000      |
|   |   | 1.135E-06   | 2.174       | 35.000      |
|   |   | 1.054E-06   | 2.484       | 40.000      |
|   |   | 9.850E-07   | 2.795       | 45.000      |
|   |   | 9.265E-07   | 3.106       | 50.000      |
|   |   | 8.580E-07   | 3.416       | 55.000      |
|   |   | 7.981E-07   | 3.727       | 60.000      |
|   |   | 7.459E-07   | 4.037       | 65.000      |
|   |   | 7.000E-07   | 4.348       | 70.000      |
|   |   | 6.592E-07   | 4.658       | 75.000      |
|   |   | 6.228E-07   | 4.969       | 80.000      |
|   |   | 2.288E-06   | 0.5         | 8.05        |

ANNUAL AVERAGE = 3.76E-09

K= 1 FIVEXQ(K)= 2.288E-06 FIVEPR(K)= 8.050

FUMIGATION X/Q AT THE BOUNDARY: 5.30E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.262E-01 | 5.952E-01 | 3.926E-01 | 3.724E-01 | 3.302E-01 | 1.076E-01 | 1.064E-01 |
| 0.376     | 3.981     | 5.032     | 57.387    | 89.248    | 97.183    | 100.000   |

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |                        |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| AT 152.4 METERS |                        |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 3.7                    | 0.60                 | 823.               | 18.               | 134.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 1.587E-06                         |           |      |
| A               | 6.2                    | 0.60                 | 823.               | 18.               | 134.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 9.520E-07                         |           |      |
| A               | 9.2                    | 0.26                 | 823.               | 18.               | 134.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 6.433E-07                         |           |      |
| A               | 12.0                   | 0.13                 | 823.               | 18.               | 134.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 4.959E-07                         |           |      |
| B               | 1.7                    | 0.13                 | 900.               | 19.               | 134.         | 128.1         | 98.0               | 0.0               | 0.000E+00         | 0.000E+00            | 5.702E-06                         |           |      |
| B               | 3.7                    | 1.52                 | 900.               | 19.               | 134.         | 128.1         | 98.0               | 0.0               | 0.000E+00         | 0.000E+00            | 2.661E-06                         |           |      |
| B               | 6.2                    | 0.99                 | 900.               | 19.               | 134.         | 128.1         | 98.0               | 0.0               | 0.000E+00         | 0.000E+00            | 1.597E-06                         |           |      |
| B               | 9.2                    | 0.20                 | 900.               | 19.               | 134.         | 128.1         | 98.0               | 0.0               | 0.000E+00         | 0.000E+00            | 1.079E-06                         |           |      |
| B               | 12.0                   | 0.13                 | 900.               | 19.               | 134.         | 128.1         | 98.0               | 0.0               | 0.000E+00         | 0.000E+00            | 8.316E-07                         |           |      |
| C               | 1.7                    | 0.33                 | 2000.              | 26.               | 127.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 4.315E-06                         |           |      |
| C               | 3.7                    | 1.46                 | 2000.              | 26.               | 127.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 2.014E-06                         |           |      |
| C               | 6.2                    | 1.26                 | 2000.              | 26.               | 127.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 1.208E-06                         |           |      |
| C               | 9.2                    | 0.53                 | 2000.              | 26.               | 127.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 8.163E-07                         |           |      |
| C               | 12.0                   | 0.07                 | 2000.              | 26.               | 127.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 6.292E-07                         |           |      |
| C               | 27.5                   | 0.26                 | 2000.              | 26.               | 127.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 2.746E-07                         |           |      |
| D               | 0.2                    | 0.01                 | 5000.              | 46.               | 107.         | 322.2         | 89.1               | 0.0               | 0.000E+00         | 0.000E+00            | 2.167E-05                         |           |      |
| D               | 1.7                    | 3.84                 | 5000.              | 46.               | 107.         | 322.2         | 89.1               | 0.0               | 0.000E+00         | 0.000E+00            | 3.095E-06                         |           |      |
| D               | 3.7                    | 13.96                | 5000.              | 46.               | 107.         | 322.2         | 89.1               | 0.0               | 0.000E+00         | 0.000E+00            | 1.444E-06                         |           |      |
| D               | 6.2                    | 23.09                | 5000.              | 46.               | 107.         | 322.2         | 89.1               | 0.0               | 0.000E+00         | 0.000E+00            | 8.667E-07                         |           |      |
| D               | 9.2                    | 10.19                | 5000.              | 46.               | 107.         | 322.2         | 89.1               | 0.0               | 0.000E+00         | 0.000E+00            | 5.856E-07                         |           |      |
| D               | 12.0                   | 1.79                 | 5000.              | 46.               | 107.         | 322.2         | 89.1               | 0.0               | 0.000E+00         | 0.000E+00            | 4.514E-07                         |           |      |
| D               | 27.5                   | 0.46                 | 5000.              | 46.               | 107.         | 322.2         | 89.1               | 0.0               | 0.000E+00         | 0.000E+00            | 1.970E-07                         |           |      |
| E               | 0.3                    | 0.02                 | 7000.              | 59.               | 93.          | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 2.048E-05                         |           |      |
| E               | 2.0                    | 2.91                 | 7000.              | 59.               | 93.          | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 2.926E-06                         |           |      |
| E               | 4.2                    | 10.85                | 7000.              | 59.               | 93.          | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 1.365E-06                         |           |      |
| E               | 7.0                    | 13.30                | 7000.              | 59.               | 93.          | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 8.192E-07                         |           |      |
| E               | 10.3                   | 2.51                 | 7000.              | 59.               | 93.          | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 5.535E-07                         |           |      |
| E               | 13.4                   | 0.53                 | 7000.              | 59.               | 93.          | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 4.267E-07                         |           |      |
| E               | 30.7                   | 0.07                 | 7000.              | 59.               | 93.          | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 1.862E-07                         |           |      |
| F               | 0.3                    | 0.01                 | 10000.             | 61.               | 91.          | 295.8         | 46.1               | 0.0               | 0.000E+00         | 0.000E+00            | 1.172E-05                         |           |      |
| F               | 2.0                    | 1.26                 | 10000.             | 61.               | 91.          | 295.8         | 46.1               | 0.0               | 0.000E+00         | 0.000E+00            | 1.675E-06                         |           |      |
| F               | 4.2                    | 2.51                 | 10000.             | 61.               | 91.          | 295.8         | 46.1               | 0.0               | 0.000E+00         | 0.000E+00            | 7.816E-07                         |           |      |
| F               | 7.0                    | 1.65                 | 10000.             | 61.               | 91.          | 295.8         | 46.1               | 0.0               | 0.000E+00         | 0.000E+00            | 4.690E-07                         |           |      |
| F               | 10.3                   | 0.07                 | 10000.             | 61.               | 91.          | 295.8         | 46.1               | 0.0               | 0.000E+00         | 0.000E+00            | 3.169E-07                         |           |      |



**Calculation No. PM-1055 Revision 0**

**Attachment J**

|   |     |      |        |     |     |        |      |     |           |           |           |
|---|-----|------|--------|-----|-----|--------|------|-----|-----------|-----------|-----------|
| G | 2.0 | 0.93 | 90000. | 61. | 91. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 4.916E-07 |
| G | 4.2 | 1.26 | 90000. | 61. | 91. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 2.294E-07 |
| G | 7.0 | 0.33 | 90000. | 61. | 91. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.376E-07 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom
DATA PERIOD:
TYPE OF RELEASE: Stack Release
SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 97.5 meters
DELTA-T HEIGHTS: 10.1 96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SSW SECTOR BOUNDARY DISTANCE = 823.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across five rows of data.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 2.167E-05 DISTANCE = 5000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.256
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 1.334

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 2.712  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 2.800

| K         | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|-----------|---|-------------|-------------|-------------|
| 2         | 1 | -10.73975   | -11.69888   | -0.21208    |
| 2         | 2 | -10.79607   | -16.48165   | -1.33559    |
| 2         | 3 | -12.74198   | -16.39665   | -1.30524    |
| 2         | 4 | -13.50412   | -17.41958   | -1.76683    |
| 2         | 5 | -14.01848   | -20.00057   | -3.10761    |
| 2         | 6 | -14.06189   | NUMXQ(K)= 6 |             |
| 6.414E-06 |   | 0.035       |             | 1.000       |
| 4.217E-06 |   | 0.106       |             | 3.000       |
| 3.425E-06 |   | 0.176       |             | 5.000       |
| 2.550E-06 |   | 0.353       |             | 10.000      |
| 2.130E-06 |   | 0.529       |             | 15.000      |
| 1.865E-06 |   | 0.705       |             | 20.000      |
| 1.677E-06 |   | 0.881       |             | 25.000      |
| 1.535E-06 |   | 1.058       |             | 30.000      |
| 1.421E-06 |   | 1.234       |             | 35.000      |
| 1.315E-06 |   | 1.410       |             | 40.000      |
| 1.211E-06 |   | 1.587       |             | 45.000      |
| 1.124E-06 |   | 1.763       |             | 50.000      |
| 1.049E-06 |   | 1.939       |             | 55.000      |
| 9.843E-07 |   | 2.116       |             | 60.000      |
| 9.276E-07 |   | 2.292       |             | 65.000      |
| 8.775E-07 |   | 2.468       |             | 70.000      |
| 8.327E-07 |   | 2.644       |             | 75.000      |
| 2.185E-06 |   | 0.5         |             | 14.18       |

ANNUAL AVERAGE = 4.50E-09

K= 2 FIVEXQ(K)= 2.185E-06 FIVEPR(K)=14.180

FUMIGATION X/Q AT THE BOUNDARY: 4.79E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.104E-01 | 5.450E-01 | 4.884E-01 | 3.935E-01 | 3.694E-01 | 1.404E-01 | 1.390E-01 |
| 1.588     | 5.491     | 58.818    | 61.795    | 91.981    | 97.486    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |                        |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 | AT 152.4 METERS        |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 3.7                    | 1.73                 | 823.               | 12.               | 140.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 1.573E-06                         |           |      |
| A               | 6.2                    | 1.50                 | 823.               | 12.               | 140.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 9.439E-07                         |           |      |
| A               | 9.2                    | 0.68                 | 823.               | 12.               | 140.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 6.378E-07                         |           |      |
| B               | 1.7                    | 0.15                 | 1000.              | 15.               | 137.         | 140.9         | 110.2              | 0.0               | 0.000E+00         | 0.000E+00            | 5.399E-06                         |           |      |
| B               | 3.7                    | 1.35                 | 1000.              | 15.               | 137.         | 140.9         | 110.2              | 0.0               | 0.000E+00         | 0.000E+00            | 2.519E-06                         |           |      |
| B               | 6.2                    | 0.98                 | 1000.              | 15.               | 137.         | 140.9         | 110.2              | 0.0               | 0.000E+00         | 0.000E+00            | 1.512E-06                         |           |      |
| B               | 9.2                    | 0.15                 | 1000.              | 15.               | 137.         | 140.9         | 110.2              | 0.0               | 0.000E+00         | 0.000E+00            | 1.021E-06                         |           |      |
| B               | 12.0                   | 0.08                 | 1000.              | 15.               | 137.         | 140.9         | 110.2              | 0.0               | 0.000E+00         | 0.000E+00            | 7.873E-07                         |           |      |
| C               | 1.7                    | 0.90                 | 2000.              | 33.               | 119.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 4.617E-06                         |           |      |
| C               | 3.7                    | 2.10                 | 2000.              | 33.               | 119.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 2.155E-06                         |           |      |
| C               | 6.2                    | 0.68                 | 2000.              | 33.               | 119.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 1.293E-06                         |           |      |
| C               | 9.2                    | 0.30                 | 2000.              | 33.               | 119.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 8.735E-07                         |           |      |
| D               | 0.2                    | 0.02                 | 4000.              | 69.               | 84.          | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 3.495E-05                         |           |      |
| D               | 1.7                    | 8.10                 | 4000.              | 69.               | 84.          | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 4.993E-06                         |           |      |
| D               | 3.7                    | 17.86                | 4000.              | 69.               | 84.          | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 2.330E-06                         |           |      |
| D               | 6.2                    | 18.83                | 4000.              | 69.               | 84.          | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 1.398E-06                         |           |      |
| D               | 9.2                    | 6.38                 | 4000.              | 69.               | 84.          | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 9.446E-07                         |           |      |
| D               | 12.0                   | 0.98                 | 4000.              | 69.               | 84.          | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 7.281E-07                         |           |      |
| D               | 27.5                   | 0.90                 | 4000.              | 69.               | 84.          | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 3.177E-07                         |           |      |
| E               | 0.3                    | 0.02                 | 6000.              | 105.              | 48.          | 270.1         | 61.6               | 0.0               | 0.000E+00         | 0.000E+00            | 5.074E-05                         |           |      |
| E               | 2.0                    | 2.70                 | 6000.              | 105.              | 48.          | 270.1         | 61.6               | 0.0               | 0.000E+00         | 0.000E+00            | 7.248E-06                         |           |      |
| E               | 4.2                    | 11.25                | 6000.              | 105.              | 48.          | 270.1         | 61.6               | 0.0               | 0.000E+00         | 0.000E+00            | 3.383E-06                         |           |      |
| E               | 7.0                    | 11.71                | 6000.              | 105.              | 48.          | 270.1         | 61.6               | 0.0               | 0.000E+00         | 0.000E+00            | 2.030E-06                         |           |      |
| E               | 10.3                   | 1.95                 | 6000.              | 105.              | 48.          | 270.1         | 61.6               | 0.0               | 0.000E+00         | 0.000E+00            | 1.371E-06                         |           |      |
| E               | 13.4                   | 0.60                 | 6000.              | 105.              | 48.          | 270.1         | 61.6               | 0.0               | 0.000E+00         | 0.000E+00            | 1.057E-06                         |           |      |
| E               | 30.7                   | 0.08                 | 6000.              | 105.              | 48.          | 270.1         | 61.6               | 0.0               | 0.000E+00         | 0.000E+00            | 4.613E-07                         |           |      |
| F               | 0.3                    | 0.02                 | 7000.              | 123.              | 30.          | 214.3         | 40.2               | 0.0               | 0.000E+00         | 0.000E+00            | 1.005E-04                         |           |      |
| F               | 2.0                    | 1.65                 | 7000.              | 123.              | 30.          | 214.3         | 40.2               | 0.0               | 0.000E+00         | 0.000E+00            | 1.435E-05                         |           |      |
| F               | 4.2                    | 2.55                 | 7000.              | 123.              | 30.          | 214.3         | 40.2               | 0.0               | 0.000E+00         | 0.000E+00            | 6.697E-06                         |           |      |
| F               | 7.0                    | 0.98                 | 7000.              | 123.              | 30.          | 214.3         | 40.2               | 0.0               | 0.000E+00         | 0.000E+00            | 4.018E-06                         |           |      |
| F               | 10.3                   | 0.08                 | 7000.              | 123.              | 30.          | 214.3         | 40.2               | 0.0               | 0.000E+00         | 0.000E+00            | 2.715E-06                         |           |      |
| G               | 2.0                    | 0.83                 | 8000.              | 128.              | 24.          | 166.9         | 25.6               | 0.0               | 0.000E+00         | 0.000E+00            | 2.419E-05                         |           |      |
| G               | 4.2                    | 1.65                 | 8000.              | 128.              | 24.          | 166.9         | 25.6               | 0.0               | 0.000E+00         | 0.000E+00            | 1.129E-05                         |           |      |

G 7.0 0.30 8000. 128. 24. 166.9 25.6 0.0 0.000E+00 0.000E+00 6.772E-06

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 823.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.005E-04 | 5.074E-05 | 3.495E-05 | 2.419E-05 | 1.435E-05 | 1.129E-05 | 7.248E-06 | 6.772E-06 | 6.697E-06 | 5.399E-06 |
| 0.019     | 0.038     | 0.057     | 0.882     | 2.533     | 4.183     | 6.885     | 7.185     | 9.736     | 9.886     |
| 0.00059   | 0.00119   | 0.00176   | 0.02742   | 0.07873   | 0.13005   | 0.21402   | 0.22335   | 0.30265   | 0.30732   |
| 4.993E-06 | 4.617E-06 | 4.018E-06 | 3.383E-06 | 2.715E-06 | 2.519E-06 | 2.330E-06 | 2.155E-06 | 2.030E-06 | 1.573E-06 |
| 17.989    | 18.890    | 19.865    | 31.120    | 31.195    | 32.546    | 50.403    | 52.504    | 64.209    | 65.935    |
| 0.55923   | 0.58722   | 0.61755   | 0.96742   | 0.96976   | 1.01174   | 1.56688   | 1.63219   | 1.99607   | 2.04972   |
| 1.512E-06 | 1.398E-06 | 1.371E-06 | 1.293E-06 | 1.057E-06 | 1.021E-06 | 9.446E-07 | 9.439E-07 | 8.735E-07 | 7.873E-07 |
| 66.911    | 85.744    | 87.695    | 88.370    | 88.970    | 89.120    | 95.498    | 96.999    | 97.299    | 97.374    |
| 2.08004   | 2.66550   | 2.72615   | 2.74714   | 2.76580   | 2.77047   | 2.96873   | 3.01538   | 3.02471   | 3.02704   |
| 7.281E-07 | 6.378E-07 | 4.613E-07 | 3.177E-07 |           |           |           |           |           |           |
| 98.349    | 99.025    | 99.100    | 100.000   |           |           |           |           |           |           |
| 3.05737   | 3.07836   | 3.08069   | 3.10868   |           |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.005E-04 DISTANCE = 7000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

| CHI/Q           | WITH RESPECT TO | WHEN THE WIND BLOWS   |
|-----------------|-----------------|-----------------------|
| SEC/CUBIC METER | THE TOTAL TIME  | INTO THIS SECTOR ONLY |

|                  |                                    |             |       |
|------------------|------------------------------------|-------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE( 2) = | 0.027 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE( 3) = | 0.130 |

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 0.559  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 1.994  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 2.723

| K | I | XQSAVE(K, I) | XQINT(K, I)  | XQSLOP(K, I) |
|---|---|--------------|--------------|--------------|
| 3 | 1 | -9.20578     | -15.95525    | -1.54089     |
| 3 | 2 | -10.62969    | -16.55569    | -1.71462     |
| 3 | 3 | -11.39183    | -16.57032    | -1.71948     |
| 3 | 4 | -12.20750    | -16.94342    | -1.86653     |
| 3 | 5 | -13.10770    | -19.21492    | -2.97188     |
| 3 | 6 | -13.49974    | NUMXQ(K) = 6 |              |
|   |   | 2.282E-05    | 0.031        | 1.000        |
|   |   | 1.339E-05    | 0.093        | 3.000        |
|   |   | 1.028E-05    | 0.155        | 5.000        |
|   |   | 7.032E-06    | 0.311        | 10.000       |
|   |   | 5.564E-06    | 0.466        | 15.000       |
|   |   | 4.657E-06    | 0.622        | 20.000       |
|   |   | 4.010E-06    | 0.777        | 25.000       |
|   |   | 3.539E-06    | 0.933        | 30.000       |
|   |   | 3.176E-06    | 1.088        | 35.000       |
|   |   | 2.887E-06    | 1.243        | 40.000       |
|   |   | 2.651E-06    | 1.399        | 45.000       |
|   |   | 2.452E-06    | 1.554        | 50.000       |
|   |   | 2.284E-06    | 1.710        | 55.000       |
|   |   | 2.138E-06    | 1.865        | 60.000       |
|   |   | 1.999E-06    | 2.021        | 65.000       |
|   |   | 1.824E-06    | 2.176        | 70.000       |
|   |   | 1.673E-06    | 2.332        | 75.000       |
|   |   | 1.542E-06    | 2.487        | 80.000       |
|   |   | 1.427E-06    | 2.642        | 85.000       |
|   |   | 5.339E-06    | 0.5          | 16.08        |

ANNUAL AVERAGE = 5.04E-09

K= 3 FIVEXQ(K)= 5.339E-06 FIVEPR(K)=16.084

FUMIGATION X/Q AT THE BOUNDARY: 4.58E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.026E-01 | 7.605E-01 | 7.410E-01 | 6.339E-01 | 5.832E-01 | 5.638E-01 | 4.608E-01 |
| 3.902     | 9.173     | 37.480    | 40.256    | 44.232    | 97.299    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | USED      |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE |
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |
| A               | 3.7                    | 2.58                 | 823.               | 24.               | 128.         | 157.1         | 310.1           | 0.0          | 0.000E+00         | 0.000E+00         | 1.600E-06            |                                   |           |
| A               | 6.2                    | 1.92                 | 823.               | 24.               | 128.         | 157.1         | 310.1           | 0.0          | 0.000E+00         | 0.000E+00         | 9.599E-07            |                                   |           |
| A               | 9.2                    | 1.19                 | 823.               | 24.               | 128.         | 157.1         | 310.1           | 0.0          | 0.000E+00         | 0.000E+00         | 6.486E-07            |                                   |           |
| A               | 12.0                   | 0.07                 | 823.               | 24.               | 128.         | 157.1         | 310.1           | 0.0          | 0.000E+00         | 0.000E+00         | 4.999E-07            |                                   |           |
| B               | 1.7                    | 0.59                 | 900.               | 25.               | 127.         | 128.1         | 98.0            | 0.0          | 0.000E+00         | 0.000E+00         | 6.224E-06            |                                   |           |
| B               | 3.7                    | 1.65                 | 900.               | 25.               | 127.         | 128.1         | 98.0            | 0.0          | 0.000E+00         | 0.000E+00         | 2.905E-06            |                                   |           |
| B               | 6.2                    | 0.99                 | 900.               | 25.               | 127.         | 128.1         | 98.0            | 0.0          | 0.000E+00         | 0.000E+00         | 1.743E-06            |                                   |           |
| B               | 9.2                    | 0.07                 | 900.               | 25.               | 127.         | 128.1         | 98.0            | 0.0          | 0.000E+00         | 0.000E+00         | 1.178E-06            |                                   |           |
| C               | 1.7                    | 0.99                 | 2000.              | 39.               | 114.         | 200.0         | 114.9           | 0.0          | 0.000E+00         | 0.000E+00         | 4.845E-06            |                                   |           |
| C               | 3.7                    | 2.44                 | 2000.              | 39.               | 114.         | 200.0         | 114.9           | 0.0          | 0.000E+00         | 0.000E+00         | 2.261E-06            |                                   |           |
| C               | 6.2                    | 1.12                 | 2000.              | 39.               | 114.         | 200.0         | 114.9           | 0.0          | 0.000E+00         | 0.000E+00         | 1.357E-06            |                                   |           |
| C               | 9.2                    | 0.20                 | 2000.              | 39.               | 114.         | 200.0         | 114.9           | 0.0          | 0.000E+00         | 0.000E+00         | 9.166E-07            |                                   |           |
| D               | 0.2                    | 0.02                 | 4000.              | 63.               | 89.          | 263.4         | 78.0            | 0.0          | 0.000E+00         | 0.000E+00         | 3.225E-05            |                                   |           |
| D               | 1.7                    | 7.86                 | 4000.              | 63.               | 89.          | 263.4         | 78.0            | 0.0          | 0.000E+00         | 0.000E+00         | 4.608E-06            |                                   |           |
| D               | 3.7                    | 22.19                | 4000.              | 63.               | 89.          | 263.4         | 78.0            | 0.0          | 0.000E+00         | 0.000E+00         | 2.150E-06            |                                   |           |
| D               | 6.2                    | 18.36                | 4000.              | 63.               | 89.          | 263.4         | 78.0            | 0.0          | 0.000E+00         | 0.000E+00         | 1.290E-06            |                                   |           |
| D               | 9.2                    | 4.43                 | 4000.              | 63.               | 89.          | 263.4         | 78.0            | 0.0          | 0.000E+00         | 0.000E+00         | 8.717E-07            |                                   |           |
| D               | 12.0                   | 0.73                 | 4000.              | 63.               | 89.          | 263.4         | 78.0            | 0.0          | 0.000E+00         | 0.000E+00         | 6.720E-07            |                                   |           |
| D               | 27.5                   | 0.13                 | 4000.              | 63.               | 89.          | 263.4         | 78.0            | 0.0          | 0.000E+00         | 0.000E+00         | 2.932E-07            |                                   |           |
| E               | 0.3                    | 0.03                 | 7000.              | 100.              | 52.          | 310.5         | 66.2            | 0.0          | 0.000E+00         | 0.000E+00         | 4.066E-05            |                                   |           |
| E               | 2.0                    | 4.03                 | 7000.              | 100.              | 52.          | 310.5         | 66.2            | 0.0          | 0.000E+00         | 0.000E+00         | 5.809E-06            |                                   |           |
| E               | 4.2                    | 14.46                | 7000.              | 100.              | 52.          | 310.5         | 66.2            | 0.0          | 0.000E+00         | 0.000E+00         | 2.711E-06            |                                   |           |
| E               | 7.0                    | 6.67                 | 7000.              | 100.              | 52.          | 310.5         | 66.2            | 0.0          | 0.000E+00         | 0.000E+00         | 1.626E-06            |                                   |           |
| E               | 10.3                   | 0.73                 | 7000.              | 100.              | 52.          | 310.5         | 66.2            | 0.0          | 0.000E+00         | 0.000E+00         | 1.099E-06            |                                   |           |
| E               | 13.4                   | 0.26                 | 7000.              | 100.              | 52.          | 310.5         | 66.2            | 0.0          | 0.000E+00         | 0.000E+00         | 8.471E-07            |                                   |           |
| E               | 30.7                   | 0.07                 | 7000.              | 100.              | 52.          | 310.5         | 66.2            | 0.0          | 0.000E+00         | 0.000E+00         | 3.696E-07            |                                   |           |
| F               | 0.3                    | 0.02                 | 8000.              | 104.              | 48.          | 241.8         | 42.4            | 0.0          | 0.000E+00         | 0.000E+00         | 5.792E-05            |                                   |           |
| F               | 2.0                    | 1.72                 | 8000.              | 104.              | 48.          | 241.8         | 42.4            | 0.0          | 0.000E+00         | 0.000E+00         | 8.274E-06            |                                   |           |
| F               | 4.2                    | 1.92                 | 8000.              | 104.              | 48.          | 241.8         | 42.4            | 0.0          | 0.000E+00         | 0.000E+00         | 3.861E-06            |                                   |           |
| F               | 7.0                    | 0.53                 | 8000.              | 104.              | 48.          | 241.8         | 42.4            | 0.0          | 0.000E+00         | 0.000E+00         | 2.317E-06            |                                   |           |
| G               | 2.0                    | 0.66                 | 8000.              | 104.              | 48.          | 166.9         | 25.6            | 0.0          | 0.000E+00         | 0.000E+00         | 6.348E-06            |                                   |           |
| G               | 4.2                    | 1.25                 | 8000.              | 104.              | 48.          | 166.9         | 25.6            | 0.0          | 0.000E+00         | 0.000E+00         | 2.962E-06            |                                   |           |
| G               | 7.0                    | 0.13                 | 8000.              | 104.              | 48.          | 166.9         | 25.6            | 0.0          | 0.000E+00         | 0.000E+00         | 1.777E-06            |                                   |           |



**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

WSW SECTOR BOUNDARY DISTANCE = 823.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 5.792E-05 | 4.066E-05 | 3.225E-05 | 8.274E-06 | 6.348E-06 | 6.224E-06 | 5.809E-06 | 4.845E-06 | 4.608E-06 | 3.861E-06 |
| 0.020     | 0.049     | 0.066     | 1.784     | 2.444     | 3.039     | 7.068     | 8.058     | 15.918    | 17.834    |
| 0.00070   | 0.00171   | 0.00234   | 0.06299   | 0.08631   | 0.10730   | 0.24959   | 0.28458   | 0.56215   | 0.62979   |
| 2.962E-06 | 2.905E-06 | 2.711E-06 | 2.317E-06 | 2.261E-06 | 2.150E-06 | 1.777E-06 | 1.743E-06 | 1.626E-06 | 1.600E-06 |
| 19.089    | 20.740    | 35.205    | 35.733    | 38.177    | 60.370    | 60.502    | 61.493    | 68.164    | 70.740    |
| 0.67411   | 0.73242   | 1.24324   | 1.26190   | 1.34821   | 2.13193   | 2.13660   | 2.17159   | 2.40717   | 2.49814   |
| 1.357E-06 | 1.290E-06 | 1.178E-06 | 1.099E-06 | 9.599E-07 | 9.166E-07 | 8.717E-07 | 8.471E-07 | 6.720E-07 | 6.486E-07 |
| 71.863    | 90.225    | 90.291    | 91.017    | 92.933    | 93.131    | 97.556    | 97.820    | 98.547    | 99.736    |
| 2.53779   | 3.18624   | 3.18857   | 3.21423   | 3.28187   | 3.28887   | 3.44515   | 3.45448   | 3.48013   | 3.52212   |
| 4.999E-07 | 3.696E-07 | 2.932E-07 |           |           |           |           |           |           |           |
| 99.802    | 99.868    | 100.000   |           |           |           |           |           |           |           |
| 3.52445   | 3.52678   | 3.53145   |           |           |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.

THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 5.792E-05 DISTANCE = 8000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.561  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 2.130

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 3.183  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 3.442

| K | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|---|---|-------------|-------------|-------------|
| 4 | 1 | -9.75651    | -15.83710   | -1.39986    |
| 4 | 2 | -12.28779   | -16.09319   | -1.50087    |
| 4 | 3 | -13.04993   | -19.03180   | -2.95012    |
| 4 | 4 | -13.56075   | -34.30257   | -11.18449   |
| 4 | 5 | -13.95280   | NUMXQ(K)= 5 |             |
|   |   | 1.518E-05   | 0.035       | 1.000       |
|   |   | 9.783E-06   | 0.106       | 3.000       |
|   |   | 7.867E-06   | 0.177       | 5.000       |
|   |   | 5.755E-06   | 0.353       | 10.000      |
|   |   | 4.743E-06   | 0.530       | 15.000      |
|   |   | 4.080E-06   | 0.706       | 20.000      |
|   |   | 3.611E-06   | 0.883       | 25.000      |
|   |   | 3.261E-06   | 1.059       | 30.000      |
|   |   | 2.985E-06   | 1.236       | 35.000      |
|   |   | 2.761E-06   | 1.413       | 40.000      |
|   |   | 2.574E-06   | 1.589       | 45.000      |
|   |   | 2.416E-06   | 1.766       | 50.000      |
|   |   | 2.278E-06   | 1.942       | 55.000      |
|   |   | 2.159E-06   | 2.119       | 60.000      |
|   |   | 1.962E-06   | 2.295       | 65.000      |
|   |   | 1.788E-06   | 2.472       | 70.000      |
|   |   | 1.639E-06   | 2.649       | 75.000      |
|   |   | 1.509E-06   | 2.825       | 80.000      |
|   |   | 1.395E-06   | 3.002       | 85.000      |
|   |   | 1.294E-06   | 3.178       | 90.000      |
|   |   | 4.878E-06   | 0.5         | 14.16       |

ANNUAL AVERAGE = 1.02E-08

K= 4 FIVEXQ(K)= 4.878E-06 FIVEPR(K)=14.158

FUMIGATION X/Q AT THE BOUNDARY: 5.01E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.179E-01 | 7.335E-01 | 6.120E-01 | 5.212E-01 | 5.203E-01 | 4.295E-01 | 1.664E-01 |
| 5.746     | 31.997    | 36.753    | 40.933    | 94.650    | 97.952    | 100.000   |

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

| CLASS           | METER/SEC | PERCENT | METERS | METERS | METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | BLDG WAKE | USED      |
|-----------------|-----------|---------|--------|--------|--------|-------------------|-------------------|----------------------|-----------------------------------|-----------|-----------|
| AT 152.4 METERS |           |         |        |        |        |                   |                   |                      | CA=1292.SQ.METERS                 |           |           |
| A               | 1.7       | 0.15    | 823.   | 31.    | 121.   | 157.1             | 310.1             | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.459E-06 |
| A               | 3.7       | 4.26    | 823.   | 31.    | 121.   | 157.1             | 310.1             | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.614E-06 |
| A               | 6.2       | 2.25    | 823.   | 31.    | 121.   | 157.1             | 310.1             | 0.0                  | 0.000E+00                         | 0.000E+00 | 9.686E-07 |
| A               | 9.2       | 0.34    | 823.   | 31.    | 121.   | 157.1             | 310.1             | 0.0                  | 0.000E+00                         | 0.000E+00 | 6.545E-07 |
| B               | 1.7       | 0.24    | 823.   | 31.    | 121.   | 118.1             | 88.8              | 0.0                  | 0.000E+00                         | 0.000E+00 | 6.811E-06 |
| B               | 3.7       | 2.74    | 823.   | 31.    | 121.   | 118.1             | 88.8              | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.178E-06 |
| B               | 6.2       | 0.59    | 823.   | 31.    | 121.   | 118.1             | 88.8              | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.907E-06 |
| B               | 9.2       | 0.05    | 823.   | 31.    | 121.   | 118.1             | 88.8              | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.289E-06 |
| C               | 1.7       | 0.05    | 2000.  | 39.    | 114.   | 200.0             | 114.9             | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.849E-06 |
| C               | 3.7       | 2.45    | 2000.  | 39.    | 114.   | 200.0             | 114.9             | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.263E-06 |
| C               | 6.2       | 0.68    | 2000.  | 39.    | 114.   | 200.0             | 114.9             | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.358E-06 |
| C               | 9.2       | 0.15    | 2000.  | 39.    | 114.   | 200.0             | 114.9             | 0.0                  | 0.000E+00                         | 0.000E+00 | 9.173E-07 |
| C               | 12.0      | 0.05    | 2000.  | 39.    | 114.   | 200.0             | 114.9             | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.071E-07 |
| D               | 0.2       | 0.01    | 4000.  | 52.    | 101.   | 263.4             | 78.0              | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.689E-05 |
| D               | 1.7       | 5.63    | 4000.  | 52.    | 101.   | 263.4             | 78.0              | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.842E-06 |
| D               | 3.7       | 21.28   | 4000.  | 52.    | 101.   | 263.4             | 78.0              | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.793E-06 |
| D               | 6.2       | 16.19   | 4000.  | 52.    | 101.   | 263.4             | 78.0              | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.076E-06 |
| D               | 9.2       | 6.46    | 4000.  | 52.    | 101.   | 263.4             | 78.0              | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.269E-07 |
| D               | 12.0      | 1.57    | 4000.  | 52.    | 101.   | 263.4             | 78.0              | 0.0                  | 0.000E+00                         | 0.000E+00 | 5.603E-07 |
| D               | 27.5      | 0.39    | 4000.  | 52.    | 101.   | 263.4             | 78.0              | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.445E-07 |
| E               | 0.3       | 0.02    | 7000.  | 71.    | 81.    | 310.5             | 66.2              | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.604E-05 |
| E               | 2.0       | 2.94    | 7000.  | 71.    | 81.    | 310.5             | 66.2              | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.720E-06 |
| E               | 4.2       | 13.85   | 7000.  | 71.    | 81.    | 310.5             | 66.2              | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.736E-06 |
| E               | 7.0       | 7.88    | 7000.  | 71.    | 81.    | 310.5             | 66.2              | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.042E-06 |
| E               | 10.3      | 2.84    | 7000.  | 71.    | 81.    | 310.5             | 66.2              | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.039E-07 |
| E               | 13.4      | 0.59    | 7000.  | 71.    | 81.    | 310.5             | 66.2              | 0.0                  | 0.000E+00                         | 0.000E+00 | 5.426E-07 |
| E               | 30.7      | 0.98    | 7000.  | 71.    | 81.    | 310.5             | 66.2              | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.368E-07 |
| F               | 0.3       | 0.02    | 8000.  | 73.    | 79.    | 241.8             | 42.4              | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.924E-05 |
| F               | 2.0       | 1.52    | 8000.  | 73.    | 79.    | 241.8             | 42.4              | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.749E-06 |
| F               | 4.2       | 1.66    | 8000.  | 73.    | 79.    | 241.8             | 42.4              | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.283E-06 |
| F               | 7.0       | 0.64    | 8000.  | 73.    | 79.    | 241.8             | 42.4              | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.696E-07 |
| F               | 30.7      | 0.20    | 8000.  | 73.    | 79.    | 241.8             | 42.4              | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.749E-07 |
| G               | 2.0       | 0.64    | 90000. | 73.    | 79.    | 1000.0            | 46.0              | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.977E-07 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|   |     |      |        |     |     |        |      |     |           |           |           |
|---|-----|------|--------|-----|-----|--------|------|-----|-----------|-----------|-----------|
| G | 4.2 | 0.64 | 90000. | 73. | 79. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 3.723E-07 |
| G | 7.0 | 0.10 | 90000. | 73. | 79. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 2.234E-07 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 823.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.689E-05 | 2.604E-05 | 1.924E-05 | 6.811E-06 | 4.849E-06 | 3.842E-06 | 3.720E-06 | 3.459E-06 | 3.178E-06 | 2.749E-06 |
| 0.013     | 0.034     | 0.051     | 0.296     | 0.345     | 5.971     | 8.906     | 9.053     | 11.793    | 13.309    |
| 0.00061   | 0.00160   | 0.00244   | 0.01410   | 0.01643   | 0.28467   | 0.42462   | 0.43162   | 0.56224   | 0.63455   |
| 2.263E-06 | 1.907E-06 | 1.793E-06 | 1.736E-06 | 1.614E-06 | 1.358E-06 | 1.289E-06 | 1.283E-06 | 1.076E-06 | 1.042E-06 |
| 15.755    | 16.342    | 37.624    | 51.469    | 55.725    | 56.410    | 56.459    | 58.122    | 74.316    | 82.192    |
| 0.75118   | 0.77917   | 1.79382   | 2.45392   | 2.65685   | 2.68951   | 2.69184   | 2.77114   | 3.54321   | 3.91875   |
| 9.686E-07 | 9.173E-07 | 7.977E-07 | 7.696E-07 | 7.269E-07 | 7.071E-07 | 7.039E-07 | 6.545E-07 | 5.603E-07 | 5.426E-07 |
| 84.443    | 84.589    | 85.225    | 85.861    | 92.319    | 92.368    | 95.206    | 95.548    | 97.114    | 97.701    |
| 4.02604   | 4.03304   | 4.06336   | 4.09369   | 4.40158   | 4.40391   | 4.53920   | 4.55553   | 4.63017   | 4.65816   |
| 3.723E-07 | 2.445E-07 | 2.368E-07 | 2.234E-07 | 1.749E-07 |           |           |           |           |           |
| 98.337    | 98.728    | 99.706    | 99.804    | 100.000   |           |           |           |           |           |
| 4.68848   | 4.70714   | 4.75379   | 4.75845   | 4.76779   |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 2.689E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 0.424  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.451

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 2.654  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 3.915  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 7)= 4.536

| K | I | XQSAVE(K, I) | XQINT(K, I) | XQSLOP(K, I) |
|---|---|--------------|-------------|--------------|
| 5 | 1 | -10.52359    | -11.17195   | -0.14818     |
| 5 | 2 | -10.55575    | -15.85762   | -1.27495     |
| 5 | 3 | -12.50166    | -15.52343   | -1.14799     |
| 5 | 4 | -13.26380    | -17.46210   | -2.13292     |
| 5 | 5 | -13.33655    | -18.21624   | -2.52280     |
| 5 | 6 | -13.77462    | -23.78702   | -5.68697     |
| 5 | 7 | -14.16666    | NUMXQ(K)= 7 |              |
|   |   | 8.762E-06    | 0.048       | 1.000        |
|   |   | 5.816E-06    | 0.143       | 3.000        |
|   |   | 4.743E-06    | 0.238       | 5.000        |
|   |   | 3.555E-06    | 0.477       | 10.000       |
|   |   | 3.018E-06    | 0.715       | 15.000       |
|   |   | 2.674E-06    | 0.954       | 20.000       |
|   |   | 2.427E-06    | 1.192       | 25.000       |
|   |   | 2.238E-06    | 1.430       | 30.000       |
|   |   | 2.085E-06    | 1.669       | 35.000       |
|   |   | 1.960E-06    | 1.907       | 40.000       |
|   |   | 1.853E-06    | 2.146       | 45.000       |
|   |   | 1.761E-06    | 2.384       | 50.000       |
|   |   | 1.634E-06    | 2.622       | 55.000       |
|   |   | 1.489E-06    | 2.861       | 60.000       |
|   |   | 1.362E-06    | 3.099       | 65.000       |
|   |   | 1.253E-06    | 3.337       | 70.000       |
|   |   | 1.158E-06    | 3.576       | 75.000       |
|   |   | 1.075E-06    | 3.814       | 80.000       |
|   |   | 9.534E-07    | 4.053       | 85.000       |
|   |   | 8.188E-07    | 4.291       | 90.000       |
|   |   | 3.489E-06    | 0.5         | 10.49        |

ANNUAL AVERAGE = 1.64E-08

K= 5 FIVEXQ(K)= 3.489E-06 FIVEPR(K)=10.487

FUMIGATION X/Q AT THE BOUNDARY: 5.30E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.262E-01 | 6.125E-01 | 4.698E-01 | 4.339E-01 | 3.926E-01 | 2.255E-01 | 1.732E-01 |
| 6.996     | 10.372    | 39.453    | 90.981    | 94.601    | 95.971    | 100.000   |

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

| CLASS           | METER/SEC | PERCENT | METERS | METERS | METERS | SIGMA-Y METERS | SIGMA-Z METERS | MEANDER-SY METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER   | BLDG WAKE | USED |
|-----------------|-----------|---------|--------|--------|--------|----------------|----------------|-------------------|-----------------------------------|-----------|-----------|------|
| AT 152.4 METERS |           |         |        |        |        |                |                |                   | CA=1292.SQ.METERS                 |           |           |      |
| A               | 3.7       | 2.40    | 823.   | 31.    | 121.   | 157.1          | 310.1          | 0.0               | 0.000E+00                         | 0.000E+00 | 1.614E-06 |      |
| A               | 6.2       | 2.40    | 823.   | 31.    | 121.   | 157.1          | 310.1          | 0.0               | 0.000E+00                         | 0.000E+00 | 9.686E-07 |      |
| A               | 9.2       | 0.16    | 823.   | 31.    | 121.   | 157.1          | 310.1          | 0.0               | 0.000E+00                         | 0.000E+00 | 6.545E-07 |      |
| A               | 12.0      | 0.05    | 823.   | 31.    | 121.   | 157.1          | 310.1          | 0.0               | 0.000E+00                         | 0.000E+00 | 5.045E-07 |      |
| A               | 27.5      | 0.05    | 823.   | 31.    | 121.   | 157.1          | 310.1          | 0.0               | 0.000E+00                         | 0.000E+00 | 2.201E-07 |      |
| B               | 3.7       | 1.58    | 823.   | 31.    | 121.   | 118.1          | 88.8           | 0.0               | 0.000E+00                         | 0.000E+00 | 3.178E-06 |      |
| B               | 6.2       | 1.36    | 823.   | 31.    | 121.   | 118.1          | 88.8           | 0.0               | 0.000E+00                         | 0.000E+00 | 1.907E-06 |      |
| B               | 9.2       | 0.11    | 823.   | 31.    | 121.   | 118.1          | 88.8           | 0.0               | 0.000E+00                         | 0.000E+00 | 1.289E-06 |      |
| B               | 12.0      | 0.05    | 823.   | 31.    | 121.   | 118.1          | 88.8           | 0.0               | 0.000E+00                         | 0.000E+00 | 9.932E-07 |      |
| C               | 3.7       | 3.54    | 2000.  | 43.    | 109.   | 200.0          | 114.9          | 0.0               | 0.000E+00                         | 0.000E+00 | 2.351E-06 |      |
| C               | 6.2       | 1.42    | 2000.  | 43.    | 109.   | 200.0          | 114.9          | 0.0               | 0.000E+00                         | 0.000E+00 | 1.411E-06 |      |
| C               | 9.2       | 0.22    | 2000.  | 43.    | 109.   | 200.0          | 114.9          | 0.0               | 0.000E+00                         | 0.000E+00 | 9.532E-07 |      |
| C               | 12.0      | 0.11    | 2000.  | 43.    | 109.   | 200.0          | 114.9          | 0.0               | 0.000E+00                         | 0.000E+00 | 7.348E-07 |      |
| D               | 0.2       | 0.01    | 4000.  | 64.    | 89.    | 263.4          | 78.0           | 0.0               | 0.000E+00                         | 0.000E+00 | 3.255E-05 |      |
| D               | 1.7       | 4.69    | 4000.  | 64.    | 89.    | 263.4          | 78.0           | 0.0               | 0.000E+00                         | 0.000E+00 | 4.650E-06 |      |
| D               | 3.7       | 16.58   | 4000.  | 64.    | 89.    | 263.4          | 78.0           | 0.0               | 0.000E+00                         | 0.000E+00 | 2.170E-06 |      |
| D               | 6.2       | 16.79   | 4000.  | 64.    | 89.    | 263.4          | 78.0           | 0.0               | 0.000E+00                         | 0.000E+00 | 1.302E-06 |      |
| D               | 9.2       | 7.63    | 4000.  | 64.    | 89.    | 263.4          | 78.0           | 0.0               | 0.000E+00                         | 0.000E+00 | 8.797E-07 |      |
| D               | 12.0      | 1.42    | 4000.  | 64.    | 89.    | 263.4          | 78.0           | 0.0               | 0.000E+00                         | 0.000E+00 | 6.781E-07 |      |
| D               | 27.5      | 0.11    | 4000.  | 64.    | 89.    | 263.4          | 78.0           | 0.0               | 0.000E+00                         | 0.000E+00 | 2.959E-07 |      |
| E               | 0.3       | 0.02    | 7000.  | 95.    | 58.    | 310.5          | 66.2           | 0.0               | 0.000E+00                         | 0.000E+00 | 3.800E-05 |      |
| E               | 2.0       | 3.27    | 7000.  | 95.    | 58.    | 310.5          | 66.2           | 0.0               | 0.000E+00                         | 0.000E+00 | 5.429E-06 |      |
| E               | 4.2       | 10.91   | 7000.  | 95.    | 58.    | 310.5          | 66.2           | 0.0               | 0.000E+00                         | 0.000E+00 | 2.534E-06 |      |
| E               | 7.0       | 14.01   | 7000.  | 95.    | 58.    | 310.5          | 66.2           | 0.0               | 0.000E+00                         | 0.000E+00 | 1.520E-06 |      |
| E               | 10.3      | 3.44    | 7000.  | 95.    | 58.    | 310.5          | 66.2           | 0.0               | 0.000E+00                         | 0.000E+00 | 1.027E-06 |      |
| E               | 13.4      | 1.15    | 7000.  | 95.    | 58.    | 310.5          | 66.2           | 0.0               | 0.000E+00                         | 0.000E+00 | 7.918E-07 |      |
| E               | 30.7      | 0.22    | 7000.  | 95.    | 58.    | 310.5          | 66.2           | 0.0               | 0.000E+00                         | 0.000E+00 | 3.455E-07 |      |
| F               | 0.3       | 0.01    | 8000.  | 98.    | 54.    | 241.8          | 42.4           | 0.0               | 0.000E+00                         | 0.000E+00 | 4.879E-05 |      |
| F               | 2.0       | 1.25    | 8000.  | 98.    | 54.    | 241.8          | 42.4           | 0.0               | 0.000E+00                         | 0.000E+00 | 6.969E-06 |      |
| F               | 4.2       | 2.84    | 8000.  | 98.    | 54.    | 241.8          | 42.4           | 0.0               | 0.000E+00                         | 0.000E+00 | 3.252E-06 |      |
| F               | 7.0       | 1.31    | 8000.  | 98.    | 54.    | 241.8          | 42.4           | 0.0               | 0.000E+00                         | 0.000E+00 | 1.951E-06 |      |
| F               | 10.3      | 0.11    | 8000.  | 98.    | 54.    | 241.8          | 42.4           | 0.0               | 0.000E+00                         | 0.000E+00 | 1.319E-06 |      |
| F               | 30.7      | 0.05    | 8000.  | 98.    | 54.    | 241.8          | 42.4           | 0.0               | 0.000E+00                         | 0.000E+00 | 4.435E-07 |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|   |     |      |        |     |     |       |      |     |           |           |           |
|---|-----|------|--------|-----|-----|-------|------|-----|-----------|-----------|-----------|
| G | 2.0 | 0.27 | 10000. | 98. | 54. | 204.1 | 27.4 | 0.0 | 0.000E+00 | 0.000E+00 | 4.048E-06 |
| G | 4.2 | 0.33 | 10000. | 98. | 54. | 204.1 | 27.4 | 0.0 | 0.000E+00 | 0.000E+00 | 1.889E-06 |
| G | 7.0 | 0.11 | 10000. | 98. | 54. | 204.1 | 27.4 | 0.0 | 0.000E+00 | 0.000E+00 | 1.133E-06 |



**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

Page 960 of 1411

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## SITE EXCLUSION BOUNDARY CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 823.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 4.879E-05 | 3.800E-05 | 3.255E-05 | 6.969E-06 | 5.429E-06 | 4.650E-06 | 4.048E-06 | 3.252E-06 | 3.178E-06 | 2.534E-06 |
| 0.014     | 0.038     | 0.048     | 1.303     | 4.574     | 9.264     | 9.536     | 12.372    | 13.953    | 24.859    |
| 0.00062   | 0.00162   | 0.00207   | 0.05572   | 0.19567   | 0.39627   | 0.40793   | 0.52922   | 0.59686   | 1.06337   |
| 2.351E-06 | 2.170E-06 | 1.951E-06 | 1.907E-06 | 1.889E-06 | 1.614E-06 | 1.520E-06 | 1.411E-06 | 1.319E-06 | 1.302E-06 |
| 28.403    | 44.980    | 46.289    | 47.652    | 47.979    | 50.379    | 64.393    | 65.810    | 65.919    | 82.714    |
| 1.21498   | 1.92407   | 1.98005   | 2.03836   | 2.05236   | 2.15499   | 2.75445   | 2.81509   | 2.81976   | 3.53818   |
| 1.289E-06 | 1.133E-06 | 1.027E-06 | 9.932E-07 | 9.686E-07 | 9.532E-07 | 8.797E-07 | 7.918E-07 | 7.348E-07 | 6.781E-07 |
| 82.823    | 82.932    | 86.368    | 86.422    | 88.822    | 89.040    | 96.674    | 97.819    | 97.928    | 99.346    |
| 3.54284   | 3.54751   | 3.69445   | 3.69679   | 3.79942   | 3.80875   | 4.13530   | 4.18428   | 4.18895   | 4.24960   |
| 6.545E-07 | 5.045E-07 | 4.435E-07 | 3.455E-07 | 2.959E-07 | 2.201E-07 |           |           |           |           |
| 99.509    | 99.564    | 99.618    | 99.836    | 99.945    | 100.000   |           |           |           |           |
| 4.25659   | 4.25893   | 4.26126   | 4.27059   | 4.27525   | 4.27759   |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 4.879E-05 DISTANCE = 8000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

| CHI/Q           | WITH RESPECT TO | WHEN THE WIND BLOWS   |
|-----------------|-----------------|-----------------------|
| SEC/CUBIC METER | THE TOTAL TIME  | INTO THIS SECTOR ONLY |

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.002  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.396

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.922  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.535  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.132

| K | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|---|---|-------------|-------------|-------------|
| 6 | 1 | -9.92807    | -15.02759   | -1.16679    |
| 6 | 2 | -10.17780   | -15.99594   | -1.39977    |
| 6 | 3 | -12.27868   | -15.73551   | -1.30170    |
| 6 | 4 | -13.04082   | -17.06571   | -1.94427    |
| 6 | 5 | -13.55165   | -23.41847   | -5.45914    |
| 6 | 6 | -13.94369   | NUMXQ(K)= 6 |             |
|   |   | 1.202E-05   | 0.043       | 1.000       |
|   |   | 7.697E-06   | 0.128       | 3.000       |
|   |   | 6.166E-06   | 0.214       | 5.000       |
|   |   | 4.496E-06   | 0.428       | 10.000      |
|   |   | 3.742E-06   | 0.642       | 15.000      |
|   |   | 3.268E-06   | 0.856       | 20.000      |
|   |   | 2.933E-06   | 1.069       | 25.000      |
|   |   | 2.678E-06   | 1.283       | 30.000      |
|   |   | 2.475E-06   | 1.497       | 35.000      |
|   |   | 2.309E-06   | 1.711       | 40.000      |
|   |   | 2.169E-06   | 1.925       | 45.000      |
|   |   | 1.993E-06   | 2.139       | 50.000      |
|   |   | 1.843E-06   | 2.353       | 55.000      |
|   |   | 1.715E-06   | 2.567       | 60.000      |
|   |   | 1.603E-06   | 2.780       | 65.000      |
|   |   | 1.505E-06   | 2.994       | 70.000      |
|   |   | 1.418E-06   | 3.208       | 75.000      |
|   |   | 1.341E-06   | 3.422       | 80.000      |
|   |   | 1.217E-06   | 3.636       | 85.000      |
|   |   | 1.054E-06   | 3.850       | 90.000      |
|   |   | 4.193E-06   | 0.5         | 11.69       |

ANNUAL AVERAGE = 1.04E-08

K= 6 FIVEXQ(K)= 4.193E-06 FIVEPR(K)=11.689

FUMIGATION X/Q AT THE BOUNDARY: 5.30E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.262E-01 | 6.856E-01 | 6.365E-01 | 5.251E-01 | 4.391E-01 | 3.926E-01 | 1.391E-01 |
| 5.071     | 38.085    | 43.374    | 90.607    | 96.183    | 99.291    | 100.000   |

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

| CLASS           | METER/SEC | PERCENT | METERS | METERS | METERS | SIGMA-Y | SIGMA-Z | MEANDER-SY | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER   | BLDG WAKE | USED |
|-----------------|-----------|---------|--------|--------|--------|---------|---------|------------|-----------------------------------|-----------|-----------|------|
| AT 152.4 METERS |           |         |        |        |        |         |         |            | CA=1292.SQ.METERS                 |           |           |      |
| A               | 3.7       | 0.17    | 823.   | 24.    | 128.   | 157.1   | 310.1   | 0.0        | 0.000E+00                         | 0.000E+00 | 1.600E-06 |      |
| A               | 6.2       | 0.87    | 823.   | 24.    | 128.   | 157.1   | 310.1   | 0.0        | 0.000E+00                         | 0.000E+00 | 9.599E-07 |      |
| A               | 9.2       | 0.56    | 823.   | 24.    | 128.   | 157.1   | 310.1   | 0.0        | 0.000E+00                         | 0.000E+00 | 6.486E-07 |      |
| B               | 1.7       | 0.09    | 900.   | 25.    | 127.   | 128.1   | 98.0    | 0.0        | 0.000E+00                         | 0.000E+00 | 6.224E-06 |      |
| B               | 3.7       | 0.43    | 900.   | 25.    | 127.   | 128.1   | 98.0    | 0.0        | 0.000E+00                         | 0.000E+00 | 2.905E-06 |      |
| B               | 6.2       | 1.17    | 900.   | 25.    | 127.   | 128.1   | 98.0    | 0.0        | 0.000E+00                         | 0.000E+00 | 1.743E-06 |      |
| B               | 9.2       | 0.35    | 900.   | 25.    | 127.   | 128.1   | 98.0    | 0.0        | 0.000E+00                         | 0.000E+00 | 1.178E-06 |      |
| B               | 12.0      | 0.04    | 900.   | 25.    | 127.   | 128.1   | 98.0    | 0.0        | 0.000E+00                         | 0.000E+00 | 9.077E-07 |      |
| C               | 3.7       | 0.61    | 2000.  | 39.    | 114.   | 200.0   | 114.9   | 0.0        | 0.000E+00                         | 0.000E+00 | 2.261E-06 |      |
| C               | 6.2       | 2.69    | 2000.  | 39.    | 114.   | 200.0   | 114.9   | 0.0        | 0.000E+00                         | 0.000E+00 | 1.357E-06 |      |
| C               | 9.2       | 0.48    | 2000.  | 39.    | 114.   | 200.0   | 114.9   | 0.0        | 0.000E+00                         | 0.000E+00 | 9.166E-07 |      |
| D               | 0.2       | 0.00    | 4000.  | 63.    | 89.    | 263.4   | 78.0    | 0.0        | 0.000E+00                         | 0.000E+00 | 3.225E-05 |      |
| D               | 1.7       | 1.95    | 4000.  | 63.    | 89.    | 263.4   | 78.0    | 0.0        | 0.000E+00                         | 0.000E+00 | 4.608E-06 |      |
| D               | 3.7       | 14.72   | 4000.  | 63.    | 89.    | 263.4   | 78.0    | 0.0        | 0.000E+00                         | 0.000E+00 | 2.150E-06 |      |
| D               | 6.2       | 20.76   | 4000.  | 63.    | 89.    | 263.4   | 78.0    | 0.0        | 0.000E+00                         | 0.000E+00 | 1.290E-06 |      |
| D               | 9.2       | 6.99    | 4000.  | 63.    | 89.    | 263.4   | 78.0    | 0.0        | 0.000E+00                         | 0.000E+00 | 8.717E-07 |      |
| D               | 12.0      | 0.61    | 4000.  | 63.    | 89.    | 263.4   | 78.0    | 0.0        | 0.000E+00                         | 0.000E+00 | 6.720E-07 |      |
| D               | 27.5      | 0.30    | 4000.  | 63.    | 89.    | 263.4   | 78.0    | 0.0        | 0.000E+00                         | 0.000E+00 | 2.932E-07 |      |
| E               | 0.3       | 0.02    | 7000.  | 100.   | 52.    | 310.5   | 66.2    | 0.0        | 0.000E+00                         | 0.000E+00 | 4.066E-05 |      |
| E               | 2.0       | 2.65    | 7000.  | 100.   | 52.    | 310.5   | 66.2    | 0.0        | 0.000E+00                         | 0.000E+00 | 5.809E-06 |      |
| E               | 4.2       | 14.98   | 7000.  | 100.   | 52.    | 310.5   | 66.2    | 0.0        | 0.000E+00                         | 0.000E+00 | 2.711E-06 |      |
| E               | 7.0       | 15.16   | 7000.  | 100.   | 52.    | 310.5   | 66.2    | 0.0        | 0.000E+00                         | 0.000E+00 | 1.626E-06 |      |
| E               | 10.3      | 4.26    | 7000.  | 100.   | 52.    | 310.5   | 66.2    | 0.0        | 0.000E+00                         | 0.000E+00 | 1.099E-06 |      |
| E               | 13.4      | 0.69    | 7000.  | 100.   | 52.    | 310.5   | 66.2    | 0.0        | 0.000E+00                         | 0.000E+00 | 8.471E-07 |      |
| E               | 30.7      | 0.52    | 7000.  | 100.   | 52.    | 310.5   | 66.2    | 0.0        | 0.000E+00                         | 0.000E+00 | 3.696E-07 |      |
| F               | 0.3       | 0.01    | 8000.  | 104.   | 48.    | 241.8   | 42.4    | 0.0        | 0.000E+00                         | 0.000E+00 | 5.792E-05 |      |
| F               | 2.0       | 1.22    | 8000.  | 104.   | 48.    | 241.8   | 42.4    | 0.0        | 0.000E+00                         | 0.000E+00 | 8.274E-06 |      |
| F               | 4.2       | 3.52    | 8000.  | 104.   | 48.    | 241.8   | 42.4    | 0.0        | 0.000E+00                         | 0.000E+00 | 3.861E-06 |      |
| F               | 7.0       | 2.08    | 8000.  | 104.   | 48.    | 241.8   | 42.4    | 0.0        | 0.000E+00                         | 0.000E+00 | 2.317E-06 |      |
| F               | 10.3      | 0.30    | 8000.  | 104.   | 48.    | 241.8   | 42.4    | 0.0        | 0.000E+00                         | 0.000E+00 | 1.565E-06 |      |
| G               | 2.0       | 0.17    | 8000.  | 104.   | 48.    | 166.9   | 25.6    | 0.0        | 0.000E+00                         | 0.000E+00 | 6.348E-06 |      |
| G               | 4.2       | 1.22    | 8000.  | 104.   | 48.    | 166.9   | 25.6    | 0.0        | 0.000E+00                         | 0.000E+00 | 2.962E-06 |      |
| G               | 7.0       | 0.35    | 8000.  | 104.   | 48.    | 166.9   | 25.6    | 0.0        | 0.000E+00                         | 0.000E+00 | 1.777E-06 |      |

G 10.3 0.04 8000. 104. 48. 166.9 25.6 0.0 0.000E+00 0.000E+00 1.201E-06

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

NW SECTOR BOUNDARY DISTANCE = 823.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 5.792E-05 | 4.066E-05 | 3.225E-05 | 8.274E-06 | 6.348E-06 | 6.224E-06 | 5.809E-06 | 4.608E-06 | 3.861E-06 | 2.962E-06 |
| 0.014     | 0.033     | 0.037     | 1.253     | 1.427     | 1.514     | 4.163     | 6.117     | 9.634     | 10.850    |
| 0.00075   | 0.00177   | 0.00200   | 0.06731   | 0.07664   | 0.08131   | 0.22359   | 0.32856   | 0.51749   | 0.58280   |
| 2.905E-06 | 2.711E-06 | 2.317E-06 | 2.261E-06 | 2.150E-06 | 1.777E-06 | 1.743E-06 | 1.626E-06 | 1.600E-06 | 1.565E-06 |
| 11.284    | 26.266    | 28.350    | 28.958    | 43.679    | 44.026    | 45.199    | 60.354    | 60.527    | 60.831    |
| 0.60613   | 1.41085   | 1.52281   | 1.55547   | 2.34619   | 2.36485   | 2.42783   | 3.24188   | 3.25121   | 3.26754   |
| 1.357E-06 | 1.290E-06 | 1.201E-06 | 1.178E-06 | 1.099E-06 | 9.599E-07 | 9.166E-07 | 9.077E-07 | 8.717E-07 | 8.471E-07 |
| 63.524    | 84.280    | 84.324    | 84.671    | 88.927    | 89.795    | 90.273    | 90.316    | 97.308    | 98.002    |
| 3.41215   | 4.52710   | 4.52943   | 4.54809   | 4.77668   | 4.82333   | 4.84899   | 4.85132   | 5.22686   | 5.26418   |
| 6.720E-07 | 6.486E-07 | 3.696E-07 | 2.932E-07 |           |           |           |           |           |           |
| 98.610    | 99.175    | 99.696    | 100.000   |           |           |           |           |           |           |
| 5.29683   | 5.32716   | 5.35515   | 5.37148   |           |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 5.792E-05 DISTANCE = 8000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.517  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.344

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.524  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 5.223

| K | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|---|---|-------------|-------------|-------------|
| 7 | 1 | -9.75651    | -16.40331   | -1.53598    |
| 7 | 2 | -12.46456   | -14.91865   | -0.95701    |
| 7 | 3 | -12.81830   | -15.27085   | -1.11749    |
| 7 | 4 | -13.04993   | -16.49719   | -1.73454    |
| 7 | 5 | -13.56075   | -23.13451   | -5.65518    |
| 7 | 6 | -13.95280   | NUMXQ(K)= 6 |             |
|   |   | 1.142E-05   | 0.054       | 1.000       |
|   |   | 6.939E-06   | 0.161       | 3.000       |
|   |   | 5.413E-06   | 0.269       | 5.000       |
|   |   | 3.813E-06   | 0.537       | 10.000      |
|   |   | 3.321E-06   | 0.806       | 15.000      |
|   |   | 2.997E-06   | 1.074       | 20.000      |
|   |   | 2.761E-06   | 1.343       | 25.000      |
|   |   | 2.556E-06   | 1.611       | 30.000      |
|   |   | 2.384E-06   | 1.880       | 35.000      |
|   |   | 2.241E-06   | 2.149       | 40.000      |
|   |   | 2.104E-06   | 2.417       | 45.000      |
|   |   | 1.945E-06   | 2.686       | 50.000      |
|   |   | 1.810E-06   | 2.954       | 55.000      |
|   |   | 1.692E-06   | 3.223       | 60.000      |
|   |   | 1.590E-06   | 3.491       | 65.000      |
|   |   | 1.500E-06   | 3.760       | 70.000      |
|   |   | 1.419E-06   | 4.029       | 75.000      |
|   |   | 1.347E-06   | 4.297       | 80.000      |
|   |   | 1.261E-06   | 4.566       | 85.000      |
|   |   | 1.080E-06   | 4.834       | 90.000      |
|   |   | 3.932E-06   | 0.5         | 9.31        |

ANNUAL AVERAGE = 4.91E-09

K= 7 FIVEXQ(K)= 3.932E-06 FIVEPR(K)= 9.308

FUMIGATION X/Q AT THE BOUNDARY: 5.01E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.179E-01 | 7.335E-01 | 6.120E-01 | 5.212E-01 | 5.203E-01 | 4.295E-01 | 1.664E-01 |
| 1.607     | 39.882    | 43.660    | 50.796    | 96.135    | 98.220    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1 96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

| CLASS           | METER/SEC | FREQUENCY PERCENT | DISTANCE METERS | TERRAIN METERS | HT METERS | EFF PLUME METERS | HT METERS | SIGMA-Y METERS | SIGMA-Z METERS | MEANDER-SY METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER | BLDG WAKE | USED |
|-----------------|-----------|-------------------|-----------------|----------------|-----------|------------------|-----------|----------------|----------------|-------------------|-----------------------------------|---------|-----------|------|
| AT 152.4 METERS |           |                   |                 |                |           |                  |           |                |                |                   | CA=1292.SQ.METERS                 |         |           |      |
| A               | 3.7       | 0.09              | 823.            | 0.             | 152.      | 157.1            | 310.1     | 0.0            | 0.000E+00      | 0.000E+00         | 1.545E-06                         |         |           |      |
| A               | 6.2       | 0.09              | 823.            | 0.             | 152.      | 157.1            | 310.1     | 0.0            | 0.000E+00      | 0.000E+00         | 9.268E-07                         |         |           |      |
| B               | 3.7       | 0.14              | 1000.           | 2.             | 150.      | 140.9            | 110.2     | 0.0            | 0.000E+00      | 0.000E+00         | 2.164E-06                         |         |           |      |
| B               | 6.2       | 0.37              | 1000.           | 2.             | 150.      | 140.9            | 110.2     | 0.0            | 0.000E+00      | 0.000E+00         | 1.299E-06                         |         |           |      |
| B               | 9.2       | 0.37              | 1000.           | 2.             | 150.      | 140.9            | 110.2     | 0.0            | 0.000E+00      | 0.000E+00         | 8.775E-07                         |         |           |      |
| B               | 12.0      | 0.05              | 1000.           | 2.             | 150.      | 140.9            | 110.2     | 0.0            | 0.000E+00      | 0.000E+00         | 6.764E-07                         |         |           |      |
| C               | 3.7       | 0.55              | 2000.           | 15.            | 137.      | 200.0            | 114.9     | 0.0            | 0.000E+00      | 0.000E+00         | 1.816E-06                         |         |           |      |
| C               | 6.2       | 1.01              | 2000.           | 15.            | 137.      | 200.0            | 114.9     | 0.0            | 0.000E+00      | 0.000E+00         | 1.089E-06                         |         |           |      |
| C               | 9.2       | 0.46              | 2000.           | 15.            | 137.      | 200.0            | 114.9     | 0.0            | 0.000E+00      | 0.000E+00         | 7.361E-07                         |         |           |      |
| C               | 12.0      | 0.05              | 2000.           | 15.            | 137.      | 200.0            | 114.9     | 0.0            | 0.000E+00      | 0.000E+00         | 5.674E-07                         |         |           |      |
| D               | 0.2       | 0.00              | 5000.           | 55.            | 98.       | 322.2            | 89.1      | 0.0            | 0.000E+00      | 0.000E+00         | 2.435E-05                         |         |           |      |
| D               | 1.7       | 1.61              | 5000.           | 55.            | 98.       | 322.2            | 89.1      | 0.0            | 0.000E+00      | 0.000E+00         | 3.479E-06                         |         |           |      |
| D               | 3.7       | 11.17             | 5000.           | 55.            | 98.       | 322.2            | 89.1      | 0.0            | 0.000E+00      | 0.000E+00         | 1.623E-06                         |         |           |      |
| D               | 6.2       | 21.42             | 5000.           | 55.            | 98.       | 322.2            | 89.1      | 0.0            | 0.000E+00      | 0.000E+00         | 9.741E-07                         |         |           |      |
| D               | 9.2       | 5.42              | 5000.           | 55.            | 98.       | 322.2            | 89.1      | 0.0            | 0.000E+00      | 0.000E+00         | 6.582E-07                         |         |           |      |
| D               | 12.0      | 0.51              | 5000.           | 55.            | 98.       | 322.2            | 89.1      | 0.0            | 0.000E+00      | 0.000E+00         | 5.073E-07                         |         |           |      |
| D               | 27.5      | 0.32              | 5000.           | 55.            | 98.       | 322.2            | 89.1      | 0.0            | 0.000E+00      | 0.000E+00         | 2.214E-07                         |         |           |      |
| E               | 0.3       | 0.02              | 7000.           | 81.            | 71.       | 310.5            | 66.2      | 0.0            | 0.000E+00      | 0.000E+00         | 3.101E-05                         |         |           |      |
| E               | 2.0       | 2.71              | 7000.           | 81.            | 71.       | 310.5            | 66.2      | 0.0            | 0.000E+00      | 0.000E+00         | 4.430E-06                         |         |           |      |
| E               | 4.2       | 14.29             | 7000.           | 81.            | 71.       | 310.5            | 66.2      | 0.0            | 0.000E+00      | 0.000E+00         | 2.067E-06                         |         |           |      |
| E               | 7.0       | 20.36             | 7000.           | 81.            | 71.       | 310.5            | 66.2      | 0.0            | 0.000E+00      | 0.000E+00         | 1.240E-06                         |         |           |      |
| E               | 10.3      | 7.58              | 7000.           | 81.            | 71.       | 310.5            | 66.2      | 0.0            | 0.000E+00      | 0.000E+00         | 8.380E-07                         |         |           |      |
| E               | 13.4      | 0.51              | 7000.           | 81.            | 71.       | 310.5            | 66.2      | 0.0            | 0.000E+00      | 0.000E+00         | 6.460E-07                         |         |           |      |
| E               | 30.7      | 0.09              | 7000.           | 81.            | 71.       | 310.5            | 66.2      | 0.0            | 0.000E+00      | 0.000E+00         | 2.819E-07                         |         |           |      |
| F               | 0.3       | 0.02              | 8000.           | 85.            | 67.       | 241.8            | 42.4      | 0.0            | 0.000E+00      | 0.000E+00         | 3.141E-05                         |         |           |      |
| F               | 2.0       | 1.47              | 8000.           | 85.            | 67.       | 241.8            | 42.4      | 0.0            | 0.000E+00      | 0.000E+00         | 4.487E-06                         |         |           |      |
| F               | 4.2       | 4.14              | 8000.           | 85.            | 67.       | 241.8            | 42.4      | 0.0            | 0.000E+00      | 0.000E+00         | 2.094E-06                         |         |           |      |
| F               | 7.0       | 3.63              | 8000.           | 85.            | 67.       | 241.8            | 42.4      | 0.0            | 0.000E+00      | 0.000E+00         | 1.256E-06                         |         |           |      |
| F               | 10.3      | 0.37              | 8000.           | 85.            | 67.       | 241.8            | 42.4      | 0.0            | 0.000E+00      | 0.000E+00         | 8.488E-07                         |         |           |      |
| G               | 2.0       | 0.41              | 20000.          | 85.            | 67.       | 381.8            | 33.2      | 0.0            | 0.000E+00      | 0.000E+00         | 1.628E-06                         |         |           |      |
| G               | 4.2       | 0.46              | 20000.          | 85.            | 67.       | 381.8            | 33.2      | 0.0            | 0.000E+00      | 0.000E+00         | 7.598E-07                         |         |           |      |
| G               | 7.0       | 0.28              | 20000.          | 85.            | 67.       | 381.8            | 33.2      | 0.0            | 0.000E+00      | 0.000E+00         | 4.559E-07                         |         |           |      |
| G               | 10.3      | 0.05              | 20000.          | 85.            | 67.       | 381.8            | 33.2      | 0.0            | 0.000E+00      | 0.000E+00         | 3.080E-07                         |         |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 823.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 3.141E-05 | 3.101E-05 | 2.435E-05 | 4.487E-06 | 4.430E-06 | 3.479E-06 | 2.164E-06 | 2.094E-06 | 2.067E-06 | 1.816E-06 |
| 0.017     | 0.036     | 0.040     | 1.511     | 4.222     | 5.831     | 5.969     | 10.105    | 24.398    | 24.950    |
| 0.00086   | 0.00184   | 0.00203   | 0.07667   | 0.21429   | 0.29592   | 0.30292   | 0.51285   | 1.23826   | 1.26625   |
| 1.628E-06 | 1.623E-06 | 1.545E-06 | 1.299E-06 | 1.256E-06 | 1.240E-06 | 1.089E-06 | 9.741E-07 | 9.268E-07 | 8.775E-07 |
| 25.363    | 36.531    | 36.623    | 36.991    | 40.621    | 60.981    | 61.992    | 83.409    | 83.501    | 83.868    |
| 1.28725   | 1.85405   | 1.85872   | 1.87738   | 2.06165   | 3.09495   | 3.14627   | 4.23323   | 4.23789   | 4.25655   |
| 8.488E-07 | 8.380E-07 | 7.598E-07 | 7.361E-07 | 6.764E-07 | 6.582E-07 | 6.460E-07 | 5.674E-07 | 5.073E-07 | 4.559E-07 |
| 84.236    | 91.819    | 92.279    | 92.739    | 92.784    | 98.208    | 98.713    | 98.759    | 99.265    | 99.540    |
| 4.27521   | 4.66008   | 4.68340   | 4.70673   | 4.70906   | 4.98430   | 5.00996   | 5.01229   | 5.03795   | 5.05194   |
| 3.080E-07 | 2.819E-07 | 2.214E-07 |           |           |           |           |           |           |           |
| 99.586    | 99.678    | 100.000   |           |           |           |           |           |           |           |
| 5.05427   | 5.05894   | 5.07527   |           |           |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 3.141E-05 DISTANCE = 8000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.237  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 3.092



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.230  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.656

| K | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|---|---|-------------|--------------|-------------|
| 8 | 1 | -10.36849   | -10.68942    | -0.07467    |
| 8 | 2 | -10.38128   | -16.32207    | -1.43966    |
| 8 | 3 | -13.08933   | -16.12345    | -1.35120    |
| 8 | 4 | -13.60016   | -16.75930    | -1.69170    |
| 8 | 5 | -13.84175   | -19.54329    | -3.30596    |
| 8 | 6 | -13.99220   | NUMXQ(K) = 6 |             |
|   |   | 9.253E-06   | 0.051        | 1.000       |
|   |   | 5.811E-06   | 0.152        | 3.000       |
|   |   | 4.610E-06   | 0.254        | 5.000       |
|   |   | 3.303E-06   | 0.508        | 10.000      |
|   |   | 2.686E-06   | 0.761        | 15.000      |
|   |   | 2.305E-06   | 1.015        | 20.000      |
|   |   | 2.041E-06   | 1.269        | 25.000      |
|   |   | 1.853E-06   | 1.523        | 30.000      |
|   |   | 1.705E-06   | 1.776        | 35.000      |
|   |   | 1.583E-06   | 2.030        | 40.000      |
|   |   | 1.481E-06   | 2.284        | 45.000      |
|   |   | 1.394E-06   | 2.538        | 50.000      |
|   |   | 1.319E-06   | 2.791        | 55.000      |
|   |   | 1.252E-06   | 3.045        | 60.000      |
|   |   | 1.182E-06   | 3.299        | 65.000      |
|   |   | 1.117E-06   | 3.553        | 70.000      |
|   |   | 1.059E-06   | 3.806        | 75.000      |
|   |   | 1.007E-06   | 4.060        | 80.000      |
|   |   | 9.459E-07   | 4.314        | 85.000      |
|   |   | 8.649E-07   | 4.568        | 90.000      |
|   |   | 3.328E-06   | 0.5          | 9.85        |

ANNUAL AVERAGE = 8.89E-10

K= 8 FIVEXQ(K) = 3.328E-06 FIVEPR(K) = 9.852

FUMIGATION X/Q AT THE BOUNDARY: 4.22E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 8.862E-01 | 5.593E-01 | 5.490E-01 | 4.915E-01 | 3.958E-01 | 2.826E-01 | 1.266E-01 |
| 0.184     | 45.748    | 86.195    | 88.264    | 89.183    | 98.805    | 100.000   |

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER | BLDG WAKE | USED |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|---------|-----------|------|
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |         |           |      |
| AT 152.4 METERS |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |         |           |      |
| A               | 6.2                    | 0.28                 | 823.               |                   | 0.           | 152.          | 157.1           | 310.1        | 0.0               | 0.000E+00         | 0.000E+00            | 9.268E-07                         |         |           |      |
| A               | 9.2                    | 0.16                 | 823.               |                   | 0.           | 152.          | 157.1           | 310.1        | 0.0               | 0.000E+00         | 0.000E+00            | 6.262E-07                         |         |           |      |
| B               | 3.7                    | 0.07                 | 1000.              |                   | 3.           | 149.          | 140.9           | 110.2        | 0.0               | 0.000E+00         | 0.000E+00            | 2.183E-06                         |         |           |      |
| B               | 6.2                    | 0.58                 | 1000.              |                   | 3.           | 149.          | 140.9           | 110.2        | 0.0               | 0.000E+00         | 0.000E+00            | 1.310E-06                         |         |           |      |
| B               | 9.2                    | 0.72                 | 1000.              |                   | 3.           | 149.          | 140.9           | 110.2        | 0.0               | 0.000E+00         | 0.000E+00            | 8.849E-07                         |         |           |      |
| B               | 12.0                   | 0.12                 | 1000.              |                   | 3.           | 149.          | 140.9           | 110.2        | 0.0               | 0.000E+00         | 0.000E+00            | 6.821E-07                         |         |           |      |
| B               | 27.5                   | 0.02                 | 1000.              |                   | 3.           | 149.          | 140.9           | 110.2        | 0.0               | 0.000E+00         | 0.000E+00            | 2.977E-07                         |         |           |      |
| C               | 3.7                    | 0.44                 | 2000.              |                   | 20.          | 132.          | 200.0           | 114.9        | 0.0               | 0.000E+00         | 0.000E+00            | 1.902E-06                         |         |           |      |
| C               | 6.2                    | 1.68                 | 2000.              |                   | 20.          | 132.          | 200.0           | 114.9        | 0.0               | 0.000E+00         | 0.000E+00            | 1.141E-06                         |         |           |      |
| C               | 9.2                    | 1.56                 | 2000.              |                   | 20.          | 132.          | 200.0           | 114.9        | 0.0               | 0.000E+00         | 0.000E+00            | 7.710E-07                         |         |           |      |
| C               | 12.0                   | 0.21                 | 2000.              |                   | 20.          | 132.          | 200.0           | 114.9        | 0.0               | 0.000E+00         | 0.000E+00            | 5.943E-07                         |         |           |      |
| C               | 27.5                   | 0.02                 | 2000.              |                   | 20.          | 132.          | 200.0           | 114.9        | 0.0               | 0.000E+00         | 0.000E+00            | 2.593E-07                         |         |           |      |
| D               | 0.2                    | 0.00                 | 5000.              |                   | 71.          | 81.           | 322.2           | 89.1         | 0.0               | 0.000E+00         | 0.000E+00            | 2.921E-05                         |         |           |      |
| D               | 1.7                    | 0.96                 | 5000.              |                   | 71.          | 81.           | 322.2           | 89.1         | 0.0               | 0.000E+00         | 0.000E+00            | 4.173E-06                         |         |           |      |
| D               | 3.7                    | 7.00                 | 5000.              |                   | 71.          | 81.           | 322.2           | 89.1         | 0.0               | 0.000E+00         | 0.000E+00            | 1.947E-06                         |         |           |      |
| D               | 6.2                    | 16.51                | 5000.              |                   | 71.          | 81.           | 322.2           | 89.1         | 0.0               | 0.000E+00         | 0.000E+00            | 1.168E-06                         |         |           |      |
| D               | 9.2                    | 11.24                | 5000.              |                   | 71.          | 81.           | 322.2           | 89.1         | 0.0               | 0.000E+00         | 0.000E+00            | 7.894E-07                         |         |           |      |
| D               | 12.0                   | 2.31                 | 5000.              |                   | 71.          | 81.           | 322.2           | 89.1         | 0.0               | 0.000E+00         | 0.000E+00            | 6.085E-07                         |         |           |      |
| D               | 27.5                   | 0.68                 | 5000.              |                   | 71.          | 81.           | 322.2           | 89.1         | 0.0               | 0.000E+00         | 0.000E+00            | 2.655E-07                         |         |           |      |
| E               | 0.3                    | 0.01                 | 7000.              |                   | 105.         | 47.           | 310.5           | 66.2         | 0.0               | 0.000E+00         | 0.000E+00            | 4.285E-05                         |         |           |      |
| E               | 2.0                    | 1.63                 | 7000.              |                   | 105.         | 47.           | 310.5           | 66.2         | 0.0               | 0.000E+00         | 0.000E+00            | 6.121E-06                         |         |           |      |
| E               | 4.2                    | 10.14                | 7000.              |                   | 105.         | 47.           | 310.5           | 66.2         | 0.0               | 0.000E+00         | 0.000E+00            | 2.857E-06                         |         |           |      |
| E               | 7.0                    | 20.78                | 7000.              |                   | 105.         | 47.           | 310.5           | 66.2         | 0.0               | 0.000E+00         | 0.000E+00            | 1.714E-06                         |         |           |      |
| E               | 10.3                   | 12.03                | 7000.              |                   | 105.         | 47.           | 310.5           | 66.2         | 0.0               | 0.000E+00         | 0.000E+00            | 1.158E-06                         |         |           |      |
| E               | 13.4                   | 1.49                 | 7000.              |                   | 105.         | 47.           | 310.5           | 66.2         | 0.0               | 0.000E+00         | 0.000E+00            | 8.927E-07                         |         |           |      |
| E               | 30.7                   | 0.14                 | 7000.              |                   | 105.         | 47.           | 310.5           | 66.2         | 0.0               | 0.000E+00         | 0.000E+00            | 3.895E-07                         |         |           |      |
| F               | 0.3                    | 0.01                 | 8000.              |                   | 110.         | 42.           | 241.8           | 42.4         | 0.0               | 0.000E+00         | 0.000E+00            | 6.739E-05                         |         |           |      |
| F               | 2.0                    | 0.54                 | 8000.              |                   | 110.         | 42.           | 241.8           | 42.4         | 0.0               | 0.000E+00         | 0.000E+00            | 9.628E-06                         |         |           |      |
| F               | 4.2                    | 3.13                 | 8000.              |                   | 110.         | 42.           | 241.8           | 42.4         | 0.0               | 0.000E+00         | 0.000E+00            | 4.493E-06                         |         |           |      |
| F               | 7.0                    | 3.03                 | 8000.              |                   | 110.         | 42.           | 241.8           | 42.4         | 0.0               | 0.000E+00         | 0.000E+00            | 2.696E-06                         |         |           |      |
| F               | 10.3                   | 1.03                 | 8000.              |                   | 110.         | 42.           | 241.8           | 42.4         | 0.0               | 0.000E+00         | 0.000E+00            | 1.821E-06                         |         |           |      |
| G               | 2.0                    | 0.40                 | 8000.              |                   | 110.         | 42.           | 166.9           | 25.6         | 0.0               | 0.000E+00         | 0.000E+00            | 9.634E-06                         |         |           |      |
| G               | 4.2                    | 0.79                 | 8000.              |                   | 110.         | 42.           | 166.9           | 25.6         | 0.0               | 0.000E+00         | 0.000E+00            | 4.496E-06                         |         |           |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|   |      |      |       |      |     |       |      |     |           |           |           |
|---|------|------|-------|------|-----|-------|------|-----|-----------|-----------|-----------|
| G | 7.0  | 0.23 | 8000. | 110. | 42. | 166.9 | 25.6 | 0.0 | 0.000E+00 | 0.000E+00 | 2.697E-06 |
| G | 10.3 | 0.05 | 8000. | 110. | 42. | 166.9 | 25.6 | 0.0 | 0.000E+00 | 0.000E+00 | 1.823E-06 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 823.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across various levels.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 6.739E-05 DISTANCE = 8000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.759
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 5.020

| K | I | XQSAVE(K, I) | XQINT(K, I)  | XQSLOP(K, I) |
|---|---|--------------|--------------|--------------|
| 9 | 1 | -9.60498     | -15.70635    | -1.39602     |
| 9 | 2 | -12.76587    | -14.51462    | -0.83024     |
| 9 | 3 | -12.82385    | -15.16691    | -1.15054     |
| 9 | 4 | -13.27670    | -16.00934    | -1.66331     |
| 9 | 5 | -13.68357    | NUMXQ(K) = 5 |              |
|   |   | 1.129E-05    | 0.100        | 1.000        |
|   |   | 6.998E-06    | 0.300        | 3.000        |
|   |   | 5.505E-06    | 0.500        | 5.000        |
|   |   | 3.886E-06    | 1.000        | 10.000       |
|   |   | 3.124E-06    | 1.500        | 15.000       |
|   |   | 2.735E-06    | 2.000        | 20.000       |
|   |   | 2.470E-06    | 2.500        | 25.000       |
|   |   | 2.255E-06    | 3.000        | 30.000       |
|   |   | 2.083E-06    | 3.501        | 35.000       |
|   |   | 1.941E-06    | 4.001        | 40.000       |
|   |   | 1.821E-06    | 4.501        | 45.000       |
|   |   | 1.718E-06    | 5.001        | 50.000       |
|   |   | 1.592E-06    | 5.501        | 55.000       |
|   |   | 1.481E-06    | 6.001        | 60.000       |
|   |   | 1.384E-06    | 6.501        | 65.000       |
|   |   | 1.299E-06    | 7.001        | 70.000       |
|   |   | 1.222E-06    | 7.501        | 75.000       |
|   |   | 1.154E-06    | 8.001        | 80.000       |
|   |   | 5.505E-06    | 0.5          | 5.00         |

ANNUAL AVERAGE = 2.53E-09

K= 9 FIVEXQ(K) = 5.505E-06 FIVEPR(K) = 4.999

FUMIGATION X/Q AT THE BOUNDARY: 4.22E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 8.862E-01 | 7.730E-01 | 6.584E-01 | 6.065E-01 | 5.148E-01 | 3.992E-01 | 2.525E-01 |
| 0.443     | 46.678    | 85.371    | 93.097    | 97.015    | 98.531    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

| CLASS           | METER/SEC | FREQUENCY PERCENT | DISTANCE METERS | TERRAIN METERS | HT EFF METERS | PLUME HT METERS | SIGMA-Y METERS | SIGMA-Z METERS | MEANDER-SY METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|-----------|-------------------|-----------------|----------------|---------------|-----------------|----------------|----------------|-------------------|-----------------------------------|-----------|------|
|                 |           |                   |                 |                |               |                 |                |                |                   | MEANDER                           | BLDG WAKE | USED |
| AT 152.4 METERS |           |                   |                 |                |               |                 |                |                |                   | CA=1292.SQ.METERS                 |           |      |
| A               | 3.7       | 0.08              | 823.            | 0.             | 152.          | 157.1           | 310.1          | 0.0            | 0.000E+00         | 0.000E+00                         | 1.545E-06 |      |
| A               | 6.2       | 0.28              | 823.            | 0.             | 152.          | 157.1           | 310.1          | 0.0            | 0.000E+00         | 0.000E+00                         | 9.268E-07 |      |
| A               | 9.2       | 0.12              | 823.            | 0.             | 152.          | 157.1           | 310.1          | 0.0            | 0.000E+00         | 0.000E+00                         | 6.262E-07 |      |
| B               | 3.7       | 0.16              | 1000.           | 2.             | 150.          | 140.9           | 110.2          | 0.0            | 0.000E+00         | 0.000E+00                         | 2.164E-06 |      |
| B               | 6.2       | 0.56              | 1000.           | 2.             | 150.          | 140.9           | 110.2          | 0.0            | 0.000E+00         | 0.000E+00                         | 1.299E-06 |      |
| B               | 9.2       | 0.36              | 1000.           | 2.             | 150.          | 140.9           | 110.2          | 0.0            | 0.000E+00         | 0.000E+00                         | 8.775E-07 |      |
| B               | 12.0      | 0.08              | 1000.           | 2.             | 150.          | 140.9           | 110.2          | 0.0            | 0.000E+00         | 0.000E+00                         | 6.764E-07 |      |
| C               | 3.7       | 0.20              | 2000.           | 15.            | 137.          | 200.0           | 114.9          | 0.0            | 0.000E+00         | 0.000E+00                         | 1.816E-06 |      |
| C               | 6.2       | 1.47              | 2000.           | 15.            | 137.          | 200.0           | 114.9          | 0.0            | 0.000E+00         | 0.000E+00                         | 1.089E-06 |      |
| C               | 9.2       | 0.95              | 2000.           | 15.            | 137.          | 200.0           | 114.9          | 0.0            | 0.000E+00         | 0.000E+00                         | 7.361E-07 |      |
| D               | 0.2       | 0.00              | 5000.           | 55.            | 98.           | 322.2           | 89.1           | 0.0            | 0.000E+00         | 0.000E+00                         | 2.435E-05 |      |
| D               | 1.7       | 0.91              | 5000.           | 55.            | 98.           | 322.2           | 89.1           | 0.0            | 0.000E+00         | 0.000E+00                         | 3.479E-06 |      |
| D               | 3.7       | 7.60              | 5000.           | 55.            | 98.           | 322.2           | 89.1           | 0.0            | 0.000E+00         | 0.000E+00                         | 1.623E-06 |      |
| D               | 6.2       | 16.91             | 5000.           | 55.            | 98.           | 322.2           | 89.1           | 0.0            | 0.000E+00         | 0.000E+00                         | 9.741E-07 |      |
| D               | 9.2       | 6.60              | 5000.           | 55.            | 98.           | 322.2           | 89.1           | 0.0            | 0.000E+00         | 0.000E+00                         | 6.582E-07 |      |
| D               | 12.0      | 0.64              | 5000.           | 55.            | 98.           | 322.2           | 89.1           | 0.0            | 0.000E+00         | 0.000E+00                         | 5.073E-07 |      |
| D               | 27.5      | 0.36              | 5000.           | 55.            | 98.           | 322.2           | 89.1           | 0.0            | 0.000E+00         | 0.000E+00                         | 2.214E-07 |      |
| E               | 0.3       | 0.02              | 7000.           | 81.            | 71.           | 310.5           | 66.2           | 0.0            | 0.000E+00         | 0.000E+00                         | 3.101E-05 |      |
| E               | 2.0       | 2.23              | 7000.           | 81.            | 71.           | 310.5           | 66.2           | 0.0            | 0.000E+00         | 0.000E+00                         | 4.430E-06 |      |
| E               | 4.2       | 12.73             | 7000.           | 81.            | 71.           | 310.5           | 66.2           | 0.0            | 0.000E+00         | 0.000E+00                         | 2.067E-06 |      |
| E               | 7.0       | 22.95             | 7000.           | 81.            | 71.           | 310.5           | 66.2           | 0.0            | 0.000E+00         | 0.000E+00                         | 1.240E-06 |      |
| E               | 10.3      | 9.07              | 7000.           | 81.            | 71.           | 310.5           | 66.2           | 0.0            | 0.000E+00         | 0.000E+00                         | 8.380E-07 |      |
| E               | 13.4      | 0.76              | 7000.           | 81.            | 71.           | 310.5           | 66.2           | 0.0            | 0.000E+00         | 0.000E+00                         | 6.460E-07 |      |
| E               | 30.7      | 0.16              | 7000.           | 81.            | 71.           | 310.5           | 66.2           | 0.0            | 0.000E+00         | 0.000E+00                         | 2.819E-07 |      |
| F               | 0.3       | 0.01              | 8000.           | 85.            | 67.           | 241.8           | 42.4           | 0.0            | 0.000E+00         | 0.000E+00                         | 3.141E-05 |      |
| F               | 2.0       | 1.27              | 8000.           | 85.            | 67.           | 241.8           | 42.4           | 0.0            | 0.000E+00         | 0.000E+00                         | 4.487E-06 |      |
| F               | 4.2       | 5.61              | 8000.           | 85.            | 67.           | 241.8           | 42.4           | 0.0            | 0.000E+00         | 0.000E+00                         | 2.094E-06 |      |
| F               | 7.0       | 4.42              | 8000.           | 85.            | 67.           | 241.8           | 42.4           | 0.0            | 0.000E+00         | 0.000E+00                         | 1.256E-06 |      |
| F               | 10.3      | 0.91              | 8000.           | 85.            | 67.           | 241.8           | 42.4           | 0.0            | 0.000E+00         | 0.000E+00                         | 8.488E-07 |      |
| F               | 13.4      | 0.12              | 8000.           | 85.            | 67.           | 241.8           | 42.4           | 0.0            | 0.000E+00         | 0.000E+00                         | 6.543E-07 |      |
| G               | 2.0       | 0.36              | 20000.          | 85.            | 67.           | 381.8           | 33.2           | 0.0            | 0.000E+00         | 0.000E+00                         | 1.628E-06 |      |
| G               | 4.2       | 1.23              | 20000.          | 85.            | 67.           | 381.8           | 33.2           | 0.0            | 0.000E+00         | 0.000E+00                         | 7.598E-07 |      |
| G               | 7.0       | 0.84              | 20000.          | 85.            | 67.           | 381.8           | 33.2           | 0.0            | 0.000E+00         | 0.000E+00                         | 4.559E-07 |      |

G 10.3 0.04 20000.

85.

67.

381.8 33.2

0.0

0.000E+00

0.000E+00 3.080E-07

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 823.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 3.141E-05 | 3.101E-05 | 2.435E-05 | 4.487E-06 | 4.430E-06 | 3.479E-06 | 2.164E-06 | 2.094E-06 | 2.067E-06 | 1.816E-06 |
| 0.015     | 0.031     | 0.033     | 1.306     | 3.533     | 4.448     | 4.607     | 10.216    | 22.946    | 23.145    |
| 0.00086   | 0.00179   | 0.00191   | 0.07655   | 0.20717   | 0.26082   | 0.27015   | 0.59904   | 1.34545   | 1.35711   |
| 1.628E-06 | 1.623E-06 | 1.545E-06 | 1.299E-06 | 1.256E-06 | 1.240E-06 | 1.089E-06 | 9.741E-07 | 9.268E-07 | 8.775E-07 |
| 23.503    | 31.101    | 31.180    | 31.737    | 36.153    | 59.106    | 60.578    | 77.484    | 77.763    | 78.121    |
| 1.37810   | 1.82361   | 1.82828   | 1.86093   | 2.11985   | 3.46571   | 3.55202   | 4.54334   | 4.55967   | 4.58066   |
| 8.488E-07 | 8.380E-07 | 7.598E-07 | 7.361E-07 | 6.764E-07 | 6.582E-07 | 6.543E-07 | 6.460E-07 | 6.262E-07 | 5.073E-07 |
| 79.036    | 88.106    | 89.339    | 90.294    | 90.373    | 96.977    | 97.096    | 97.852    | 97.971    | 98.608    |
| 4.63431   | 5.16612   | 5.23843   | 5.29441   | 5.29908   | 5.68628   | 5.69327   | 5.73759   | 5.74459   | 5.78191   |
| 4.559E-07 | 3.080E-07 | 2.819E-07 | 2.214E-07 |           |           |           |           |           |           |
| 99.443    | 99.483    | 99.642    | 100.000   |           |           |           |           |           |           |
| 5.83089   | 5.83322   | 5.84255   | 5.86355   |           |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 3.141E-05 DISTANCE = 8000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 1.344  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 3.463



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 4.540  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 5.162

| K  | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|----|---|-------------|--------------|-------------|
| 10 | 1 | -10.36849   | -10.70167    | -0.07752    |
| 10 | 2 | -10.38128   | -16.21178    | -1.41078    |
| 10 | 3 | -13.08933   | -15.94073    | -1.28831    |
| 10 | 4 | -13.60016   | -17.09598    | -1.92419    |
| 10 | 5 | -13.84175   | -17.95168    | -2.43016    |
| 10 | 6 | -13.99220   | NUMXQ(K) = 6 |             |
|    |   | 8.870E-06   | 0.059        | 1.000       |
|    |   | 5.593E-06   | 0.176        | 3.000       |
|    |   | 4.443E-06   | 0.293        | 5.000       |
|    |   | 3.189E-06   | 0.586        | 10.000      |
|    |   | 2.595E-06   | 0.880        | 15.000      |
|    |   | 2.228E-06   | 1.173        | 20.000      |
|    |   | 1.979E-06   | 1.466        | 25.000      |
|    |   | 1.802E-06   | 1.759        | 30.000      |
|    |   | 1.661E-06   | 2.052        | 35.000      |
|    |   | 1.546E-06   | 2.345        | 40.000      |
|    |   | 1.448E-06   | 2.639        | 45.000      |
|    |   | 1.365E-06   | 2.932        | 50.000      |
|    |   | 1.293E-06   | 3.225        | 55.000      |
|    |   | 1.224E-06   | 3.518        | 60.000      |
|    |   | 1.141E-06   | 3.811        | 65.000      |
|    |   | 1.068E-06   | 4.104        | 70.000      |
|    |   | 1.004E-06   | 4.398        | 75.000      |
|    |   | 9.387E-07   | 4.691        | 80.000      |
|    |   | 8.744E-07   | 4.984        | 85.000      |
|    |   | 3.449E-06   | 0.5          | 8.53        |

ANNUAL AVERAGE = 1.41E-09

K= 10 FIVEXQ(K)= 3.449E-06 FIVEPR(K)= 8.527

FUMIGATION X/Q AT THE BOUNDARY: 4.22E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 8.862E-01 | 5.593E-01 | 5.490E-01 | 4.915E-01 | 3.958E-01 | 2.826E-01 | 1.266E-01 |
| 0.477     | 48.388    | 81.408    | 84.033    | 85.187    | 97.534    | 100.000   |

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

| CLASS           | METER/SEC | PERCENT | METERS | METERS | METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |           |
|-----------------|-----------|---------|--------|--------|--------|-------------------|-------------------|----------------------|-----------------------------------|-----------|-----------|
|                 |           |         |        |        |        |                   |                   |                      | MEANDER                           | BLDG WAKE | USED      |
| AT 152.4 METERS |           |         |        |        |        |                   |                   |                      | CA=1292.SQ.METERS                 |           |           |
| A               | 3.7       | 0.09    | 823.   | 0.     | 152.   | 157.1             | 310.1             | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.545E-06 |
| A               | 6.2       | 0.23    | 823.   | 0.     | 152.   | 157.1             | 310.1             | 0.0                  | 0.000E+00                         | 0.000E+00 | 9.268E-07 |
| A               | 9.2       | 0.09    | 823.   | 0.     | 152.   | 157.1             | 310.1             | 0.0                  | 0.000E+00                         | 0.000E+00 | 6.262E-07 |
| B               | 3.7       | 0.14    | 1000.  | 2.     | 150.   | 140.9             | 110.2             | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.164E-06 |
| B               | 6.2       | 0.61    | 1000.  | 2.     | 150.   | 140.9             | 110.2             | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.299E-06 |
| B               | 9.2       | 0.28    | 1000.  | 2.     | 150.   | 140.9             | 110.2             | 0.0                  | 0.000E+00                         | 0.000E+00 | 8.775E-07 |
| B               | 12.0      | 0.05    | 1000.  | 2.     | 150.   | 140.9             | 110.2             | 0.0                  | 0.000E+00                         | 0.000E+00 | 6.764E-07 |
| C               | 3.7       | 0.33    | 2000.  | 15.    | 137.   | 200.0             | 114.9             | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.816E-06 |
| C               | 6.2       | 1.41    | 2000.  | 15.    | 137.   | 200.0             | 114.9             | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.089E-06 |
| C               | 9.2       | 0.99    | 2000.  | 15.    | 137.   | 200.0             | 114.9             | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.361E-07 |
| C               | 12.0      | 0.19    | 2000.  | 15.    | 137.   | 200.0             | 114.9             | 0.0                  | 0.000E+00                         | 0.000E+00 | 5.674E-07 |
| C               | 27.5      | 0.05    | 2000.  | 15.    | 137.   | 200.0             | 114.9             | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.476E-07 |
| D               | 0.2       | 0.00    | 5000.  | 55.    | 98.    | 322.2             | 89.1              | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.435E-05 |
| D               | 1.7       | 1.50    | 5000.  | 55.    | 98.    | 322.2             | 89.1              | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.479E-06 |
| D               | 3.7       | 7.28    | 5000.  | 55.    | 98.    | 322.2             | 89.1              | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.623E-06 |
| D               | 6.2       | 13.48   | 5000.  | 55.    | 98.    | 322.2             | 89.1              | 0.0                  | 0.000E+00                         | 0.000E+00 | 9.741E-07 |
| D               | 9.2       | 5.92    | 5000.  | 55.    | 98.    | 322.2             | 89.1              | 0.0                  | 0.000E+00                         | 0.000E+00 | 6.582E-07 |
| D               | 12.0      | 0.75    | 5000.  | 55.    | 98.    | 322.2             | 89.1              | 0.0                  | 0.000E+00                         | 0.000E+00 | 5.073E-07 |
| D               | 27.5      | 0.14    | 5000.  | 55.    | 98.    | 322.2             | 89.1              | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.214E-07 |
| E               | 0.3       | 0.02    | 7000.  | 81.    | 71.    | 310.5             | 66.2              | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.101E-05 |
| E               | 2.0       | 2.77    | 7000.  | 81.    | 71.    | 310.5             | 66.2              | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.430E-06 |
| E               | 4.2       | 13.19   | 7000.  | 81.    | 71.    | 310.5             | 66.2              | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.067E-06 |
| E               | 7.0       | 16.62   | 7000.  | 81.    | 71.    | 310.5             | 66.2              | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.240E-06 |
| E               | 10.3      | 10.14   | 7000.  | 81.    | 71.    | 310.5             | 66.2              | 0.0                  | 0.000E+00                         | 0.000E+00 | 8.380E-07 |
| E               | 13.4      | 0.85    | 7000.  | 81.    | 71.    | 310.5             | 66.2              | 0.0                  | 0.000E+00                         | 0.000E+00 | 6.460E-07 |
| E               | 30.7      | 0.09    | 7000.  | 81.    | 71.    | 310.5             | 66.2              | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.819E-07 |
| F               | 0.3       | 0.02    | 8000.  | 85.    | 67.    | 241.8             | 42.4              | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.141E-05 |
| F               | 2.0       | 1.50    | 8000.  | 85.    | 67.    | 241.8             | 42.4              | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.487E-06 |
| F               | 4.2       | 7.32    | 8000.  | 85.    | 67.    | 241.8             | 42.4              | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.094E-06 |
| F               | 7.0       | 7.37    | 8000.  | 85.    | 67.    | 241.8             | 42.4              | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.256E-06 |
| F               | 10.3      | 1.83    | 8000.  | 85.    | 67.    | 241.8             | 42.4              | 0.0                  | 0.000E+00                         | 0.000E+00 | 8.488E-07 |
| G               | 2.0       | 0.28    | 20000. | 85.    | 67.    | 381.8             | 33.2              | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.628E-06 |
| G               | 4.2       | 1.69    | 20000. | 85.    | 67.    | 381.8             | 33.2              | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.598E-07 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|   |      |      |        |     |     |       |      |     |           |           |           |
|---|------|------|--------|-----|-----|-------|------|-----|-----------|-----------|-----------|
| G | 7.0  | 2.39 | 20000. | 85. | 67. | 381.8 | 33.2 | 0.0 | 0.000E+00 | 0.000E+00 | 4.559E-07 |
| G | 10.3 | 0.38 | 20000. | 85. | 67. | 381.8 | 33.2 | 0.0 | 0.000E+00 | 0.000E+00 | 3.080E-07 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 823.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across four rows of data.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 3.141E-05 DISTANCE = 8000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 1.314
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.931

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.290  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.761

| K  | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|----|---|-------------|-------------|-------------|
| 11 | 1 | -10.36849   | -10.68942   | -0.07467    |
| 11 | 2 | -10.38128   | -16.24921   | -1.42200    |
| 11 | 3 | -13.08933   | -16.51740   | -1.54270    |
| 11 | 4 | -13.60016   | -17.88383   | -2.26529    |
| 11 | 5 | -13.99220   | -23.02600   | -5.25851    |
| 11 | 6 | -14.25249   | NUMXQ(K)= 6 |             |
|    |   | 9.472E-06   | 0.050       | 1.000       |
|    |   | 5.988E-06   | 0.149       | 3.000       |
|    |   | 4.765E-06   | 0.248       | 5.000       |
|    |   | 3.431E-06   | 0.497       | 10.000      |
|    |   | 2.798E-06   | 0.745       | 15.000      |
|    |   | 2.407E-06   | 0.994       | 20.000      |
|    |   | 2.133E-06   | 1.242       | 25.000      |
|    |   | 1.917E-06   | 1.490       | 30.000      |
|    |   | 1.743E-06   | 1.739       | 35.000      |
|    |   | 1.602E-06   | 1.987       | 40.000      |
|    |   | 1.485E-06   | 2.236       | 45.000      |
|    |   | 1.386E-06   | 2.484       | 50.000      |
|    |   | 1.301E-06   | 2.732       | 55.000      |
|    |   | 1.221E-06   | 2.981       | 60.000      |
|    |   | 1.127E-06   | 3.229       | 65.000      |
|    |   | 1.045E-06   | 3.478       | 70.000      |
|    |   | 9.729E-07   | 3.726       | 75.000      |
|    |   | 9.095E-07   | 3.974       | 80.000      |
|    |   | 8.531E-07   | 4.223       | 85.000      |
|    |   | 7.579E-07   | 4.471       | 90.000      |
|    |   | 3.420E-06   | 0.5         | 10.06       |

ANNUAL AVERAGE = 1.16E-09

K= 11 FIVEXQ(K)= 3.420E-06 FIVEPR(K)=10.065

FUMIGATION X/Q AT THE BOUNDARY: 4.22E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 8.862E-01 | 5.593E-01 | 5.490E-01 | 4.915E-01 | 3.958E-01 | 2.826E-01 | 1.266E-01 |
| 0.423     | 44.107    | 73.173    | 76.131    | 77.211    | 95.258    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | BLDG WAKE | USED |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 | AT 152.4 METERS        |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 6.2                    | 0.33                 | 823.               |                   | 0.           | 152.          | 157.1           | 310.1        | 0.0               | 0.000E+00         | 0.000E+00            | 9.268E-07                         |           |      |
| A               | 9.2                    | 0.14                 | 823.               |                   | 0.           | 152.          | 157.1           | 310.1        | 0.0               | 0.000E+00         | 0.000E+00            | 6.262E-07                         |           |      |
| A               | 12.0                   | 0.09                 | 823.               |                   | 0.           | 152.          | 157.1           | 310.1        | 0.0               | 0.000E+00         | 0.000E+00            | 4.827E-07                         |           |      |
| A               | 27.5                   | 0.09                 | 823.               |                   | 0.           | 152.          | 157.1           | 310.1        | 0.0               | 0.000E+00         | 0.000E+00            | 2.106E-07                         |           |      |
| B               | 3.7                    | 0.05                 | 1000.              |                   | 2.           | 151.          | 140.9           | 110.2        | 0.0               | 0.000E+00         | 0.000E+00            | 2.151E-06                         |           |      |
| B               | 6.2                    | 0.38                 | 1000.              |                   | 2.           | 151.          | 140.9           | 110.2        | 0.0               | 0.000E+00         | 0.000E+00            | 1.291E-06                         |           |      |
| B               | 9.2                    | 0.89                 | 1000.              |                   | 2.           | 151.          | 140.9           | 110.2        | 0.0               | 0.000E+00         | 0.000E+00            | 8.722E-07                         |           |      |
| B               | 12.0                   | 0.09                 | 1000.              |                   | 2.           | 151.          | 140.9           | 110.2        | 0.0               | 0.000E+00         | 0.000E+00            | 6.723E-07                         |           |      |
| B               | 27.5                   | 0.05                 | 1000.              |                   | 2.           | 151.          | 140.9           | 110.2        | 0.0               | 0.000E+00         | 0.000E+00            | 2.934E-07                         |           |      |
| C               | 3.7                    | 0.14                 | 2000.              |                   | 12.          | 140.          | 200.0           | 114.9        | 0.0               | 0.000E+00         | 0.000E+00            | 1.754E-06                         |           |      |
| C               | 6.2                    | 1.22                 | 2000.              |                   | 12.          | 140.          | 200.0           | 114.9        | 0.0               | 0.000E+00         | 0.000E+00            | 1.053E-06                         |           |      |
| C               | 9.2                    | 1.46                 | 2000.              |                   | 12.          | 140.          | 200.0           | 114.9        | 0.0               | 0.000E+00         | 0.000E+00            | 7.112E-07                         |           |      |
| C               | 12.0                   | 0.19                 | 2000.              |                   | 12.          | 140.          | 200.0           | 114.9        | 0.0               | 0.000E+00         | 0.000E+00            | 5.482E-07                         |           |      |
| C               | 27.5                   | 0.05                 | 2000.              |                   | 12.          | 140.          | 200.0           | 114.9        | 0.0               | 0.000E+00         | 0.000E+00            | 2.392E-07                         |           |      |
| D               | 0.2                    | 0.00                 | 5000.              |                   | 43.          | 109.          | 322.2           | 89.1         | 0.0               | 0.000E+00         | 0.000E+00            | 2.094E-05                         |           |      |
| D               | 1.7                    | 0.71                 | 5000.              |                   | 43.          | 109.          | 322.2           | 89.1         | 0.0               | 0.000E+00         | 0.000E+00            | 2.991E-06                         |           |      |
| D               | 3.7                    | 6.02                 | 5000.              |                   | 43.          | 109.          | 322.2           | 89.1         | 0.0               | 0.000E+00         | 0.000E+00            | 1.396E-06                         |           |      |
| D               | 6.2                    | 9.93                 | 5000.              |                   | 43.          | 109.          | 322.2           | 89.1         | 0.0               | 0.000E+00         | 0.000E+00            | 8.374E-07                         |           |      |
| D               | 9.2                    | 8.94                 | 5000.              |                   | 43.          | 109.          | 322.2           | 89.1         | 0.0               | 0.000E+00         | 0.000E+00            | 5.658E-07                         |           |      |
| D               | 12.0                   | 1.03                 | 5000.              |                   | 43.          | 109.          | 322.2           | 89.1         | 0.0               | 0.000E+00         | 0.000E+00            | 4.362E-07                         |           |      |
| D               | 27.5                   | 0.28                 | 5000.              |                   | 43.          | 109.          | 322.2           | 89.1         | 0.0               | 0.000E+00         | 0.000E+00            | 1.903E-07                         |           |      |
| E               | 0.3                    | 0.02                 | 7000.              |                   | 64.          | 89.           | 310.5           | 66.2         | 0.0               | 0.000E+00         | 0.000E+00            | 2.267E-05                         |           |      |
| E               | 2.0                    | 2.54                 | 7000.              |                   | 64.          | 89.           | 310.5           | 66.2         | 0.0               | 0.000E+00         | 0.000E+00            | 3.238E-06                         |           |      |
| E               | 4.2                    | 8.80                 | 7000.              |                   | 64.          | 89.           | 310.5           | 66.2         | 0.0               | 0.000E+00         | 0.000E+00            | 1.511E-06                         |           |      |
| E               | 7.0                    | 13.97                | 7000.              |                   | 64.          | 89.           | 310.5           | 66.2         | 0.0               | 0.000E+00         | 0.000E+00            | 9.067E-07                         |           |      |
| E               | 10.3                   | 12.75                | 7000.              |                   | 64.          | 89.           | 310.5           | 66.2         | 0.0               | 0.000E+00         | 0.000E+00            | 6.127E-07                         |           |      |
| E               | 13.4                   | 1.41                 | 7000.              |                   | 64.          | 89.           | 310.5           | 66.2         | 0.0               | 0.000E+00         | 0.000E+00            | 4.723E-07                         |           |      |
| E               | 30.7                   | 0.05                 | 7000.              |                   | 64.          | 89.           | 310.5           | 66.2         | 0.0               | 0.000E+00         | 0.000E+00            | 2.061E-07                         |           |      |
| F               | 0.3                    | 0.02                 | 10000.             |                   | 67.          | 85.           | 295.8           | 46.1         | 0.0               | 0.000E+00         | 0.000E+00            | 1.504E-05                         |           |      |
| F               | 2.0                    | 1.55                 | 10000.             |                   | 67.          | 85.           | 295.8           | 46.1         | 0.0               | 0.000E+00         | 0.000E+00            | 2.149E-06                         |           |      |
| F               | 4.2                    | 5.50                 | 10000.             |                   | 67.          | 85.           | 295.8           | 46.1         | 0.0               | 0.000E+00         | 0.000E+00            | 1.003E-06                         |           |      |
| F               | 7.0                    | 8.33                 | 10000.             |                   | 67.          | 85.           | 295.8           | 46.1         | 0.0               | 0.000E+00         | 0.000E+00            | 6.017E-07                         |           |      |
| F               | 10.3                   | 5.13                 | 10000.             |                   | 67.          | 85.           | 295.8           | 46.1         | 0.0               | 0.000E+00         | 0.000E+00            | 4.066E-07                         |           |      |
| F               | 13.4                   | 0.85                 | 10000.             |                   | 67.          | 85.           | 295.8           | 46.1         | 0.0               | 0.000E+00         | 0.000E+00            | 3.134E-07                         |           |      |

|   |      |      |        |     |     |        |      |     |           |           |           |
|---|------|------|--------|-----|-----|--------|------|-----|-----------|-----------|-----------|
| G | 2.0  | 0.85 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 6.316E-07 |
| G | 4.2  | 1.60 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 2.947E-07 |
| G | 7.0  | 3.29 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.768E-07 |
| G | 10.3 | 1.22 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.195E-07 |
| G | 13.4 | 0.05 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 9.210E-08 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

ENE SECTOR BOUNDARY DISTANCE = 823.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.267E-05 | 2.094E-05 | 1.504E-05 | 3.238E-06 | 2.991E-06 | 2.151E-06 | 2.149E-06 | 1.754E-06 | 1.511E-06 | 1.396E-06 |
| 0.018     | 0.020     | 0.038     | 2.578     | 3.283     | 3.330     | 4.883     | 5.024     | 13.821    | 19.842    |
| 0.00090   | 0.00098   | 0.00186   | 0.12782   | 0.16281   | 0.16514   | 0.24211   | 0.24911   | 0.68529   | 0.98386   |
| 1.291E-06 | 1.053E-06 | 1.003E-06 | 9.268E-07 | 9.067E-07 | 8.722E-07 | 8.374E-07 | 7.112E-07 | 6.723E-07 | 6.316E-07 |
| 20.218    | 21.441    | 26.945    | 27.274    | 41.246    | 42.139    | 52.065    | 53.523    | 53.617    | 54.464    |
| 1.00252   | 1.06316   | 1.33607   | 1.35240   | 2.04516   | 2.08947   | 2.58164   | 2.65394   | 2.65861   | 2.70060   |
| 6.262E-07 | 6.127E-07 | 6.017E-07 | 5.658E-07 | 5.482E-07 | 4.827E-07 | 4.723E-07 | 4.362E-07 | 4.066E-07 | 3.134E-07 |
| 54.605    | 67.353    | 75.680    | 84.618    | 84.806    | 84.900    | 86.311    | 87.346    | 92.473    | 93.320    |
| 2.70759   | 3.33971   | 3.75256   | 4.19574   | 4.20507   | 4.20974   | 4.27971   | 4.33103   | 4.58527   | 4.62726   |
| 2.947E-07 | 2.934E-07 | 2.392E-07 | 2.106E-07 | 2.061E-07 | 1.903E-07 | 1.768E-07 | 1.195E-07 | 9.210E-08 |           |
| 94.920    | 94.967    | 95.014    | 95.108    | 95.155    | 95.437    | 98.730    | 99.953    | 100.000   |           |
| 4.70657   | 4.70890   | 4.71123   | 4.71590   | 4.71823   | 4.73222   | 4.89550   | 4.95615   | 4.95848   |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 2.267E-05 DISTANCE = 7000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.983  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 2.579



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.192  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.582

| K  | I | XQSAVE(K, I) | XQINT(K, I) | XQSLOP(K, I) |
|----|---|--------------|-------------|--------------|
| 12 | 1 | -10.69455    | -16.80625   | -1.42491     |
| 12 | 2 | -13.48209    | -16.56721   | -1.32245     |
| 12 | 3 | -13.99292    | -17.49654   | -1.79985     |
| 12 | 4 | -14.38496    | -28.00529   | -7.87852     |
| 12 | 5 | -14.71549    | NUMXQ(K)= 5 |              |
|    |   | 5.483E-06    | 0.050       | 1.000        |
|    |   | 3.463E-06    | 0.149       | 3.000        |
|    |   | 2.755E-06    | 0.248       | 5.000        |
|    |   | 1.982E-06    | 0.496       | 10.000       |
|    |   | 1.616E-06    | 0.744       | 15.000       |
|    |   | 1.390E-06    | 0.992       | 20.000       |
|    |   | 1.243E-06    | 1.240       | 25.000       |
|    |   | 1.131E-06    | 1.488       | 30.000       |
|    |   | 1.042E-06    | 1.735       | 35.000       |
|    |   | 9.699E-07    | 1.983       | 40.000       |
|    |   | 9.090E-07    | 2.231       | 45.000       |
|    |   | 8.569E-07    | 2.479       | 50.000       |
|    |   | 8.025E-07    | 2.727       | 55.000       |
|    |   | 7.494E-07    | 2.975       | 60.000       |
|    |   | 7.030E-07    | 3.223       | 65.000       |
|    |   | 6.621E-07    | 3.471       | 70.000       |
|    |   | 6.257E-07    | 3.719       | 75.000       |
|    |   | 5.931E-07    | 3.967       | 80.000       |
|    |   | 5.565E-07    | 4.215       | 85.000       |
|    |   | 4.500E-07    | 4.463       | 90.000       |
|    |   | 1.974E-06    | 0.5         | 10.08        |

ANNUAL AVERAGE = 1.18E-09

K= 12 FIVEXQ(K)= 1.974E-06 FIVEPR(K)=10.084

FUMIGATION X/Q AT THE BOUNDARY: 4.22E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 8.862E-01 | 4.749E-01 | 4.720E-01 | 4.089E-01 | 3.934E-01 | 1.802E-01 | 1.786E-01 |
| 0.659     | 3.716     | 30.625    | 70.158    | 71.616    | 92.991    | 100.000   |

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER | BLDG WAKE | USED |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|---------|-----------|------|
| AT 152.4 METERS |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |         |           |      |
| A               | 3.7                    | 0.03                 | 823.               | 0.                | 152.         | 157.1         | 310.1           | 0.0          | 0.000E+00         | 0.000E+00         | 1.545E-06            |                                   |         |           |      |
| A               | 6.2                    | 0.24                 | 823.               | 0.                | 152.         | 157.1         | 310.1           | 0.0          | 0.000E+00         | 0.000E+00         | 9.268E-07            |                                   |         |           |      |
| A               | 9.2                    | 0.63                 | 823.               | 0.                | 152.         | 157.1         | 310.1           | 0.0          | 0.000E+00         | 0.000E+00         | 6.262E-07            |                                   |         |           |      |
| A               | 12.0                   | 0.42                 | 823.               | 0.                | 152.         | 157.1         | 310.1           | 0.0          | 0.000E+00         | 0.000E+00         | 4.827E-07            |                                   |         |           |      |
| A               | 27.5                   | 0.06                 | 823.               | 0.                | 152.         | 157.1         | 310.1           | 0.0          | 0.000E+00         | 0.000E+00         | 2.106E-07            |                                   |         |           |      |
| B               | 3.7                    | 0.12                 | 1000.              | 1.                | 151.         | 140.9         | 110.2           | 0.0          | 0.000E+00         | 0.000E+00         | 2.138E-06            |                                   |         |           |      |
| B               | 6.2                    | 0.63                 | 1000.              | 1.                | 151.         | 140.9         | 110.2           | 0.0          | 0.000E+00         | 0.000E+00         | 1.283E-06            |                                   |         |           |      |
| B               | 9.2                    | 0.81                 | 1000.              | 1.                | 151.         | 140.9         | 110.2           | 0.0          | 0.000E+00         | 0.000E+00         | 8.666E-07            |                                   |         |           |      |
| B               | 12.0                   | 0.36                 | 1000.              | 1.                | 151.         | 140.9         | 110.2           | 0.0          | 0.000E+00         | 0.000E+00         | 6.680E-07            |                                   |         |           |      |
| B               | 27.5                   | 0.18                 | 1000.              | 1.                | 151.         | 140.9         | 110.2           | 0.0          | 0.000E+00         | 0.000E+00         | 2.915E-07            |                                   |         |           |      |
| C               | 3.7                    | 0.15                 | 2000.              | 9.                | 144.         | 200.0         | 114.9           | 0.0          | 0.000E+00         | 0.000E+00         | 1.690E-06            |                                   |         |           |      |
| C               | 6.2                    | 1.25                 | 2000.              | 9.                | 144.         | 200.0         | 114.9           | 0.0          | 0.000E+00         | 0.000E+00         | 1.014E-06            |                                   |         |           |      |
| C               | 9.2                    | 1.67                 | 2000.              | 9.                | 144.         | 200.0         | 114.9           | 0.0          | 0.000E+00         | 0.000E+00         | 6.853E-07            |                                   |         |           |      |
| C               | 12.0                   | 0.86                 | 2000.              | 9.                | 144.         | 200.0         | 114.9           | 0.0          | 0.000E+00         | 0.000E+00         | 5.282E-07            |                                   |         |           |      |
| C               | 27.5                   | 0.39                 | 2000.              | 9.                | 144.         | 200.0         | 114.9           | 0.0          | 0.000E+00         | 0.000E+00         | 2.305E-07            |                                   |         |           |      |
| D               | 0.2                    | 0.00                 | 5000.              | 31.               | 121.         | 322.2         | 89.1            | 0.0          | 0.000E+00         | 0.000E+00         | 1.752E-05            |                                   |         |           |      |
| D               | 1.7                    | 0.78                 | 5000.              | 31.               | 121.         | 322.2         | 89.1            | 0.0          | 0.000E+00         | 0.000E+00         | 2.503E-06            |                                   |         |           |      |
| D               | 3.7                    | 4.21                 | 5000.              | 31.               | 121.         | 322.2         | 89.1            | 0.0          | 0.000E+00         | 0.000E+00         | 1.168E-06            |                                   |         |           |      |
| D               | 6.2                    | 8.98                 | 5000.              | 31.               | 121.         | 322.2         | 89.1            | 0.0          | 0.000E+00         | 0.000E+00         | 7.009E-07            |                                   |         |           |      |
| D               | 9.2                    | 11.78                | 5000.              | 31.               | 121.         | 322.2         | 89.1            | 0.0          | 0.000E+00         | 0.000E+00         | 4.736E-07            |                                   |         |           |      |
| D               | 12.0                   | 6.71                 | 5000.              | 31.               | 121.         | 322.2         | 89.1            | 0.0          | 0.000E+00         | 0.000E+00         | 3.651E-07            |                                   |         |           |      |
| D               | 27.5                   | 2.68                 | 5000.              | 31.               | 121.         | 322.2         | 89.1            | 0.0          | 0.000E+00         | 0.000E+00         | 1.593E-07            |                                   |         |           |      |
| E               | 0.3                    | 0.01                 | 8000.              | 48.               | 104.         | 350.3         | 70.3            | 0.0          | 0.000E+00         | 0.000E+00         | 1.537E-05            |                                   |         |           |      |
| E               | 2.0                    | 1.61                 | 8000.              | 48.               | 104.         | 350.3         | 70.3            | 0.0          | 0.000E+00         | 0.000E+00         | 2.195E-06            |                                   |         |           |      |
| E               | 4.2                    | 5.16                 | 8000.              | 48.               | 104.         | 350.3         | 70.3            | 0.0          | 0.000E+00         | 0.000E+00         | 1.024E-06            |                                   |         |           |      |
| E               | 7.0                    | 11.78                | 8000.              | 48.               | 104.         | 350.3         | 70.3            | 0.0          | 0.000E+00         | 0.000E+00         | 6.147E-07            |                                   |         |           |      |
| E               | 10.3                   | 15.99                | 8000.              | 48.               | 104.         | 350.3         | 70.3            | 0.0          | 0.000E+00         | 0.000E+00         | 4.153E-07            |                                   |         |           |      |
| E               | 13.4                   | 2.33                 | 8000.              | 48.               | 104.         | 350.3         | 70.3            | 0.0          | 0.000E+00         | 0.000E+00         | 3.201E-07            |                                   |         |           |      |
| E               | 30.7                   | 0.27                 | 8000.              | 48.               | 104.         | 350.3         | 70.3            | 0.0          | 0.000E+00         | 0.000E+00         | 1.397E-07            |                                   |         |           |      |
| F               | 0.3                    | 0.01                 | 20000.             | 48.               | 104.         | 553.1         | 58.7            | 0.0          | 0.000E+00         | 0.000E+00         | 7.219E-06            |                                   |         |           |      |
| F               | 2.0                    | 0.89                 | 20000.             | 48.               | 104.         | 553.1         | 58.7            | 0.0          | 0.000E+00         | 0.000E+00         | 1.031E-06            |                                   |         |           |      |
| F               | 4.2                    | 2.54                 | 20000.             | 48.               | 104.         | 553.1         | 58.7            | 0.0          | 0.000E+00         | 0.000E+00         | 4.813E-07            |                                   |         |           |      |
| F               | 7.0                    | 5.91                 | 20000.             | 48.               | 104.         | 553.1         | 58.7            | 0.0          | 0.000E+00         | 0.000E+00         | 2.888E-07            |                                   |         |           |      |
| F               | 10.3                   | 5.01                 | 20000.             | 48.               | 104.         | 553.1         | 58.7            | 0.0          | 0.000E+00         | 0.000E+00         | 1.951E-07            |                                   |         |           |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|   |      |      |        |     |      |        |      |     |           |           |           |
|---|------|------|--------|-----|------|--------|------|-----|-----------|-----------|-----------|
| F | 13.4 | 0.72 | 20000. | 48. | 104. | 553.1  | 58.7 | 0.0 | 0.000E+00 | 0.000E+00 | 1.504E-07 |
| G | 2.0  | 0.39 | 90000. | 48. | 104. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 2.694E-07 |
| G | 4.2  | 1.19 | 90000. | 48. | 104. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.257E-07 |
| G | 7.0  | 2.06 | 90000. | 48. | 104. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 7.544E-08 |
| G | 10.3 | 1.16 | 90000. | 48. | 104. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 5.097E-08 |
| G | 13.4 | 0.03 | 90000. | 48. | 104. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 3.929E-08 |
| G | 30.7 | 0.03 | 90000. | 48. | 104. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.715E-08 |

**Calculation No. PM-1055 Revision 0****Attachment J**

Page 987 of 1411

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145.

## SITE EXCLUSION BOUNDARY CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 823.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.752E-05 | 1.537E-05 | 7.219E-06 | 2.503E-06 | 2.195E-06 | 2.138E-06 | 1.690E-06 | 1.545E-06 | 1.283E-06 | 1.168E-06 |
| 0.002     | 0.013     | 0.024     | 0.799     | 2.410     | 2.529     | 2.678     | 2.708     | 3.334     | 7.540     |
| 0.00014   | 0.00103   | 0.00184   | 0.06249   | 0.18844   | 0.19777   | 0.20944   | 0.21177   | 0.26075   | 0.58964   |
| 1.031E-06 | 1.024E-06 | 1.014E-06 | 9.268E-07 | 8.666E-07 | 7.009E-07 | 6.853E-07 | 6.680E-07 | 6.262E-07 | 6.147E-07 |
| 8.434     | 13.594    | 14.847    | 15.086    | 15.891    | 24.869    | 26.539    | 26.897    | 27.523    | 39.304    |
| 0.65961   | 1.06314   | 1.16111   | 1.17977   | 1.24274   | 1.94483   | 2.07546   | 2.10345   | 2.15243   | 3.07378   |
| 5.282E-07 | 4.827E-07 | 4.813E-07 | 4.736E-07 | 4.153E-07 | 3.651E-07 | 3.201E-07 | 2.915E-07 | 2.888E-07 | 2.694E-07 |
| 40.169    | 40.587    | 43.122    | 54.903    | 70.890    | 77.601    | 79.927    | 80.106    | 86.012    | 86.399    |
| 3.14142   | 3.17408   | 3.37234   | 4.29369   | 5.54392   | 6.06874   | 6.25068   | 6.26467   | 6.72651   | 6.75683   |
| 2.305E-07 | 2.106E-07 | 1.951E-07 | 1.593E-07 | 1.504E-07 | 1.397E-07 | 1.257E-07 | 7.544E-08 | 5.097E-08 | 3.929E-08 |
| 86.787    | 86.847    | 91.858    | 94.542    | 95.258    | 95.526    | 96.719    | 98.777    | 99.940    | 99.970    |
| 6.78716   | 6.79182   | 7.18368   | 7.39361   | 7.44959   | 7.47059   | 7.56389   | 7.72483   | 7.81580   | 7.81813   |
| 1.715E-08 |           |           |           |           |           |           |           |           |           |
| 100.000   |           |           |           |           |           |           |           |           |           |
| 7.82046   |           |           |           |           |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.752E-05 DISTANCE = 5000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

**Calculation No. PM-1055 Revision 0**

**Attachment J**

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 0.188  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 1.160  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.071  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 5.540  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 6.065

| K  | I | XQSAVE(K, I) | XQINT(K, I) | XQSLOP(K, I) |
|----|---|--------------|-------------|--------------|
| 13 | 1 | -10.95201    | -12.37745   | -0.30397     |
| 13 | 2 | -11.08330    | -17.17374   | -1.43052     |
| 13 | 3 | -13.02921    | -16.59710   | -1.23149     |
| 13 | 4 | -13.80138    | -16.64560   | -1.25285     |
| 13 | 5 | -14.30217    | -16.96023   | -1.42106     |
| 13 | 6 | -14.69422    | -19.24042   | -2.85101     |
| 13 | 7 | -14.82322    | NUMXQ(K)= 7 |              |
|    |   | 3.210E-06    | 0.078       | 1.000        |
|    |   | 2.015E-06    | 0.235       | 3.000        |
|    |   | 1.639E-06    | 0.391       | 5.000        |
|    |   | 1.216E-06    | 0.782       | 10.000       |
|    |   | 1.009E-06    | 1.173       | 15.000       |
|    |   | 8.767E-07    | 1.564       | 20.000       |
|    |   | 7.829E-07    | 1.955       | 25.000       |
|    |   | 7.117E-07    | 2.346       | 30.000       |
|    |   | 6.551E-07    | 2.737       | 35.000       |
|    |   | 6.079E-07    | 3.128       | 40.000       |
|    |   | 5.639E-07    | 3.519       | 45.000       |
|    |   | 5.266E-07    | 3.910       | 50.000       |
|    |   | 4.943E-07    | 4.301       | 55.000       |
|    |   | 4.661E-07    | 4.692       | 60.000       |
|    |   | 4.412E-07    | 5.083       | 65.000       |
|    |   | 4.190E-07    | 5.474       | 70.000       |
|    |   | 3.834E-07    | 5.865       | 75.000       |
|    |   | 1.478E-06    | 0.5         | 6.39         |

ANNUAL AVERAGE = 2.85E-09

K= 13 FIVEXQ(K)= 1.478E-06 FIVEPR(K)= 6.393

FUMIGATION X/Q AT THE BOUNDARY: 4.22E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 8.862E-01 | 4.576E-01 | 3.950E-01 | 3.909E-01 | 3.324E-01 | 2.058E-01 | 7.618E-02 |
| 1.372     | 5.697     | 40.833    | 42.921    | 80.066    | 95.138    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |                        |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 | AT 152.4 METERS        |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 6.2                    | 0.24                 | 823.               |                   | 0.           | 152.          | 157.1              | 310.1             | 0.0               | 0.000E+00            | 0.000E+00                         | 9.268E-07 |      |
| A               | 9.2                    | 0.24                 | 823.               |                   | 0.           | 152.          | 157.1              | 310.1             | 0.0               | 0.000E+00            | 0.000E+00                         | 6.262E-07 |      |
| A               | 12.0                   | 0.05                 | 823.               |                   | 0.           | 152.          | 157.1              | 310.1             | 0.0               | 0.000E+00            | 0.000E+00                         | 4.827E-07 |      |
| A               | 27.5                   | 0.13                 | 823.               |                   | 0.           | 152.          | 157.1              | 310.1             | 0.0               | 0.000E+00            | 0.000E+00                         | 2.106E-07 |      |
| B               | 3.7                    | 0.08                 | 1000.              |                   | 2.           | 151.          | 140.9              | 110.2             | 0.0               | 0.000E+00            | 0.000E+00                         | 2.151E-06 |      |
| B               | 6.2                    | 0.24                 | 1000.              |                   | 2.           | 151.          | 140.9              | 110.2             | 0.0               | 0.000E+00            | 0.000E+00                         | 1.291E-06 |      |
| B               | 9.2                    | 0.53                 | 1000.              |                   | 2.           | 151.          | 140.9              | 110.2             | 0.0               | 0.000E+00            | 0.000E+00                         | 8.722E-07 |      |
| B               | 12.0                   | 0.37                 | 1000.              |                   | 2.           | 151.          | 140.9              | 110.2             | 0.0               | 0.000E+00            | 0.000E+00                         | 6.723E-07 |      |
| B               | 27.5                   | 0.19                 | 1000.              |                   | 2.           | 151.          | 140.9              | 110.2             | 0.0               | 0.000E+00            | 0.000E+00                         | 2.934E-07 |      |
| C               | 3.7                    | 0.13                 | 2000.              |                   | 12.          | 140.          | 200.0              | 114.9             | 0.0               | 0.000E+00            | 0.000E+00                         | 1.754E-06 |      |
| C               | 6.2                    | 0.69                 | 2000.              |                   | 12.          | 140.          | 200.0              | 114.9             | 0.0               | 0.000E+00            | 0.000E+00                         | 1.053E-06 |      |
| C               | 9.2                    | 1.57                 | 2000.              |                   | 12.          | 140.          | 200.0              | 114.9             | 0.0               | 0.000E+00            | 0.000E+00                         | 7.112E-07 |      |
| C               | 12.0                   | 0.80                 | 2000.              |                   | 12.          | 140.          | 200.0              | 114.9             | 0.0               | 0.000E+00            | 0.000E+00                         | 5.482E-07 |      |
| C               | 27.5                   | 0.72                 | 2000.              |                   | 12.          | 140.          | 200.0              | 114.9             | 0.0               | 0.000E+00            | 0.000E+00                         | 2.392E-07 |      |
| D               | 0.2                    | 0.00                 | 5000.              |                   | 43.          | 109.          | 322.2              | 89.1              | 0.0               | 0.000E+00            | 0.000E+00                         | 2.094E-05 |      |
| D               | 1.7                    | 1.01                 | 5000.              |                   | 43.          | 109.          | 322.2              | 89.1              | 0.0               | 0.000E+00            | 0.000E+00                         | 2.991E-06 |      |
| D               | 3.7                    | 2.59                 | 5000.              |                   | 43.          | 109.          | 322.2              | 89.1              | 0.0               | 0.000E+00            | 0.000E+00                         | 1.396E-06 |      |
| D               | 6.2                    | 9.48                 | 5000.              |                   | 43.          | 109.          | 322.2              | 89.1              | 0.0               | 0.000E+00            | 0.000E+00                         | 8.374E-07 |      |
| D               | 9.2                    | 17.99                | 5000.              |                   | 43.          | 109.          | 322.2              | 89.1              | 0.0               | 0.000E+00            | 0.000E+00                         | 5.658E-07 |      |
| D               | 12.0                   | 11.96                | 5000.              |                   | 43.          | 109.          | 322.2              | 89.1              | 0.0               | 0.000E+00            | 0.000E+00                         | 4.362E-07 |      |
| D               | 27.5                   | 4.03                 | 5000.              |                   | 43.          | 109.          | 322.2              | 89.1              | 0.0               | 0.000E+00            | 0.000E+00                         | 1.903E-07 |      |
| E               | 0.3                    | 0.01                 | 7000.              |                   | 64.          | 89.           | 310.5              | 66.2              | 0.0               | 0.000E+00            | 0.000E+00                         | 2.267E-05 |      |
| E               | 2.0                    | 0.96                 | 7000.              |                   | 64.          | 89.           | 310.5              | 66.2              | 0.0               | 0.000E+00            | 0.000E+00                         | 3.238E-06 |      |
| E               | 4.2                    | 3.68                 | 7000.              |                   | 64.          | 89.           | 310.5              | 66.2              | 0.0               | 0.000E+00            | 0.000E+00                         | 1.511E-06 |      |
| E               | 7.0                    | 9.45                 | 7000.              |                   | 64.          | 89.           | 310.5              | 66.2              | 0.0               | 0.000E+00            | 0.000E+00                         | 9.067E-07 |      |
| E               | 10.3                   | 15.56                | 7000.              |                   | 64.          | 89.           | 310.5              | 66.2              | 0.0               | 0.000E+00            | 0.000E+00                         | 6.127E-07 |      |
| E               | 13.4                   | 2.96                 | 7000.              |                   | 64.          | 89.           | 310.5              | 66.2              | 0.0               | 0.000E+00            | 0.000E+00                         | 4.723E-07 |      |
| E               | 30.7                   | 0.32                 | 7000.              |                   | 64.          | 89.           | 310.5              | 66.2              | 0.0               | 0.000E+00            | 0.000E+00                         | 2.061E-07 |      |
| F               | 0.3                    | 0.01                 | 10000.             |                   | 67.          | 85.           | 295.8              | 46.1              | 0.0               | 0.000E+00            | 0.000E+00                         | 1.504E-05 |      |
| F               | 2.0                    | 0.75                 | 10000.             |                   | 67.          | 85.           | 295.8              | 46.1              | 0.0               | 0.000E+00            | 0.000E+00                         | 2.149E-06 |      |
| F               | 4.2                    | 1.76                 | 10000.             |                   | 67.          | 85.           | 295.8              | 46.1              | 0.0               | 0.000E+00            | 0.000E+00                         | 1.003E-06 |      |
| F               | 7.0                    | 3.74                 | 10000.             |                   | 67.          | 85.           | 295.8              | 46.1              | 0.0               | 0.000E+00            | 0.000E+00                         | 6.017E-07 |      |
| F               | 10.3                   | 3.68                 | 10000.             |                   | 67.          | 85.           | 295.8              | 46.1              | 0.0               | 0.000E+00            | 0.000E+00                         | 4.066E-07 |      |
| F               | 13.4                   | 0.48                 | 10000.             |                   | 67.          | 85.           | 295.8              | 46.1              | 0.0               | 0.000E+00            | 0.000E+00                         | 3.134E-07 |      |

|   |      |      |        |     |     |        |      |     |           |           |           |
|---|------|------|--------|-----|-----|--------|------|-----|-----------|-----------|-----------|
| G | 2.0  | 0.37 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 6.316E-07 |
| G | 4.2  | 0.93 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 2.947E-07 |
| G | 7.0  | 1.17 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.768E-07 |
| G | 10.3 | 1.04 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.195E-07 |
| G | 13.4 | 0.05 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 9.210E-08 |

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

ESE SECTOR BOUNDARY DISTANCE = 823.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.267E-05 | 2.094E-05 | 1.504E-05 | 3.238E-06 | 2.991E-06 | 2.151E-06 | 2.149E-06 | 1.754E-06 | 1.511E-06 | 1.396E-06 |
| 0.007     | 0.009     | 0.018     | 0.979     | 1.993     | 2.073     | 2.820     | 2.954     | 6.637     | 9.226     |
| 0.00060   | 0.00080   | 0.00155   | 0.08552   | 0.17416   | 0.18116   | 0.24647   | 0.25813   | 0.58002   | 0.80627   |
| 1.291E-06 | 1.053E-06 | 1.003E-06 | 9.268E-07 | 9.067E-07 | 8.722E-07 | 8.374E-07 | 7.112E-07 | 6.723E-07 | 6.316E-07 |
| 9.466     | 10.160    | 11.922    | 12.162    | 21.610    | 22.144    | 31.619    | 33.194    | 33.568    | 33.941    |
| 0.82727   | 0.88791   | 1.04186   | 1.06285   | 1.88856   | 1.93521   | 2.76326   | 2.90088   | 2.93354   | 2.96619   |
| 6.262E-07 | 6.127E-07 | 6.017E-07 | 5.658E-07 | 5.482E-07 | 4.827E-07 | 4.723E-07 | 4.362E-07 | 4.066E-07 | 3.134E-07 |
| 34.181    | 49.742    | 53.479    | 71.468    | 72.269    | 72.322    | 75.285    | 87.242    | 90.925    | 91.406    |
| 2.98718   | 4.34704   | 4.67360   | 6.24572   | 6.31570   | 6.32036   | 6.57927   | 7.62424   | 7.94613   | 7.98812   |
| 2.947E-07 | 2.934E-07 | 2.392E-07 | 2.106E-07 | 2.061E-07 | 1.903E-07 | 1.768E-07 | 1.195E-07 | 9.210E-08 |           |
| 92.340    | 92.527    | 93.247    | 93.381    | 93.701    | 97.731    | 98.906    | 99.947    | 100.000   |           |
| 8.06975   | 8.08608   | 8.14906   | 8.16072   | 8.18871   | 8.54092   | 8.64356   | 8.73452   | 8.73919   |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 2.267E-05 DISTANCE = 7000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.001  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.174



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 0.805  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 2.761  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 6.242  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 7.620

| K  | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|----|---|-------------|--------------|-------------|
| 14 | 1 | -10.69455   | -16.18867    | -1.25483    |
| 14 | 2 | -10.77404   | -16.80111    | -1.39677    |
| 14 | 3 | -12.71995   | -17.04087    | -1.47882    |
| 14 | 4 | -13.48209   | -15.99454    | -1.04403    |
| 14 | 5 | -13.99292   | -15.95833    | -1.02514    |
| 14 | 6 | -14.38496   | -18.23686    | -2.50973    |
| 14 | 7 | -14.64524   | NUMXQ(K) = 7 |             |
|    |   | 4.002E-06   | 0.087        | 1.000       |
|    |   | 2.468E-06   | 0.262        | 3.000       |
|    |   | 1.921E-06   | 0.437        | 5.000       |
|    |   | 1.353E-06   | 0.874        | 10.000      |
|    |   | 1.153E-06   | 1.311        | 15.000      |
|    |   | 1.023E-06   | 1.748        | 20.000      |
|    |   | 9.298E-07   | 2.185        | 25.000      |
|    |   | 8.576E-07   | 2.622        | 30.000      |
|    |   | 8.000E-07   | 3.059        | 35.000      |
|    |   | 7.525E-07   | 3.496        | 40.000      |
|    |   | 7.120E-07   | 3.933        | 45.000      |
|    |   | 6.770E-07   | 4.370        | 50.000      |
|    |   | 6.462E-07   | 4.807        | 55.000      |
|    |   | 6.188E-07   | 5.244        | 60.000      |
|    |   | 5.942E-07   | 5.680        | 65.000      |
|    |   | 5.720E-07   | 6.117        | 70.000      |
|    |   | 5.319E-07   | 6.554        | 75.000      |
|    |   | 4.891E-07   | 6.991        | 80.000      |
|    |   | 4.516E-07   | 7.428        | 85.000      |
|    |   | 1.794E-06   | 0.5          | 5.72        |

ANNUAL AVERAGE = 1.87E-09

K= 14 FIVEXQ(K)= 1.794E-06 FIVEPR(K)= 5.721

FUMIGATION X/Q AT THE BOUNDARY: 4.22E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 8.862E-01 | 4.749E-01 | 4.720E-01 | 4.089E-01 | 3.934E-01 | 1.802E-01 | 1.786E-01 |
| 0.667     | 4.591     | 51.648    | 84.591    | 86.006    | 96.423    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER | BLDG WAKE | USED |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|---------|-----------|------|
| AT 152.4 METERS |                        |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |         |           |      |
| A               | 6.2                    | 0.04                 | 823.               | 0.                | 152.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 9.268E-07                         |         |           |      |
| A               | 9.2                    | 0.06                 | 823.               | 0.                | 152.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 6.262E-07                         |         |           |      |
| A               | 27.5                   | 0.02                 | 823.               | 0.                | 152.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 2.106E-07                         |         |           |      |
| B               | 3.7                    | 0.08                 | 1000.              | 1.                | 151.         | 140.9         | 110.2              | 0.0               | 0.000E+00         | 0.000E+00            | 2.134E-06                         |         |           |      |
| B               | 6.2                    | 0.04                 | 1000.              | 1.                | 151.         | 140.9         | 110.2              | 0.0               | 0.000E+00         | 0.000E+00            | 1.280E-06                         |         |           |      |
| B               | 9.2                    | 0.19                 | 1000.              | 1.                | 151.         | 140.9         | 110.2              | 0.0               | 0.000E+00         | 0.000E+00            | 8.651E-07                         |         |           |      |
| B               | 12.0                   | 0.08                 | 1000.              | 1.                | 151.         | 140.9         | 110.2              | 0.0               | 0.000E+00         | 0.000E+00            | 6.668E-07                         |         |           |      |
| C               | 3.7                    | 0.06                 | 2000.              | 8.                | 145.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 1.674E-06                         |         |           |      |
| C               | 6.2                    | 0.55                 | 2000.              | 8.                | 145.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 1.004E-06                         |         |           |      |
| C               | 9.2                    | 0.74                 | 2000.              | 8.                | 145.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 6.785E-07                         |         |           |      |
| C               | 12.0                   | 0.59                 | 2000.              | 8.                | 145.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 5.230E-07                         |         |           |      |
| C               | 27.5                   | 0.13                 | 2000.              | 8.                | 145.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 2.282E-07                         |         |           |      |
| D               | 0.2                    | 0.00                 | 5000.              | 28.               | 125.         | 322.2         | 89.1               | 0.0               | 0.000E+00         | 0.000E+00            | 1.667E-05                         |         |           |      |
| D               | 1.7                    | 0.76                 | 5000.              | 28.               | 125.         | 322.2         | 89.1               | 0.0               | 0.000E+00         | 0.000E+00            | 2.381E-06                         |         |           |      |
| D               | 3.7                    | 4.10                 | 5000.              | 28.               | 125.         | 322.2         | 89.1               | 0.0               | 0.000E+00         | 0.000E+00            | 1.111E-06                         |         |           |      |
| D               | 6.2                    | 11.52                | 5000.              | 28.               | 125.         | 322.2         | 89.1               | 0.0               | 0.000E+00         | 0.000E+00            | 6.667E-07                         |         |           |      |
| D               | 9.2                    | 22.08                | 5000.              | 28.               | 125.         | 322.2         | 89.1               | 0.0               | 0.000E+00         | 0.000E+00            | 4.505E-07                         |         |           |      |
| D               | 12.0                   | 11.54                | 5000.              | 28.               | 125.         | 322.2         | 89.1               | 0.0               | 0.000E+00         | 0.000E+00            | 3.473E-07                         |         |           |      |
| D               | 27.5                   | 3.91                 | 5000.              | 28.               | 125.         | 322.2         | 89.1               | 0.0               | 0.000E+00         | 0.000E+00            | 1.515E-07                         |         |           |      |
| E               | 0.3                    | 0.01                 | 8000.              | 43.               | 109.         | 350.3         | 70.3               | 0.0               | 0.000E+00         | 0.000E+00            | 1.379E-05                         |         |           |      |
| E               | 2.0                    | 0.83                 | 8000.              | 43.               | 109.         | 350.3         | 70.3               | 0.0               | 0.000E+00         | 0.000E+00            | 1.970E-06                         |         |           |      |
| E               | 4.2                    | 3.61                 | 8000.              | 43.               | 109.         | 350.3         | 70.3               | 0.0               | 0.000E+00         | 0.000E+00            | 9.196E-07                         |         |           |      |
| E               | 7.0                    | 11.03                | 8000.              | 43.               | 109.         | 350.3         | 70.3               | 0.0               | 0.000E+00         | 0.000E+00            | 5.517E-07                         |         |           |      |
| E               | 10.3                   | 13.83                | 8000.              | 43.               | 109.         | 350.3         | 70.3               | 0.0               | 0.000E+00         | 0.000E+00            | 3.728E-07                         |         |           |      |
| E               | 13.4                   | 1.89                 | 8000.              | 43.               | 109.         | 350.3         | 70.3               | 0.0               | 0.000E+00         | 0.000E+00            | 2.874E-07                         |         |           |      |
| E               | 30.7                   | 0.13                 | 8000.              | 43.               | 109.         | 350.3         | 70.3               | 0.0               | 0.000E+00         | 0.000E+00            | 1.254E-07                         |         |           |      |
| F               | 0.3                    | 0.01                 | 20000.             | 43.               | 109.         | 553.1         | 58.7               | 0.0               | 0.000E+00         | 0.000E+00            | 6.182E-06                         |         |           |      |
| F               | 2.0                    | 0.55                 | 20000.             | 43.               | 109.         | 553.1         | 58.7               | 0.0               | 0.000E+00         | 0.000E+00            | 8.832E-07                         |         |           |      |
| F               | 4.2                    | 2.00                 | 20000.             | 43.               | 109.         | 553.1         | 58.7               | 0.0               | 0.000E+00         | 0.000E+00            | 4.121E-07                         |         |           |      |
| F               | 7.0                    | 3.78                 | 20000.             | 43.               | 109.         | 553.1         | 58.7               | 0.0               | 0.000E+00         | 0.000E+00            | 2.473E-07                         |         |           |      |
| F               | 10.3                   | 1.91                 | 20000.             | 43.               | 109.         | 553.1         | 58.7               | 0.0               | 0.000E+00         | 0.000E+00            | 1.671E-07                         |         |           |      |
| G               | 2.0                    | 0.28                 | 90000.             | 43.               | 109.         | 1000.0        | 46.0               | 0.0               | 0.000E+00         | 0.000E+00            | 2.093E-07                         |         |           |      |
| G               | 4.2                    | 1.49                 | 90000.             | 43.               | 109.         | 1000.0        | 46.0               | 0.0               | 0.000E+00         | 0.000E+00            | 9.768E-08                         |         |           |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|   |      |      |        |     |      |        |      |     |           |           |           |
|---|------|------|--------|-----|------|--------|------|-----|-----------|-----------|-----------|
| G | 7.0  | 1.95 | 90000. | 43. | 109. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 5.861E-08 |
| G | 10.3 | 0.19 | 90000. | 43. | 109. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 3.960E-08 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

SE SECTOR BOUNDARY DISTANCE = 823.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.667E-05 | 1.379E-05 | 6.182E-06 | 2.381E-06 | 2.134E-06 | 1.970E-06 | 1.674E-06 | 1.280E-06 | 1.111E-06 | 1.004E-06 |
| 0.002     | 0.008     | 0.014     | 0.779     | 0.864     | 1.692     | 1.756     | 1.799     | 5.899     | 6.452     |
| 0.00019   | 0.00084   | 0.00154   | 0.08551   | 0.09484   | 0.18581   | 0.19280   | 0.19747   | 0.64765   | 0.70829   |
| 9.268E-07 | 9.196E-07 | 8.832E-07 | 8.651E-07 | 6.785E-07 | 6.668E-07 | 6.667E-07 | 6.262E-07 | 5.517E-07 | 5.230E-07 |
| 6.494     | 10.106    | 10.658    | 10.850    | 11.593    | 11.678    | 23.194    | 23.258    | 34.285    | 34.880    |
| 0.71296   | 1.10949   | 1.17013   | 1.19112   | 1.27276   | 1.28209   | 2.54632   | 2.55332   | 3.76390   | 3.82921   |
| 4.505E-07 | 4.121E-07 | 3.728E-07 | 3.473E-07 | 2.874E-07 | 2.473E-07 | 2.282E-07 | 2.106E-07 | 2.093E-07 | 1.671E-07 |
| 56.955    | 58.952    | 72.783    | 84.320    | 86.211    | 89.993    | 90.120    | 90.142    | 90.418    | 92.330    |
| 6.25270   | 6.47196   | 7.99044   | 9.25700   | 9.46459   | 9.87978   | 9.89378   | 9.89611   | 9.92643   | 10.13636  |
| 1.515E-07 | 1.254E-07 | 9.768E-08 | 5.861E-08 | 3.960E-08 |           |           |           |           |           |
| 96.239    | 96.367    | 97.854    | 99.809    | 100.000   |           |           |           |           |           |
| 10.56554  | 10.57954  | 10.74282  | 10.95741  | 10.97840  |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.

THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.667E-05 DISTANCE = 5000.000

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.647  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 9.254

| K  | I | XQSAVE(K, I) | XQINT(K, I)  | XQSLOP(K, I) |
|----|---|--------------|--------------|--------------|
| 15 | 1 | -11.00199    | -13.75410    | -0.59539     |
| 15 | 2 | -11.19132    | -17.15179    | -1.38474     |
| 15 | 3 | -13.71004    | -16.08744    | -0.95651     |
| 15 | 4 | -13.89937    | -16.06609    | -0.94718     |
| 15 | 5 | -14.61291    | -16.52435    | -1.24587     |
| 15 | 6 | -14.87319    | NUMXQ(K) = 6 |              |
|    |   | 2.471E-06    | 0.110        | 1.000        |
|    |   | 1.532E-06    | 0.329        | 3.000        |
|    |   | 1.205E-06    | 0.549        | 5.000        |
|    |   | 9.231E-07    | 1.098        | 10.000       |
|    |   | 7.946E-07    | 1.647        | 15.000       |
|    |   | 7.106E-07    | 2.196        | 20.000       |
|    |   | 6.493E-07    | 2.745        | 25.000       |
|    |   | 6.017E-07    | 3.294        | 30.000       |
|    |   | 5.631E-07    | 3.842        | 35.000       |
|    |   | 5.308E-07    | 4.391        | 40.000       |
|    |   | 5.032E-07    | 4.940        | 45.000       |
|    |   | 4.792E-07    | 5.489        | 50.000       |
|    |   | 4.581E-07    | 6.038        | 55.000       |
|    |   | 4.358E-07    | 6.587        | 60.000       |
|    |   | 4.138E-07    | 7.136        | 65.000       |
|    |   | 3.941E-07    | 7.685        | 70.000       |
|    |   | 3.763E-07    | 8.234        | 75.000       |
|    |   | 3.601E-07    | 8.783        | 80.000       |
|    |   | 1.260E-06    | 0.5          | 4.55         |

ANNUAL AVERAGE = 8.26E-10

K= 15 FIVEXQ(K) = 1.260E-06 FIVEPR(K) = 4.554

FUMIGATION X/Q AT THE BOUNDARY: 4.22E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 8.862E-01 | 4.531E-01 | 3.902E-01 | 3.758E-01 | 2.984E-01 | 1.763E-01 | 5.918E-02 |
| 0.127     | 2.210     | 2.613     | 56.517    | 87.841    | 96.091    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | BLDG WAKE | USED |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
| AT 152.4 METERS |                        |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 3.7                    | 0.02                 | 823.               | 31.               | 121.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 1.614E-06                         |           |      |
| A               | 6.2                    | 0.17                 | 823.               | 31.               | 121.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 9.686E-07                         |           |      |
| A               | 9.2                    | 0.32                 | 823.               | 31.               | 121.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 6.545E-07                         |           |      |
| A               | 12.0                   | 0.02                 | 823.               | 31.               | 121.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 5.045E-07                         |           |      |
| A               | 27.5                   | 0.02                 | 823.               | 31.               | 121.         | 157.1         | 310.1              | 0.0               | 0.000E+00         | 0.000E+00            | 2.201E-07                         |           |      |
| B               | 3.7                    | 0.06                 | 823.               | 31.               | 121.         | 118.1         | 88.8               | 0.0               | 0.000E+00         | 0.000E+00            | 3.178E-06                         |           |      |
| B               | 6.2                    | 0.48                 | 823.               | 31.               | 121.         | 118.1         | 88.8               | 0.0               | 0.000E+00         | 0.000E+00            | 1.907E-06                         |           |      |
| B               | 9.2                    | 0.71                 | 823.               | 31.               | 121.         | 118.1         | 88.8               | 0.0               | 0.000E+00         | 0.000E+00            | 1.289E-06                         |           |      |
| B               | 12.0                   | 0.11                 | 823.               | 31.               | 121.         | 118.1         | 88.8               | 0.0               | 0.000E+00         | 0.000E+00            | 9.932E-07                         |           |      |
| C               | 3.7                    | 0.48                 | 2000.              | 33.               | 119.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 2.156E-06                         |           |      |
| C               | 6.2                    | 2.16                 | 2000.              | 33.               | 119.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 1.294E-06                         |           |      |
| C               | 9.2                    | 2.01                 | 2000.              | 33.               | 119.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 8.743E-07                         |           |      |
| C               | 12.0                   | 0.37                 | 2000.              | 33.               | 119.         | 200.0         | 114.9              | 0.0               | 0.000E+00         | 0.000E+00            | 6.739E-07                         |           |      |
| D               | 0.2                    | 0.00                 | 4000.              | 37.               | 116.         | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 2.070E-05                         |           |      |
| D               | 1.7                    | 1.08                 | 4000.              | 37.               | 116.         | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 2.958E-06                         |           |      |
| D               | 3.7                    | 8.31                 | 4000.              | 37.               | 116.         | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 1.380E-06                         |           |      |
| D               | 6.2                    | 20.04                | 4000.              | 37.               | 116.         | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 8.282E-07                         |           |      |
| D               | 9.2                    | 19.82                | 4000.              | 37.               | 116.         | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 5.596E-07                         |           |      |
| D               | 12.0                   | 5.23                 | 4000.              | 37.               | 116.         | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 4.313E-07                         |           |      |
| D               | 27.5                   | 1.36                 | 4000.              | 37.               | 116.         | 263.4         | 78.0               | 0.0               | 0.000E+00         | 0.000E+00            | 1.882E-07                         |           |      |
| E               | 0.3                    | 0.01                 | 7000.              | 42.               | 110.         | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 1.394E-05                         |           |      |
| E               | 2.0                    | 0.73                 | 7000.              | 42.               | 110.         | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 1.992E-06                         |           |      |
| E               | 4.2                    | 4.38                 | 7000.              | 42.               | 110.         | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 9.295E-07                         |           |      |
| E               | 7.0                    | 11.10                | 7000.              | 42.               | 110.         | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 5.577E-07                         |           |      |
| E               | 10.3                   | 10.11                | 7000.              | 42.               | 110.         | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 3.768E-07                         |           |      |
| E               | 13.4                   | 0.93                 | 7000.              | 42.               | 110.         | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 2.905E-07                         |           |      |
| E               | 30.7                   | 0.22                 | 7000.              | 42.               | 110.         | 310.5         | 66.2               | 0.0               | 0.000E+00         | 0.000E+00            | 1.267E-07                         |           |      |
| F               | 0.3                    | 0.01                 | 20000.             | 43.               | 109.         | 553.1         | 58.7               | 0.0               | 0.000E+00         | 0.000E+00            | 6.182E-06                         |           |      |
| F               | 2.0                    | 0.48                 | 20000.             | 43.               | 109.         | 553.1         | 58.7               | 0.0               | 0.000E+00         | 0.000E+00            | 8.832E-07                         |           |      |
| F               | 4.2                    | 2.09                 | 20000.             | 43.               | 109.         | 553.1         | 58.7               | 0.0               | 0.000E+00         | 0.000E+00            | 4.121E-07                         |           |      |
| F               | 7.0                    | 2.72                 | 20000.             | 43.               | 109.         | 553.1         | 58.7               | 0.0               | 0.000E+00         | 0.000E+00            | 2.473E-07                         |           |      |
| F               | 10.3                   | 0.69                 | 20000.             | 43.               | 109.         | 553.1         | 58.7               | 0.0               | 0.000E+00         | 0.000E+00            | 1.671E-07                         |           |      |
| F               | 13.4                   | 0.11                 | 20000.             | 43.               | 109.         | 553.1         | 58.7               | 0.0               | 0.000E+00         | 0.000E+00            | 1.288E-07                         |           |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|   |      |      |        |     |      |        |      |     |           |           |           |
|---|------|------|--------|-----|------|--------|------|-----|-----------|-----------|-----------|
| G | 2.0  | 0.41 | 90000. | 43. | 109. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 2.093E-07 |
| G | 4.2  | 1.27 | 90000. | 43. | 109. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 9.768E-08 |
| G | 7.0  | 1.84 | 90000. | 43. | 109. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 5.861E-08 |
| G | 10.3 | 0.11 | 90000. | 43. | 109. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 3.960E-08 |
| G | 30.7 | 0.02 | 90000. | 43. | 109. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.332E-08 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 823.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.070E-05 | 1.394E-05 | 6.182E-06 | 3.178E-06 | 2.958E-06 | 2.156E-06 | 1.992E-06 | 1.907E-06 | 1.614E-06 | 1.380E-06 |
| 0.002     | 0.008     | 0.013     | 0.078     | 1.158     | 1.633     | 2.367     | 2.842     | 2.864     | 11.178    |
| 0.00026   | 0.00083   | 0.00142   | 0.00842   | 0.12504   | 0.17636   | 0.25567   | 0.30698   | 0.30931   | 1.20734   |
| 1.294E-06 | 1.289E-06 | 9.932E-07 | 9.686E-07 | 9.295E-07 | 8.832E-07 | 8.743E-07 | 8.282E-07 | 6.739E-07 | 6.545E-07 |
| 13.338    | 14.050    | 14.158    | 14.331    | 18.715    | 19.190    | 21.198    | 41.239    | 41.606    | 41.930    |
| 1.44059   | 1.51756   | 1.52922   | 1.54788   | 2.02139   | 2.07270   | 2.28963   | 4.45421   | 4.49386   | 4.52885   |
| 5.596E-07 | 5.577E-07 | 5.045E-07 | 4.313E-07 | 4.121E-07 | 3.768E-07 | 2.905E-07 | 2.473E-07 | 2.201E-07 | 2.093E-07 |
| 61.754    | 72.855    | 72.876    | 78.102    | 80.197    | 90.304    | 91.232    | 93.953    | 93.975    | 94.385    |
| 6.67011   | 7.86903   | 7.87136   | 8.43583   | 8.66208   | 9.75371   | 9.85400   | 10.14790  | 10.15024  | 10.19455  |
| 1.882E-07 | 1.671E-07 | 1.288E-07 | 1.267E-07 | 9.768E-08 | 5.861E-08 | 3.960E-08 | 1.332E-08 |           |           |
| 95.746    | 96.437    | 96.545    | 96.761    | 98.035    | 99.870    | 99.978    | 100.000   |           |           |
| 10.34150  | 10.41614  | 10.42781  | 10.45113  | 10.58875  | 10.78702  | 10.79868  | 10.80101  |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 2.070E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

| CHI/Q           | WITH RESPECT TO | WHEN THE WIND BLOWS   |
|-----------------|-----------------|-----------------------|
| SEC/CUBIC METER | THE TOTAL TIME  | INTO THIS SECTOR ONLY |

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.206  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 7.865



| K  | I | XQSAVE(K, I) | XQINT(K, I) | XQSLOP(K, I) |
|----|---|--------------|-------------|--------------|
| 16 | 1 | -10.78519    | -16.15022   | -1.17814     |
| 16 | 2 | -13.49324    | -15.22974   | -0.76999     |
| 16 | 3 | -13.56201    | -15.61977   | -0.95006     |
| 16 | 4 | -14.00407    | -16.35182   | -1.38052     |
| 16 | 5 | -14.39950    | -19.08640   | -3.31419     |
| 16 | 6 | -14.79154    | NUMXQ(K)= 6 |              |
|    |   | 3.594E-06    | 0.108       | 1.000        |
|    |   | 2.394E-06    | 0.324       | 3.000        |
|    |   | 1.952E-06    | 0.540       | 5.000        |
|    |   | 1.451E-06    | 1.080       | 10.000       |
|    |   | 1.257E-06    | 1.620       | 15.000       |
|    |   | 1.124E-06    | 2.160       | 20.000       |
|    |   | 1.027E-06    | 2.700       | 25.000       |
|    |   | 9.517E-07    | 3.240       | 30.000       |
|    |   | 8.906E-07    | 3.780       | 35.000       |
|    |   | 8.396E-07    | 4.320       | 40.000       |
|    |   | 7.818E-07    | 4.860       | 45.000       |
|    |   | 7.283E-07    | 5.401       | 50.000       |
|    |   | 6.821E-07    | 5.941       | 55.000       |
|    |   | 6.418E-07    | 6.481       | 60.000       |
|    |   | 6.061E-07    | 7.021       | 65.000       |
|    |   | 5.743E-07    | 7.561       | 70.000       |
|    |   | 5.295E-07    | 8.101       | 75.000       |
|    |   | 4.713E-07    | 8.641       | 80.000       |
|    |   | 4.218E-07    | 9.181       | 85.000       |
|    |   | 3.792E-07    | 9.721       | 90.000       |
|    |   | 2.015E-06    | 0.5         | 4.63         |

ANNUAL AVERAGE = 6.16E-09

K= 16 FIVEXQ(K)= 2.015E-06 FIVEPR(K)= 4.629

FUMIGATION X/Q AT THE BOUNDARY: 5.30E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.262E-01 | 5.837E-01 | 3.926E-01 | 3.340E-01 | 2.515E-01 | 1.763E-01 | 5.918E-02 |
| 0.561     | 5.572     | 6.932     | 62.780    | 90.255    | 96.350    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

| CLASS           | METER/SEC | FREQUENCY PERCENT | DISTANCE METERS | TERRAIN METERS | HT METERS | EFF PLUME METERS | HT METERS | SIGMA-Y METERS | SIGMA-Z METERS | MEANDER-SY METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER | BLDG WAKE | USED |
|-----------------|-----------|-------------------|-----------------|----------------|-----------|------------------|-----------|----------------|----------------|-------------------|-----------------------------------|---------|-----------|------|
| AT 152.4 METERS |           |                   |                 |                |           |                  |           |                |                |                   | CA=1292.SQ.METERS                 |         |           |      |
| A               | 1.7       | 0.01              | 823.            | 30.            | 122.      | 157.1            | 310.1     | 0.0            | 0.000E+00      | 0.000E+00         | 3.457E-06                         |         |           |      |
| A               | 3.7       | 0.51              | 823.            | 30.            | 122.      | 157.1            | 310.1     | 0.0            | 0.000E+00      | 0.000E+00         | 1.613E-06                         |         |           |      |
| A               | 6.2       | 0.53              | 823.            | 30.            | 122.      | 157.1            | 310.1     | 0.0            | 0.000E+00      | 0.000E+00         | 9.679E-07                         |         |           |      |
| A               | 9.2       | 0.28              | 823.            | 30.            | 122.      | 157.1            | 310.1     | 0.0            | 0.000E+00      | 0.000E+00         | 6.540E-07                         |         |           |      |
| A               | 12.0      | 0.06              | 823.            | 30.            | 122.      | 157.1            | 310.1     | 0.0            | 0.000E+00      | 0.000E+00         | 5.041E-07                         |         |           |      |
| A               | 27.5      | 0.03              | 823.            | 30.            | 122.      | 157.1            | 310.1     | 0.0            | 0.000E+00      | 0.000E+00         | 2.200E-07                         |         |           |      |
| B               | 1.7       | 0.05              | 900.            | 31.            | 121.      | 128.1            | 98.0      | 0.0            | 0.000E+00      | 0.000E+00         | 6.759E-06                         |         |           |      |
| B               | 3.7       | 0.47              | 900.            | 31.            | 121.      | 128.1            | 98.0      | 0.0            | 0.000E+00      | 0.000E+00         | 3.154E-06                         |         |           |      |
| B               | 6.2       | 0.54              | 900.            | 31.            | 121.      | 128.1            | 98.0      | 0.0            | 0.000E+00      | 0.000E+00         | 1.892E-06                         |         |           |      |
| B               | 9.2       | 0.44              | 900.            | 31.            | 121.      | 128.1            | 98.0      | 0.0            | 0.000E+00      | 0.000E+00         | 1.279E-06                         |         |           |      |
| B               | 12.0      | 0.12              | 900.            | 31.            | 121.      | 128.1            | 98.0      | 0.0            | 0.000E+00      | 0.000E+00         | 9.857E-07                         |         |           |      |
| B               | 27.5      | 0.03              | 900.            | 31.            | 121.      | 128.1            | 98.0      | 0.0            | 0.000E+00      | 0.000E+00         | 4.301E-07                         |         |           |      |
| C               | 1.7       | 0.08              | 2000.           | 43.            | 109.      | 200.0            | 114.9     | 0.0            | 0.000E+00      | 0.000E+00         | 5.038E-06                         |         |           |      |
| C               | 3.7       | 0.77              | 2000.           | 43.            | 109.      | 200.0            | 114.9     | 0.0            | 0.000E+00      | 0.000E+00         | 2.351E-06                         |         |           |      |
| C               | 6.2       | 1.33              | 2000.           | 43.            | 109.      | 200.0            | 114.9     | 0.0            | 0.000E+00      | 0.000E+00         | 1.411E-06                         |         |           |      |
| C               | 9.2       | 1.04              | 2000.           | 43.            | 109.      | 200.0            | 114.9     | 0.0            | 0.000E+00      | 0.000E+00         | 9.532E-07                         |         |           |      |
| C               | 12.0      | 0.30              | 2000.           | 43.            | 109.      | 200.0            | 114.9     | 0.0            | 0.000E+00      | 0.000E+00         | 7.348E-07                         |         |           |      |
| C               | 27.5      | 0.13              | 2000.           | 43.            | 109.      | 200.0            | 114.9     | 0.0            | 0.000E+00      | 0.000E+00         | 3.206E-07                         |         |           |      |
| D               | 0.2       | 0.00              | 4000.           | 69.            | 83.       | 263.4            | 78.0      | 0.0            | 0.000E+00      | 0.000E+00         | 3.519E-05                         |         |           |      |
| D               | 1.7       | 2.07              | 4000.           | 69.            | 83.       | 263.4            | 78.0      | 0.0            | 0.000E+00      | 0.000E+00         | 5.028E-06                         |         |           |      |
| D               | 3.7       | 9.39              | 4000.           | 69.            | 83.       | 263.4            | 78.0      | 0.0            | 0.000E+00      | 0.000E+00         | 2.346E-06                         |         |           |      |
| D               | 6.2       | 15.72             | 4000.           | 69.            | 83.       | 263.4            | 78.0      | 0.0            | 0.000E+00      | 0.000E+00         | 1.408E-06                         |         |           |      |
| D               | 9.2       | 12.23             | 4000.           | 69.            | 83.       | 263.4            | 78.0      | 0.0            | 0.000E+00      | 0.000E+00         | 9.512E-07                         |         |           |      |
| D               | 12.0      | 4.24              | 4000.           | 69.            | 83.       | 263.4            | 78.0      | 0.0            | 0.000E+00      | 0.000E+00         | 7.332E-07                         |         |           |      |
| D               | 27.5      | 1.39              | 4000.           | 69.            | 83.       | 263.4            | 78.0      | 0.0            | 0.000E+00      | 0.000E+00         | 3.199E-07                         |         |           |      |
| E               | 0.3       | 0.01              | 6000.           | 100.           | 52.       | 270.1            | 61.6      | 0.0            | 0.000E+00      | 0.000E+00         | 4.769E-05                         |         |           |      |
| E               | 2.0       | 1.97              | 6000.           | 100.           | 52.       | 270.1            | 61.6      | 0.0            | 0.000E+00      | 0.000E+00         | 6.812E-06                         |         |           |      |
| E               | 4.2       | 8.90              | 6000.           | 100.           | 52.       | 270.1            | 61.6      | 0.0            | 0.000E+00      | 0.000E+00         | 3.179E-06                         |         |           |      |
| E               | 7.0       | 13.85             | 6000.           | 100.           | 52.       | 270.1            | 61.6      | 0.0            | 0.000E+00      | 0.000E+00         | 1.907E-06                         |         |           |      |
| E               | 10.3      | 9.53              | 6000.           | 100.           | 52.       | 270.1            | 61.6      | 0.0            | 0.000E+00      | 0.000E+00         | 1.289E-06                         |         |           |      |
| E               | 13.4      | 1.29              | 6000.           | 100.           | 52.       | 270.1            | 61.6      | 0.0            | 0.000E+00      | 0.000E+00         | 9.935E-07                         |         |           |      |
| E               | 30.7      | 0.23              | 6000.           | 100.           | 52.       | 270.1            | 61.6      | 0.0            | 0.000E+00      | 0.000E+00         | 4.335E-07                         |         |           |      |
| F               | 0.3       | 0.01              | 8000.           | 128.           | 24.       | 241.8            | 42.4      | 0.0            | 0.000E+00      | 0.000E+00         | 9.416E-05                         |         |           |      |
| F               | 2.0       | 1.01              | 8000.           | 128.           | 24.       | 241.8            | 42.4      | 0.0            | 0.000E+00      | 0.000E+00         | 1.345E-05                         |         |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

|   |      |      |       |      |     |       |      |     |           |           |           |
|---|------|------|-------|------|-----|-------|------|-----|-----------|-----------|-----------|
| F | 4.2  | 3.14 | 8000. | 128. | 24. | 241.8 | 42.4 | 0.0 | 0.000E+00 | 0.000E+00 | 6.277E-06 |
| F | 7.0  | 3.52 | 8000. | 128. | 24. | 241.8 | 42.4 | 0.0 | 0.000E+00 | 0.000E+00 | 3.766E-06 |
| F | 10.3 | 1.55 | 8000. | 128. | 24. | 241.8 | 42.4 | 0.0 | 0.000E+00 | 0.000E+00 | 2.545E-06 |
| F | 13.4 | 0.16 | 8000. | 128. | 24. | 241.8 | 42.4 | 0.0 | 0.000E+00 | 0.000E+00 | 1.962E-06 |
| F | 30.7 | 0.01 | 8000. | 128. | 24. | 241.8 | 42.4 | 0.0 | 0.000E+00 | 0.000E+00 | 8.560E-07 |
| G | 2.0  | 0.43 | 8000. | 128. | 24. | 166.9 | 25.6 | 0.0 | 0.000E+00 | 0.000E+00 | 2.419E-05 |
| G | 4.2  | 1.17 | 8000. | 128. | 24. | 166.9 | 25.6 | 0.0 | 0.000E+00 | 0.000E+00 | 1.129E-05 |
| G | 7.0  | 1.14 | 8000. | 128. | 24. | 166.9 | 25.6 | 0.0 | 0.000E+00 | 0.000E+00 | 6.772E-06 |
| G | 10.3 | 0.31 | 8000. | 128. | 24. | 166.9 | 25.6 | 0.0 | 0.000E+00 | 0.000E+00 | 4.576E-06 |
| G | 13.4 | 0.01 | 8000. | 128. | 24. | 166.9 | 25.6 | 0.0 | 0.000E+00 | 0.000E+00 | 3.527E-06 |
| G | 30.7 | 0.00 | 8000. | 128. | 24. | 166.9 | 25.6 | 0.0 | 0.000E+00 | 0.000E+00 | 1.539E-06 |

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

Page 1003 of 1411

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## SITE EXCLUSION BOUNDARY CALCULATIONS:

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 823.0 METERS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.416E-05 | 4.769E-05 | 3.519E-05 | 2.419E-05 | 1.345E-05 | 1.129E-05 | 6.812E-06 | 6.772E-06 | 6.759E-06 | 6.277E-06 |
| 0.012     | 0.026     | 0.030     | 0.464     | 1.474     | 2.647     | 4.614     | 5.750     | 5.796     | 8.938     |
| 0.01166   | 0.02566   | 0.03032   | 0.46417   | 1.47416   | 2.64742   | 4.61373   | 5.74967   | 5.79632   | 8.93823   |
| 5.038E-06 | 5.028E-06 | 4.576E-06 | 3.766E-06 | 3.527E-06 | 3.457E-06 | 3.179E-06 | 3.154E-06 | 2.545E-06 | 2.351E-06 |
| 9.015     | 11.082    | 11.390    | 14.907    | 14.916    | 14.923    | 23.820    | 24.291    | 25.844    | 26.609    |
| 9.01521   | 11.08182  | 11.38972  | 14.90716  | 14.91649  | 14.92349  | 23.81974  | 24.29091  | 25.84437  | 26.60944  |
| 2.346E-06 | 1.962E-06 | 1.907E-06 | 1.892E-06 | 1.613E-06 | 1.539E-06 | 1.411E-06 | 1.408E-06 | 1.289E-06 | 1.279E-06 |
| 36.000    | 36.161    | 50.007    | 50.550    | 51.064    | 51.068    | 52.398    | 68.117    | 77.643    | 78.084    |
| 36.00018  | 36.16113  | 50.00699  | 50.55047  | 51.06363  | 51.06829  | 52.39783  | 68.11671  | 77.64275  | 78.08360  |
| 9.935E-07 | 9.857E-07 | 9.679E-07 | 9.532E-07 | 9.512E-07 | 8.560E-07 | 7.348E-07 | 7.332E-07 | 6.540E-07 | 5.041E-07 |
| 79.378    | 79.499    | 80.031    | 81.074    | 93.303    | 93.315    | 93.618    | 97.859    | 98.136    | 98.195    |
| 79.37814  | 79.49944  | 80.03125  | 81.07389  | 93.30331  | 93.31498  | 93.61821  | 97.85874  | 98.13631  | 98.19463  |
| 4.335E-07 | 4.301E-07 | 3.206E-07 | 3.199E-07 | 2.200E-07 |           |           |           |           |           |
| 98.423    | 98.458    | 98.584    | 99.972    | 100.000   |           |           |           |           |           |
| 98.42321  | 98.45820  | 98.58415  | 99.97201  | 100.00000 |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 9.416E-05      DISTANCE = 8000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 8.935

|           |        |        |
|-----------|--------|--------|
| 1.960E-05 | 1.000  | 1.000  |
| 1.169E-05 | 3.000  | 3.000  |
| 8.893E-06 | 5.000  | 5.000  |
| 5.871E-06 | 10.000 | 10.000 |
| 4.524E-06 | 15.000 | 15.000 |
| 3.678E-06 | 20.000 | 20.000 |
| 3.104E-06 | 25.000 | 25.000 |
| 2.786E-06 | 30.000 | 30.000 |
| 2.521E-06 | 35.000 | 35.000 |
| 2.293E-06 | 40.000 | 40.000 |
| 2.092E-06 | 45.000 | 45.000 |
| 1.911E-06 | 50.000 | 50.000 |
| 1.797E-06 | 55.000 | 55.000 |
| 1.694E-06 | 60.000 | 60.000 |
| 1.594E-06 | 65.000 | 65.000 |
| 1.494E-06 | 70.000 | 70.000 |
| 1.394E-06 | 75.000 | 75.000 |
| 1.290E-06 | 80.000 | 80.000 |
| 1.178E-06 | 85.000 | 85.000 |
| 1.052E-06 | 90.000 | 90.000 |
| 8.893E-06 | 5.0    | 5.00   |

K= 17 FIVEXQ(K) = 8.893E-06 FIVEPR(K) = 5.000

FUMIGATION X/Q AT THE BOUNDARY: 5.26E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.255E-01 | 8.474E-01 | 6.964E-01 | 6.365E-01 | 6.339E-01 | 5.677E-01 | 4.664E-01 |
| 1.416     | 10.823    | 46.594    | 50.238    | 53.303    | 98.342    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.005E-04 | 6.739E-05 | 5.792E-05 | 5.074E-05 | 4.879E-05 | 4.285E-05 | 4.066E-05 | 3.800E-05 | 3.495E-05 | 3.255E-05 |
| 0.001     | 0.001     | 0.003     | 0.003     | 0.004     | 0.005     | 0.007     | 0.008     | 0.009     | 0.009     |
| 0.00059   | 0.00121   | 0.00267   | 0.00326   | 0.00388   | 0.00505   | 0.00707   | 0.00807   | 0.00864   | 0.00909   |
| 3.225E-05 | 3.141E-05 | 3.101E-05 | 2.921E-05 | 2.689E-05 | 2.604E-05 | 2.435E-05 | 2.419E-05 | 2.309E-05 | 2.267E-05 |
| 0.010     | 0.013     | 0.015     | 0.016     | 0.016     | 0.017     | 0.018     | 0.043     | 0.044     | 0.045     |
| 0.00995   | 0.01254   | 0.01543   | 0.01564   | 0.01625   | 0.01724   | 0.01772   | 0.04338   | 0.04369   | 0.04518   |
| 2.167E-05 | 2.094E-05 | 2.070E-05 | 2.048E-05 | 1.924E-05 | 1.831E-05 | 1.752E-05 | 1.667E-05 | 1.537E-05 | 1.504E-05 |
| 0.045     | 0.046     | 0.046     | 0.047     | 0.048     | 0.049     | 0.049     | 0.049     | 0.050     | 0.051     |
| 0.04549   | 0.04576   | 0.04603   | 0.04676   | 0.04759   | 0.04859   | 0.04873   | 0.04892   | 0.04981   | 0.05146   |
| 1.435E-05 | 1.394E-05 | 1.379E-05 | 1.172E-05 | 1.129E-05 | 9.634E-06 | 9.628E-06 | 8.984E-06 | 8.274E-06 | 7.248E-06 |
| 0.103     | 0.103     | 0.104     | 0.104     | 0.156     | 0.195     | 0.249     | 0.250     | 0.376     | 0.460     |
| 0.10277   | 0.10334   | 0.10398   | 0.10449   | 0.15581   | 0.19546   | 0.24911   | 0.24981   | 0.37577   | 0.45974   |
| 7.219E-06 | 6.969E-06 | 6.811E-06 | 6.772E-06 | 6.697E-06 | 6.348E-06 | 6.224E-06 | 6.182E-06 | 6.121E-06 | 5.809E-06 |
| 0.461     | 0.514     | 0.526     | 0.535     | 0.614     | 0.647     | 0.673     | 0.674     | 0.837     | 1.122     |
| 0.46055   | 0.51420   | 0.52586   | 0.53519   | 0.61449   | 0.64715   | 0.67281   | 0.67410   | 0.83738   | 1.12194   |
| 5.702E-06 | 5.429E-06 | 5.399E-06 | 4.993E-06 | 4.849E-06 | 4.845E-06 | 4.650E-06 | 4.617E-06 | 4.608E-06 | 4.496E-06 |
| 1.127     | 1.267     | 1.271     | 1.523     | 1.525     | 1.560     | 1.761     | 1.789     | 2.172     | 2.251     |
| 1.12661   | 1.26656   | 1.27123   | 1.52314   | 1.52547   | 1.56046   | 1.76106   | 1.78905   | 2.17158   | 2.25089   |
| 4.493E-06 | 4.487E-06 | 4.430E-06 | 4.315E-06 | 4.173E-06 | 4.048E-06 | 4.018E-06 | 3.861E-06 | 3.842E-06 | 3.720E-06 |
| 2.563     | 2.787     | 3.193     | 3.205     | 3.301     | 3.312     | 3.343     | 3.599     | 3.867     | 4.007     |
| 2.56344   | 2.78737   | 3.19323   | 3.20489   | 3.30052   | 3.31219   | 3.34251   | 3.59909   | 3.86733   | 4.00728   |
| 3.479E-06 | 3.459E-06 | 3.383E-06 | 3.298E-06 | 3.252E-06 | 3.238E-06 | 3.178E-06 | 3.095E-06 | 2.991E-06 | 2.962E-06 |
| 4.217     | 4.224     | 4.574     | 4.712     | 4.833     | 5.043     | 5.279     | 5.414     | 5.537     | 5.647     |
| 4.21721   | 4.22420   | 4.57408   | 4.71170   | 4.83299   | 5.04292   | 5.27850   | 5.41379   | 5.53741   | 5.64704   |
| 2.958E-06 | 2.926E-06 | 2.905E-06 | 2.857E-06 | 2.749E-06 | 2.715E-06 | 2.711E-06 | 2.697E-06 | 2.696E-06 | 2.661E-06 |
| 5.764     | 5.866     | 5.948     | 6.963     | 7.035     | 7.037     | 8.353     | 8.376     | 8.679     | 8.733     |
| 5.764     | 5.866     | 5.948     | 6.963     | 7.035     | 7.037     | 8.353     | 8.376     | 8.679     | 8.733     |

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 5.76367   | 5.86630   | 5.94794   | 6.96259   | 7.03490   | 7.03723   | 8.35277   | 8.37610   | 8.67933   | 8.73297   |
| 2.615E-06 | 2.534E-06 | 2.519E-06 | 2.503E-06 | 2.381E-06 | 2.351E-06 | 2.330E-06 | 2.317E-06 | 2.263E-06 | 2.261E-06 |
| 8.873     | 9.339     | 9.381     | 9.442     | 9.526     | 9.678     | 10.233    | 10.363    | 10.480    | 10.599    |
| 8.87292   | 9.33943   | 9.38142   | 9.44206   | 9.52603   | 9.67765   | 10.23279  | 10.36341  | 10.48003  | 10.59899  |
| 2.199E-06 | 2.195E-06 | 2.183E-06 | 2.170E-06 | 2.164E-06 | 2.156E-06 | 2.155E-06 | 2.151E-06 | 2.150E-06 | 2.149E-06 |
| 10.671    | 10.797    | 10.804    | 11.513    | 11.537    | 11.588    | 11.653    | 11.663    | 13.237    | 13.379    |
| 10.67130  | 10.79726  | 10.80426  | 11.51334  | 11.53667  | 11.58798  | 11.65329  | 11.66262  | 13.23708  | 13.37936  |
| 2.138E-06 | 2.134E-06 | 2.094E-06 | 2.067E-06 | 2.030E-06 | 2.014E-06 | 1.992E-06 | 1.970E-06 | 1.951E-06 | 1.947E-06 |
| 13.389    | 13.398    | 14.301    | 16.428    | 16.792    | 16.843    | 16.922    | 17.013    | 17.069    | 17.769    |
| 13.38869  | 13.39802  | 14.30071  | 16.42797  | 16.79185  | 16.84316  | 16.92247  | 17.01344  | 17.06942  | 17.76917  |
| 1.907E-06 | 1.902E-06 | 1.889E-06 | 1.823E-06 | 1.821E-06 | 1.816E-06 | 1.793E-06 | 1.777E-06 | 1.754E-06 | 1.743E-06 |
| 17.916    | 17.960    | 17.974    | 17.979    | 18.082    | 18.138    | 19.152    | 19.176    | 19.194    | 19.292    |
| 17.91612  | 17.96044  | 17.97443  | 17.97910  | 18.08173  | 18.13771  | 19.15236  | 19.17568  | 19.19435  | 19.29231  |
| 1.736E-06 | 1.714E-06 | 1.690E-06 | 1.675E-06 | 1.674E-06 | 1.628E-06 | 1.626E-06 | 1.623E-06 | 1.614E-06 | 1.600E-06 |
| 19.952    | 22.031    | 22.042    | 22.087    | 22.094    | 22.150    | 23.199    | 24.573    | 24.895    | 24.995    |
| 19.95242  | 22.03070  | 22.04236  | 22.08668  | 22.09368  | 22.14965  | 23.19929  | 24.57315  | 24.89503  | 24.99533  |
| 1.597E-06 | 1.587E-06 | 1.573E-06 | 1.565E-06 | 1.545E-06 | 1.539E-06 | 1.520E-06 | 1.512E-06 | 1.511E-06 | 1.444E-06 |
| 25.030    | 25.051    | 25.105    | 25.121    | 25.138    | 25.907    | 26.507    | 26.537    | 27.295    | 27.787    |
| 25.03032  | 25.05132  | 25.10496  | 25.12129  | 25.13762  | 25.90735  | 26.50681  | 26.53713  | 27.29520  | 27.78737  |
| 1.411E-06 | 1.398E-06 | 1.396E-06 | 1.380E-06 | 1.371E-06 | 1.365E-06 | 1.358E-06 | 1.357E-06 | 1.319E-06 | 1.319E-06 |
| 27.848    | 28.433    | 28.958    | 29.856    | 29.917    | 30.299    | 30.332    | 30.516    | 30.614    | 30.619    |
| 27.84801  | 28.43348  | 28.95830  | 29.85632  | 29.91696  | 30.29950  | 30.33215  | 30.51642  | 30.61439  | 30.61905  |
| 1.310E-06 | 1.302E-06 | 1.299E-06 | 1.294E-06 | 1.293E-06 | 1.291E-06 | 1.290E-06 | 1.289E-06 | 1.283E-06 | 1.283E-06 |
| 30.677    | 31.396    | 31.477    | 31.711    | 31.732    | 31.771    | 33.535    | 33.642    | 33.703    | 33.782    |
| 30.67737  | 31.39579  | 31.47742  | 31.71068  | 31.73167  | 31.77132  | 33.53471  | 33.64201  | 33.70265  | 33.78196  |
| 1.283E-06 | 1.280E-06 | 1.256E-06 | 1.240E-06 | 1.220E-06 | 1.208E-06 | 1.201E-06 | 1.178E-06 | 1.168E-06 | 1.168E-06 |
| 33.831    | 33.836    | 34.645    | 37.850    | 38.398    | 38.442    | 38.445    | 38.466    | 40.117    | 40.446    |
| 33.83094  | 33.83561  | 34.64500  | 37.84989  | 38.39803  | 38.44235  | 38.44468  | 38.46567  | 40.11710  | 40.44598  |
| 1.158E-06 | 1.141E-06 | 1.133E-06 | 1.111E-06 | 1.099E-06 | 1.089E-06 | 1.079E-06 | 1.076E-06 | 1.057E-06 | 1.053E-06 |
| 41.650    | 41.817    | 41.822    | 42.272    | 42.527    | 42.734    | 42.741    | 43.513    | 43.532    | 43.653    |
| 41.64957  | 41.81751  | 41.82217  | 42.27235  | 42.52660  | 42.73419  | 42.74119  | 43.51325  | 43.53191  | 43.65321  |
| 1.042E-06 | 1.031E-06 | 1.027E-06 | 1.024E-06 | 1.021E-06 | 1.014E-06 | 1.004E-06 | 1.003E-06 | 9.932E-07 | 9.741E-07 |
| 44.029    | 44.099    | 44.246    | 44.649    | 44.654    | 44.752    | 44.812    | 45.239    | 45.256    | 48.003    |
| 44.02874  | 44.09872  | 44.24567  | 44.64920  | 44.65386  | 44.75183  | 44.81247  | 45.23933  | 45.25565  | 48.00336  |
| 9.686E-07 | 9.599E-07 | 9.532E-07 | 9.520E-07 | 9.446E-07 | 9.439E-07 | 9.295E-07 | 9.268E-07 | 9.234E-07 | 9.196E-07 |
| 48.232    | 48.346    | 48.356    | 48.377    | 48.575    | 48.621    | 49.095    | 49.216    | 50.431    | 50.828    |
| 48.23195  | 48.34624  | 48.35557  | 48.37656  | 48.57483  | 48.62148  | 49.09498  | 49.21627  | 50.43151  | 50.82804  |
| 9.173E-07 | 9.166E-07 | 9.077E-07 | 9.067E-07 | 8.927E-07 | 8.915E-07 | 8.849E-07 | 8.832E-07 | 8.797E-07 | 8.775E-07 |
| 50.835    | 50.868    | 50.870    | 52.388    | 52.538    | 52.580    | 52.652    | 52.764    | 53.091    | 53.144    |
| 50.83504  | 50.86769  | 50.87003  | 52.38850  | 52.53778  | 52.57977  | 52.65207  | 52.76403  | 53.09059  | 53.14424  |

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 8.743E-07 | 8.735E-07 | 8.722E-07 | 8.717E-07 | 8.667E-07 | 8.666E-07 | 8.651E-07 | 8.488E-07 | 8.471E-07 | 8.380E-07 |
| 53.361    | 53.370    | 53.461    | 53.993    | 54.807    | 54.870    | 54.891    | 55.055    | 55.101    | 56.522    |
| 53.36116  | 53.37049  | 53.46146  | 53.99328  | 54.80733  | 54.87031  | 54.89130  | 55.05458  | 55.10123  | 56.52174  |
| 8.374E-07 | 8.316E-07 | 8.282E-07 | 8.192E-07 | 8.163E-07 | 7.977E-07 | 7.918E-07 | 7.894E-07 | 7.873E-07 | 7.816E-07 |
| 57.842    | 57.847    | 60.011    | 60.480    | 60.499    | 60.529    | 60.578    | 61.702    | 61.705    | 61.793    |
| 57.84195  | 57.84661  | 60.01119  | 60.48003  | 60.49869  | 60.52901  | 60.57800  | 61.70227  | 61.70461  | 61.79324  |
| 7.710E-07 | 7.696E-07 | 7.598E-07 | 7.361E-07 | 7.348E-07 | 7.323E-07 | 7.281E-07 | 7.269E-07 | 7.112E-07 | 7.071E-07 |
| 61.949    | 61.980    | 62.159    | 62.288    | 62.292    | 63.148    | 63.179    | 63.487    | 63.697    | 63.699    |
| 61.94952  | 61.97984  | 62.15945  | 62.28774  | 62.29240  | 63.14844  | 63.17876  | 63.48666  | 63.69658  | 63.69891  |
| 7.039E-07 | 7.009E-07 | 6.872E-07 | 6.853E-07 | 6.821E-07 | 6.785E-07 | 6.781E-07 | 6.764E-07 | 6.739E-07 | 6.723E-07 |
| 63.834    | 64.536    | 64.546    | 64.676    | 64.688    | 64.770    | 64.830    | 64.840    | 64.879    | 64.916    |
| 63.83420  | 64.53629  | 64.54562  | 64.67625  | 64.68791  | 64.76955  | 64.83020  | 64.83953  | 64.87918  | 64.91650  |
| 6.720E-07 | 6.680E-07 | 6.668E-07 | 6.667E-07 | 6.582E-07 | 6.545E-07 | 6.543E-07 | 6.486E-07 | 6.460E-07 | 6.433E-07 |
| 64.975    | 65.003    | 65.012    | 66.276    | 67.233    | 67.296    | 67.303    | 67.375    | 67.487    | 67.496    |
| 64.97481  | 65.00280  | 65.01213  | 66.27636  | 67.23270  | 67.29567  | 67.30267  | 67.37497  | 67.48693  | 67.49626  |
| 6.378E-07 | 6.316E-07 | 6.292E-07 | 6.262E-07 | 6.239E-07 | 6.147E-07 | 6.127E-07 | 6.085E-07 | 6.017E-07 | 5.990E-07 |
| 67.517    | 67.592    | 67.594    | 67.706    | 68.630    | 69.551    | 71.543    | 71.774    | 72.513    | 72.744    |
| 67.51726  | 67.59190  | 67.59423  | 67.70618  | 68.62987  | 69.55122  | 71.54319  | 71.77411  | 72.51352  | 72.74444  |
| 5.943E-07 | 5.856E-07 | 5.674E-07 | 5.658E-07 | 5.603E-07 | 5.596E-07 | 5.577E-07 | 5.535E-07 | 5.517E-07 | 5.482E-07 |
| 72.765    | 73.125    | 73.136    | 75.152    | 75.226    | 77.367    | 78.566    | 78.655    | 79.866    | 79.945    |
| 72.76543  | 73.12464  | 73.13631  | 75.15160  | 75.22624  | 77.36750  | 78.56642  | 78.65506  | 79.86564  | 79.94495  |
| 5.426E-07 | 5.282E-07 | 5.230E-07 | 5.073E-07 | 5.045E-07 | 4.999E-07 | 4.959E-07 | 4.948E-07 | 4.916E-07 | 4.827E-07 |
| 79.973    | 80.041    | 80.106    | 80.206    | 80.215    | 80.218    | 80.222    | 80.586    | 80.619    | 80.661    |
| 79.97294  | 80.04058  | 80.10589  | 80.20619  | 80.21552  | 80.21786  | 80.22252  | 80.58640  | 80.61905  | 80.66103  |
| 4.813E-07 | 4.810E-07 | 4.736E-07 | 4.723E-07 | 4.690E-07 | 4.613E-07 | 4.559E-07 | 4.514E-07 | 4.505E-07 | 4.435E-07 |
| 80.859    | 81.030    | 81.951    | 82.280    | 82.338    | 82.340    | 82.522    | 82.585    | 85.009    | 85.011    |
| 80.85929  | 81.02956  | 81.95091  | 82.27980  | 82.33811  | 82.34045  | 82.52238  | 82.58536  | 85.00885  | 85.01118  |
| 4.362E-07 | 4.313E-07 | 4.267E-07 | 4.153E-07 | 4.121E-07 | 4.066E-07 | 3.895E-07 | 3.814E-07 | 3.768E-07 | 3.762E-07 |
| 86.107    | 86.672    | 86.691    | 87.941    | 88.386    | 88.962    | 88.976    | 89.030    | 90.122    | 90.147    |
| 86.10747  | 86.67194  | 86.69060  | 87.94083  | 88.38634  | 88.96248  | 88.97647  | 89.03012  | 90.12174  | 90.14740  |
| 3.728E-07 | 3.723E-07 | 3.696E-07 | 3.651E-07 | 3.594E-07 | 3.473E-07 | 3.455E-07 | 3.201E-07 | 3.177E-07 | 3.169E-07 |
| 91.666    | 91.696    | 91.726    | 92.251    | 92.440    | 93.707    | 93.716    | 93.898    | 93.926    | 93.928    |
| 91.66587  | 91.69619  | 91.72652  | 92.25134  | 92.44027  | 93.70683  | 93.71616  | 93.89810  | 93.92609  | 93.92843  |
| 3.134E-07 | 3.080E-07 | 2.999E-07 | 2.977E-07 | 2.959E-07 | 2.947E-07 | 2.934E-07 | 2.932E-07 | 2.915E-07 | 2.905E-07 |
| 94.012    | 94.036    | 94.038    | 94.040    | 94.045    | 94.206    | 94.225    | 94.246    | 94.260    | 94.360    |
| 94.01240  | 94.03573  | 94.03806  | 94.04040  | 94.04506  | 94.20601  | 94.22467  | 94.24566  | 94.25965  | 94.35995  |
| 2.888E-07 | 2.874E-07 | 2.819E-07 | 2.746E-07 | 2.694E-07 | 2.655E-07 | 2.593E-07 | 2.476E-07 | 2.473E-07 | 2.445E-07 |
| 94.822    | 95.029    | 95.048    | 95.057    | 95.088    | 95.155    | 95.158    | 95.160    | 95.869    | 95.888    |
| 94.82178  | 95.02938  | 95.04803  | 95.05737  | 95.08768  | 95.15533  | 95.15766  | 95.16000  | 95.86909  | 95.88775  |



Calculation No. PM-1055 Revision 0

Attachment J

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.428E-07 | 2.392E-07 | 2.368E-07 | 2.305E-07 | 2.294E-07 | 2.282E-07 | 2.234E-07 | 2.214E-07 | 2.201E-07 | 2.106E-07 |
| 95.897    | 95.962    | 96.009    | 96.039    | 96.084    | 96.098    | 96.102    | 96.147    | 96.151    | 96.175    |
| 95.89708  | 95.96239  | 96.00905  | 96.03937  | 96.08369  | 96.09768  | 96.10234  | 96.14666  | 96.15133  | 96.17465  |
| 2.099E-07 | 2.093E-07 | 2.061E-07 | 1.970E-07 | 1.951E-07 | 1.903E-07 | 1.882E-07 | 1.872E-07 | 1.862E-07 | 1.768E-07 |
| 96.210    | 96.284    | 96.315    | 96.331    | 96.723    | 97.089    | 97.236    | 97.238    | 97.241    | 97.506    |
| 96.20964  | 96.28428  | 96.31461  | 96.33093  | 96.72279  | 97.08900  | 97.23595  | 97.23828  | 97.24062  | 97.50652  |
| 1.755E-07 | 1.749E-07 | 1.671E-07 | 1.664E-07 | 1.593E-07 | 1.515E-07 | 1.504E-07 | 1.397E-07 | 1.376E-07 | 1.288E-07 |
| 97.616    | 97.625    | 97.910    | 97.926    | 98.136    | 98.565    | 98.621    | 98.642    | 98.654    | 98.666    |
| 97.61615  | 97.62548  | 97.91005  | 97.92638  | 98.13631  | 98.56549  | 98.62147  | 98.64246  | 98.65413  | 98.66579  |
| 1.267E-07 | 1.257E-07 | 1.254E-07 | 1.195E-07 | 1.053E-07 | 9.768E-08 | 9.210E-08 | 7.544E-08 | 7.117E-08 | 5.861E-08 |
| 98.689    | 98.782    | 98.796    | 98.948    | 98.985    | 99.286    | 99.293    | 99.454    | 99.456    | 99.869    |
| 98.68912  | 98.78242  | 98.79641  | 98.94802  | 98.98534  | 99.28624  | 99.29324  | 99.45418  | 99.45651  | 99.86937  |
| 5.097E-08 | 3.960E-08 | 3.929E-08 | 1.715E-08 | 1.332E-08 |           |           |           |           |           |
| 99.960    | 99.993    | 99.995    | 99.998    | 100.000   |           |           |           |           |           |
| 99.96033  | 99.99300  | 99.99533  | 99.99767  | 100.00000 |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 9.416E-05      DISTANCE = 8000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|                  |                                    |              |       |
|------------------|------------------------------------|--------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2) = | 0.007 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 0.015 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 0.045 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 0.049 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 7) = | 0.103 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 8) = | 0.375 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 9) = | 0.614 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE (13) = | 3.864 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE (14) = | 5.275 |

\*\*\*ERROR IN SUBROUTINE ENVLOP\*\*\*

| K | HIGHPR   | PR      | GRNDVT(K) |
|---|----------|---------|-----------|
| 1 | -3.26367 | 0.05500 | 6.21119   |
| 2 | -3.27329 | 0.05316 | 3.52599   |
| 3 | -2.59407 | 0.47424 | 3.10868   |
| 4 | -2.66257 | 0.38773 | 3.53145   |

Calculation No. PM-1055 Revision 0

Attachment J

|    |          |         |          |
|----|----------|---------|----------|
| 5  | -2.93953 | 0.16436 | 4.76778  |
| 6  | -2.77623 | 0.27497 | 4.27759  |
| 7  | -2.79525 | 0.25930 | 5.37148  |
| 8  | -2.92583 | 0.17177 | 5.07527  |
| 9  | -2.57624 | 0.49942 | 10.00153 |
| 10 | -2.90756 | 0.18214 | 5.86355  |
| 11 | -2.91093 | 0.18018 | 4.96796  |
| 12 | -3.29591 | 0.04906 | 4.95848  |
| 13 | -3.53989 | 0.02002 | 7.82046  |
| 14 | -3.35865 | 0.03917 | 8.73919  |
| 15 | -3.64106 | 0.01358 | 10.97840 |
| 16 | -3.42944 | 0.03025 | 10.80101 |

| K  | HOURS (K) | TOTHR     |
|----|-----------|-----------|
| 1  | 4.81776   | 4.81776   |
| 2  | 4.65641   | 9.47417   |
| 3  | 41.54328  | 51.01745  |
| 4  | 33.96551  | 84.98296  |
| 5  | 14.39792  | 99.38088  |
| 6  | 24.08721  | 123.46810 |
| 7  | 22.71503  | 146.18310 |
| 8  | 15.04746  | 161.23060 |
| 9  | 43.74879  | 204.97940 |
| 10 | 15.95545  | 220.93480 |
| 11 | 15.78419  | 236.71900 |
| 12 | 4.29771   | 241.01670 |
| 13 | 1.75386   | 242.77060 |
| 14 | 3.43096   | 246.20160 |
| 15 | 1.18943   | 247.39100 |
| 16 | 2.64984   | 250.04080 |

| K | FIVEXQ    | SVANN     | SLTIME  | TIMINT   | I | TIME  | XQT       |
|---|-----------|-----------|---------|----------|---|-------|-----------|
| 1 | 2.288E-06 | 3.759E-09 | -0.7646 | -12.4576 | 1 | 8.0   | -14.04764 |
|   |           |           |         |          | 2 | 16.0  | -14.57764 |
|   |           |           |         |          | 3 | 72.0  | -15.72771 |
|   |           |           |         |          | 4 | 624.0 | -17.37892 |
| 2 | 2.185E-06 | 4.503E-09 | -0.7376 | -12.5228 | 1 | 8.0   | -14.05652 |
|   |           |           |         |          | 2 | 16.0  | -14.56775 |
|   |           |           |         |          | 3 | 72.0  | -15.67709 |
|   |           |           |         |          | 4 | 624.0 | -17.26983 |
| 3 | 5.339E-06 | 5.044E-09 | -0.8306 | -11.5648 | 1 | 8.0   | -13.29195 |
|   |           |           |         |          | 2 | 16.0  | -13.86767 |
|   |           |           |         |          | 3 | 72.0  | -15.11693 |
|   |           |           |         |          | 4 | 624.0 | -16.91056 |
| 4 | 4.878E-06 | 1.022E-08 | -0.7356 | -11.7209 | 1 | 8.0   | -13.25043 |
|   |           |           |         |          | 2 | 16.0  | -13.76029 |
|   |           |           |         |          | 3 | 72.0  | -14.86664 |
|   |           |           |         |          | 4 | 624.0 | -16.45509 |
| 5 | 3.489E-06 | 1.635E-08 | -0.6396 | -12.1226 |   |       |           |

Calculation No. PM-1055 Revision 0

Attachment J

|    |           |           |         |          |       |           |
|----|-----------|-----------|---------|----------|-------|-----------|
|    |           |           |         | 1        | 8.0   | -13.45257 |
|    |           |           |         | 2        | 16.0  | -13.89589 |
|    |           |           |         | 3        | 72.0  | -14.85785 |
|    |           |           |         | 4        | 624.0 | -16.23900 |
| 6  | 4.193E-06 | 1.043E-08 | -0.7152 | -11.8863 |       |           |
|    |           |           |         | 1        | 8.0   | -13.37345 |
|    |           |           |         | 2        | 16.0  | -13.86916 |
|    |           |           |         | 3        | 72.0  | -14.94481 |
|    |           |           |         | 4        | 624.0 | -16.48919 |
| 7  | 3.932E-06 | 4.911E-09 | -0.7973 | -11.8936 |       |           |
|    |           |           |         | 1        | 8.0   | -13.55156 |
|    |           |           |         | 2        | 16.0  | -14.10421 |
|    |           |           |         | 3        | 72.0  | -15.30342 |
|    |           |           |         | 4        | 624.0 | -17.02519 |
| 8  | 3.328E-06 | 8.886E-10 | -0.9813 | -11.9330 |       |           |
|    |           |           |         | 1        | 8.0   | -13.97352 |
|    |           |           |         | 2        | 16.0  | -14.65370 |
|    |           |           |         | 3        | 72.0  | -16.12963 |
|    |           |           |         | 4        | 624.0 | -18.24871 |
| 9  | 5.505E-06 | 2.533E-09 | -0.9164 | -11.4747 |       |           |
|    |           |           |         | 1        | 8.0   | -13.38022 |
|    |           |           |         | 2        | 16.0  | -14.01540 |
|    |           |           |         | 3        | 72.0  | -15.39369 |
|    |           |           |         | 4        | 624.0 | -17.37258 |
| 10 | 3.449E-06 | 1.412E-09 | -0.9304 | -11.9324 |       |           |
|    |           |           |         | 1        | 8.0   | -13.86706 |
|    |           |           |         | 2        | 16.0  | -14.51195 |
|    |           |           |         | 3        | 72.0  | -15.91131 |
|    |           |           |         | 4        | 624.0 | -17.92045 |
| 11 | 3.420E-06 | 1.161E-09 | -0.9527 | -11.9254 |       |           |
|    |           |           |         | 1        | 8.0   | -13.90652 |
|    |           |           |         | 2        | 16.0  | -14.56688 |
|    |           |           |         | 3        | 72.0  | -15.99983 |
|    |           |           |         | 4        | 624.0 | -18.05718 |
| 12 | 1.974E-06 | 1.177E-09 | -0.8855 | -12.5215 |       |           |
|    |           |           |         | 1        | 8.0   | -14.36291 |
|    |           |           |         | 2        | 16.0  | -14.97669 |
|    |           |           |         | 3        | 72.0  | -16.30857 |
|    |           |           |         | 4        | 624.0 | -18.22080 |
| 13 | 1.478E-06 | 2.853E-09 | -0.7454 | -12.9078 |       |           |
|    |           |           |         | 1        | 8.0   | -14.45788 |
|    |           |           |         | 2        | 16.0  | -14.97457 |
|    |           |           |         | 3        | 72.0  | -16.09575 |
|    |           |           |         | 4        | 624.0 | -17.70549 |
| 14 | 1.794E-06 | 1.874E-09 | -0.8186 | -12.6636 |       |           |
|    |           |           |         | 1        | 8.0   | -14.36595 |
|    |           |           |         | 2        | 16.0  | -14.93339 |
|    |           |           |         | 3        | 72.0  | -16.16468 |
|    |           |           |         | 4        | 624.0 | -17.93253 |
| 15 | 1.260E-06 | 8.258E-10 | -0.8742 | -12.9784 |       |           |
|    |           |           |         | 1        | 8.0   | -14.79627 |
|    |           |           |         | 2        | 16.0  | -15.40222 |
|    |           |           |         | 3        | 72.0  | -16.71710 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|    |           |           |         |          |   |       |           |
|----|-----------|-----------|---------|----------|---|-------|-----------|
| 16 | 2.015E-06 | 6.157E-09 | -0.6906 | -12.6364 | 4 | 624.0 | -18.60493 |
|    |           |           |         |          | 1 | 8.0   | -14.07242 |
|    |           |           |         |          | 2 | 16.0  | -14.55111 |
|    |           |           |         |          | 3 | 72.0  | -15.58983 |
|    |           |           |         |          | 4 | 624.0 | -17.08117 |
| 17 | 8.893E-06 | 1.635E-08 | -0.7512 | -11.1095 | 1 | 8.0   | -12.67154 |
|    |           |           |         |          | 2 | 16.0  | -13.19221 |
|    |           |           |         |          | 3 | 72.0  | -14.32202 |
|    |           |           |         |          | 4 | 624.0 | -15.94416 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
VERSUS  
AVERAGING TIME

| DOWNWIND DISTANCE<br>SECTOR (METERS) | RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)<br>VERSUS AVERAGING TIME |           |            |          |           |                          | HOURS PER YEAR MAX<br>0-2 HR X/Q IS<br>EXCEEDED |     | DOWNWIND<br>SECTOR |
|--------------------------------------|--|-----------|------------|----------|-----------|--------------------------|---|-----|--------------------|
|                                      | 0-2 HOURS  | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE           | IN SECTOR                                       |     |                    |
| S 823.                               | 2.29E-06   | 7.93E-07  | 4.67E-07   | 1.48E-07 | 2.83E-08  | 3.76E-09                 | 4.8   | S   |                    |
| SSW 823.                             | 2.18E-06   | 7.86E-07  | 4.71E-07   | 1.55E-07 | 3.16E-08  | 4.50E-09                 | 4.7   | SSW |                    |
| SW 823.                              | 5.34E-06   | 1.69E-06  | 9.49E-07   | 2.72E-07 | 4.53E-08  | 5.04E-09                 | 41.5  | SW  |                    |
| WSW 823.                             | 4.88E-06   | 1.76E-06  | 1.06E-06   | 3.50E-07 | 7.14E-08  | 1.02E-08                 | 34.0  | WSW |                    |
| W 823.                               | 3.49E-06   | 1.44E-06  | 9.23E-07   | 3.53E-07 | 8.86E-08  | 1.64E-08                 | 14.4  | W   |                    |
| WNW 823.                             | 4.19E-06   | 1.56E-06  | 9.48E-07   | 3.23E-07 | 6.90E-08  | 1.04E-08                 | 24.1  | WNW |                    |
| NW 823.                              | 3.93E-06   | 1.30E-06  | 7.49E-07   | 2.26E-07 | 4.04E-08  | 4.91E-09                 | 22.7  | NW  |                    |
| NNW 823.                             | 3.33E-06   | 8.54E-07  | 4.32E-07   | 9.89E-08 | 1.19E-08  | 8.89E-10                 | 15.0  | NNW |                    |
| N 823.                               | 5.50E-06   | 1.55E-06  | 8.19E-07   | 2.06E-07 | 2.85E-08  | 2.53E-09                 | 43.7  | N   |                    |
| NNE 823.                             | 3.45E-06   | 9.50E-07  | 4.98E-07   | 1.23E-07 | 1.65E-08  | 1.41E-09                 | 16.0  | NNE |                    |
| NE 823.                              | 3.42E-06   | 9.13E-07  | 4.72E-07   | 1.13E-07 | 1.44E-08  | 1.16E-09                 | 15.8  | NE  |                    |
| ENE 823.                             | 1.97E-06   | 5.78E-07  | 3.13E-07   | 8.27E-08 | 1.22E-08  | 1.18E-09                 | 4.3   | ENE |                    |
| E 823.                               | 1.48E-06   | 5.26E-07  | 3.14E-07   | 1.02E-07 | 2.04E-08  | 2.85E-09                 | 1.8   | E   |                    |
| ESE 823.                             | 1.79E-06   | 5.77E-07  | 3.27E-07   | 9.54E-08 | 1.63E-08  | 1.87E-09                 | 3.4   | ESE |                    |
| SE 823.                              | 1.26E-06   | 3.75E-07  | 2.05E-07   | 5.49E-08 | 8.32E-09  | 8.26E-10                 | 1.2   | SE  |                    |
| SSE 823.                             | 2.01E-06   | 7.73E-07  | 4.79E-07   | 1.70E-07 | 3.82E-08  | 6.16E-09                 | 2.6   | SSE |                    |
| MAX X/Q                              | 5.50E-06   |           |            |          |           | TOTAL HOURS AROUND SITE: | 250.0   |     |                    |
| SRP 2.3.4 823.                       | 8.89E-06   | 3.14E-06  | 1.87E-06   | 6.03E-07 | 1.19E-07  | 1.64E-08                 |   |     |                    |
| SITE LIMIT                           | 0.00E+00   | 0.00E+00  | 0.00E+00   | 0.00E+00 | 0.00E+00  | 1.64E-08                 |   |     |                    |

0.5 PERCENT X/Q TO AN INDIVIDUAL IS LIMITING.

X/Q VALUES (SEC/CUBIC METER) FOR FUMIGATION AT THE BOUNDARY:

DOWNWIND DISTANCE FUMIGATION

| SECTOR (METERS) | X/Q      |
|-----------------|----------|
| S 823.          | 5.30E-05 |
| SSW 823.        | 4.79E-05 |
| SW 823.         | 4.58E-05 |
| WSW 823.        | 5.01E-05 |
| W 823.          | 5.30E-05 |
| WNW 823.        | 5.30E-05 |
| NW 823.         | 5.01E-05 |
| NNW 823.        | 4.22E-05 |
| N 823.          | 4.22E-05 |
| NNE 823.        | 4.22E-05 |
| NE 823.         | 4.22E-05 |
| ENE 823.        | 4.22E-05 |
| E 823.          | 4.22E-05 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|     |      |          |
|-----|------|----------|
| ESE | 823. | 4.22E-05 |
| SE  | 823. | 4.22E-05 |
| SSE | 823. | 5.30E-05 |

**\*\*NOTE\*\***: VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
CHECK THE REASONABLENESS OF THE ENVELOPES  
COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

| CLASS           | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| AT 152.4 METERS |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 3.7                    | 0.23                 | 7300.              | 55.               | 97.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 8.451E-08            |                                   |           |      |
| A               | 9.2                    | 0.08                 | 7300.              | 55.               | 97.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 3.426E-08            |                                   |           |      |
| A               | 12.0                   | 0.08                 | 7300.              | 55.               | 97.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 2.641E-08            |                                   |           |      |
| B               | 3.7                    | 0.49                 | 7300.              | 55.               | 97.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 1.035E-07            |                                   |           |      |
| B               | 6.2                    | 0.15                 | 7300.              | 55.               | 97.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 6.212E-08            |                                   |           |      |
| B               | 9.2                    | 0.38                 | 7300.              | 55.               | 97.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 4.197E-08            |                                   |           |      |
| B               | 12.0                   | 0.04                 | 7300.              | 55.               | 97.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 3.235E-08            |                                   |           |      |
| C               | 3.7                    | 1.16                 | 7300.              | 55.               | 97.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 3.410E-07            |                                   |           |      |
| C               | 6.2                    | 1.58                 | 7300.              | 55.               | 97.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 2.046E-07            |                                   |           |      |
| C               | 9.2                    | 0.68                 | 7300.              | 55.               | 97.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 1.382E-07            |                                   |           |      |
| C               | 12.0                   | 0.15                 | 7300.              | 55.               | 97.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 1.066E-07            |                                   |           |      |
| C               | 27.5                   | 0.04                 | 7300.              | 55.               | 97.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 4.650E-08            |                                   |           |      |
| D               | 0.2                    | 0.01                 | 7300.              | 55.               | 97.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 1.721E-05            |                                   |           |      |
| D               | 1.7                    | 2.22                 | 7300.              | 55.               | 97.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 2.459E-06            |                                   |           |      |
| D               | 3.7                    | 12.39                | 7300.              | 55.               | 97.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 1.147E-06            |                                   |           |      |
| D               | 6.2                    | 19.57                | 7300.              | 55.               | 97.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 6.885E-07            |                                   |           |      |
| D               | 9.2                    | 14.87                | 7300.              | 55.               | 97.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 4.652E-07            |                                   |           |      |
| D               | 12.0                   | 2.74                 | 7300.              | 55.               | 97.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 3.586E-07            |                                   |           |      |
| D               | 27.5                   | 0.56                 | 7300.              | 55.               | 97.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 1.565E-07            |                                   |           |      |
| E               | 0.3                    | 0.02                 | 7300.              | 55.               | 97.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 1.847E-05            |                                   |           |      |
| E               | 2.0                    | 2.25                 | 7300.              | 55.               | 97.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 2.638E-06            |                                   |           |      |
| E               | 4.2                    | 8.83                 | 7300.              | 55.               | 97.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 1.231E-06            |                                   |           |      |
| E               | 7.0                    | 13.78                | 7300.              | 55.               | 97.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 7.387E-07            |                                   |           |      |
| E               | 10.3                   | 5.86                 | 7300.              | 55.               | 97.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 4.991E-07            |                                   |           |      |
| E               | 13.4                   | 0.86                 | 7300.              | 55.               | 97.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 3.847E-07            |                                   |           |      |
| E               | 30.7                   | 0.26                 | 7300.              | 55.               | 97.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 1.679E-07            |                                   |           |      |
| F               | 0.3                    | 0.01                 | 10000.             | 55.               | 97.          | 295.8         | 46.1            | 0.0          | 0.000E+00         | 0.000E+00         | 8.984E-06            |                                   |           |      |
| F               | 2.0                    | 0.98                 | 10000.             | 55.               | 97.          | 295.8         | 46.1            | 0.0          | 0.000E+00         | 0.000E+00         | 1.283E-06            |                                   |           |      |
| F               | 4.2                    | 3.72                 | 10000.             | 55.               | 97.          | 295.8         | 46.1            | 0.0          | 0.000E+00         | 0.000E+00         | 5.990E-07            |                                   |           |      |
| F               | 7.0                    | 3.04                 | 10000.             | 55.               | 97.          | 295.8         | 46.1            | 0.0          | 0.000E+00         | 0.000E+00         | 3.594E-07            |                                   |           |      |
| F               | 10.3                   | 0.15                 | 10000.             | 55.               | 97.          | 295.8         | 46.1            | 0.0          | 0.000E+00         | 0.000E+00         | 2.428E-07            |                                   |           |      |
| F               | 13.4                   | 0.04                 | 10000.             | 55.               | 97.          | 295.8         | 46.1            | 0.0          | 0.000E+00         | 0.000E+00         | 1.872E-07            |                                   |           |      |
| G               | 2.0                    | 0.41                 | 90000.             | 55.               | 97.          | 1000.0        | 46.0            | 0.0          | 0.000E+00         | 0.000E+00         | 3.762E-07            |                                   |           |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|   |      |      |        |     |     |        |      |     |           |           |           |
|---|------|------|--------|-----|-----|--------|------|-----|-----------|-----------|-----------|
| G | 4.2  | 1.77 | 90000. | 55. | 97. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.755E-07 |
| G | 7.0  | 0.60 | 90000. | 55. | 97. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.053E-07 |
| G | 10.3 | 0.04 | 90000. | 55. | 97. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 7.117E-08 |



**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

S SECTOR BOUNDARY DISTANCE = 7300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.847E-05 | 1.721E-05 | 8.984E-06 | 2.638E-06 | 2.459E-06 | 1.283E-06 | 1.231E-06 | 1.147E-06 | 7.387E-07 | 6.885E-07 |
| 0.016     | 0.021     | 0.032     | 2.286     | 4.501     | 5.478     | 14.303    | 26.695    | 40.478    | 60.043    |
| 0.00100   | 0.00131   | 0.00201   | 0.14196   | 0.27958   | 0.34022   | 0.88837   | 1.65810   | 2.51414   | 3.72938   |
| 5.990E-07 | 4.991E-07 | 4.652E-07 | 3.847E-07 | 3.762E-07 | 3.594E-07 | 3.586E-07 | 3.410E-07 | 2.428E-07 | 2.046E-07 |
| 63.761    | 69.619    | 84.490    | 85.354    | 85.767    | 88.809    | 91.550    | 92.715    | 92.865    | 94.442    |
| 3.96030   | 4.32418   | 5.24786   | 5.30150   | 5.32716   | 5.51610   | 5.68637   | 5.75868   | 5.76801   | 5.86597   |
| 1.872E-07 | 1.755E-07 | 1.679E-07 | 1.565E-07 | 1.382E-07 | 1.066E-07 | 1.053E-07 | 1.035E-07 | 8.451E-08 | 7.117E-08 |
| 94.480    | 96.245    | 96.507    | 97.071    | 97.747    | 97.897    | 98.498    | 98.986    | 99.211    | 99.249    |
| 5.86831   | 5.97793   | 5.99426   | 6.02925   | 6.07124   | 6.08057   | 6.11789   | 6.14821   | 6.16220   | 6.16454   |
| 6.212E-08 | 4.650E-08 | 4.197E-08 | 3.426E-08 | 3.235E-08 | 2.641E-08 |           |           |           |           |
| 99.399    | 99.437    | 99.812    | 99.887    | 99.925    | 100.000   |           |           |           |           |
| 6.17387   | 6.17620   | 6.19952   | 6.20419   | 6.20652   | 6.21119   |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 2.309E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.001  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 1.656

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 3.726  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 5.244  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 5.683  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 5.755  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8) = 6.025  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 9) = 6.067

| K | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|---|---|-------------|--------------|-------------|
| 1 | 1 | -10.89955   | -15.82119    | -1.15376    |
| 1 | 2 | -10.96991   | -16.45962    | -1.30560    |
| 1 | 3 | -13.67796   | -16.81287    | -1.47140    |
| 1 | 4 | -14.18878   | -18.51104    | -2.42362    |
| 1 | 5 | -14.58082   | -25.22925    | -6.56649    |
| 1 | 6 | -14.84111   | -27.47623    | -7.98684    |
| 1 | 7 | -14.89145   | -68.14889    | -33.79942   |
| 1 | 8 | -15.67039   | -70.59866    | -35.37723   |
| 1 | 9 | -15.79431   | NUMXQ(K) = 9 |             |
|   |   | 4.816E-06   | 0.062        | 1.000       |
|   |   | 3.137E-06   | 0.186        | 3.000       |
|   |   | 2.532E-06   | 0.311        | 5.000       |
|   |   | 1.860E-06   | 0.621        | 10.000      |
|   |   | 1.535E-06   | 0.932        | 15.000      |
|   |   | 1.331E-06   | 1.242        | 20.000      |
|   |   | 1.187E-06   | 1.553        | 25.000      |
|   |   | 1.070E-06   | 1.863        | 30.000      |
|   |   | 9.745E-07   | 2.174        | 35.000      |
|   |   | 8.968E-07   | 2.484        | 40.000      |
|   |   | 8.322E-07   | 2.795        | 45.000      |
|   |   | 7.774E-07   | 3.106        | 50.000      |
|   |   | 7.301E-07   | 3.416        | 55.000      |
|   |   | 6.888E-07   | 3.727        | 60.000      |
|   |   | 6.300E-07   | 4.037        | 65.000      |
|   |   | 5.792E-07   | 4.348        | 70.000      |
|   |   | 5.350E-07   | 4.658        | 75.000      |
|   |   | 4.962E-07   | 4.969        | 80.000      |
|   |   | 4.563E-07   | 5.280        | 85.000      |
|   |   | 3.791E-07   | 5.590        | 90.000      |
|   |   | 2.053E-06   | 0.5          | 8.05        |

ANNUAL AVERAGE = 2.22E-08

K= 1 FIVEXQ(K) = 2.053E-06 FIVEPR(K) = 8.050

FUMIGATION X/Q AT THE BOUNDARY: 9.20E-06

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.953E-01 | 9.949E-01 | 9.666E-01 | 6.810E-01 | 3.527E-01 | 1.076E-01 | 1.064E-01 |
| 0.376     | 1.427     | 5.032     | 57.387    | 89.248    | 97.183    | 100.000   |

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN; 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER   | BLDG WAKE | USED |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|-----------|------|
| AT 152.4 METERS |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |           |      |
| A               | 3.7                    | 0.60                 | 7300.              | 61.               | 91.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 8.455E-08 |      |
| A               | 6.2                    | 0.60                 | 7300.              | 61.               | 91.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 5.073E-08 |      |
| A               | 9.2                    | 0.26                 | 7300.              | 61.               | 91.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.428E-08 |      |
| A               | 12.0                   | 0.13                 | 7300.              | 61.               | 91.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.642E-08 |      |
| B               | 1.7                    | 0.13                 | 7300.              | 61.               | 91.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.220E-07 |      |
| B               | 3.7                    | 1.52                 | 7300.              | 61.               | 91.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.036E-07 |      |
| B               | 6.2                    | 0.99                 | 7300.              | 61.               | 91.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 6.216E-08 |      |
| B               | 9.2                    | 0.20                 | 7300.              | 61.               | 91.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.200E-08 |      |
| B               | 12.0                   | 0.13                 | 7300.              | 61.               | 91.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.237E-08 |      |
| C               | 1.7                    | 0.33                 | 7300.              | 61.               | 91.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.336E-07 |      |
| C               | 3.7                    | 1.46                 | 7300.              | 61.               | 91.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.424E-07 |      |
| C               | 6.2                    | 1.26                 | 7300.              | 61.               | 91.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.054E-07 |      |
| C               | 9.2                    | 0.53                 | 7300.              | 61.               | 91.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.388E-07 |      |
| C               | 12.0                   | 0.07                 | 7300.              | 61.               | 91.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.070E-07 |      |
| C               | 27.5                   | 0.26                 | 7300.              | 61.               | 91.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.669E-08 |      |
| D               | 0.2                    | 0.01                 | 7300.              | 61.               | 91.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.802E-05 |      |
| D               | 1.7                    | 3.84                 | 7300.              | 61.               | 91.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.574E-06 |      |
| D               | 3.7                    | 13.96                | 7300.              | 61.               | 91.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.201E-06 |      |
| D               | 6.2                    | 23.09                | 7300.              | 61.               | 91.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.208E-07 |      |
| D               | 9.2                    | 10.19                | 7300.              | 61.               | 91.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.870E-07 |      |
| D               | 12.0                   | 1.79                 | 7300.              | 61.               | 91.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.754E-07 |      |
| D               | 27.5                   | 0.46                 | 7300.              | 61.               | 91.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.638E-07 |      |
| E               | 0.3                    | 0.02                 | 7300.              | 61.               | 91.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.091E-05 |      |
| E               | 2.0                    | 2.91                 | 7300.              | 61.               | 91.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.988E-06 |      |
| E               | 4.2                    | 10.85                | 7300.              | 61.               | 91.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.394E-06 |      |
| E               | 7.0                    | 13.30                | 7300.              | 61.               | 91.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 8.365E-07 |      |
| E               | 10.3                   | 2.51                 | 7300.              | 61.               | 91.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 5.652E-07 |      |
| E               | 13.4                   | 0.53                 | 7300.              | 61.               | 91.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.357E-07 |      |
| E               | 30.7                   | 0.07                 | 7300.              | 61.               | 91.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.901E-07 |      |
| F               | 0.3                    | 0.01                 | 10000.             | 61.               | 91.          | 295.8         | 46.1            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.172E-05 |      |
| F               | 2.0                    | 1.26                 | 10000.             | 61.               | 91.          | 295.8         | 46.1            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.675E-06 |      |
| F               | 4.2                    | 2.51                 | 10000.             | 61.               | 91.          | 295.8         | 46.1            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.816E-07 |      |
| F               | 7.0                    | 1.65                 | 10000.             | 61.               | 91.          | 295.8         | 46.1            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.690E-07 |      |
| F               | 10.3                   | 0.07                 | 10000.             | 61.               | 91.          | 295.8         | 46.1            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.169E-07 |      |

|   |     |      |        |     |     |        |      |     |           |           |           |
|---|-----|------|--------|-----|-----|--------|------|-----|-----------|-----------|-----------|
| G | 2.0 | 0.93 | 90000. | 61. | 91. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 4.916E-07 |
| G | 4.2 | 1.26 | 90000. | 61. | 91. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 2.294E-07 |
| G | 7.0 | 0.33 | 90000. | 61. | 91. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.376E-07 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.091E-05 | 1.802E-05 | 1.172E-05 | 2.988E-06 | 2.574E-06 | 1.675E-06 | 1.394E-06 | 1.201E-06 | 8.365E-07 | 7.816E-07 |
| 0.021     | 0.029     | 0.044     | 2.955     | 6.791     | 8.048     | 18.897    | 32.855    | 46.152    | 48.666    |
| 0.00073   | 0.00104   | 0.00155   | 0.10418   | 0.23947   | 0.28378   | 0.66632   | 1.15848   | 1.62732   | 1.71595   |
| 7.336E-07 | 7.208E-07 | 5.652E-07 | 4.916E-07 | 4.870E-07 | 4.690E-07 | 4.357E-07 | 3.754E-07 | 3.424E-07 | 3.169E-07 |
| 48.997    | 72.084    | 74.598    | 75.524    | 85.711    | 87.365    | 87.894    | 89.680    | 91.136    | 91.202    |
| 1.72762   | 2.54167   | 2.63030   | 2.66296   | 3.02217   | 3.08048   | 3.09914   | 3.16212   | 3.21343   | 3.21577   |
| 2.294E-07 | 2.220E-07 | 2.054E-07 | 1.901E-07 | 1.638E-07 | 1.388E-07 | 1.376E-07 | 1.070E-07 | 1.036E-07 | 8.455E-08 |
| 92.459    | 92.591    | 93.848    | 93.914    | 94.377    | 94.906    | 95.237    | 95.303    | 96.825    | 97.420    |
| 3.26008   | 3.26475   | 3.30907   | 3.31140   | 3.32773   | 3.34639   | 3.35805   | 3.36038   | 3.41403   | 3.43502   |
| 6.216E-08 | 5.073E-08 | 4.669E-08 | 4.200E-08 | 3.428E-08 | 3.237E-08 | 2.642E-08 |           |           |           |
| 98.412    | 99.008    | 99.272    | 99.471    | 99.735    | 99.868    | 100.000   |           |           |           |
| 3.47001   | 3.49100   | 3.50033   | 3.50733   | 3.51666   | 3.52133   | 3.52599   |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 2.167E-05 DISTANCE = 5000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.239  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 1.157

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4 ) = 2.539  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5 ) = 3.078  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6 ) = 3.210  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7 ) = 3.306

| K | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|---|---|-------------|--------------|-------------|
| 2 | 1 | -10.77512   | -16.77557    | -1.38437    |
| 2 | 2 | -12.86995   | -16.77819    | -1.38530    |
| 2 | 3 | -13.63209   | -17.28309    | -1.60761    |
| 2 | 4 | -14.14291   | -24.16113    | -5.12883    |
| 2 | 5 | -14.57272   | -45.88583    | -16.74935   |
| 2 | 6 | -14.88739   | -86.94085    | -38.93256   |
| 2 | 7 | -15.39822   | NUMXQ(K) = 7 |             |
|   |   | 5.640E-06   | 0.035        | 1.000       |
|   |   | 3.652E-06   | 0.106        | 3.000       |
|   |   | 2.944E-06   | 0.176        | 5.000       |
|   |   | 2.161E-06   | 0.353        | 10.000      |
|   |   | 1.785E-06   | 0.529        | 15.000      |
|   |   | 1.550E-06   | 0.705        | 20.000      |
|   |   | 1.385E-06   | 0.881        | 25.000      |
|   |   | 1.260E-06   | 1.058        | 30.000      |
|   |   | 1.155E-06   | 1.234        | 35.000      |
|   |   | 1.063E-06   | 1.410        | 40.000      |
|   |   | 9.860E-07   | 1.587        | 45.000      |
|   |   | 9.210E-07   | 1.763        | 50.000      |
|   |   | 8.652E-07   | 1.939        | 55.000      |
|   |   | 8.165E-07   | 2.116        | 60.000      |
|   |   | 7.736E-07   | 2.292        | 65.000      |
|   |   | 7.355E-07   | 2.468        | 70.000      |
|   |   | 6.604E-07   | 2.644        | 75.000      |
|   |   | 5.720E-07   | 2.821        | 80.000      |
|   |   | 4.991E-07   | 2.997        | 85.000      |
|   |   | 3.760E-07   | 3.173        | 90.000      |
|   |   | 1.833E-06   | 0.5          | 14.18       |

ANNUAL AVERAGE = 1.57E-08

K= 2 FIVEXQ(K)= 1.833E-06 FIVEPR(K)=14.180

FUMIGATION X/Q AT THE BOUNDARY: 9.80E-06

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.958E-01 | 9.955E-01 | 9.705E-01 | 7.130E-01 | 3.995E-01 | 1.404E-01 | 1.390E-01 |
| 1.588     | 4.565     | 8.467     | 61.795    | 91.981    | 97.486    | 100.000   |

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

| CLASS           | METER/SEC | FREQUENCY PERCENT | DISTANCE METERS | TERRAIN METERS | HT METERS | EFF METERS | PLUME HT METERS | SIGMA-Y METERS | SIGMA-Z METERS | MEANDER-SY METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER | BLDG WAKE | USED |
|-----------------|-----------|-------------------|-----------------|----------------|-----------|------------|-----------------|----------------|----------------|-------------------|-----------------------------------|---------|-----------|------|
| AT 152.4 METERS |           |                   |                 |                |           |            |                 |                |                |                   | CA=1292.SQ.METERS                 |         |           |      |
| A               | 3.7       | 1.73              | 7300.           | 128.           | 24.       | 1000.0     | 1000.0          | 0.0            | 0.000E+00      | 0.000E+00         | 8.488E-08                         |         |           |      |
| A               | 6.2       | 1.50              | 7300.           | 128.           | 24.       | 1000.0     | 1000.0          | 0.0            | 0.000E+00      | 0.000E+00         | 5.093E-08                         |         |           |      |
| A               | 9.2       | 0.68              | 7300.           | 128.           | 24.       | 1000.0     | 1000.0          | 0.0            | 0.000E+00      | 0.000E+00         | 3.441E-08                         |         |           |      |
| B               | 1.7       | 0.15              | 7300.           | 128.           | 24.       | 848.1      | 962.0           | 0.0            | 0.000E+00      | 0.000E+00         | 2.229E-07                         |         |           |      |
| B               | 3.7       | 1.35              | 7300.           | 128.           | 24.       | 848.1      | 962.0           | 0.0            | 0.000E+00      | 0.000E+00         | 1.040E-07                         |         |           |      |
| B               | 6.2       | 0.98              | 7300.           | 128.           | 24.       | 848.1      | 962.0           | 0.0            | 0.000E+00      | 0.000E+00         | 6.242E-08                         |         |           |      |
| B               | 9.2       | 0.15              | 7300.           | 128.           | 24.       | 848.1      | 962.0           | 0.0            | 0.000E+00      | 0.000E+00         | 4.217E-08                         |         |           |      |
| B               | 12.0      | 0.08              | 7300.           | 128.           | 24.       | 848.1      | 962.0           | 0.0            | 0.000E+00      | 0.000E+00         | 3.251E-08                         |         |           |      |
| C               | 1.7       | 0.90              | 7300.           | 128.           | 24.       | 644.0      | 373.7           | 0.0            | 0.000E+00      | 0.000E+00         | 7.543E-07                         |         |           |      |
| C               | 3.7       | 2.10              | 7300.           | 128.           | 24.       | 644.0      | 373.7           | 0.0            | 0.000E+00      | 0.000E+00         | 3.520E-07                         |         |           |      |
| C               | 6.2       | 0.68              | 7300.           | 128.           | 24.       | 644.0      | 373.7           | 0.0            | 0.000E+00      | 0.000E+00         | 2.112E-07                         |         |           |      |
| C               | 9.2       | 0.30              | 7300.           | 128.           | 24.       | 644.0      | 373.7           | 0.0            | 0.000E+00      | 0.000E+00         | 1.427E-07                         |         |           |      |
| D               | 0.2       | 0.02              | 7300.           | 128.           | 24.       | 453.5      | 111.1           | 0.0            | 0.000E+00      | 0.000E+00         | 2.467E-05                         |         |           |      |
| D               | 1.7       | 8.10              | 7300.           | 128.           | 24.       | 453.5      | 111.1           | 0.0            | 0.000E+00      | 0.000E+00         | 3.524E-06                         |         |           |      |
| D               | 3.7       | 17.86             | 7300.           | 128.           | 24.       | 453.5      | 111.1           | 0.0            | 0.000E+00      | 0.000E+00         | 1.645E-06                         |         |           |      |
| D               | 6.2       | 18.83             | 7300.           | 128.           | 24.       | 453.5      | 111.1           | 0.0            | 0.000E+00      | 0.000E+00         | 9.869E-07                         |         |           |      |
| D               | 9.2       | 6.38              | 7300.           | 128.           | 24.       | 453.5      | 111.1           | 0.0            | 0.000E+00      | 0.000E+00         | 6.668E-07                         |         |           |      |
| D               | 12.0      | 0.98              | 7300.           | 128.           | 24.       | 453.5      | 111.1           | 0.0            | 0.000E+00      | 0.000E+00         | 5.140E-07                         |         |           |      |
| D               | 27.5      | 0.90              | 7300.           | 128.           | 24.       | 453.5      | 111.1           | 0.0            | 0.000E+00      | 0.000E+00         | 2.243E-07                         |         |           |      |
| E               | 0.3       | 0.02              | 7300.           | 128.           | 24.       | 322.5      | 67.5            | 0.0            | 0.000E+00      | 0.000E+00         | 4.904E-05                         |         |           |      |
| E               | 2.0       | 2.70              | 7300.           | 128.           | 24.       | 322.5      | 67.5            | 0.0            | 0.000E+00      | 0.000E+00         | 7.006E-06                         |         |           |      |
| E               | 4.2       | 11.25             | 7300.           | 128.           | 24.       | 322.5      | 67.5            | 0.0            | 0.000E+00      | 0.000E+00         | 3.269E-06                         |         |           |      |
| E               | 7.0       | 11.71             | 7300.           | 128.           | 24.       | 322.5      | 67.5            | 0.0            | 0.000E+00      | 0.000E+00         | 1.962E-06                         |         |           |      |
| E               | 10.3      | 1.95              | 7300.           | 128.           | 24.       | 322.5      | 67.5            | 0.0            | 0.000E+00      | 0.000E+00         | 1.325E-06                         |         |           |      |
| E               | 13.4      | 0.60              | 7300.           | 128.           | 24.       | 322.5      | 67.5            | 0.0            | 0.000E+00      | 0.000E+00         | 1.022E-06                         |         |           |      |
| E               | 30.7      | 0.08              | 7300.           | 128.           | 24.       | 322.5      | 67.5            | 0.0            | 0.000E+00      | 0.000E+00         | 4.458E-07                         |         |           |      |
| F               | 0.3       | 0.02              | 7300.           | 128.           | 24.       | 222.6      | 40.9            | 0.0            | 0.000E+00      | 0.000E+00         | 1.047E-04                         |         |           |      |
| F               | 2.0       | 1.65              | 7300.           | 128.           | 24.       | 222.6      | 40.9            | 0.0            | 0.000E+00      | 0.000E+00         | 1.496E-05                         |         |           |      |
| F               | 4.2       | 2.55              | 7300.           | 128.           | 24.       | 222.6      | 40.9            | 0.0            | 0.000E+00      | 0.000E+00         | 6.980E-06                         |         |           |      |
| F               | 7.0       | 0.98              | 7300.           | 128.           | 24.       | 222.6      | 40.9            | 0.0            | 0.000E+00      | 0.000E+00         | 4.188E-06                         |         |           |      |
| F               | 10.3      | 0.08              | 7300.           | 128.           | 24.       | 222.6      | 40.9            | 0.0            | 0.000E+00      | 0.000E+00         | 2.830E-06                         |         |           |      |
| G               | 2.0       | 0.83              | 7300.           | 128.           | 24.       | 153.6      | 24.8            | 0.0            | 0.000E+00      | 0.000E+00         | 2.632E-05                         |         |           |      |
| G               | 4.2       | 1.65              | 7300.           | 128.           | 24.       | 153.6      | 24.8            | 0.0            | 0.000E+00      | 0.000E+00         | 1.228E-05                         |         |           |      |

|   |     |      |       |      |     |       |      |     |           |           |           |
|---|-----|------|-------|------|-----|-------|------|-----|-----------|-----------|-----------|
| G | 7.0 | 0.30 | 7300. | 128. | 24. | 153.6 | 24.8 | 0.0 | 0.000E+00 | 0.000E+00 | 7.370E-06 |
|---|-----|------|-------|------|-----|-------|------|-----|-----------|-----------|-----------|



**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.047E-04 | 4.904E-05 | 2.632E-05 | 2.467E-05 | 1.496E-05 | 1.228E-05 | 7.370E-06 | 7.006E-06 | 6.980E-06 | 4.188E-06 |
| 0.019     | 0.038     | 0.864     | 0.882     | 2.533     | 4.183     | 4.484     | 7.185     | 9.736     | 10.711    |
| 0.00059   | 0.00119   | 0.02685   | 0.02742   | 0.07873   | 0.13005   | 0.13938   | 0.22335   | 0.30265   | 0.33298   |
| 3.524E-06 | 3.269E-06 | 2.830E-06 | 1.962E-06 | 1.645E-06 | 1.325E-06 | 1.022E-06 | 9.869E-07 | 7.543E-07 | 6.668E-07 |
| 18.815    | 30.070    | 30.145    | 41.850    | 59.708    | 61.658    | 62.259    | 81.092    | 81.992    | 88.370    |
| 0.58489   | 0.93477   | 0.93710   | 1.30098   | 1.85612   | 1.91676   | 1.93542   | 2.52089   | 2.54888   | 2.74714   |
| 5.140E-07 | 4.458E-07 | 3.520E-07 | 2.243E-07 | 2.229E-07 | 2.112E-07 | 1.427E-07 | 1.040E-07 | 8.488E-08 | 6.242E-08 |
| 89.345    | 89.420    | 91.521    | 92.422    | 92.572    | 93.247    | 93.547    | 94.898    | 96.624    | 97.599    |
| 2.77746   | 2.77980   | 2.84511   | 2.87310   | 2.87776   | 2.89875   | 2.90808   | 2.95007   | 3.00372   | 3.03404   |
| 5.093E-08 | 4.217E-08 | 3.441E-08 | 3.251E-08 |           |           |           |           |           |           |
| 99.100    | 99.250    | 99.925    | 100.000   |           |           |           |           |           |           |
| 3.08069   | 3.08536   | 3.10635   | 3.10868   |           |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.047E-04 DISTANCE = 7300.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.027  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 0.130

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 0.934  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 1.854  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 2.518  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 2.744

| K | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|---|---|-------------|--------------|-------------|
| 3 | 1 | -9.16439    | -15.74975    | -1.50343    |
| 3 | 2 | -10.54519   | -16.40644    | -1.69313    |
| 3 | 3 | -11.30733   | -17.35012    | -2.00647    |
| 3 | 4 | -12.63094   | -18.67963    | -2.57174    |
| 3 | 5 | -13.31792   | -21.63665    | -3.99007    |
| 3 | 6 | -13.82874   | -34.51833    | -10.57300   |
| 3 | 7 | -14.22079   | NUMXQ(K) = 7 |             |
|   |   | 2.461E-05   | 0.031        | 1.000       |
|   |   | 1.454E-05   | 0.093        | 3.000       |
|   |   | 1.101E-05   | 0.155        | 5.000       |
|   |   | 7.071E-06   | 0.311        | 10.000      |
|   |   | 5.380E-06   | 0.466        | 15.000      |
|   |   | 4.400E-06   | 0.622        | 20.000      |
|   |   | 3.747E-06   | 0.777        | 25.000      |
|   |   | 3.275E-06   | 0.933        | 30.000      |
|   |   | 2.823E-06   | 1.088        | 35.000      |
|   |   | 2.476E-06   | 1.243        | 40.000      |
|   |   | 2.200E-06   | 1.399        | 45.000      |
|   |   | 1.977E-06   | 1.554        | 50.000      |
|   |   | 1.792E-06   | 1.710        | 55.000      |
|   |   | 1.632E-06   | 1.865        | 60.000      |
|   |   | 1.431E-06   | 2.021        | 65.000      |
|   |   | 1.265E-06   | 2.176        | 70.000      |
|   |   | 1.127E-06   | 2.332        | 75.000      |
|   |   | 1.010E-06   | 2.487        | 80.000      |
|   |   | 7.967E-07   | 2.642        | 85.000      |
|   |   | 5.127E-06   | 0.5          | 16.08       |

ANNUAL AVERAGE = 3.32E-08

K= 3 FIVEXQ(K) = 5.127E-06 FIVEPR(K) = 16.084

FUMIGATION X/Q AT THE BOUNDARY: 1.75E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.997E-01 | 9.997E-01 | 9.979E-01 | 9.762E-01 | 9.367E-01 | 8.371E-01 | 6.165E-01 |
| 3.902     | 6.603     | 10.580    | 63.646    | 91.952    | 97.224    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

| CLASS           | METER/SEC | FREQUENCY PERCENT | DISTANCE METERS | TERRAIN METERS | HT EFF METERS | PLUME HT METERS | SIGMA-Y METERS | SIGMA-Z METERS | MEANDER-SY METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | BLDG WAKE | USED |
|-----------------|-----------|-------------------|-----------------|----------------|---------------|-----------------|----------------|----------------|-------------------|-----------------------------------|-----------|------|
| AT 152.4 METERS |           |                   |                 |                |               |                 |                |                |                   | CA=1292.SQ.METERS                 |           |      |
| A               | 3.7       | 2.58              | 7300.           | 104.           | 48.           | 1000.0          | 1000.0         | 0.0            | 0.000E+00         | 0.000E+00                         | 8.481E-08 |      |
| A               | 6.2       | 1.92              | 7300.           | 104.           | 48.           | 1000.0          | 1000.0         | 0.0            | 0.000E+00         | 0.000E+00                         | 5.088E-08 |      |
| A               | 9.2       | 1.19              | 7300.           | 104.           | 48.           | 1000.0          | 1000.0         | 0.0            | 0.000E+00         | 0.000E+00                         | 3.438E-08 |      |
| A               | 12.0      | 0.07              | 7300.           | 104.           | 48.           | 1000.0          | 1000.0         | 0.0            | 0.000E+00         | 0.000E+00                         | 2.650E-08 |      |
| B               | 1.7       | 0.59              | 7300.           | 104.           | 48.           | 848.1           | 962.0          | 0.0            | 0.000E+00         | 0.000E+00                         | 2.227E-07 |      |
| B               | 3.7       | 1.65              | 7300.           | 104.           | 48.           | 848.1           | 962.0          | 0.0            | 0.000E+00         | 0.000E+00                         | 1.039E-07 |      |
| B               | 6.2       | 0.99              | 7300.           | 104.           | 48.           | 848.1           | 962.0          | 0.0            | 0.000E+00         | 0.000E+00                         | 6.236E-08 |      |
| B               | 9.2       | 0.07              | 7300.           | 104.           | 48.           | 848.1           | 962.0          | 0.0            | 0.000E+00         | 0.000E+00                         | 4.213E-08 |      |
| C               | 1.7       | 0.99              | 7300.           | 104.           | 48.           | 644.0           | 373.7          | 0.0            | 0.000E+00         | 0.000E+00                         | 7.496E-07 |      |
| C               | 3.7       | 2.44              | 7300.           | 104.           | 48.           | 644.0           | 373.7          | 0.0            | 0.000E+00         | 0.000E+00                         | 3.498E-07 |      |
| C               | 6.2       | 1.12              | 7300.           | 104.           | 48.           | 644.0           | 373.7          | 0.0            | 0.000E+00         | 0.000E+00                         | 2.099E-07 |      |
| C               | 9.2       | 0.20              | 7300.           | 104.           | 48.           | 644.0           | 373.7          | 0.0            | 0.000E+00         | 0.000E+00                         | 1.418E-07 |      |
| D               | 0.2       | 0.02              | 7300.           | 104.           | 48.           | 453.5           | 111.1          | 0.0            | 0.000E+00         | 0.000E+00                         | 2.299E-05 |      |
| D               | 1.7       | 7.86              | 7300.           | 104.           | 48.           | 453.5           | 111.1          | 0.0            | 0.000E+00         | 0.000E+00                         | 3.284E-06 |      |
| D               | 3.7       | 22.19             | 7300.           | 104.           | 48.           | 453.5           | 111.1          | 0.0            | 0.000E+00         | 0.000E+00                         | 1.532E-06 |      |
| D               | 6.2       | 18.36             | 7300.           | 104.           | 48.           | 453.5           | 111.1          | 0.0            | 0.000E+00         | 0.000E+00                         | 9.194E-07 |      |
| D               | 9.2       | 4.43              | 7300.           | 104.           | 48.           | 453.5           | 111.1          | 0.0            | 0.000E+00         | 0.000E+00                         | 6.212E-07 |      |
| D               | 12.0      | 0.73              | 7300.           | 104.           | 48.           | 453.5           | 111.1          | 0.0            | 0.000E+00         | 0.000E+00                         | 4.789E-07 |      |
| D               | 27.5      | 0.13              | 7300.           | 104.           | 48.           | 453.5           | 111.1          | 0.0            | 0.000E+00         | 0.000E+00                         | 2.090E-07 |      |
| E               | 0.3       | 0.03              | 7300.           | 104.           | 48.           | 322.5           | 67.5           | 0.0            | 0.000E+00         | 0.000E+00                         | 4.048E-05 |      |
| E               | 2.0       | 4.03              | 7300.           | 104.           | 48.           | 322.5           | 67.5           | 0.0            | 0.000E+00         | 0.000E+00                         | 5.782E-06 |      |
| E               | 4.2       | 14.46             | 7300.           | 104.           | 48.           | 322.5           | 67.5           | 0.0            | 0.000E+00         | 0.000E+00                         | 2.698E-06 |      |
| E               | 7.0       | 6.67              | 7300.           | 104.           | 48.           | 322.5           | 67.5           | 0.0            | 0.000E+00         | 0.000E+00                         | 1.619E-06 |      |
| E               | 10.3      | 0.73              | 7300.           | 104.           | 48.           | 322.5           | 67.5           | 0.0            | 0.000E+00         | 0.000E+00                         | 1.094E-06 |      |
| E               | 13.4      | 0.26              | 7300.           | 104.           | 48.           | 322.5           | 67.5           | 0.0            | 0.000E+00         | 0.000E+00                         | 8.432E-07 |      |
| E               | 30.7      | 0.07              | 7300.           | 104.           | 48.           | 322.5           | 67.5           | 0.0            | 0.000E+00         | 0.000E+00                         | 3.680E-07 |      |
| F               | 0.3       | 0.02              | 7300.           | 104.           | 48.           | 222.6           | 40.9           | 0.0            | 0.000E+00         | 0.000E+00                         | 6.213E-05 |      |
| F               | 2.0       | 1.72              | 7300.           | 104.           | 48.           | 222.6           | 40.9           | 0.0            | 0.000E+00         | 0.000E+00                         | 8.875E-06 |      |
| F               | 4.2       | 1.92              | 7300.           | 104.           | 48.           | 222.6           | 40.9           | 0.0            | 0.000E+00         | 0.000E+00                         | 4.142E-06 |      |
| F               | 7.0       | 0.53              | 7300.           | 104.           | 48.           | 222.6           | 40.9           | 0.0            | 0.000E+00         | 0.000E+00                         | 2.485E-06 |      |
| G               | 2.0       | 0.66              | 7300.           | 104.           | 48.           | 153.6           | 24.8           | 0.0            | 0.000E+00         | 0.000E+00                         | 6.365E-06 |      |
| G               | 4.2       | 1.25              | 7300.           | 104.           | 48.           | 153.6           | 24.8           | 0.0            | 0.000E+00         | 0.000E+00                         | 2.970E-06 |      |
| G               | 7.0       | 0.13              | 7300.           | 104.           | 48.           | 153.6           | 24.8           | 0.0            | 0.000E+00         | 0.000E+00                         | 1.782E-06 |      |

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

Page 1027 of 1411

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN; 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## LOW POPULATION ZONE CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 6.213E-05 | 4.048E-05 | 2.299E-05 | 8.875E-06 | 6.365E-06 | 5.782E-06 | 4.142E-06 | 3.284E-06 | 2.970E-06 | 2.698E-06 |
| 0.020     | 0.049     | 0.066     | 1.784     | 2.444     | 6.473     | 8.389     | 16.249    | 17.503    | 31.968    |
| 0.00070   | 0.00171   | 0.00234   | 0.06299   | 0.08631   | 0.22859   | 0.29624   | 0.57381   | 0.61813   | 1.12895   |
| 2.485E-06 | 1.782E-06 | 1.619E-06 | 1.532E-06 | 1.094E-06 | 9.194E-07 | 8.432E-07 | 7.496E-07 | 6.212E-07 | 4.789E-07 |
| 32.497    | 32.629    | 39.300    | 61.493    | 62.219    | 80.581    | 80.845    | 81.836    | 86.262    | 86.988    |
| 1.14761   | 1.15227   | 1.38786   | 2.17159   | 2.19725   | 2.84569   | 2.85502   | 2.89000   | 3.04628   | 3.07194   |
| 3.680E-07 | 3.498E-07 | 2.227E-07 | 2.099E-07 | 2.090E-07 | 1.418E-07 | 1.039E-07 | 8.481E-08 | 6.236E-08 | 5.088E-08 |
| 87.054    | 89.498    | 90.092    | 91.215    | 91.347    | 91.546    | 93.197    | 95.773    | 96.764    | 98.679    |
| 3.07427   | 3.16058   | 3.18157   | 3.22122   | 3.22589   | 3.23289   | 3.29120   | 3.38217   | 3.41716   | 3.48480   |
| 4.213E-08 | 3.438E-08 | 2.650E-08 |           |           |           |           |           |           |           |
| 98.745    | 99.934    | 100.000   |           |           |           |           |           |           |           |
| 3.48713   | 3.52912   | 3.53145   |           |           |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 6.213E-05 DISTANCE = 7300.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

| CHI/Q           | WITH RESPECT TO | WHEN THE WIND BLOWS   |
|-----------------|-----------------|-----------------------|
| SEC/CUBIC METER | THE TOTAL TIME  | INTO THIS SECTOR ONLY |

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 1.128

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 2.169

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.843  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.043  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 3.158

| K | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|---|---|-------------|-------------|-------------|
| 4 | 1 | -9.68635    | -16.29107   | -1.52053    |
| 4 | 2 | -12.82285   | -17.76848   | -2.16825    |
| 4 | 3 | -13.38867   | -22.31663   | -4.41985    |
| 4 | 4 | -13.89949   | -38.83336   | -13.09280   |
| 4 | 5 | -14.29154   | -80.18877   | -35.15546   |
| 4 | 6 | -14.86587   | NUMXQ(K)= 6 |             |
|   |   | 1.451E-05   | 0.035       | 1.000       |
|   |   | 9.003E-06   | 0.106       | 3.000       |
|   |   | 7.104E-06   | 0.177       | 5.000       |
|   |   | 5.059E-06   | 0.353       | 10.000      |
|   |   | 4.101E-06   | 0.530       | 15.000      |
|   |   | 3.513E-06   | 0.706       | 20.000      |
|   |   | 3.105E-06   | 0.883       | 25.000      |
|   |   | 2.799E-06   | 1.059       | 30.000      |
|   |   | 2.503E-06   | 1.236       | 35.000      |
|   |   | 2.236E-06   | 1.413       | 40.000      |
|   |   | 2.021E-06   | 1.589       | 45.000      |
|   |   | 1.843E-06   | 1.766       | 50.000      |
|   |   | 1.694E-06   | 1.942       | 55.000      |
|   |   | 1.567E-06   | 2.119       | 60.000      |
|   |   | 1.382E-06   | 2.295       | 65.000      |
|   |   | 1.203E-06   | 2.472       | 70.000      |
|   |   | 1.055E-06   | 2.649       | 75.000      |
|   |   | 9.324E-07   | 2.825       | 80.000      |
|   |   | 6.765E-07   | 3.002       | 85.000      |
|   |   | 4.228E-06   | 0.5         | 14.16       |

ANNUAL AVERAGE = 3.18E-08

K= 4 FIVEXQ(K)= 4.228E-06 FIVEPR(K)=14.158

FUMIGATION X/Q AT THE BOUNDARY: 1.75E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.988E-01 | 9.987E-01 | 9.916E-01 | 9.095E-01 | 7.731E-01 | 4.967E-01 | 1.491E-01 |
| 5.746     | 9.049     | 13.804    | 67.521    | 93.771    | 97.952    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER   | BLDG WAKE | USED |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|-----------|------|
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |           |      |
| A               | 1.7                    | 0.15                 | 7300.              | 73.               | 79.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.814E-07 |      |
| A               | 3.7                    | 4.26                 | 7300.              | 73.               | 79.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 8.464E-08 |      |
| A               | 6.2                    | 2.25                 | 7300.              | 73.               | 79.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 5.078E-08 |      |
| A               | 9.2                    | 0.34                 | 7300.              | 73.               | 79.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.431E-08 |      |
| B               | 1.7                    | 0.24                 | 7300.              | 73.               | 79.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.222E-07 |      |
| B               | 3.7                    | 2.74                 | 7300.              | 73.               | 79.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.037E-07 |      |
| B               | 6.2                    | 0.59                 | 7300.              | 73.               | 79.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 6.223E-08 |      |
| B               | 9.2                    | 0.05                 | 7300.              | 73.               | 79.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.204E-08 |      |
| C               | 1.7                    | 0.05                 | 7300.              | 73.               | 79.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.390E-07 |      |
| C               | 3.7                    | 2.45                 | 7300.              | 73.               | 79.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.449E-07 |      |
| C               | 6.2                    | 0.68                 | 7300.              | 73.               | 79.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.069E-07 |      |
| C               | 9.2                    | 0.15                 | 7300.              | 73.               | 79.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.398E-07 |      |
| C               | 12.0                   | 0.05                 | 7300.              | 73.               | 79.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.078E-07 |      |
| D               | 0.2                    | 0.01                 | 7300.              | 73.               | 79.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.958E-05 |      |
| D               | 1.7                    | 5.63                 | 7300.              | 73.               | 79.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.797E-06 |      |
| D               | 3.7                    | 21.28                | 7300.              | 73.               | 79.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.305E-06 |      |
| D               | 6.2                    | 16.19                | 7300.              | 73.               | 79.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.832E-07 |      |
| D               | 9.2                    | 6.46                 | 7300.              | 73.               | 79.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 5.292E-07 |      |
| D               | 12.0                   | 1.57                 | 7300.              | 73.               | 79.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.079E-07 |      |
| D               | 27.5                   | 0.39                 | 7300.              | 73.               | 79.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.780E-07 |      |
| E               | 0.3                    | 0.02                 | 7300.              | 73.               | 79.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.619E-05 |      |
| E               | 2.0                    | 2.94                 | 7300.              | 73.               | 79.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.742E-06 |      |
| E               | 4.2                    | 13.85                | 7300.              | 73.               | 79.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.746E-06 |      |
| E               | 7.0                    | 7.88                 | 7300.              | 73.               | 79.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.048E-06 |      |
| E               | 10.3                   | 2.84                 | 7300.              | 73.               | 79.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.079E-07 |      |
| E               | 13.4                   | 0.59                 | 7300.              | 73.               | 79.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 5.457E-07 |      |
| E               | 30.7                   | 0.98                 | 7300.              | 73.               | 79.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.381E-07 |      |
| F               | 0.3                    | 0.02                 | 8000.              | 73.               | 79.          | 241.8         | 42.4            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.924E-05 |      |
| F               | 2.0                    | 1.52                 | 8000.              | 73.               | 79.          | 241.8         | 42.4            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.749E-06 |      |
| F               | 4.2                    | 1.66                 | 8000.              | 73.               | 79.          | 241.8         | 42.4            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.283E-06 |      |
| F               | 7.0                    | 0.64                 | 8000.              | 73.               | 79.          | 241.8         | 42.4            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.696E-07 |      |
| F               | 30.7                   | 0.20                 | 8000.              | 73.               | 79.          | 241.8         | 42.4            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.749E-07 |      |
| G               | 2.0                    | 0.64                 | 90000.             | 73.               | 79.          | 1000.0        | 46.0            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.977E-07 |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|   |     |      |        |     |     |        |      |     |           |           |           |
|---|-----|------|--------|-----|-----|--------|------|-----|-----------|-----------|-----------|
| G | 4.2 | 0.64 | 90000. | 73. | 79. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 3.723E-07 |
| G | 7.0 | 0.10 | 90000. | 73. | 79. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 2.234E-07 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 7300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.619E-05 | 1.958E-05 | 1.924E-05 | 3.742E-06 | 2.797E-06 | 2.749E-06 | 1.746E-06 | 1.305E-06 | 1.283E-06 | 1.048E-06 |
| 0.021     | 0.034     | 0.051     | 2.986     | 8.613     | 10.129    | 23.974    | 45.256    | 46.919    | 54.796    |
| 0.00100   | 0.00160   | 0.00244   | 0.14239   | 0.41063   | 0.48294   | 1.14304   | 2.15769   | 2.23700   | 2.61253   |
| 7.977E-07 | 7.832E-07 | 7.696E-07 | 7.390E-07 | 7.079E-07 | 5.457E-07 | 5.292E-07 | 4.079E-07 | 3.723E-07 | 3.449E-07 |
| 55.431    | 71.625    | 72.261    | 72.310    | 75.147    | 75.734    | 82.192    | 83.758    | 84.394    | 86.840    |
| 2.64285   | 3.41492   | 3.44524   | 3.44758   | 3.58286   | 3.61085   | 3.91875   | 3.99339   | 4.02371   | 4.14034   |
| 2.381E-07 | 2.234E-07 | 2.222E-07 | 2.069E-07 | 1.814E-07 | 1.780E-07 | 1.749E-07 | 1.398E-07 | 1.078E-07 | 1.037E-07 |
| 87.818    | 87.916    | 88.161    | 88.846    | 88.992    | 89.384    | 89.579    | 89.726    | 89.775    | 92.515    |
| 4.18699   | 4.19165   | 4.20331   | 4.23597   | 4.24297   | 4.26163   | 4.27096   | 4.27795   | 4.28029   | 4.41091   |
| 8.464E-08 | 6.223E-08 | 5.078E-08 | 4.204E-08 | 3.431E-08 |           |           |           |           |           |
| 96.771    | 97.358    | 99.609    | 99.658    | 100.000   |           |           |           |           |           |
| 4.61384   | 4.64183   | 4.74912   | 4.75146   | 4.76778   |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 2.689E-05 DISTANCE = 4000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 2.235  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 3.412



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 3.442  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 3.580  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 3.915  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 4.137  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8) = 4.610

| K | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|---|---|-------------|--------------|-------------|
| 5 | 1 | -10.54998   | -16.24821    | -1.33582    |
| 5 | 2 | -13.56652   | -18.94721    | -2.68026    |
| 5 | 3 | -14.05992   | -22.02190    | -4.36646    |
| 5 | 4 | -14.07734   | -22.63882    | -4.70553    |
| 5 | 5 | -14.16090   | -26.91823    | -7.08075    |
| 5 | 6 | -14.45196   | -43.92416    | -16.73999   |
| 5 | 7 | -14.88005   | -62.54497    | -27.47235   |
| 5 | 8 | -16.28485   | NUMXQ(K) = 8 |             |
|   |   | 7.250E-06   | 0.048        | 1.000       |
|   |   | 4.719E-06   | 0.143        | 3.000       |
|   |   | 3.811E-06   | 0.238        | 5.000       |
|   |   | 2.803E-06   | 0.477        | 10.000      |
|   |   | 2.316E-06   | 0.715        | 15.000      |
|   |   | 2.012E-06   | 0.954        | 20.000      |
|   |   | 1.798E-06   | 1.192        | 25.000      |
|   |   | 1.635E-06   | 1.430        | 30.000      |
|   |   | 1.507E-06   | 1.669        | 35.000      |
|   |   | 1.401E-06   | 1.907        | 40.000      |
|   |   | 1.313E-06   | 2.146        | 45.000      |
|   |   | 1.194E-06   | 2.384        | 50.000      |
|   |   | 1.070E-06   | 2.622        | 55.000      |
|   |   | 9.670E-07   | 2.861        | 60.000      |
|   |   | 8.798E-07   | 3.099        | 65.000      |
|   |   | 8.052E-07   | 3.337        | 70.000      |
|   |   | 7.109E-07   | 3.576        | 75.000      |
|   |   | 5.780E-07   | 3.814        | 80.000      |
|   |   | 4.076E-07   | 4.053        | 85.000      |
|   |   | 2.176E-07   | 4.291        | 90.000      |
|   |   | 2.742E-06   | 0.5          | 10.49       |

ANNUAL AVERAGE = 2.73E-08

K= 5 FIVEXQ(K) = 2.742E-06 FIVEPR(K) = 10.487

FUMIGATION X/Q AT THE BOUNDARY: 1.13E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.969E-01 | 9.966E-01 | 9.777E-01 | 7.747E-01 | 5.003E-01 | 2.255E-01 | 1.732E-01 |
| 6.996     | 10.616    | 13.992    | 65.520    | 94.601    | 95.971    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER   | BLDG WAKE | USED |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|-----------|------|
| AT 152.4 METERS |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |           |      |
| A               | 3.7                    | 2.40                 | 7300.              | 98.               | 54.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 8.478E-08 |      |
| A               | 6.2                    | 2.40                 | 7300.              | 98.               | 54.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 5.087E-08 |      |
| A               | 9.2                    | 0.16                 | 7300.              | 98.               | 54.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.437E-08 |      |
| A               | 12.0                   | 0.05                 | 7300.              | 98.               | 54.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.649E-08 |      |
| A               | 27.5                   | 0.05                 | 7300.              | 98.               | 54.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.156E-08 |      |
| B               | 3.7                    | 1.58                 | 7300.              | 98.               | 54.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.039E-07 |      |
| B               | 6.2                    | 1.36                 | 7300.              | 98.               | 54.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 6.234E-08 |      |
| B               | 9.2                    | 0.11                 | 7300.              | 98.               | 54.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.212E-08 |      |
| B               | 12.0                   | 0.05                 | 7300.              | 98.               | 54.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.247E-08 |      |
| C               | 3.7                    | 3.54                 | 7300.              | 98.               | 54.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.490E-07 |      |
| C               | 6.2                    | 1.42                 | 7300.              | 98.               | 54.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.094E-07 |      |
| C               | 9.2                    | 0.22                 | 7300.              | 98.               | 54.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.415E-07 |      |
| C               | 12.0                   | 0.11                 | 7300.              | 98.               | 54.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.091E-07 |      |
| D               | 0.2                    | 0.01                 | 7300.              | 98.               | 54.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.242E-05 |      |
| D               | 1.7                    | 4.69                 | 7300.              | 98.               | 54.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.203E-06 |      |
| D               | 3.7                    | 16.58                | 7300.              | 98.               | 54.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.495E-06 |      |
| D               | 6.2                    | 16.79                | 7300.              | 98.               | 54.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 8.968E-07 |      |
| D               | 9.2                    | 7.63                 | 7300.              | 98.               | 54.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 6.059E-07 |      |
| D               | 12.0                   | 1.42                 | 7300.              | 98.               | 54.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.671E-07 |      |
| D               | 27.5                   | 0.11                 | 7300.              | 98.               | 54.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.038E-07 |      |
| E               | 0.3                    | 0.02                 | 7300.              | 98.               | 54.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.782E-05 |      |
| E               | 2.0                    | 3.27                 | 7300.              | 98.               | 54.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 5.403E-06 |      |
| E               | 4.2                    | 10.91                | 7300.              | 98.               | 54.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.522E-06 |      |
| E               | 7.0                    | 14.01                | 7300.              | 98.               | 54.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.513E-06 |      |
| E               | 10.3                   | 3.44                 | 7300.              | 98.               | 54.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.022E-06 |      |
| E               | 13.4                   | 1.15                 | 7300.              | 98.               | 54.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.880E-07 |      |
| E               | 30.7                   | 0.22                 | 7300.              | 98.               | 54.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.439E-07 |      |
| F               | 0.3                    | 0.01                 | 7300.              | 98.               | 54.          | 222.6         | 40.9            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 5.167E-05 |      |
| F               | 2.0                    | 1.25                 | 7300.              | 98.               | 54.          | 222.6         | 40.9            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.382E-06 |      |
| F               | 4.2                    | 2.84                 | 7300.              | 98.               | 54.          | 222.6         | 40.9            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.445E-06 |      |
| F               | 7.0                    | 1.31                 | 7300.              | 98.               | 54.          | 222.6         | 40.9            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.067E-06 |      |
| F               | 10.3                   | 0.11                 | 7300.              | 98.               | 54.          | 222.6         | 40.9            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.397E-06 |      |
| F               | 30.7                   | 0.05                 | 7300.              | 98.               | 54.          | 222.6         | 40.9            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.697E-07 |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|   |     |      |        |     |     |       |      |     |           |           |           |
|---|-----|------|--------|-----|-----|-------|------|-----|-----------|-----------|-----------|
| G | 2.0 | 0.27 | 10000. | 98. | 54. | 204.1 | 27.4 | 0.0 | 0.000E+00 | 0.000E+00 | 4.048E-06 |
| G | 4.2 | 0.33 | 10000. | 98. | 54. | 204.1 | 27.4 | 0.0 | 0.000E+00 | 0.000E+00 | 1.889E-06 |
| G | 7.0 | 0.11 | 10000. | 98. | 54. | 204.1 | 27.4 | 0.0 | 0.000E+00 | 0.000E+00 | 1.133E-06 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 5.167E-05 | 3.782E-05 | 2.242E-05 | 7.382E-06 | 5.403E-06 | 4.048E-06 | 3.445E-06 | 3.203E-06 | 2.522E-06 | 2.067E-06 |
| 0.014     | 0.038     | 0.048     | 1.303     | 4.574     | 4.847     | 7.682     | 12.372    | 23.278    | 24.586    |
| 0.00062   | 0.00162   | 0.00207   | 0.05572   | 0.19567   | 0.20733   | 0.32862   | 0.52922   | 0.99572   | 1.05170   |
| 1.889E-06 | 1.513E-06 | 1.495E-06 | 1.397E-06 | 1.133E-06 | 1.022E-06 | 8.968E-07 | 7.880E-07 | 6.059E-07 | 4.697E-07 |
| 24.914    | 38.928    | 55.504    | 55.613    | 55.722    | 59.158    | 75.953    | 77.098    | 84.732    | 84.786    |
| 1.06570   | 1.66516   | 2.37425   | 2.37891   | 2.38358   | 2.53052   | 3.24894   | 3.29793   | 3.62448   | 3.62681   |
| 4.671E-07 | 3.490E-07 | 3.439E-07 | 2.094E-07 | 2.038E-07 | 1.415E-07 | 1.091E-07 | 1.039E-07 | 8.478E-08 | 6.234E-08 |
| 86.204    | 89.749    | 89.967    | 91.384    | 91.493    | 91.712    | 91.821    | 93.402    | 95.801    | 97.164    |
| 3.68746   | 3.83907   | 3.84840   | 3.90905   | 3.91371   | 3.92304   | 3.92771   | 3.99535   | 4.09798   | 4.15629   |
| 5.087E-08 | 4.212E-08 | 3.437E-08 | 3.247E-08 | 2.649E-08 | 1.156E-08 |           |           |           |           |
| 99.564    | 99.673    | 99.836    | 99.891    | 99.945    | 100.000   |           |           |           |           |
| 4.25893   | 4.26359   | 4.27059   | 4.27292   | 4.27525   | 4.27759   |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 5.167E-05 DISTANCE = 7300.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.002  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 0.995

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 2.372  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5) = 3.246  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6) = 3.621  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 7) = 3.845

| K | I | XQSAVE(K, I) | XQINT(K, I)  | XQSLOP(K, I) |
|---|---|--------------|--------------|--------------|
| 6 | 1 | -9.87061     | -16.24075    | -1.45752     |
| 6 | 2 | -10.18256    | -16.33973    | -1.48133     |
| 6 | 3 | -12.89061    | -16.41027    | -1.51163     |
| 6 | 4 | -13.41364    | -20.82871    | -3.74048     |
| 6 | 5 | -13.92447    | -28.57796    | -7.93876     |
| 6 | 6 | -14.31651    | -51.34930    | -20.61463    |
| 6 | 7 | -14.88304    | NUMXQ(K) = 7 |              |
|   |   | 1.119E-05    | 0.043        | 1.000        |
|   |   | 6.980E-06    | 0.128        | 3.000        |
|   |   | 5.520E-06    | 0.214        | 5.000        |
|   |   | 3.940E-06    | 0.428        | 10.000       |
|   |   | 3.198E-06    | 0.642        | 15.000       |
|   |   | 2.741E-06    | 0.856        | 20.000       |
|   |   | 2.421E-06    | 1.069        | 25.000       |
|   |   | 2.179E-06    | 1.283        | 30.000       |
|   |   | 1.989E-06    | 1.497        | 35.000       |
|   |   | 1.834E-06    | 1.711        | 40.000       |
|   |   | 1.706E-06    | 1.925        | 45.000       |
|   |   | 1.597E-06    | 2.139        | 50.000       |
|   |   | 1.503E-06    | 2.353        | 55.000       |
|   |   | 1.320E-06    | 2.567        | 60.000       |
|   |   | 1.160E-06    | 2.780        | 65.000       |
|   |   | 1.027E-06    | 2.994        | 70.000       |
|   |   | 9.159E-07    | 3.208        | 75.000       |
|   |   | 7.452E-07    | 3.422        | 80.000       |
|   |   | 5.882E-07    | 3.636        | 85.000       |
|   |   | 3.640E-06    | 0.5          | 11.69        |

ANNUAL AVERAGE = 3.07E-08

K= 6 FIVEXQ(K) = 3.640E-06 FIVEPR(K) = 11.689

FUMIGATION X/Q AT THE BOUNDARY: 1.65E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.985E-01 | 9.984E-01 | 9.895E-01 | 8.871E-01 | 7.225E-01 | 4.131E-01 | 1.391E-01 |
| 5.071     | 8.179     | 13.469    | 60.701    | 93.715    | 99.291    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft. wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |                        |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| AT 152.4 METERS |                        |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 3.7                    | 0.17                 | 7300.              | 104.              | 48.          | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 8.481E-08                         |           |      |
| A               | 6.2                    | 0.87                 | 7300.              | 104.              | 48.          | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 5.088E-08                         |           |      |
| A               | 9.2                    | 0.56                 | 7300.              | 104.              | 48.          | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 3.438E-08                         |           |      |
| B               | 1.7                    | 0.09                 | 7300.              | 104.              | 48.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 2.227E-07                         |           |      |
| B               | 3.7                    | 0.43                 | 7300.              | 104.              | 48.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 1.039E-07                         |           |      |
| B               | 6.2                    | 1.17                 | 7300.              | 104.              | 48.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 6.236E-08                         |           |      |
| B               | 9.2                    | 0.35                 | 7300.              | 104.              | 48.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 4.213E-08                         |           |      |
| B               | 12.0                   | 0.04                 | 7300.              | 104.              | 48.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 3.248E-08                         |           |      |
| C               | 3.7                    | 0.61                 | 7300.              | 104.              | 48.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 3.498E-07                         |           |      |
| C               | 6.2                    | 2.69                 | 7300.              | 104.              | 48.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 2.099E-07                         |           |      |
| C               | 9.2                    | 0.48                 | 7300.              | 104.              | 48.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 1.418E-07                         |           |      |
| D               | 0.2                    | 0.00                 | 7300.              | 104.              | 48.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 2.299E-05                         |           |      |
| D               | 1.7                    | 1.95                 | 7300.              | 104.              | 48.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 3.284E-06                         |           |      |
| D               | 3.7                    | 14.72                | 7300.              | 104.              | 48.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 1.532E-06                         |           |      |
| D               | 6.2                    | 20.76                | 7300.              | 104.              | 48.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 9.194E-07                         |           |      |
| D               | 9.2                    | 6.99                 | 7300.              | 104.              | 48.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 6.212E-07                         |           |      |
| D               | 12.0                   | 0.61                 | 7300.              | 104.              | 48.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 4.789E-07                         |           |      |
| D               | 27.5                   | 0.30                 | 7300.              | 104.              | 48.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 2.090E-07                         |           |      |
| E               | 0.3                    | 0.02                 | 7300.              | 104.              | 48.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 4.048E-05                         |           |      |
| E               | 2.0                    | 2.65                 | 7300.              | 104.              | 48.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 5.782E-06                         |           |      |
| E               | 4.2                    | 14.98                | 7300.              | 104.              | 48.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 2.698E-06                         |           |      |
| E               | 7.0                    | 15.16                | 7300.              | 104.              | 48.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 1.619E-06                         |           |      |
| E               | 10.3                   | 4.26                 | 7300.              | 104.              | 48.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 1.094E-06                         |           |      |
| E               | 13.4                   | 0.69                 | 7300.              | 104.              | 48.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 8.432E-07                         |           |      |
| E               | 30.7                   | 0.52                 | 7300.              | 104.              | 48.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 3.680E-07                         |           |      |
| F               | 0.3                    | 0.01                 | 7300.              | 104.              | 48.          | 222.6         | 40.9               | 0.0               | 0.000E+00         | 0.000E+00            | 6.213E-05                         |           |      |
| F               | 2.0                    | 1.22                 | 7300.              | 104.              | 48.          | 222.6         | 40.9               | 0.0               | 0.000E+00         | 0.000E+00            | 8.875E-06                         |           |      |
| F               | 4.2                    | 3.52                 | 7300.              | 104.              | 48.          | 222.6         | 40.9               | 0.0               | 0.000E+00         | 0.000E+00            | 4.142E-06                         |           |      |
| F               | 7.0                    | 2.08                 | 7300.              | 104.              | 48.          | 222.6         | 40.9               | 0.0               | 0.000E+00         | 0.000E+00            | 2.485E-06                         |           |      |
| F               | 10.3                   | 0.30                 | 7300.              | 104.              | 48.          | 222.6         | 40.9               | 0.0               | 0.000E+00         | 0.000E+00            | 1.679E-06                         |           |      |
| G               | 2.0                    | 0.17                 | 7300.              | 104.              | 48.          | 153.6         | 24.8               | 0.0               | 0.000E+00         | 0.000E+00            | 6.365E-06                         |           |      |
| G               | 4.2                    | 1.22                 | 7300.              | 104.              | 48.          | 153.6         | 24.8               | 0.0               | 0.000E+00         | 0.000E+00            | 2.970E-06                         |           |      |
| G               | 7.0                    | 0.35                 | 7300.              | 104.              | 48.          | 153.6         | 24.8               | 0.0               | 0.000E+00         | 0.000E+00            | 1.782E-06                         |           |      |

|   |      |      |       |      |     |       |      |     |           |           |           |
|---|------|------|-------|------|-----|-------|------|-----|-----------|-----------|-----------|
| G | 10.3 | 0.04 | 7300. | 104. | 48. | 153.6 | 24.8 | 0.0 | 0.000E+00 | 0.000E+00 | 1.204E-06 |
|---|------|------|-------|------|-----|-------|------|-----|-----------|-----------|-----------|

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 6.213E-05 | 4.048E-05 | 2.299E-05 | 8.875E-06 | 6.365E-06 | 5.782E-06 | 4.142E-06 | 3.284E-06 | 2.970E-06 | 2.698E-06 |
| 0.014     | 0.033     | 0.037     | 1.253     | 1.427     | 4.076     | 7.593     | 9.547     | 10.763    | 25.744    |
| 0.00075   | 0.00177   | 0.00200   | 0.06731   | 0.07664   | 0.21893   | 0.40786   | 0.51283   | 0.57814   | 1.38286   |
| 2.485E-06 | 1.782E-06 | 1.679E-06 | 1.619E-06 | 1.532E-06 | 1.204E-06 | 1.094E-06 | 9.194E-07 | 8.432E-07 | 6.212E-07 |
| 27.829    | 28.176    | 28.480    | 43.635    | 58.356    | 58.400    | 62.655    | 83.412    | 84.107    | 91.098    |
| 1.49482   | 1.51348   | 1.52981   | 2.34386   | 3.13458   | 3.13692   | 3.36550   | 4.48045   | 4.51777   | 4.89331   |
| 4.789E-07 | 3.680E-07 | 3.498E-07 | 2.227E-07 | 2.099E-07 | 2.090E-07 | 1.418E-07 | 1.039E-07 | 8.481E-08 | 6.236E-08 |
| 91.706    | 92.227    | 92.835    | 92.922    | 95.614    | 95.918    | 96.396    | 96.830    | 97.004    | 98.176    |
| 4.92596   | 4.95395   | 4.98661   | 4.99127   | 5.13589   | 5.15222   | 5.17788   | 5.20120   | 5.21053   | 5.27351   |
| 5.088E-08 | 4.213E-08 | 3.438E-08 | 3.248E-08 |           |           |           |           |           |           |
| 99.045    | 99.392    | 99.957    | 100.000   |           |           |           |           |           |           |
| 5.32016   | 5.33882   | 5.36914   | 5.37148   |           |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 6.213E-05 DISTANCE = 7300.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.381  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 3.132



HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 4.477  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 4.890

| K | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|---|---|-------------|-------------|-------------|
| 7 | 1 | -9.68635    | -16.07408   | -1.47611    |
| 7 | 2 | -12.82285   | -16.47997   | -1.66039    |
| 7 | 3 | -13.38867   | -19.18956   | -3.11577    |
| 7 | 4 | -13.89949   | -29.67638   | -9.29234    |
| 7 | 5 | -14.29154   | NUMXQ(K)= 5 |             |
|   |   | 1.305E-05   | 0.054       | 1.000       |
|   |   | 8.085E-06   | 0.161       | 3.000       |
|   |   | 6.368E-06   | 0.269       | 5.000       |
|   |   | 4.516E-06   | 0.537       | 10.000      |
|   |   | 3.648E-06   | 0.806       | 15.000      |
|   |   | 3.115E-06   | 1.074       | 20.000      |
|   |   | 2.744E-06   | 1.343       | 25.000      |
|   |   | 2.440E-06   | 1.611       | 30.000      |
|   |   | 2.200E-06   | 1.880       | 35.000      |
|   |   | 2.007E-06   | 2.149       | 40.000      |
|   |   | 1.849E-06   | 2.417       | 45.000      |
|   |   | 1.715E-06   | 2.686       | 50.000      |
|   |   | 1.601E-06   | 2.954       | 55.000      |
|   |   | 1.474E-06   | 3.223       | 60.000      |
|   |   | 1.318E-06   | 3.491       | 65.000      |
|   |   | 1.186E-06   | 3.760       | 70.000      |
|   |   | 1.074E-06   | 4.029       | 75.000      |
|   |   | 9.778E-07   | 4.297       | 80.000      |
|   |   | 8.460E-07   | 4.566       | 85.000      |
|   |   | 6.559E-07   | 4.834       | 90.000      |
|   |   | 4.684E-06   | 0.5         | 9.31        |

ANNUAL AVERAGE = 3.95E-08

K= 7 FIVEXQ(K)= 4.684E-06 FIVEPR(K)= 9.308

FUMIGATION X/Q AT THE BOUNDARY: 1.75E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.988E-01 | 9.987E-01 | 9.916E-01 | 9.095E-01 | 7.731E-01 | 4.967E-01 | 1.491E-01 |
| 1.607     | 3.691     | 7.469     | 52.808    | 91.084    | 98.220    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met. data, 320 ft. wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

| CLASS | METER/SEC       | PERCENT | DISTANCE METERS | TERRAIN METERS | HT METERS | EFF PLUME METERS | HT METERS | SIGMA-Y METERS | SIGMA-Z METERS | MEANDER-SY METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER | BLDG WAKE | USED |
|-------|-----------------|---------|-----------------|----------------|-----------|------------------|-----------|----------------|----------------|-------------------|-----------------------------------|---------|-----------|------|
|       | AT 152.4 METERS |         |                 |                |           |                  |           |                |                |                   | CA=1292.SQ.METERS                 |         |           |      |
| A     | 3.7             | 0.09    | 7300.           | 85.            | 67.       | 1000.0           | 1000.0    | 0.0            | 0.000E+00      | 0.000E+00         | 8.471E-08                         |         |           |      |
| A     | 6.2             | 0.09    | 7300.           | 85.            | 67.       | 1000.0           | 1000.0    | 0.0            | 0.000E+00      | 0.000E+00         | 5.083E-08                         |         |           |      |
| B     | 3.7             | 0.14    | 7300.           | 85.            | 67.       | 848.1            | 962.0     | 0.0            | 0.000E+00      | 0.000E+00         | 1.038E-07                         |         |           |      |
| B     | 6.2             | 0.37    | 7300.           | 85.            | 67.       | 848.1            | 962.0     | 0.0            | 0.000E+00      | 0.000E+00         | 6.228E-08                         |         |           |      |
| B     | 9.2             | 0.37    | 7300.           | 85.            | 67.       | 848.1            | 962.0     | 0.0            | 0.000E+00      | 0.000E+00         | 4.208E-08                         |         |           |      |
| B     | 12.0            | 0.05    | 7300.           | 85.            | 67.       | 848.1            | 962.0     | 0.0            | 0.000E+00      | 0.000E+00         | 3.244E-08                         |         |           |      |
| C     | 3.7             | 0.55    | 7300.           | 85.            | 67.       | 644.0            | 373.7     | 0.0            | 0.000E+00      | 0.000E+00         | 3.471E-07                         |         |           |      |
| C     | 6.2             | 1.01    | 7300.           | 85.            | 67.       | 644.0            | 373.7     | 0.0            | 0.000E+00      | 0.000E+00         | 2.082E-07                         |         |           |      |
| C     | 9.2             | 0.46    | 7300.           | 85.            | 67.       | 644.0            | 373.7     | 0.0            | 0.000E+00      | 0.000E+00         | 1.407E-07                         |         |           |      |
| C     | 12.0            | 0.05    | 7300.           | 85.            | 67.       | 644.0            | 373.7     | 0.0            | 0.000E+00      | 0.000E+00         | 1.085E-07                         |         |           |      |
| D     | 0.2             | 0.00    | 7300.           | 85.            | 67.       | 453.5            | 111.1     | 0.0            | 0.000E+00      | 0.000E+00         | 2.103E-05                         |         |           |      |
| D     | 1.7             | 1.61    | 7300.           | 85.            | 67.       | 453.5            | 111.1     | 0.0            | 0.000E+00      | 0.000E+00         | 3.004E-06                         |         |           |      |
| D     | 3.7             | 11.17   | 7300.           | 85.            | 67.       | 453.5            | 111.1     | 0.0            | 0.000E+00      | 0.000E+00         | 1.402E-06                         |         |           |      |
| D     | 6.2             | 21.42   | 7300.           | 85.            | 67.       | 453.5            | 111.1     | 0.0            | 0.000E+00      | 0.000E+00         | 8.411E-07                         |         |           |      |
| D     | 9.2             | 5.42    | 7300.           | 85.            | 67.       | 453.5            | 111.1     | 0.0            | 0.000E+00      | 0.000E+00         | 5.683E-07                         |         |           |      |
| D     | 12.0            | 0.51    | 7300.           | 85.            | 67.       | 453.5            | 111.1     | 0.0            | 0.000E+00      | 0.000E+00         | 4.381E-07                         |         |           |      |
| D     | 27.5            | 0.32    | 7300.           | 85.            | 67.       | 453.5            | 111.1     | 0.0            | 0.000E+00      | 0.000E+00         | 1.912E-07                         |         |           |      |
| E     | 0.3             | 0.02    | 7300.           | 85.            | 67.       | 322.5            | 67.5      | 0.0            | 0.000E+00      | 0.000E+00         | 3.179E-05                         |         |           |      |
| E     | 2.0             | 2.71    | 7300.           | 85.            | 67.       | 322.5            | 67.5      | 0.0            | 0.000E+00      | 0.000E+00         | 4.541E-06                         |         |           |      |
| E     | 4.2             | 14.29   | 7300.           | 85.            | 67.       | 322.5            | 67.5      | 0.0            | 0.000E+00      | 0.000E+00         | 2.119E-06                         |         |           |      |
| E     | 7.0             | 20.36   | 7300.           | 85.            | 67.       | 322.5            | 67.5      | 0.0            | 0.000E+00      | 0.000E+00         | 1.271E-06                         |         |           |      |
| E     | 10.3            | 7.58    | 7300.           | 85.            | 67.       | 322.5            | 67.5      | 0.0            | 0.000E+00      | 0.000E+00         | 8.591E-07                         |         |           |      |
| E     | 13.4            | 0.51    | 7300.           | 85.            | 67.       | 322.5            | 67.5      | 0.0            | 0.000E+00      | 0.000E+00         | 6.622E-07                         |         |           |      |
| E     | 30.7            | 0.09    | 7300.           | 85.            | 67.       | 322.5            | 67.5      | 0.0            | 0.000E+00      | 0.000E+00         | 2.890E-07                         |         |           |      |
| F     | 0.3             | 0.02    | 7300.           | 85.            | 67.       | 222.6            | 40.9      | 0.0            | 0.000E+00      | 0.000E+00         | 3.220E-05                         |         |           |      |
| F     | 2.0             | 1.47    | 7300.           | 85.            | 67.       | 222.6            | 40.9      | 0.0            | 0.000E+00      | 0.000E+00         | 4.600E-06                         |         |           |      |
| F     | 4.2             | 4.14    | 7300.           | 85.            | 67.       | 222.6            | 40.9      | 0.0            | 0.000E+00      | 0.000E+00         | 2.146E-06                         |         |           |      |
| F     | 7.0             | 3.63    | 7300.           | 85.            | 67.       | 222.6            | 40.9      | 0.0            | 0.000E+00      | 0.000E+00         | 1.288E-06                         |         |           |      |
| F     | 10.3            | 0.37    | 7300.           | 85.            | 67.       | 222.6            | 40.9      | 0.0            | 0.000E+00      | 0.000E+00         | 8.702E-07                         |         |           |      |
| G     | 2.0             | 0.41    | 20000.          | 85.            | 67.       | 381.8            | 33.2      | 0.0            | 0.000E+00      | 0.000E+00         | 1.628E-06                         |         |           |      |
| G     | 4.2             | 0.46    | 20000.          | 85.            | 67.       | 381.8            | 33.2      | 0.0            | 0.000E+00      | 0.000E+00         | 7.598E-07                         |         |           |      |
| G     | 7.0             | 0.28    | 20000.          | 85.            | 67.       | 381.8            | 33.2      | 0.0            | 0.000E+00      | 0.000E+00         | 4.559E-07                         |         |           |      |
| G     | 10.3            | 0.05    | 20000.          | 85.            | 67.       | 381.8            | 33.2      | 0.0            | 0.000E+00      | 0.000E+00         | 3.080E-07                         |         |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 3.220E-05 | 3.179E-05 | 2.103E-05 | 4.600E-06 | 4.541E-06 | 3.004E-06 | 2.146E-06 | 2.119E-06 | 1.628E-06 | 1.402E-06 |
| 0.017     | 0.036     | 0.040     | 1.511     | 4.222     | 5.831     | 9.967     | 24.260    | 24.674    | 35.842    |
| 0.00086   | 0.00184   | 0.00203   | 0.07667   | 0.21429   | 0.29592   | 0.50585   | 1.23127   | 1.25226   | 1.81906   |
| 1.288E-06 | 1.271E-06 | 8.702E-07 | 8.591E-07 | 8.411E-07 | 7.598E-07 | 6.622E-07 | 5.683E-07 | 4.559E-07 | 4.381E-07 |
| 39.472    | 59.832    | 60.200    | 67.783    | 89.200    | 89.659    | 90.165    | 95.588    | 95.864    | 96.369    |
| 2.00333   | 3.03664   | 3.05530   | 3.44017   | 4.52712   | 4.55045   | 4.57611   | 4.85134   | 4.86534   | 4.89100   |
| 3.471E-07 | 3.080E-07 | 2.890E-07 | 2.082E-07 | 1.912E-07 | 1.407E-07 | 1.085E-07 | 1.038E-07 | 8.471E-08 | 6.228E-08 |
| 96.921    | 96.967    | 97.059    | 98.070    | 98.391    | 98.851    | 98.897    | 99.035    | 99.127    | 99.494    |
| 4.91899   | 4.92132   | 4.92598   | 4.97730   | 4.99363   | 5.01695   | 5.01929   | 5.02628   | 5.03095   | 5.04961   |
| 5.083E-08 | 4.208E-08 | 3.244E-08 |           |           |           |           |           |           |           |
| 99.586    | 99.954    | 100.000   |           |           |           |           |           |           |           |
| 5.05427   | 5.07293   | 5.07527   |           |           |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 3.220E-05 DISTANCE = 7300.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.230  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 3.034

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 4.524  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 4.848  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 4.887

| K | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|---|---|-------------|--------------|-------------|
| 8 | 1 | -10.34363   | -10.66586    | -0.07497    |
| 8 | 2 | -10.35648   | -16.30418    | -1.44133    |
| 8 | 3 | -13.06453   | -16.15252    | -1.37386    |
| 8 | 4 | -13.57536   | -17.81263    | -2.25885    |
| 8 | 5 | -13.98859   | -34.03220    | -11.83969   |
| 8 | 6 | -14.38063   | -124.39010   | +66.27860   |
| 8 | 7 | -14.64091   | NUMXQ(K) = 7 |             |
|   |   | 9.472E-06   | 0.051        | 1.000       |
|   |   | 5.946E-06   | 0.152        | 3.000       |
|   |   | 4.715E-06   | 0.254        | 5.000       |
|   |   | 3.377E-06   | 0.508        | 10.000      |
|   |   | 2.746E-06   | 0.761        | 15.000      |
|   |   | 2.356E-06   | 1.015        | 20.000      |
|   |   | 2.086E-06   | 1.269        | 25.000      |
|   |   | 1.891E-06   | 1.523        | 30.000      |
|   |   | 1.736E-06   | 1.776        | 35.000      |
|   |   | 1.611E-06   | 2.030        | 40.000      |
|   |   | 1.505E-06   | 2.284        | 45.000      |
|   |   | 1.416E-06   | 2.538        | 50.000      |
|   |   | 1.338E-06   | 2.791        | 55.000      |
|   |   | 1.268E-06   | 3.045        | 60.000      |
|   |   | 1.170E-06   | 3.299        | 65.000      |
|   |   | 1.085E-06   | 3.553        | 70.000      |
|   |   | 1.010E-06   | 3.806        | 75.000      |
|   |   | 9.442E-07   | 4.060        | 80.000      |
|   |   | 8.856E-07   | 4.314        | 85.000      |
|   |   | 7.998E-07   | 4.568        | 90.000      |
|   |   | 3.403E-06   | 0.5          | 9.85        |

ANNUAL AVERAGE = 2.97E-08

K= 8 FIVEXQ(K) = 3.403E-06 FIVEPR(K) = 9.852

FUMIGATION X/Q AT THE BOUNDARY: 1.33E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.977E-01 | 9.975E-01 | 9.839E-01 | 8.320E-01 | 6.071E-01 | 2.574E-01 | 1.266E-01 |
| 0.184     | 1.103     | 3.171     | 43.618    | 89.183    | 98.805    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|------------------------|----------------------|--------------------|-------------------|------------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |                        |                      |                    |                   |                  |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 | AT 152.4 METERS        |                      |                    |                   |                  |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 6.2                    | 0.28                 | 7300.              | 110.              | 42.              | 1000.0             | 1000.0            | 0.0               | 0.000E+00            | 0.000E+00                         | 5.090E-08 |      |
| A               | 9.2                    | 0.16                 | 7300.              | 110.              | 42.              | 1000.0             | 1000.0            | 0.0               | 0.000E+00            | 0.000E+00                         | 3.439E-08 |      |
| B               | 3.7                    | 0.07                 | 7300.              | 110.              | 42.              | 848.1              | 962.0             | 0.0               | 0.000E+00            | 0.000E+00                         | 1.040E-07 |      |
| B               | 6.2                    | 0.58                 | 7300.              | 110.              | 42.              | 848.1              | 962.0             | 0.0               | 0.000E+00            | 0.000E+00                         | 6.238E-08 |      |
| B               | 9.2                    | 0.72                 | 7300.              | 110.              | 42.              | 848.1              | 962.0             | 0.0               | 0.000E+00            | 0.000E+00                         | 4.215E-08 |      |
| B               | 12.0                   | 0.12                 | 7300.              | 110.              | 42.              | 848.1              | 962.0             | 0.0               | 0.000E+00            | 0.000E+00                         | 3.249E-08 |      |
| B               | 27.5                   | 0.02                 | 7300.              | 110.              | 42.              | 848.1              | 962.0             | 0.0               | 0.000E+00            | 0.000E+00                         | 1.418E-08 |      |
| C               | 3.7                    | 0.44                 | 7300.              | 110.              | 42.              | 644.0              | 373.7             | 0.0               | 0.000E+00            | 0.000E+00                         | 3.505E-07 |      |
| C               | 6.2                    | 1.68                 | 7300.              | 110.              | 42.              | 644.0              | 373.7             | 0.0               | 0.000E+00            | 0.000E+00                         | 2.103E-07 |      |
| C               | 9.2                    | 1.56                 | 7300.              | 110.              | 42.              | 644.0              | 373.7             | 0.0               | 0.000E+00            | 0.000E+00                         | 1.421E-07 |      |
| C               | 12.0                   | 0.21                 | 7300.              | 110.              | 42.              | 644.0              | 373.7             | 0.0               | 0.000E+00            | 0.000E+00                         | 1.095E-07 |      |
| C               | 27.5                   | 0.02                 | 7300.              | 110.              | 42.              | 644.0              | 373.7             | 0.0               | 0.000E+00            | 0.000E+00                         | 4.779E-08 |      |
| D               | 0.2                    | 0.00                 | 7300.              | 110.              | 42.              | 453.5              | 111.1             | 0.0               | 0.000E+00            | 0.000E+00                         | 2.350E-05 |      |
| D               | 1.7                    | 0.96                 | 7300.              | 110.              | 42.              | 453.5              | 111.1             | 0.0               | 0.000E+00            | 0.000E+00                         | 3.357E-06 |      |
| D               | 3.7                    | 7.00                 | 7300.              | 110.              | 42.              | 453.5              | 111.1             | 0.0               | 0.000E+00            | 0.000E+00                         | 1.567E-06 |      |
| D               | 6.2                    | 16.51                | 7300.              | 110.              | 42.              | 453.5              | 111.1             | 0.0               | 0.000E+00            | 0.000E+00                         | 9.400E-07 |      |
| D               | 9.2                    | 11.24                | 7300.              | 110.              | 42.              | 453.5              | 111.1             | 0.0               | 0.000E+00            | 0.000E+00                         | 6.351E-07 |      |
| D               | 12.0                   | 2.31                 | 7300.              | 110.              | 42.              | 453.5              | 111.1             | 0.0               | 0.000E+00            | 0.000E+00                         | 4.896E-07 |      |
| D               | 27.5                   | 0.68                 | 7300.              | 110.              | 42.              | 453.5              | 111.1             | 0.0               | 0.000E+00            | 0.000E+00                         | 2.136E-07 |      |
| E               | 0.3                    | 0.01                 | 7300.              | 110.              | 42.              | 322.5              | 67.5              | 0.0               | 0.000E+00            | 0.000E+00                         | 4.297E-05 |      |
| E               | 2.0                    | 1.63                 | 7300.              | 110.              | 42.              | 322.5              | 67.5              | 0.0               | 0.000E+00            | 0.000E+00                         | 6.139E-06 |      |
| E               | 4.2                    | 10.14                | 7300.              | 110.              | 42.              | 322.5              | 67.5              | 0.0               | 0.000E+00            | 0.000E+00                         | 2.865E-06 |      |
| E               | 7.0                    | 20.78                | 7300.              | 110.              | 42.              | 322.5              | 67.5              | 0.0               | 0.000E+00            | 0.000E+00                         | 1.719E-06 |      |
| E               | 10.3                   | 12.03                | 7300.              | 110.              | 42.              | 322.5              | 67.5              | 0.0               | 0.000E+00            | 0.000E+00                         | 1.161E-06 |      |
| E               | 13.4                   | 1.49                 | 7300.              | 110.              | 42.              | 322.5              | 67.5              | 0.0               | 0.000E+00            | 0.000E+00                         | 8.952E-07 |      |
| E               | 30.7                   | 0.14                 | 7300.              | 110.              | 42.              | 322.5              | 67.5              | 0.0               | 0.000E+00            | 0.000E+00                         | 3.907E-07 |      |
| F               | 0.3                    | 0.01                 | 7300.              | 110.              | 42.              | 222.6              | 40.9              | 0.0               | 0.000E+00            | 0.000E+00                         | 7.311E-05 |      |
| F               | 2.0                    | 0.54                 | 7300.              | 110.              | 42.              | 222.6              | 40.9              | 0.0               | 0.000E+00            | 0.000E+00                         | 1.044E-05 |      |
| F               | 4.2                    | 3.13                 | 7300.              | 110.              | 42.              | 222.6              | 40.9              | 0.0               | 0.000E+00            | 0.000E+00                         | 4.874E-06 |      |
| F               | 7.0                    | 3.03                 | 7300.              | 110.              | 42.              | 222.6              | 40.9              | 0.0               | 0.000E+00            | 0.000E+00                         | 2.924E-06 |      |
| F               | 10.3                   | 1.03                 | 7300.              | 110.              | 42.              | 222.6              | 40.9              | 0.0               | 0.000E+00            | 0.000E+00                         | 1.976E-06 |      |
| G               | 2.0                    | 0.40                 | 7300.              | 110.              | 42.              | 153.6              | 24.8              | 0.0               | 0.000E+00            | 0.000E+00                         | 9.908E-06 |      |
| G               | 4.2                    | 0.79                 | 7300.              | 110.              | 42.              | 153.6              | 24.8              | 0.0               | 0.000E+00            | 0.000E+00                         | 4.624E-06 |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|   |      |      |       |      |     |       |      |     |           |           |           |
|---|------|------|-------|------|-----|-------|------|-----|-----------|-----------|-----------|
| G | 7.0  | 0.23 | 7300. | 110. | 42. | 153.6 | 24.8 | 0.0 | 0.000E+00 | 0.000E+00 | 2.774E-06 |
| G | 10.3 | 0.05 | 7300. | 110. | 42. | 153.6 | 24.8 | 0.0 | 0.000E+00 | 0.000E+00 | 1.875E-06 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 7300.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across various sectors.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 7.311E-05 DISTANCE = 7300.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.650
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 2.062

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.969  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 7.824  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 9.098

| K | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|---|---|-------------|-------------|-------------|
| 9 | 1 | -9.52359    | -15.91905   | -1.46331    |
| 9 | 2 | -12.28426   | -14.96992   | -1.08121    |
| 9 | 3 | -12.76301   | -15.89571   | -1.53477    |
| 9 | 4 | -13.36661   | -17.01296   | -2.21276    |
| 9 | 5 | -13.87743   | -20.63088   | -4.76595    |
| 9 | 6 | -14.26948   | NUMXQ(K)= 6 |             |
|   |   | 1.123E-05   | 0.100       | 1.000       |
|   |   | 6.806E-06   | 0.300       | 3.000       |
|   |   | 5.292E-06   | 0.500       | 5.000       |
|   |   | 3.901E-06   | 1.000       | 10.000      |
|   |   | 3.295E-06   | 1.500       | 15.000      |
|   |   | 2.905E-06   | 2.000       | 20.000      |
|   |   | 2.531E-06   | 2.500       | 25.000      |
|   |   | 2.241E-06   | 3.000       | 30.000      |
|   |   | 2.016E-06   | 3.501       | 35.000      |
|   |   | 1.835E-06   | 4.001       | 40.000      |
|   |   | 1.686E-06   | 4.501       | 45.000      |
|   |   | 1.557E-06   | 5.001       | 50.000      |
|   |   | 1.404E-06   | 5.501       | 55.000      |
|   |   | 1.276E-06   | 6.001       | 60.000      |
|   |   | 1.166E-06   | 6.501       | 65.000      |
|   |   | 1.071E-06   | 7.001       | 70.000      |
|   |   | 9.884E-07   | 7.501       | 75.000      |
|   |   | 8.886E-07   | 8.001       | 80.000      |
|   |   | 7.597E-07   | 8.501       | 85.000      |
|   |   | 6.539E-07   | 9.001       | 90.000      |
|   |   | 5.293E-06   | 0.5         | 5.00        |

ANNUAL AVERAGE = 6.51E-08

K= 9 FIVEXQ(K)= 5.293E-06 FIVEPR(K)= 4.999

FUMIGATION X/Q AT THE BOUNDARY: 1.75E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.991E-01 | 9.990E-01 | 9.936E-01 | 9.298E-01 | 8.208E-01 | 5.845E-01 | 2.321E-01 |
| 0.443     | 1.959     | 5.877     | 44.570    | 90.805    | 98.531    | 100.000   |



Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

| CLASS           | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                   |      |  |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|------|--|
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE         | USED |  |
| AT 152.4 METERS |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   | CA=1292.SQ.METERS |      |  |
| A               | 3.7                    | 0.08                 | 7300.              | 85.               | 67.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 8.471E-08            |                                   |                   |      |  |
| A               | 6.2                    | 0.28                 | 7300.              | 85.               | 67.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 5.083E-08            |                                   |                   |      |  |
| A               | 9.2                    | 0.12                 | 7300.              | 85.               | 67.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 3.434E-08            |                                   |                   |      |  |
| B               | 3.7                    | 0.16                 | 7300.              | 85.               | 67.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 1.038E-07            |                                   |                   |      |  |
| B               | 6.2                    | 0.56                 | 7300.              | 85.               | 67.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 6.228E-08            |                                   |                   |      |  |
| B               | 9.2                    | 0.36                 | 7300.              | 85.               | 67.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 4.208E-08            |                                   |                   |      |  |
| B               | 12.0                   | 0.08                 | 7300.              | 85.               | 67.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 3.244E-08            |                                   |                   |      |  |
| C               | 3.7                    | 0.20                 | 7300.              | 85.               | 67.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 3.471E-07            |                                   |                   |      |  |
| C               | 6.2                    | 1.47                 | 7300.              | 85.               | 67.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 2.082E-07            |                                   |                   |      |  |
| C               | 9.2                    | 0.95                 | 7300.              | 85.               | 67.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 1.407E-07            |                                   |                   |      |  |
| D               | 0.2                    | 0.00                 | 7300.              | 85.               | 67.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 2.103E-05            |                                   |                   |      |  |
| D               | 1.7                    | 0.91                 | 7300.              | 85.               | 67.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 3.004E-06            |                                   |                   |      |  |
| D               | 3.7                    | 7.60                 | 7300.              | 85.               | 67.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 1.402E-06            |                                   |                   |      |  |
| D               | 6.2                    | 16.91                | 7300.              | 85.               | 67.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 8.411E-07            |                                   |                   |      |  |
| D               | 9.2                    | 6.60                 | 7300.              | 85.               | 67.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 5.683E-07            |                                   |                   |      |  |
| D               | 12.0                   | 0.64                 | 7300.              | 85.               | 67.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 4.381E-07            |                                   |                   |      |  |
| D               | 27.5                   | 0.36                 | 7300.              | 85.               | 67.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 1.912E-07            |                                   |                   |      |  |
| E               | 0.3                    | 0.02                 | 7300.              | 85.               | 67.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 3.179E-05            |                                   |                   |      |  |
| E               | 2.0                    | 2.23                 | 7300.              | 85.               | 67.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 4.541E-06            |                                   |                   |      |  |
| E               | 4.2                    | 12.73                | 7300.              | 85.               | 67.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 2.119E-06            |                                   |                   |      |  |
| E               | 7.0                    | 22.95                | 7300.              | 85.               | 67.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 1.271E-06            |                                   |                   |      |  |
| E               | 10.3                   | 9.07                 | 7300.              | 85.               | 67.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 8.591E-07            |                                   |                   |      |  |
| E               | 13.4                   | 0.76                 | 7300.              | 85.               | 67.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 6.622E-07            |                                   |                   |      |  |
| E               | 30.7                   | 0.16                 | 7300.              | 85.               | 67.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 2.890E-07            |                                   |                   |      |  |
| F               | 0.3                    | 0.01                 | 7300.              | 85.               | 67.          | 222.6         | 40.9            | 0.0          | 0.000E+00         | 0.000E+00         | 3.220E-05            |                                   |                   |      |  |
| F               | 2.0                    | 1.27                 | 7300.              | 85.               | 67.          | 222.6         | 40.9            | 0.0          | 0.000E+00         | 0.000E+00         | 4.600E-06            |                                   |                   |      |  |
| F               | 4.2                    | 5.61                 | 7300.              | 85.               | 67.          | 222.6         | 40.9            | 0.0          | 0.000E+00         | 0.000E+00         | 2.146E-06            |                                   |                   |      |  |
| F               | 7.0                    | 4.42                 | 7300.              | 85.               | 67.          | 222.6         | 40.9            | 0.0          | 0.000E+00         | 0.000E+00         | 1.288E-06            |                                   |                   |      |  |
| F               | 10.3                   | 0.91                 | 7300.              | 85.               | 67.          | 222.6         | 40.9            | 0.0          | 0.000E+00         | 0.000E+00         | 8.702E-07            |                                   |                   |      |  |
| F               | 13.4                   | 0.12                 | 7300.              | 85.               | 67.          | 222.6         | 40.9            | 0.0          | 0.000E+00         | 0.000E+00         | 6.708E-07            |                                   |                   |      |  |
| G               | 2.0                    | 0.36                 | 20000.             | 85.               | 67.          | 381.8         | 33.2            | 0.0          | 0.000E+00         | 0.000E+00         | 1.628E-06            |                                   |                   |      |  |
| G               | 4.2                    | 1.23                 | 20000.             | 85.               | 67.          | 381.8         | 33.2            | 0.0          | 0.000E+00         | 0.000E+00         | 7.598E-07            |                                   |                   |      |  |
| G               | 7.0                    | 0.84                 | 20000.             | 85.               | 67.          | 381.8         | 33.2            | 0.0          | 0.000E+00         | 0.000E+00         | 4.559E-07            |                                   |                   |      |  |

G 10.3 0.04 20000.

85.

67.

381.8 33.2

0.0

0.000E+00

0.000E+00 3.080E-07

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 7300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 3.220E-05 | 3.179E-05 | 2.103E-05 | 4.600E-06 | 4.541E-06 | 3.004E-06 | 2.146E-06 | 2.119E-06 | 1.628E-06 | 1.402E-06 |
| 0.015     | 0.031     | 0.033     | 1.306     | 3.533     | 4.448     | 10.057    | 22.787    | 23.145    | 30.743    |
| 0.00086   | 0.00179   | 0.00191   | 0.07655   | 0.20717   | 0.26082   | 0.58971   | 1.33612   | 1.35711   | 1.80262   |
| 1.288E-06 | 1.271E-06 | 8.702E-07 | 8.591E-07 | 8.411E-07 | 7.598E-07 | 6.708E-07 | 6.622E-07 | 5.683E-07 | 4.559E-07 |
| 35.158    | 58.112    | 59.026    | 68.096    | 85.003    | 86.236    | 86.355    | 87.111    | 93.715    | 94.550    |
| 2.06153   | 3.40740   | 3.46105   | 3.99286   | 4.98419   | 5.05649   | 5.06349   | 5.10781   | 5.49501   | 5.54399   |
| 4.381E-07 | 3.471E-07 | 3.080E-07 | 2.890E-07 | 2.082E-07 | 1.912E-07 | 1.407E-07 | 1.038E-07 | 8.471E-08 | 6.228E-08 |
| 95.187    | 95.385    | 95.425    | 95.584    | 97.056    | 97.414    | 98.369    | 98.528    | 98.608    | 99.165    |
| 5.58131   | 5.59297   | 5.59531   | 5.60464   | 5.69094   | 5.71193   | 5.76791   | 5.77724   | 5.78191   | 5.81456   |
| 5.083E-08 | 4.208E-08 | 3.434E-08 | 3.244E-08 |           |           |           |           |           |           |
| 99.443    | 99.801    | 99.920    | 100.000   |           |           |           |           |           |           |
| 5.83089   | 5.85188   | 5.85888   | 5.86355   |           |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 3.220E-05 DISTANCE = 7300.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 1.335  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 3.404

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 4.980  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 5.491  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 5.578

| K  | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|----|---|-------------|--------------|-------------|
| 10 | 1 | -10.34363   | -10.67816    | -0.07783    |
| 10 | 2 | -10.35648   | -16.19523    | -1.41278    |
| 10 | 3 | -13.06453   | -15.95552    | -1.30460    |
| 10 | 4 | -13.57536   | -17.81822    | -2.32558    |
| 10 | 5 | -13.98859   | -27.50484    | -8.20785    |
| 10 | 6 | -14.38063   | -68.29697    | -33.71915   |
| 10 | 7 | -14.64091   | NUMXQ(K) = 7 |             |
|    |   | 9.077E-06   | 0.059        | 1.000       |
|    |   | 5.719E-06   | 0.176        | 3.000       |
|    |   | 4.542E-06   | 0.293        | 5.000       |
|    |   | 3.259E-06   | 0.586        | 10.000      |
|    |   | 2.651E-06   | 0.880        | 15.000      |
|    |   | 2.275E-06   | 1.173        | 20.000      |
|    |   | 2.021E-06   | 1.466        | 25.000      |
|    |   | 1.837E-06   | 1.759        | 30.000      |
|    |   | 1.692E-06   | 2.052        | 35.000      |
|    |   | 1.573E-06   | 2.345        | 40.000      |
|    |   | 1.473E-06   | 2.639        | 45.000      |
|    |   | 1.387E-06   | 2.932        | 50.000      |
|    |   | 1.313E-06   | 3.225        | 55.000      |
|    |   | 1.229E-06   | 3.518        | 60.000      |
|    |   | 1.129E-06   | 3.811        | 65.000      |
|    |   | 1.043E-06   | 4.104        | 70.000      |
|    |   | 9.668E-07   | 4.398        | 75.000      |
|    |   | 9.002E-07   | 4.691        | 80.000      |
|    |   | 8.411E-07   | 4.984        | 85.000      |
|    |   | 6.692E-07   | 5.277        | 90.000      |
|    |   | 3.525E-06   | 0.5          | 8.53        |

ANNUAL AVERAGE = 3.11E-08

K= 10 FIVEXQ(K) = 3.525E-06 FIVEPR(K) = 8.527

FUMIGATION X/Q AT THE BOUNDARY: 1.33E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.977E-01 | 9.975E-01 | 9.839E-01 | 8.320E-01 | 6.071E-01 | 2.574E-01 | 1.266E-01 |
| 0.477     | 1.631     | 4.256     | 37.276    | 85.187    | 97.534    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

| CLASS           | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
| AT 152.4 METERS |                        |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 |                        |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 3.7                    | 0.09                 | 7300.              | 85.               | 67.          | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 8.471E-08                         |           |      |
| A               | 6.2                    | 0.23                 | 7300.              | 85.               | 67.          | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 5.083E-08                         |           |      |
| A               | 9.2                    | 0.09                 | 7300.              | 85.               | 67.          | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 3.434E-08                         |           |      |
| B               | 3.7                    | 0.14                 | 7300.              | 85.               | 67.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 1.038E-07                         |           |      |
| B               | 6.2                    | 0.61                 | 7300.              | 85.               | 67.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 6.228E-08                         |           |      |
| B               | 9.2                    | 0.28                 | 7300.              | 85.               | 67.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 4.208E-08                         |           |      |
| B               | 12.0                   | 0.05                 | 7300.              | 85.               | 67.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 3.244E-08                         |           |      |
| C               | 3.7                    | 0.33                 | 7300.              | 85.               | 67.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 3.471E-07                         |           |      |
| C               | 6.2                    | 1.41                 | 7300.              | 85.               | 67.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 2.082E-07                         |           |      |
| C               | 9.2                    | 0.99                 | 7300.              | 85.               | 67.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 1.407E-07                         |           |      |
| C               | 12.0                   | 0.19                 | 7300.              | 85.               | 67.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 1.085E-07                         |           |      |
| C               | 27.5                   | 0.05                 | 7300.              | 85.               | 67.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 4.733E-08                         |           |      |
| D               | 0.2                    | 0.00                 | 7300.              | 85.               | 67.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 2.103E-05                         |           |      |
| D               | 1.7                    | 1.50                 | 7300.              | 85.               | 67.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 3.004E-06                         |           |      |
| D               | 3.7                    | 7.28                 | 7300.              | 85.               | 67.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 1.402E-06                         |           |      |
| D               | 6.2                    | 13.48                | 7300.              | 85.               | 67.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 8.411E-07                         |           |      |
| D               | 9.2                    | 5.92                 | 7300.              | 85.               | 67.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 5.683E-07                         |           |      |
| D               | 12.0                   | 0.75                 | 7300.              | 85.               | 67.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 4.381E-07                         |           |      |
| D               | 27.5                   | 0.14                 | 7300.              | 85.               | 67.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 1.912E-07                         |           |      |
| E               | 0.3                    | 0.02                 | 7300.              | 85.               | 67.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 3.179E-05                         |           |      |
| E               | 2.0                    | 2.77                 | 7300.              | 85.               | 67.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 4.541E-06                         |           |      |
| E               | 4.2                    | 13.19                | 7300.              | 85.               | 67.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 2.119E-06                         |           |      |
| E               | 7.0                    | 16.62                | 7300.              | 85.               | 67.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 1.271E-06                         |           |      |
| E               | 10.3                   | 10.14                | 7300.              | 85.               | 67.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 8.591E-07                         |           |      |
| E               | 13.4                   | 0.85                 | 7300.              | 85.               | 67.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 6.622E-07                         |           |      |
| E               | 30.7                   | 0.09                 | 7300.              | 85.               | 67.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 2.890E-07                         |           |      |
| F               | 0.3                    | 0.02                 | 7300.              | 85.               | 67.          | 222.6         | 40.9               | 0.0               | 0.000E+00         | 0.000E+00            | 3.220E-05                         |           |      |
| F               | 2.0                    | 1.50                 | 7300.              | 85.               | 67.          | 222.6         | 40.9               | 0.0               | 0.000E+00         | 0.000E+00            | 4.600E-06                         |           |      |
| F               | 4.2                    | 7.32                 | 7300.              | 85.               | 67.          | 222.6         | 40.9               | 0.0               | 0.000E+00         | 0.000E+00            | 2.146E-06                         |           |      |
| F               | 7.0                    | 7.37                 | 7300.              | 85.               | 67.          | 222.6         | 40.9               | 0.0               | 0.000E+00         | 0.000E+00            | 1.288E-06                         |           |      |
| F               | 10.3                   | 1.83                 | 7300.              | 85.               | 67.          | 222.6         | 40.9               | 0.0               | 0.000E+00         | 0.000E+00            | 8.702E-07                         |           |      |
| G               | 2.0                    | 0.28                 | 20000.             | 85.               | 67.          | 381.8         | 33.2               | 0.0               | 0.000E+00         | 0.000E+00            | 1.628E-06                         |           |      |
| G               | 4.2                    | 1.69                 | 20000.             | 85.               | 67.          | 381.8         | 33.2               | 0.0               | 0.000E+00         | 0.000E+00            | 7.598E-07                         |           |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|   |      |      |        |     |     |       |      |     |           |           |           |
|---|------|------|--------|-----|-----|-------|------|-----|-----------|-----------|-----------|
| G | 7.0  | 2.39 | 20000. | 85. | 67. | 381.8 | 33.2 | 0.0 | 0.000E+00 | 0.000E+00 | 4.559E-07 |
| G | 10.3 | 0.38 | 20000. | 85. | 67. | 381.8 | 33.2 | 0.0 | 0.000E+00 | 0.000E+00 | 3.080E-07 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 7300.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 3.220E-05 | 3.179E-05 | 2.103E-05 | 4.600E-06 | 4.541E-06 | 3.004E-06 | 2.146E-06 | 2.119E-06 | 1.628E-06 | 1.402E-06 |
| 0.017     | 0.037     | 0.040     | 1.543     | 4.313     | 5.815     | 13.140    | 26.333    | 26.615    | 33.892    |
| 0.00086   | 0.00184   | 0.00201   | 0.07665   | 0.21427   | 0.28891   | 0.65278   | 1.30822   | 1.32222   | 1.68376   |
| 1.288E-06 | 1.271E-06 | 8.702E-07 | 8.591E-07 | 8.411E-07 | 7.598E-07 | 6.622E-07 | 5.683E-07 | 4.559E-07 | 4.381E-07 |
| 41.264    | 57.885    | 59.716    | 69.857    | 83.332    | 85.022    | 85.868    | 91.783    | 94.178    | 94.929    |
| 2.04997   | 2.87568   | 2.96665   | 3.47047   | 4.13991   | 4.22388   | 4.26586   | 4.55976   | 4.67872   | 4.71604   |
| 3.471E-07 | 3.080E-07 | 2.890E-07 | 2.082E-07 | 1.912E-07 | 1.407E-07 | 1.085E-07 | 1.038E-07 | 8.471E-08 | 6.228E-08 |
| 95.258    | 95.633    | 95.727    | 97.136    | 97.277    | 98.263    | 98.451    | 98.591    | 98.685    | 99.296    |
| 4.73237   | 4.75103   | 4.75569   | 4.82567   | 4.83267   | 4.88165   | 4.89098   | 4.89798   | 4.90264   | 4.93297   |
| 5.083E-08 | 4.733E-08 | 4.208E-08 | 3.434E-08 | 3.244E-08 |           |           |           |           |           |
| 99.530    | 99.577    | 99.859    | 99.953    | 100.000   |           |           |           |           |           |
| 4.94463   | 4.94696   | 4.96096   | 4.96562   | 4.96795   |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 3.220E-05 DISTANCE = 7300.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.307  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.873

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 4.136  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 4.556  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 4.712

| K  | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|----|---|-------------|-------------|-------------|
| 11 | 1 | -10.34363   | -10.66586   | -0.07497    |
| 11 | 2 | -10.35648   | -16.23081   | -1.42355    |
| 11 | 3 | -13.06453   | -16.56700   | -1.57470    |
| 11 | 4 | -13.57536   | -18.34056   | -2.50825    |
| 11 | 5 | -13.98859   | -28.91752   | -8.60427    |
| 11 | 6 | -14.38063   | -41.69655   | -16.16806   |
| 11 | 7 | -14.64091   | NUMXQ(K)= 7 |             |
|    |   | 9.697E-06   | 0.050       | 1.000       |
|    |   | 6.127E-06   | 0.149       | 3.000       |
|    |   | 4.875E-06   | 0.248       | 5.000       |
|    |   | 3.509E-06   | 0.497       | 10.000      |
|    |   | 2.861E-06   | 0.745       | 15.000      |
|    |   | 2.461E-06   | 0.994       | 20.000      |
|    |   | 2.181E-06   | 1.242       | 25.000      |
|    |   | 1.955E-06   | 1.490       | 30.000      |
|    |   | 1.774E-06   | 1.739       | 35.000      |
|    |   | 1.628E-06   | 1.987       | 40.000      |
|    |   | 1.507E-06   | 2.236       | 45.000      |
|    |   | 1.405E-06   | 2.484       | 50.000      |
|    |   | 1.317E-06   | 2.732       | 55.000      |
|    |   | 1.222E-06   | 2.981       | 60.000      |
|    |   | 1.118E-06   | 3.229       | 65.000      |
|    |   | 1.028E-06   | 3.478       | 70.000      |
|    |   | 9.505E-07   | 3.726       | 75.000      |
|    |   | 8.821E-07   | 3.974       | 80.000      |
|    |   | 7.765E-07   | 4.223       | 85.000      |
|    |   | 6.158E-07   | 4.471       | 90.000      |
|    |   | 3.498E-06   | 0.5         | 10.06       |

ANNUAL AVERAGE = 2.69E-08

K= 11 FIVEXQ(K)= 3.498E-06 FIVEPR(K)=10.065

FUMIGATION X/Q AT THE BOUNDARY: 1.33E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.977E-01 | 9.975E-01 | 9.839E-01 | 8.320E-01 | 6.071E-01 | 2.574E-01 | 1.266E-01 |
| 0.423     | 1.502     | 4.460     | 33.527    | 77.211    | 95.258    | 100.000   |



Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER   | BLDG WAKE | USED      |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|-----------|-----------|
| AT 152.4 METERS |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |           |           |
| A               | 6.2                    | 0.33                 | 7300.              | 67.               | 85.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 3.430E-08 |
| A               | 9.2                    | 0.14                 | 7300.              | 67.               | 85.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 3.430E-08 |
| A               | 12.0                   | 0.09                 | 7300.              | 67.               | 85.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 2.644E-08 |
| A               | 27.5                   | 0.09                 | 7300.              | 67.               | 85.          | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 1.154E-08 |
| B               | 3.7                    | 0.05                 | 7300.              | 67.               | 85.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 1.037E-07 |
| B               | 6.2                    | 0.38                 | 7300.              | 67.               | 85.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 6.219E-08 |
| B               | 9.2                    | 0.89                 | 7300.              | 67.               | 85.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 4.202E-08 |
| B               | 12.0                   | 0.09                 | 7300.              | 67.               | 85.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 3.239E-08 |
| B               | 27.5                   | 0.05                 | 7300.              | 67.               | 85.          | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 1.413E-08 |
| C               | 3.7                    | 0.14                 | 7300.              | 67.               | 85.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 3.437E-07 |
| C               | 6.2                    | 1.22                 | 7300.              | 67.               | 85.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 2.062E-07 |
| C               | 9.2                    | 1.46                 | 7300.              | 67.               | 85.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 1.393E-07 |
| C               | 12.0                   | 0.19                 | 7300.              | 67.               | 85.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 1.074E-07 |
| C               | 27.5                   | 0.05                 | 7300.              | 67.               | 85.          | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 4.686E-08 |
| D               | 0.2                    | 0.00                 | 7300.              | 67.               | 85.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 1.881E-05 |
| D               | 1.7                    | 0.71                 | 7300.              | 67.               | 85.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 2.687E-06 |
| D               | 3.7                    | 6.02                 | 7300.              | 67.               | 85.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 1.254E-06 |
| D               | 6.2                    | 9.93                 | 7300.              | 67.               | 85.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 7.524E-07 |
| D               | 9.2                    | 8.94                 | 7300.              | 67.               | 85.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 5.084E-07 |
| D               | 12.0                   | 1.03                 | 7300.              | 67.               | 85.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 3.919E-07 |
| D               | 27.5                   | 0.28                 | 7300.              | 67.               | 85.          | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 1.710E-07 |
| E               | 0.3                    | 0.02                 | 7300.              | 67.               | 85.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 2.350E-05 |
| E               | 2.0                    | 2.54                 | 7300.              | 67.               | 85.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 3.357E-06 |
| E               | 4.2                    | 8.80                 | 7300.              | 67.               | 85.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 1.567E-06 |
| E               | 7.0                    | 13.97                | 7300.              | 67.               | 85.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 9.399E-07 |
| E               | 10.3                   | 12.75                | 7300.              | 67.               | 85.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 6.351E-07 |
| E               | 13.4                   | 1.41                 | 7300.              | 67.               | 85.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 4.895E-07 |
| E               | 30.7                   | 0.05                 | 7300.              | 67.               | 85.          | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 2.136E-07 |
| F               | 0.3                    | 0.02                 | 10000.             | 67.               | 85.          | 295.8         | 46.1            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 1.504E-05 |
| F               | 2.0                    | 1.55                 | 10000.             | 67.               | 85.          | 295.8         | 46.1            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 2.149E-06 |
| F               | 4.2                    | 5.50                 | 10000.             | 67.               | 85.          | 295.8         | 46.1            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 1.003E-06 |
| F               | 7.0                    | 8.33                 | 10000.             | 67.               | 85.          | 295.8         | 46.1            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 6.017E-07 |
| F               | 10.3                   | 5.13                 | 10000.             | 67.               | 85.          | 295.8         | 46.1            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 4.066E-07 |
| F               | 13.4                   | 0.85                 | 10000.             | 67.               | 85.          | 295.8         | 46.1            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 0.000E+00 | 3.134E-07 |

|   |      |      |        |     |     |        |      |     |           |           |           |
|---|------|------|--------|-----|-----|--------|------|-----|-----------|-----------|-----------|
| G | 2.0  | 0.85 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 6.316E-07 |
| G | 4.2  | 1.60 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 2.947E-07 |
| G | 7.0  | 3.29 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.768E-07 |
| G | 10.3 | 1.22 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.195E-07 |
| G | 13.4 | 0.05 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 9.210E-08 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 7300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.350E-05 | 1.881E-05 | 1.504E-05 | 3.357E-06 | 2.687E-06 | 2.149E-06 | 1.567E-06 | 1.254E-06 | 1.003E-06 | 9.399E-07 |
| 0.018     | 0.020     | 0.038     | 2.578     | 3.283     | 4.836     | 13.632    | 19.654    | 25.158    | 39.129    |
| 0.00090   | 0.00098   | 0.00186   | 0.12782   | 0.16281   | 0.23978   | 0.67596   | 0.97453   | 1.24743   | 1.94019   |
| 7.524E-07 | 6.351E-07 | 6.316E-07 | 6.017E-07 | 5.084E-07 | 4.895E-07 | 4.066E-07 | 3.919E-07 | 3.437E-07 | 3.134E-07 |
| 49.054    | 61.803    | 62.649    | 70.976    | 79.913    | 81.325    | 86.452    | 87.487    | 87.628    | 88.475    |
| 2.43235   | 3.06447   | 3.10645   | 3.51931   | 3.96249   | 4.03247   | 4.28671   | 4.33803   | 4.34502   | 4.38701   |
| 2.947E-07 | 2.136E-07 | 2.062E-07 | 1.768E-07 | 1.710E-07 | 1.393E-07 | 1.195E-07 | 1.074E-07 | 1.037E-07 | 9.210E-08 |
| 90.074    | 90.121    | 91.344    | 94.637    | 94.920    | 96.378    | 97.601    | 97.789    | 97.836    | 97.883    |
| 4.46632   | 4.46865   | 4.52929   | 4.69257   | 4.70657   | 4.77887   | 4.83952   | 4.84885   | 4.85118   | 4.85352   |
| 6.219E-08 | 5.076E-08 | 4.686E-08 | 4.202E-08 | 3.430E-08 | 3.239E-08 | 2.644E-08 | 1.413E-08 | 1.154E-08 |           |
| 98.259    | 98.589    | 98.636    | 99.530    | 99.671    | 99.765    | 99.859    | 99.906    | 100.000   |           |
| 4.87218   | 4.88850   | 4.89084   | 4.93515   | 4.94215   | 4.94682   | 4.95148   | 4.95381   | 4.95848   |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 2.350E-05 DISTANCE = 7300.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.938  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 3.516

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 3.959  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 4.029  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 4.283  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 4.335  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8) = 4.463  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 9) = 4.689

| K  | I | XQSAVE(K, I) | XQINT(K, I)  | XQSLOP(K, I) |
|----|---|--------------|--------------|--------------|
| 12 | 1 | -10.65860    | -16.87074    | -1.44833     |
| 12 | 2 | -13.87747    | -17.46548    | -1.73610     |
| 12 | 3 | -14.32344    | -19.93372    | -3.09991     |
| 12 | 4 | -14.49200    | -22.65677    | -4.65111     |
| 12 | 5 | -14.52980    | -25.87565    | -6.49328     |
| 12 | 6 | -14.71549    | -25.99988    | -6.56556     |
| 12 | 7 | -14.75228    | -50.17148    | -20.67527    |
| 12 | 8 | -15.03721    | -51.90182    | -21.69352    |
| 12 | 9 | -15.54804    | NUMXQ(K) = 9 |              |
|    |   | 5.553E-06    | 0.050        | 1.000        |
|    |   | 3.481E-06    | 0.149        | 3.000        |
|    |   | 2.759E-06    | 0.248        | 5.000        |
|    |   | 1.974E-06    | 0.496        | 10.000       |
|    |   | 1.604E-06    | 0.744        | 15.000       |
|    |   | 1.376E-06    | 0.992        | 20.000       |
|    |   | 1.217E-06    | 1.240        | 25.000       |
|    |   | 1.098E-06    | 1.488        | 30.000       |
|    |   | 1.004E-06    | 1.735        | 35.000       |
|    |   | 9.252E-07    | 1.983        | 40.000       |
|    |   | 8.497E-07    | 2.231        | 45.000       |
|    |   | 7.864E-07    | 2.479        | 50.000       |
|    |   | 7.323E-07    | 2.727        | 55.000       |
|    |   | 6.855E-07    | 2.975        | 60.000       |
|    |   | 6.445E-07    | 3.223        | 65.000       |
|    |   | 6.083E-07    | 3.471        | 70.000       |
|    |   | 5.566E-07    | 3.719        | 75.000       |
|    |   | 5.072E-07    | 3.967        | 80.000       |
|    |   | 4.281E-07    | 4.215        | 85.000       |
|    |   | 2.971E-07    | 4.463        | 90.000       |
|    |   | 1.966E-06    | 0.5          | 10.08        |

ANNUAL AVERAGE = 1.66E-08

K= 12 FIVEXQ(K)= 1.966E-06 FIVEPR(K)=10.084

FUMIGATION X/Q AT THE BOUNDARY: 1.05E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.964E-01 | 9.961E-01 | 9.742E-01 | 7.443E-01 | 4.488E-01 | 1.802E-01 | 1.786E-01 |
| 0.659     | 2.117     | 5.175     | 32.084    | 71.616    | 92.991    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER   | BLDG WAKE | USED |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|-----------|------|
| AT 152.4 METERS |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |           |      |
| A               | 3.7                    | 0.03                 | 7300.              | 48.               | 104.         | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 8.445E-08 |      |
| A               | 6.2                    | 0.24                 | 7300.              | 48.               | 104.         | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 5.067E-08 |      |
| A               | 9.2                    | 0.63                 | 7300.              | 48.               | 104.         | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.423E-08 |      |
| A               | 12.0                   | 0.42                 | 7300.              | 48.               | 104.         | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.639E-08 |      |
| A               | 27.5                   | 0.06                 | 7300.              | 48.               | 104.         | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.152E-08 |      |
| B               | 3.7                    | 0.12                 | 7300.              | 48.               | 104.         | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.035E-07 |      |
| B               | 6.2                    | 0.63                 | 7300.              | 48.               | 104.         | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 6.207E-08 |      |
| B               | 9.2                    | 0.81                 | 7300.              | 48.               | 104.         | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.194E-08 |      |
| B               | 12.0                   | 0.36                 | 7300.              | 48.               | 104.         | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.233E-08 |      |
| B               | 27.5                   | 0.18                 | 7300.              | 48.               | 104.         | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.411E-08 |      |
| C               | 3.7                    | 0.15                 | 7300.              | 48.               | 104.         | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.393E-07 |      |
| C               | 6.2                    | 1.25                 | 7300.              | 48.               | 104.         | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.036E-07 |      |
| C               | 9.2                    | 1.67                 | 7300.              | 48.               | 104.         | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.375E-07 |      |
| C               | 12.0                   | 0.86                 | 7300.              | 48.               | 104.         | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.060E-07 |      |
| C               | 27.5                   | 0.39                 | 7300.              | 48.               | 104.         | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.626E-08 |      |
| D               | 0.2                    | 0.00                 | 7300.              | 48.               | 104.         | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.626E-05 |      |
| D               | 1.7                    | 0.78                 | 7300.              | 48.               | 104.         | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.322E-06 |      |
| D               | 3.7                    | 4.21                 | 7300.              | 48.               | 104.         | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.084E-06 |      |
| D               | 6.2                    | 8.98                 | 7300.              | 48.               | 104.         | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 6.502E-07 |      |
| D               | 9.2                    | 11.78                | 7300.              | 48.               | 104.         | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.393E-07 |      |
| D               | 12.0                   | 6.71                 | 7300.              | 48.               | 104.         | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.386E-07 |      |
| D               | 27.5                   | 2.68                 | 7300.              | 48.               | 104.         | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.478E-07 |      |
| E               | 0.3                    | 0.01                 | 7300.              | 48.               | 104.         | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.581E-05 |      |
| E               | 2.0                    | 1.61                 | 7300.              | 48.               | 104.         | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.259E-06 |      |
| E               | 4.2                    | 5.16                 | 7300.              | 48.               | 104.         | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.054E-06 |      |
| E               | 7.0                    | 11.78                | 7300.              | 48.               | 104.         | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 6.325E-07 |      |
| E               | 10.3                   | 15.99                | 7300.              | 48.               | 104.         | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.274E-07 |      |
| E               | 13.4                   | 2.33                 | 7300.              | 48.               | 104.         | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.294E-07 |      |
| E               | 30.7                   | 0.27                 | 7300.              | 48.               | 104.         | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.437E-07 |      |
| F               | 0.3                    | 0.01                 | 20000.             | 48.               | 104.         | 553.1         | 58.7            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 7.219E-06 |      |
| F               | 2.0                    | 0.89                 | 20000.             | 48.               | 104.         | 553.1         | 58.7            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.031E-06 |      |
| F               | 4.2                    | 2.54                 | 20000.             | 48.               | 104.         | 553.1         | 58.7            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.813E-07 |      |
| F               | 7.0                    | 5.91                 | 20000.             | 48.               | 104.         | 553.1         | 58.7            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.888E-07 |      |
| F               | 10.3                   | 5.01                 | 20000.             | 48.               | 104.         | 553.1         | 58.7            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.951E-07 |      |

**Calculation No. PM-1055 Revision 0****Attachment J**

|   |      |      |        |     |      |        |      |     |           |           |           |
|---|------|------|--------|-----|------|--------|------|-----|-----------|-----------|-----------|
| F | 13.4 | 0.72 | 20000. | 48. | 104. | 553.1  | 58.7 | 0.0 | 0.000E+00 | 0.000E+00 | 1.504E-07 |
| G | 2.0  | 0.39 | 90000. | 48. | 104. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 2.694E-07 |
| G | 4.2  | 1.19 | 90000. | 48. | 104. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.257E-07 |
| G | 7.0  | 2.06 | 90000. | 48. | 104. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 7.544E-08 |
| G | 10.3 | 1.16 | 90000. | 48. | 104. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 5.097E-08 |
| G | 13.4 | 0.03 | 90000. | 48. | 104. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 3.929E-08 |
| G | 30.7 | 0.03 | 90000. | 48. | 104. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.715E-08 |

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 12/29/02

Page 1062 of 1411

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## LOW POPULATION ZONE CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 7300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.626E-05 | 1.581E-05 | 7.219E-06 | 2.322E-06 | 2.259E-06 | 1.084E-06 | 1.054E-06 | 1.031E-06 | 6.502E-07 | 6.325E-07 |
| 0.002     | 0.013     | 0.024     | 0.799     | 2.410     | 6.615     | 11.775    | 12.670    | 21.647    | 33.429    |
| 0.00014   | 0.00103   | 0.00184   | 0.06249   | 0.18844   | 0.51733   | 0.92086   | 0.99083   | 1.69292   | 2.61427   |
| 4.813E-07 | 4.393E-07 | 4.274E-07 | 3.393E-07 | 3.386E-07 | 3.294E-07 | 2.888E-07 | 2.694E-07 | 2.036E-07 | 1.951E-07 |
| 35.964    | 47.745    | 63.732    | 63.881    | 70.592    | 72.918    | 78.824    | 79.211    | 80.464    | 85.475    |
| 2.81253   | 3.73388   | 4.98411   | 4.99578   | 5.52059   | 5.70253   | 6.16437   | 6.19469   | 6.29266   | 6.68452   |
| 1.504E-07 | 1.478E-07 | 1.437E-07 | 1.375E-07 | 1.257E-07 | 1.060E-07 | 1.035E-07 | 8.445E-08 | 7.544E-08 | 6.207E-08 |
| 86.191    | 88.875    | 89.143    | 90.814    | 92.007    | 92.872    | 92.991    | 93.021    | 95.079    | 95.705    |
| 6.74050   | 6.95043   | 6.97142   | 7.10205   | 7.19535   | 7.26299   | 7.27232   | 7.27465   | 7.43560   | 7.48458   |
| 5.097E-08 | 5.067E-08 | 4.626E-08 | 4.194E-08 | 3.929E-08 | 3.423E-08 | 3.233E-08 | 2.639E-08 | 1.715E-08 | 1.411E-08 |
| 96.868    | 97.107    | 97.495    | 98.300    | 98.330    | 98.956    | 99.314    | 99.732    | 99.761    | 99.940    |
| 7.57555   | 7.59421   | 7.62453   | 7.68751   | 7.68984   | 7.73882   | 7.76681   | 7.79947   | 7.80180   | 7.81580   |
| 1.152E-08 |           |           |           |           |           |           |           |           |           |
| 100.000   |           |           |           |           |           |           |           |           |           |
| 7.82046   |           |           |           |           |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.752E-05 DISTANCE = 5000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

Calculation No. PM-1055 Revision 0

Attachment J

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 2.612  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.980  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 6.161  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 6.681  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 7.098  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8)= 7.192

| K  | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|----|---|-------------|-------------|-------------|
| 13 | 1 | -11.02711   | -11.32689   | -0.06393    |
| 13 | 2 | -11.05472   | -16.97121   | -1.38966    |
| 13 | 3 | -14.27359   | -16.85818   | -1.33143    |
| 13 | 4 | -14.66564   | -20.79554   | -3.72242    |
| 13 | 5 | -15.05767   | -29.64292   | -9.46211    |
| 13 | 6 | -15.44971   | -32.10639   | -11.10442   |
| 13 | 7 | -15.79937   | -35.05578   | -13.11283   |
| 13 | 8 | -15.88907   | NUMXQ(K)= 8 |             |
|    |   | 3.454E-06   | 0.078       | 1.000       |
|    |   | 2.168E-06   | 0.235       | 3.000       |
|    |   | 1.718E-06   | 0.391       | 5.000       |
|    |   | 1.226E-06   | 0.782       | 10.000      |
|    |   | 9.937E-07   | 1.173       | 15.000      |
|    |   | 8.500E-07   | 1.564       | 20.000      |
|    |   | 7.497E-07   | 1.955       | 25.000      |
|    |   | 6.745E-07   | 2.346       | 30.000      |
|    |   | 6.160E-07   | 2.737       | 35.000      |
|    |   | 5.697E-07   | 3.128       | 40.000      |
|    |   | 5.310E-07   | 3.519       | 45.000      |
|    |   | 4.980E-07   | 3.910       | 50.000      |
|    |   | 4.693E-07   | 4.301       | 55.000      |
|    |   | 4.442E-07   | 4.692       | 60.000      |
|    |   | 4.124E-07   | 5.083       | 65.000      |
|    |   | 3.602E-07   | 5.474       | 70.000      |
|    |   | 3.170E-07   | 5.865       | 75.000      |
|    |   | 2.689E-07   | 6.256       | 80.000      |
|    |   | 2.005E-07   | 6.647       | 85.000      |
|    |   | 1.449E-07   | 7.038       | 90.000      |
|    |   | 1.529E-06   | 0.5         | 6.39        |

ANNUAL AVERAGE = 1.64E-08

K= 13 FIVEXQ(K)= 1.529E-06 FIVEPR(K)= 6.393

FUMIGATION X/Q AT THE BOUNDARY: 8.58E-06

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.946E-01 | 9.941E-01 | 9.617E-01 | 6.432E-01 | 3.020E-01 | 2.058E-01 | 7.618E-02 |
| 1.372     | 3.460     | 7.785     | 42.921    | 80.066    | 95.138    | 100.000   |



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft. wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER | BLDG WAKE | USED |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|---------|-----------|------|
|                 | AT 152.4 METERS        |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |         |           |      |
| A               | 6.2                    | 0.24                 | 7300.              | 67.               | 85.          | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 5.076E-08                         |         |           |      |
| A               | 9.2                    | 0.24                 | 7300.              | 67.               | 85.          | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 3.430E-08                         |         |           |      |
| A               | 12.0                   | 0.05                 | 7300.              | 67.               | 85.          | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 2.644E-08                         |         |           |      |
| A               | 27.5                   | 0.13                 | 7300.              | 67.               | 85.          | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 1.154E-08                         |         |           |      |
| B               | 3.7                    | 0.08                 | 7300.              | 67.               | 85.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 1.037E-07                         |         |           |      |
| B               | 6.2                    | 0.24                 | 7300.              | 67.               | 85.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 6.219E-08                         |         |           |      |
| B               | 9.2                    | 0.53                 | 7300.              | 67.               | 85.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 4.202E-08                         |         |           |      |
| B               | 12.0                   | 0.37                 | 7300.              | 67.               | 85.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 3.239E-08                         |         |           |      |
| B               | 27.5                   | 0.19                 | 7300.              | 67.               | 85.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 1.413E-08                         |         |           |      |
| C               | 3.7                    | 0.13                 | 7300.              | 67.               | 85.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 3.437E-07                         |         |           |      |
| C               | 6.2                    | 0.69                 | 7300.              | 67.               | 85.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 2.062E-07                         |         |           |      |
| C               | 9.2                    | 1.57                 | 7300.              | 67.               | 85.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 1.393E-07                         |         |           |      |
| C               | 12.0                   | 0.80                 | 7300.              | 67.               | 85.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 1.074E-07                         |         |           |      |
| C               | 27.5                   | 0.72                 | 7300.              | 67.               | 85.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 4.686E-08                         |         |           |      |
| D               | 0.2                    | 0.00                 | 7300.              | 67.               | 85.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 1.881E-05                         |         |           |      |
| D               | 1.7                    | 1.01                 | 7300.              | 67.               | 85.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 2.687E-06                         |         |           |      |
| D               | 3.7                    | 2.59                 | 7300.              | 67.               | 85.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 1.254E-06                         |         |           |      |
| D               | 6.2                    | 9.48                 | 7300.              | 67.               | 85.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 7.524E-07                         |         |           |      |
| D               | 9.2                    | 17.99                | 7300.              | 67.               | 85.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 5.084E-07                         |         |           |      |
| D               | 12.0                   | 11.96                | 7300.              | 67.               | 85.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 3.919E-07                         |         |           |      |
| D               | 27.5                   | 4.03                 | 7300.              | 67.               | 85.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 1.710E-07                         |         |           |      |
| E               | 0.3                    | 0.01                 | 7300.              | 67.               | 85.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 2.350E-05                         |         |           |      |
| E               | 2.0                    | 0.96                 | 7300.              | 67.               | 85.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 3.357E-06                         |         |           |      |
| E               | 4.2                    | 3.68                 | 7300.              | 67.               | 85.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 1.567E-06                         |         |           |      |
| E               | 7.0                    | 9.45                 | 7300.              | 67.               | 85.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 9.399E-07                         |         |           |      |
| E               | 10.3                   | 15.56                | 7300.              | 67.               | 85.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 6.351E-07                         |         |           |      |
| E               | 13.4                   | 2.96                 | 7300.              | 67.               | 85.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 4.895E-07                         |         |           |      |
| E               | 30.7                   | 0.32                 | 7300.              | 67.               | 85.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 2.136E-07                         |         |           |      |
| F               | 0.3                    | 0.01                 | 10000.             | 67.               | 85.          | 295.8         | 46.1               | 0.0               | 0.000E+00         | 0.000E+00            | 1.504E-05                         |         |           |      |
| F               | 2.0                    | 0.75                 | 10000.             | 67.               | 85.          | 295.8         | 46.1               | 0.0               | 0.000E+00         | 0.000E+00            | 2.149E-06                         |         |           |      |
| F               | 4.2                    | 1.76                 | 10000.             | 67.               | 85.          | 295.8         | 46.1               | 0.0               | 0.000E+00         | 0.000E+00            | 1.003E-06                         |         |           |      |
| F               | 7.0                    | 3.74                 | 10000.             | 67.               | 85.          | 295.8         | 46.1               | 0.0               | 0.000E+00         | 0.000E+00            | 6.017E-07                         |         |           |      |
| F               | 10.3                   | 3.68                 | 10000.             | 67.               | 85.          | 295.8         | 46.1               | 0.0               | 0.000E+00         | 0.000E+00            | 4.066E-07                         |         |           |      |
| F               | 13.4                   | 0.48                 | 10000.             | 67.               | 85.          | 295.8         | 46.1               | 0.0               | 0.000E+00         | 0.000E+00            | 3.134E-07                         |         |           |      |

|   |      |      |        |     |     |        |      |     |           |           |           |
|---|------|------|--------|-----|-----|--------|------|-----|-----------|-----------|-----------|
| G | 2.0  | 0.37 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 6.316E-07 |
| G | 4.2  | 0.93 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 2.947E-07 |
| G | 7.0  | 1.17 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.768E-07 |
| G | 10.3 | 1.04 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.195E-07 |
| G | 13.4 | 0.05 | 90000. | 67. | 85. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 9.210E-08 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 7300.0 METERS

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.350E-05 | 1.881E-05 | 1.504E-05 | 3.357E-06 | 2.687E-06 | 2.149E-06 | 1.567E-06 | 1.254E-06 | 1.003E-06 | 9.399E-07 |
| 0.007     | 0.009     | 0.018     | 0.979     | 1.993     | 2.740     | 6.423     | 9.012     | 10.774    | 20.222    |
| 0.00060   | 0.00080   | 0.00155   | 0.08552   | 0.17416   | 0.23947   | 0.56136   | 0.78761   | 0.94156   | 1.76727   |
| 7.524E-07 | 6.351E-07 | 6.316E-07 | 6.017E-07 | 5.084E-07 | 4.895E-07 | 4.066E-07 | 3.919E-07 | 3.437E-07 | 3.134E-07 |
| 29.697    | 45.258    | 45.632    | 49.368    | 67.358    | 70.320    | 74.004    | 85.961    | 86.094    | 86.575    |
| 2.59532   | 3.95518   | 3.98784   | 4.31439   | 5.88651   | 6.14542   | 6.46731   | 7.51228   | 7.52394   | 7.56593   |
| 2.947E-07 | 2.136E-07 | 2.062E-07 | 1.768E-07 | 1.710E-07 | 1.393E-07 | 1.195E-07 | 1.074E-07 | 1.037E-07 | 9.210E-08 |
| 87.509    | 87.829    | 88.523    | 89.697    | 93.728    | 95.302    | 96.343    | 97.144    | 97.224    | 97.278    |
| 7.64757   | 7.67556   | 7.73620   | 7.83883   | 8.19104   | 8.32866   | 8.41963   | 8.48961   | 8.49660   | 8.50127   |
| 6.219E-08 | 5.076E-08 | 4.686E-08 | 4.202E-08 | 3.430E-08 | 3.239E-08 | 2.644E-08 | 1.413E-08 | 1.154E-08 |           |
| 97.518    | 97.758    | 98.479    | 99.012    | 99.253    | 99.626    | 99.680    | 99.867    | 100.000   |           |
| 8.52226   | 8.54326   | 8.60623   | 8.65288   | 8.67388   | 8.70653   | 8.71120   | 8.72752   | 8.73919   |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 2.350E-05 DISTANCE = 7300.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.765  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 3.952

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 5.883  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 6.142  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 7.508  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 8.187  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8) = 8.325

| K  | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|----|---|-------------|--------------|-------------|
| 14 | 1 | -10.65860   | -16.85747    | -1.41580    |
| 14 | 2 | -13.87747   | -16.24515    | -1.12488    |
| 14 | 3 | -14.26952   | -16.30888    | -1.16117    |
| 14 | 4 | -14.49200   | -17.21737    | -1.74179    |
| 14 | 5 | -14.52980   | -17.82863    | -2.13793    |
| 14 | 6 | -14.75228   | -40.49491    | -17.89008   |
| 14 | 7 | -15.58156   | -47.14008    | -22.66192   |
| 14 | 8 | -15.78646   | NUMXQ(K) = 8 |             |
|    |   | 4.015E-06   | 0.087        | 1.000       |
|    |   | 2.487E-06   | 0.262        | 3.000       |
|    |   | 1.956E-06   | 0.437        | 5.000       |
|    |   | 1.382E-06   | 0.874        | 10.000      |
|    |   | 1.112E-06   | 1.311        | 15.000      |
|    |   | 9.459E-07   | 1.748        | 20.000      |
|    |   | 8.519E-07   | 2.185        | 25.000      |
|    |   | 7.808E-07   | 2.622        | 30.000      |
|    |   | 7.239E-07   | 3.059        | 35.000      |
|    |   | 6.768E-07   | 3.496        | 40.000      |
|    |   | 6.370E-07   | 3.933        | 45.000      |
|    |   | 6.016E-07   | 4.370        | 50.000      |
|    |   | 5.707E-07   | 4.807        | 55.000      |
|    |   | 5.434E-07   | 5.244        | 60.000      |
|    |   | 5.190E-07   | 5.680        | 65.000      |
|    |   | 4.915E-07   | 6.117        | 70.000      |
|    |   | 4.563E-07   | 6.554        | 75.000      |
|    |   | 4.249E-07   | 6.991        | 80.000      |
|    |   | 3.969E-07   | 7.428        | 85.000      |
|    |   | 2.529E-07   | 7.865        | 90.000      |
|    |   | 1.832E-06   | 0.5          | 5.72        |

ANNUAL AVERAGE = 2.38E-08

K= 14 FIVEXQ(K)= 1.832E-06 FIVEPR(K)= 5.721

FUMIGATION X/Q AT THE BOUNDARY: 1.05E-05

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.964E-01 | 9.961E-01 | 9.742E-01 | 7.443E-01 | 4.488E-01 | 1.802E-01 | 1.786E-01 |
| 0.667     | 2.082     | 6.005     | 53.063    | 86.006    | 96.423    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR:

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |                        |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| AT 152.4 METERS |                        |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 6.2                    | 0.04                 | 7300.              | 43.               | 109.         | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 5.064E-08                         |           |      |
| A               | 9.2                    | 0.06                 | 7300.              | 43.               | 109.         | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 3.422E-08                         |           |      |
| A               | 27.5                   | 0.02                 | 7300.              | 43.               | 109.         | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 1.151E-08                         |           |      |
| B               | 3.7                    | 0.08                 | 7300.              | 43.               | 109.         | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 1.034E-07                         |           |      |
| B               | 6.2                    | 0.04                 | 7300.              | 43.               | 109.         | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 6.204E-08                         |           |      |
| B               | 9.2                    | 0.19                 | 7300.              | 43.               | 109.         | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 4.192E-08                         |           |      |
| B               | 12.0                   | 0.08                 | 7300.              | 43.               | 109.         | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 3.231E-08                         |           |      |
| C               | 3.7                    | 0.06                 | 7300.              | 43.               | 109.         | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 3.380E-07                         |           |      |
| C               | 6.2                    | 0.55                 | 7300.              | 43.               | 109.         | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 2.028E-07                         |           |      |
| C               | 9.2                    | 0.74                 | 7300.              | 43.               | 109.         | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 1.370E-07                         |           |      |
| C               | 12.0                   | 0.59                 | 7300.              | 43.               | 109.         | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 1.056E-07                         |           |      |
| C               | 27.5                   | 0.13                 | 7300.              | 43.               | 109.         | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 4.609E-08                         |           |      |
| D               | 0.2                    | 0.00                 | 7300.              | 43.               | 109.         | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 1.557E-05                         |           |      |
| D               | 1.7                    | 0.76                 | 7300.              | 43.               | 109.         | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 2.224E-06                         |           |      |
| D               | 3.7                    | 4.10                 | 7300.              | 43.               | 109.         | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 1.038E-06                         |           |      |
| D               | 6.2                    | 11.52                | 7300.              | 43.               | 109.         | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 6.227E-07                         |           |      |
| D               | 9.2                    | 22.08                | 7300.              | 43.               | 109.         | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 4.207E-07                         |           |      |
| D               | 12.0                   | 11.54                | 7300.              | 43.               | 109.         | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 3.243E-07                         |           |      |
| D               | 27.5                   | 3.91                 | 7300.              | 43.               | 109.         | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 1.415E-07                         |           |      |
| E               | 0.3                    | 0.01                 | 7300.              | 43.               | 109.         | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 1.406E-05                         |           |      |
| E               | 2.0                    | 0.83                 | 7300.              | 43.               | 109.         | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 2.009E-06                         |           |      |
| E               | 4.2                    | 3.61                 | 7300.              | 43.               | 109.         | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 9.374E-07                         |           |      |
| E               | 7.0                    | 11.03                | 7300.              | 43.               | 109.         | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 5.624E-07                         |           |      |
| E               | 10.3                   | 13.83                | 7300.              | 43.               | 109.         | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 3.800E-07                         |           |      |
| E               | 13.4                   | 1.89                 | 7300.              | 43.               | 109.         | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 2.929E-07                         |           |      |
| E               | 30.7                   | 0.13                 | 7300.              | 43.               | 109.         | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 1.278E-07                         |           |      |
| F               | 0.3                    | 0.01                 | 20000.             | 43.               | 109.         | 553.1         | 58.7               | 0.0               | 0.000E+00         | 0.000E+00            | 6.182E-06                         |           |      |
| F               | 2.0                    | 0.55                 | 20000.             | 43.               | 109.         | 553.1         | 58.7               | 0.0               | 0.000E+00         | 0.000E+00            | 8.832E-07                         |           |      |
| F               | 4.2                    | 2.00                 | 20000.             | 43.               | 109.         | 553.1         | 58.7               | 0.0               | 0.000E+00         | 0.000E+00            | 4.121E-07                         |           |      |
| F               | 7.0                    | 3.78                 | 20000.             | 43.               | 109.         | 553.1         | 58.7               | 0.0               | 0.000E+00         | 0.000E+00            | 2.473E-07                         |           |      |
| F               | 10.3                   | 1.91                 | 20000.             | 43.               | 109.         | 553.1         | 58.7               | 0.0               | 0.000E+00         | 0.000E+00            | 1.671E-07                         |           |      |
| G               | 2.0                    | 0.28                 | 90000.             | 43.               | 109.         | 1000.0        | 46.0               | 0.0               | 0.000E+00         | 0.000E+00            | 2.093E-07                         |           |      |
| G               | 4.2                    | 1.49                 | 90000.             | 43.               | 109.         | 1000.0        | 46.0               | 0.0               | 0.000E+00         | 0.000E+00            | 9.768E-08                         |           |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|   |      |      |        |     |      |        |      |     |           |           |           |
|---|------|------|--------|-----|------|--------|------|-----|-----------|-----------|-----------|
| G | 7.0  | 1.95 | 90000. | 43. | 109. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 5.861E-08 |
| G | 10.3 | 0.19 | 90000. | 43. | 109. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 3.960E-08 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION:

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 7300.0 METERS  
 BUILDING WAKE CREDIT IS NOT INCLUDED.  
 CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.557E-05 | 1.406E-05 | 6.182E-06 | 2.224E-06 | 2.009E-06 | 1.038E-06 | 9.374E-07 | 8.832E-07 | 6.227E-07 | 5.624E-07 |
| 0.002     | 0.008     | 0.014     | 0.779     | 1.607     | 5.708     | 9.320     | 9.872     | 21.388    | 32.415    |
| 0.00019   | 0.00084   | 0.00154   | 0.08551   | 0.17648   | 0.62665   | 1.02318   | 1.08383   | 2.34806   | 3.55864   |
| 4.207E-07 | 4.121E-07 | 3.800E-07 | 3.380E-07 | 3.243E-07 | 2.929E-07 | 2.473E-07 | 2.093E-07 | 2.028E-07 | 1.671E-07 |
| 54.490    | 56.487    | 70.319    | 70.382    | 81.919    | 83.810    | 87.592    | 87.868    | 88.421    | 90.333    |
| 5.98213   | 6.20139   | 7.71986   | 7.72686   | 8.99342   | 9.20101   | 9.61620   | 9.64653   | 9.70717   | 9.91710   |
| 1.415E-07 | 1.370E-07 | 1.278E-07 | 1.056E-07 | 1.034E-07 | 9.768E-08 | 6.204E-08 | 5.861E-08 | 5.064E-08 | 4.609E-08 |
| 94.242    | 94.986    | 95.113    | 95.708    | 95.793    | 97.280    | 97.323    | 99.278    | 99.320    | 99.448    |
| 10.34628  | 10.42792  | 10.44192  | 10.50723  | 10.51656  | 10.67984  | 10.68450  | 10.89909  | 10.90376  | 10.91775  |
| 4.192E-08 | 3.960E-08 | 3.422E-08 | 3.231E-08 | 1.151E-08 |           |           |           |           |           |
| 99.639    | 99.830    | 99.894    | 99.979    | 100.000   |           |           |           |           |           |
| 10.93875  | 10.95974  | 10.96673  | 10.97606  | 10.97840  |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
 THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 1.667E-05 DISTANCE = 5000.000

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 5.978  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 8.990

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 9.613  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 10.425  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8)= 10.677

| K  | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|----|---|-------------|-------------|-------------|
| 15 | 1 | -11.07039   | -12.54937   | -0.31996    |
| 15 | 2 | -11.17214   | -16.66923   | -1.27709    |
| 15 | 3 | -14.68131   | -15.87962   | -0.76982    |
| 15 | 4 | -14.78306   | -17.50198   | -1.90878    |
| 15 | 5 | -14.94160   | -24.65251   | -7.23953    |
| 15 | 6 | -15.21271   | -31.86936   | -12.77423   |
| 15 | 7 | -15.80320   | -46.61663   | -24.49982   |
| 15 | 8 | -16.14160   | NUMXQ(K)= 8 |             |
|    |   | 2.880E-06   | 0.110       | 1.000       |
|    |   | 1.853E-06   | 0.329       | 3.000       |
|    |   | 1.484E-06   | 0.549       | 5.000       |
|    |   | 1.076E-06   | 1.098       | 10.000      |
|    |   | 8.787E-07   | 1.647       | 15.000      |
|    |   | 7.558E-07   | 2.196       | 20.000      |
|    |   | 6.693E-07   | 2.745       | 25.000      |
|    |   | 6.040E-07   | 3.294       | 30.000      |
|    |   | 5.523E-07   | 3.842       | 35.000      |
|    |   | 5.100E-07   | 4.391       | 40.000      |
|    |   | 4.746E-07   | 4.940       | 45.000      |
|    |   | 4.444E-07   | 5.489       | 50.000      |
|    |   | 4.192E-07   | 6.038       | 55.000      |
|    |   | 4.051E-07   | 6.587       | 60.000      |
|    |   | 3.924E-07   | 7.136       | 65.000      |
|    |   | 3.807E-07   | 7.685       | 70.000      |
|    |   | 3.557E-07   | 8.234       | 75.000      |
|    |   | 3.325E-07   | 8.783       | 80.000      |
|    |   | 2.794E-07   | 9.332       | 85.000      |
|    |   | 2.032E-07   | 9.881       | 90.000      |
|    |   | 1.547E-06   | 0.5         | 4.55        |

ANNUAL AVERAGE = 2.24E-08

K= 15 FIVEXQ(K)= 1.547E-06 FIVEPR(K)= 4.554

FUMIGATION X/Q AT THE BOUNDARY: 8.19E-06

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.940E-01 | 9.936E-01 | 9.581E-01 | 6.159E-01 | 2.686E-01 | 1.763E-01 | 5.918E-02 |
| 0.127     | 0.531     | 2.613     | 56.517    | 87.841    | 96.091    | 100.000   |



Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Stack Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 97.5 meters  
 DELTA-T HEIGHTS: 10.1-96.3 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | BLDG WAKE | USED      |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|-----------|
|                 | AT 152.4 METERS        |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |           |
| A               | 3.7                    | 0.02                 | 7300.              | 43.               | 109.         | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 8.440E-08 |
| A               | 6.2                    | 0.17                 | 7300.              | 43.               | 109.         | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 5.064E-08 |
| A               | 9.2                    | 0.32                 | 7300.              | 43.               | 109.         | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.422E-08 |
| A               | 12.0                   | 0.02                 | 7300.              | 43.               | 109.         | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.638E-08 |
| A               | 27.5                   | 0.02                 | 7300.              | 43.               | 109.         | 1000.0        | 1000.0          | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.151E-08 |
| B               | 3.7                    | 0.06                 | 7300.              | 43.               | 109.         | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.034E-07 |
| B               | 6.2                    | 0.48                 | 7300.              | 43.               | 109.         | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 6.204E-08 |
| B               | 9.2                    | 0.71                 | 7300.              | 43.               | 109.         | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.192E-08 |
| B               | 12.0                   | 0.11                 | 7300.              | 43.               | 109.         | 848.1         | 962.0           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.231E-08 |
| C               | 3.7                    | 0.48                 | 7300.              | 43.               | 109.         | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.380E-07 |
| C               | 6.2                    | 2.16                 | 7300.              | 43.               | 109.         | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.028E-07 |
| C               | 9.2                    | 2.01                 | 7300.              | 43.               | 109.         | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.370E-07 |
| C               | 12.0                   | 0.37                 | 7300.              | 43.               | 109.         | 644.0         | 373.7           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.056E-07 |
| D               | 0.2                    | 0.00                 | 7300.              | 43.               | 109.         | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.557E-05 |
| D               | 1.7                    | 1.08                 | 7300.              | 43.               | 109.         | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.224E-06 |
| D               | 3.7                    | 8.31                 | 7300.              | 43.               | 109.         | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.038E-06 |
| D               | 6.2                    | 20.04                | 7300.              | 43.               | 109.         | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 6.227E-07 |
| D               | 9.2                    | 19.82                | 7300.              | 43.               | 109.         | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.207E-07 |
| D               | 12.0                   | 5.23                 | 7300.              | 43.               | 109.         | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.243E-07 |
| D               | 27.5                   | 1.36                 | 7300.              | 43.               | 109.         | 453.5         | 111.1           | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.415E-07 |
| E               | 0.3                    | 0.01                 | 7300.              | 43.               | 109.         | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.406E-05 |
| E               | 2.0                    | 0.73                 | 7300.              | 43.               | 109.         | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.009E-06 |
| E               | 4.2                    | 4.38                 | 7300.              | 43.               | 109.         | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 9.374E-07 |
| E               | 7.0                    | 11.10                | 7300.              | 43.               | 109.         | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 5.624E-07 |
| E               | 10.3                   | 10.11                | 7300.              | 43.               | 109.         | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 3.800E-07 |
| E               | 13.4                   | 0.93                 | 7300.              | 43.               | 109.         | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.929E-07 |
| E               | 30.7                   | 0.22                 | 7300.              | 43.               | 109.         | 322.5         | 67.5            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.278E-07 |
| F               | 0.3                    | 0.01                 | 20000.             | 43.               | 109.         | 553.1         | 58.7            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 6.182E-06 |
| F               | 2.0                    | 0.48                 | 20000.             | 43.               | 109.         | 553.1         | 58.7            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 8.832E-07 |
| F               | 4.2                    | 2.09                 | 20000.             | 43.               | 109.         | 553.1         | 58.7            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 4.121E-07 |
| F               | 7.0                    | 2.72                 | 20000.             | 43.               | 109.         | 553.1         | 58.7            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 2.473E-07 |
| F               | 10.3                   | 0.69                 | 20000.             | 43.               | 109.         | 553.1         | 58.7            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.671E-07 |
| F               | 13.4                   | 0.11                 | 20000.             | 43.               | 109.         | 553.1         | 58.7            | 0.0          | 0.000E+00         | 0.000E+00         | 0.0                  | 0.000E+00                         | 0.000E+00 | 1.288E-07 |

**Calculation No. PM-1055 Revision 0****Attachment J**

|   |      |      |        |     |      |        |      |     |           |           |           |
|---|------|------|--------|-----|------|--------|------|-----|-----------|-----------|-----------|
| G | 2.0  | 0.41 | 90000. | 43. | 109. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 2.093E-07 |
| G | 4.2  | 1.27 | 90000. | 43. | 109. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 9.768E-08 |
| G | 7.0  | 1.84 | 90000. | 43. | 109. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 5.861E-08 |
| G | 10.3 | 0.11 | 90000. | 43. | 109. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 3.960E-08 |
| G | 30.7 | 0.02 | 90000. | 43. | 109. | 1000.0 | 46.0 | 0.0 | 0.000E+00 | 0.000E+00 | 1.332E-08 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 7300.0 METERS
BUILDING WAKE CREDIT IS NOT INCLUDED.
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across four rows of data.

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 2.070E-05 DISTANCE = 4000.000

X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 4.980
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 8.439

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 9.055  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 9.449  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 7)= 9.727  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 8)= 10.166  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 9)= 10.385

| K  | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|----|---|-------------|--------------|-------------|
| 16 | 1 | -11.07039   | -12.94662    | -0.41201    |
| 16 | 2 | -11.17214   | -16.38376    | -1.21007    |
| 16 | 3 | -14.39102   | -16.77623    | -1.44840    |
| 16 | 4 | -14.78306   | -20.41233    | -4.09068    |
| 16 | 5 | -14.94160   | -30.18060    | -11.39479   |
| 16 | 6 | -15.21271   | -31.18759    | -12.16139   |
| 16 | 7 | -15.41115   | -35.67481    | -15.62040   |
| 16 | 8 | -15.80320   | -50.93329    | -27.61458   |
| 16 | 9 | -16.14160   | NUMXQ(K) = 9 |             |
|    |   | 3.138E-06   | 0.108        | 1.000       |
|    |   | 2.068E-06   | 0.324        | 3.000       |
|    |   | 1.677E-06   | 0.540        | 5.000       |
|    |   | 1.236E-06   | 1.080        | 10.000      |
|    |   | 1.021E-06   | 1.620        | 15.000      |
|    |   | 8.858E-07   | 2.160        | 20.000      |
|    |   | 7.896E-07   | 2.700        | 25.000      |
|    |   | 7.166E-07   | 3.240        | 30.000      |
|    |   | 6.585E-07   | 3.780        | 35.000      |
|    |   | 6.108E-07   | 4.320        | 40.000      |
|    |   | 5.707E-07   | 4.860        | 45.000      |
|    |   | 5.313E-07   | 5.401        | 50.000      |
|    |   | 4.961E-07   | 5.941        | 55.000      |
|    |   | 4.653E-07   | 6.481        | 60.000      |
|    |   | 4.382E-07   | 7.021        | 65.000      |
|    |   | 4.142E-07   | 7.561        | 70.000      |
|    |   | 3.926E-07   | 8.101        | 75.000      |
|    |   | 3.608E-07   | 8.641        | 80.000      |
|    |   | 2.979E-07   | 9.181        | 85.000      |
|    |   | 2.041E-07   | 9.721        | 90.000      |
|    |   | 1.732E-06   | 0.5          | 4.63        |

ANNUAL AVERAGE = 2.63E-08

K= 16 FIVEXQ(K)= 1.732E-06 FIVEPR(K)= 4.629

FUMIGATION X/Q AT THE BOUNDARY: 8.19E-06

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.940E-01 | 9.936E-01 | 9.581E-01 | 6.159E-01 | 2.686E-01 | 1.763E-01 | 5.918E-02 |
| 0.561     | 1.922     | 6.932     | 62.780    | 90.255    | 96.350    | 100.000   |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | BLDG WAKE<br>USED |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|
|                 | AT 152.4 METERS        |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | CA=1292.SQ.METERS |
| A               | 1.7                    | 0.01                 | 90000.             | 128.              | 24.          | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 1.819E-07                         |                   |
| A               | 3.7                    | 0.51                 | 90000.             | 128.              | 24.          | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 8.488E-08                         |                   |
| A               | 6.2                    | 0.53                 | 90000.             | 128.              | 24.          | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 5.093E-08                         |                   |
| A               | 9.2                    | 0.28                 | 90000.             | 128.              | 24.          | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 3.441E-08                         |                   |
| A               | 12.0                   | 0.06                 | 90000.             | 128.              | 24.          | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 2.653E-08                         |                   |
| A               | 27.5                   | 0.03                 | 90000.             | 128.              | 24.          | 1000.0        | 1000.0             | 0.0               | 0.000E+00         | 0.000E+00            | 1.157E-08                         |                   |
| B               | 1.7                    | 0.05                 | 7300.              | 118.              | 34.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 2.228E-07                         |                   |
| B               | 3.7                    | 0.47                 | 7300.              | 118.              | 34.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 1.040E-07                         |                   |
| B               | 6.2                    | 0.54                 | 7300.              | 118.              | 34.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 6.240E-08                         |                   |
| B               | 9.2                    | 0.44                 | 7300.              | 118.              | 34.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 4.216E-08                         |                   |
| B               | 12.0                   | 0.12                 | 7300.              | 118.              | 34.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 3.250E-08                         |                   |
| B               | 27.5                   | 0.03                 | 7300.              | 118.              | 34.          | 848.1         | 962.0              | 0.0               | 0.000E+00         | 0.000E+00            | 1.418E-08                         |                   |
| C               | 1.7                    | 0.08                 | 7300.              | 118.              | 34.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 7.528E-07                         |                   |
| C               | 3.7                    | 0.77                 | 7300.              | 118.              | 34.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 3.513E-07                         |                   |
| C               | 6.2                    | 1.33                 | 7300.              | 118.              | 34.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 2.108E-07                         |                   |
| C               | 9.2                    | 1.04                 | 7300.              | 118.              | 34.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 1.424E-07                         |                   |
| C               | 12.0                   | 0.30                 | 7300.              | 118.              | 34.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 1.098E-07                         |                   |
| C               | 27.5                   | 0.13                 | 7300.              | 118.              | 34.          | 644.0         | 373.7              | 0.0               | 0.000E+00         | 0.000E+00            | 4.790E-08                         |                   |
| D               | 0.2                    | 0.00                 | 7300.              | 118.              | 34.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 2.410E-05                         |                   |
| D               | 1.7                    | 2.07                 | 7300.              | 118.              | 34.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 3.444E-06                         |                   |
| D               | 3.7                    | 9.39                 | 7300.              | 118.              | 34.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 1.607E-06                         |                   |
| D               | 6.2                    | 15.72                | 7300.              | 118.              | 34.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 9.642E-07                         |                   |
| D               | 9.2                    | 12.23                | 7300.              | 118.              | 34.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 6.515E-07                         |                   |
| D               | 12.0                   | 4.24                 | 7300.              | 118.              | 34.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 5.022E-07                         |                   |
| D               | 27.5                   | 1.39                 | 7300.              | 118.              | 34.          | 453.5         | 111.1              | 0.0               | 0.000E+00         | 0.000E+00            | 2.191E-07                         |                   |
| E               | 0.3                    | 0.01                 | 7300.              | 118.              | 34.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 4.604E-05                         |                   |
| E               | 2.0                    | 1.97                 | 7300.              | 118.              | 34.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 6.578E-06                         |                   |
| E               | 4.2                    | 8.90                 | 7300.              | 118.              | 34.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 3.070E-06                         |                   |
| E               | 7.0                    | 13.85                | 7300.              | 118.              | 34.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 1.842E-06                         |                   |
| E               | 10.3                   | 9.53                 | 7300.              | 118.              | 34.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 1.244E-06                         |                   |
| E               | 13.4                   | 1.29                 | 7300.              | 118.              | 34.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 9.592E-07                         |                   |
| E               | 30.7                   | 0.23                 | 7300.              | 118.              | 34.          | 322.5         | 67.5               | 0.0               | 0.000E+00         | 0.000E+00            | 4.186E-07                         |                   |
| F               | 0.3                    | 0.01                 | 8000.              | 128.              | 24.          | 241.8         | 42.4               | 0.0               | 0.000E+00         | 0.000E+00            | 9.416E-05                         |                   |
| F               | 2.0                    | 1.01                 | 8000.              | 128.              | 24.          | 241.8         | 42.4               | 0.0               | 0.000E+00         | 0.000E+00            | 1.345E-05                         |                   |

**Calculation No. PM-1055 Revision 0****Attachment J**

|   |      |      |       |      |     |       |      |     |           |           |           |
|---|------|------|-------|------|-----|-------|------|-----|-----------|-----------|-----------|
| F | 4.2  | 3.14 | 8000. | 128. | 24. | 241.8 | 42.4 | 0.0 | 0.000E+00 | 0.000E+00 | 6.277E-06 |
| F | 7.0  | 3.52 | 8000. | 128. | 24. | 241.8 | 42.4 | 0.0 | 0.000E+00 | 0.000E+00 | 3.766E-06 |
| F | 10.3 | 1.55 | 8000. | 128. | 24. | 241.8 | 42.4 | 0.0 | 0.000E+00 | 0.000E+00 | 2.545E-06 |
| F | 13.4 | 0.16 | 8000. | 128. | 24. | 241.8 | 42.4 | 0.0 | 0.000E+00 | 0.000E+00 | 1.962E-06 |
| F | 30.7 | 0.01 | 8000. | 128. | 24. | 241.8 | 42.4 | 0.0 | 0.000E+00 | 0.000E+00 | 8.560E-07 |
| G | 2.0  | 0.43 | 8000. | 128. | 24. | 166.9 | 25.6 | 0.0 | 0.000E+00 | 0.000E+00 | 2.419E-05 |
| G | 4.2  | 1.17 | 8000. | 128. | 24. | 166.9 | 25.6 | 0.0 | 0.000E+00 | 0.000E+00 | 1.129E-05 |
| G | 7.0  | 1.14 | 8000. | 128. | 24. | 166.9 | 25.6 | 0.0 | 0.000E+00 | 0.000E+00 | 6.772E-06 |
| G | 10.3 | 0.31 | 8000. | 128. | 24. | 166.9 | 25.6 | 0.0 | 0.000E+00 | 0.000E+00 | 4.576E-06 |
| G | 13.4 | 0.01 | 8000. | 128. | 24. | 166.9 | 25.6 | 0.0 | 0.000E+00 | 0.000E+00 | 3.527E-06 |
| G | 30.7 | 0.00 | 8000. | 128. | 24. | 166.9 | 25.6 | 0.0 | 0.000E+00 | 0.000E+00 | 1.539E-06 |

**Calculation No. PM-1055 Revision 0****Attachment J**

Page 1078 of 1411

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

## LOW POPULATION ZONE CALCULATIONS:

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 7300.0 METERS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.416E-05 | 4.604E-05 | 2.419E-05 | 2.410E-05 | 1.345E-05 | 1.129E-05 | 6.772E-06 | 6.578E-06 | 6.277E-06 | 4.576E-06 |
| 0.012     | 0.026     | 0.460     | 0.464     | 1.474     | 2.647     | 3.783     | 5.750     | 8.892     | 9.199     |
| 0.01166   | 0.02566   | 0.45951   | 0.46417   | 1.47416   | 2.64742   | 3.78335   | 5.74967   | 8.89158   | 9.19948   |
| 3.766E-06 | 3.527E-06 | 3.444E-06 | 3.070E-06 | 2.545E-06 | 1.962E-06 | 1.842E-06 | 1.607E-06 | 1.539E-06 | 1.244E-06 |
| 12.717    | 12.726    | 14.793    | 23.689    | 25.243    | 25.404    | 39.249    | 48.640    | 48.645    | 58.171    |
| 12.71692  | 12.72625  | 14.79287  | 23.68912  | 25.24258  | 25.40352  | 39.24939  | 48.64013  | 48.64480  | 58.17083  |
| 9.642E-07 | 9.592E-07 | 8.560E-07 | 7.528E-07 | 6.515E-07 | 5.022E-07 | 4.186E-07 | 3.513E-07 | 2.228E-07 | 2.191E-07 |
| 73.890    | 75.184    | 75.196    | 75.273    | 87.502    | 91.743    | 91.971    | 92.736    | 92.783    | 94.171    |
| 73.88971  | 75.18427  | 75.19593  | 75.27290  | 87.50233  | 91.74286  | 91.97144  | 92.73651  | 92.78316  | 94.17102  |
| 2.108E-07 | 1.819E-07 | 1.424E-07 | 1.098E-07 | 1.040E-07 | 8.488E-08 | 6.240E-08 | 5.093E-08 | 4.790E-08 | 4.216E-08 |
| 95.501    | 95.508    | 96.550    | 96.853    | 97.325    | 97.838    | 98.381    | 98.913    | 99.039    | 99.480    |
| 95.50056  | 95.50755  | 96.55020  | 96.85343  | 97.32460  | 97.83775  | 98.38123  | 98.91305  | 99.03900  | 99.47985  |
| 3.441E-08 | 3.250E-08 | 2.653E-08 | 1.418E-08 | 1.157E-08 |           |           |           |           |           |
| 99.757    | 99.879    | 99.937    | 99.972    | 100.000   |           |           |           |           |           |
| 99.75742  | 99.87872  | 99.93703  | 99.97202  | 100.00000 |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED. THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 9.416E-05      DISTANCE = 8000.000

## X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

ERROR IN NORMAL TRANSFORMATION FOR A( 45)= 100.00000  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 8.888

|           |        |        |
|-----------|--------|--------|
| 1.956E-05 | 1.000  | 1.000  |
| 1.166E-05 | 3.000  | 3.000  |
| 8.867E-06 | 5.000  | 5.000  |
| 5.862E-06 | 10.000 | 10.000 |
| 4.545E-06 | 15.000 | 15.000 |
| 3.713E-06 | 20.000 | 20.000 |
| 3.122E-06 | 25.000 | 25.000 |
| 2.671E-06 | 30.000 | 30.000 |
| 2.312E-06 | 35.000 | 35.000 |
| 2.017E-06 | 40.000 | 40.000 |
| 1.767E-06 | 45.000 | 45.000 |
| 1.568E-06 | 50.000 | 50.000 |
| 1.432E-06 | 55.000 | 55.000 |
| 1.306E-06 | 60.000 | 60.000 |
| 1.187E-06 | 65.000 | 65.000 |
| 1.074E-06 | 70.000 | 70.000 |
| 9.633E-07 | 75.000 | 75.000 |
| 8.400E-07 | 80.000 | 80.000 |
| 7.156E-07 | 85.000 | 85.000 |
| 5.643E-07 | 90.000 | 90.000 |
| 8.867E-06 | 5.0    | 5.00   |

K= 17 FIVEXQ(K)= 8.867E-06 FIVEPR(K)= 5.000

FUMIGATION X/Q AT THE BOUNDARY: 7.33E-06

EXPONENTIAL TERM AND FREQUENCIES

|           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.997E-01 | 9.994E-01 | 9.958E-01 | 9.538E-01 | 8.795E-01 | 8.474E-01 | 6.339E-01 |
| 1.416     | 3.074     | 6.718     | 51.756    | 87.528    | 96.935    | 100.000   |



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1 96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT IS NOT INCLUDED.

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.047E-04 | 7.311E-05 | 6.213E-05 | 5.167E-05 | 4.904E-05 | 4.297E-05 | 4.048E-05 | 3.782E-05 | 3.220E-05 | 3.179E-05 |
| 0.001     | 0.001     | 0.003     | 0.003     | 0.004     | 0.005     | 0.007     | 0.008     | 0.011     | 0.014     |
| 0.00059   | 0.00121   | 0.00267   | 0.00329   | 0.00388   | 0.00505   | 0.00707   | 0.00807   | 0.01065   | 0.01354   |
| 2.632E-05 | 2.619E-05 | 2.467E-05 | 2.350E-05 | 2.350E-05 | 2.299E-05 | 2.242E-05 | 2.103E-05 | 2.091E-05 | 1.958E-05 |
| 0.039     | 0.040     | 0.041     | 0.041     | 0.042     | 0.043     | 0.044     | 0.044     | 0.045     | 0.046     |
| 0.03920   | 0.04020   | 0.04076   | 0.04098   | 0.04247   | 0.04334   | 0.04379   | 0.04426   | 0.04499   | 0.04560   |
| 1.924E-05 | 1.881E-05 | 1.847E-05 | 1.802E-05 | 1.721E-05 | 1.626E-05 | 1.581E-05 | 1.557E-05 | 1.504E-05 | 1.496E-05 |
| 0.046     | 0.047     | 0.048     | 0.048     | 0.048     | 0.048     | 0.049     | 0.050     | 0.051     | 0.103     |
| 0.04644   | 0.04671   | 0.04771   | 0.04802   | 0.04833   | 0.04846   | 0.04936   | 0.04981   | 0.05146   | 0.10277   |
| 1.406E-05 | 1.228E-05 | 1.172E-05 | 1.044E-05 | 9.908E-06 | 8.984E-06 | 8.875E-06 | 7.382E-06 | 7.370E-06 | 7.219E-06 |
| 0.104     | 0.155     | 0.156     | 0.209     | 0.249     | 0.250     | 0.376     | 0.429     | 0.439     | 0.440     |
| 0.10398   | 0.15530   | 0.15581   | 0.20946   | 0.24911   | 0.24981   | 0.37577   | 0.42942   | 0.43875   | 0.43955   |
| 7.006E-06 | 6.980E-06 | 6.365E-06 | 6.182E-06 | 6.139E-06 | 5.782E-06 | 5.403E-06 | 4.874E-06 | 4.624E-06 | 4.600E-06 |
| 0.524     | 0.603     | 0.635     | 0.637     | 0.800     | 1.085     | 1.225     | 1.537     | 1.616     | 1.840     |
| 0.52353   | 0.60283   | 0.63549   | 0.63678   | 0.80006   | 1.08462   | 1.22458   | 1.53713   | 1.61644   | 1.84036   |
| 4.541E-06 | 4.188E-06 | 4.142E-06 | 4.048E-06 | 3.742E-06 | 3.524E-06 | 3.445E-06 | 3.357E-06 | 3.357E-06 | 3.284E-06 |
| 2.246     | 2.277     | 2.533     | 2.545     | 2.685     | 2.937     | 3.058     | 3.154     | 3.363     | 3.746     |
| 2.24622   | 2.27654   | 2.53312   | 2.54478   | 2.68474   | 2.93665   | 3.05794   | 3.15357   | 3.36350   | 3.74603   |
| 3.269E-06 | 3.203E-06 | 3.004E-06 | 2.988E-06 | 2.970E-06 | 2.924E-06 | 2.865E-06 | 2.830E-06 | 2.797E-06 | 2.774E-06 |
| 4.096     | 4.297     | 4.506     | 4.609     | 4.719     | 5.022     | 6.037     | 6.039     | 6.307     | 6.330     |
| 4.09591   | 4.29651   | 4.50644   | 4.60907   | 4.71870   | 5.02193   | 6.03657   | 6.03891   | 6.30715   | 6.33047   |
| 2.749E-06 | 2.698E-06 | 2.687E-06 | 2.638E-06 | 2.574E-06 | 2.522E-06 | 2.485E-06 | 2.459E-06 | 2.322E-06 | 2.259E-06 |
| 6.403     | 7.718     | 7.842     | 7.982     | 8.117     | 8.584     | 8.714     | 8.852     | 8.913     | 9.039     |
| 6.40278   | 7.71832   | 7.84195   | 7.98190   | 8.11719   | 8.58369   | 8.71431   | 8.85193   | 8.91258   | 9.03854   |
| 2.224E-06 | 2.149E-06 | 2.146E-06 | 2.119E-06 | 2.067E-06 | 2.009E-06 | 1.976E-06 | 1.962E-06 | 1.889E-06 | 1.875E-06 |
| 9.239     | 9.381     | 10.284    | 12.411    | 12.467    | 12.638    | 12.740    | 13.104    | 13.118    | 13.123    |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9.23913   | 9.38142   | 10.28410  | 12.41136  | 12.46735  | 12.63762  | 12.74025  | 13.10412  | 13.11812  | 13.12278  |
| 1.782E-06 | 1.746E-06 | 1.719E-06 | 1.679E-06 | 1.675E-06 | 1.645E-06 | 1.628E-06 | 1.619E-06 | 1.567E-06 | 1.567E-06 |
| 13.146    | 13.806    | 15.884    | 15.901    | 15.945    | 16.500    | 16.556    | 17.606    | 18.306    | 19.064    |
| 13.14611  | 13.80621  | 15.88449  | 15.90082  | 15.94514  | 16.50028  | 16.55626  | 17.60589  | 18.30565  | 19.06372  |
| 1.532E-06 | 1.513E-06 | 1.495E-06 | 1.402E-06 | 1.397E-06 | 1.394E-06 | 1.325E-06 | 1.305E-06 | 1.288E-06 | 1.283E-06 |
| 20.638    | 21.238    | 21.947    | 23.321    | 23.325    | 23.708    | 23.768    | 24.783    | 25.592    | 25.653    |
| 20.63817  | 21.23763  | 21.94672  | 23.32058  | 23.32524  | 23.70778  | 23.76842  | 24.78307  | 25.59246  | 25.65310  |
| 1.283E-06 | 1.271E-06 | 1.254E-06 | 1.231E-06 | 1.204E-06 | 1.201E-06 | 1.161E-06 | 1.147E-06 | 1.133E-06 | 1.094E-06 |
| 25.732    | 28.937    | 29.462    | 30.010    | 30.013    | 30.505    | 31.708    | 32.478    | 32.483    | 32.737    |
| 25.73241  | 28.93730  | 29.46212  | 30.01026  | 30.01259  | 30.50476  | 31.70834  | 32.47807  | 32.48274  | 32.73698  |
| 1.084E-06 | 1.054E-06 | 1.048E-06 | 1.038E-06 | 1.031E-06 | 1.022E-06 | 1.022E-06 | 1.003E-06 | 9.869E-07 | 9.400E-07 |
| 33.066    | 33.469    | 33.845    | 35.193    | 35.263    | 35.410    | 35.429    | 35.856    | 36.441    | 38.092    |
| 33.06587  | 33.46939  | 33.84493  | 35.19313  | 35.26311  | 35.41006  | 35.42872  | 35.85557  | 36.44104  | 38.09246  |
| 9.399E-07 | 9.374E-07 | 9.194E-07 | 8.968E-07 | 8.952E-07 | 8.832E-07 | 8.702E-07 | 8.591E-07 | 8.432E-07 | 8.411E-07 |
| 39.611    | 40.481    | 42.244    | 42.963    | 43.112    | 43.224    | 43.387    | 44.808    | 44.854    | 47.602    |
| 39.61094  | 40.48097  | 42.24436  | 42.96278  | 43.11206  | 43.22402  | 43.38730  | 44.80781  | 44.85446  | 47.60217  |
| 8.365E-07 | 7.977E-07 | 7.880E-07 | 7.832E-07 | 7.816E-07 | 7.696E-07 | 7.598E-07 | 7.543E-07 | 7.524E-07 | 7.496E-07 |
| 48.071    | 48.101    | 48.150    | 48.922    | 49.011    | 49.041    | 49.221    | 49.249    | 50.569    | 50.604    |
| 48.07101  | 48.10133  | 48.15031  | 48.92238  | 49.01101  | 49.04134  | 49.22094  | 49.24893  | 50.56914  | 50.60413  |
| 7.390E-07 | 7.387E-07 | 7.336E-07 | 7.208E-07 | 7.079E-07 | 6.885E-07 | 6.708E-07 | 6.668E-07 | 6.622E-07 | 6.502E-07 |
| 50.606    | 51.462    | 51.474    | 52.288    | 52.423    | 53.639    | 53.646    | 53.844    | 53.956    | 54.658    |
| 50.60646  | 51.46249  | 51.47416  | 52.28821  | 52.42350  | 53.63874  | 53.64574  | 53.84400  | 53.95596  | 54.65805  |
| 6.351E-07 | 6.351E-07 | 6.325E-07 | 6.316E-07 | 6.227E-07 | 6.212E-07 | 6.059E-07 | 6.017E-07 | 5.990E-07 | 5.683E-07 |
| 55.782    | 57.774    | 58.696    | 58.770    | 62.199    | 62.731    | 63.057    | 63.797    | 64.028    | 64.984    |
| 55.78233  | 57.77431  | 58.69566  | 58.77029  | 62.19910  | 62.73092  | 63.05748  | 63.79689  | 64.02781  | 64.98415  |
| 5.652E-07 | 5.624E-07 | 5.457E-07 | 5.292E-07 | 5.140E-07 | 5.084E-07 | 4.991E-07 | 4.916E-07 | 4.896E-07 | 4.895E-07 |
| 65.073    | 67.482    | 67.510    | 67.818    | 67.848    | 69.864    | 70.228    | 70.260    | 70.491    | 70.820    |
| 65.07278  | 67.48228  | 67.51028  | 67.81817  | 67.84849  | 69.86378  | 70.22766  | 70.26031  | 70.49123  | 70.82012  |
| 4.870E-07 | 4.813E-07 | 4.789E-07 | 4.697E-07 | 4.690E-07 | 4.671E-07 | 4.652E-07 | 4.559E-07 | 4.458E-07 | 4.393E-07 |
| 71.179    | 71.378    | 71.436    | 71.438    | 71.497    | 71.557    | 72.481    | 72.663    | 72.665    | 73.586    |
| 71.17933  | 71.37759  | 71.43591  | 71.43824  | 71.49655  | 71.55720  | 72.48088  | 72.66281  | 72.66515  | 73.58649  |
| 4.381E-07 | 4.357E-07 | 4.274E-07 | 4.207E-07 | 4.121E-07 | 4.079E-07 | 4.066E-07 | 3.919E-07 | 3.907E-07 | 3.847E-07 |
| 73.687    | 73.705    | 74.956    | 79.520    | 79.966    | 80.041    | 80.617    | 81.713    | 81.727    | 81.781    |
| 73.68680  | 73.70546  | 74.95570  | 79.52045  | 79.96596  | 80.04060  | 80.61673  | 81.71301  | 81.72701  | 81.78065  |
| 3.800E-07 | 3.762E-07 | 3.754E-07 | 3.723E-07 | 3.680E-07 | 3.594E-07 | 3.586E-07 | 3.520E-07 | 3.505E-07 | 3.498E-07 |
| 84.391    | 84.416    | 84.479    | 84.510    | 84.540    | 84.729    | 84.899    | 84.965    | 85.009    | 85.128    |
| 84.39075  | 84.41640  | 84.47939  | 84.50970  | 84.54003  | 84.72897  | 84.89924  | 84.96455  | 85.00887  | 85.12782  |
| 3.490E-07 | 3.471E-07 | 3.449E-07 | 3.439E-07 | 3.437E-07 | 3.424E-07 | 3.410E-07 | 3.393E-07 | 3.386E-07 | 3.380E-07 |
| 85.279    | 85.335    | 85.452    | 85.461    | 85.480    | 85.531    | 85.604    | 85.615    | 86.140    | 86.198    |
| 85.27943  | 85.33542  | 85.45204  | 85.46137  | 85.48003  | 85.53135  | 85.60366  | 85.61533  | 86.14014  | 86.19846  |

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 3.294E-07 | 3.243E-07 | 3.169E-07 | 3.134E-07 | 3.080E-07 | 2.947E-07 | 2.929E-07 | 2.890E-07 | 2.888E-07 | 2.694E-07 |
| 86.380    | 88.211    | 88.214    | 88.298    | 88.321    | 88.482    | 88.790    | 88.809    | 89.270    | 89.301    |
| 86.38039  | 88.21143  | 88.21376  | 88.29773  | 88.32106  | 88.48201  | 88.78990  | 88.80856  | 89.27039  | 89.30071  |
| 2.473E-07 | 2.428E-07 | 2.381E-07 | 2.294E-07 | 2.243E-07 | 2.234E-07 | 2.229E-07 | 2.227E-07 | 2.222E-07 | 2.220E-07 |
| 90.010    | 90.019    | 90.066    | 90.110    | 90.138    | 90.143    | 90.147    | 90.173    | 90.185    | 90.189    |
| 90.00980  | 90.01913  | 90.06579  | 90.11011  | 90.13810  | 90.14276  | 90.14742  | 90.17308  | 90.18475  | 90.18941  |
| 2.136E-07 | 2.136E-07 | 2.112E-07 | 2.103E-07 | 2.099E-07 | 2.094E-07 | 2.093E-07 | 2.090E-07 | 2.082E-07 | 2.069E-07 |
| 90.257    | 90.287    | 90.308    | 90.476    | 90.661    | 90.721    | 90.796    | 90.817    | 91.024    | 91.057    |
| 90.25705  | 90.28738  | 90.30837  | 90.47631  | 90.66058  | 90.72122  | 90.79586  | 90.81685  | 91.02444  | 91.05710  |
| 2.062E-07 | 2.054E-07 | 2.046E-07 | 2.038E-07 | 2.036E-07 | 2.028E-07 | 1.951E-07 | 1.912E-07 | 1.901E-07 | 1.872E-07 |
| 91.178    | 91.223    | 91.321    | 91.325    | 91.423    | 91.717    | 92.109    | 92.153    | 92.156    | 92.158    |
| 91.17839  | 91.22271  | 91.32068  | 91.32534  | 91.42331  | 91.71721  | 92.10907  | 92.15339  | 92.15572  | 92.15806  |
| 1.814E-07 | 1.780E-07 | 1.768E-07 | 1.755E-07 | 1.749E-07 | 1.710E-07 | 1.679E-07 | 1.671E-07 | 1.638E-07 | 1.565E-07 |
| 92.165    | 92.184    | 92.450    | 92.559    | 92.569    | 92.935    | 92.951    | 93.236    | 93.252    | 93.287    |
| 92.16505  | 92.18372  | 92.44962  | 92.55925  | 92.56858  | 92.93478  | 92.95111  | 93.23568  | 93.25201  | 93.28699  |
| 1.504E-07 | 1.478E-07 | 1.437E-07 | 1.427E-07 | 1.421E-07 | 1.418E-07 | 1.415E-07 | 1.415E-07 | 1.407E-07 | 1.398E-07 |
| 93.343    | 93.553    | 93.574    | 93.583    | 93.739    | 93.772    | 94.348    | 94.358    | 94.486    | 94.493    |
| 93.34297  | 93.55290  | 93.57390  | 93.58323  | 93.73951  | 93.77216  | 94.34830  | 94.35763  | 94.48591  | 94.49290  |
| 1.393E-07 | 1.388E-07 | 1.382E-07 | 1.376E-07 | 1.375E-07 | 1.370E-07 | 1.288E-07 | 1.278E-07 | 1.257E-07 | 1.195E-07 |
| 94.703    | 94.721    | 94.763    | 94.775    | 94.906    | 95.204    | 95.216    | 95.253    | 95.347    | 95.498    |
| 94.70284  | 94.72150  | 94.76348  | 94.77515  | 94.90577  | 95.20434  | 95.21600  | 95.25332  | 95.34662  | 95.49823  |
| 1.095E-07 | 1.091E-07 | 1.085E-07 | 1.078E-07 | 1.074E-07 | 1.070E-07 | 1.066E-07 | 1.060E-07 | 1.056E-07 | 1.053E-07 |
| 95.519    | 95.524    | 95.536    | 95.538    | 95.617    | 95.619    | 95.629    | 95.696    | 95.801    | 95.839    |
| 95.51923  | 95.52389  | 95.53555  | 95.53789  | 95.61720  | 95.61953  | 95.62886  | 95.69650  | 95.80146  | 95.83878  |
| 1.040E-07 | 1.040E-07 | 1.039E-07 | 1.039E-07 | 1.038E-07 | 1.037E-07 | 1.037E-07 | 1.036E-07 | 1.035E-07 | 1.035E-07 |
| 95.881    | 95.888    | 95.969    | 96.037    | 96.060    | 96.191    | 96.200    | 96.254    | 96.284    | 96.294    |
| 95.88077  | 95.88776  | 95.96940  | 96.03704  | 96.06036  | 96.19099  | 96.20032  | 96.25397  | 96.28429  | 96.29362  |
| 1.034E-07 | 9.768E-08 | 9.210E-08 | 8.488E-08 | 8.481E-08 | 8.478E-08 | 8.471E-08 | 8.464E-08 | 8.455E-08 | 8.451E-08 |
| 96.310    | 96.611    | 96.618    | 96.671    | 96.772    | 96.874    | 96.888    | 97.091    | 97.112    | 97.126    |
| 96.30994  | 96.61084  | 96.61784  | 96.67149  | 96.77178  | 96.87441  | 96.88840  | 97.09132  | 97.11232  | 97.12631  |
| 8.445E-08 | 8.440E-08 | 7.544E-08 | 7.117E-08 | 6.242E-08 | 6.238E-08 | 6.236E-08 | 6.234E-08 | 6.228E-08 | 6.223E-08 |
| 97.129    | 97.131    | 97.292    | 97.294    | 97.325    | 97.383    | 97.481    | 97.539    | 97.621    | 97.649    |
| 97.12865  | 97.13098  | 97.29192  | 97.29426  | 97.32458  | 97.38289  | 97.48086  | 97.53917  | 97.62080  | 97.64880  |
| 6.219E-08 | 6.216E-08 | 6.212E-08 | 6.207E-08 | 6.204E-08 | 5.861E-08 | 5.097E-08 | 5.093E-08 | 5.090E-08 | 5.088E-08 |
| 97.688    | 97.723    | 97.733    | 97.782    | 97.838    | 98.251    | 98.342    | 98.388    | 98.416    | 98.530    |
| 97.68845  | 97.72344  | 97.73277  | 97.78175  | 97.83773  | 98.25059  | 98.34155  | 98.38821  | 98.41620  | 98.53049  |
| 5.087E-08 | 5.083E-08 | 5.078E-08 | 5.076E-08 | 5.073E-08 | 5.067E-08 | 5.064E-08 | 4.779E-08 | 4.733E-08 | 4.686E-08 |
| 98.633    | 98.666    | 98.773    | 98.810    | 98.831    | 98.850    | 98.873    | 98.876    | 98.878    | 98.943    |
| 98.63313  | 98.66578  | 98.77308  | 98.81040  | 98.83140  | 98.85006  | 98.87338  | 98.87572  | 98.87805  | 98.94337  |

Calculation No. PM-1055 Revision 0

Attachment J

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 4.669E-08 | 4.650E-08 | 4.626E-08 | 4.609E-08 | 4.217E-08 | 4.215E-08 | 4.213E-08 | 4.212E-08 | 4.208E-08 | 4.204E-08 |
| 98.953    | 98.955    | 98.985    | 98.999    | 99.004    | 99.076    | 99.097    | 99.102    | 99.156    | 99.158    |
| 98.95270  | 98.95503  | 98.98535  | 98.99934  | 99.00401  | 99.07632  | 99.09731  | 99.10197  | 99.15562  | 99.15796  |
| 4.202E-08 | 4.200E-08 | 4.197E-08 | 4.194E-08 | 4.192E-08 | 3.960E-08 | 3.929E-08 | 3.441E-08 | 3.439E-08 | 3.438E-08 |
| 99.249    | 99.256    | 99.279    | 99.342    | 99.440    | 99.473    | 99.475    | 99.496    | 99.512    | 99.585    |
| 99.24893  | 99.25593  | 99.27925  | 99.34223  | 99.44020  | 99.47286  | 99.47520  | 99.49619  | 99.51252  | 99.58482  |
| 3.437E-08 | 3.434E-08 | 3.431E-08 | 3.430E-08 | 3.428E-08 | 3.426E-08 | 3.423E-08 | 3.422E-08 | 3.251E-08 | 3.249E-08 |
| 99.592    | 99.603    | 99.620    | 99.648    | 99.657    | 99.662    | 99.711    | 99.753    | 99.755    | 99.767    |
| 99.59182  | 99.60348  | 99.61980  | 99.64780  | 99.65713  | 99.66179  | 99.71077  | 99.75275  | 99.75509  | 99.76675  |
| 3.248E-08 | 3.247E-08 | 3.244E-08 | 3.239E-08 | 3.237E-08 | 3.235E-08 | 3.233E-08 | 3.231E-08 | 2.650E-08 | 2.649E-08 |
| 99.769    | 99.771    | 99.781    | 99.818    | 99.823    | 99.825    | 99.853    | 99.874    | 99.876    | 99.879    |
| 99.76909  | 99.77142  | 99.78075  | 99.81807  | 99.82273  | 99.82507  | 99.85306  | 99.87405  | 99.87639  | 99.87872  |
| 2.644E-08 | 2.642E-08 | 2.641E-08 | 2.639E-08 | 2.638E-08 | 1.715E-08 | 1.418E-08 | 1.413E-08 | 1.411E-08 | 1.332E-08 |
| 99.888    | 99.893    | 99.897    | 99.930    | 99.932    | 99.935    | 99.937    | 99.956    | 99.970    | 99.972    |
| 99.88805  | 99.89271  | 99.89737  | 99.93002  | 99.93236  | 99.93469  | 99.93703  | 99.95569  | 99.96968  | 99.97202  |
| 1.156E-08 | 1.154E-08 | 1.152E-08 | 1.151E-08 |           |           |           |           |           |           |
| 99.974    | 99.991    | 99.995    | 100.000   |           |           |           |           |           |           |
| 99.97435  | 99.99068  | 99.99534  | 100.00000 |           |           |           |           |           |           |

BELOW IS PRINTED THE MAXIMUM VALUE OF CHI/Q AND THE DISTANCE IN METERS FROM THE STACK AT WHICH THE VALUE OCCURRED.  
THIS DISTANCE MAY BE WITHIN THE SITE BOUNDARY.

CHI/Q = 9.416E-05      DISTANCE = 8000.000

X/Q PERCENTILES  
(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED  
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

ERROR IN NORMAL TRANSFORMATION FOR A(404) = 100.00000  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.003  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.040  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 0.043  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 0.048  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 0.375  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8) = 1.083  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (10) = 3.743  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (15) = 8.580  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (17) = 15.885

\*\*\*ERROR IN SUBROUTINE ENVLOP\*\*\*

| K  | HIGHPR   | PR      | GRNDVT (K) |
|----|----------|---------|------------|
| 1  | -3.30147 | 0.04809 | 6.21119    |
| 2  | -3.34185 | 0.04162 | 3.52599    |
| 3  | -2.59207 | 0.47700 | 3.10868    |
| 4  | -2.72395 | 0.32253 | 3.53145    |
| 5  | -3.06853 | 0.10757 | 4.76778    |
| 6  | -2.82888 | 0.23356 | 4.27759    |
| 7  | -2.65892 | 0.39197 | 5.37148    |
| 8  | -2.88272 | 0.19714 | 5.07527    |
| 9  | -2.57624 | 0.49942 | 10.00153   |
| 10 | -2.86388 | 0.20925 | 5.86355    |
| 11 | -2.86718 | 0.20708 | 4.96796    |
| 12 | -3.25998 | 0.05572 | 4.95848    |
| 13 | -3.46991 | 0.02604 | 7.82046    |
| 14 | -3.32552 | 0.04413 | 8.73919    |
| 15 | -3.53931 | 0.02006 | 10.97840   |
| 16 | -3.49941 | 0.02332 | 10.80101   |

| K  | HOURS (K) | TOTHR     |
|----|-----------|-----------|
| 1  | 4.21312   | 4.21312   |
| 2  | 3.64556   | 7.85868   |
| 3  | 41.78555  | 49.64423  |
| 4  | 28.25386  | 77.89809  |
| 5  | 9.42300   | 87.32109  |
| 6  | 20.45993  | 107.78100 |
| 7  | 34.33623  | 142.11720 |
| 8  | 17.26915  | 159.38640 |
| 9  | 43.74879  | 203.13520 |
| 10 | 18.33013  | 221.46530 |
| 11 | 18.14007  | 239.60540 |
| 12 | 4.88093   | 244.48630 |
| 13 | 2.28069   | 246.76700 |
| 14 | 3.86590   | 250.63290 |
| 15 | 1.75751   | 252.39040 |
| 16 | 2.04260   | 254.43300 |

| K | FIVEXQ    | SVANN     | SLTIME  | TIMINT   | I | TIME  | XQT       |
|---|-----------|-----------|---------|----------|---|-------|-----------|
| 1 | 2.053E-06 | 2.221E-08 | -0.5398 | -12.7219 | 1 | 8.0   | -13.84446 |
|   |           |           |         |          | 2 | 16.0  | -14.21865 |
|   |           |           |         |          | 3 | 72.0  | -15.03061 |
|   |           |           |         |          | 4 | 624.0 | -16.19640 |
| 2 | 1.833E-06 | 1.565E-08 | -0.5681 | -12.8156 | 1 | 8.0   | -13.99686 |
|   |           |           |         |          | 2 | 16.0  | -14.39062 |
|   |           |           |         |          | 3 | 72.0  | -15.24505 |
|   |           |           |         |          | 4 | 624.0 | -16.47180 |
| 3 | 5.127E-06 | 3.322E-08 | -0.6010 | -11.7644 | 1 | 8.0   | -13.01409 |
|   |           |           |         |          | 2 | 16.0  | -13.43064 |
|   |           |           |         |          | 3 | 72.0  | -14.33453 |
|   |           |           |         |          | 4 | 624.0 | -15.63230 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|    |           |           |         |          |   |       |           |
|----|-----------|-----------|---------|----------|---|-------|-----------|
| 4  | 4.228E-06 | 3.178E-08 | -0.5833 | -11.9695 |   |       |           |
|    |           |           |         |          | 1 | 8.0   | -13.18240 |
|    |           |           |         |          | 2 | 16.0  | -13.58669 |
|    |           |           |         |          | 3 | 72.0  | -14.46396 |
|    |           |           |         |          | 4 | 624.0 | -15.72351 |
| 5  | 2.742E-06 | 2.730E-08 | -0.5498 | -12.4258 |   |       |           |
|    |           |           |         |          | 1 | 8.0   | -13.56895 |
|    |           |           |         |          | 2 | 16.0  | -13.95001 |
|    |           |           |         |          | 3 | 72.0  | -14.77688 |
|    |           |           |         |          | 4 | 624.0 | -15.96407 |
| 6  | 3.640E-06 | 3.066E-08 | -0.5697 | -12.1286 |   |       |           |
|    |           |           |         |          | 1 | 8.0   | -13.31321 |
|    |           |           |         |          | 2 | 16.0  | -13.70808 |
|    |           |           |         |          | 3 | 72.0  | -14.56493 |
|    |           |           |         |          | 4 | 624.0 | -15.79514 |
| 7  | 4.684E-06 | 3.952E-08 | -0.5695 | -11.8765 |   |       |           |
|    |           |           |         |          | 1 | 8.0   | -13.06076 |
|    |           |           |         |          | 2 | 16.0  | -13.45550 |
|    |           |           |         |          | 3 | 72.0  | -14.31207 |
|    |           |           |         |          | 4 | 624.0 | -15.54189 |
| 8  | 3.403E-06 | 2.972E-08 | -0.5653 | -12.1991 |   |       |           |
|    |           |           |         |          | 1 | 8.0   | -13.37470 |
|    |           |           |         |          | 2 | 16.0  | -13.76657 |
|    |           |           |         |          | 3 | 72.0  | -14.61690 |
|    |           |           |         |          | 4 | 624.0 | -15.83776 |
| 9  | 5.293E-06 | 6.511E-08 | -0.5245 | -11.7857 |   |       |           |
|    |           |           |         |          | 1 | 8.0   | -12.87633 |
|    |           |           |         |          | 2 | 16.0  | -13.23989 |
|    |           |           |         |          | 3 | 72.0  | -14.02878 |
|    |           |           |         |          | 4 | 624.0 | -15.16144 |
| 10 | 3.525E-06 | 3.113E-08 | -0.5641 | -12.1646 |   |       |           |
|    |           |           |         |          | 1 | 8.0   | -13.33754 |
|    |           |           |         |          | 2 | 16.0  | -13.72851 |
|    |           |           |         |          | 3 | 72.0  | -14.57690 |
|    |           |           |         |          | 4 | 624.0 | -15.79497 |
| 11 | 3.498E-06 | 2.694E-08 | -0.5803 | -12.1611 |   |       |           |
|    |           |           |         |          | 1 | 8.0   | -13.36792 |
|    |           |           |         |          | 2 | 16.0  | -13.77018 |
|    |           |           |         |          | 3 | 72.0  | -14.64306 |
|    |           |           |         |          | 4 | 624.0 | -15.89630 |
| 12 | 1.966E-06 | 1.663E-08 | -0.5692 | -12.7450 |   |       |           |
|    |           |           |         |          | 1 | 8.0   | -13.92858 |
|    |           |           |         |          | 2 | 16.0  | -14.32312 |
|    |           |           |         |          | 3 | 72.0  | -15.17924 |
|    |           |           |         |          | 4 | 624.0 | -16.40843 |
| 13 | 1.529E-06 | 1.640E-08 | -0.5408 | -13.0162 |   |       |           |
|    |           |           |         |          | 1 | 8.0   | -14.14086 |
|    |           |           |         |          | 2 | 16.0  | -14.51573 |
|    |           |           |         |          | 3 | 72.0  | -15.32918 |
|    |           |           |         |          | 4 | 624.0 | -16.49710 |
| 14 | 1.832E-06 | 2.379E-08 | -0.5181 | -12.8510 |   |       |           |
|    |           |           |         |          | 1 | 8.0   | -13.92823 |
|    |           |           |         |          | 2 | 16.0  | -14.28732 |

Calculation No. PM-1055 Revision 0

Attachment J

|    |           |           |         |          |   |       |           |
|----|-----------|-----------|---------|----------|---|-------|-----------|
|    |           |           |         |          | 3 | 72.0  | -15.06653 |
|    |           |           |         |          | 4 | 624.0 | -16.18527 |
| 15 | 1.547E-06 | 2.237E-08 | -0.5052 | -13.0289 |   |       |           |
|    |           |           |         |          | 1 | 8.0   | -14.07955 |
|    |           |           |         |          | 2 | 16.0  | -14.42976 |
|    |           |           |         |          | 3 | 72.0  | -15.18967 |
|    |           |           |         |          | 4 | 624.0 | -16.28073 |
| 16 | 1.732E-06 | 2.631E-08 | -0.4993 | -12.9202 |   |       |           |
|    |           |           |         |          | 1 | 8.0   | -13.95855 |
|    |           |           |         |          | 2 | 16.0  | -14.30466 |
|    |           |           |         |          | 3 | 72.0  | -15.05571 |
|    |           |           |         |          | 4 | 624.0 | -16.13401 |
| 17 | 8.867E-06 | 6.511E-08 | -0.5861 | -11.2269 |   |       |           |
|    |           |           |         |          | 1 | 8.0   | -12.44557 |
|    |           |           |         |          | 2 | 16.0  | -12.85179 |
|    |           |           |         |          | 3 | 72.0  | -13.73326 |
|    |           |           |         |          | 4 | 624.0 | -14.99883 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 12/29/02

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 97.5 meters

TYPE OF RELEASE: Stack Release

DELTA-T HEIGHTS: 10.1-96.3 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 320 ft wind, 33-316 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
VERSUS  
AVERAGING TIME

| DOWNWIND DISTANCE<br>SECTOR (METERS) | RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)<br>VERSUS AVERAGING TIME |           |            |          |           |                          | HOURS PER YEAR MAX<br>0-2 HR X/Q IS<br>EXCEEDED |     | DOWNWIND<br>SECTOR |
|--------------------------------------|--|-----------|------------|----------|-----------|--------------------------|---|-----|--------------------|
|                                      | 0-2 HOURS  | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE           | IN SECTOR                                       |     |                    |
| S 7300.                              | 2.05E-06   | 9.71E-07  | 6.68E-07   | 2.97E-07 | 9.25E-08  | 2.22E-08                 | 4.2   | S   |                    |
| SSW 7300.                            | 1.83E-06   | 8.34E-07  | 5.63E-07   | 2.39E-07 | 7.02E-08  | 1.57E-08                 | 3.6   | SSW |                    |
| SW 7300.                             | 5.13E-06   | 2.23E-06  | 1.47E-06   | 5.95E-07 | 1.63E-07  | 3.32E-08                 | 41.8  | SW  |                    |
| WSW 7300.                            | 4.23E-06   | 1.88E-06  | 1.26E-06   | 5.23E-07 | 1.48E-07  | 3.18E-08                 | 28.3  | WSW |                    |
| W 7300.                              | 2.74E-06   | 1.28E-06  | 8.74E-07   | 3.82E-07 | 1.17E-07  | 2.73E-08                 | 9.4   | W   |                    |
| WNW 7300.                            | 3.64E-06   | 1.65E-06  | 1.11E-06   | 4.73E-07 | 1.38E-07  | 3.07E-08                 | 20.5  | WNW |                    |
| NW 7300.                             | 4.68E-06   | 2.13E-06  | 1.43E-06   | 6.09E-07 | 1.78E-07  | 3.95E-08                 | 34.3  | NW  |                    |
| NNW 7300.                            | 3.40E-06   | 1.55E-06  | 1.05E-06   | 4.49E-07 | 1.32E-07  | 2.97E-08                 | 17.3  | NNW |                    |
| N 7300.                              | 5.29E-06   | 2.56E-06  | 1.78E-06   | 8.08E-07 | 2.60E-07  | 6.51E-08                 | 43.7  | N   |                    |
| NNE 7300.                            | 3.53E-06   | 1.61E-06  | 1.09E-06   | 4.67E-07 | 1.38E-07  | 3.11E-08                 | 18.3  | NNE |                    |
| NE 7300.                             | 3.50E-06   | 1.56E-06  | 1.05E-06   | 4.37E-07 | 1.25E-07  | 2.69E-08                 | 18.1  | NE  |                    |
| ENE 7300.                            | 1.97E-06   | 8.93E-07  | 6.02E-07   | 2.56E-07 | 7.48E-08  | 1.66E-08                 | 4.9   | ENE |                    |
| E 7300.                              | 1.53E-06   | 7.22E-07  | 4.96E-07   | 2.20E-07 | 6.85E-08  | 1.64E-08                 | 2.3   | E   |                    |
| ESE 7300.                            | 1.83E-06   | 8.93E-07  | 6.24E-07   | 2.86E-07 | 9.35E-08  | 2.38E-08                 | 3.9   | ESE |                    |
| SE 7300.                             | 1.55E-06   | 7.68E-07  | 5.41E-07   | 2.53E-07 | 8.50E-08  | 2.24E-08                 | 1.8   | SE  |                    |
| SSE 7300.                            | 1.73E-06   | 8.67E-07  | 6.13E-07   | 2.89E-07 | 9.84E-08  | 2.63E-08                 | 2.0   | SSE |                    |
| MAX X/Q                              | 5.29E-06   |           |            |          |           | TOTAL HOURS AROUND SITE: | 254.4   |     |                    |
| SRP 2.3.4 7300.                      | 8.87E-06   | 3.94E-06  | 2.62E-06   | 1.09E-06 | 3.06E-07  | 6.51E-08                 |   |     |                    |
| SITE LIMIT                           | 0.00E+00   | 0.00E+00  | 0.00E+00   | 0.00E+00 | 0.00E+00  | 6.51E-08                 |   |     |                    |

0.5 PERCENT X/Q TO AN INDIVIDUAL IS LIMITING.

X/Q VALUES (SEC/CUBIC METER) FOR FUMIGATION AT THE BOUNDARY:

DOWNWIND DISTANCE FUMIGATION

| SECTOR (METERS) | X/Q      |
|-----------------|----------|
| S 7300.         | 9.20E-06 |
| SSW 7300.       | 9.80E-06 |
| SW 7300.        | 1.75E-05 |
| WSW 7300.       | 1.75E-05 |
| W 7300.         | 1.13E-05 |
| WNW 7300.       | 1.65E-05 |
| NW 7300.        | 1.75E-05 |
| NNW 7300.       | 1.33E-05 |
| N 7300.         | 1.75E-05 |
| NNE 7300.       | 1.33E-05 |
| NE 7300.        | 1.33E-05 |
| ENE 7300.       | 1.05E-05 |
| E 7300.         | 8.58E-06 |



**Calculation No. PM-1055 Revision 0**

|     |       |          |
|-----|-------|----------|
| ESE | 7300. | 1.05E-05 |
| SE  | 7300. | 8.19E-06 |
| SSE | 7300. | 8.19E-06 |

**Attachment J**

**\*\*NOTE\*\***: VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
CHECK THE REASONABLENESS OF THE ENVELOPES  
COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.



**PAVAN Input**

**Reactor Building Stacks to EAB (River Tower 45' wind and Tower 1A 89'-33' Delta T Stability Class)**

| 1 1111  |      | Ground Release   |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
|---|------|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| Peach Bottom  |      | 10.4-21.1 meters |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 13.7 meters   |      |                  |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
| Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ |      |                  |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 7   | 0    |                  |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 2584.   | 54.3 | 10.0             | 13.7 |      |      |      |      |      |      |      |      |      |      |      |      |  |
| 0   | 0    | 1                | 1    | 4    | 4    | 4    |      |      |      |      |      |      |      |      |      |  |
| 88.   | 83.  | 81.              | 88.  | 122. | 132. | 123. | 50.  | 58.  | 31.  | 29.  | 33.  | 37.  | 42.  | 32.  | 71.  |  |
| 156.  | 102. | 81.              | 102. | 197. | 313. | 422. | 164. | 69.  | 34.  | 17.  | 13.  | 28.  | 34.  | 163. | 163. |  |
| 223.  | 44.  | 36.              | 36.  | 66.  | 87.  | 288. | 291. | 157. | 35.  | 32.  | 31.  | 53.  | 70.  | 348. | 418. |  |
| 124.  | 18.  | 5.               | 4.   | 1.   | 10.  | 20.  | 164. | 65.  | 10.  | 1.   | 2.   | 31.  | 95.  | 350. | 463. |  |
| 29.   | 0.   | 1.               | 0.   | 0.   | 2.   | 0.   | 12.  | 0.   | 1.   | 0.   | 0.   | 0.   | 25.  | 147. | 116. |  |
| 1.  | 3.   | 1.               | 0.   | 1.   | 0.   | 1.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 5.   | 40.  | 17.  |  |
| 0.  | 0.   | 0.               | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   |  |
| 0.  | 0.   | 0.               | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   |  |
| 0.  | 0.   | 0.               | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   |  |
| 0.  | 0.   | 0.               | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   |  |
| 0.  | 0.   | 0.               | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   |  |
| 0.  | 0.   | 0.               | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   |  |
| 35.   | 33.  | 33.              | 29.  | 36.  | 44.  | 48.  | 19.  | 13.  | 4.   | 5.   | 10.  | 10.  | 13.  | 24.  | 31.  |  |
| 68.   | 37.  | 42.              | 69.  | 113. | 121. | 137. | 56.  | 27.  | 18.  | 16.  | 15.  | 23.  | 24.  | 90.  | 78.  |  |
| 100.  | 34.  | 35.              | 10.  | 46.  | 81.  | 103. | 95.  | 60.  | 17.  | 42.  | 32.  | 61.  | 95.  | 149. | 137. |  |
| 57.   | 4.   | 5.               | 1.   | 1.   | 15.  | 20.  | 52.  | 12.  | 3.   | 5.   | 4.   | 25.  | 134. | 217. | 168. |  |
| 3.  | 0.   | 1.               | 0.   | 0.   | 2.   | 1.   | 8.   | 0.   | 1.   | 0.   | 1.   | 1.   | 59.  | 83.  | 53.  |  |
| 0.  | 0.   | 1.               | 0.   | 0.   | 0.   | 0.   | 1.   | 0.   | 0.   | 0.   | 0.   | 0.   | 6.   | 31.  | 16.  |  |
| 92.   | 62.  | 70.              | 81.  | 92.  | 93.  | 103. | 48.  | 34.  | 17.  | 25.  | 28.  | 32.  | 40.  | 61.  | 70.  |  |
| 171.  | 102. | 158.             | 164. | 217. | 267. | 360. | 164. | 115. | 63.  | 70.  | 83.  | 101. | 124. | 219. | 171. |  |
| 208.  | 86.  | 52.              | 48.  | 122. | 210. | 296. | 367. | 149. | 57.  | 72.  | 85.  | 193. | 359. | 489. | 288. |  |
| 76.   | 22.  | 7.               | 3.   | 22.  | 45.  | 44.  | 161. | 38.  | 14.  | 14.  | 11.  | 89.  | 561. | 557. | 318. |  |
| 9.  | 2.   | 0.               | 0.   | 2.   | 4.   | 7.   | 37.  | 1.   | 0.   | 0.   | 0.   | 6.   | 123. | 270. | 115. |  |
| 2.  | 1.   | 0.               | 0.   | 0.   | 0.   | 1.   | 0.   | 0.   | 0.   | 0.   | 0.   | 1.   | 17.  | 67.  | 30.  |  |
| 105.  | 60.  | 45.              | 56.  | 64.  | 109. | 155. | 79.  | 37.  | 45.  | 61.  | 49.  | 65.  | 62.  | 82.  | 161. |  |
| 153.  | 59.  | 69.              | 93.  | 94.  | 178. | 342. | 217. | 153. | 51.  | 91.  | 93.  | 136. | 151. | 252. | 151. |  |
| 164.  | 40.  | 30.              | 23.  | 42.  | 119. | 197. | 332. | 98.  | 24.  | 30.  | 21.  | 73.  | 306. | 382. | 180. |  |
| 44.   | 7.   | 0.               | 2.   | 25.  | 23.  | 20.  | 103. | 17.  | 1.   | 1.   | 1.   | 7.   | 132. | 217. | 107. |  |
| 2.  | 0.   | 0.               | 0.   | 5.   | 0.   | 1.   | 22.  | 6.   | 0.   | 0.   | 0.   | 0.   | 13.  | 44.  | 19.  |  |
| 2.  | 1.   | 0.               | 0.   | 0.   | 2.   | 1.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 6.   | 3.   | 1.   |  |
| 91.   | 52.  | 48.              | 42.  | 60.  | 96.  | 167. | 119. | 99.  | 51.  | 75.  | 88.  | 121. | 99.  | 173. | 176. |  |
| 90.   | 28.  | 36.              | 19.  | 42.  | 99.  | 228. | 248. | 128. | 44.  | 53.  | 82.  | 128. | 170. | 218. | 148. |  |
| 35.   | 5.   | 8.               | 8.   | 5.   | 30.  | 67.  | 183. | 66.  | 14.  | 4.   | 11.  | 21.  | 155. | 228. | 93.  |  |
| 1.  | 0.   | 0.               | 1.   | 12.  | 0.   | 0.   | 18.  | 5.   | 0.   | 0.   | 0.   | 1.   | 13.  | 24.  | 20.  |  |
| 0.  | 0.   | 0.               | 0.   | 2.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 1.   | 0.   | 1.   | 2.   |  |
| 0.  | 0.   | 0.               | 0.   | 0.   | 1.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 3.   | 0.   | 2.   | 0.   |  |
| 193.  | 76.  | 63.              | 81.  | 89.  | 132. | 268. | 314. | 357. | 273. | 444. | 594. | 923. | 799. | 914. | 590. |  |
| 139.  | 47.  | 37.              | 13.  | 48.  | 113. | 313. | 314. | 234. | 141. | 203. | 353. | 794. | 599. | 732. | 458. |  |



**PAVAN Output**

**Reactor Building Stacks to EAB (River Tower 45' wind and Tower 1A 89'-33' Delta T Stability Class)**

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USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PRINTOUT OF INPUT CARDS

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1 00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2 Peach Bottom
Ground Release
3 13.7 meters 10.4-21.1 meters
4
5 Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ 6 7 42046 0
7 0.500 2584.000 54.300 10.000 13.700
8 0.000 0.000 1.000 1.000 4.000 4.000 4.000
9 88.000 83.000 81.000 88.000 122.000 132.000 123.000 50.000 58.000 31.000 29.000 33.000 37.000 42.000 32.000 71.000
9 156.000 102.000 81.000 102.000 197.000 313.000 422.000 164.000 69.000 34.000 17.000 13.000 28.000 34.000 163.000 163.000
9 223.000 44.000 36.000 36.000 66.000 87.000 288.000 291.000 157.000 35.000 32.000 31.000 53.000 70.000 348.000 418.000
9 124.000 18.000 5.000 4.000 1.000 10.000 20.000 164.000 65.000 10.000 1.000 2.000 31.000 95.000 350.000 463.000
9 29.000 0.000 1.000 0.000 0.000 2.000 0.000 12.000 0.000 1.000 0.000 0.000 0.000 25.000 147.000 116.000
9 1.000 3.000 1.000 0.000 1.000 0.000 1.000 0.000 0.000 0.000 0.000 0.000 5.000 40.000 17.000
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9 35.000 33.000 33.000 29.000 36.000 44.000 48.000 19.000 13.000 4.000 5.000 10.000 10.000 13.000 24.000 31.000
9 68.000 37.000 42.000 69.000 113.000 121.000 137.000 56.000 27.000 18.000 16.000 15.000 23.000 24.000 90.000 78.000
9 100.000 34.000 35.000 10.000 46.000 81.000 103.000 95.000 60.000 17.000 42.000 32.000 61.000 95.000 149.000 137.000
9 57.000 4.000 5.000 1.000 1.000 15.000 20.000 52.000 12.000 3.000 5.000 4.000 25.000 134.000 217.000 168.000
9 3.000 0.000 1.000 0.000 0.000 2.000 1.000 8.000 0.000 1.000 0.000 1.000 1.000 59.000 83.000 53.000
9 0.000 0.000 1.000 0.000 0.000 0.000 0.000 1.000 0.000 0.000 0.000 0.000 6.000 31.000 16.000
9 92.000 62.000 70.000 81.000 92.000 93.000 103.000 48.000 34.000 17.000 25.000 28.000 32.000 40.000 61.000 70.000
9 171.000 102.000 158.000 164.000 217.000 267.000 360.000 164.000 115.000 63.000 70.000 83.000 101.000 124.000 219.000 171.000
9 208.000 86.000 52.000 48.000 122.000 210.000 296.000 367.000 149.000 57.000 72.000 85.000 193.000 359.000 489.000 288.000
9 76.000 22.000 7.000 3.000 22.000 45.000 44.000 161.000 38.000 14.000 14.000 11.000 89.000 561.000 557.000 318.000
9 9.000 2.000 0.000 0.000 2.000 4.000 7.000 37.000 1.000 0.000 0.000 0.000 6.000 123.000 270.000 115.000
9 2.000 1.000 0.000 0.000 0.000 0.000 1.000 0.000 0.000 0.000 0.000 1.000 17.000 67.000 30.000
9 105.000 60.000 45.000 56.000 64.000 109.000 155.000 79.000 37.000 45.000 61.000 49.000 65.000 62.000 82.000 161.000
9 153.000 59.000 69.000 93.000 94.000 178.000 342.000 217.000 153.000 51.000 91.000 93.000 136.000 151.000 252.000 151.000
9 164.000 40.000 30.000 23.000 42.000 119.000 197.000 332.000 98.000 24.000 30.000 21.000 73.000 306.000 382.000 180.000
9 44.000 7.000 0.000 2.000 25.000 23.000 20.000 103.000 17.000 1.000 1.000 1.000 7.000 132.000 217.000 107.000
9 2.000 0.000 0.000 0.000 5.000 0.000 1.000 22.000 6.000 0.000 0.000 0.000 0.000 13.000 44.000 19.000
9 2.000 1.000 0.000 0.000 0.000 2.000 1.000 0.000 0.000 0.000 0.000 0.000 6.000 3.000 1.000
9 91.000 52.000 48.000 42.000 60.000 96.000 167.000 119.000 99.000 51.000 75.000 88.000 121.000 99.000 173.000 176.000
9 90.000 28.000 36.000 19.000 42.000 99.000 228.000 248.000 128.000 44.000 53.000 82.000 128.000 170.000 218.000 148.000

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Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS A

WIND SPEED (M/S)

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.21     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1.56 1.45     | 0.209 | 0.197 | 0.193 | 0.209 | 0.290 | 0.314 | 0.293 | 0.119 | 0.138 | 0.074 | 0.069 | 0.078 | 0.088 | 0.100 | 0.076 | 0.169 | 2.616 |
| 3.35 3.10     | 0.371 | 0.243 | 0.193 | 0.243 | 0.469 | 0.744 | 1.004 | 0.390 | 0.164 | 0.081 | 0.040 | 0.031 | 0.067 | 0.081 | 0.388 | 0.388 | 4.895 |
| 5.59 5.17     | 0.530 | 0.105 | 0.086 | 0.086 | 0.157 | 0.207 | 0.685 | 0.692 | 0.373 | 0.083 | 0.076 | 0.074 | 0.126 | 0.166 | 0.828 | 0.994 | 5.268 |
| 8.27 7.64     | 0.295 | 0.043 | 0.012 | 0.010 | 0.002 | 0.024 | 0.048 | 0.390 | 0.155 | 0.024 | 0.002 | 0.005 | 0.074 | 0.226 | 0.832 | 1.101 | 3.242 |
| 10.73 9.92    | 0.069 | 0.000 | 0.002 | 0.000 | 0.000 | 0.005 | 0.000 | 0.029 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.059 | 0.350 | 0.276 | 0.792 |
| 24.59 22.73   | 0.002 | 0.007 | 0.002 | 0.000 | 0.002 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.012 | 0.095 | 0.040 | 0.164 |
| TOTAL         | 1.48  | 0.59  | 0.49  | 0.55  | 0.92  | 1.29  | 2.03  | 1.62  | 0.83  | 0.26  | 0.19  | 0.19  | 0.35  | 0.64  | 2.57  | 2.97  | 16.98 |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS B

WIND SPEED (M/S)

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.21     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1.56 1.45     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 3.35 3.10     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5.59 5.17     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 8.27 7.64     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 10.73 9.92    | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 24.59 22.73   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| TOTAL         | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS C

WIND SPEED (M/S)

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.21     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 |
| 1.56 1.45     | 0.083 | 0.078 | 0.078 | 0.069 | 0.086 | 0.105 | 0.114 | 0.045 | 0.031 | 0.010 | 0.012 | 0.024 | 0.024 | 0.031 | 0.057 | 0.074 | 0.920 |
| 3.35 3.10     | 0.162 | 0.088 | 0.100 | 0.164 | 0.269 | 0.288 | 0.326 | 0.133 | 0.064 | 0.043 | 0.038 | 0.036 | 0.055 | 0.057 | 0.214 | 0.186 | 2.221 |
| 5.59 5.17     | 0.238 | 0.081 | 0.083 | 0.024 | 0.109 | 0.193 | 0.245 | 0.226 | 0.143 | 0.040 | 0.100 | 0.076 | 0.145 | 0.226 | 0.354 | 0.326 | 2.609 |
| 8.27 7.64     | 0.136 | 0.010 | 0.012 | 0.002 | 0.002 | 0.036 | 0.048 | 0.124 | 0.029 | 0.007 | 0.012 | 0.010 | 0.059 | 0.319 | 0.516 | 0.400 | 1.720 |
| 10.73 9.92    | 0.007 | 0.000 | 0.002 | 0.000 | 0.000 | 0.005 | 0.002 | 0.019 | 0.000 | 0.002 | 0.000 | 0.002 | 0.002 | 0.140 | 0.197 | 0.126 | 0.507 |
| 24.59 22.73   | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.014 | 0.074 | 0.038 | 0.131 |
| TOTAL         | 0.63  | 0.26  | 0.28  | 0.26  | 0.47  | 0.63  | 0.74  | 0.55  | 0.27  | 0.10  | 0.16  | 0.15  | 0.29  | 0.79  | 1.41  | 1.15  | 8.11  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS D

WIND SPEED (M/S)

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.21     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 |
| 1.56 1.45     | 0.219 | 0.147 | 0.166 | 0.193 | 0.219 | 0.221 | 0.245 | 0.114 | 0.081 | 0.040 | 0.059 | 0.067 | 0.076 | 0.095 | 0.145 | 0.166 | 2.255 |

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3.35  | 3.10  | 0.407 | 0.243 | 0.376 | 0.390 | 0.516 | 0.635 | 0.856 | 0.390 | 0.274 | 0.150 | 0.166 | 0.197 | 0.240 | 0.295 | 0.521 | 0.407 | 6.062 |
| 5.59  | 5.17  | 0.495 | 0.205 | 0.124 | 0.114 | 0.290 | 0.499 | 0.704 | 0.873 | 0.354 | 0.136 | 0.171 | 0.202 | 0.459 | 0.854 | 1.163 | 0.685 | 7.328 |
| 8.27  | 7.64  | 0.181 | 0.052 | 0.017 | 0.007 | 0.052 | 0.107 | 0.105 | 0.383 | 0.090 | 0.033 | 0.033 | 0.026 | 0.212 | 1.334 | 1.325 | 0.756 | 4.714 |
| 10.73 | 9.92  | 0.021 | 0.005 | 0.000 | 0.000 | 0.005 | 0.010 | 0.017 | 0.088 | 0.002 | 0.000 | 0.000 | 0.000 | 0.014 | 0.293 | 0.642 | 0.274 | 1.370 |
| 24.59 | 22.73 | 0.005 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.040 | 0.159 | 0.071 | 0.283 |
| TOTAL |       | 1.33  | 0.65  | 0.68  | 0.70  | 1.08  | 1.47  | 1.93  | 1.85  | 0.80  | 0.36  | 0.43  | 0.49  | 1.00  | 2.91  | 3.96  | 2.36  | 22.01 |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS E

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.19     | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.010 |
| 1.56 1.34     | 0.250 | 0.143 | 0.107 | 0.133 | 0.152 | 0.259 | 0.369 | 0.188 | 0.088 | 0.107 | 0.145 | 0.117 | 0.155 | 0.147 | 0.195 | 0.383 | 2.937 |
| 3.35 2.86     | 0.364 | 0.140 | 0.164 | 0.221 | 0.224 | 0.423 | 0.813 | 0.516 | 0.364 | 0.121 | 0.216 | 0.221 | 0.323 | 0.359 | 0.599 | 0.359 | 5.430 |
| 5.59 4.77     | 0.390 | 0.095 | 0.071 | 0.055 | 0.100 | 0.283 | 0.469 | 0.790 | 0.233 | 0.057 | 0.071 | 0.050 | 0.174 | 0.728 | 0.909 | 0.428 | 4.902 |
| 8.27 7.07     | 0.105 | 0.017 | 0.000 | 0.005 | 0.059 | 0.055 | 0.048 | 0.245 | 0.040 | 0.002 | 0.002 | 0.002 | 0.017 | 0.314 | 0.516 | 0.254 | 1.681 |
| 10.73 9.17    | 0.005 | 0.000 | 0.000 | 0.000 | 0.012 | 0.000 | 0.002 | 0.052 | 0.014 | 0.000 | 0.000 | 0.000 | 0.000 | 0.031 | 0.105 | 0.045 | 0.266 |
| 24.59 21.01   | 0.005 | 0.002 | 0.000 | 0.000 | 0.000 | 0.005 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.014 | 0.007 | 0.002 | 0.038 |
| TOTAL         | 1.12  | 0.40  | 0.34  | 0.41  | 0.55  | 1.03  | 1.70  | 1.79  | 0.74  | 0.29  | 0.44  | 0.39  | 0.67  | 1.59  | 2.33  | 1.47  | 15.26 |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS F

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.19     | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.010 |
| 1.56 1.34     | 0.216 | 0.124 | 0.114 | 0.100 | 0.143 | 0.228 | 0.397 | 0.283 | 0.235 | 0.121 | 0.178 | 0.209 | 0.288 | 0.235 | 0.411 | 0.419 | 3.703 |
| 3.35 2.86     | 0.214 | 0.067 | 0.086 | 0.045 | 0.100 | 0.235 | 0.542 | 0.590 | 0.304 | 0.105 | 0.126 | 0.195 | 0.304 | 0.404 | 0.518 | 0.352 | 4.188 |
| 5.59 4.77     | 0.083 | 0.012 | 0.019 | 0.019 | 0.012 | 0.071 | 0.159 | 0.435 | 0.157 | 0.033 | 0.010 | 0.026 | 0.050 | 0.369 | 0.542 | 0.221 | 2.219 |
| 8.27 7.07     | 0.002 | 0.000 | 0.000 | 0.002 | 0.029 | 0.000 | 0.000 | 0.043 | 0.012 | 0.000 | 0.000 | 0.000 | 0.002 | 0.031 | 0.057 | 0.048 | 0.226 |
| 10.73 9.17    | 0.000 | 0.000 | 0.000 | 0.000 | 0.005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.002 | 0.005 | 0.014 |
| 24.59 21.01   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.007 | 0.000 | 0.005 | 0.000 | 0.014 |
| TOTAL         | 0.52  | 0.20  | 0.22  | 0.17  | 0.29  | 0.54  | 1.10  | 1.35  | 0.71  | 0.26  | 0.31  | 0.43  | 0.65  | 1.04  | 1.54  | 1.05  | 10.37 |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS G

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL  |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 0.22 0.19     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.010  |
| 1.56 1.34     | 0.459 | 0.181 | 0.150 | 0.193 | 0.212 | 0.314 | 0.637 | 0.747 | 0.849 | 0.649 | 1.056 | 1.413 | 2.195 | 1.900 | 2.174 | 1.403 | 14.532 |
| 3.35 2.86     | 0.331 | 0.112 | 0.088 | 0.031 | 0.114 | 0.269 | 0.744 | 0.747 | 0.557 | 0.335 | 0.483 | 0.840 | 1.888 | 1.425 | 1.741 | 1.089 | 10.793 |
| 5.59 4.77     | 0.098 | 0.007 | 0.014 | 0.000 | 0.000 | 0.059 | 0.052 | 0.147 | 0.076 | 0.017 | 0.007 | 0.017 | 0.143 | 0.447 | 0.509 | 0.169 | 1.762  |
| 8.27 7.07     | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.021 | 0.012 | 0.000 | 0.000 | 0.002 | 0.000 | 0.012 | 0.026 | 0.017 | 0.093  |
| 10.73 9.17    | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.007  |
| 24.59 21.01   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.002 | 0.010 | 0.019 | 0.021 | 0.007 | 0.002 | 0.064  |
| TOTAL         | 0.89  | 0.30  | 0.25  | 0.22  | 0.33  | 0.64  | 1.43  | 1.67  | 1.50  | 1.00  | 1.55  | 2.28  | 4.25  | 3.81  | 4.46  | 2.68  | 27.26  |

WIND MEASURED AT 13.7 METERS.

WIND SPEED CORRECTED TO THE RELEASE HEIGHT OF 10.0 METERS.

OVERALL WIND DIRECTION FREQUENCY

| WIND DIRECTION: | N   | NNE | NE  | ENE | E   | ESE | SE  | SSE | S   | SSW | SW  | WSW | W   | WNW  | NW   | NNW  |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| FREQUENCY:      | 6.0 | 2.4 | 2.3 | 2.3 | 3.6 | 5.6 | 8.9 | 8.8 | 4.8 | 2.3 | 3.1 | 3.9 | 7.2 | 10.8 | 16.3 | 11.7 |



OVERALL WIND SPEED FREQUENCY AS MEASURED ON THE TOWER:

MAX.WIND SPEED (M/S): 0.224 1.565 3.353 5.588 8.270 10.729 24.587  
 WIND SPEED FREQUENCY: 0.03 26.96 33.59 24.09 11.68 2.96 0.69

BUILDING AND RELEASE CHARACTERISTICS:

RELEASE HEIGHT: 10.00 METERS  
 MIXING VOLUME COEFFICIENT: 0.50  
 BUILDING CROSS-SECTIONAL AREA: 2584.00 SQUARE METERS

BOUNDARY DISTANCES (METERS) FROM THE SOURCE FOR EACH DOWNWIND SECTOR:

| DOWNWIND SECTOR | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| BOUNDARY 1      | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  |
| BOUNDARY 2      | -100. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. |

THE CONVERSION FACTOR APPLIED TO THE WIND SPEED CLASSES IS 0.447

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/09/03

Page 1097 of 1411

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

WINDSPEEDS ADJUSTED TO 10.0 METERS.

PERCENT OF THE TIME A GIVEN WINDSPEED IS LOWER:

| WINDSPEED<br>(METER/SEC) | CUMULATIVE FREQUENCY<br>(PERCENT) |
|--------------------------|-----------------------------------|
| 0.19                     | 0.03                              |
| 0.21                     | 0.03                              |
| 1.34                     | 21.21                             |
| 1.45                     | 27.00                             |
| 2.86                     | 47.41                             |
| 3.10                     | 60.59                             |
| 4.77                     | 69.47                             |
| 5.17                     | 84.67                             |
| 7.07                     | 86.67                             |
| 7.64                     | 96.35                             |
| 9.17                     | 96.64                             |
| 9.92                     | 99.31                             |
| 21.01                    | 99.42                             |
| 22.73                    | 100.00                            |

| WINDSPEED<br>(INTERPOLATED)<br>(METER/SEC) | CUMULATIVE FREQUENCY<br>(PERCENT) |
|--|-----------------------------------|
| 0.19                                       | 0.03                              |
| 1.36                                       | 27.00                             |
| 2.96                                       | 60.59                             |
| 5.02                                       | 84.67                             |
| 7.55                                       | 96.35                             |
| 9.84                                       | 99.31                             |
| 22.44                                      | 100.00                            |

LOG-NORMAL INTERPOLATION PERCENTILES

| WINDSPEED<br>(METER/SEC) | CUMULATIVE FREQUENCY<br>(PERCENT) |
|--------------------------|-----------------------------------|
| 0.41                     | 1.00                              |
| 0.56                     | 3.00                              |
| 0.66                     | 5.00                              |
| 0.85                     | 10.00                             |
| 1.01                     | 15.00                             |
| 1.16                     | 20.00                             |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|      |       |
|------|-------|
| 1.30 | 25.00 |
| 1.47 | 30.00 |
| 1.66 | 35.00 |
| 1.87 | 40.00 |
| 2.09 | 45.00 |
| 2.33 | 50.00 |
| 2.61 | 55.00 |
| 2.92 | 60.00 |
| 3.21 | 65.00 |
| 3.54 | 70.00 |
| 3.93 | 75.00 |
| 4.42 | 80.00 |
| 5.18 | 85.00 |
| 5.76 | 90.00 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4 21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A     | 1.4                                      | 3.52                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.518E-06         | 4.480E-06            | 4.480E-06                         |           |      |
| A     | 3.1                                      | 6.23                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 2.108E-06         | 2.091E-06            | 2.091E-06                         |           |      |
| A     | 5.2                                      | 8.91                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.265E-06         | 1.254E-06            | 1.254E-06                         |           |      |
| A     | 7.6                                      | 4.95                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 8.548E-07         | 8.476E-07            | 8.476E-07                         |           |      |
| A     | 9.9                                      | 1.16                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 6.589E-07         | 6.534E-07            | 6.534E-07                         |           |      |
| A     | 22.7                                     | 0.04                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 2.875E-07         | 2.851E-07            | 2.851E-07                         |           |      |
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      |                                   |           |      |
| C     | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 3.356E-04         | 3.080E-04            | 3.080E-04                         |           |      |
| C     | 1.4                                      | 1.40                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.795E-05         | 4.401E-05            | 4.401E-05                         |           |      |
| C     | 3.1                                      | 2.72                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.238E-05         | 2.054E-05            | 2.054E-05                         |           |      |
| C     | 5.2                                      | 4.00                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.343E-05         | 1.232E-05            | 1.232E-05                         |           |      |
| C     | 7.6                                      | 2.28                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 9.071E-06         | 8.325E-06            | 8.325E-06                         |           |      |
| C     | 9.9                                      | 0.12                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 6.992E-06         | 6.417E-06            | 6.417E-06                         |           |      |
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      |                                   |           |      |
| D     | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.551E-04         | 7.248E-04            | 4.551E-04                         |           |      |
| D     | 1.4                                      | 3.68                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.501E-05         | 1.035E-04            | 6.501E-05                         |           |      |
| D     | 3.1                                      | 6.83                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 95.0              | 3.983E-05         | 4.832E-05            | 3.983E-05                         |           |      |
| D     | 5.2                                      | 8.31                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 69.3              | 3.278E-05         | 2.899E-05            | 2.899E-05                         |           |      |
| D     | 7.6                                      | 3.04                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.429E-05         | 1.959E-05            | 1.959E-05                         |           |      |
| D     | 9.9                                      | 0.36                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 1.872E-05         | 1.510E-05            | 1.510E-05                         |           |      |
| D     | 22.7                                     | 0.08                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 8.169E-06         | 6.589E-06            | 6.589E-06                         |           |      |
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      |                                   |           |      |
| E     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 6.730E-04         | 1.332E-03            | 6.730E-04                         |           |      |
| E     | 1.3                                      | 4.20                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 9.614E-05         | 1.903E-04            | 9.614E-05                         |           |      |
| E     | 2.9                                      | 6.11                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 92.8              | 6.402E-05         | 8.883E-05            | 6.402E-05                         |           |      |
| E     | 4.8                                      | 6.55                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 56.2              | 6.350E-05         | 5.330E-05            | 5.330E-05                         |           |      |
| E     | 7.1                                      | 1.76                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 5.365E-05         | 3.601E-05            | 3.601E-05                         |           |      |
| E     | 9.2                                      | 0.08                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 4.135E-05         | 2.776E-05            | 2.776E-05                         |           |      |
| E     | 21.0                                     | 0.08                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 1.804E-05         | 1.211E-05            | 1.211E-05                         |           |      |
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      |                                   |           |      |
| F     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.141E-03         | 2.127E-03            | 1.141E-03                         |           |      |
| F     | 1.3                                      | 3.64                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.630E-04         | 3.039E-04            | 1.630E-04                         |           |      |
| F     | 2.9                                      | 3.60                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 77.6              | 1.193E-04         | 1.418E-04            | 1.193E-04                         |           |      |
| F     | 4.8                                      | 1.40                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 41.1              | 1.351E-04         | 8.509E-05            | 8.509E-05                         |           |      |
| F     | 7.1                                      | 0.04                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 31.0              | 1.210E-04         | 5.750E-05            | 5.750E-05                         |           |      |
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      |                                   |           |      |
| G     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.720E-03         | 3.367E-03            | 1.720E-03                         |           |      |
| G     | 1.3                                      | 7.71                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.457E-04         | 4.809E-04            | 2.457E-04                         |           |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|   |     |      |      |    |    |      |     |      |           |           |           |
|---|-----|------|------|----|----|------|-----|------|-----------|-----------|-----------|
| G | 2.9 | 5.55 | 823. | 0. | 0. | 21.4 | 7.7 | 70.2 | 2.053E-04 | 2.244E-04 | 2.053E-04 |
| G | 4.8 | 1.64 | 823. | 0. | 0. | 21.4 | 7.7 | 30.8 | 2.805E-04 | 1.347E-04 | 1.347E-04 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4 21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

S SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.720E-03 | 1.141E-03 | 6.730E-04 | 4.551E-04 | 3.080E-04 | 2.457E-04 | 2.053E-04 | 1.630E-04 | 1.347E-04 | 1.193E-04 |
| 0.005     | 0.014     | 0.028     | 0.032     | 0.035     | 7.747     | 13.300    | 16.936    | 18.574    | 22.170    |
| 0.00030   | 0.00086   | 0.00167   | 0.00190   | 0.00211   | 0.46113   | 0.79172   | 1.00815   | 1.10566   | 1.31972   |
| 9.614E-05 | 8.509E-05 | 6.501E-05 | 6.402E-05 | 5.750E-05 | 5.330E-05 | 4.401E-05 | 3.983E-05 | 3.601E-05 | 2.899E-05 |
| 26.365    | 27.763    | 31.439    | 37.552    | 37.592    | 44.145    | 45.543    | 52.375    | 54.133    | 62.443    |
| 1.56944   | 1.65268   | 1.87149   | 2.23538   | 2.23776   | 2.62781   | 2.71105   | 3.11775   | 3.22239   | 3.71709   |
| 2.776E-05 | 2.054E-05 | 1.959E-05 | 1.510E-05 | 1.232E-05 | 1.211E-05 | 8.325E-06 | 6.589E-06 | 6.417E-06 | 4.480E-06 |
| 62.523    | 65.240    | 68.277    | 68.636    | 72.632    | 72.712    | 74.989    | 75.069    | 75.189    | 78.705    |
| 3.72185   | 3.88357   | 4.06433   | 4.08573   | 4.32357   | 4.32833   | 4.46389   | 4.46865   | 4.47578   | 4.68508   |
| 2.091E-06 | 1.254E-06 | 8.476E-07 | 6.534E-07 | 2.851E-07 |           |           |           |           |           |
| 84.937    | 93.847    | 98.801    | 99.960    | 100.000   |           |           |           |           |           |
| 5.05610   | 5.58647   | 5.88139   | 5.95036   | 5.95274   |           |           |           |           |           |

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|                  |                                    |              |       |
|------------------|------------------------------------|--------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2) = | 0.791 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 1.007 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 2.625 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 3.115 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 3.714 |

| K | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|---|---|-------------|--------------|-------------|
| 1 | 1 | -6.36563    | -10.91894    | -1.00605    |
| 1 | 2 | -8.49120    | -14.71414    | -2.57877    |
| 1 | 3 | -8.72174    | -15.47337    | -2.90550    |
| 1 | 4 | -9.83966    | -17.38826    | -3.89308    |
| 1 | 5 | -10.13086   | -17.60125    | -4.00733    |
| 1 | 6 | -10.44855   | NUMXQ(K) = 6 |             |
|   |   | 4.723E-04   | 0.060        | 1.000       |
|   |   | 3.398E-04   | 0.179        | 3.000       |
|   |   | 2.883E-04   | 0.298        | 5.000       |
|   |   | 2.275E-04   | 0.595        | 10.000      |
|   |   | 1.832E-04   | 0.893        | 15.000      |
|   |   | 1.357E-04   | 1.191        | 20.000      |
|   |   | 1.054E-04   | 1.488        | 25.000      |
|   |   | 8.523E-05   | 1.786        | 30.000      |
|   |   | 7.091E-05   | 2.083        | 35.000      |
|   |   | 6.024E-05   | 2.381        | 40.000      |
|   |   | 5.160E-05   | 2.679        | 45.000      |
|   |   | 4.314E-05   | 2.976        | 50.000      |
|   |   | 3.650E-05   | 3.274        | 55.000      |
|   |   | 3.119E-05   | 3.572        | 60.000      |
|   |   | 2.419E-04   | 0.5          | 8.40        |

ANNUAL AVERAGE = 3.07E-06

K= 1 FIVEXQ(K) = 2.419E-04 FIVEPR(K) = 8.399

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

| CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER | BLDG WAKE | USED |
|-------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|---------|-----------|------|
|       | AT 10.0 METERS         |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |         |           |      |
| A     | 1.4                    | 8.20                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 4.518E-06         | 4.480E-06         | 4.480E-06            |                                   |         |           |      |
| A     | 3.1                    | 10.07                | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 2.108E-06         | 2.091E-06         | 2.091E-06            |                                   |         |           |      |
| A     | 5.2                    | 4.35                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.265E-06         | 1.254E-06         | 1.254E-06            |                                   |         |           |      |
| A     | 7.6                    | 1.78                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 8.548E-07         | 8.476E-07         | 8.476E-07            |                                   |         |           |      |
| A     | 22.7                   | 0.30                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 2.875E-07         | 2.851E-07         | 2.851E-07            |                                   |         |           |      |
|       |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |         |           |      |
| C     | 0.2                    | 0.01                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 3.356E-04         | 3.080E-04         | 3.080E-04            |                                   |         |           |      |
| C     | 1.4                    | 3.26                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 4.795E-05         | 4.401E-05         | 4.401E-05            |                                   |         |           |      |
| C     | 3.1                    | 3.65                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 2.238E-05         | 2.054E-05         | 2.054E-05            |                                   |         |           |      |
| C     | 5.2                    | 3.36                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 1.343E-05         | 1.232E-05         | 1.232E-05            |                                   |         |           |      |
| C     | 7.6                    | 0.40                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 9.071E-06         | 8.325E-06         | 8.325E-06            |                                   |         |           |      |
|       |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |         |           |      |
| D     | 0.2                    | 0.01                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 4.551E-04         | 7.248E-04         | 4.551E-04            |                                   |         |           |      |
| D     | 1.4                    | 6.12                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 6.501E-05         | 1.035E-04         | 6.501E-05            |                                   |         |           |      |
| D     | 3.1                    | 10.07                | 823.               | 0.                | 0.           | 63.2          | 27.1            | 95.0         | 3.983E-05         | 4.832E-05         | 3.983E-05            |                                   |         |           |      |
| D     | 5.2                    | 8.49                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 69.3         | 3.278E-05         | 2.899E-05         | 2.899E-05            |                                   |         |           |      |
| D     | 7.6                    | 2.17                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 2.429E-05         | 1.959E-05         | 1.959E-05            |                                   |         |           |      |
| D     | 9.9                    | 0.20                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 1.872E-05         | 1.510E-05         | 1.510E-05            |                                   |         |           |      |
| D     | 22.7                   | 0.10                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 8.169E-06         | 6.589E-06         | 6.589E-06            |                                   |         |           |      |
|       |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |         |           |      |
| E     | 0.2                    | 0.02                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 6.730E-04         | 1.332E-03         | 6.730E-04            |                                   |         |           |      |
| E     | 1.3                    | 5.93                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 9.614E-05         | 1.903E-04         | 9.614E-05            |                                   |         |           |      |
| E     | 2.9                    | 5.83                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 92.8         | 6.402E-05         | 8.883E-05         | 6.402E-05            |                                   |         |           |      |
| E     | 4.8                    | 3.95                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 56.2         | 6.350E-05         | 5.330E-05         | 5.330E-05            |                                   |         |           |      |
| E     | 7.1                    | 0.69                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 5.365E-05         | 3.601E-05         | 3.601E-05            |                                   |         |           |      |
| E     | 21.0                   | 0.10                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 1.804E-05         | 1.211E-05         | 1.211E-05            |                                   |         |           |      |
|       |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |         |           |      |
| F     | 0.2                    | 0.01                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.141E-03         | 2.127E-03         | 1.141E-03            |                                   |         |           |      |
| F     | 1.3                    | 5.14                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.630E-04         | 3.039E-04         | 1.630E-04            |                                   |         |           |      |
| F     | 2.9                    | 2.77                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 77.6         | 1.193E-04         | 1.418E-04         | 1.193E-04            |                                   |         |           |      |
| F     | 4.8                    | 0.49                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 41.1         | 1.351E-04         | 8.509E-05         | 8.509E-05            |                                   |         |           |      |
|       |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |         |           |      |
| G     | 0.2                    | 0.00                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 1.720E-03         | 3.367E-03         | 1.720E-03            |                                   |         |           |      |
| G     | 1.3                    | 7.51                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 2.457E-04         | 4.809E-04         | 2.457E-04            |                                   |         |           |      |
| G     | 2.9                    | 4.64                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 70.2         | 2.053E-04         | 2.244E-04         | 2.053E-04            |                                   |         |           |      |
| G     | 4.8                    | 0.30                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 30.8         | 2.805E-04         | 1.347E-04         | 1.347E-04            |                                   |         |           |      |
| G     | 7.1                    | 0.10                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 21.4         | 2.730E-04         | 9.099E-05         | 9.099E-05            |                                   |         |           |      |



**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

SSW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.720E-03 | 1.141E-03 | 6.730E-04 | 4.551E-04 | 3.080E-04 | 2.457E-04 | 2.053E-04 | 1.630E-04 | 1.347E-04 | 1.193E-04 |
| 0.005     | 0.018     | 0.037     | 0.044     | 0.052     | 7.558     | 12.200    | 17.336    | 17.632    | 20.397    |
| 0.00012   | 0.00044   | 0.00090   | 0.00105   | 0.00126   | 0.18201   | 0.29379   | 0.41747   | 0.42460   | 0.49120   |
| 9.614E-05 | 9.099E-05 | 8.509E-05 | 6.501E-05 | 6.402E-05 | 5.330E-05 | 4.401E-05 | 3.983E-05 | 3.601E-05 | 2.899E-05 |
| 26.323    | 26.422    | 26.916    | 33.039    | 38.866    | 42.816    | 46.076    | 56.149    | 56.841    | 65.334    |
| 0.63390   | 0.63628   | 0.64817   | 0.79562   | 0.93595   | 1.03108   | 1.10957   | 1.35216   | 1.36881   | 1.57334   |
| 2.054E-05 | 1.959E-05 | 1.510E-05 | 1.232E-05 | 1.211E-05 | 8.325E-06 | 6.589E-06 | 4.480E-06 | 2.091E-06 | 1.254E-06 |
| 68.989    | 71.161    | 71.359    | 74.717    | 74.815    | 75.211    | 75.309    | 83.507    | 93.580    | 97.926    |
| 1.66134   | 1.71367   | 1.71842   | 1.79929   | 1.80167   | 1.81118   | 1.81356   | 2.01096   | 2.25355   | 2.35820   |
| 8.476E-07 | 2.851E-07 |           |           |           |           |           |           |           |           |
| 99.704    | 100.000   |           |           |           |           |           |           |           |           |
| 2.40101   | 2.40814   |           |           |           |           |           |           |           |           |

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|                  |                                    |              |       |
|------------------|------------------------------------|--------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2) = | 0.182 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 0.293 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 0.417 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 0.935 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 1.351 |

| K | I | XQSAVE(K, I) | XQINT(K, I) | XQSLOP(K, I) |
|---|---|--------------|-------------|--------------|
| 2 | 1 | -6.36563     | -11.43622   | -1.07448     |
| 2 | 2 | -8.31154     | -11.72411   | -1.17347     |
| 2 | 3 | -8.49120     | -13.91986   | -1.97048     |
| 2 | 4 | -8.72174     | -17.32782   | -3.26235     |
| 2 | 5 | -9.65636     | -17.61615   | -3.38496     |
| 2 | 6 | -10.13086    | -21.88337   | -5.31466     |
| 2 | 7 | -10.44855    | NUMXQ(K)= 7 |              |
|   |   | 4.595E-04    | 0.024       | 1.000        |
|   |   | 3.311E-04    | 0.072       | 3.000        |
|   |   | 2.815E-04    | 0.120       | 5.000        |
|   |   | 2.214E-04    | 0.241       | 10.000       |
|   |   | 1.794E-04    | 0.361       | 15.000       |
|   |   | 1.390E-04    | 0.482       | 20.000       |
|   |   | 1.078E-04    | 0.602       | 25.000       |
|   |   | 8.722E-05    | 0.722       | 30.000       |
|   |   | 7.264E-05    | 0.843       | 35.000       |
|   |   | 6.174E-05    | 0.963       | 40.000       |
|   |   | 5.314E-05    | 1.084       | 45.000       |
|   |   | 4.637E-05    | 1.204       | 50.000       |
|   |   | 4.093E-05    | 1.324       | 55.000       |
|   |   | 3.469E-05    | 1.445       | 60.000       |
|   |   | 2.931E-05    | 1.565       | 65.000       |
|   |   | 1.333E-04    | 0.5         | 20.76        |

ANNUAL AVERAGE = 1.37E-06

K= 2 FIVEXQ(K)= 1.333E-04 FIVEPR(K)=20.763

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Ground Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 13.7 meters  
 DELTA-T HEIGHTS: 10.4-21.1 meters

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER           | BLDG WAKE | USED |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|-----------|------|
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      |                                   | CA=1292.SQ.METERS |           |      |
| A     | 1.4                                      | 8.51                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.518E-06         | 4.480E-06            | 4.480E-06                         |                   |           |      |
| A     | 3.1                                      | 8.51                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 2.108E-06         | 2.091E-06            | 2.091E-06                         |                   |           |      |
| A     | 5.2                                      | 3.78                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.265E-06         | 1.254E-06            | 1.254E-06                         |                   |           |      |
| A     | 7.6                                      | 0.53                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 8.548E-07         | 8.476E-07            | 8.476E-07                         |                   |           |      |
| A     | 9.9                                      | 0.11                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 6.589E-07         | 6.534E-07            | 6.534E-07                         |                   |           |      |
| A     | 22.7                                     | 0.11                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 2.875E-07         | 2.851E-07            | 2.851E-07                         |                   |           |      |
| C     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 3.356E-04         | 3.080E-04            | 3.080E-04                         |                   |           |      |
| C     | 1.4                                      | 3.47                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.795E-05         | 4.401E-05            | 4.401E-05                         |                   |           |      |
| C     | 3.1                                      | 4.41                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.238E-05         | 2.054E-05            | 2.054E-05                         |                   |           |      |
| C     | 5.2                                      | 3.68                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.343E-05         | 1.232E-05            | 1.232E-05                         |                   |           |      |
| C     | 7.6                                      | 0.53                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 9.071E-06         | 8.325E-06            | 8.325E-06                         |                   |           |      |
| C     | 9.9                                      | 0.11                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 6.992E-06         | 6.417E-06            | 6.417E-06                         |                   |           |      |
| C     | 22.7                                     | 0.11                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 3.051E-06         | 2.800E-06            | 2.800E-06                         |                   |           |      |
| D     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.551E-04         | 7.248E-04            | 4.551E-04                         |                   |           |      |
| D     | 1.4                                      | 7.36                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.501E-05         | 1.035E-04            | 6.501E-05                         |                   |           |      |
| D     | 3.1                                      | 16.61                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 95.0              | 3.983E-05         | 4.832E-05            | 3.983E-05                         |                   |           |      |
| D     | 5.2                                      | 5.47                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 69.3              | 3.278E-05         | 2.899E-05            | 2.899E-05                         |                   |           |      |
| D     | 7.6                                      | 0.74                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.429E-05         | 1.959E-05            | 1.959E-05                         |                   |           |      |
| E     | 0.2                                      | 0.02                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 6.730E-04         | 1.332E-03            | 6.730E-04                         |                   |           |      |
| E     | 1.3                                      | 4.73                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 9.614E-05         | 1.903E-04            | 9.614E-05                         |                   |           |      |
| E     | 2.9                                      | 7.25                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 92.8              | 6.402E-05         | 8.883E-05            | 6.402E-05                         |                   |           |      |
| E     | 4.8                                      | 3.15                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 56.2              | 6.350E-05         | 5.330E-05            | 5.330E-05                         |                   |           |      |
| F     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.141E-03         | 2.127E-03            | 1.141E-03                         |                   |           |      |
| F     | 1.3                                      | 5.04                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.630E-04         | 3.039E-04            | 1.630E-04                         |                   |           |      |
| F     | 2.9                                      | 3.78                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 77.6              | 1.193E-04         | 1.418E-04            | 1.193E-04                         |                   |           |      |
| F     | 4.8                                      | 0.84                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 41.1              | 1.351E-04         | 8.509E-05            | 8.509E-05                         |                   |           |      |
| G     | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.720E-03         | 3.367E-03            | 1.720E-03                         |                   |           |      |
| G     | 1.3                                      | 6.62                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.457E-04         | 4.809E-04            | 2.457E-04                         |                   |           |      |
| G     | 2.9                                      | 3.89                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 70.2              | 2.053E-04         | 2.244E-04            | 2.053E-04                         |                   |           |      |
| G     | 4.8                                      | 0.63                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 30.8              | 2.805E-04         | 1.347E-04            | 1.347E-04                         |                   |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ  
PROGRAM: PAVAN; 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED  
AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.720E-03 | 1.141E-03 | 6.730E-04 | 4.551E-04 | 3.080E-04 | 2.457E-04 | 2.053E-04 | 1.630E-04 | 1.347E-04 | 1.193E-04 |
| 0.004     | 0.017     | 0.033     | 0.040     | 0.049     | 6.671     | 10.559    | 15.604    | 16.235    | 20.018    |
| 0.00010   | 0.00039   | 0.00074   | 0.00091   | 0.00112   | 0.15095   | 0.23895   | 0.35311   | 0.36738   | 0.45300   |
| 9.614E-05 | 8.509E-05 | 6.501E-05 | 6.402E-05 | 5.330E-05 | 4.401E-05 | 3.983E-05 | 2.899E-05 | 2.054E-05 | 1.959E-05 |
| 24.748    | 25.589    | 32.946    | 40.198    | 43.351    | 46.819    | 63.425    | 68.890    | 73.304    | 74.040    |
| 0.56003   | 0.57905   | 0.74554   | 0.90965   | 0.98100   | 1.05948   | 1.43526   | 1.55893   | 1.65882   | 1.67547   |
| 1.232E-05 | 8.325E-06 | 6.417E-06 | 4.480E-06 | 2.800E-06 | 2.091E-06 | 1.254E-06 | 8.476E-07 | 6.534E-07 | 2.851E-07 |
| 77.719    | 78.244    | 78.349    | 86.862    | 86.967    | 95.481    | 99.264    | 99.790    | 99.895    | 100.000   |
| 1.75872   | 1.77061   | 1.77299   | 1.96563   | 1.96801   | 2.16066   | 2.24628   | 2.25817   | 2.26055   | 2.26292   |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

| CHI/Q           | WITH RESPECT TO | WHEN THE WIND BLOWS   |
|-----------------|-----------------|-----------------------|
| SEC/CUBIC METER | THE TOTAL TIME  | INTO THIS SECTOR ONLY |

|                  |                                    |              |       |
|------------------|------------------------------------|--------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2) = | 0.151 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 0.239 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 0.353 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 1.434 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 1.557 |

| K | I | XQSAVE(K,I) | XQINT(K,I) | XQSLOP(K,I) |
|---|---|-------------|------------|-------------|
| 3 | 1 | -6.36563    | -11.53414  | -1.08647    |
| 3 | 2 | -8.31154    | -12.00718  | -1.24596    |

Calculation No. PM-1055 Revision 0

Attachment J

3 3 -8.49120 -13.58817 -1.80621  
3 4 -8.72174 -16.22000 -2.78303  
3 5 -10.13086 -31.36974 -9.70718  
3 6 -10.44855 NUMXQ(K) = 6

|           |       |        |
|-----------|-------|--------|
| 4.424E-04 | 0.023 | 1.000  |
| 3.180E-04 | 0.068 | 3.000  |
| 2.702E-04 | 0.113 | 5.000  |
| 2.098E-04 | 0.226 | 10.000 |
| 1.669E-04 | 0.339 | 15.000 |
| 1.291E-04 | 0.453 | 20.000 |
| 1.041E-04 | 0.566 | 25.000 |
| 8.700E-05 | 0.679 | 30.000 |
| 7.451E-05 | 0.792 | 35.000 |
| 6.500E-05 | 0.905 | 40.000 |
| 5.751E-05 | 1.018 | 45.000 |
| 5.147E-05 | 1.131 | 50.000 |
| 4.649E-05 | 1.245 | 55.000 |
| 4.232E-05 | 1.358 | 60.000 |
| 3.626E-05 | 1.471 | 65.000 |
| 1.174E-04 | 0.5   | 22.10  |

ANNUAL AVERAGE = 1.28E-06

K= 3 FIVEXQ(K) = 1.174E-04 FIVEPR(K) = 22.095

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

| CLASS          | METER/SEC | FREQUENCY | DISTANCE METERS | TERRAIN HT METERS | EFF PLUME HT METERS | SIGMA-Y METERS | SIGMA-Z METERS | MEANDER-SY METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |           |
|----------------|-----------|-----------|-----------------|-------------------|---------------------|----------------|----------------|-------------------|-----------------------------------|-----------|-----------|
|                |           |           |                 |                   |                     |                |                |                   | MEANDER                           | BLDG WAKE | USED      |
| AT 10.0 METERS |           |           |                 |                   |                     |                |                |                   | CA=1292.SQ.METERS                 |           |           |
| A              | 1.4       | 9.04      | 823.            | 0.                | 0.                  | 157.1          | 310.1          | 157.1             | 4.518E-06                         | 4.480E-06 | 4.480E-06 |
| A              | 3.1       | 10.48     | 823.            | 0.                | 0.                  | 157.1          | 310.1          | 157.1             | 2.108E-06                         | 2.091E-06 | 2.091E-06 |
| A              | 5.2       | 3.70      | 823.            | 0.                | 0.                  | 157.1          | 310.1          | 157.1             | 1.265E-06                         | 1.254E-06 | 1.254E-06 |
| A              | 7.6       | 0.41      | 823.            | 0.                | 0.                  | 157.1          | 310.1          | 157.1             | 8.548E-07                         | 8.476E-07 | 8.476E-07 |
| C              | 0.2       | 0.01      | 823.            | 0.                | 0.                  | 89.7           | 51.2           | 89.7              | 3.356E-04                         | 3.080E-04 | 3.080E-04 |
| C              | 1.4       | 2.98      | 823.            | 0.                | 0.                  | 89.7           | 51.2           | 89.7              | 4.795E-05                         | 4.401E-05 | 4.401E-05 |
| C              | 3.1       | 7.09      | 823.            | 0.                | 0.                  | 89.7           | 51.2           | 89.7              | 2.238E-05                         | 2.054E-05 | 2.054E-05 |
| C              | 5.2       | 1.03      | 823.            | 0.                | 0.                  | 89.7           | 51.2           | 89.7              | 1.343E-05                         | 1.232E-05 | 1.232E-05 |
| C              | 7.6       | 0.10      | 823.            | 0.                | 0.                  | 89.7           | 51.2           | 89.7              | 9.071E-06                         | 8.325E-06 | 8.325E-06 |
| D              | 0.2       | 0.01      | 823.            | 0.                | 0.                  | 63.2           | 27.1           | 124.7             | 4.551E-04                         | 7.248E-04 | 4.551E-04 |
| D              | 1.4       | 8.32      | 823.            | 0.                | 0.                  | 63.2           | 27.1           | 124.7             | 6.501E-05                         | 1.035E-04 | 6.501E-05 |
| D              | 3.1       | 16.85     | 823.            | 0.                | 0.                  | 63.2           | 27.1           | 95.0              | 3.983E-05                         | 4.832E-05 | 3.983E-05 |
| D              | 5.2       | 4.93      | 823.            | 0.                | 0.                  | 63.2           | 27.1           | 69.3              | 3.278E-05                         | 2.899E-05 | 2.899E-05 |
| D              | 7.6       | 0.31      | 823.            | 0.                | 0.                  | 63.2           | 27.1           | 63.2              | 2.429E-05                         | 1.959E-05 | 1.959E-05 |
| E              | 0.2       | 0.02      | 823.            | 0.                | 0.                  | 44.9           | 18.7           | 132.5             | 6.730E-04                         | 1.332E-03 | 6.730E-04 |
| E              | 1.3       | 5.75      | 823.            | 0.                | 0.                  | 44.9           | 18.7           | 132.5             | 9.614E-05                         | 1.903E-04 | 9.614E-05 |
| E              | 2.9       | 9.55      | 823.            | 0.                | 0.                  | 44.9           | 18.7           | 92.8              | 6.402E-05                         | 8.883E-05 | 6.402E-05 |
| E              | 4.8       | 2.36      | 823.            | 0.                | 0.                  | 44.9           | 18.7           | 56.2              | 6.350E-05                         | 5.330E-05 | 5.330E-05 |
| E              | 7.1       | 0.21      | 823.            | 0.                | 0.                  | 44.9           | 18.7           | 44.9              | 5.365E-05                         | 3.601E-05 | 3.601E-05 |
| F              | 0.2       | 0.01      | 823.            | 0.                | 0.                  | 31.0           | 12.0           | 121.7             | 1.141E-03                         | 2.127E-03 | 1.141E-03 |
| F              | 1.3       | 4.31      | 823.            | 0.                | 0.                  | 31.0           | 12.0           | 121.7             | 1.630E-04                         | 3.039E-04 | 1.630E-04 |
| F              | 2.9       | 1.95      | 823.            | 0.                | 0.                  | 31.0           | 12.0           | 77.6              | 1.193E-04                         | 1.418E-04 | 1.193E-04 |
| F              | 4.8       | 0.82      | 823.            | 0.                | 0.                  | 31.0           | 12.0           | 41.1              | 1.351E-04                         | 8.509E-05 | 8.509E-05 |
| F              | 7.1       | 0.10      | 823.            | 0.                | 0.                  | 31.0           | 12.0           | 31.0              | 1.210E-04                         | 5.750E-05 | 5.750E-05 |
| G              | 0.2       | 0.01      | 823.            | 0.                | 0.                  | 21.4           | 7.7            | 125.7             | 1.720E-03                         | 3.367E-03 | 1.720E-03 |
| G              | 1.3       | 8.32      | 823.            | 0.                | 0.                  | 21.4           | 7.7            | 125.7             | 2.457E-04                         | 4.809E-04 | 2.457E-04 |
| G              | 2.9       | 1.34      | 823.            | 0.                | 0.                  | 21.4           | 7.7            | 70.2              | 2.053E-04                         | 2.244E-04 | 2.053E-04 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.720E-03 | 1.141E-03 | 6.730E-04 | 4.551E-04 | 3.080E-04 | 2.457E-04 | 2.053E-04 | 1.630E-04 | 1.193E-04 | 9.614E-05 |
| 0.005     | 0.017     | 0.035     | 0.044     | 0.052     | 8.372     | 9.707     | 14.022    | 15.974    | 21.726    |
| 0.00013   | 0.00038   | 0.00081   | 0.00102   | 0.00120   | 0.19384   | 0.22476   | 0.32465   | 0.36984   | 0.50303   |
| 8.509E-05 | 6.501E-05 | 6.402E-05 | 5.750E-05 | 5.330E-05 | 4.401E-05 | 3.983E-05 | 3.601E-05 | 2.899E-05 | 2.054E-05 |
| 22.548    | 30.868    | 40.421    | 40.524    | 42.887    | 45.866    | 62.712    | 62.917    | 67.848    | 74.936    |
| 0.52205   | 0.71470   | 0.93589   | 0.93826   | 0.99297   | 1.06194   | 1.45199   | 1.45674   | 1.57090   | 1.73501   |
| 1.959E-05 | 1.232E-05 | 8.325E-06 | 4.480E-06 | 2.091E-06 | 1.254E-06 | 8.476E-07 |           |           |           |
| 75.244    | 76.271    | 76.374    | 85.413    | 95.891    | 99.589    | 100.000   |           |           |           |
| 1.74215   | 1.76593   | 1.76831   | 1.97760   | 2.22019   | 2.30581   | 2.31533   |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.194  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 0.324  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 0.935  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 1.450  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 1.733

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 4 1 -6.36563 -11.40345 -1.07047  
 4 2 -8.31154 -15.44082 -2.46828

Calculation No. PM-1055 Revision 0

Attachment J

|   |           |           |              |          |        |
|---|-----------|-----------|--------------|----------|--------|
| 4 | 3         | -8.72174  | -15.58631    | -2.52173 |        |
| 4 | 4         | -9.65636  | -16.29212    | -2.82188 |        |
| 4 | 5         | -10.13086 | -30.47232    | -9.31646 |        |
| 4 | 6         | -10.79333 | NUMXQ(K) = 6 |          |        |
|   | 4.735E-04 |           | 0.023        |          | 1.000  |
|   | 3.419E-04 |           | 0.069        |          | 3.000  |
|   | 2.911E-04 |           | 0.116        |          | 5.000  |
|   | 2.138E-04 |           | 0.232        |          | 10.000 |
|   | 1.541E-04 |           | 0.347        |          | 15.000 |
|   | 1.206E-04 |           | 0.463        |          | 20.000 |
|   | 9.920E-05 |           | 0.579        |          | 25.000 |
|   | 8.425E-05 |           | 0.695        |          | 30.000 |
|   | 7.319E-05 |           | 0.810        |          | 35.000 |
|   | 6.465E-05 |           | 0.926        |          | 40.000 |
|   | 5.715E-05 |           | 1.042        |          | 45.000 |
|   | 5.105E-05 |           | 1.158        |          | 50.000 |
|   | 4.603E-05 |           | 1.273        |          | 55.000 |
|   | 4.183E-05 |           | 1.389        |          | 60.000 |
|   | 3.491E-05 |           | 1.505        |          | 65.000 |
|   | 2.651E-05 |           | 1.621        |          | 70.000 |
|   | 1.128E-04 |           | 0.5          |          | 21.60  |

ANNUAL AVERAGE = 1.36E-06

K= 4 FIVEXQ(K) = 1.128E-04 FIVEPR(K) = 21.595



Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER | BLDG WAKE | USED |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|---------|-----------|------|
|                 | AT 10.0 METERS         |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |         |           |      |
| A               | 1.4                    | 7.99                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 4.518E-06         | 4.480E-06         | 4.480E-06            |                                   |         |           |      |
| A               | 3.1                    | 12.90                | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 2.108E-06         | 2.091E-06         | 2.091E-06            |                                   |         |           |      |
| A               | 5.2                    | 4.32                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.265E-06         | 1.254E-06         | 1.254E-06            |                                   |         |           |      |
| A               | 7.6                    | 0.07                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 8.548E-07         | 8.476E-07         | 8.476E-07            |                                   |         |           |      |
| A               | 22.7                   | 0.07                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 2.875E-07         | 2.851E-07         | 2.851E-07            |                                   |         |           |      |
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |         |           |      |
| C               | 0.2                    | 0.01                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 3.356E-04         | 3.080E-04         | 3.080E-04            |                                   |         |           |      |
| C               | 1.4                    | 2.36                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 4.795E-05         | 4.401E-05         | 4.401E-05            |                                   |         |           |      |
| C               | 3.1                    | 7.40                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 2.238E-05         | 2.054E-05         | 2.054E-05            |                                   |         |           |      |
| C               | 5.2                    | 3.01                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 1.343E-05         | 1.232E-05         | 1.232E-05            |                                   |         |           |      |
| C               | 7.6                    | 0.07                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 9.071E-06         | 8.325E-06         | 8.325E-06            |                                   |         |           |      |
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |         |           |      |
| D               | 0.2                    | 0.01                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 4.551E-04         | 7.248E-04         | 4.551E-04            |                                   |         |           |      |
| D               | 1.4                    | 6.03                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 6.501E-05         | 1.035E-04         | 6.501E-05            |                                   |         |           |      |
| D               | 3.1                    | 14.21                | 823.               | 0.                | 0.           | 63.2          | 27.1            | 95.0         | 3.983E-05         | 4.832E-05         | 3.983E-05            |                                   |         |           |      |
| D               | 5.2                    | 7.99                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 69.3         | 3.278E-05         | 2.899E-05         | 2.899E-05            |                                   |         |           |      |
| D               | 7.6                    | 1.44                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 2.429E-05         | 1.959E-05         | 1.959E-05            |                                   |         |           |      |
| D               | 9.9                    | 0.13                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 1.872E-05         | 1.510E-05         | 1.510E-05            |                                   |         |           |      |
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |         |           |      |
| E               | 0.2                    | 0.01                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 6.730E-04         | 1.332E-03         | 6.730E-04            |                                   |         |           |      |
| E               | 1.3                    | 4.19                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 9.614E-05         | 1.903E-04         | 9.614E-05            |                                   |         |           |      |
| E               | 2.9                    | 6.16                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 92.8         | 6.402E-05         | 8.883E-05         | 6.402E-05            |                                   |         |           |      |
| E               | 4.8                    | 2.75                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 56.2         | 6.350E-05         | 5.330E-05         | 5.330E-05            |                                   |         |           |      |
| E               | 7.1                    | 1.64                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 5.365E-05         | 3.601E-05         | 3.601E-05            |                                   |         |           |      |
| E               | 9.2                    | 0.33                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 4.135E-05         | 2.776E-05         | 2.776E-05            |                                   |         |           |      |
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |         |           |      |
| F               | 0.2                    | 0.01                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.141E-03         | 2.127E-03         | 1.141E-03            |                                   |         |           |      |
| F               | 1.3                    | 3.93                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.630E-04         | 3.039E-04         | 1.630E-04            |                                   |         |           |      |
| F               | 2.9                    | 2.75                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 77.6         | 1.193E-04         | 1.418E-04         | 1.193E-04            |                                   |         |           |      |
| F               | 4.8                    | 0.33                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 41.1         | 1.351E-04         | 8.509E-05         | 8.509E-05            |                                   |         |           |      |
| F               | 7.1                    | 0.79                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 31.0         | 1.210E-04         | 5.750E-05         | 5.750E-05            |                                   |         |           |      |
| F               | 9.2                    | 0.13                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 31.0         | 9.328E-05         | 4.432E-05         | 4.432E-05            |                                   |         |           |      |
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |         |           |      |
| G               | 0.2                    | 0.00                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 1.720E-03         | 3.367E-03         | 1.720E-03            |                                   |         |           |      |
| G               | 1.3                    | 5.83                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 2.457E-04         | 4.809E-04         | 2.457E-04            |                                   |         |           |      |
| G               | 2.9                    | 3.14                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 70.2         | 2.053E-04         | 2.244E-04         | 2.053E-04            |                                   |         |           |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4 21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

W SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.720E-03 | 1.141E-03 | 6.730E-04 | 4.551E-04 | 3.080E-04 | 2.457E-04 | 2.053E-04 | 1.630E-04 | 1.193E-04 | 9.614E-05 |
| 0.004     | 0.014     | 0.027     | 0.034     | 0.040     | 5.870     | 9.014     | 12.944    | 15.696    | 19.888    |
| 0.00014   | 0.00051   | 0.00100   | 0.00123   | 0.00145   | 0.21312   | 0.32728   | 0.46998   | 0.56988   | 0.72209   |
| 8.509E-05 | 6.501E-05 | 6.402E-05 | 5.750E-05 | 5.330E-05 | 4.432E-05 | 4.401E-05 | 3.983E-05 | 3.601E-05 | 2.899E-05 |
| 20.215    | 26.242    | 32.399    | 33.185    | 35.936    | 36.067    | 38.426    | 52.640    | 54.278    | 62.269    |
| 0.73398   | 0.95279   | 1.17635   | 1.20489   | 1.30478   | 1.30954   | 1.39516   | 1.91126   | 1.97072   | 2.26088   |
| 2.776E-05 | 2.054E-05 | 1.959E-05 | 1.510E-05 | 1.232E-05 | 8.325E-06 | 4.480E-06 | 2.091E-06 | 1.254E-06 | 8.476E-07 |
| 62.597    | 69.999    | 71.440    | 71.571    | 74.584    | 74.650    | 82.641    | 95.546    | 99.869    | 99.934    |
| 2.27277   | 2.54153   | 2.59385   | 2.59861   | 2.70801   | 2.71039   | 3.00055   | 3.46908   | 3.62605   | 3.62843   |
| 2.851E-07 |           |           |           |           |           |           |           |           |           |
| 100.000   |           |           |           |           |           |           |           |           |           |
| 3.63081   |           |           |           |           |           |           |           |           |           |

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|                  |                                    |             |       |
|------------------|------------------------------------|-------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2)= | 0.213 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3)= | 0.327 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4)= | 0.469 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5)= | 1.175 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6)= | 1.909 |

| K | I | XQSAVE(K, I) | XQINT(K, I)  | XQSLOP(K, I) |
|---|---|--------------|--------------|--------------|
| 5 | 1 | -6.36563     | -11.35347    | -1.06420     |
| 5 | 2 | -8.31154     | -12.00847    | -1.29336     |
| 5 | 3 | -8.49120     | -13.63331    | -1.89083     |
| 5 | 4 | -8.72174     | -16.02623    | -2.81205     |
| 5 | 5 | -9.65636     | -15.24477    | -2.46707     |
| 5 | 6 | -10.13086    | -19.56371    | -4.55062     |
| 5 | 7 | -10.44855    | NUMXQ(K) = 7 |              |
|   |   | 4.278E-04    | 0.036        | 1.000        |
|   |   | 3.061E-04    | 0.109        | 3.000        |
|   |   | 2.592E-04    | 0.182        | 5.000        |
|   |   | 1.923E-04    | 0.363        | 10.000       |
|   |   | 1.412E-04    | 0.545        | 15.000       |
|   |   | 1.060E-04    | 0.726        | 20.000       |
|   |   | 8.426E-05    | 0.908        | 25.000       |
|   |   | 6.952E-05    | 1.089        | 30.000       |
|   |   | 5.949E-05    | 1.271        | 35.000       |
|   |   | 5.230E-05    | 1.452        | 40.000       |
|   |   | 4.660E-05    | 1.634        | 45.000       |
|   |   | 4.195E-05    | 1.815        | 50.000       |
|   |   | 3.669E-05    | 1.997        | 55.000       |
|   |   | 3.112E-05    | 2.178        | 60.000       |
|   |   | 1.535E-04    | 0.5          | 13.77        |

ANNUAL AVERAGE = 1.78E-06

K= 5 FIVEXQ(K) = 1.535E-04 FIVEPR(K) = 13.771

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 1.4                                      | 5.61                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.518E-06         | 4.480E-06            | 4.480E-06                         |           |      |
| A               | 3.1                                      | 13.30                | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 2.108E-06         | 2.091E-06            | 2.091E-06                         |           |      |
| A               | 5.2                                      | 3.70                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.265E-06         | 1.254E-06            | 1.254E-06                         |           |      |
| A               | 7.6                                      | 0.42                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 8.548E-07         | 8.476E-07            | 8.476E-07                         |           |      |
| A               | 9.9                                      | 0.08                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 6.589E-07         | 6.534E-07            | 6.534E-07                         |           |      |
| C               | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 3.356E-04         | 3.080E-04            | 3.080E-04                         |           |      |
| C               | 1.4                                      | 1.87                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.795E-05         | 4.401E-05            | 4.401E-05                         |           |      |
| C               | 3.1                                      | 5.14                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.238E-05         | 2.054E-05            | 2.054E-05                         |           |      |
| C               | 5.2                                      | 3.44                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.343E-05         | 1.232E-05            | 1.232E-05                         |           |      |
| C               | 7.6                                      | 0.64                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 9.071E-06         | 8.325E-06            | 8.325E-06                         |           |      |
| C               | 9.9                                      | 0.08                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 6.992E-06         | 6.417E-06            | 6.417E-06                         |           |      |
| D               | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.551E-04         | 7.248E-04            | 4.551E-04                         |           |      |
| D               | 1.4                                      | 3.95                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.501E-05         | 1.035E-04            | 6.501E-05                         |           |      |
| D               | 3.1                                      | 11.34                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 95.0              | 3.983E-05         | 4.832E-05            | 3.983E-05                         |           |      |
| D               | 5.2                                      | 8.92                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 69.3              | 3.278E-05         | 2.899E-05            | 2.899E-05                         |           |      |
| D               | 7.6                                      | 1.91                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.429E-05         | 1.959E-05            | 1.959E-05                         |           |      |
| D               | 9.9                                      | 0.17                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 1.872E-05         | 1.510E-05            | 1.510E-05                         |           |      |
| E               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 6.730E-04         | 1.332E-03            | 6.730E-04                         |           |      |
| E               | 1.3                                      | 4.63                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 9.614E-05         | 1.903E-04            | 9.614E-05                         |           |      |
| E               | 2.9                                      | 7.56                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 92.8              | 6.402E-05         | 8.883E-05            | 6.402E-05                         |           |      |
| E               | 4.8                                      | 5.06                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 56.2              | 6.350E-05         | 5.330E-05            | 5.330E-05                         |           |      |
| E               | 7.1                                      | 0.98                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 5.365E-05         | 3.601E-05            | 3.601E-05                         |           |      |
| E               | 21.0                                     | 0.08                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 1.804E-05         | 1.211E-05            | 1.211E-05                         |           |      |
| F               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.141E-03         | 2.127E-03            | 1.141E-03                         |           |      |
| F               | 1.3                                      | 4.08                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.630E-04         | 3.039E-04            | 1.630E-04                         |           |      |
| F               | 2.9                                      | 4.21                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 77.6              | 1.193E-04         | 1.418E-04            | 1.193E-04                         |           |      |
| F               | 4.8                                      | 1.27                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 41.1              | 1.351E-04         | 8.509E-05            | 8.509E-05                         |           |      |
| F               | 21.0                                     | 0.04                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 31.0              | 4.071E-05         | 1.934E-05            | 1.934E-05                         |           |      |
| G               | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.720E-03         | 3.367E-03            | 1.720E-03                         |           |      |
| G               | 1.3                                      | 5.61                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.457E-04         | 4.809E-04            | 2.457E-04                         |           |      |
| G               | 2.9                                      | 4.80                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 70.2              | 2.053E-04         | 2.244E-04            | 2.053E-04                         |           |      |
| G               | 4.8                                      | 1.06                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 30.8              | 2.805E-04         | 1.347E-04            | 1.347E-04                         |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ  
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145.

SITE EXCLUSION BOUNDARY CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED  
AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.720E-03 | 1.141E-03 | 6.730E-04 | 4.551E-04 | 3.080E-04 | 2.457E-04 | 2.053E-04 | 1.630E-04 | 1.347E-04 | 1.193E-04 |
| 0.004     | 0.014     | 0.029     | 0.033     | 0.038     | 5.646     | 10.446    | 14.525    | 15.587    | 19.793    |
| 0.00021   | 0.00079   | 0.00163   | 0.00187   | 0.00214   | 0.31608   | 0.58483   | 0.81315   | 0.87261   | 1.10807   |
| 9.614E-05 | 8.509E-05 | 6.501E-05 | 6.402E-05 | 5.330E-05 | 4.401E-05 | 3.983E-05 | 3.601E-05 | 2.899E-05 | 2.054E-05 |
| 24.423    | 25.698    | 29.649    | 37.211    | 42.266    | 44.135    | 55.478    | 56.455    | 65.377    | 70.517    |
| 1.36731   | 1.43866   | 1.65984   | 2.08319   | 2.36621   | 2.47086   | 3.10588   | 3.16058   | 3.66003   | 3.94781   |
| 1.959E-05 | 1.934E-05 | 1.510E-05 | 1.232E-05 | 1.211E-05 | 8.325E-06 | 6.417E-06 | 4.480E-06 | 2.091E-06 | 1.254E-06 |
| 72.429    | 72.471    | 72.641    | 76.082    | 76.167    | 76.804    | 76.889    | 82.497    | 95.794    | 99.490    |
| 4.05484   | 4.05722   | 4.06673   | 4.25938   | 4.26413   | 4.29981   | 4.30457   | 4.61851   | 5.36293   | 5.56985   |
| 8.476E-07 | 6.534E-07 |           |           |           |           |           |           |           |           |
| 99.915    | 100.000   |           |           |           |           |           |           |           |           |
| 5.59363   | 5.59839   |           |           |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|                  |                                    |              |       |
|------------------|------------------------------------|--------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2) = | 0.584 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 0.812 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 2.081 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 3.103 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 3.657 |

| K | I | XQSAVE(K, I) | XQINT(K, I)  | XQSLOP(K, I) |
|---|---|--------------|--------------|--------------|
| 6 | 1 | -6.36563     | -11.06308    | -1.01995     |
| 6 | 2 | -8.49120     | -13.40970    | -1.95056     |
| 6 | 3 | -8.72174     | -14.85755    | -2.55298     |
| 6 | 4 | -9.65636     | -15.29544    | -2.76792     |
| 6 | 5 | -10.13086    | -18.15269    | -4.29924     |
| 6 | 6 | -10.44855    | NUMXQ(K) = 6 |              |
|   |   | 4.354E-04    | 0.056        | 1.000        |
|   |   | 3.123E-04    | 0.168        | 3.000        |
|   |   | 2.647E-04    | 0.280        | 5.000        |
|   |   | 2.085E-04    | 0.560        | 10.000       |
|   |   | 1.582E-04    | 0.840        | 15.000       |
|   |   | 1.202E-04    | 1.120        | 20.000       |
|   |   | 9.645E-05    | 1.400        | 25.000       |
|   |   | 8.016E-05    | 1.680        | 30.000       |
|   |   | 6.830E-05    | 1.959        | 35.000       |
|   |   | 5.888E-05    | 2.239        | 40.000       |
|   |   | 5.127E-05    | 2.519        | 45.000       |
|   |   | 4.520E-05    | 2.799        | 50.000       |
|   |   | 4.026E-05    | 3.079        | 55.000       |
|   |   | 3.427E-05    | 3.359        | 60.000       |
|   |   | 2.932E-05    | 3.639        | 65.000       |
|   |   | 2.170E-04    | 0.5          | 8.93         |

ANNUAL AVERAGE = 2.78E-06

K= 6 FIVEXQ(K) = 2.170E-04 FIVEPR(K) = 8.931

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |                        |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 | AT 10.0 METERS         |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 1.4                    | 3.27                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.518E-06         | 4.480E-06            | 4.480E-06                         |           |      |
| A               | 3.1                    | 11.23                | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 2.108E-06         | 2.091E-06            | 2.091E-06                         |           |      |
| A               | 5.2                    | 7.67                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.265E-06         | 1.254E-06            | 1.254E-06                         |           |      |
| A               | 7.6                    | 0.53                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 8.548E-07         | 8.476E-07            | 8.476E-07                         |           |      |
| A               | 22.7                   | 0.03                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 2.875E-07         | 2.851E-07            | 2.851E-07                         |           |      |
| C               | 0.2                    | 0.00                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 3.356E-04         | 3.080E-04            | 3.080E-04                         |           |      |
| C               | 1.4                    | 1.28                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.795E-05         | 4.401E-05            | 4.401E-05                         |           |      |
| C               | 3.1                    | 3.65                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.238E-05         | 2.054E-05            | 2.054E-05                         |           |      |
| C               | 5.2                    | 2.74                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.343E-05         | 1.232E-05            | 1.232E-05                         |           |      |
| C               | 7.6                    | 0.53                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 9.071E-06         | 8.325E-06            | 8.325E-06                         |           |      |
| C               | 9.9                    | 0.03                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 6.992E-06         | 6.417E-06            | 6.417E-06                         |           |      |
| D               | 0.2                    | 0.00                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.551E-04         | 7.248E-04            | 4.551E-04                         |           |      |
| D               | 1.4                    | 2.74                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.501E-05         | 1.035E-04            | 6.501E-05                         |           |      |
| D               | 3.1                    | 9.58                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 95.0              | 3.983E-05         | 4.832E-05            | 3.983E-05                         |           |      |
| D               | 5.2                    | 7.88                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 69.3              | 3.278E-05         | 2.899E-05            | 2.899E-05                         |           |      |
| D               | 7.6                    | 1.17                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.429E-05         | 1.959E-05            | 1.959E-05                         |           |      |
| D               | 9.9                    | 0.19                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 1.872E-05         | 1.510E-05            | 1.510E-05                         |           |      |
| D               | 22.7                   | 0.03                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 8.169E-06         | 6.589E-06            | 6.589E-06                         |           |      |
| E               | 0.2                    | 0.01                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 6.730E-04         | 1.332E-03            | 6.730E-04                         |           |      |
| E               | 1.3                    | 4.13                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 9.614E-05         | 1.903E-04            | 9.614E-05                         |           |      |
| E               | 2.9                    | 9.10                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 92.8              | 6.402E-05         | 8.883E-05            | 6.402E-05                         |           |      |
| E               | 4.8                    | 5.24                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 56.2              | 6.350E-05         | 5.330E-05            | 5.330E-05                         |           |      |
| E               | 7.1                    | 0.53                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 5.365E-05         | 3.601E-05            | 3.601E-05                         |           |      |
| E               | 9.2                    | 0.03                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 4.135E-05         | 2.776E-05            | 2.776E-05                         |           |      |
| E               | 21.0                   | 0.03                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 1.804E-05         | 1.211E-05            | 1.211E-05                         |           |      |
| F               | 0.2                    | 0.01                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.141E-03         | 2.127E-03            | 1.141E-03                         |           |      |
| F               | 1.3                    | 4.45                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.630E-04         | 3.039E-04            | 1.630E-04                         |           |      |
| F               | 2.9                    | 6.07                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 77.6              | 1.193E-04         | 1.418E-04            | 1.193E-04                         |           |      |
| F               | 4.8                    | 1.78                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 41.1              | 1.351E-04         | 8.509E-05            | 8.509E-05                         |           |      |
| G               | 0.2                    | 0.00                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.720E-03         | 3.367E-03            | 1.720E-03                         |           |      |
| G               | 1.3                    | 7.13                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.457E-04         | 4.809E-04            | 2.457E-04                         |           |      |
| G               | 2.9                    | 8.33                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 70.2              | 2.053E-04         | 2.244E-04            | 2.053E-04                         |           |      |
| G               | 4.8                    | 0.59                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 30.8              | 2.805E-04         | 1.347E-04            | 1.347E-04                         |           |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4 21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

NW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.720E-03 | 1.141E-03 | 6.730E-04 | 4.551E-04 | 3.080E-04 | 2.457E-04 | 2.053E-04 | 1.630E-04 | 1.347E-04 | 1.193E-04 |
| 0.005     | 0.016     | 0.029     | 0.032     | 0.036     | 7.170     | 15.503    | 19.949    | 20.534    | 26.604    |
| 0.00042   | 0.00144   | 0.00263   | 0.00289   | 0.00319   | 0.64058   | 1.38500   | 1.78219   | 1.83451   | 2.37678   |
| 9.614E-05 | 8.509E-05 | 6.501E-05 | 6.402E-05 | 5.330E-05 | 4.401E-05 | 3.983E-05 | 3.601E-05 | 2.899E-05 | 2.776E-05 |
| 30.730    | 32.514    | 35.256    | 44.361    | 49.605    | 50.883    | 60.467    | 60.999    | 68.879    | 68.906    |
| 2.74542   | 2.90477   | 3.14974   | 3.96313   | 4.43167   | 4.54583   | 5.40203   | 5.44960   | 6.15359   | 6.15597   |
| 2.054E-05 | 1.959E-05 | 1.510E-05 | 1.232E-05 | 1.211E-05 | 8.325E-06 | 6.589E-06 | 6.417E-06 | 4.480E-06 | 2.091E-06 |
| 72.553    | 73.724    | 73.911    | 76.653    | 76.679    | 77.212    | 77.238    | 77.265    | 80.540    | 91.774    |
| 6.48180   | 6.58645   | 6.60310   | 6.84807   | 6.85045   | 6.89801   | 6.90039   | 6.90277   | 7.19531   | 8.19897   |
| 1.254E-06 | 8.476E-07 | 2.851E-07 |           |           |           |           |           |           |           |
| 99.441    | 99.973    | 100.000   |           |           |           |           |           |           |           |
| 8.88393   | 8.93150   | 8.93388   |           |           |           |           |           |           |           |

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 1.780  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.374  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.960  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 5.398  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 6.150



| K | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|---|---|-------------|--------------|-------------|
| 7 | 1 | -6.36563    | -10.56761    | -0.94299    |
| 7 | 2 | -8.49120    | -13.54038    | -2.29305    |
| 7 | 3 | -8.72174    | -14.21838    | -2.61569    |
| 7 | 4 | -9.03426    | -14.47632    | -2.74584    |
| 7 | 5 | -9.65636    | -15.28557    | -3.20685    |
| 7 | 6 | -10.13086   | -17.97718    | -4.88136    |
| 7 | 7 | -10.44855   | NUMXQ(K) = 7 |             |

|           |       |        |
|-----------|-------|--------|
| 4.896E-04 | 0.089 | 1.000  |
| 3.557E-04 | 0.268 | 3.000  |
| 3.030E-04 | 0.447 | 5.000  |
| 2.402E-04 | 0.893 | 10.000 |
| 2.078E-04 | 1.340 | 15.000 |
| 1.626E-04 | 1.787 | 20.000 |
| 1.277E-04 | 2.233 | 25.000 |
| 1.035E-04 | 2.680 | 30.000 |
| 8.600E-05 | 3.127 | 35.000 |
| 7.294E-05 | 3.574 | 40.000 |
| 6.267E-05 | 4.020 | 45.000 |
| 5.348E-05 | 4.467 | 50.000 |
| 4.620E-05 | 4.914 | 55.000 |
| 4.032E-05 | 5.360 | 60.000 |
| 3.343E-05 | 5.807 | 65.000 |
| 2.921E-04 | 0.5   | 5.60   |

ANNUAL AVERAGE = 4.94E-06

K= 7 FIVEXQ(K) = 2.921E-04 FIVEPR(K) = 5.597

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER           | BLDG WAKE | USED |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|-----------|------|
|                 |  |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   | CA=1292.SQ.METERS |           |      |
| A               | 1.4                                      | 1.35                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 4.518E-06         | 4.480E-06         | 4.480E-06            |                                   |                   |           |      |
| A               | 3.1                                      | 4.42                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 2.108E-06         | 2.091E-06         | 2.091E-06            |                                   |                   |           |      |
| A               | 5.2                                      | 7.84                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.265E-06         | 1.254E-06         | 1.254E-06            |                                   |                   |           |      |
| A               | 7.6                                      | 4.42                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 8.548E-07         | 8.476E-07         | 8.476E-07            |                                   |                   |           |      |
| A               | 9.9                                      | 0.32                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 6.589E-07         | 6.534E-07         | 6.534E-07            |                                   |                   |           |      |
| C               | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 3.356E-04         | 3.080E-04         | 3.080E-04            |                                   |                   |           |      |
| C               | 1.4                                      | 0.51                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 4.795E-05         | 4.401E-05         | 4.401E-05            |                                   |                   |           |      |
| C               | 3.1                                      | 1.51                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 2.238E-05         | 2.054E-05         | 2.054E-05            |                                   |                   |           |      |
| C               | 5.2                                      | 2.56                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 1.343E-05         | 1.232E-05         | 1.232E-05            |                                   |                   |           |      |
| C               | 7.6                                      | 1.40                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 9.071E-06         | 8.325E-06         | 8.325E-06            |                                   |                   |           |      |
| C               | 9.9                                      | 0.22                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 6.992E-06         | 6.417E-06         | 6.417E-06            |                                   |                   |           |      |
| C               | 22.7                                     | 0.03                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 3.051E-06         | 2.800E-06         | 2.800E-06            |                                   |                   |           |      |
| D               | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 4.551E-04         | 7.248E-04         | 4.551E-04            |                                   |                   |           |      |
| D               | 1.4                                      | 1.29                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 6.501E-05         | 1.035E-04         | 6.501E-05            |                                   |                   |           |      |
| D               | 3.1                                      | 4.42                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 95.0         | 3.983E-05         | 4.832E-05         | 3.983E-05            |                                   |                   |           |      |
| D               | 5.2                                      | 9.89                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 69.3         | 3.278E-05         | 2.899E-05         | 2.899E-05            |                                   |                   |           |      |
| D               | 7.6                                      | 4.34                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 2.429E-05         | 1.959E-05         | 1.959E-05            |                                   |                   |           |      |
| D               | 9.9                                      | 1.00                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 1.872E-05         | 1.510E-05         | 1.510E-05            |                                   |                   |           |      |
| E               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 6.730E-04         | 1.332E-03         | 6.730E-04            |                                   |                   |           |      |
| E               | 1.3                                      | 2.13                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 9.614E-05         | 1.903E-04         | 9.614E-05            |                                   |                   |           |      |
| E               | 2.9                                      | 5.85                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 92.8         | 6.402E-05         | 8.883E-05         | 6.402E-05            |                                   |                   |           |      |
| E               | 4.8                                      | 8.94                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 56.2         | 6.350E-05         | 5.330E-05         | 5.330E-05            |                                   |                   |           |      |
| E               | 7.1                                      | 2.77                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 5.365E-05         | 3.601E-05         | 3.601E-05            |                                   |                   |           |      |
| E               | 9.2                                      | 0.59                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 4.135E-05         | 2.776E-05         | 2.776E-05            |                                   |                   |           |      |
| F               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.141E-03         | 2.127E-03         | 1.141E-03            |                                   |                   |           |      |
| F               | 1.3                                      | 3.21                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.630E-04         | 3.039E-04         | 1.630E-04            |                                   |                   |           |      |
| F               | 2.9                                      | 6.68                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 77.6         | 1.193E-04         | 1.418E-04         | 1.193E-04            |                                   |                   |           |      |
| F               | 4.8                                      | 4.93                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 41.1         | 1.351E-04         | 8.509E-05         | 8.509E-05            |                                   |                   |           |      |
| F               | 7.1                                      | 0.48                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 31.0         | 1.210E-04         | 5.750E-05         | 5.750E-05            |                                   |                   |           |      |
| G               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 1.720E-03         | 3.367E-03         | 1.720E-03            |                                   |                   |           |      |
| G               | 1.3                                      | 8.46                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 2.457E-04         | 4.809E-04         | 2.457E-04            |                                   |                   |           |      |
| G               | 2.9                                      | 8.46                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 70.2         | 2.053E-04         | 2.244E-04         | 2.053E-04            |                                   |                   |           |      |
| G               | 4.8                                      | 1.67                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 30.8         | 2.805E-04         | 1.347E-04         | 1.347E-04            |                                   |                   |           |      |

**Calculation No. PM-1055 Revision 0**

|   |      |      |      |    |    |
|---|------|------|------|----|----|
| G | 7.1  | 0.24 | 823. | 0. | 0. |
| G | 9.2  | 0.03 | 823. | 0. | 0. |
| G | 21.0 | 0.03 | 823. | 0. | 0. |

**Attachment J**

|      |     |      |           |           |           |
|------|-----|------|-----------|-----------|-----------|
| 21.4 | 7.7 | 21.4 | 2.730E-04 | 9.099E-05 | 9.099E-05 |
| 21.4 | 7.7 | 21.4 | 2.104E-04 | 7.014E-05 | 7.014E-05 |
| 21.4 | 7.7 | 21.4 | 9.182E-05 | 3.061E-05 | 3.061E-05 |

**Page 1122 of 1411**

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Ground Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 13.7 meters  
 DELTA-T HEIGHTS: 10.4-21.1 meters

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED  
 AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.720E-03 | 1.141E-03 | 6.730E-04 | 4.551E-04 | 3.080E-04 | 2.457E-04 | 2.053E-04 | 1.630E-04 | 1.347E-04 | 1.193E-04 |
| 0.006     | 0.014     | 0.021     | 0.022     | 0.023     | 8.483     | 16.942    | 20.148    | 21.818    | 28.500    |
| 0.00049   | 0.00122   | 0.00182   | 0.00194   | 0.00206   | 0.74886   | 1.49566   | 1.77869   | 1.92614   | 2.51598   |
| 9.614E-05 | 9.099E-05 | 8.509E-05 | 7.014E-05 | 6.501E-05 | 6.402E-05 | 5.750E-05 | 5.330E-05 | 4.401E-05 | 3.983E-05 |
| 30.628    | 30.870    | 35.801    | 35.827    | 37.121    | 42.967    | 43.452    | 52.396    | 52.908    | 57.326    |
| 2.70386   | 2.72527   | 3.16051   | 3.16289   | 3.27705   | 3.79315   | 3.83596   | 4.62557   | 4.67076   | 5.06081   |
| 3.601E-05 | 3.061E-05 | 2.899E-05 | 2.776E-05 | 2.054E-05 | 1.959E-05 | 1.510E-05 | 1.232E-05 | 8.325E-06 | 6.417E-06 |
| 60.101    | 60.128    | 70.015    | 70.608    | 72.116    | 76.454    | 77.451    | 80.010    | 81.411    | 81.626    |
| 5.30578   | 5.30815   | 6.18101   | 6.23333   | 6.36652   | 6.74943   | 6.83743   | 7.06338   | 7.18705   | 7.20608   |
| 4.480E-06 | 2.800E-06 | 2.091E-06 | 1.254E-06 | 8.476E-07 | 6.534E-07 |           |           |           |           |
| 82.974    | 83.000    | 87.419    | 95.258    | 99.677    | 100.000   |           |           |           |           |
| 7.32499   | 7.32737   | 7.71742   | 8.40952   | 8.79957   | 8.82811   |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
 ORDERED X/Q-FREQUENCY VALUES, AND AS  
 PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 2.513  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 4.622  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 6.177  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 6.746

Calculation No. PM-1055 Revision 0

Attachment J

| K | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|---|---|-------------|--------------|-------------|
| 8 | 1 | -6.36563    | -10.54254    | -0.94459    |
| 8 | 2 | -8.49120    | -14.00195    | -2.53755    |
| 8 | 3 | -9.03426    | -14.76769    | -2.92870    |
| 8 | 4 | -9.83966    | -17.02468    | -4.27002    |
| 8 | 5 | -10.44855   | -23.84802    | -8.70055    |
| 8 | 6 | -10.84059   | NUMXQ(K) = 6 |             |

|           |       |        |
|-----------|-------|--------|
| 5.062E-04 | 0.088 | 1.000  |
| 3.677E-04 | 0.265 | 3.000  |
| 3.132E-04 | 0.441 | 5.000  |
| 2.483E-04 | 0.883 | 10.000 |
| 2.147E-04 | 1.324 | 15.000 |
| 1.734E-04 | 1.766 | 20.000 |
| 1.373E-04 | 2.207 | 25.000 |
| 1.118E-04 | 2.648 | 30.000 |
| 9.176E-05 | 3.090 | 35.000 |
| 7.700E-05 | 3.531 | 40.000 |
| 6.573E-05 | 3.973 | 45.000 |
| 5.688E-05 | 4.414 | 50.000 |
| 4.825E-05 | 4.855 | 55.000 |
| 4.028E-05 | 5.297 | 60.000 |
| 3.401E-05 | 5.738 | 65.000 |
| 2.900E-05 | 6.180 | 70.000 |
| 2.135E-05 | 6.621 | 75.000 |
| 3.008E-04 | 0.5   | 5.66   |

ANNUAL AVERAGE = 4.68E-06

K= 8 FIVEXQ(K) = 3.008E-04 FIVEPR(K) = 5.664

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A     | 1.4                                      | 2.85                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.518E-06         | 4.480E-06            | 4.480E-06                         |           |      |
| A     | 3.1                                      | 3.39                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 2.108E-06         | 2.091E-06            | 2.091E-06                         |           |      |
| A     | 5.2                                      | 7.70                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.265E-06         | 1.254E-06            | 1.254E-06                         |           |      |
| A     | 7.6                                      | 3.19                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 8.548E-07         | 8.476E-07            | 8.476E-07                         |           |      |
| C     | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 3.356E-04         | 3.080E-04            | 3.080E-04                         |           |      |
| C     | 1.4                                      | 0.64                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.795E-05         | 4.401E-05            | 4.401E-05                         |           |      |
| C     | 3.1                                      | 1.33                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.238E-05         | 2.054E-05            | 2.054E-05                         |           |      |
| C     | 5.2                                      | 2.94                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.343E-05         | 1.232E-05            | 1.232E-05                         |           |      |
| C     | 7.6                                      | 0.59                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 9.071E-06         | 8.325E-06            | 8.325E-06                         |           |      |
| D     | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.551E-04         | 7.248E-04            | 4.551E-04                         |           |      |
| D     | 1.4                                      | 1.67                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.501E-05         | 1.035E-04            | 6.501E-05                         |           |      |
| D     | 3.1                                      | 5.64                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 95.0              | 3.983E-05         | 4.832E-05            | 3.983E-05                         |           |      |
| D     | 5.2                                      | 7.31                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 69.3              | 3.278E-05         | 2.899E-05            | 2.899E-05                         |           |      |
| D     | 7.6                                      | 1.86                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.429E-05         | 1.959E-05            | 1.959E-05                         |           |      |
| D     | 9.9                                      | 0.05                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 1.872E-05         | 1.510E-05            | 1.510E-05                         |           |      |
| E     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 6.730E-04         | 1.332E-03            | 6.730E-04                         |           |      |
| E     | 1.3                                      | 1.82                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 9.614E-05         | 1.903E-04            | 9.614E-05                         |           |      |
| E     | 2.9                                      | 7.51                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 92.8              | 6.402E-05         | 8.883E-05            | 6.402E-05                         |           |      |
| E     | 4.8                                      | 4.81                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 56.2              | 6.350E-05         | 5.330E-05            | 5.330E-05                         |           |      |
| E     | 7.1                                      | 0.83                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 5.365E-05         | 3.601E-05            | 3.601E-05                         |           |      |
| E     | 9.2                                      | 0.29                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 4.135E-05         | 2.776E-05            | 2.776E-05                         |           |      |
| F     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.141E-03         | 2.127E-03            | 1.141E-03                         |           |      |
| F     | 1.3                                      | 4.86                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.630E-04         | 3.039E-04            | 1.630E-04                         |           |      |
| F     | 2.9                                      | 6.28                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 77.6              | 1.193E-04         | 1.418E-04            | 1.193E-04                         |           |      |
| F     | 4.8                                      | 3.24                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 41.1              | 1.351E-04         | 8.509E-05            | 8.509E-05                         |           |      |
| F     | 7.1                                      | 0.25                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 31.0              | 1.210E-04         | 5.750E-05            | 5.750E-05                         |           |      |
| G     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.720E-03         | 3.367E-03            | 1.720E-03                         |           |      |
| G     | 1.3                                      | 17.52                | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.457E-04         | 4.809E-04            | 2.457E-04                         |           |      |
| G     | 2.9                                      | 11.48                | 823.               | 0.                | 0.           | 21.4          | 7.7                | 70.2              | 2.053E-04         | 2.244E-04            | 2.053E-04                         |           |      |
| G     | 4.8                                      | 1.57                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 30.8              | 2.805E-04         | 1.347E-04            | 1.347E-04                         |           |      |
| G     | 7.1                                      | 0.25                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 21.4              | 2.730E-04         | 9.099E-05            | 9.099E-05                         |           |      |
| G     | 9.2                                      | 0.10                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 21.4              | 2.104E-04         | 7.014E-05            | 7.014E-05                         |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.720E-03 | 1.141E-03 | 6.730E-04 | 4.551E-04 | 3.080E-04 | 2.457E-04 | 2.053E-04 | 1.630E-04 | 1.347E-04 | 1.193E-04 |
| 0.011     | 0.024     | 0.030     | 0.032     | 0.033     | 17.553    | 29.037    | 33.895    | 35.466    | 41.747    |
| 0.00056   | 0.00116   | 0.00145   | 0.00153   | 0.00161   | 0.85068   | 1.40721   | 1.64267   | 1.71878   | 2.02321   |
| 9.614E-05 | 9.099E-05 | 8.509E-05 | 7.014E-05 | 6.501E-05 | 6.402E-05 | 5.750E-05 | 5.330E-05 | 4.401E-05 | 3.983E-05 |
| 43.563    | 43.809    | 47.048    | 47.146    | 48.814    | 56.323    | 56.568    | 61.378    | 62.016    | 67.659    |
| 2.11121   | 2.12310   | 2.28007   | 2.28482   | 2.36569   | 2.72958   | 2.74147   | 2.97455   | 3.00546   | 3.27897   |
| 3.601E-05 | 2.899E-05 | 2.776E-05 | 2.054E-05 | 1.959E-05 | 1.510E-05 | 1.232E-05 | 8.325E-06 | 4.480E-06 | 2.091E-06 |
| 68.494    | 75.806    | 76.100    | 77.425    | 79.290    | 79.339    | 82.284    | 82.873    | 85.719    | 89.105    |
| 3.31941   | 3.67378   | 3.68805   | 3.75227   | 3.84264   | 3.84502   | 3.98772   | 4.01626   | 4.15421   | 4.31831   |
| 1.254E-06 | 8.476E-07 |           |           |           |           |           |           |           |           |
| 96.810    | 100.000   |           |           |           |           |           |           |           |           |
| 4.69171   | 4.84630   |           |           |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE

ORDERED X/Q-FREQUENCY VALUES, AND AS

PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 2.021  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 2.972  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.671

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)

Calculation No. PM-1055 Revision 0

Attachment J

|           |           |              |          |
|-----------|-----------|--------------|----------|
| 9 1       | -6.36563  | -10.61414    | -0.96686 |
| 9 2       | -8.49120  | -16.64203    | -3.71216 |
| 9 3       | -9.03426  | -19.07129    | -4.89750 |
| 9 4       | -9.83966  | -21.95903    | -6.42948 |
| 9 5       | -10.44855 | NUMXQ(K) = 5 |          |
| 5.968E-04 | 0.048     |              | 1.000    |
| 4.372E-04 | 0.145     |              | 3.000    |
| 3.744E-04 | 0.242     |              | 5.000    |
| 2.997E-04 | 0.485     |              | 10.000   |
| 2.610E-04 | 0.727     |              | 15.000   |
| 2.356E-04 | 0.969     |              | 20.000   |
| 2.171E-04 | 1.212     |              | 25.000   |
| 1.957E-04 | 1.454     |              | 30.000   |
| 1.558E-04 | 1.696     |              | 35.000   |
| 1.273E-04 | 1.939     |              | 40.000   |
| 1.023E-04 | 2.181     |              | 45.000   |
| 8.231E-05 | 2.423     |              | 50.000   |
| 6.737E-05 | 2.665     |              | 55.000   |
| 5.596E-05 | 2.908     |              | 60.000   |
| 4.527E-05 | 3.150     |              | 65.000   |
| 3.658E-05 | 3.392     |              | 70.000   |
| 2.991E-05 | 3.635     |              | 75.000   |
| 2.966E-04 | 0.5       |              | 10.32    |

ANNUAL AVERAGE = 3.81E-06

K= 9 FIVEXQ(K) = 2.966E-04 FIVEPR(K) = 10.317



Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

DATA PERIOD:

TYPE OF RELEASE: Ground Release

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION

WIND SENSORS HEIGHT: 13.7 meters

DELTA-T HEIGHTS: 10.4-21.1 meters

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER   | BLDG WAKE | USED |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|-----------|------|
|                 | AT 10.0 METERS         |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |           |      |
| A               | 1.4                    | 3.24                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 4.518E-06         | 4.480E-06         | 4.480E-06            | 4.518E-06                         | 4.480E-06 | 4.480E-06 |      |
| A               | 3.1                    | 3.55                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 2.108E-06         | 2.091E-06         | 2.091E-06            | 2.108E-06                         | 2.091E-06 | 2.091E-06 |      |
| A               | 5.2                    | 3.66                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.265E-06         | 1.254E-06         | 1.254E-06            | 1.265E-06                         | 1.254E-06 | 1.254E-06 |      |
| A               | 7.6                    | 1.05                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 8.548E-07         | 8.476E-07         | 8.476E-07            | 8.548E-07                         | 8.476E-07 | 8.476E-07 |      |
| A               | 9.9                    | 0.10                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 6.589E-07         | 6.534E-07         | 6.534E-07            | 6.589E-07                         | 6.534E-07 | 6.534E-07 |      |
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |           |           |      |
| C               | 0.2                    | 0.00                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 3.356E-04         | 3.080E-04         | 3.080E-04            | 3.356E-04                         | 3.080E-04 | 3.080E-04 |      |
| C               | 1.4                    | 0.42                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 4.795E-05         | 4.401E-05         | 4.401E-05            | 4.795E-05                         | 4.401E-05 | 4.401E-05 |      |
| C               | 3.1                    | 1.88                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 2.238E-05         | 2.054E-05         | 2.054E-05            | 2.238E-05                         | 2.054E-05 | 2.054E-05 |      |
| C               | 5.2                    | 1.78                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 1.343E-05         | 1.232E-05         | 1.232E-05            | 1.343E-05                         | 1.232E-05 | 1.232E-05 |      |
| C               | 7.6                    | 0.31                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 9.071E-06         | 8.325E-06         | 8.325E-06            | 9.071E-06                         | 8.325E-06 | 8.325E-06 |      |
| C               | 9.9                    | 0.10                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 6.992E-06         | 6.417E-06         | 6.417E-06            | 6.992E-06                         | 6.417E-06 | 6.417E-06 |      |
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |           |           |      |
| D               | 0.2                    | 0.00                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 4.551E-04         | 7.248E-04         | 4.551E-04            | 4.551E-04                         | 7.248E-04 | 4.551E-04 |      |
| D               | 1.4                    | 1.78                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 6.501E-05         | 1.035E-04         | 6.501E-05            | 6.501E-05                         | 1.035E-04 | 6.501E-05 |      |
| D               | 3.1                    | 6.59                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 95.0         | 3.983E-05         | 4.832E-05         | 3.983E-05            | 3.983E-05                         | 4.832E-05 | 3.983E-05 |      |
| D               | 5.2                    | 5.96                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 69.3         | 3.278E-05         | 2.899E-05         | 2.899E-05            | 3.278E-05                         | 2.899E-05 | 2.899E-05 |      |
| D               | 7.6                    | 1.46                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 2.429E-05         | 1.959E-05         | 1.959E-05            | 2.429E-05                         | 1.959E-05 | 1.959E-05 |      |
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |           |           |      |
| E               | 0.2                    | 0.02                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 6.730E-04         | 1.332E-03         | 6.730E-04            | 6.730E-04                         | 1.332E-03 | 6.730E-04 |      |
| E               | 1.3                    | 4.70                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 9.614E-05         | 1.903E-04         | 9.614E-05            | 9.614E-05                         | 1.903E-04 | 9.614E-05 |      |
| E               | 2.9                    | 5.33                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 92.8         | 6.402E-05         | 8.883E-05         | 6.402E-05            | 6.402E-05                         | 8.883E-05 | 6.402E-05 |      |
| E               | 4.8                    | 2.51                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 56.2         | 6.350E-05         | 5.330E-05         | 5.330E-05            | 6.350E-05                         | 5.330E-05 | 5.330E-05 |      |
| E               | 7.1                    | 0.10                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 5.365E-05         | 3.601E-05         | 3.601E-05            | 5.365E-05                         | 3.601E-05 | 3.601E-05 |      |
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |           |           |      |
| F               | 0.2                    | 0.01                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.141E-03         | 2.127E-03         | 1.141E-03            | 1.141E-03                         | 2.127E-03 | 1.141E-03 |      |
| F               | 1.3                    | 5.33                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.630E-04         | 3.039E-04         | 1.630E-04            | 1.630E-04                         | 3.039E-04 | 1.630E-04 |      |
| F               | 2.9                    | 4.60                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 77.6         | 1.193E-04         | 1.418E-04         | 1.193E-04            | 1.193E-04                         | 1.418E-04 | 1.193E-04 |      |
| F               | 4.8                    | 1.46                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 41.1         | 1.351E-04         | 8.509E-05         | 8.509E-05            | 1.351E-04                         | 8.509E-05 | 8.509E-05 |      |
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |           |           |      |
| G               | 0.2                    | 0.02                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 1.720E-03         | 3.367E-03         | 1.720E-03            | 1.720E-03                         | 3.367E-03 | 1.720E-03 |      |
| G               | 1.3                    | 28.54                | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 2.457E-04         | 4.809E-04         | 2.457E-04            | 2.457E-04                         | 4.809E-04 | 2.457E-04 |      |
| G               | 2.9                    | 14.74                | 823.               | 0.                | 0.           | 21.4          | 7.7             | 70.2         | 2.053E-04         | 2.244E-04         | 2.053E-04            | 2.053E-04                         | 2.244E-04 | 2.053E-04 |      |
| G               | 4.8                    | 0.73                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 30.8         | 2.805E-04         | 1.347E-04         | 1.347E-04            | 2.805E-04                         | 1.347E-04 | 1.347E-04 |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.720E-03 | 1.141E-03 | 6.730E-04 | 4.551E-04 | 3.080E-04 | 2.457E-04 | 2.053E-04 | 1.630E-04 | 1.347E-04 | 1.193E-04 |
| 0.019     | 0.032     | 0.048     | 0.049     | 0.051     | 28.593    | 43.334    | 48.666    | 49.398    | 53.998    |
| 0.00043   | 0.00074   | 0.00108   | 0.00113   | 0.00115   | 0.65044   | 0.98579   | 1.10708   | 1.12373   | 1.22838   |
| 9.614E-05 | 8.509E-05 | 6.501E-05 | 6.402E-05 | 5.330E-05 | 4.401E-05 | 3.983E-05 | 3.601E-05 | 2.899E-05 | 2.054E-05 |
| 58.703    | 60.167    | 61.944    | 67.276    | 69.785    | 70.203    | 76.790    | 76.895    | 82.854    | 84.736    |
| 1.33540   | 1.36870   | 1.40913   | 1.53043   | 1.58751   | 1.59702   | 1.74686   | 1.74924   | 1.88480   | 1.92761   |
| 1.959E-05 | 1.232E-05 | 8.325E-06 | 6.417E-06 | 4.480E-06 | 2.091E-06 | 1.254E-06 | 8.476E-07 | 6.534E-07 |           |
| 86.199    | 87.977    | 88.290    | 88.395    | 91.636    | 95.191    | 98.850    | 99.895    | 100.000   |           |
| 1.96091   | 2.00134   | 2.00848   | 2.01085   | 2.08458   | 2.16545   | 2.24869   | 2.27247   | 2.27485   |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|                  |                                    |              |       |
|------------------|------------------------------------|--------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 0.985 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 1.106 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 1.334 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 1.529 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 7) = | 1.745 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 8) = | 1.883 |

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
10 1 -6.36563 -10.76747 -0.98872

Calculation No. PM-1055 Revision 0

Attachment J

|           |           |               |           |  |
|-----------|-----------|---------------|-----------|--|
| 10 2      | -8.31154  | -11.25139     | -1.18354  |  |
| 10 3      | -8.49120  | -20.77166     | -5.26572  |  |
| 10 4      | -8.72174  | -25.46342     | -7.31598  |  |
| 10 5      | -9.24972  | -26.05258     | -7.58183  |  |
| 10 6      | -9.65636  | -29.00304     | -8.94616  |  |
| 10 7      | -10.13086 | -31.78929     | -10.26695 |  |
| 10 8      | -10.44855 | NUMXQ (K) = 8 |           |  |
| 6.749E-04 | 0.023     |               | 1.000     |  |
| 4.998E-04 | 0.068     |               | 3.000     |  |
| 4.308E-04 | 0.114     |               | 5.000     |  |
| 3.485E-04 | 0.227     |               | 10.000    |  |
| 3.059E-04 | 0.341     |               | 15.000    |  |
| 2.779E-04 | 0.455     |               | 20.000    |  |
| 2.575E-04 | 0.569     |               | 25.000    |  |
| 2.407E-04 | 0.682     |               | 30.000    |  |
| 2.254E-04 | 0.796     |               | 35.000    |  |
| 2.126E-04 | 0.910     |               | 40.000    |  |
| 1.905E-04 | 1.024     |               | 45.000    |  |
| 1.512E-04 | 1.137     |               | 50.000    |  |
| 1.157E-04 | 1.251     |               | 55.000    |  |
| 9.012E-05 | 1.365     |               | 60.000    |  |
| 7.099E-05 | 1.479     |               | 65.000    |  |
| 5.557E-05 | 1.592     |               | 70.000    |  |
| 4.338E-05 | 1.706     |               | 75.000    |  |
| 3.358E-05 | 1.820     |               | 80.000    |  |
| 2.691E-04 | 0.5       |               | 21.98     |  |

ANNUAL AVERAGE = 2.47E-06

K= 10 FIVEXQ (K) = 2.691E-04 FIVEPR (K) = 21.979

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 1.4                                      | 2.24                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.518E-06         | 4.480E-06            | 4.480E-06                         |           |      |
| A               | 3.1                                      | 1.31                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 2.108E-06         | 2.091E-06            | 2.091E-06                         |           |      |
| A               | 5.2                                      | 2.47                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.265E-06         | 1.254E-06            | 1.254E-06                         |           |      |
| A               | 7.6                                      | 0.08                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 8.548E-07         | 8.476E-07            | 8.476E-07                         |           |      |
| C               | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 3.356E-04         | 3.080E-04            | 3.080E-04                         |           |      |
| C               | 1.4                                      | 0.39                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.795E-05         | 4.401E-05            | 4.401E-05                         |           |      |
| C               | 3.1                                      | 1.24                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.238E-05         | 2.054E-05            | 2.054E-05                         |           |      |
| C               | 5.2                                      | 3.24                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.343E-05         | 1.232E-05            | 1.232E-05                         |           |      |
| C               | 7.6                                      | 0.39                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 9.071E-06         | 8.325E-06            | 8.325E-06                         |           |      |
| D               | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.551E-04         | 7.248E-04            | 4.551E-04                         |           |      |
| D               | 1.4                                      | 1.93                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.501E-05         | 1.035E-04            | 6.501E-05                         |           |      |
| D               | 3.1                                      | 5.41                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 95.0              | 3.983E-05         | 4.832E-05            | 3.983E-05                         |           |      |
| D               | 5.2                                      | 5.56                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 69.3              | 3.278E-05         | 2.899E-05            | 2.899E-05                         |           |      |
| D               | 7.6                                      | 1.08                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.429E-05         | 1.959E-05            | 1.959E-05                         |           |      |
| E               | 0.2                                      | 0.02                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 6.730E-04         | 1.332E-03            | 6.730E-04                         |           |      |
| E               | 1.3                                      | 4.71                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 9.614E-05         | 1.903E-04            | 9.614E-05                         |           |      |
| E               | 2.9                                      | 7.03                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 92.8              | 6.402E-05         | 8.883E-05            | 6.402E-05                         |           |      |
| E               | 4.8                                      | 2.32                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 56.2              | 6.350E-05         | 5.330E-05            | 5.330E-05                         |           |      |
| E               | 7.1                                      | 0.08                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 5.365E-05         | 3.601E-05            | 3.601E-05                         |           |      |
| F               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.141E-03         | 2.127E-03            | 1.141E-03                         |           |      |
| F               | 1.3                                      | 5.79                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.630E-04         | 3.039E-04            | 1.630E-04                         |           |      |
| F               | 2.9                                      | 4.09                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 77.6              | 1.193E-04         | 1.418E-04            | 1.193E-04                         |           |      |
| F               | 4.8                                      | 0.31                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 41.1              | 1.351E-04         | 8.509E-05            | 8.509E-05                         |           |      |
| G               | 0.2                                      | 0.02                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.720E-03         | 3.367E-03            | 1.720E-03                         |           |      |
| G               | 1.3                                      | 34.29                | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.457E-04         | 4.809E-04            | 2.457E-04                         |           |      |
| G               | 2.9                                      | 15.68                | 823.               | 0.                | 0.           | 21.4          | 7.7                | 70.2              | 2.053E-04         | 2.244E-04            | 2.053E-04                         |           |      |
| G               | 4.8                                      | 0.23                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 30.8              | 2.805E-04         | 1.347E-04            | 1.347E-04                         |           |      |
| G               | 21.0                                     | 0.08                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 21.4              | 9.182E-05         | 3.061E-05            | 3.061E-05                         |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4 21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.720E-03 | 1.141E-03 | 6.730E-04 | 4.551E-04 | 3.080E-04 | 2.457E-04 | 2.053E-04 | 1.630E-04 | 1.347E-04 | 1.193E-04 |
| 0.022     | 0.037     | 0.053     | 0.055     | 0.056     | 34.349    | 50.028    | 55.821    | 56.052    | 60.146    |
| 0.00069   | 0.00115   | 0.00162   | 0.00168   | 0.00171   | 1.05770   | 1.54050   | 1.71888   | 1.72601   | 1.85207   |
| 9.614E-05 | 8.509E-05 | 6.501E-05 | 6.402E-05 | 5.330E-05 | 4.401E-05 | 3.983E-05 | 3.601E-05 | 3.061E-05 | 2.899E-05 |
| 64.857    | 65.166    | 67.097    | 74.126    | 76.443    | 76.829    | 82.236    | 82.313    | 82.390    | 87.951    |
| 1.99715   | 2.00666   | 2.06612   | 2.28255   | 2.35390   | 2.36579   | 2.53227   | 2.53465   | 2.53703   | 2.70827   |
| 2.054E-05 | 1.959E-05 | 1.232E-05 | 8.325E-06 | 4.480E-06 | 2.091E-06 | 1.254E-06 | 8.476E-07 |           |           |
| 89.187    | 90.268    | 93.512    | 93.898    | 96.138    | 97.451    | 99.923    | 100.000   |           |           |
| 2.74633   | 2.77962   | 2.87951   | 2.89140   | 2.96038   | 3.00081   | 3.07692   | 3.07929   |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.539  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 1.717  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 2.280  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 2.530  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 2.706

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 11 1 -6.36563 -10.50992 -0.95347  
 11 2 -8.31154 -11.15452 -1.23304

Calculation No. PM-1055 Revision 0

Attachment J

|    |           |           |              |           |
|----|-----------|-----------|--------------|-----------|
| 11 | 3         | -8.49120  | -19.83363    | -5.25122  |
| 11 | 4         | -8.72174  | -25.62290    | -7.98710  |
| 11 | 5         | -9.65636  | -31.14607    | -10.75001 |
| 11 | 6         | -10.13086 | -31.57259    | -10.96819 |
| 11 | 7         | -10.44855 | NUMXQ(K) = 7 |           |
|    | 7.141E-04 | 0.031     |              | 1.000     |
|    | 5.310E-04 | 0.092     |              | 3.000     |
|    | 4.585E-04 | 0.154     |              | 5.000     |
|    | 3.716E-04 | 0.308     |              | 10.000    |
|    | 3.264E-04 | 0.462     |              | 15.000    |
|    | 2.966E-04 | 0.616     |              | 20.000    |
|    | 2.748E-04 | 0.770     |              | 25.000    |
|    | 2.578E-04 | 0.924     |              | 30.000    |
|    | 2.435E-04 | 1.078     |              | 35.000    |
|    | 2.287E-04 | 1.232     |              | 40.000    |
|    | 2.161E-04 | 1.386     |              | 45.000    |
|    | 2.053E-04 | 1.540     |              | 50.000    |
|    | 1.682E-04 | 1.694     |              | 55.000    |
|    | 1.290E-04 | 1.848     |              | 60.000    |
|    | 9.919E-05 | 2.002     |              | 65.000    |
|    | 7.757E-05 | 2.156     |              | 70.000    |
|    | 6.070E-05 | 2.309     |              | 75.000    |
|    | 4.521E-05 | 2.463     |              | 80.000    |
|    | 3.408E-05 | 2.617     |              | 85.000    |
|    | 3.180E-04 | 0.5       |              | 16.24     |

ANNUAL AVERAGE = 3.80E-06

K= 11 FIVEXQ(K) = 3.180E-04 FIVEPR(K) = 16.237

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

| CLASS | METER/SEC<br>AT 10.0 METERS | PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                                |      |
|-------|-----------------------------|---------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|--------------------------------|------|
|       |                             |         |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE<br>CA=1292.SQ.METERS | USED |
| A     | 1.4                         | 2.00    | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 4.518E-06            | 4.480E-06                         | 4.480E-06                      |      |
| A     | 3.1                         | 0.79    | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 2.108E-06            | 2.091E-06                         | 2.091E-06                      |      |
| A     | 5.2                         | 1.88    | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 1.265E-06            | 1.254E-06                         | 1.254E-06                      |      |
| A     | 7.6                         | 0.12    | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 8.548E-07            | 8.476E-07                         | 8.476E-07                      |      |
| C     | 0.2                         | 0.00    | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 3.356E-04            | 3.080E-04                         | 3.080E-04                      |      |
| C     | 1.4                         | 0.61    | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 4.795E-05            | 4.401E-05                         | 4.401E-05                      |      |
| C     | 3.1                         | 0.91    | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 2.238E-05            | 2.054E-05                         | 2.054E-05                      |      |
| C     | 5.2                         | 1.94    | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 1.343E-05            | 1.232E-05                         | 1.232E-05                      |      |
| C     | 7.6                         | 0.24    | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 9.071E-06            | 8.325E-06                         | 8.325E-06                      |      |
| C     | 9.9                         | 0.06    | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 6.992E-06            | 6.417E-06                         | 6.417E-06                      |      |
| D     | 0.2                         | 0.00    | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 124.7             | 4.551E-04            | 7.248E-04                         | 4.551E-04                      |      |
| D     | 1.4                         | 1.69    | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 124.7             | 6.501E-05            | 1.035E-04                         | 6.501E-05                      |      |
| D     | 3.1                         | 5.02    | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 95.0              | 3.983E-05            | 4.832E-05                         | 3.983E-05                      |      |
| D     | 5.2                         | 5.14    | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 69.3              | 3.278E-05            | 2.899E-05                         | 2.899E-05                      |      |
| D     | 7.6                         | 0.67    | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 63.2              | 2.429E-05            | 1.959E-05                         | 1.959E-05                      |      |
| E     | 0.2                         | 0.01    | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 132.5             | 6.730E-04            | 1.332E-03                         | 6.730E-04                      |      |
| E     | 1.3                         | 2.96    | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 132.5             | 9.614E-05            | 1.903E-04                         | 9.614E-05                      |      |
| E     | 2.9                         | 5.63    | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 92.8              | 6.402E-05            | 8.883E-05                         | 6.402E-05                      |      |
| E     | 4.8                         | 1.27    | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 56.2              | 6.350E-05            | 5.330E-05                         | 5.330E-05                      |      |
| E     | 7.1                         | 0.06    | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 44.9              | 5.365E-05            | 3.601E-05                         | 3.601E-05                      |      |
| F     | 0.2                         | 0.01    | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 121.7             | 1.141E-03            | 2.127E-03                         | 1.141E-03                      |      |
| F     | 1.3                         | 5.32    | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 121.7             | 1.630E-04            | 3.039E-04                         | 1.630E-04                      |      |
| F     | 2.9                         | 4.96    | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 77.6              | 1.193E-04            | 1.418E-04                         | 1.193E-04                      |      |
| F     | 4.8                         | 0.67    | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 41.1              | 1.351E-04            | 8.509E-05                         | 8.509E-05                      |      |
| G     | 0.2                         | 0.02    | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 125.7             | 1.720E-03            | 3.367E-03                         | 1.720E-03                      |      |
| G     | 1.3                         | 35.94   | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 125.7             | 2.457E-04            | 4.809E-04                         | 2.457E-04                      |      |
| G     | 2.9                         | 21.36   | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 70.2              | 2.053E-04            | 2.244E-04                         | 2.053E-04                      |      |
| G     | 4.8                         | 0.42    | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 30.8              | 2.805E-04            | 1.347E-04                         | 1.347E-04                      |      |
| G     | 7.1                         | 0.06    | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 21.4              | 2.730E-04            | 9.099E-05                         | 9.099E-05                      |      |
| G     | 21.0                        | 0.24    | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 21.4              | 9.182E-05            | 3.061E-05                         | 3.061E-05                      |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.720E-03 | 1.141E-03 | 6.730E-04 | 4.551E-04 | 3.080E-04 | 2.457E-04 | 2.053E-04 | 1.630E-04 | 1.347E-04 | 1.193E-04 |
| 0.024     | 0.037     | 0.047     | 0.049     | 0.050     | 35.989    | 57.346    | 62.670    | 63.094    | 68.055    |
| 0.00092   | 0.00146   | 0.00184   | 0.00191   | 0.00197   | 1.41471   | 2.25427   | 2.46356   | 2.48021   | 2.67523   |
| 9.614E-05 | 9.099E-05 | 8.509E-05 | 6.501E-05 | 6.402E-05 | 5.330E-05 | 4.401E-05 | 3.983E-05 | 3.601E-05 | 3.061E-05 |
| 71.019    | 71.080    | 71.745    | 73.439    | 79.066    | 80.337    | 80.942    | 85.963    | 86.024    | 86.266    |
| 2.79177   | 2.79415   | 2.82031   | 2.88691   | 3.10809   | 3.15804   | 3.18182   | 3.37923   | 3.38160   | 3.39112   |
| 2.899E-05 | 2.054E-05 | 1.959E-05 | 1.232E-05 | 8.325E-06 | 6.417E-06 | 4.480E-06 | 2.091E-06 | 1.254E-06 | 8.476E-07 |
| 91.409    | 92.316    | 92.982    | 94.918    | 95.160    | 95.220    | 97.217    | 98.003    | 99.879    | 100.000   |
| 3.59328   | 3.62895   | 3.65511   | 3.73122   | 3.74073   | 3.74311   | 3.82160   | 3.85252   | 3.92625   | 3.93100   |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.461  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 2.673  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 3.105  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 3.590  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8) = 3.728

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 12 1 -6.36563 -10.35528 -0.93167  
 12 2 -8.31154 -10.39308 -0.94890



Calculation No. PM-1055 Revision 0

Attachment J

12 3 -8.49120 -20.77271 -6.12761  
12 4 -8.72174 -26.07578 -8.82408  
12 5 -9.03426 -27.32174 -9.46923  
12 6 -9.65636 -32.32870 -12.15313  
12 7 -10.44855 -99.97153 -49.72472  
12 8 -11.30416 NUMXQ(K) = 8

|           |       |        |
|-----------|-------|--------|
| 7.268E-04 | 0.039 | 1.000  |
| 5.411E-04 | 0.118 | 3.000  |
| 4.674E-04 | 0.197 | 5.000  |
| 3.788E-04 | 0.393 | 10.000 |
| 3.326E-04 | 0.590 | 15.000 |
| 3.021E-04 | 0.786 | 20.000 |
| 2.798E-04 | 0.983 | 25.000 |
| 2.624E-04 | 1.179 | 30.000 |
| 2.482E-04 | 1.376 | 35.000 |
| 2.361E-04 | 1.572 | 40.000 |
| 2.257E-04 | 1.769 | 45.000 |
| 2.167E-04 | 1.966 | 50.000 |
| 2.087E-04 | 2.162 | 55.000 |
| 1.826E-04 | 2.359 | 60.000 |
| 1.420E-04 | 2.555 | 65.000 |
| 1.062E-04 | 2.752 | 70.000 |
| 7.984E-05 | 2.948 | 75.000 |
| 6.009E-05 | 3.145 | 80.000 |
| 4.323E-05 | 3.341 | 85.000 |
| 3.159E-05 | 3.538 | 90.000 |
| 3.509E-04 | 0.5   | 12.72  |

ANNUAL AVERAGE = 5.07E-06

K= 12 FIVEXQ(K) = 3.509E-04 FIVEPR(K) = 12.719

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |  |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|--|
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |  |
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |  |
| A     | 1.4                                      | 1.22                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.518E-06         | 4.480E-06            | 4.480E-06                         |           |      |  |
| A     | 3.1                                      | 0.92                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 2.108E-06         | 2.091E-06            | 2.091E-06                         |           |      |  |
| A     | 5.2                                      | 1.75                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.265E-06         | 1.254E-06            | 1.254E-06                         |           |      |  |
| A     | 7.6                                      | 1.02                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 8.548E-07         | 8.476E-07            | 8.476E-07                         |           |      |  |
| C     | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 3.356E-04         | 3.080E-04            | 3.080E-04                         |           |      |  |
| C     | 1.4                                      | 0.33                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.795E-05         | 4.401E-05            | 4.401E-05                         |           |      |  |
| C     | 3.1                                      | 0.76                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.238E-05         | 2.054E-05            | 2.054E-05                         |           |      |  |
| C     | 5.2                                      | 2.01                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.343E-05         | 1.232E-05            | 1.232E-05                         |           |      |  |
| C     | 7.6                                      | 0.82                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 9.071E-06         | 8.325E-06            | 8.325E-06                         |           |      |  |
| C     | 9.9                                      | 0.03                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 6.992E-06         | 6.417E-06            | 6.417E-06                         |           |      |  |
| D     | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.551E-04         | 7.248E-04            | 4.551E-04                         |           |      |  |
| D     | 1.4                                      | 1.05                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.501E-05         | 1.035E-04            | 6.501E-05                         |           |      |  |
| D     | 3.1                                      | 3.33                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 95.0              | 3.983E-05         | 4.832E-05            | 3.983E-05                         |           |      |  |
| D     | 5.2                                      | 6.36                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 69.3              | 3.278E-05         | 2.899E-05            | 2.899E-05                         |           |      |  |
| D     | 7.6                                      | 2.93                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.429E-05         | 1.959E-05            | 1.959E-05                         |           |      |  |
| D     | 9.9                                      | 0.20                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 1.872E-05         | 1.510E-05            | 1.510E-05                         |           |      |  |
| D     | 22.7                                     | 0.03                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 8.169E-06         | 6.589E-06            | 6.589E-06                         |           |      |  |
| E     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 6.730E-04         | 1.332E-03            | 6.730E-04                         |           |      |  |
| E     | 1.3                                      | 2.14                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 9.614E-05         | 1.903E-04            | 9.614E-05                         |           |      |  |
| E     | 2.9                                      | 4.48                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 92.8              | 6.402E-05         | 8.883E-05            | 6.402E-05                         |           |      |  |
| E     | 4.8                                      | 2.41                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 56.2              | 6.350E-05         | 5.330E-05            | 5.330E-05                         |           |      |  |
| E     | 7.1                                      | 0.23                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 5.365E-05         | 3.601E-05            | 3.601E-05                         |           |      |  |
| F     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.141E-03         | 2.127E-03            | 1.141E-03                         |           |      |  |
| F     | 1.3                                      | 3.99                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.630E-04         | 3.039E-04            | 1.630E-04                         |           |      |  |
| F     | 2.9                                      | 4.22                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 77.6              | 1.193E-04         | 1.418E-04            | 1.193E-04                         |           |      |  |
| F     | 4.8                                      | 0.69                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 41.1              | 1.351E-04         | 8.509E-05            | 8.509E-05                         |           |      |  |
| F     | 7.1                                      | 0.03                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 31.0              | 1.210E-04         | 5.750E-05            | 5.750E-05                         |           |      |  |
| F     | 9.2                                      | 0.03                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 31.0              | 9.328E-05         | 4.432E-05            | 4.432E-05                         |           |      |  |
| F     | 21.0                                     | 0.10                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 31.0              | 4.071E-05         | 1.934E-05            | 1.934E-05                         |           |      |  |
| G     | 0.2                                      | 0.02                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.720E-03         | 3.367E-03            | 1.720E-03                         |           |      |  |
| G     | 1.3                                      | 30.43                | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.457E-04         | 4.809E-04            | 2.457E-04                         |           |      |  |
| G     | 2.9                                      | 26.18                | 823.               | 0.                | 0.           | 21.4          | 7.7                | 70.2              | 2.053E-04         | 2.244E-04            | 2.053E-04                         |           |      |  |
| G     | 4.8                                      | 1.98                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 30.8              | 2.805E-04         | 1.347E-04            | 1.347E-04                         |           |      |  |

G 21.0 0.26 823. 0. 0.

21.4 7.7 21.4

9.182E-05 3.061E-05 3.061E-05

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.720E-03 | 1.141E-03 | 6.730E-04 | 4.551E-04 | 3.080E-04 | 2.457E-04 | 2.053E-04 | 1.630E-04 | 1.347E-04 | 1.193E-04 |
| 0.020     | 0.030     | 0.037     | 0.038     | 0.039     | 30.469    | 56.646    | 60.635    | 62.614    | 66.834    |
| 0.00144   | 0.00218   | 0.00268   | 0.00276   | 0.00282   | 2.19803   | 4.08644   | 4.37422   | 4.51692   | 4.82135   |
| 9.614E-05 | 8.509E-05 | 6.501E-05 | 6.402E-05 | 5.750E-05 | 5.330E-05 | 4.432E-05 | 4.401E-05 | 3.983E-05 | 3.601E-05 |
| 68.977    | 69.669    | 70.724    | 75.208    | 75.241    | 77.647    | 77.680    | 78.010    | 81.340    | 81.571    |
| 4.97594   | 5.02589   | 5.10200   | 5.42545   | 5.42783   | 5.60145   | 5.60383   | 5.62761   | 5.86782   | 5.88447   |
| 3.061E-05 | 2.899E-05 | 2.054E-05 | 1.959E-05 | 1.934E-05 | 1.510E-05 | 1.232E-05 | 8.325E-06 | 6.589E-06 | 6.417E-06 |
| 81.834    | 88.197    | 88.955    | 91.890    | 91.989    | 92.186    | 94.198    | 95.022    | 95.055    | 95.088    |
| 5.90350   | 6.36252   | 6.41722   | 6.62889   | 6.63603   | 6.65030   | 6.79538   | 6.85484   | 6.85722   | 6.85959   |
| 4.480E-06 | 2.091E-06 | 1.254E-06 | 8.476E-07 |           |           |           |           |           |           |
| 96.308    | 97.231    | 98.978    | 100.000   |           |           |           |           |           |           |
| 6.94759   | 7.01419   | 7.14024   | 7.21397   |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 4.818  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 5.422  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 6.359  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 6.625

Calculation No. PM-1055 Revision 0

Attachment J

| K  | I | XQSAVE (K,I) | XQINT (K,I) | XQSLOP (K,I) |
|----|---|--------------|-------------|--------------|
| 13 | 1 | -6.36563     | -10.00668   | -0.87040     |
| 13 | 2 | -8.49120     | -20.56132   | -6.93235     |
| 13 | 3 | -9.03426     | -27.01857   | -10.81573    |
| 13 | 4 | -9.65636     | -25.56650   | -9.91117     |
| 13 | 5 | -10.44855    | -38.88255   | -18.64103    |
| 13 | 6 | -10.84059    | NUMXQ(K)= 6 |              |
|    |   | 7.221E-04    | 0.072       | 1.000        |
|    |   | 5.405E-04    | 0.216       | 3.000        |
|    |   | 4.677E-04    | 0.361       | 5.000        |
|    |   | 3.794E-04    | 0.721       | 10.000       |
|    |   | 3.330E-04    | 1.082       | 15.000       |
|    |   | 3.023E-04    | 1.443       | 20.000       |
|    |   | 2.797E-04    | 1.803       | 25.000       |
|    |   | 2.620E-04    | 2.164       | 30.000       |
|    |   | 2.475E-04    | 2.525       | 35.000       |
|    |   | 2.354E-04    | 2.886       | 40.000       |
|    |   | 2.249E-04    | 3.246       | 45.000       |
|    |   | 2.158E-04    | 3.607       | 50.000       |
|    |   | 2.077E-04    | 3.968       | 55.000       |
|    |   | 1.703E-04    | 4.328       | 60.000       |
|    |   | 1.308E-04    | 4.689       | 65.000       |
|    |   | 9.361E-05    | 5.050       | 70.000       |
|    |   | 6.497E-05    | 5.410       | 75.000       |
|    |   | 4.724E-05    | 5.771       | 80.000       |
|    |   | 3.492E-05    | 6.132       | 85.000       |
|    |   | 2.390E-05    | 6.493       | 90.000       |
|    |   | 4.246E-04    | 0.5         | 6.93         |

ANNUAL AVERAGE = 8.38E-06

K= 13 FIVEXQ(K)= 4.246E-04 FIVEPR(K)= 6.931

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4 21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER           | BLDG WAKE | USED |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|-----------|------|
|                 |  |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   | CA=1292.SQ.METERS |           |      |
| A               | 1.4                                      | 0.93                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 4.518E-06         | 4.480E-06         | 4.480E-06            |                                   |                   |           |      |
| A               | 3.1                                      | 0.75                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 2.108E-06         | 2.091E-06         | 2.091E-06            |                                   |                   |           |      |
| A               | 5.2                                      | 1.54                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.265E-06         | 1.254E-06         | 1.254E-06            |                                   |                   |           |      |
| A               | 7.6                                      | 2.10                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 8.548E-07         | 8.476E-07         | 8.476E-07            |                                   |                   |           |      |
| A               | 9.9                                      | 0.55                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 6.589E-07         | 6.534E-07         | 6.534E-07            |                                   |                   |           |      |
| A               | 22.7                                     | 0.11                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 2.875E-07         | 2.851E-07         | 2.851E-07            |                                   |                   |           |      |
| C               | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 3.356E-04         | 3.080E-04         | 3.080E-04            |                                   |                   |           |      |
| C               | 1.4                                      | 0.29                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 4.795E-05         | 4.401E-05         | 4.401E-05            |                                   |                   |           |      |
| C               | 3.1                                      | 0.53                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 2.238E-05         | 2.054E-05         | 2.054E-05            |                                   |                   |           |      |
| C               | 5.2                                      | 2.10                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 1.343E-05         | 1.232E-05         | 1.232E-05            |                                   |                   |           |      |
| C               | 7.6                                      | 2.96                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 9.071E-06         | 8.325E-06         | 8.325E-06            |                                   |                   |           |      |
| C               | 9.9                                      | 1.30                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 6.992E-06         | 6.417E-06         | 6.417E-06            |                                   |                   |           |      |
| C               | 22.7                                     | 0.13                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 3.051E-06         | 2.800E-06         | 2.800E-06            |                                   |                   |           |      |
| D               | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 4.551E-04         | 7.248E-04         | 4.551E-04            |                                   |                   |           |      |
| D               | 1.4                                      | 0.88                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 6.501E-05         | 1.035E-04         | 6.501E-05            |                                   |                   |           |      |
| D               | 3.1                                      | 2.73                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 95.0         | 3.983E-05         | 4.832E-05         | 3.983E-05            |                                   |                   |           |      |
| D               | 5.2                                      | 7.92                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 69.3         | 3.278E-05         | 2.899E-05         | 2.899E-05            |                                   |                   |           |      |
| D               | 7.6                                      | 12.37                | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 2.429E-05         | 1.959E-05         | 1.959E-05            |                                   |                   |           |      |
| D               | 9.9                                      | 2.71                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 1.872E-05         | 1.510E-05         | 1.510E-05            |                                   |                   |           |      |
| D               | 22.7                                     | 0.37                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 8.169E-06         | 6.589E-06         | 6.589E-06            |                                   |                   |           |      |
| E               | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 6.730E-04         | 1.332E-03         | 6.730E-04            |                                   |                   |           |      |
| E               | 1.3                                      | 1.37                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 9.614E-05         | 1.903E-04         | 9.614E-05            |                                   |                   |           |      |
| E               | 2.9                                      | 3.33                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 92.8         | 6.402E-05         | 8.883E-05         | 6.402E-05            |                                   |                   |           |      |
| E               | 4.8                                      | 6.75                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 56.2         | 6.350E-05         | 5.330E-05         | 5.330E-05            |                                   |                   |           |      |
| E               | 7.1                                      | 2.91                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 5.365E-05         | 3.601E-05         | 3.601E-05            |                                   |                   |           |      |
| E               | 9.2                                      | 0.29                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 4.135E-05         | 2.776E-05         | 2.776E-05            |                                   |                   |           |      |
| E               | 21.0                                     | 0.13                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 1.804E-05         | 1.211E-05         | 1.211E-05            |                                   |                   |           |      |
| F               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.141E-03         | 2.127E-03         | 1.141E-03            |                                   |                   |           |      |
| F               | 1.3                                      | 2.18                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.630E-04         | 3.039E-04         | 1.630E-04            |                                   |                   |           |      |
| F               | 2.9                                      | 3.75                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 77.6         | 1.193E-04         | 1.418E-04         | 1.193E-04            |                                   |                   |           |      |
| F               | 4.8                                      | 3.42                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 41.1         | 1.351E-04         | 8.509E-05         | 8.509E-05            |                                   |                   |           |      |
| F               | 7.1                                      | 0.29                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 31.0         | 1.210E-04         | 5.750E-05         | 5.750E-05            |                                   |                   |           |      |
| G               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 1.720E-03         | 3.367E-03         | 1.720E-03            |                                   |                   |           |      |

**Calculation No. PM-1055 Revision 0**

|   |      |       |      |    |    |
|---|------|-------|------|----|----|
| G | 1.3  | 17.62 | 823. | 0. | 0. |
| G | 2.9  | 13.21 | 823. | 0. | 0. |
| G | 4.8  | 4.15  | 823. | 0. | 0. |
| G | 7.1  | 0.11  | 823. | 0. | 0. |
| G | 21.0 | 0.20  | 823. | 0. | 0. |

**Attachment J**

|      |     |       |           |           |           |
|------|-----|-------|-----------|-----------|-----------|
| 21.4 | 7.7 | 125.7 | 2.457E-04 | 4.809E-04 | 2.457E-04 |
| 21.4 | 7.7 | 70.2  | 2.053E-04 | 2.244E-04 | 2.053E-04 |
| 21.4 | 7.7 | 30.8  | 2.805E-04 | 1.347E-04 | 1.347E-04 |
| 21.4 | 7.7 | 21.4  | 2.730E-04 | 9.099E-05 | 9.099E-05 |
| 21.4 | 7.7 | 21.4  | 9.182E-05 | 3.061E-05 | 3.061E-05 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

ESE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.720E-03 | 1.141E-03 | 6.730E-04 | 4.551E-04 | 3.080E-04 | 2.457E-04 | 2.053E-04 | 1.630E-04 | 1.347E-04 | 1.193E-04 |
| 0.012     | 0.017     | 0.022     | 0.023     | 0.023     | 17.645    | 30.857    | 33.040    | 37.186    | 40.936    |
| 0.00124   | 0.00185   | 0.00233   | 0.00243   | 0.00251   | 1.90281   | 3.32744   | 3.56289   | 4.01002   | 4.41434   |
| 9.614E-05 | 9.099E-05 | 8.509E-05 | 6.501E-05 | 6.402E-05 | 5.750E-05 | 5.330E-05 | 4.401E-05 | 3.983E-05 | 3.601E-05 |
| 42.303    | 42.414    | 45.832    | 46.714    | 50.045    | 50.331    | 57.080    | 57.367    | 60.102    | 63.013    |
| 4.56180   | 4.57369   | 4.94233   | 5.03747   | 5.39660   | 5.42752   | 6.15529   | 6.18621   | 6.48113   | 6.79507   |
| 3.061E-05 | 2.899E-05 | 2.776E-05 | 2.054E-05 | 1.959E-05 | 1.510E-05 | 1.232E-05 | 1.211E-05 | 8.325E-06 | 6.589E-06 |
| 63.212    | 71.130    | 71.416    | 71.946    | 84.319    | 87.031    | 89.127    | 89.259    | 92.214    | 92.589    |
| 6.81647   | 7.67030   | 7.70122   | 7.75830   | 9.09255   | 9.38509   | 9.61103   | 9.62530   | 9.94400   | 9.98443   |
| 6.417E-06 | 4.480E-06 | 2.800E-06 | 2.091E-06 | 1.254E-06 | 8.476E-07 | 6.534E-07 | 2.851E-07 |           |           |
| 93.891    | 94.817    | 94.949    | 95.699    | 97.243    | 99.338    | 99.890    | 100.000   |           |           |
| 10.12475  | 10.22464  | 10.23891  | 10.31978  | 10.48626  | 10.71220  | 10.77166  | 10.78356  |           |           |

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 4.411  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 6.151  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 9.089  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 9.382



Calculation No. PM-1055 Revision 0

Attachment J

| K  | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|----|---|-------------|--------------|-------------|
| 14 | 1 | -6.36563    | -10.12964    | -0.89283    |
| 14 | 2 | -8.49120    | -16.14328    | -4.16980    |
| 14 | 3 | -9.03426    | -17.47394    | -4.95030    |
| 14 | 4 | -9.83966    | -17.30044    | -4.83780    |
| 14 | 5 | -10.84059   | -30.49912    | -14.72232   |
| 14 | 6 | -11.10087   | NUMXQ(K) = 6 |             |
|    |   | 6.171E-04   | 0.108        | 1.000       |
|    |   | 4.537E-04   | 0.324        | 3.000       |
|    |   | 3.886E-04   | 0.539        | 5.000       |
|    |   | 3.104E-04   | 1.078        | 10.000      |
|    |   | 2.696E-04   | 1.618        | 15.000      |
|    |   | 2.427E-04   | 2.157        | 20.000      |
|    |   | 2.230E-04   | 2.696        | 25.000      |
|    |   | 2.076E-04   | 3.235        | 30.000      |
|    |   | 1.617E-04   | 3.774        | 35.000      |
|    |   | 1.248E-04   | 4.313        | 40.000      |
|    |   | 9.534E-05   | 4.853        | 45.000      |
|    |   | 7.395E-05   | 5.392        | 50.000      |
|    |   | 5.848E-05   | 5.931        | 55.000      |
|    |   | 4.713E-05   | 6.470        | 60.000      |
|    |   | 3.858E-05   | 7.009        | 65.000      |
|    |   | 3.194E-05   | 7.548        | 70.000      |
|    |   | 2.672E-05   | 8.088        | 75.000      |
|    |   | 2.254E-05   | 8.627        | 80.000      |
|    |   | 1.834E-05   | 9.166        | 85.000      |
|    |   | 3.978E-04   | 0.5          | 4.64        |

ANNUAL AVERAGE = 7.95E-06

K= 14 FIVEXQ(K) = 3.978E-04 FIVEPR(K) = 4.637

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4 21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 | AT 10.0 METERS         |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 1.4                    | 0.47                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 4.518E-06         | 4.480E-06         | 4.480E-06            |                                   |           |      |
| A               | 3.1                    | 2.38                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 2.108E-06         | 2.091E-06         | 2.091E-06            |                                   |           |      |
| A               | 5.2                    | 5.09                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.265E-06         | 1.254E-06         | 1.254E-06            |                                   |           |      |
| A               | 7.6                    | 5.12                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 8.548E-07         | 8.476E-07         | 8.476E-07            |                                   |           |      |
| A               | 9.9                    | 2.15                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 6.589E-07         | 6.534E-07         | 6.534E-07            |                                   |           |      |
| A               | 22.7                   | 0.58                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 2.875E-07         | 2.851E-07         | 2.851E-07            |                                   |           |      |
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |           |      |
| C               | 0.2                    | 0.00                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 3.356E-04         | 3.080E-04         | 3.080E-04            |                                   |           |      |
| C               | 1.4                    | 0.35                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 4.795E-05         | 4.401E-05         | 4.401E-05            |                                   |           |      |
| C               | 3.1                    | 1.32                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 2.238E-05         | 2.054E-05         | 2.054E-05            |                                   |           |      |
| C               | 5.2                    | 2.18                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 1.343E-05         | 1.232E-05         | 1.232E-05            |                                   |           |      |
| C               | 7.6                    | 3.17                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 9.071E-06         | 8.325E-06         | 8.325E-06            |                                   |           |      |
| C               | 9.9                    | 1.21                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 6.992E-06         | 6.417E-06         | 6.417E-06            |                                   |           |      |
| C               | 22.7                   | 0.45                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 3.051E-06         | 2.800E-06         | 2.800E-06            |                                   |           |      |
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |           |      |
| D               | 0.2                    | 0.00                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 4.551E-04         | 7.248E-04         | 4.551E-04            |                                   |           |      |
| D               | 1.4                    | 0.89                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 6.501E-05         | 1.035E-04         | 6.501E-05            |                                   |           |      |
| D               | 3.1                    | 3.20                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 95.0         | 3.983E-05         | 4.832E-05         | 3.983E-05            |                                   |           |      |
| D               | 5.2                    | 7.15                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 69.3         | 3.278E-05         | 2.899E-05         | 2.899E-05            |                                   |           |      |
| D               | 7.6                    | 8.15                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 2.429E-05         | 1.959E-05         | 1.959E-05            |                                   |           |      |
| D               | 9.9                    | 3.95                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 1.872E-05         | 1.510E-05         | 1.510E-05            |                                   |           |      |
| D               | 22.7                   | 0.98                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 8.169E-06         | 6.589E-06         | 6.589E-06            |                                   |           |      |
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |           |      |
| E               | 0.2                    | 0.00                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 6.730E-04         | 1.332E-03         | 6.730E-04            |                                   |           |      |
| E               | 1.3                    | 1.20                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 9.614E-05         | 1.903E-04         | 9.614E-05            |                                   |           |      |
| E               | 2.9                    | 3.69                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 92.8         | 6.402E-05         | 8.883E-05         | 6.402E-05            |                                   |           |      |
| E               | 4.8                    | 5.59                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 56.2         | 6.350E-05         | 5.330E-05         | 5.330E-05            |                                   |           |      |
| E               | 7.1                    | 3.17                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 5.365E-05         | 3.601E-05         | 3.601E-05            |                                   |           |      |
| E               | 9.2                    | 0.64                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 4.135E-05         | 2.776E-05         | 2.776E-05            |                                   |           |      |
| E               | 21.0                   | 0.04                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 1.804E-05         | 1.211E-05         | 1.211E-05            |                                   |           |      |
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |           |      |
| F               | 0.2                    | 0.01                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.141E-03         | 2.127E-03         | 1.141E-03            |                                   |           |      |
| F               | 1.3                    | 2.53                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.630E-04         | 3.039E-04         | 1.630E-04            |                                   |           |      |
| F               | 2.9                    | 3.19                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 77.6         | 1.193E-04         | 1.418E-04         | 1.193E-04            |                                   |           |      |
| F               | 4.8                    | 3.33                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 41.1         | 1.351E-04         | 8.509E-05         | 8.509E-05            |                                   |           |      |
| F               | 7.1                    | 0.35                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 31.0         | 1.210E-04         | 5.750E-05         | 5.750E-05            |                                   |           |      |
| F               | 9.2                    | 0.01                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 31.0         | 9.328E-05         | 4.432E-05         | 4.432E-05            |                                   |           |      |
| F               | 21.0                   | 0.03                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 31.0         | 4.071E-05         | 1.934E-05         | 1.934E-05            |                                   |           |      |

|   |      |       |      |    |    |      |     |       |           |           |           |
|---|------|-------|------|----|----|------|-----|-------|-----------|-----------|-----------|
| G | 0.2  | 0.01  | 823. | 0. | 0. | 21.4 | 7.7 | 125.7 | 1.720E-03 | 3.367E-03 | 1.720E-03 |
| G | 1.3  | 13.37 | 823. | 0. | 0. | 21.4 | 7.7 | 125.7 | 2.457E-04 | 4.809E-04 | 2.457E-04 |
| G | 2.9  | 10.70 | 823. | 0. | 0. | 21.4 | 7.7 | 70.2  | 2.053E-04 | 2.244E-04 | 2.053E-04 |
| G | 4.8  | 3.13  | 823. | 0. | 0. | 21.4 | 7.7 | 30.8  | 2.805E-04 | 1.347E-04 | 1.347E-04 |
| G | 7.1  | 0.16  | 823. | 0. | 0. | 21.4 | 7.7 | 21.4  | 2.730E-04 | 9.099E-05 | 9.099E-05 |
| G | 21.0 | 0.04  | 823. | 0. | 0. | 21.4 | 7.7 | 21.4  | 9.182E-05 | 3.061E-05 | 3.061E-05 |

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

SE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.720E-03 | 1.141E-03 | 6.730E-04 | 4.551E-04 | 3.080E-04 | 2.457E-04 | 2.053E-04 | 1.630E-04 | 1.347E-04 | 1.193E-04 |
| 0.009     | 0.015     | 0.019     | 0.020     | 0.021     | 13.387    | 24.091    | 26.621    | 29.750    | 32.938    |
| 0.00142   | 0.00248   | 0.00311   | 0.00326   | 0.00341   | 2.17722   | 3.91817   | 4.32963   | 4.83859   | 5.35707   |
| 9.614E-05 | 9.099E-05 | 8.509E-05 | 6.501E-05 | 6.402E-05 | 5.750E-05 | 5.330E-05 | 4.432E-05 | 4.401E-05 | 3.983E-05 |
| 34.137    | 34.298    | 37.632    | 38.524    | 42.209    | 42.560    | 48.146    | 48.161    | 48.512    | 51.714    |
| 5.55210   | 5.57826   | 6.12052   | 6.26560   | 6.86494   | 6.92203   | 7.83055   | 7.83293   | 7.89001   | 8.41087   |
| 3.601E-05 | 3.061E-05 | 2.899E-05 | 2.776E-05 | 2.054E-05 | 1.959E-05 | 1.934E-05 | 1.510E-05 | 1.232E-05 | 1.211E-05 |
| 54.887    | 54.931    | 62.082    | 62.725    | 64.041    | 72.187    | 72.216    | 76.164    | 78.343    | 78.387    |
| 8.92697   | 8.93411   | 10.09712  | 10.20177  | 10.41582  | 11.74056  | 11.74531  | 12.38747  | 12.74184  | 12.74898  |
| 8.325E-06 | 6.589E-06 | 6.417E-06 | 4.480E-06 | 2.800E-06 | 2.091E-06 | 1.254E-06 | 8.476E-07 | 6.534E-07 | 2.851E-07 |
| 81.560    | 82.540    | 83.754    | 84.222    | 84.675    | 87.058    | 92.147    | 97.265    | 99.415    | 100.000   |
| 13.26508  | 13.42443  | 13.62183  | 13.69794  | 13.77167  | 14.15934  | 14.98700  | 15.81942  | 16.16904  | 16.26418  |

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 5.353  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 7.827  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 10.094  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 11.738

Calculation No. PM-1055 Revision 0

Attachment J

| K  | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|----|---|-------------|-------------|-------------|
| 15 | 1 | -6.36563    | -10.03461   | -0.87661    |
| 15 | 2 | -8.49120    | -14.90259   | -3.64148    |
| 15 | 3 | -9.03426    | -15.70042   | -4.13656    |
| 15 | 4 | -9.83966    | -15.97502   | -4.33038    |
| 15 | 5 | -10.44855   | -16.13146   | -4.45296    |
| 15 | 6 | -10.84059   | NUMXQ(K)= 6 |             |

|           |        |        |
|-----------|--------|--------|
| 5.787E-04 | 0.163  | 1.000  |
| 4.227E-04 | 0.488  | 3.000  |
| 3.606E-04 | 0.813  | 5.000  |
| 2.858E-04 | 1.626  | 10.000 |
| 2.468E-04 | 2.440  | 15.000 |
| 2.211E-04 | 3.253  | 20.000 |
| 1.928E-04 | 4.066  | 25.000 |
| 1.408E-04 | 4.879  | 30.000 |
| 1.053E-04 | 5.692  | 35.000 |
| 7.965E-05 | 6.506  | 40.000 |
| 6.183E-05 | 7.319  | 45.000 |
| 4.880E-05 | 8.132  | 50.000 |
| 3.894E-05 | 8.945  | 55.000 |
| 3.153E-05 | 9.759  | 60.000 |
| 2.577E-05 | 10.572 | 65.000 |
| 2.125E-05 | 11.385 | 70.000 |
| 4.196E-04 | 0.5    | 3.07   |

ANNUAL AVERAGE = 9.87E-06

K= 15 FIVEXQ(K)= 4.196E-04 FIVEPR(K)= 3.074

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 1.4                                      | 1.45                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.518E-06         | 4.480E-06            | 4.480E-06                         |           |      |
| A               | 3.1                                      | 3.32                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 2.108E-06         | 2.091E-06            | 2.091E-06                         |           |      |
| A               | 5.2                                      | 8.51                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.265E-06         | 1.254E-06            | 1.254E-06                         |           |      |
| A               | 7.6                                      | 9.43                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 8.548E-07         | 8.476E-07            | 8.476E-07                         |           |      |
| A               | 9.9                                      | 2.36                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 6.589E-07         | 6.534E-07            | 6.534E-07                         |           |      |
| A               | 22.7                                     | 0.35                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 2.875E-07         | 2.851E-07            | 2.851E-07                         |           |      |
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      |                                   |           |      |
| C               | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 3.356E-04         | 3.080E-04            | 3.080E-04                         |           |      |
| C               | 1.4                                      | 0.63                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.795E-05         | 4.401E-05            | 4.401E-05                         |           |      |
| C               | 3.1                                      | 1.59                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.238E-05         | 2.054E-05            | 2.054E-05                         |           |      |
| C               | 5.2                                      | 2.79                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.343E-05         | 1.232E-05            | 1.232E-05                         |           |      |
| C               | 7.6                                      | 3.42                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 9.071E-06         | 8.325E-06            | 8.325E-06                         |           |      |
| C               | 9.9                                      | 1.08                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 6.992E-06         | 6.417E-06            | 6.417E-06                         |           |      |
| C               | 22.7                                     | 0.33                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 3.051E-06         | 2.800E-06            | 2.800E-06                         |           |      |
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      |                                   |           |      |
| D               | 0.2                                      | 0.00                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.551E-04         | 7.248E-04            | 4.551E-04                         |           |      |
| D               | 1.4                                      | 1.43                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.501E-05         | 1.035E-04            | 6.501E-05                         |           |      |
| D               | 3.1                                      | 3.48                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 95.0              | 3.983E-05         | 4.832E-05            | 3.983E-05                         |           |      |
| D               | 5.2                                      | 5.87                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 69.3              | 3.278E-05         | 2.899E-05            | 2.899E-05                         |           |      |
| D               | 7.6                                      | 6.48                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.429E-05         | 1.959E-05            | 1.959E-05                         |           |      |
| D               | 9.9                                      | 2.34                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 1.872E-05         | 1.510E-05            | 1.510E-05                         |           |      |
| D               | 22.7                                     | 0.61                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 8.169E-06         | 6.589E-06            | 6.589E-06                         |           |      |
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      |                                   |           |      |
| E               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 6.730E-04         | 1.332E-03            | 6.730E-04                         |           |      |
| E               | 1.3                                      | 3.28                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 9.614E-05         | 1.903E-04            | 9.614E-05                         |           |      |
| E               | 2.9                                      | 3.08                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 92.8              | 6.402E-05         | 8.883E-05            | 6.402E-05                         |           |      |
| E               | 4.8                                      | 3.67                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 56.2              | 6.350E-05         | 5.330E-05            | 5.330E-05                         |           |      |
| E               | 7.1                                      | 2.18                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 5.365E-05         | 3.601E-05            | 3.601E-05                         |           |      |
| E               | 9.2                                      | 0.39                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 4.135E-05         | 2.776E-05            | 2.776E-05                         |           |      |
| E               | 21.0                                     | 0.02                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 1.804E-05         | 1.211E-05            | 1.211E-05                         |           |      |
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      |                                   |           |      |
| F               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.141E-03         | 2.127E-03            | 1.141E-03                         |           |      |
| F               | 1.3                                      | 3.58                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.630E-04         | 3.039E-04            | 1.630E-04                         |           |      |
| F               | 2.9                                      | 3.01                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 77.6              | 1.193E-04         | 1.418E-04            | 1.193E-04                         |           |      |
| F               | 4.8                                      | 1.89                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 41.1              | 1.351E-04         | 8.509E-05            | 8.509E-05                         |           |      |
| F               | 7.1                                      | 0.41                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 31.0              | 1.210E-04         | 5.750E-05            | 5.750E-05                         |           |      |
| F               | 9.2                                      | 0.04                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 31.0              | 9.328E-05         | 4.432E-05            | 4.432E-05                         |           |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|   |      |       |      |    |    |      |     |       |           |           |           |
|---|------|-------|------|----|----|------|-----|-------|-----------|-----------|-----------|
| G | 0.2  | 0.01  | 823. | 0. | 0. | 21.4 | 7.7 | 125.7 | 1.720E-03 | 3.367E-03 | 1.720E-03 |
| G | 1.3  | 12.02 | 823. | 0. | 0. | 21.4 | 7.7 | 125.7 | 2.457E-04 | 4.809E-04 | 2.457E-04 |
| G | 2.9  | 9.33  | 823. | 0. | 0. | 21.4 | 7.7 | 70.2  | 2.053E-04 | 2.244E-04 | 2.053E-04 |
| G | 4.8  | 1.45  | 823. | 0. | 0. | 21.4 | 7.7 | 30.8  | 2.805E-04 | 1.347E-04 | 1.347E-04 |
| G | 7.1  | 0.14  | 823. | 0. | 0. | 21.4 | 7.7 | 21.4  | 2.730E-04 | 9.099E-05 | 9.099E-05 |
| G | 21.0 | 0.02  | 823. | 0. | 0. | 21.4 | 7.7 | 21.4  | 9.182E-05 | 3.061E-05 | 3.061E-05 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4 21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.720E-03 | 1.141E-03 | 6.730E-04 | 4.551E-04 | 3.080E-04 | 2.457E-04 | 2.053E-04 | 1.630E-04 | 1.347E-04 | 1.193E-04 |
| 0.008     | 0.017     | 0.028     | 0.029     | 0.031     | 12.048    | 21.377    | 24.962    | 26.408    | 29.423    |
| 0.00092   | 0.00199   | 0.00323   | 0.00341   | 0.00360   | 1.40683   | 2.49611   | 2.91470   | 3.08356   | 3.43556   |
| 9.614E-05 | 9.099E-05 | 8.509E-05 | 6.501E-05 | 6.402E-05 | 5.750E-05 | 5.330E-05 | 4.432E-05 | 4.401E-05 | 3.983E-05 |
| 32.702    | 32.845    | 34.739    | 36.165    | 39.240    | 39.648    | 43.314    | 43.355    | 43.986    | 47.469    |
| 3.81847   | 3.83512   | 4.05630   | 4.22279   | 4.58192   | 4.62949   | 5.05759   | 5.06235   | 5.13608   | 5.54277   |
| 3.601E-05 | 3.061E-05 | 2.899E-05 | 2.776E-05 | 2.054E-05 | 1.959E-05 | 1.510E-05 | 1.232E-05 | 1.211E-05 | 8.325E-06 |
| 49.649    | 49.669    | 55.535    | 55.922    | 57.511    | 63.988    | 66.331    | 69.121    | 69.142    | 72.563    |
| 5.79726   | 5.79963   | 6.48460   | 6.52979   | 6.71530   | 7.47161   | 7.74512   | 8.07096   | 8.07333   | 8.47290   |
| 6.589E-06 | 6.417E-06 | 4.480E-06 | 2.800E-06 | 2.091E-06 | 1.254E-06 | 8.476E-07 | 6.534E-07 | 2.851E-07 |           |
| 73.175    | 74.254    | 75.700    | 76.026    | 79.346    | 87.860    | 97.291    | 99.654    | 100.000   |           |
| 8.54425   | 8.67030   | 8.83916   | 8.87722   | 9.26489   | 10.25904  | 11.36021  | 11.63610  | 11.67653  |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS.  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|                  |                                    |              |       |
|------------------|------------------------------------|--------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 2.912 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 3.432 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 4.053 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 5.054 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 7) = | 6.481 |



| K  | I | XQSAVE(K, I) | XQINT(K, I)  | XQSLOP(K, I) |        |
|----|---|--------------|--------------|--------------|--------|
| 16 | 1 | -6.36563     | -10.28583    | -0.91513     |        |
| 16 | 2 | -8.49120     | -15.22318    | -3.43283     |        |
| 16 | 3 | -8.72174     | -16.80977    | -4.27056     |        |
| 16 | 4 | -9.03426     | -17.10395    | -4.43214     |        |
| 16 | 5 | -9.37174     | -17.15164    | -4.45947     |        |
| 16 | 6 | -9.83966     | -17.88916    | -4.90927     |        |
| 16 | 7 | -10.44855    | -18.49839    | -5.31124     |        |
| 16 | 8 | -10.84059    | NUMXQ(K) = 8 |              |        |
|    |   | 5.531E-04    | 0.117        |              | 1.000  |
|    |   | 4.025E-04    | 0.350        |              | 3.000  |
|    |   | 3.430E-04    | 0.584        |              | 5.000  |
|    |   | 2.718E-04    | 1.168        |              | 10.000 |
|    |   | 2.349E-04    | 1.751        |              | 15.000 |
|    |   | 2.107E-04    | 2.335        |              | 20.000 |
|    |   | 1.625E-04    | 2.919        |              | 25.000 |
|    |   | 1.147E-04    | 3.503        |              | 30.000 |
|    |   | 8.378E-05    | 4.087        |              | 35.000 |
|    |   | 6.325E-05    | 4.671        |              | 40.000 |
|    |   | 4.864E-05    | 5.254        |              | 45.000 |
|    |   | 3.764E-05    | 5.838        |              | 50.000 |
|    |   | 2.970E-05    | 6.422        |              | 55.000 |
|    |   | 2.344E-05    | 7.006        |              | 60.000 |
|    |   | 3.604E-04    | 0.5          |              | 4.28   |

ANNUAL AVERAGE = 6.84E-06

K= 16 FIVEXQ(K) = 3.604E-04 FIVEPR(K) = 4.282

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

| CLASS          | METER/SEC | FREQUENCY PERCENT | DISTANCE METERS | TERRAIN METERS | HT METERS | EFF METERS | PLUME HT METERS | SIGMA-Y METERS | SIGMA-Z METERS | MEANDER-SY METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER | BLDG WAKE | USED |
|----------------|-----------|-------------------|-----------------|----------------|-----------|------------|-----------------|----------------|----------------|-------------------|-----------------------------------|---------|-----------|------|
|                |           |                   |                 |                |           |            |                 |                |                |                   | CA=1292.SQ.METERS                 |         |           |      |
| AT 10.0 METERS |           |                   |                 |                |           |            |                 |                |                |                   |                                   |         |           |      |
| A              | 1.4       | 2.62              | 823.            | 0.             | 0.        | 157.1      | 310.1           | 157.1          | 4.518E-06      | 4.480E-06         | 4.480E-06                         |         |           |      |
| A              | 3.1       | 4.89              | 823.            | 0.             | 0.        | 157.1      | 310.1           | 157.1          | 2.108E-06      | 2.091E-06         | 2.091E-06                         |         |           |      |
| A              | 5.2       | 5.27              | 823.            | 0.             | 0.        | 157.1      | 310.1           | 157.1          | 1.265E-06      | 1.254E-06         | 1.254E-06                         |         |           |      |
| A              | 7.6       | 3.24              | 823.            | 0.             | 0.        | 157.1      | 310.1           | 157.1          | 8.548E-07      | 8.476E-07         | 8.476E-07                         |         |           |      |
| A              | 9.9       | 0.79              | 823.            | 0.             | 0.        | 157.1      | 310.1           | 157.1          | 6.589E-07      | 6.534E-07         | 6.534E-07                         |         |           |      |
| A              | 22.7      | 0.16              | 823.            | 0.             | 0.        | 157.1      | 310.1           | 157.1          | 2.875E-07      | 2.851E-07         | 2.851E-07                         |         |           |      |
|                |           |                   |                 |                |           |            |                 |                |                |                   |                                   |         |           |      |
| C              | 0.2       | 0.00              | 823.            | 0.             | 0.        | 89.7       | 51.2            | 89.7           | 3.356E-04      | 3.080E-04         | 3.080E-04                         |         |           |      |
| C              | 1.4       | 0.92              | 823.            | 0.             | 0.        | 89.7       | 51.2            | 89.7           | 4.795E-05      | 4.401E-05         | 4.401E-05                         |         |           |      |
| C              | 3.1       | 2.22              | 823.            | 0.             | 0.        | 89.7       | 51.2            | 89.7           | 2.238E-05      | 2.054E-05         | 2.054E-05                         |         |           |      |
| C              | 5.2       | 2.61              | 823.            | 0.             | 0.        | 89.7       | 51.2            | 89.7           | 1.343E-05      | 1.232E-05         | 1.232E-05                         |         |           |      |
| C              | 7.6       | 1.72              | 823.            | 0.             | 0.        | 89.7       | 51.2            | 89.7           | 9.071E-06      | 8.325E-06         | 8.325E-06                         |         |           |      |
| C              | 9.9       | 0.51              | 823.            | 0.             | 0.        | 89.7       | 51.2            | 89.7           | 6.992E-06      | 6.417E-06         | 6.417E-06                         |         |           |      |
| C              | 22.7      | 0.13              | 823.            | 0.             | 0.        | 89.7       | 51.2            | 89.7           | 3.051E-06      | 2.800E-06         | 2.800E-06                         |         |           |      |
|                |           |                   |                 |                |           |            |                 |                |                |                   |                                   |         |           |      |
| D              | 0.2       | 0.00              | 823.            | 0.             | 0.        | 63.2       | 27.1            | 63.2           | 8.986E-04      | 7.248E-04         | 7.248E-04                         |         |           |      |
| D              | 1.4       | 2.25              | 823.            | 0.             | 0.        | 63.2       | 27.1            | 63.2           | 1.284E-04      | 1.035E-04         | 1.035E-04                         |         |           |      |
| D              | 3.1       | 6.06              | 823.            | 0.             | 0.        | 63.2       | 27.1            | 63.2           | 5.991E-05      | 4.832E-05         | 4.832E-05                         |         |           |      |
| D              | 5.2       | 7.33              | 823.            | 0.             | 0.        | 63.2       | 27.1            | 63.2           | 3.594E-05      | 2.899E-05         | 2.899E-05                         |         |           |      |
| D              | 7.6       | 4.71              | 823.            | 0.             | 0.        | 63.2       | 27.1            | 63.2           | 2.429E-05      | 1.959E-05         | 1.959E-05                         |         |           |      |
| D              | 9.9       | 1.37              | 823.            | 0.             | 0.        | 63.2       | 27.1            | 63.2           | 1.872E-05      | 1.510E-05         | 1.510E-05                         |         |           |      |
| D              | 22.7      | 0.28              | 823.            | 0.             | 0.        | 63.2       | 27.1            | 63.2           | 8.169E-06      | 6.589E-06         | 6.589E-06                         |         |           |      |
|                |           |                   |                 |                |           |            |                 |                |                |                   |                                   |         |           |      |
| E              | 0.2       | 0.01              | 823.            | 0.             | 0.        | 44.9       | 18.7            | 44.9           | 1.985E-03      | 1.332E-03         | 1.332E-03                         |         |           |      |
| E              | 1.3       | 2.94              | 823.            | 0.             | 0.        | 44.9       | 18.7            | 44.9           | 2.836E-04      | 1.903E-04         | 1.903E-04                         |         |           |      |
| E              | 2.9       | 5.43              | 823.            | 0.             | 0.        | 44.9       | 18.7            | 44.9           | 1.323E-04      | 8.883E-05         | 8.883E-05                         |         |           |      |
| E              | 4.8       | 4.90              | 823.            | 0.             | 0.        | 44.9       | 18.7            | 44.9           | 7.940E-05      | 5.330E-05         | 5.330E-05                         |         |           |      |
| E              | 7.1       | 1.68              | 823.            | 0.             | 0.        | 44.9       | 18.7            | 44.9           | 5.365E-05      | 3.601E-05         | 3.601E-05                         |         |           |      |
| E              | 9.2       | 0.27              | 823.            | 0.             | 0.        | 44.9       | 18.7            | 44.9           | 4.135E-05      | 2.776E-05         | 2.776E-05                         |         |           |      |
| E              | 21.0      | 0.04              | 823.            | 0.             | 0.        | 44.9       | 18.7            | 44.9           | 1.804E-05      | 1.211E-05         | 1.211E-05                         |         |           |      |
|                |           |                   |                 |                |           |            |                 |                |                |                   |                                   |         |           |      |
| F              | 0.2       | 0.01              | 823.            | 0.             | 0.        | 31.0       | 12.0            | 31.0           | 4.478E-03      | 2.127E-03         | 2.127E-03                         |         |           |      |
| F              | 1.3       | 3.70              | 823.            | 0.             | 0.        | 31.0       | 12.0            | 31.0           | 6.397E-04      | 3.039E-04         | 3.039E-04                         |         |           |      |
| F              | 2.9       | 4.19              | 823.            | 0.             | 0.        | 31.0       | 12.0            | 31.0           | 2.985E-04      | 1.418E-04         | 1.418E-04                         |         |           |      |
| F              | 4.8       | 2.22              | 823.            | 0.             | 0.        | 31.0       | 12.0            | 31.0           | 1.791E-04      | 8.509E-05         | 8.509E-05                         |         |           |      |
| F              | 7.1       | 0.23              | 823.            | 0.             | 0.        | 31.0       | 12.0            | 31.0           | 1.210E-04      | 5.750E-05         | 5.750E-05                         |         |           |      |
| F              | 9.2       | 0.01              | 823.            | 0.             | 0.        | 31.0       | 12.0            | 31.0           | 9.328E-05      | 4.432E-05         | 4.432E-05                         |         |           |      |
| F              | 21.0      | 0.01              | 823.            | 0.             | 0.        | 31.0       | 12.0            | 31.0           | 4.071E-05      | 1.934E-05         | 1.934E-05                         |         |           |      |

|   |      |       |      |    |    |      |     |      |           |           |           |
|---|------|-------|------|----|----|------|-----|------|-----------|-----------|-----------|
| G | 0.2  | 0.01  | 823. | 0. | 0. | 21.4 | 7.7 | 21.4 | 1.010E-02 | 3.367E-03 | 3.367E-03 |
| G | 1.3  | 14.53 | 823. | 0. | 0. | 21.4 | 7.7 | 21.4 | 1.443E-03 | 4.809E-04 | 4.809E-04 |
| G | 2.9  | 10.79 | 823. | 0. | 0. | 21.4 | 7.7 | 21.4 | 6.734E-04 | 2.244E-04 | 2.244E-04 |
| G | 4.8  | 1.76  | 823. | 0. | 0. | 21.4 | 7.7 | 21.4 | 4.040E-04 | 1.347E-04 | 1.347E-04 |
| G | 7.1  | 0.09  | 823. | 0. | 0. | 21.4 | 7.7 | 21.4 | 2.730E-04 | 9.099E-05 | 9.099E-05 |
| G | 9.2  | 0.01  | 823. | 0. | 0. | 21.4 | 7.7 | 21.4 | 2.104E-04 | 7.014E-05 | 7.014E-05 |
| G | 21.0 | 0.06  | 823. | 0. | 0. | 21.4 | 7.7 | 21.4 | 9.182E-05 | 3.061E-05 | 3.061E-05 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4 21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 823.0 METERS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across various categories.

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

Table with 3 columns: CHI/Q values, percent of time with respect to total time, and percent of time when wind blows into sector.

Calculation No. PM-1055 Revision 0

Attachment J

|           |        |        |
|-----------|--------|--------|
| 3.480E-04 | 20.000 | 20.000 |
| 2.703E-04 | 25.000 | 25.000 |
| 2.129E-04 | 30.000 | 30.000 |
| 1.625E-04 | 35.000 | 35.000 |
| 1.258E-04 | 40.000 | 40.000 |
| 9.823E-05 | 45.000 | 45.000 |
| 7.696E-05 | 50.000 | 50.000 |
| 6.024E-05 | 55.000 | 55.000 |
| 4.695E-05 | 60.000 | 60.000 |
| 3.628E-05 | 65.000 | 65.000 |
| 2.792E-05 | 70.000 | 70.000 |
| 2.211E-05 | 75.000 | 75.000 |
| 1.705E-05 | 80.000 | 80.000 |
| 1.259E-05 | 85.000 | 85.000 |
| 8.600E-06 | 90.000 | 90.000 |
| 7.385E-04 | 5.0    | 5.00   |

K= 17      FIVEXQ(K) = 7.385E-04      FIVEPR(K) = 5.000

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 13.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.4-21.1 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, 1984-1988, 1A met (w/ RT wind), RB Stack to EAB and LPZ

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

**FIVE PERCENT OVERALL SITE LIMIT**

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.720E-03 | 1.141E-03 | 6.730E-04 | 4.551E-04 | 3.080E-04 | 2.457E-04 | 2.053E-04 | 1.630E-04 | 1.347E-04 | 1.193E-04 |
| 0.010     | 0.019     | 0.029     | 0.031     | 0.033     | 14.565    | 25.358    | 29.061    | 30.823    | 35.012    |
| 0.00951   | 0.01903   | 0.02854   | 0.03092   | 0.03330   | 14.56500  | 25.35794  | 29.06103  | 30.82339  | 35.01165  |
| 9.614E-05 | 9.099E-05 | 8.509E-05 | 7.014E-05 | 6.501E-05 | 6.402E-05 | 5.750E-05 | 5.330E-05 | 4.432E-05 | 4.401E-05 |
| 37.949    | 38.042    | 40.261    | 40.268    | 42.522    | 47.952    | 48.178    | 53.080    | 53.094    | 54.015    |
| 37.94891  | 38.04166  | 40.26066  | 40.26779  | 42.52247  | 47.95224  | 48.17818  | 53.07996  | 53.09422  | 54.01464  |
| 3.983E-05 | 3.601E-05 | 3.061E-05 | 2.899E-05 | 2.776E-05 | 2.054E-05 | 1.959E-05 | 1.934E-05 | 1.510E-05 | 1.232E-05 |
| 60.077    | 61.759    | 61.823    | 69.150    | 69.417    | 71.638    | 76.352    | 76.366    | 77.736    | 80.345    |
| 60.07705  | 61.75853  | 61.82274  | 69.15044  | 69.41681  | 71.63819  | 76.35206  | 76.36633  | 77.73624  | 80.34530  |
| 1.211E-05 | 8.325E-06 | 6.589E-06 | 6.417E-06 | 4.480E-06 | 2.800E-06 | 2.091E-06 | 1.254E-06 | 8.476E-07 | 6.534E-07 |
| 80.383    | 82.103    | 82.386    | 82.893    | 85.509    | 85.640    | 90.534    | 95.802    | 99.044    | 99.836    |
| 80.38335  | 82.10289  | 82.38591  | 82.89250  | 85.50870  | 85.63951  | 90.53417  | 95.80221  | 99.04390  | 99.83588  |
| 2.851E-07 |           |           |           |           |           |           |           |           |           |
| 100.000   |           |           |           |           |           |           |           |           |           |
| 99.99999  |           |           |           |           |           |           |           |           |           |

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

| K  | I | XQSAVE(K,I) | XQINT(K,I) | XQSLOP(K,I) |
|----|---|-------------|------------|-------------|
| 18 | 1 | -6.36563    | -8.95040   | -0.69265    |
| 18 | 2 | -8.49120    | -9.75391   | -1.90466    |
| 18 | 3 | -9.65636    | -9.72953   | -1.42869    |

Calculation No. PM-1055 Revision 0

Attachment J

18 4 -9.83966 -9.72860 -1.44073  
 18 5 -10.44855 -9.67203 -1.55395  
 18 6 -14.24111 NUMXQ(K)= 6

|           |        |        |
|-----------|--------|--------|
| 6.499E-04 | 1.000  | 1.000  |
| 4.773E-04 | 3.000  | 3.000  |
| 4.053E-04 | 5.000  | 5.000  |
| 3.151E-04 | 10.000 | 10.000 |
| 2.659E-04 | 15.000 | 15.000 |
| 2.323E-04 | 20.000 | 20.000 |
| 2.069E-04 | 25.000 | 25.000 |
| 1.575E-04 | 30.000 | 30.000 |
| 1.209E-04 | 35.000 | 35.000 |
| 9.401E-05 | 40.000 | 40.000 |
| 7.373E-05 | 45.000 | 45.000 |
| 5.950E-05 | 50.000 | 50.000 |
| 4.971E-05 | 55.000 | 55.000 |
| 4.137E-05 | 60.000 | 60.000 |
| 3.421E-05 | 65.000 | 65.000 |
| 2.792E-05 | 70.000 | 70.000 |
| 2.211E-05 | 75.000 | 75.000 |
| 1.705E-05 | 80.000 | 80.000 |
| 1.259E-05 | 85.000 | 85.000 |
| 8.600E-06 | 90.000 | 90.000 |
| 4.053E-04 | 5.0    | 5.00   |

K= 18 FIVEXQ(K)= 4.053E-04 FIVEPR(K)= 5.000

| K  | HIGHPR   | PR      | GRNDVT(K) |
|----|----------|---------|-----------|
| 1  | -3.13564 | 0.08575 | 5.95274   |
| 2  | -1.71237 | 4.34139 | 2.40814   |
| 3  | -3.46978 | 0.02605 | 2.26292   |
| 4  | -3.39955 | 0.03375 | 2.31533   |
| 5  | -3.37261 | 0.03724 | 3.63081   |
| 6  | -3.23425 | 0.06099 | 5.59839   |
| 7  | -2.97277 | 0.14757 | 8.93388   |
| 8  | -2.94120 | 0.16348 | 8.82811   |
| 9  | -2.94751 | 0.16018 | 4.84630   |
| 10 | -3.03741 | 0.11932 | 2.27485   |
| 11 | -2.87959 | 0.19910 | 3.07929   |
| 12 | -2.78098 | 0.27098 | 3.93100   |
| 13 | -2.57624 | 0.49942 | 7.21397   |
| 14 | -2.64925 | 0.40336 | 10.78356  |
| 15 | -2.58984 | 0.48010 | 16.26418  |
| 16 | -2.75535 | 0.29315 | 11.67653  |

| K | HOURS(K)  | TOTHR     |
|---|-----------|-----------|
| 1 | 7.51146   | 7.51146   |
| 2 | 380.30560 | 387.81700 |
| 3 | 2.28174   | 390.09880 |
| 4 | 2.95686   | 393.05560 |
| 5 | 3.26179   | 396.31740 |
| 6 | 5.34250   | 401.65990 |

Calculation No. PM-1055 Revision 0

Attachment J

|    |          |           |
|----|----------|-----------|
| 7  | 12.92706 | 414.58690 |
| 8  | 14.32064 | 428.90760 |
| 9  | 14.03190 | 442.93950 |
| 10 | 10.45213 | 453.39160 |
| 11 | 17.44145 | 470.83310 |
| 12 | 23.73790 | 494.57100 |
| 13 | 43.74879 | 538.31980 |
| 14 | 35.33403 | 573.65380 |
| 15 | 42.05654 | 615.71030 |
| 16 | 25.68025 | 641.39060 |

| K | FIVEXQ    | SVANN     | SLTIME  | TIMINT  | I | TIME  | XQT       |
|---|-----------|-----------|---------|---------|---|-------|-----------|
| 1 | 2.419E-04 | 3.073E-06 | -0.5207 | -7.9662 | 1 | 8.0   | -9.04890  |
|   |           |           |         |         | 2 | 16.0  | -9.40979  |
|   |           |           |         |         | 3 | 72.0  | -10.19291 |
|   |           |           |         |         | 4 | 624.0 | -11.31727 |
| 2 | 1.333E-04 | 1.372E-06 | -0.5457 | -8.5450 | 1 | 8.0   | -9.67980  |
|   |           |           |         |         | 2 | 16.0  | -10.05808 |
|   |           |           |         |         | 3 | 72.0  | -10.87893 |
|   |           |           |         |         | 4 | 624.0 | -12.05745 |
| 3 | 1.174E-04 | 1.277E-06 | -0.5392 | -8.6765 | 1 | 8.0   | -9.79772  |
|   |           |           |         |         | 2 | 16.0  | -10.17146 |
|   |           |           |         |         | 3 | 72.0  | -10.98242 |
|   |           |           |         |         | 4 | 624.0 | -12.14678 |
| 4 | 1.128E-04 | 1.357E-06 | -0.5272 | -8.7243 | 1 | 8.0   | -9.82056  |
|   |           |           |         |         | 2 | 16.0  | -10.18597 |
|   |           |           |         |         | 3 | 72.0  | -10.97888 |
|   |           |           |         |         | 4 | 624.0 | -12.11731 |
| 5 | 1.535E-04 | 1.775E-06 | -0.5319 | -8.4131 | 1 | 8.0   | -9.51906  |
|   |           |           |         |         | 2 | 16.0  | -9.88773  |
|   |           |           |         |         | 3 | 72.0  | -10.68772 |
|   |           |           |         |         | 4 | 624.0 | -11.83630 |
| 6 | 2.170E-04 | 2.780E-06 | -0.5197 | -8.0752 | 1 | 8.0   | -9.15589  |
|   |           |           |         |         | 2 | 16.0  | -9.51611  |
|   |           |           |         |         | 3 | 72.0  | -10.29777 |
|   |           |           |         |         | 4 | 624.0 | -11.42003 |
| 7 | 2.921E-04 | 4.939E-06 | -0.4866 | -7.8010 | 1 | 8.0   | -8.81280  |
|   |           |           |         |         | 2 | 16.0  | -9.15007  |
|   |           |           |         |         | 3 | 72.0  | -9.88193  |
|   |           |           |         |         | 4 | 624.0 | -10.93270 |
| 8 | 3.008E-04 | 4.678E-06 | -0.4966 | -7.7649 | 1 | 8.0   | -8.79743  |
|   |           |           |         |         | 2 | 16.0  | -9.14162  |
|   |           |           |         |         | 3 | 72.0  | -9.88848  |
|   |           |           |         |         | 4 | 624.0 | -10.96079 |
| 9 | 2.966E-04 | 3.807E-06 | -0.5194 | -7.7632 |   |       |           |



Calculation No. PM-1055 Revision 0

Attachment J

|    |           |           |         |         |       |           |
|----|-----------|-----------|---------|---------|-------|-----------|
|    |           |           |         | 1       | 8.0   | -8.84335  |
|    |           |           |         | 2       | 16.0  | -9.20338  |
|    |           |           |         | 3       | 72.0  | -9.98462  |
|    |           |           |         | 4       | 624.0 | -11.10630 |
| 10 | 2.691E-04 | 2.471E-06 | -0.5594 | -7.8325 |       |           |
|    |           |           |         | 1       | 8.0   | -8.99577  |
|    |           |           |         | 2       | 16.0  | -9.38352  |
|    |           |           |         | 3       | 72.0  | -10.22489 |
|    |           |           |         | 4       | 624.0 | -11.43289 |
| 11 | 3.180E-04 | 3.800E-06 | -0.5280 | -7.6876 |       |           |
|    |           |           |         | 1       | 8.0   | -8.78545  |
|    |           |           |         | 2       | 16.0  | -9.15140  |
|    |           |           |         | 3       | 72.0  | -9.94548  |
|    |           |           |         | 4       | 624.0 | -11.08558 |
| 12 | 3.509E-04 | 5.070E-06 | -0.5053 | -7.6048 |       |           |
|    |           |           |         | 1       | 8.0   | -8.65559  |
|    |           |           |         | 2       | 16.0  | -9.00585  |
|    |           |           |         | 3       | 72.0  | -9.76588  |
|    |           |           |         | 4       | 624.0 | -10.85710 |
| 13 | 4.246E-04 | 8.376E-06 | -0.4682 | -7.4398 |       |           |
|    |           |           |         | 1       | 8.0   | -8.41338  |
|    |           |           |         | 2       | 16.0  | -8.73791  |
|    |           |           |         | 3       | 72.0  | -9.44211  |
|    |           |           |         | 4       | 624.0 | -10.45318 |
| 14 | 3.978E-04 | 7.951E-06 | -0.4666 | -7.5061 |       |           |
|    |           |           |         | 1       | 8.0   | -8.47638  |
|    |           |           |         | 2       | 16.0  | -8.79982  |
|    |           |           |         | 3       | 72.0  | -9.50166  |
|    |           |           |         | 4       | 624.0 | -10.50932 |
| 15 | 4.196E-04 | 9.871E-06 | -0.4472 | -7.4663 |       |           |
|    |           |           |         | 1       | 8.0   | -8.39617  |
|    |           |           |         | 2       | 16.0  | -8.70613  |
|    |           |           |         | 3       | 72.0  | -9.37872  |
|    |           |           |         | 4       | 624.0 | -10.34440 |
| 16 | 3.604E-04 | 6.843E-06 | -0.4728 | -7.6005 |       |           |
|    |           |           |         | 1       | 8.0   | -8.58362  |
|    |           |           |         | 2       | 16.0  | -8.91131  |
|    |           |           |         | 3       | 72.0  | -9.62238  |
|    |           |           |         | 4       | 624.0 | -10.64330 |
| 17 | 7.385E-04 | 9.871E-06 | -0.5146 | -6.8542 |       |           |
|    |           |           |         | 1       | 8.0   | -7.92431  |
|    |           |           |         | 2       | 16.0  | -8.28100  |
|    |           |           |         | 3       | 72.0  | -9.05500  |
|    |           |           |         | 4       | 624.0 | -10.16627 |
| 18 | 4.053E-04 | 9.871E-06 | -0.4431 | -7.5037 |       |           |
|    |           |           |         | 1       | 8.0   | -8.42504  |
|    |           |           |         | 2       | 16.0  | -8.73214  |
|    |           |           |         | 3       | 72.0  | -9.39853  |
|    |           |           |         | 4       | 624.0 | -10.35530 |

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/09/03

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Ground Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 13.7 meters  
 DELTA-T HEIGHTS: 10.4-21.1 meters

COMMENTS: Peach Bottom, 1984-1988, 1A met. (w/ RT wind), RB Stack to EAB and LPZ  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
 VERSUS  
 AVERAGING TIME

| DOWNWIND SECTOR | DISTANCE (METERS) | RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER) |           |            |          |           | HOURS PER YEAR MAX       |                                  | DOWNWIND SECTOR |
|-----------------|-------------------|---|-----------|------------|----------|-----------|--------------------------|----------------------------------|-----------------|
|                 |                   | 0-2 HOURS   | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE           | 0-2 HR X/Q IS EXCEEDED IN SECTOR |                 |
| S               | 823.              | 2.42E-04  | 1.18E-04  | 8.19E-05   | 3.74E-05 | 1.22E-05  | 3.07E-06                 | 7.5                              | S               |
| SSW             | 823.              | 1.33E-04  | 6.25E-05  | 4.28E-05   | 1.89E-05 | 5.80E-06  | 1.37E-06                 | 380.3                            | SSW             |
| SW              | 823.              | 1.17E-04  | 5.56E-05  | 3.82E-05   | 1.70E-05 | 5.31E-06  | 1.28E-06                 | 2.3                              | SW              |
| WSW             | 823.              | 1.13E-04  | 5.43E-05  | 3.77E-05   | 1.71E-05 | 5.46E-06  | 1.36E-06                 | 3.0                              | WSW             |
| W               | 823.              | 1.54E-04  | 7.34E-05  | 5.08E-05   | 2.28E-05 | 7.24E-06  | 1.78E-06                 | 3.3                              | W               |
| WNW             | 823.              | 2.17E-04  | 1.06E-04  | 7.37E-05   | 3.37E-05 | 1.10E-05  | 2.78E-06                 | 5.3                              | WNW             |
| NW              | 823.              | 2.92E-04  | 1.49E-04  | 1.06E-04   | 5.11E-05 | 1.79E-05  | 4.94E-06                 | 12.9                             | NW              |
| NNW             | 823.              | 3.01E-04  | 1.51E-04  | 1.07E-04   | 5.08E-05 | 1.74E-05  | 4.68E-06                 | 14.3                             | NNW             |
| N               | 823.              | 2.97E-04  | 1.44E-04  | 1.01E-04   | 4.61E-05 | 1.50E-05  | 3.81E-06                 | 14.0                             | N               |
| NNE             | 823.              | 2.69E-04  | 1.24E-04  | 8.41E-05   | 3.63E-05 | 1.08E-05  | 2.47E-06                 | 10.5                             | NNE             |
| NE              | 823.              | 3.18E-04  | 1.53E-04  | 1.06E-04   | 4.79E-05 | 1.53E-05  | 3.80E-06                 | 17.4                             | NE              |
| ENE             | 823.              | 3.51E-04  | 1.74E-04  | 1.23E-04   | 5.74E-05 | 1.93E-05  | 5.07E-06                 | 23.7                             | ENE             |
| E               | 823.              | 4.25E-04  | 2.22E-04  | 1.60E-04   | 7.93E-05 | 2.89E-05  | 8.38E-06                 | 43.7                             | E               |
| ESE             | 823.              | 3.98E-04  | 2.08E-04  | 1.51E-04   | 7.47E-05 | 2.73E-05  | 7.95E-06                 | 35.3                             | ESE             |
| SE              | 823.              | 4.20E-04  | 2.26E-04  | 1.66E-04   | 8.45E-05 | 3.22E-05  | 9.87E-06                 | 42.1                             | SE              |
| SSE             | 823.              | 3.60E-04  | 1.87E-04  | 1.35E-04   | 6.62E-05 | 2.39E-05  | 6.84E-06                 | 25.7                             | SSE             |
| MAX X/Q         |                   | 4.25E-04  |           |            |          |           | TOTAL HOURS AROUND SITE: | 641.4                            |                 |
| SRP 2.3.4       | 823.              | 7.38E-04  | 3.62E-04  | 2.53E-04   | 1.17E-04 | 3.84E-05  | 9.87E-06                 |                                  |                 |
| SITE LIMIT      |                   | 4.05E-04  | 2.19E-04  | 1.61E-04   | 8.28E-05 | 3.18E-05  | 9.87E-06                 |                                  |                 |

THE FIVE-PERCENT-FOR-THE-ENTIRE-SITE X/Q IS LIMITING.

**\*\*NOTE\*\***: VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
 CHECK THE REASONABLENESS OF THE ENVELOPES  
 COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
 FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.











Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS A

WIND SPEED (M/S)

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.22     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1.56 1.56     | 0.206 | 0.313 | 0.330 | 0.334 | 0.238 | 0.185 | 0.117 | 0.075 | 0.019 | 0.007 | 0.009 | 0.016 | 0.035 | 0.037 | 0.056 | 0.094 | 2.071 |
| 3.35 3.34     | 0.393 | 0.189 | 0.072 | 0.065 | 0.103 | 0.227 | 0.255 | 0.185 | 0.166 | 0.101 | 0.126 | 0.091 | 0.217 | 0.243 | 0.180 | 0.472 | 3.086 |
| 5.59 5.57     | 0.065 | 0.002 | 0.002 | 0.000 | 0.000 | 0.019 | 0.014 | 0.068 | 0.229 | 0.072 | 0.091 | 0.065 | 0.136 | 0.084 | 0.058 | 0.210 | 1.118 |
| 8.27 8.25     | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.012 | 0.030 | 0.002 | 0.007 | 0.002 | 0.009 | 0.019 | 0.007 | 0.002 | 0.094 |
| 10.73 10.70   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 24.59 24.53   | 0.000 | 0.002 | 0.002 | 0.000 | 0.005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.009 |
| TOTAL         | 0.67  | 0.51  | 0.41  | 0.40  | 0.35  | 0.43  | 0.39  | 0.34  | 0.44  | 0.18  | 0.23  | 0.18  | 0.40  | 0.38  | 0.30  | 0.78  | 6.38  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS B

WIND SPEED (M/S)

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.22     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1.56 1.56     | 0.140 | 0.131 | 0.150 | 0.157 | 0.143 | 0.103 | 0.054 | 0.030 | 0.028 | 0.005 | 0.014 | 0.014 | 0.035 | 0.028 | 0.021 | 0.089 | 1.141 |
| 3.35 3.34     | 0.337 | 0.094 | 0.026 | 0.035 | 0.028 | 0.072 | 0.131 | 0.168 | 0.213 | 0.105 | 0.150 | 0.098 | 0.150 | 0.166 | 0.159 | 0.388 | 2.319 |
| 5.59 5.57     | 0.089 | 0.005 | 0.000 | 0.000 | 0.002 | 0.014 | 0.021 | 0.079 | 0.339 | 0.108 | 0.065 | 0.056 | 0.119 | 0.166 | 0.208 | 0.393 | 1.665 |
| 8.27 8.25     | 0.005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.016 | 0.051 | 0.002 | 0.007 | 0.000 | 0.005 | 0.037 | 0.049 | 0.021 | 0.194 |
| 10.73 10.70   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.002 |
| 24.59 24.53   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 |
| TOTAL         | 0.57  | 0.23  | 0.18  | 0.19  | 0.17  | 0.19  | 0.21  | 0.29  | 0.63  | 0.22  | 0.24  | 0.17  | 0.31  | 0.40  | 0.44  | 0.89  | 5.32  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS C

WIND SPEED (M/S)

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.22     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1.56 1.56     | 0.075 | 0.108 | 0.061 | 0.112 | 0.082 | 0.063 | 0.026 | 0.012 | 0.014 | 0.000 | 0.012 | 0.009 | 0.014 | 0.016 | 0.021 | 0.077 | 0.701 |
| 3.35 3.34     | 0.136 | 0.023 | 0.007 | 0.019 | 0.021 | 0.023 | 0.077 | 0.124 | 0.154 | 0.056 | 0.056 | 0.049 | 0.098 | 0.087 | 0.108 | 0.292 | 1.330 |
| 5.59 5.57     | 0.037 | 0.002 | 0.000 | 0.000 | 0.002 | 0.002 | 0.012 | 0.040 | 0.175 | 0.072 | 0.051 | 0.051 | 0.082 | 0.124 | 0.187 | 0.292 | 1.132 |
| 8.27 8.25     | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.007 | 0.019 | 0.000 | 0.000 | 0.000 | 0.007 | 0.028 | 0.047 | 0.037 | 0.150 |
| 10.73 10.70   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 |
| 24.59 24.53   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| TOTAL         | 0.25  | 0.13  | 0.07  | 0.13  | 0.11  | 0.09  | 0.11  | 0.18  | 0.36  | 0.13  | 0.12  | 0.11  | 0.20  | 0.25  | 0.36  | 0.70  | 3.32  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS D

WIND SPEED (M/S)

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.22     | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.019 |
| 1.56 1.56     | 0.909 | 0.790 | 1.022 | 0.743 | 0.692 | 0.409 | 0.360 | 0.535 | 0.414 | 0.215 | 0.182 | 0.245 | 0.285 | 0.299 | 0.449 | 0.556 | 8.108 |



Calculation No. PM-1055 Revision 0

Attachment J

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |        |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 3.35  | 3.34  | 1.335 | 0.374 | 0.154 | 0.082 | 0.152 | 0.339 | 0.891 | 1.384 | 1.272 | 0.545 | 0.440 | 0.409 | 0.694 | 1.010 | 1.730 | 2.156 | 12.966 |
| 5.59  | 5.57  | 0.514 | 0.019 | 0.000 | 0.000 | 0.005 | 0.019 | 0.180 | 0.351 | 0.760 | 0.252 | 0.182 | 0.173 | 0.500 | 1.344 | 2.156 | 1.852 | 8.306  |
| 8.27  | 8.25  | 0.054 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.005 | 0.028 | 0.105 | 0.023 | 0.012 | 0.009 | 0.101 | 0.133 | 0.395 | 0.309 | 1.174  |
| 10.73 | 10.70 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.005 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.007  |
| 24.59 | 24.53 | 0.005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.007 | 0.012  |
| TOTAL |       | 2.82  | 1.18  | 1.18  | 0.83  | 0.85  | 0.77  | 1.44  | 2.30  | 2.55  | 1.04  | 0.82  | 0.84  | 1.58  | 2.79  | 4.73  | 4.88  | 30.59  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS E

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL  |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 0.22 0.22     | 0.009 | 0.007 | 0.007 | 0.006 | 0.009 | 0.008 | 0.009 | 0.010 | 0.011 | 0.006 | 0.005 | 0.007 | 0.007 | 0.008 | 0.010 | 0.007 | 0.126  |
| 1.56 1.56     | 1.209 | 0.973 | 0.970 | 0.895 | 1.204 | 1.099 | 1.269 | 1.403 | 1.482 | 0.877 | 0.760 | 0.923 | 1.047 | 1.164 | 1.424 | 0.998 | 17.698 |
| 3.35 3.34     | 1.047 | 0.215 | 0.178 | 0.173 | 0.248 | 0.414 | 0.923 | 1.583 | 1.802 | 0.914 | 0.757 | 1.015 | 1.562 | 2.347 | 2.216 | 1.779 | 17.174 |
| 5.59 5.56     | 0.171 | 0.009 | 0.002 | 0.000 | 0.014 | 0.040 | 0.122 | 0.166 | 0.472 | 0.126 | 0.108 | 0.119 | 0.288 | 0.451 | 0.601 | 0.493 | 3.182  |
| 8.27 8.23     | 0.009 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.014 | 0.058 | 0.009 | 0.000 | 0.000 | 0.014 | 0.019 | 0.021 | 0.023 | 0.171  |
| 10.73 10.68   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.005  |
| 24.59 24.47   | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.014 | 0.016  |
| TOTAL         | 2.45  | 1.20  | 1.16  | 1.07  | 1.47  | 1.56  | 2.33  | 3.18  | 3.83  | 1.93  | 1.63  | 2.06  | 2.92  | 3.99  | 4.27  | 3.32  | 38.37  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS F

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.22     | 0.002 | 0.001 | 0.001 | 0.002 | 0.003 | 0.004 | 0.002 | 0.002 | 0.002 | 0.003 | 0.005 | 0.008 | 0.009 | 0.007 | 0.006 | 0.003 | 0.061 |
| 1.56 1.56     | 0.304 | 0.189 | 0.173 | 0.215 | 0.421 | 0.524 | 0.302 | 0.231 | 0.283 | 0.458 | 0.687 | 1.054 | 1.169 | 0.973 | 0.774 | 0.379 | 8.136 |
| 3.35 3.34     | 0.016 | 0.000 | 0.012 | 0.005 | 0.007 | 0.033 | 0.056 | 0.042 | 0.115 | 0.108 | 0.227 | 0.589 | 0.498 | 0.318 | 0.213 | 0.089 | 2.326 |
| 5.59 5.56     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.007 | 0.000 | 0.002 | 0.002 | 0.005 | 0.019 |
| 8.27 8.23     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 10.73 10.68   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 24.59 24.47   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| TOTAL         | 0.32  | 0.19  | 0.19  | 0.22  | 0.43  | 0.56  | 0.36  | 0.28  | 0.40  | 0.57  | 0.92  | 1.66  | 1.68  | 1.30  | 0.99  | 0.48  | 10.54 |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS G

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.22     | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.003 | 0.009 | 0.008 | 0.004 | 0.002 | 0.001 | 0.035 |
| 1.56 1.56     | 0.082 | 0.070 | 0.068 | 0.115 | 0.206 | 0.129 | 0.075 | 0.063 | 0.054 | 0.077 | 0.388 | 1.150 | 0.994 | 0.547 | 0.278 | 0.136 | 4.430 |
| 3.35 3.34     | 0.002 | 0.009 | 0.000 | 0.000 | 0.007 | 0.012 | 0.005 | 0.000 | 0.000 | 0.016 | 0.138 | 0.594 | 0.166 | 0.037 | 0.016 | 0.007 | 1.010 |
| 5.59 5.56     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.002 | 0.005 |
| 8.27 8.23     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 10.73 10.68   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 24.59 24.47   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| TOTAL         | 0.08  | 0.08  | 0.07  | 0.12  | 0.21  | 0.14  | 0.08  | 0.06  | 0.05  | 0.09  | 0.53  | 1.76  | 1.17  | 0.59  | 0.30  | 0.15  | 5.48  |

WIND MEASURED AT 10.1 METERS.

WIND SPEED CORRECTED TO THE RELEASE HEIGHT OF 10.0 METERS.

OVERALL WIND DIRECTION FREQUENCY

| WIND DIRECTION: | N   | NNE | NE  | ENE | E   | ESE | SE  | SSE | S   | SSW | SW  | WSW | W   | WNW | NW   | NNW  |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| FREQUENCY:      | 7.2 | 3.5 | 3.2 | 3.0 | 3.6 | 3.7 | 4.9 | 6.6 | 8.3 | 4.2 | 4.5 | 6.8 | 8.2 | 9.7 | 11.4 | 11.2 |

OVERALL WIND SPEED FREQUENCY AS MEASURED ON THE TOWER:

MAX.WIND SPEED (M/S): 0.224 1.565 3.353 5.588 8.270 10.729 24.587  
 WIND SPEED FREQUENCY: 0.24 42.29 40.21 15.43 1.78 0.02 0.04

BUILDING AND RELEASE CHARACTERISTICS:

RELEASE HEIGHT: 10.00 METERS  
 MIXING VOLUME COEFFICIENT: 0.50  
 BUILDING CROSS-SECTIONAL AREA: 2584.00 SQUARE METERS

BOUNDARY DISTANCES (METERS) FROM THE SOURCE FOR EACH DOWNWIND SECTOR:

| DOWNWIND SECTOR | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| BOUNDARY 1      | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  |
| BOUNDARY 2      | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. |

THE CONVERSION FACTOR APPLIED TO THE WIND SPEED CLASSES IS 0.447

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

Page 1170 of 1411

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

WINDSPEEDS ADJUSTED TO 10.0 METERS.

PERCENT OF THE TIME A GIVEN WINDSPEED IS LOWER:

| WINDSPEED<br>(METER/SEC) | CUMULATIVE FREQUENCY<br>(PERCENT) |
|--------------------------|-----------------------------------|
| 0.22                     | 0.22                              |
| 0.22                     | 0.24                              |
| 1.56                     | 30.50                             |
| 1.56                     | 42.53                             |
| 3.34                     | 63.04                             |
| 3.34                     | 82.74                             |
| 5.56                     | 85.94                             |
| 5.57                     | 98.16                             |
| 8.23                     | 98.33                             |
| 8.25                     | 99.94                             |
| 10.68                    | 99.95                             |
| 10.70                    | 99.96                             |
| 24.47                    | 99.98                             |
| 24.53                    | 100.00                            |

| WINDSPEED<br>(INTERPOLATED)<br>(METER/SEC) | CUMULATIVE FREQUENCY<br>(PERCENT) |
|--|-----------------------------------|
| 0.22                                       | 0.24                              |
| 1.56                                       | 42.53                             |
| 3.34                                       | 82.74                             |
| 5.57                                       | 98.16                             |
| 8.25                                       | 99.94                             |
| 10.69                                      | 99.96                             |
| 24.50                                      | 100.00                            |

LOG-NORMAL INTERPOLATION PERCENTILES

| WINDSPEED<br>(METER/SEC) | CUMULATIVE FREQUENCY<br>(PERCENT) |
|--------------------------|-----------------------------------|
| 0.32                     | 1.00                              |
| 0.45                     | 3.00                              |
| 0.53                     | 5.00                              |
| 0.69                     | 10.00                             |
| 0.83                     | 15.00                             |
| 0.96                     | 20.00                             |

|      |       |
|------|-------|
| 1.09 | 25.00 |
| 1.21 | 30.00 |
| 1.35 | 35.00 |
| 1.48 | 40.00 |
| 1.62 | 45.00 |
| 1.77 | 50.00 |
| 1.92 | 55.00 |
| 2.10 | 60.00 |
| 2.29 | 65.00 |
| 2.52 | 70.00 |
| 2.79 | 75.00 |
| 3.12 | 80.00 |
| 3.55 | 85.00 |
| 3.88 | 90.00 |

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A     | 1.6                                      | 2.87                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.187E-06         | 4.152E-06            | 4.152E-06                         |           |      |
| A     | 3.3                                      | 5.49                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.954E-06         | 1.937E-06            | 1.937E-06                         |           |      |
| A     | 5.6                                      | 0.91                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.172E-06         | 1.162E-06            | 1.162E-06                         |           |      |
| A     | 8.2                                      | 0.03                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 7.921E-07         | 7.854E-07            | 7.854E-07                         |           |      |
| B     | 1.6                                      | 1.96                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 1.945E-05         | 1.871E-05            | 1.871E-05                         |           |      |
| B     | 3.3                                      | 4.70                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 9.075E-06         | 8.732E-06            | 8.732E-06                         |           |      |
| B     | 5.6                                      | 1.24                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 5.445E-06         | 5.239E-06            | 5.239E-06                         |           |      |
| B     | 8.2                                      | 0.07                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 3.679E-06         | 3.540E-06            | 3.540E-06                         |           |      |
| C     | 1.6                                      | 1.04                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.443E-05         | 4.078E-05            | 4.078E-05                         |           |      |
| C     | 3.3                                      | 1.89                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.073E-05         | 1.903E-05            | 1.903E-05                         |           |      |
| C     | 5.6                                      | 0.52                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.244E-05         | 1.142E-05            | 1.142E-05                         |           |      |
| C     | 8.2                                      | 0.03                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 8.406E-06         | 7.714E-06            | 7.714E-06                         |           |      |
| D     | 0.2                                      | 0.03                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.217E-04         | 6.716E-04            | 4.217E-04                         |           |      |
| D     | 1.6                                      | 12.70                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.024E-05         | 9.594E-05            | 6.024E-05                         |           |      |
| D     | 3.3                                      | 18.64                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 90.6              | 3.869E-05         | 4.477E-05            | 3.869E-05                         |           |      |
| D     | 5.6                                      | 7.18                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 66.1              | 3.183E-05         | 2.686E-05            | 2.686E-05                         |           |      |
| D     | 8.2                                      | 0.75                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.250E-05         | 1.815E-05            | 1.815E-05                         |           |      |
| D     | 24.5                                     | 0.07                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 7.570E-06         | 6.105E-06            | 6.105E-06                         |           |      |
| E     | 0.2                                      | 0.12                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 5.778E-04         | 1.144E-03            | 5.778E-04                         |           |      |
| E     | 1.6                                      | 16.88                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 8.255E-05         | 1.634E-04            | 8.255E-05                         |           |      |
| E     | 3.3                                      | 14.63                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 79.9              | 6.389E-05         | 7.627E-05            | 6.389E-05                         |           |      |
| E     | 5.6                                      | 2.38                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 48.4              | 6.329E-05         | 4.576E-05            | 4.576E-05                         |           |      |
| E     | 8.2                                      | 0.13                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 4.606E-05         | 3.092E-05            | 3.092E-05                         |           |      |
| E     | 24.5                                     | 0.03                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 1.549E-05         | 1.040E-05            | 1.040E-05                         |           |      |
| F     | 0.2                                      | 0.03                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 9.797E-04         | 1.827E-03            | 9.797E-04                         |           |      |
| F     | 1.6                                      | 4.24                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.400E-04         | 2.609E-04            | 1.400E-04                         |           |      |
| F     | 3.3                                      | 0.23                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 64.2              | 1.238E-04         | 1.218E-04            | 1.218E-04                         |           |      |
| G     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.477E-03         | 2.891E-03            | 1.477E-03                         |           |      |
| G     | 1.6                                      | 1.14                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.109E-04         | 4.129E-04            | 2.109E-04                         |           |      |
| G     | 3.3                                      | 0.03                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 54.9              | 2.255E-04         | 1.927E-04            | 1.927E-04                         |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

S SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 6.389E-05 |
| 0.009     | 0.041     | 0.161     | 0.190     | 1.333     | 1.366     | 5.610     | 5.839     | 22.719    | 37.346    |
| 0.00065   | 0.00292   | 0.01154   | 0.01364   | 0.09546   | 0.09780   | 0.40172   | 0.41809   | 1.62677   | 2.67413   |
| 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 | 1.142E-05 |
| 50.046    | 52.430    | 53.474    | 72.117    | 72.248    | 79.431    | 81.324    | 83.283    | 84.034    | 84.557    |
| 3.58356   | 3.75423   | 3.82904   | 5.16396   | 5.17332   | 5.68765   | 5.82324   | 5.96351   | 6.01729   | 6.05469   |
| 1.040E-05 | 8.732E-06 | 7.714E-06 | 6.105E-06 | 5.239E-06 | 4.152E-06 | 3.540E-06 | 1.937E-06 | 1.162E-06 | 7.854E-07 |
| 84.589    | 89.291    | 89.324    | 89.389    | 90.630    | 93.503    | 93.568    | 99.053    | 99.967    | 100.000   |
| 6.05703   | 6.39368   | 6.39602   | 6.40070   | 6.48954   | 6.69527   | 6.69994   | 7.09271   | 7.15817   | 7.16050   |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.003  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 3.580  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 5.160  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5) = 5.684  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6) = 6.013

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 1 1 -6.51806 -11.75655 -1.20127  
 1 2 -6.92826 -11.98287 -1.25757

Calculation No. PM-1055 Revision 0

Attachment J

1 3 -9.71722 -14.35068 -2.57185  
1 4 -10.15982 -22.64514 -7.66200  
1 5 -10.52476 -32.48936 -13.88511  
1 6 -10.91680 NUMXQ(K)= 6

|           |       |        |
|-----------|-------|--------|
| 3.446E-04 | 0.072 | 1.000  |
| 2.268E-04 | 0.215 | 3.000  |
| 1.840E-04 | 0.358 | 5.000  |
| 1.361E-04 | 0.716 | 10.000 |
| 1.127E-04 | 1.074 | 15.000 |
| 9.803E-05 | 1.432 | 20.000 |
| 8.762E-05 | 1.790 | 25.000 |
| 7.973E-05 | 2.148 | 30.000 |
| 7.345E-05 | 2.506 | 35.000 |
| 6.831E-05 | 2.864 | 40.000 |
| 6.398E-05 | 3.222 | 45.000 |
| 6.027E-05 | 3.580 | 50.000 |
| 5.389E-05 | 3.938 | 55.000 |
| 4.854E-05 | 4.296 | 60.000 |
| 4.403E-05 | 4.654 | 65.000 |
| 4.016E-05 | 5.012 | 70.000 |
| 3.340E-05 | 5.370 | 75.000 |
| 2.557E-05 | 5.728 | 80.000 |
| 1.596E-04 | 0.5   | 6.98   |

ANNUAL AVERAGE = 3.66E-06

K= 1 FIVEXQ(K) = 1.596E-04 FIVEPR(K) = 6.983

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Ground Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 10.1 meters  
 DELTA-T HEIGHTS: 10.1-45.7 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

| CLASS          | METER/SEC | PERCENT | METERS | METERS | METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |           |
|----------------|-----------|---------|--------|--------|--------|-------------------|-------------------|----------------------|-----------------------------------|-----------|-----------|
|                |           |         |        |        |        |                   |                   |                      | MEANDER                           | BLDG WAKE | USED      |
| AT 10.0 METERS |           |         |        |        |        |                   |                   |                      | CA=1292.SQ.METERS                 |           |           |
| A              | 1.6       | 8.88    | 823.   | 0.     | 0.     | 157.1             | 310.1             | 157.1                | 4.187E-06                         | 4.152E-06 | 4.152E-06 |
| A              | 3.3       | 5.37    | 823.   | 0.     | 0.     | 157.1             | 310.1             | 157.1                | 1.954E-06                         | 1.937E-06 | 1.937E-06 |
| A              | 5.6       | 0.07    | 823.   | 0.     | 0.     | 157.1             | 310.1             | 157.1                | 1.172E-06                         | 1.162E-06 | 1.162E-06 |
| A              | 24.5      | 0.07    | 823.   | 0.     | 0.     | 157.1             | 310.1             | 157.1                | 2.664E-07                         | 2.642E-07 | 2.642E-07 |
| B              | 1.6       | 3.71    | 823.   | 0.     | 0.     | 118.1             | 88.8              | 118.1                | 1.945E-05                         | 1.871E-05 | 1.871E-05 |
| B              | 3.3       | 2.65    | 823.   | 0.     | 0.     | 118.1             | 88.8              | 118.1                | 9.075E-06                         | 8.732E-06 | 8.732E-06 |
| B              | 5.6       | 0.13    | 823.   | 0.     | 0.     | 118.1             | 88.8              | 118.1                | 5.445E-06                         | 5.239E-06 | 5.239E-06 |
| C              | 1.6       | 3.05    | 823.   | 0.     | 0.     | 89.7              | 51.2              | 89.7                 | 4.443E-05                         | 4.078E-05 | 4.078E-05 |
| C              | 3.3       | 0.66    | 823.   | 0.     | 0.     | 89.7              | 51.2              | 89.7                 | 2.073E-05                         | 1.903E-05 | 1.903E-05 |
| C              | 5.6       | 0.07    | 823.   | 0.     | 0.     | 89.7              | 51.2              | 89.7                 | 1.244E-05                         | 1.142E-05 | 1.142E-05 |
| D              | 0.2       | 0.05    | 823.   | 0.     | 0.     | 63.2              | 27.1              | 124.7                | 4.217E-04                         | 6.716E-04 | 4.217E-04 |
| D              | 1.6       | 22.39   | 823.   | 0.     | 0.     | 63.2              | 27.1              | 124.7                | 6.024E-05                         | 9.594E-05 | 6.024E-05 |
| D              | 3.3       | 10.60   | 823.   | 0.     | 0.     | 63.2              | 27.1              | 90.6                 | 3.869E-05                         | 4.477E-05 | 3.869E-05 |
| D              | 5.6       | 0.53    | 823.   | 0.     | 0.     | 63.2              | 27.1              | 66.1                 | 3.183E-05                         | 2.686E-05 | 2.686E-05 |
| E              | 0.2       | 0.20    | 823.   | 0.     | 0.     | 44.9              | 18.7              | 132.5                | 5.778E-04                         | 1.144E-03 | 5.778E-04 |
| E              | 1.6       | 27.56   | 823.   | 0.     | 0.     | 44.9              | 18.7              | 132.5                | 8.255E-05                         | 1.634E-04 | 8.255E-05 |
| E              | 3.3       | 6.09    | 823.   | 0.     | 0.     | 44.9              | 18.7              | 79.9                 | 6.389E-05                         | 7.627E-05 | 6.389E-05 |
| E              | 5.6       | 0.26    | 823.   | 0.     | 0.     | 44.9              | 18.7              | 48.4                 | 6.329E-05                         | 4.576E-05 | 4.576E-05 |
| F              | 0.2       | 0.04    | 823.   | 0.     | 0.     | 31.0              | 12.0              | 121.7                | 9.797E-04                         | 1.827E-03 | 9.797E-04 |
| F              | 1.6       | 5.37    | 823.   | 0.     | 0.     | 31.0              | 12.0              | 121.7                | 1.400E-04                         | 2.609E-04 | 1.400E-04 |
| G              | 0.2       | 0.02    | 823.   | 0.     | 0.     | 21.4              | 7.7               | 125.7                | 1.477E-03                         | 2.891E-03 | 1.477E-03 |
| G              | 1.6       | 1.99    | 823.   | 0.     | 0.     | 21.4              | 7.7               | 125.7                | 2.109E-04                         | 4.129E-04 | 2.109E-04 |
| G              | 3.3       | 0.26    | 823.   | 0.     | 0.     | 21.4              | 7.7               | 54.9                 | 2.255E-04                         | 1.927E-04 | 1.927E-04 |



**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

SSW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 8.255E-05 | 6.389E-05 | 6.024E-05 |
| 0.016     | 0.056     | 0.252     | 0.304     | 2.291     | 2.556     | 7.922     | 35.479    | 41.574    | 63.964    |
| 0.00056   | 0.00197   | 0.00891   | 0.01073   | 0.08087   | 0.09022   | 0.27959   | 1.25214   | 1.46722   | 2.25742   |
| 4.576E-05 | 4.078E-05 | 3.869E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.142E-05 | 8.732E-06 | 5.239E-06 | 4.152E-06 |
| 64.229    | 67.276    | 77.875    | 78.405    | 79.067    | 82.777    | 82.843    | 85.493    | 85.625    | 94.502    |
| 2.26677   | 2.37432   | 2.74837   | 2.76708   | 2.79046   | 2.92138   | 2.92371   | 3.01723   | 3.02191   | 3.33518   |
| 1.937E-06 | 1.162E-06 | 2.642E-07 |           |           |           |           |           |           |           |
| 99.868    | 99.934    | 100.000   |           |           |           |           |           |           |           |
| 3.52455   | 3.52689   | 3.52922   |           |           |           |           |           |           |           |

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

**PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED**

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 2.255  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 2.746  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 3.332

| K | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|---|---|-------------|-------------|-------------|
| 2 | 1 | -6.51806    | -12.39852   | -1.33817    |
| 2 | 2 | -9.71722    | -20.25639   | -5.25984    |
| 2 | 3 | -10.15982   | -60.28563   | -26.11320   |
| 2 | 4 | -12.39204   | NUMXQ(K)= 4 |             |

**Calculation No. PM-1055 Revision 0****Attachment J**

|           |       |        |
|-----------|-------|--------|
| 3.838E-04 | 0.035 | 1.000  |
| 2.521E-04 | 0.106 | 3.000  |
| 2.047E-04 | 0.176 | 5.000  |
| 1.518E-04 | 0.353 | 10.000 |
| 1.262E-04 | 0.529 | 15.000 |
| 1.101E-04 | 0.706 | 20.000 |
| 9.879E-05 | 0.882 | 25.000 |
| 9.018E-05 | 1.059 | 30.000 |
| 8.335E-05 | 1.235 | 35.000 |
| 7.775E-05 | 1.412 | 40.000 |
| 7.305E-05 | 1.588 | 45.000 |
| 6.902E-05 | 1.765 | 50.000 |
| 6.552E-05 | 1.941 | 55.000 |
| 6.244E-05 | 2.118 | 60.000 |
| 5.813E-05 | 2.294 | 65.000 |
| 4.926E-05 | 2.470 | 70.000 |
| 4.216E-05 | 2.647 | 75.000 |
| 2.849E-05 | 2.823 | 80.000 |
| 1.422E-05 | 3.000 | 85.000 |
| 7.341E-06 | 3.176 | 90.000 |
| 1.296E-04 | 0.5   | 14.17  |

ANNUAL AVERAGE = 2.40E-06

K= 2 FIVEXQ(K) = 1.296E-04 FIVEPR(K) = 14.167

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

| CLASS          | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                   |      |  |
|----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|------|--|
|                |                        |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE         | USED |  |
| AT 10.0 METERS |                        |                      |                    |                   |              |               |                    |                   |                   |                      |                                   | CA=1292.SQ.METERS |      |  |
| A              | 1.6                    | 10.17                | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 4.187E-06            | 4.152E-06                         | 4.152E-06         |      |  |
| A              | 3.3                    | 2.24                 | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 1.954E-06            | 1.937E-06                         | 1.937E-06         |      |  |
| A              | 5.6                    | 0.07                 | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 1.172E-06            | 1.162E-06                         | 1.162E-06         |      |  |
| A              | 24.5                   | 0.07                 | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 2.664E-07            | 2.642E-07                         | 2.642E-07         |      |  |
| B              | 1.6                    | 4.62                 | 823.               | 0.                | 0.           | 0.            | 118.1              | 88.8              | 118.1             | 1.945E-05            | 1.871E-05                         | 1.871E-05         |      |  |
| B              | 3.3                    | 0.79                 | 823.               | 0.                | 0.           | 0.            | 118.1              | 88.8              | 118.1             | 9.075E-06            | 8.732E-06                         | 8.732E-06         |      |  |
| C              | 1.6                    | 1.88                 | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 4.443E-05            | 4.078E-05                         | 4.078E-05         |      |  |
| C              | 3.3                    | 0.22                 | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 2.073E-05            | 1.903E-05                         | 1.903E-05         |      |  |
| D              | 0.2                    | 0.07                 | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 124.7             | 4.217E-04            | 6.716E-04                         | 4.217E-04         |      |  |
| D              | 1.6                    | 31.54                | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 124.7             | 6.024E-05            | 9.594E-05                         | 6.024E-05         |      |  |
| D              | 3.3                    | 4.76                 | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 90.6              | 3.869E-05            | 4.477E-05                         | 3.869E-05         |      |  |
| E              | 0.2                    | 0.21                 | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 132.5             | 5.778E-04            | 1.144E-03                         | 5.778E-04         |      |  |
| E              | 1.6                    | 29.95                | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 132.5             | 8.255E-05            | 1.634E-04                         | 8.255E-05         |      |  |
| E              | 3.3                    | 5.48                 | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 79.9              | 6.389E-05            | 7.627E-05                         | 6.389E-05         |      |  |
| E              | 5.6                    | 0.07                 | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 48.4              | 6.329E-05            | 4.576E-05                         | 4.576E-05         |      |  |
| F              | 0.2                    | 0.04                 | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 121.7             | 9.797E-04            | 1.827E-03                         | 9.797E-04         |      |  |
| F              | 1.6                    | 5.34                 | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 121.7             | 1.400E-04            | 2.609E-04                         | 1.400E-04         |      |  |
| F              | 3.3                    | 0.36                 | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 64.2              | 1.238E-04            | 1.218E-04                         | 1.218E-04         |      |  |
| G              | 0.2                    | 0.02                 | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 125.7             | 1.477E-03            | 2.891E-03                         | 1.477E-03         |      |  |
| G              | 1.6                    | 2.09                 | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 125.7             | 2.109E-04            | 4.129E-04                         | 2.109E-04         |      |  |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 6.389E-05 | 6.024E-05 |
| 0.017     | 0.056     | 0.270     | 0.343     | 2.436     | 7.776     | 8.136     | 38.084    | 43.568    | 75.104    |
| 0.00054   | 0.00183   | 0.00875   | 0.01111   | 0.07891   | 0.25191   | 0.26360   | 1.23381   | 1.41149   | 2.43314   |
| 4.576E-05 | 4.078E-05 | 3.869E-05 | 1.903E-05 | 1.871E-05 | 8.732E-06 | 4.152E-06 | 1.937E-06 | 1.162E-06 | 2.642E-07 |
| 75.176    | 77.052    | 81.815    | 82.031    | 86.650    | 87.444    | 97.619    | 99.856    | 99.928    | 100.000   |
| 2.43548   | 2.49626   | 2.65056   | 2.65757   | 2.80720   | 2.83291   | 3.16255   | 3.23503   | 3.23737   | 3.23970   |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 2.431  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 2.648

| K | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|---|---|-------------|-------------|-------------|
| 3 | 1 | -6.51806    | -12.31359   | -1.31664    |
| 3 | 2 | -9.71722    | -33.49255   | -12.05666   |
| 3 | 3 | -10.15982   | NUMXQ(K)= 3 |             |
|   |   | 4.006E-04   | 0.032       | 1.000       |
|   |   | 2.656E-04   | 0.097       | 3.000       |
|   |   | 2.167E-04   | 0.162       | 5.000       |
|   |   | 1.619E-04   | 0.324       | 10.000      |
|   |   | 1.352E-04   | 0.486       | 15.000      |
|   |   | 1.184E-04   | 0.648       | 20.000      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|           |       |        |
|-----------|-------|--------|
| 1.065E-04 | 0.810 | 25.000 |
| 9.747E-05 | 0.972 | 30.000 |
| 9.028E-05 | 1.134 | 35.000 |
| 8.437E-05 | 1.296 | 40.000 |
| 7.940E-05 | 1.458 | 45.000 |
| 7.515E-05 | 1.620 | 50.000 |
| 7.144E-05 | 1.782 | 55.000 |
| 6.817E-05 | 1.944 | 60.000 |
| 6.526E-05 | 2.106 | 65.000 |
| 6.265E-05 | 2.268 | 70.000 |
| 6.028E-05 | 2.430 | 75.000 |
| 4.348E-05 | 2.592 | 80.000 |
| 1.335E-04 | 0.5   | 15.43  |

ANNUAL AVERAGE = 2.44E-06

K= 3 FIVEXQ(K)= 1.335E-04 FIVEPR(K)=15.434

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Ground Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 10.1 meters  
 DELTA-T HEIGHTS: 10.1 45.7 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

| CLASS          | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                |                        |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| AT 10.0 METERS |                        |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A              | 1.6                    | 11.29                | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.187E-06         | 4.152E-06            | 4.152E-06                         |           |      |
| A              | 3.3                    | 2.21                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.954E-06         | 1.937E-06            | 1.937E-06                         |           |      |
| B              | 1.6                    | 5.29                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 1.945E-05         | 1.871E-05            | 1.871E-05                         |           |      |
| B              | 3.3                    | 1.18                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 9.075E-06         | 8.732E-06            | 8.732E-06                         |           |      |
| C              | 1.6                    | 3.79                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.443E-05         | 4.078E-05            | 4.078E-05                         |           |      |
| C              | 3.3                    | 0.63                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.073E-05         | 1.903E-05            | 1.903E-05                         |           |      |
| D              | 0.2                    | 0.06                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.217E-04         | 6.716E-04            | 4.217E-04                         |           |      |
| D              | 1.6                    | 25.11                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.024E-05         | 9.594E-05            | 6.024E-05                         |           |      |
| D              | 3.3                    | 2.76                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 90.6              | 3.869E-05         | 4.477E-05            | 3.869E-05                         |           |      |
| E              | 0.2                    | 0.22                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 5.778E-04         | 1.144E-03            | 5.778E-04                         |           |      |
| E              | 1.6                    | 30.24                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 8.255E-05         | 1.634E-04            | 8.255E-05                         |           |      |
| E              | 3.3                    | 5.84                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 79.9              | 6.389E-05         | 7.627E-05            | 6.389E-05                         |           |      |
| F              | 0.2                    | 0.05                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 9.797E-04         | 1.827E-03            | 9.797E-04                         |           |      |
| F              | 1.6                    | 7.26                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.400E-04         | 2.609E-04            | 1.400E-04                         |           |      |
| F              | 3.3                    | 0.16                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 64.2              | 1.238E-04         | 1.218E-04            | 1.218E-04                         |           |      |
| G              | 0.2                    | 0.03                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.477E-03         | 2.891E-03            | 1.477E-03                         |           |      |
| G              | 1.6                    | 3.87                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.109E-04         | 4.129E-04            | 2.109E-04                         |           |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

WSW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 6.389E-05 | 6.024E-05 |
| 0.031     | 0.085     | 0.301     | 0.359     | 4.227     | 11.491    | 11.649    | 41.889    | 47.732    | 72.839    |
| 0.00091   | 0.00251   | 0.00890   | 0.01062   | 0.12517   | 0.34026   | 0.34493   | 1.24033   | 1.41334   | 2.15678   |
| 4.078E-05 | 3.869E-05 | 1.903E-05 | 1.871E-05 | 8.732E-06 | 4.152E-06 | 1.937E-06 |           |           |           |
| 76.629    | 79.393    | 80.024    | 85.314    | 86.499    | 97.789    | 100.000   |           |           |           |
| 2.26900   | 2.35082   | 2.36953   | 2.52616   | 2.56123   | 2.89555   | 2.96101   |           |           |           |

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 1.239  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 2.155

| K | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|---|---|-------------|-------------|-------------|
| 4 | 1 | -6.51806    | -12.57305   | -1.41253    |
| 4 | 2 | -9.40215    | -12.58798   | -1.41917    |
| 4 | 3 | -9.71722    | NUMXQ(K)= 3 |             |
|   |   | 4.436E-04   | 0.030       | 1.000       |
|   |   | 2.864E-04   | 0.089       | 3.000       |
|   |   | 2.306E-04   | 0.148       | 5.000       |
|   |   | 1.691E-04   | 0.296       | 10.000      |
|   |   | 1.396E-04   | 0.444       | 15.000      |
|   |   | 1.213E-04   | 0.592       | 20.000      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|           |       |        |
|-----------|-------|--------|
| 1.084E-04 | 0.740 | 25.000 |
| 9.863E-05 | 0.888 | 30.000 |
| 9.093E-05 | 1.036 | 35.000 |
| 8.464E-05 | 1.184 | 40.000 |
| 7.936E-05 | 1.332 | 45.000 |
| 7.483E-05 | 1.481 | 50.000 |
| 7.091E-05 | 1.629 | 55.000 |
| 6.747E-05 | 1.777 | 60.000 |
| 6.441E-05 | 1.925 | 65.000 |
| 6.167E-05 | 2.073 | 70.000 |
| 1.318E-04 | 0.5   | 16.89  |

ANNUAL AVERAGE = 2.31E-06

K= 4 FIVEXQ(K)= 1.318E-04 FIVEPR(K)=16.886



**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 1.6                                      | 6.63                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.187E-06         | 4.152E-06            | 4.152E-06                         |           |      |
| A               | 3.3                                      | 2.86                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.954E-06         | 1.937E-06            | 1.937E-06                         |           |      |
| A               | 24.5                                     | 0.13                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 2.664E-07         | 2.642E-07            | 2.642E-07                         |           |      |
| B               | 1.6                                      | 3.97                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 1.945E-05         | 1.871E-05            | 1.871E-05                         |           |      |
| B               | 3.3                                      | 0.78                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 9.075E-06         | 8.732E-06            | 8.732E-06                         |           |      |
| B               | 5.6                                      | 0.07                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 5.445E-06         | 5.239E-06            | 5.239E-06                         |           |      |
| C               | 1.6                                      | 2.28                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.443E-05         | 4.078E-05            | 4.078E-05                         |           |      |
| C               | 3.3                                      | 0.59                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.073E-05         | 1.903E-05            | 1.903E-05                         |           |      |
| C               | 5.6                                      | 0.07                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.244E-05         | 1.142E-05            | 1.142E-05                         |           |      |
| D               | 0.2                                      | 0.04                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.217E-04         | 6.716E-04            | 4.217E-04                         |           |      |
| D               | 1.6                                      | 19.25                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.024E-05         | 9.594E-05            | 6.024E-05                         |           |      |
| D               | 3.3                                      | 4.23                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 90.6              | 3.869E-05         | 4.477E-05            | 3.869E-05                         |           |      |
| D               | 5.6                                      | 0.13                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 66.1              | 3.183E-05         | 2.686E-05            | 2.686E-05                         |           |      |
| E               | 0.2                                      | 0.24                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 5.778E-04         | 1.144E-03            | 5.778E-04                         |           |      |
| E               | 1.6                                      | 33.50                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 8.255E-05         | 1.634E-04            | 8.255E-05                         |           |      |
| E               | 3.3                                      | 6.89                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 79.9              | 6.389E-05         | 7.627E-05            | 6.389E-05                         |           |      |
| E               | 5.6                                      | 0.39                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 48.4              | 6.329E-05         | 4.576E-05            | 4.576E-05                         |           |      |
| F               | 0.2                                      | 0.09                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 9.797E-04         | 1.827E-03            | 9.797E-04                         |           |      |
| F               | 1.6                                      | 11.71                | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.400E-04         | 2.609E-04            | 1.400E-04                         |           |      |
| F               | 3.3                                      | 0.20                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 64.2              | 1.238E-04         | 1.218E-04            | 1.218E-04                         |           |      |
| G               | 0.2                                      | 0.05                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.477E-03         | 2.891E-03            | 1.477E-03                         |           |      |
| G               | 1.6                                      | 5.72                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.109E-04         | 4.129E-04            | 2.109E-04                         |           |      |
| G               | 3.3                                      | 0.20                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 54.9              | 2.255E-04         | 1.927E-04            | 1.927E-04                         |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies.

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 1.858
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 2.797
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 3.044
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 3.213

Table with 4 columns: K, I, XQSAVE(K,I), XQINT(K,I), XQSLOP(K,I)

Calculation No. PM-1055 Revision 0

Attachment J

5 4 -10.15982 -67.17355 -30.41830  
5 5 -10.88636 NUMXQ(K)= 5

|           |       |        |
|-----------|-------|--------|
| 5.036E-04 | 0.036 | 1.000  |
| 3.250E-04 | 0.108 | 3.000  |
| 2.615E-04 | 0.180 | 5.000  |
| 1.915E-04 | 0.359 | 10.000 |
| 1.580E-04 | 0.539 | 15.000 |
| 1.371E-04 | 0.719 | 20.000 |
| 1.224E-04 | 0.899 | 25.000 |
| 1.113E-04 | 1.078 | 30.000 |
| 1.025E-04 | 1.258 | 35.000 |
| 9.530E-05 | 1.438 | 40.000 |
| 8.929E-05 | 1.617 | 45.000 |
| 8.416E-05 | 1.797 | 50.000 |
| 7.885E-05 | 1.977 | 55.000 |
| 7.381E-05 | 2.157 | 60.000 |
| 6.941E-05 | 2.336 | 65.000 |
| 6.553E-05 | 2.516 | 70.000 |
| 6.207E-05 | 2.696 | 75.000 |
| 5.241E-05 | 2.875 | 80.000 |
| 3.737E-05 | 3.055 | 85.000 |
| 1.638E-04 | 0.5   | 13.91  |

ANNUAL AVERAGE = 3.11E-06

K= 5 FIVEXQ(K)= 1.638E-04 FIVEPR(K)=13.911

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                                |      |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|--------------------------------|------|
|       |  |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE<br>CA=1292.SQ.METERS | USED |
| A     | 1.6                                      | 4.94                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 4.187E-06         | 4.152E-06         | 4.152E-06            |                                   |                                |      |
| A     | 3.3                                      | 6.06                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.954E-06         | 1.937E-06         | 1.937E-06            |                                   |                                |      |
| A     | 5.6                                      | 0.50                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.172E-06         | 1.162E-06         | 1.162E-06            |                                   |                                |      |
| B     | 1.6                                      | 2.75                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 1.945E-05         | 1.871E-05         | 1.871E-05            |                                   |                                |      |
| B     | 3.3                                      | 1.94                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 9.075E-06         | 8.732E-06         | 8.732E-06            |                                   |                                |      |
| B     | 5.6                                      | 0.38                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 5.445E-06         | 5.239E-06         | 5.239E-06            |                                   |                                |      |
| C     | 1.6                                      | 1.69                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 4.443E-05         | 4.078E-05         | 4.078E-05            |                                   |                                |      |
| C     | 3.3                                      | 0.63                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 2.073E-05         | 1.903E-05         | 1.903E-05            |                                   |                                |      |
| C     | 5.6                                      | 0.06                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 1.244E-05         | 1.142E-05         | 1.142E-05            |                                   |                                |      |
| C     | 8.2                                      | 0.06                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 8.406E-06         | 7.714E-06         | 7.714E-06            |                                   |                                |      |
| D     | 0.2                                      | 0.03                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 4.217E-04         | 6.716E-04         | 4.217E-04            |                                   |                                |      |
| D     | 1.6                                      | 10.94                | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 6.024E-05         | 9.594E-05         | 6.024E-05            |                                   |                                |      |
| D     | 3.3                                      | 9.06                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 90.6         | 3.869E-05         | 4.477E-05         | 3.869E-05            |                                   |                                |      |
| D     | 5.6                                      | 0.50                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 66.1         | 3.183E-05         | 2.686E-05         | 2.686E-05            |                                   |                                |      |
| E     | 0.2                                      | 0.21                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 5.778E-04         | 1.144E-03         | 5.778E-04            |                                   |                                |      |
| E     | 1.6                                      | 29.38                | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 8.255E-05         | 1.634E-04         | 8.255E-05            |                                   |                                |      |
| E     | 3.3                                      | 11.06                | 823.               | 0.                | 0.           | 44.9          | 18.7            | 79.9         | 6.389E-05         | 7.627E-05         | 6.389E-05            |                                   |                                |      |
| E     | 5.6                                      | 1.06                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 48.4         | 6.329E-05         | 4.576E-05         | 4.576E-05            |                                   |                                |      |
| F     | 0.2                                      | 0.10                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 9.797E-04         | 1.827E-03         | 9.797E-04            |                                   |                                |      |
| F     | 1.6                                      | 14.00                | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.400E-04         | 2.609E-04         | 1.400E-04            |                                   |                                |      |
| F     | 3.3                                      | 0.88                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 64.2         | 1.238E-04         | 1.218E-04         | 1.218E-04            |                                   |                                |      |
| G     | 0.2                                      | 0.03                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 1.477E-03         | 2.891E-03         | 1.477E-03            |                                   |                                |      |
| G     | 1.6                                      | 3.44                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 2.109E-04         | 4.129E-04         | 2.109E-04            |                                   |                                |      |
| G     | 3.3                                      | 0.31                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 54.9         | 2.255E-04         | 1.927E-04         | 1.927E-04            |                                   |                                |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

WNW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 6.389E-05 |
| 0.027     | 0.132     | 0.341     | 0.367     | 3.804     | 4.117     | 18.118    | 18.993    | 48.371    | 59.434    |
| 0.00102   | 0.00493   | 0.01277   | 0.01371   | 0.14230   | 0.15398   | 0.67767   | 0.71040   | 1.80920   | 2.22300   |
| 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.142E-05 | 8.732E-06 | 7.714E-06 |
| 70.373    | 71.435    | 73.123    | 82.186    | 82.686    | 83.311    | 86.061    | 86.124    | 88.062    | 88.124    |
| 2.63213   | 2.67187   | 2.73499   | 3.07398   | 3.09269   | 3.11606   | 3.21893   | 3.22127   | 3.29374   | 3.29608   |
| 5.239E-06 | 4.152E-06 | 1.937E-06 | 1.162E-06 |           |           |           |           |           |           |
| 88.499    | 93.437    | 99.500    | 100.000   |           |           |           |           |           |           |
| 3.31011   | 3.49480   | 3.72157   | 3.74028   |           |           |           |           |           |           |

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.005  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.677  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 1.807  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 2.630  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 3.071  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 3.718

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 6 1 -6.51806 -11.28245 -1.11817

Calculation No. PM-1055 Revision 0

Attachment J

6 2 -6.92826 -12.24676 -1.36580  
 6 3 -8.87417 -12.36000 -1.41166  
 6 4 -9.40215 -13.60631 -2.00648  
 6 5 -9.71722 -22.36591 -6.52576  
 6 6 -10.15982 -75.21242 -34.77917  
 6 7 -13.15417 NUMXQ(K)= 7

|           |       |        |
|-----------|-------|--------|
| 4.799E-04 | 0.037 | 1.000  |
| 3.120E-04 | 0.112 | 3.000  |
| 2.519E-04 | 0.187 | 5.000  |
| 1.854E-04 | 0.374 | 10.000 |
| 1.533E-04 | 0.561 | 15.000 |
| 1.331E-04 | 0.748 | 20.000 |
| 1.186E-04 | 0.935 | 25.000 |
| 1.076E-04 | 1.122 | 30.000 |
| 9.898E-05 | 1.309 | 35.000 |
| 9.193E-05 | 1.496 | 40.000 |
| 8.602E-05 | 1.683 | 45.000 |
| 8.034E-05 | 1.870 | 50.000 |
| 7.425E-05 | 2.057 | 55.000 |
| 6.903E-05 | 2.244 | 60.000 |
| 6.449E-05 | 2.431 | 65.000 |
| 6.051E-05 | 2.618 | 70.000 |
| 5.030E-05 | 2.805 | 75.000 |
| 4.182E-05 | 2.992 | 80.000 |
| 2.300E-05 | 3.179 | 85.000 |
| 9.448E-06 | 3.366 | 90.000 |
| 1.620E-04 | 0.5   | 13.37  |

ANNUAL AVERAGE = 2.86E-06

K= 6 FIVEXQ(K)= 1.620E-04 FIVEPR(K)=13.368

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

| CLASS          | METER/SEC | FREQUENCY PERCENT | DISTANCE METERS | TERRAIN HT METERS | HT EFF METERS | PLUME HT METERS | SIGMA-Y METERS | SIGMA-Z METERS | MEANDER-SY METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER   | BLDG WAKE | USED |
|----------------|-----------|-------------------|-----------------|-------------------|---------------|-----------------|----------------|----------------|-------------------|-----------------------------------|-----------|-----------|------|
| AT 10.0 METERS |           |                   |                 |                   |               |                 |                |                |                   | CA=1292.SQ.METERS                 |           |           |      |
| A              | 1.6       | 2.38              | 823.            | 0.                | 0.            | 0.              | 157.1          | 310.1          | 157.1             | 4.187E-06                         | 4.152E-06 | 4.152E-06 |      |
| A              | 3.3       | 5.19              | 823.            | 0.                | 0.            | 0.              | 157.1          | 310.1          | 157.1             | 1.954E-06                         | 1.937E-06 | 1.937E-06 |      |
| A              | 5.6       | 0.29              | 823.            | 0.                | 0.            | 0.              | 157.1          | 310.1          | 157.1             | 1.172E-06                         | 1.162E-06 | 1.162E-06 |      |
| B              | 1.6       | 1.10              | 823.            | 0.                | 0.            | 0.              | 118.1          | 88.8           | 118.1             | 1.945E-05                         | 1.871E-05 | 1.871E-05 |      |
| B              | 3.3       | 2.67              | 823.            | 0.                | 0.            | 0.              | 118.1          | 88.8           | 118.1             | 9.075E-06                         | 8.732E-06 | 8.732E-06 |      |
| B              | 5.6       | 0.43              | 823.            | 0.                | 0.            | 0.              | 118.1          | 88.8           | 118.1             | 5.445E-06                         | 5.239E-06 | 5.239E-06 |      |
| B              | 24.5      | 0.05              | 823.            | 0.                | 0.            | 0.              | 118.1          | 88.8           | 118.1             | 1.237E-06                         | 1.191E-06 | 1.191E-06 |      |
| C              | 1.6       | 0.52              | 823.            | 0.                | 0.            | 0.              | 89.7           | 51.2           | 89.7              | 4.443E-05                         | 4.078E-05 | 4.078E-05 |      |
| C              | 3.3       | 1.57              | 823.            | 0.                | 0.            | 0.              | 89.7           | 51.2           | 89.7              | 2.073E-05                         | 1.903E-05 | 1.903E-05 |      |
| C              | 5.6       | 0.24              | 823.            | 0.                | 0.            | 0.              | 89.7           | 51.2           | 89.7              | 1.244E-05                         | 1.142E-05 | 1.142E-05 |      |
| D              | 0.2       | 0.02              | 823.            | 0.                | 0.            | 0.              | 63.2           | 27.1           | 124.7             | 4.217E-04                         | 6.716E-04 | 4.217E-04 |      |
| D              | 1.6       | 7.33              | 823.            | 0.                | 0.            | 0.              | 63.2           | 27.1           | 124.7             | 6.024E-05                         | 9.594E-05 | 6.024E-05 |      |
| D              | 3.3       | 18.14             | 823.            | 0.                | 0.            | 0.              | 63.2           | 27.1           | 90.6              | 3.869E-05                         | 4.477E-05 | 3.869E-05 |      |
| D              | 5.6       | 3.67              | 823.            | 0.                | 0.            | 0.              | 63.2           | 27.1           | 66.1              | 3.183E-05                         | 2.686E-05 | 2.686E-05 |      |
| D              | 8.2       | 0.10              | 823.            | 0.                | 0.            | 0.              | 63.2           | 27.1           | 63.2              | 2.250E-05                         | 1.815E-05 | 1.815E-05 |      |
| E              | 0.2       | 0.18              | 823.            | 0.                | 0.            | 0.              | 44.9           | 18.7           | 132.5             | 5.778E-04                         | 1.144E-03 | 5.778E-04 |      |
| E              | 1.6       | 25.85             | 823.            | 0.                | 0.            | 0.              | 44.9           | 18.7           | 132.5             | 8.255E-05                         | 1.634E-04 | 8.255E-05 |      |
| E              | 3.3       | 18.81             | 823.            | 0.                | 0.            | 0.              | 44.9           | 18.7           | 79.9              | 6.389E-05                         | 7.627E-05 | 6.389E-05 |      |
| E              | 5.6       | 2.48              | 823.            | 0.                | 0.            | 0.              | 44.9           | 18.7           | 48.4              | 6.329E-05                         | 4.576E-05 | 4.576E-05 |      |
| E              | 8.2       | 0.05              | 823.            | 0.                | 0.            | 0.              | 44.9           | 18.7           | 44.9              | 4.606E-05                         | 3.092E-05 | 3.092E-05 |      |
| F              | 0.2       | 0.05              | 823.            | 0.                | 0.            | 0.              | 31.0           | 12.0           | 121.7             | 9.797E-04                         | 1.827E-03 | 9.797E-04 |      |
| F              | 1.6       | 6.14              | 823.            | 0.                | 0.            | 0.              | 31.0           | 12.0           | 121.7             | 1.400E-04                         | 2.609E-04 | 1.400E-04 |      |
| F              | 3.3       | 1.14              | 823.            | 0.                | 0.            | 0.              | 31.0           | 12.0           | 64.2              | 1.238E-04                         | 1.218E-04 | 1.218E-04 |      |
| G              | 0.2       | 0.01              | 823.            | 0.                | 0.            | 0.              | 21.4           | 7.7            | 125.7             | 1.477E-03                         | 2.891E-03 | 1.477E-03 |      |
| G              | 1.6       | 1.52              | 823.            | 0.                | 0.            | 0.              | 21.4           | 7.7            | 125.7             | 2.109E-04                         | 4.129E-04 | 2.109E-04 |      |
| G              | 3.3       | 0.10              | 823.            | 0.                | 0.            | 0.              | 21.4           | 7.7            | 54.9              | 2.255E-04                         | 1.927E-04 | 1.927E-04 |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values and frequencies.

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.003
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.717
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 3.000
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 4.037
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 4.220

Table with 4 columns: K, I, XQSAVE(K, I), XQINT(K, I), XQSLOP(K, I)



Calculation No. PM-1055 Revision 0

Attachment J

|           |           |              |           |
|-----------|-----------|--------------|-----------|
| 7 3       | -9.40215  | -12.23725    | -1.33987  |
| 7 4       | -9.71722  | -15.90901    | -3.29212  |
| 7 5       | -10.15982 | -41.06927    | -17.69945 |
| 7 6       | -10.52476 | NUMXQ(K) = 6 |           |
| 3.807E-04 | 0.049     |              | 1.000     |
| 2.508E-04 | 0.147     |              | 3.000     |
| 2.037E-04 | 0.246     |              | 5.000     |
| 1.511E-04 | 0.491     |              | 10.000    |
| 1.255E-04 | 0.737     |              | 15.000    |
| 1.094E-04 | 0.982     |              | 20.000    |
| 9.805E-05 | 1.228     |              | 25.000    |
| 8.942E-05 | 1.473     |              | 30.000    |
| 8.256E-05 | 1.719     |              | 35.000    |
| 7.675E-05 | 1.964     |              | 40.000    |
| 7.188E-05 | 2.210     |              | 45.000    |
| 6.771E-05 | 2.455     |              | 50.000    |
| 6.410E-05 | 2.701     |              | 55.000    |
| 6.092E-05 | 2.946     |              | 60.000    |
| 5.510E-05 | 3.192     |              | 65.000    |
| 4.939E-05 | 3.437     |              | 70.000    |
| 4.455E-05 | 3.683     |              | 75.000    |
| 4.040E-05 | 3.928     |              | 80.000    |
| 2.961E-05 | 4.174     |              | 85.000    |
| 1.499E-04 | 0.5       |              | 10.18     |

ANNUAL AVERAGE = 2.93E-06

K= 7 FIVEXQ(K) = 1.499E-04 FIVEPR(K) = 10.182

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 1.6                                      | 1.13                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.187E-06         | 4.152E-06            | 4.152E-06                         |           |      |
| A               | 3.3                                      | 2.78                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.954E-06         | 1.937E-06            | 1.937E-06                         |           |      |
| A               | 5.6                                      | 1.02                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.172E-06         | 1.162E-06            | 1.162E-06                         |           |      |
| A               | 8.2                                      | 0.18                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 7.921E-07         | 7.854E-07            | 7.854E-07                         |           |      |
| B               | 1.6                                      | 0.46                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 1.945E-05         | 1.871E-05            | 1.871E-05                         |           |      |
| B               | 3.3                                      | 2.54                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 9.075E-06         | 8.732E-06            | 8.732E-06                         |           |      |
| B               | 5.6                                      | 1.20                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 5.445E-06         | 5.239E-06            | 5.239E-06                         |           |      |
| B               | 8.2                                      | 0.25                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 3.679E-06         | 3.540E-06            | 3.540E-06                         |           |      |
| C               | 1.6                                      | 0.18                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.443E-05         | 4.078E-05            | 4.078E-05                         |           |      |
| C               | 3.3                                      | 1.87                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.073E-05         | 1.903E-05            | 1.903E-05                         |           |      |
| C               | 5.6                                      | 0.60                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.244E-05         | 1.142E-05            | 1.142E-05                         |           |      |
| C               | 8.2                                      | 0.11                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 8.406E-06         | 7.714E-06            | 7.714E-06                         |           |      |
| C               | 10.7                                     | 0.04                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 6.479E-06         | 5.947E-06            | 5.947E-06                         |           |      |
| D               | 0.2                                      | 0.02                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.217E-04         | 6.716E-04            | 4.217E-04                         |           |      |
| D               | 1.6                                      | 8.07                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.024E-05         | 9.594E-05            | 6.024E-05                         |           |      |
| D               | 3.3                                      | 20.87                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 90.6              | 3.869E-05         | 4.477E-05            | 3.869E-05                         |           |      |
| D               | 5.6                                      | 5.29                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 66.1              | 3.183E-05         | 2.686E-05            | 2.686E-05                         |           |      |
| D               | 8.2                                      | 0.42                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.250E-05         | 1.815E-05            | 1.815E-05                         |           |      |
| E               | 0.2                                      | 0.15                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 5.778E-04         | 1.144E-03            | 5.778E-04                         |           |      |
| E               | 1.6                                      | 21.15                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 8.255E-05         | 1.634E-04            | 8.255E-05                         |           |      |
| E               | 3.3                                      | 23.87                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 79.9              | 6.389E-05         | 7.627E-05            | 6.389E-05                         |           |      |
| E               | 5.6                                      | 2.50                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 48.4              | 6.329E-05         | 4.576E-05            | 4.576E-05                         |           |      |
| E               | 8.2                                      | 0.21                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 4.606E-05         | 3.092E-05            | 3.092E-05                         |           |      |
| F               | 0.2                                      | 0.03                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 9.797E-04         | 1.827E-03            | 9.797E-04                         |           |      |
| F               | 1.6                                      | 3.49                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.400E-04         | 2.609E-04            | 1.400E-04                         |           |      |
| F               | 3.3                                      | 0.63                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 64.2              | 1.238E-04         | 1.218E-04            | 1.218E-04                         |           |      |
| G               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.477E-03         | 2.891E-03            | 1.477E-03                         |           |      |
| G               | 1.6                                      | 0.95                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.109E-04         | 4.129E-04            | 2.109E-04                         |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 6.389E-05 | 6.024E-05 |
| 0.008     | 0.034     | 0.184     | 0.203     | 1.155     | 4.645     | 5.279     | 26.430    | 50.295    | 58.368    |
| 0.00050   | 0.00223   | 0.01224   | 0.01347   | 0.07659   | 0.30804   | 0.35012   | 1.75284   | 3.33558   | 3.87095   |
| 4.576E-05 | 4.078E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 | 1.142E-05 | 8.732E-06 |
| 60.871    | 61.047    | 81.916    | 82.128    | 87.415    | 89.284    | 89.742    | 90.165    | 90.764    | 93.302    |
| 4.03694   | 4.04863   | 5.43265   | 5.44668   | 5.79736   | 5.92126   | 5.95166   | 5.97971   | 6.01945   | 6.18778   |
| 7.714E-06 | 5.947E-06 | 5.239E-06 | 4.152E-06 | 3.540E-06 | 1.937E-06 | 1.162E-06 | 7.854E-07 |           |           |
| 93.408    | 93.443    | 94.642    | 95.770    | 96.017    | 98.801    | 99.824    | 100.000   |           |           |
| 6.19479   | 6.19713   | 6.27662   | 6.35143   | 6.36780   | 6.55249   | 6.62029   | 6.63198   |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 3.868  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 5.429  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 5.794  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 5.976

K I XQSAVE(K, I) XQINT(K, I) XQSLOP(K, I)  
8 1 -6.51806 -11.84871 -1.20678  
8 2 -9.71722 -14.55362 -2.73822  
8 3 -10.15982 -28.30371 -11.30728

Calculation No. PM-1055 Revision 0

Attachment J

8 4 -10.52476 -50.18600 -25.22426  
8 5 -10.91680 NUMXQ(K) = 5

|           |       |        |
|-----------|-------|--------|
| 3.442E-04 | 0.066 | 1.000  |
| 2.310E-04 | 0.199 | 3.000  |
| 1.893E-04 | 0.332 | 5.000  |
| 1.420E-04 | 0.663 | 10.000 |
| 1.188E-04 | 0.995 | 15.000 |
| 1.040E-04 | 1.326 | 20.000 |
| 9.350E-05 | 1.658 | 25.000 |
| 8.549E-05 | 1.990 | 30.000 |
| 7.910E-05 | 2.321 | 35.000 |
| 7.383E-05 | 2.653 | 40.000 |
| 6.939E-05 | 2.984 | 45.000 |
| 6.558E-05 | 3.316 | 50.000 |
| 6.225E-05 | 3.648 | 55.000 |
| 5.817E-05 | 3.979 | 60.000 |
| 5.251E-05 | 4.311 | 65.000 |
| 4.769E-05 | 4.642 | 70.000 |
| 4.354E-05 | 4.974 | 75.000 |
| 3.995E-05 | 5.306 | 80.000 |
| 3.146E-05 | 5.637 | 85.000 |
| 1.858E-05 | 5.969 | 90.000 |
| 1.601E-04 | 0.5   | 7.54   |

ANNUAL AVERAGE = 3.49E-06

K= 8 FIVEXQ(K) = 1.601E-04 FIVEPR(K) = 7.539

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 1.6                                      | 0.23                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.187E-06         | 4.152E-06            | 4.152E-06                         |           |      |
| A               | 3.3                                      | 2.01                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.954E-06         | 1.937E-06            | 1.937E-06                         |           |      |
| A               | 5.6                                      | 2.77                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.172E-06         | 1.162E-06            | 1.162E-06                         |           |      |
| A               | 8.2                                      | 0.37                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 7.921E-07         | 7.854E-07            | 7.854E-07                         |           |      |
| B               | 1.6                                      | 0.34                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 1.945E-05         | 1.871E-05            | 1.871E-05                         |           |      |
| B               | 3.3                                      | 2.57                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 9.075E-06         | 8.732E-06            | 8.732E-06                         |           |      |
| B               | 5.6                                      | 4.10                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 5.445E-06         | 5.239E-06            | 5.239E-06                         |           |      |
| B               | 8.2                                      | 0.62                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 3.679E-06         | 3.540E-06            | 3.540E-06                         |           |      |
| C               | 1.6                                      | 0.17                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.443E-05         | 4.078E-05            | 4.078E-05                         |           |      |
| C               | 3.3                                      | 1.87                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.073E-05         | 1.903E-05            | 1.903E-05                         |           |      |
| C               | 5.6                                      | 2.12                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.244E-05         | 1.142E-05            | 1.142E-05                         |           |      |
| C               | 8.2                                      | 0.23                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 8.406E-06         | 7.714E-06            | 7.714E-06                         |           |      |
| D               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.217E-04         | 6.716E-04            | 4.217E-04                         |           |      |
| D               | 1.6                                      | 5.00                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.024E-05         | 9.594E-05            | 6.024E-05                         |           |      |
| D               | 3.3                                      | 15.38                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 90.6              | 3.869E-05         | 4.477E-05            | 3.869E-05                         |           |      |
| D               | 5.6                                      | 9.19                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 66.1              | 3.183E-05         | 2.686E-05            | 2.686E-05                         |           |      |
| D               | 8.2                                      | 1.27                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.250E-05         | 1.815E-05            | 1.815E-05                         |           |      |
| E               | 0.2                                      | 0.13                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 5.778E-04         | 1.144E-03            | 5.778E-04                         |           |      |
| E               | 1.6                                      | 17.92                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 8.255E-05         | 1.634E-04            | 8.255E-05                         |           |      |
| E               | 3.3                                      | 21.79                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 79.9              | 6.389E-05         | 7.627E-05            | 6.389E-05                         |           |      |
| E               | 5.6                                      | 5.71                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 48.4              | 6.329E-05         | 4.576E-05            | 4.576E-05                         |           |      |
| E               | 8.2                                      | 0.71                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 4.606E-05         | 3.092E-05            | 3.092E-05                         |           |      |
| E               | 10.7                                     | 0.03                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 3.551E-05         | 2.383E-05            | 2.383E-05                         |           |      |
| F               | 0.2                                      | 0.03                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 9.797E-04         | 1.827E-03            | 9.797E-04                         |           |      |
| F               | 1.6                                      | 3.42                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.400E-04         | 2.609E-04            | 1.400E-04                         |           |      |
| F               | 3.3                                      | 1.38                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 64.2              | 1.238E-04         | 1.218E-04            | 1.218E-04                         |           |      |
| G               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.477E-03         | 2.891E-03            | 1.477E-03                         |           |      |
| G               | 1.6                                      | 0.65                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.109E-04         | 4.129E-04            | 2.109E-04                         |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 6.389E-05 | 6.024E-05 |
| 0.005     | 0.031     | 0.159     | 0.170     | 0.820     | 4.240     | 5.625     | 23.545    | 45.337    | 50.339    |
| 0.00043   | 0.00254   | 0.01311   | 0.01407   | 0.06784   | 0.35072   | 0.46528   | 1.94748   | 3.74998   | 4.16378   |
| 4.576E-05 | 4.078E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 2.383E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 | 1.142E-05 |
| 56.049    | 56.218    | 71.594    | 72.301    | 81.487    | 81.515    | 83.381    | 83.720    | 84.992    | 87.111    |
| 4.63603   | 4.65006   | 5.92186   | 5.98031   | 6.74012   | 6.74245   | 6.89675   | 6.92481   | 7.03001   | 7.20535   |
| 8.732E-06 | 7.714E-06 | 5.239E-06 | 4.152E-06 | 3.540E-06 | 1.937E-06 | 1.162E-06 | 7.854E-07 |           |           |
| 89.684    | 89.910    | 94.008    | 94.234    | 94.856    | 96.863    | 99.633    | 100.000   |           |           |
| 7.41810   | 7.43680   | 7.77579   | 7.79449   | 7.84593   | 8.01192   | 8.24103   | 8.27142   |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.003  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 3.747  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 4.160  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 5.918  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 6.736  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 7)= 7.026

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 9 1 -6.51806 -11.08605 -1.02611

Calculation No. PM-1055 Revision 0

Attachment J

9 2 -6.92826 -11.79912 -1.20208  
9 3 -9.65837 -11.81984 -1.21372  
9 4 -9.71722 -14.20946 -2.59311  
9 5 -10.15982 -18.79955 -5.53229  
9 6 -10.52476 -37.32388 -17.91712

9 7 -10.91680 NUMXQ(K) = 7

|           |       |        |
|-----------|-------|--------|
| 3.299E-04 | 0.083 | 1.000  |
| 2.201E-04 | 0.248 | 3.000  |
| 1.797E-04 | 0.414 | 5.000  |
| 1.340E-04 | 0.827 | 10.000 |
| 1.116E-04 | 1.241 | 15.000 |
| 9.738E-05 | 1.654 | 20.000 |
| 8.728E-05 | 2.068 | 25.000 |
| 7.958E-05 | 2.481 | 30.000 |
| 7.345E-05 | 2.895 | 35.000 |
| 6.840E-05 | 3.309 | 40.000 |
| 6.415E-05 | 3.722 | 45.000 |
| 6.047E-05 | 4.136 | 50.000 |
| 5.405E-05 | 4.549 | 55.000 |
| 4.850E-05 | 4.963 | 60.000 |
| 4.383E-05 | 5.376 | 65.000 |
| 3.984E-05 | 5.790 | 70.000 |
| 3.398E-05 | 6.204 | 75.000 |
| 2.831E-05 | 6.617 | 80.000 |
| 1.662E-04 | 0.5   | 6.04   |

ANNUAL AVERAGE = 3.79E-06

K= 9 FIVEXQ(K) = 1.662E-04 FIVEPR(K) = 6.045

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |  |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|--|
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |  |
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |  |
| A     | 1.6                                      | 0.17                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.187E-06         | 4.152E-06            | 4.152E-06                         |           |      |  |
| A     | 3.3                                      | 2.41                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.954E-06         | 1.937E-06            | 1.937E-06                         |           |      |  |
| A     | 5.6                                      | 1.74                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.172E-06         | 1.162E-06            | 1.162E-06                         |           |      |  |
| A     | 8.2                                      | 0.06                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 7.921E-07         | 7.854E-07            | 7.854E-07                         |           |      |  |
| B     | 1.6                                      | 0.11                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 1.945E-05         | 1.871E-05            | 1.871E-05                         |           |      |  |
| B     | 3.3                                      | 2.52                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 9.075E-06         | 8.732E-06            | 8.732E-06                         |           |      |  |
| B     | 5.6                                      | 2.58                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 5.445E-06         | 5.239E-06            | 5.239E-06                         |           |      |  |
| B     | 8.2                                      | 0.06                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 3.679E-06         | 3.540E-06            | 3.540E-06                         |           |      |  |
| C     | 3.3                                      | 1.35                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.073E-05         | 1.903E-05            | 1.903E-05                         |           |      |  |
| C     | 5.6                                      | 1.74                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.244E-05         | 1.142E-05            | 1.142E-05                         |           |      |  |
| D     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.217E-04         | 6.716E-04            | 4.217E-04                         |           |      |  |
| D     | 1.6                                      | 5.16                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.024E-05         | 9.594E-05            | 6.024E-05                         |           |      |  |
| D     | 3.3                                      | 13.07                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 90.6              | 3.869E-05         | 4.477E-05            | 3.869E-05                         |           |      |  |
| D     | 5.6                                      | 6.06                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 66.1              | 3.183E-05         | 2.686E-05            | 2.686E-05                         |           |      |  |
| D     | 8.2                                      | 0.56                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.250E-05         | 1.815E-05            | 1.815E-05                         |           |      |  |
| D     | 10.7                                     | 0.11                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 1.735E-05         | 1.399E-05            | 1.399E-05                         |           |      |  |
| E     | 0.2                                      | 0.15                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 5.778E-04         | 1.144E-03            | 5.778E-04                         |           |      |  |
| E     | 1.6                                      | 21.04                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 8.255E-05         | 1.634E-04            | 8.255E-05                         |           |      |  |
| E     | 3.3                                      | 21.93                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 79.9              | 6.389E-05         | 7.627E-05            | 6.389E-05                         |           |      |  |
| E     | 5.6                                      | 3.03                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 48.4              | 6.329E-05         | 4.576E-05            | 4.576E-05                         |           |      |  |
| E     | 8.2                                      | 0.22                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 4.606E-05         | 3.092E-05            | 3.092E-05                         |           |      |  |
| F     | 0.2                                      | 0.08                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 9.797E-04         | 1.827E-03            | 9.797E-04                         |           |      |  |
| F     | 1.6                                      | 11.00                | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.400E-04         | 2.609E-04            | 1.400E-04                         |           |      |  |
| F     | 3.3                                      | 2.58                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 64.2              | 1.238E-04         | 1.218E-04            | 1.218E-04                         |           |      |  |
| G     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.477E-03         | 2.891E-03            | 1.477E-03                         |           |      |  |
| G     | 1.6                                      | 1.85                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.109E-04         | 4.129E-04            | 2.109E-04                         |           |      |  |
| G     | 3.3                                      | 0.39                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 54.9              | 2.255E-04         | 1.927E-04            | 1.927E-04                         |           |      |  |



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values and frequencies.

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 2.458
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.673
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 3.344
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 3.606
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 7)= 3.872

Table with 4 columns: K, I, XQSAVE(K, I), XQINT(K, I), XQSLOP(K, I)

Calculation No. PM-1055 Revision 0

Attachment J

|           |           |               |           |
|-----------|-----------|---------------|-----------|
| 10 3      | -9.65837  | -12.87442     | -1.63489  |
| 10 4      | -9.71722  | -18.38227     | -4.48702  |
| 10 5      | -10.15982 | -29.78085     | -10.70727 |
| 10 6      | -10.52476 | -72.37913     | -34.39386 |
| 10 7      | -11.64850 | NUMXQ (K) = 7 |           |
| 4.271E-04 | 0.042     |               | 1.000     |
| 2.751E-04 | 0.125     |               | 3.000     |
| 2.212E-04 | 0.208     |               | 5.000     |
| 1.616E-04 | 0.417     |               | 10.000    |
| 1.331E-04 | 0.625     |               | 15.000    |
| 1.153E-04 | 0.834     |               | 20.000    |
| 1.028E-04 | 1.042     |               | 25.000    |
| 9.338E-05 | 1.250     |               | 30.000    |
| 8.593E-05 | 1.459     |               | 35.000    |
| 7.984E-05 | 1.667     |               | 40.000    |
| 7.474E-05 | 1.875     |               | 45.000    |
| 7.038E-05 | 2.084     |               | 50.000    |
| 6.661E-05 | 2.292     |               | 55.000    |
| 6.318E-05 | 2.501     |               | 60.000    |
| 5.882E-05 | 2.709     |               | 65.000    |
| 5.088E-05 | 2.917     |               | 70.000    |
| 4.438E-05 | 3.126     |               | 75.000    |
| 3.900E-05 | 3.334     |               | 80.000    |
| 2.940E-05 | 3.542     |               | 85.000    |
| 1.464E-05 | 3.751     |               | 90.000    |
| 1.483E-04 | 0.5       |               | 12.00     |

ANNUAL AVERAGE = 2.55E-06

K= 10 FIVEXQ(K) = 1.483E-04 FIVEPR(K) = 11.998

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Ground Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 10.1 meters  
 DELTA-T HEIGHTS: 10.1 45.7 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                                |      |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------------|-------------------|-------------------|----------------------|-----------------------------------|--------------------------------|------|
|       |  |                      |                    |                   |              |               |                       |                   |                   |                      | MEANDER                           | BLDG WAKE<br>CA=1292.SQ.METERS | USED |
| A     | 1.6                                      | 0.21                 | 823.               | 0.                | 0.           | 157.1         | 310.1                 | 157.1             | 4.187E-06         | 4.152E-06            | 4.152E-06                         |                                |      |
| A     | 3.3                                      | 2.81                 | 823.               | 0.                | 0.           | 157.1         | 310.1                 | 157.1             | 1.954E-06         | 1.937E-06            | 1.937E-06                         |                                |      |
| A     | 5.6                                      | 2.03                 | 823.               | 0.                | 0.           | 157.1         | 310.1                 | 157.1             | 1.172E-06         | 1.162E-06            | 1.162E-06                         |                                |      |
| A     | 8.2                                      | 0.16                 | 823.               | 0.                | 0.           | 157.1         | 310.1                 | 157.1             | 7.921E-07         | 7.854E-07            | 7.854E-07                         |                                |      |
| B     | 1.6                                      | 0.31                 | 823.               | 0.                | 0.           | 118.1         | 88.8                  | 118.1             | 1.945E-05         | 1.871E-05            | 1.871E-05                         |                                |      |
| B     | 3.3                                      | 3.34                 | 823.               | 0.                | 0.           | 118.1         | 88.8                  | 118.1             | 9.075E-06         | 8.732E-06            | 8.732E-06                         |                                |      |
| B     | 5.6                                      | 1.46                 | 823.               | 0.                | 0.           | 118.1         | 88.8                  | 118.1             | 5.445E-06         | 5.239E-06            | 5.239E-06                         |                                |      |
| B     | 8.2                                      | 0.16                 | 823.               | 0.                | 0.           | 118.1         | 88.8                  | 118.1             | 3.679E-06         | 3.540E-06            | 3.540E-06                         |                                |      |
| C     | 1.6                                      | 0.26                 | 823.               | 0.                | 0.           | 89.7          | 51.2                  | 89.7              | 4.443E-05         | 4.078E-05            | 4.078E-05                         |                                |      |
| C     | 3.3                                      | 1.25                 | 823.               | 0.                | 0.           | 89.7          | 51.2                  | 89.7              | 2.073E-05         | 1.903E-05            | 1.903E-05                         |                                |      |
| C     | 5.6                                      | 1.15                 | 823.               | 0.                | 0.           | 89.7          | 51.2                  | 89.7              | 1.244E-05         | 1.142E-05            | 1.142E-05                         |                                |      |
| D     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 63.2          | 27.1                  | 124.7             | 4.217E-04         | 6.716E-04            | 4.217E-04                         |                                |      |
| D     | 1.6                                      | 4.06                 | 823.               | 0.                | 0.           | 63.2          | 27.1                  | 124.7             | 6.024E-05         | 9.594E-05            | 6.024E-05                         |                                |      |
| D     | 3.3                                      | 9.80                 | 823.               | 0.                | 0.           | 63.2          | 27.1                  | 90.6              | 3.869E-05         | 4.477E-05            | 3.869E-05                         |                                |      |
| D     | 5.6                                      | 4.06                 | 823.               | 0.                | 0.           | 63.2          | 27.1                  | 66.1              | 3.183E-05         | 2.686E-05            | 2.686E-05                         |                                |      |
| D     | 8.2                                      | 0.26                 | 823.               | 0.                | 0.           | 63.2          | 27.1                  | 63.2              | 2.250E-05         | 1.815E-05            | 1.815E-05                         |                                |      |
| E     | 0.2                                      | 0.12                 | 823.               | 0.                | 0.           | 44.9          | 18.7                  | 132.5             | 5.778E-04         | 1.144E-03            | 5.778E-04                         |                                |      |
| E     | 1.6                                      | 16.94                | 823.               | 0.                | 0.           | 44.9          | 18.7                  | 132.5             | 8.255E-05         | 1.634E-04            | 8.255E-05                         |                                |      |
| E     | 3.3                                      | 16.88                | 823.               | 0.                | 0.           | 44.9          | 18.7                  | 79.9              | 6.389E-05         | 7.627E-05            | 6.389E-05                         |                                |      |
| E     | 5.6                                      | 2.40                 | 823.               | 0.                | 0.           | 44.9          | 18.7                  | 48.4              | 6.329E-05         | 4.576E-05            | 4.576E-05                         |                                |      |
| F     | 0.2                                      | 0.11                 | 823.               | 0.                | 0.           | 31.0          | 12.0                  | 121.7             | 9.797E-04         | 1.827E-03            | 9.797E-04                         |                                |      |
| F     | 1.6                                      | 15.32                | 823.               | 0.                | 0.           | 31.0          | 12.0                  | 121.7             | 1.400E-04         | 2.609E-04            | 1.400E-04                         |                                |      |
| F     | 3.3                                      | 5.05                 | 823.               | 0.                | 0.           | 31.0          | 12.0                  | 64.2              | 1.238E-04         | 1.218E-04            | 1.218E-04                         |                                |      |
| F     | 5.6                                      | 0.05                 | 823.               | 0.                | 0.           | 31.0          | 12.0                  | 34.1              | 1.400E-04         | 7.306E-05            | 7.306E-05                         |                                |      |
| G     | 0.2                                      | 0.07                 | 823.               | 0.                | 0.           | 21.4          | 7.7                   | 125.7             | 1.477E-03         | 2.891E-03            | 1.477E-03                         |                                |      |
| G     | 1.6                                      | 8.65                 | 823.               | 0.                | 0.           | 21.4          | 7.7                   | 125.7             | 2.109E-04         | 4.129E-04            | 2.109E-04                         |                                |      |
| G     | 3.3                                      | 3.07                 | 823.               | 0.                | 0.           | 21.4          | 7.7                   | 54.9              | 2.255E-04         | 1.927E-04            | 1.927E-04                         |                                |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 7.306E-05 |
| 0.068     | 0.183     | 0.304     | 0.313     | 8.963     | 12.038    | 27.358    | 32.413    | 49.349    | 49.401    |
| 0.00307   | 0.00821   | 0.01363   | 0.01405   | 0.40213   | 0.54007   | 1.22740   | 1.45418   | 2.21398   | 2.21632   |
| 6.389E-05 | 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 | 1.142E-05 |
| 66.285    | 70.349    | 72.746    | 73.007    | 82.804    | 86.868    | 88.119    | 88.432    | 88.692    | 89.838    |
| 2.97379   | 3.15614   | 3.26369   | 3.27538   | 3.71489   | 3.89725   | 3.95336   | 3.96738   | 3.97907   | 4.03051   |
| 8.732E-06 | 5.239E-06 | 4.152E-06 | 3.540E-06 | 1.937E-06 | 1.162E-06 | 7.854E-07 |           |           |           |
| 93.174    | 94.633    | 94.841    | 94.997    | 97.811    | 99.844    | 100.000   |           |           |           |
| 4.18013   | 4.24559   | 4.25494   | 4.26196   | 4.38820   | 4.47938   | 4.48639   |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.226  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.453  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.971  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 3.153  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 3.712  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 3.894

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 11 1 -6.51806 -11.88757 -1.33995

Calculation No. PM-1055 Revision 0

Attachment J

11 2 -8.87417 -13.61017 -2.10593  
11 3 -9.01335 -13.74251 -2.16656  
11 4 -9.65837 -13.87055 -2.23449  
11 5 -9.71722 -20.89988 -6.01626  
11 6 -10.15982 -39.71434 -16.55554  
11 7 -10.52476 NUMXQ(K)= 7

|           |       |        |
|-----------|-------|--------|
| 5.888E-04 | 0.045 | 1.000  |
| 3.835E-04 | 0.135 | 3.000  |
| 3.099E-04 | 0.224 | 5.000  |
| 2.281E-04 | 0.449 | 10.000 |
| 1.887E-04 | 0.673 | 15.000 |
| 1.640E-04 | 0.897 | 20.000 |
| 1.466E-04 | 1.122 | 25.000 |
| 1.298E-04 | 1.346 | 30.000 |
| 1.140E-04 | 1.570 | 35.000 |
| 1.015E-04 | 1.795 | 40.000 |
| 9.139E-05 | 2.019 | 45.000 |
| 8.309E-05 | 2.243 | 50.000 |
| 7.613E-05 | 2.468 | 55.000 |
| 7.020E-05 | 2.692 | 60.000 |
| 6.509E-05 | 2.916 | 65.000 |
| 6.054E-05 | 3.140 | 70.000 |
| 5.070E-05 | 3.365 | 75.000 |
| 4.253E-05 | 3.589 | 80.000 |
| 3.171E-05 | 3.813 | 85.000 |
| 2.170E-04 | 0.5   | 11.14  |

ANNUAL AVERAGE = 3.47E-06

K= 11 FIVEXQ(K)= 2.170E-04 FIVEPR(K)=11.145

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                   |      |  |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|------|--|
|                 |  |                      |                    |                   |              |               |                       |                   |                   |                      | MEANDER                           | BLDG WAKE         | USED |  |
|                 |  |                      |                    |                   |              |               |                       |                   |                   |                      |                                   | CA=1292.SQ.METERS |      |  |
| A               | 1.6                                      | 0.24                 | 823.               | 0.                | 0.           | 0.            | 157.1                 | 310.1             | 157.1             | 4.187E-06            | 4.152E-06                         | 4.152E-06         |      |  |
| A               | 3.3                                      | 1.35                 | 823.               | 0.                | 0.           | 0.            | 157.1                 | 310.1             | 157.1             | 1.954E-06            | 1.937E-06                         | 1.937E-06         |      |  |
| A               | 5.6                                      | 0.97                 | 823.               | 0.                | 0.           | 0.            | 157.1                 | 310.1             | 157.1             | 1.172E-06            | 1.162E-06                         | 1.162E-06         |      |  |
| A               | 8.2                                      | 0.03                 | 823.               | 0.                | 0.           | 0.            | 157.1                 | 310.1             | 157.1             | 7.921E-07            | 7.854E-07                         | 7.854E-07         |      |  |
| B               | 1.6                                      | 0.21                 | 823.               | 0.                | 0.           | 0.            | 118.1                 | 88.8              | 118.1             | 1.945E-05            | 1.871E-05                         | 1.871E-05         |      |  |
| B               | 3.3                                      | 1.45                 | 823.               | 0.                | 0.           | 0.            | 118.1                 | 88.8              | 118.1             | 9.075E-06            | 8.732E-06                         | 8.732E-06         |      |  |
| B               | 5.6                                      | 0.83                 | 823.               | 0.                | 0.           | 0.            | 118.1                 | 88.8              | 118.1             | 5.445E-06            | 5.239E-06                         | 5.239E-06         |      |  |
| C               | 1.6                                      | 0.14                 | 823.               | 0.                | 0.           | 0.            | 89.7                  | 51.2              | 89.7              | 4.443E-05            | 4.078E-05                         | 4.078E-05         |      |  |
| C               | 3.3                                      | 0.73                 | 823.               | 0.                | 0.           | 0.            | 89.7                  | 51.2              | 89.7              | 2.073E-05            | 1.903E-05                         | 1.903E-05         |      |  |
| C               | 5.6                                      | 0.76                 | 823.               | 0.                | 0.           | 0.            | 89.7                  | 51.2              | 89.7              | 1.244E-05            | 1.142E-05                         | 1.142E-05         |      |  |
| D               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 0.            | 63.2                  | 27.1              | 124.7             | 4.217E-04            | 6.716E-04                         | 4.217E-04         |      |  |
| D               | 1.6                                      | 3.63                 | 823.               | 0.                | 0.           | 0.            | 63.2                  | 27.1              | 124.7             | 6.024E-05            | 9.594E-05                         | 6.024E-05         |      |  |
| D               | 3.3                                      | 6.04                 | 823.               | 0.                | 0.           | 0.            | 63.2                  | 27.1              | 90.6              | 3.869E-05            | 4.477E-05                         | 3.869E-05         |      |  |
| D               | 5.6                                      | 2.56                 | 823.               | 0.                | 0.           | 0.            | 63.2                  | 27.1              | 66.1              | 3.183E-05            | 2.686E-05                         | 2.686E-05         |      |  |
| D               | 8.2                                      | 0.14                 | 823.               | 0.                | 0.           | 0.            | 63.2                  | 27.1              | 63.2              | 2.250E-05            | 1.815E-05                         | 1.815E-05         |      |  |
| E               | 0.2                                      | 0.10                 | 823.               | 0.                | 0.           | 0.            | 44.9                  | 18.7              | 132.5             | 5.778E-04            | 1.144E-03                         | 5.778E-04         |      |  |
| E               | 1.6                                      | 13.64                | 823.               | 0.                | 0.           | 0.            | 44.9                  | 18.7              | 132.5             | 8.255E-05            | 1.634E-04                         | 8.255E-05         |      |  |
| E               | 3.3                                      | 14.99                | 823.               | 0.                | 0.           | 0.            | 44.9                  | 18.7              | 79.9              | 6.389E-05            | 7.627E-05                         | 6.389E-05         |      |  |
| E               | 5.6                                      | 1.76                 | 823.               | 0.                | 0.           | 0.            | 44.9                  | 18.7              | 48.4              | 6.329E-05            | 4.576E-05                         | 4.576E-05         |      |  |
| F               | 0.2                                      | 0.12                 | 823.               | 0.                | 0.           | 0.            | 31.0                  | 12.0              | 121.7             | 9.797E-04            | 1.827E-03                         | 9.797E-04         |      |  |
| F               | 1.6                                      | 15.58                | 823.               | 0.                | 0.           | 0.            | 31.0                  | 12.0              | 121.7             | 1.400E-04            | 2.609E-04                         | 1.400E-04         |      |  |
| F               | 3.3                                      | 8.70                 | 823.               | 0.                | 0.           | 0.            | 31.0                  | 12.0              | 64.2              | 1.238E-04            | 1.218E-04                         | 1.218E-04         |      |  |
| F               | 5.6                                      | 0.10                 | 823.               | 0.                | 0.           | 0.            | 31.0                  | 12.0              | 34.1              | 1.400E-04            | 7.306E-05                         | 7.306E-05         |      |  |
| G               | 0.2                                      | 0.13                 | 823.               | 0.                | 0.           | 0.            | 21.4                  | 7.7               | 125.7             | 1.477E-03            | 2.891E-03                         | 1.477E-03         |      |  |
| G               | 1.6                                      | 16.99                | 823.               | 0.                | 0.           | 0.            | 21.4                  | 7.7               | 125.7             | 2.109E-04            | 4.129E-04                         | 2.109E-04         |      |  |
| G               | 3.3                                      | 8.77                 | 823.               | 0.                | 0.           | 0.            | 21.4                  | 7.7               | 54.9              | 2.255E-04            | 1.927E-04                         | 1.927E-04         |      |  |
| G               | 5.6                                      | 0.03                 | 823.               | 0.                | 0.           | 0.            | 21.4                  | 7.7               | 24.2              | 3.073E-04            | 1.156E-04                         | 1.156E-04         |      |  |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 1.156E-04 | 8.255E-05 |
| 0.135     | 0.251     | 0.348     | 0.357     | 17.349    | 26.122    | 41.699    | 50.403    | 50.437    | 64.080    |
| 0.00910   | 0.01698   | 0.02357   | 0.02414   | 1.17437   | 1.76819   | 2.82256   | 3.41171   | 3.41405   | 4.33750   |
| 7.306E-05 | 6.389E-05 | 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 |
| 64.184    | 79.173    | 82.800    | 84.561    | 84.699    | 90.744    | 93.300    | 94.025    | 94.232    | 94.370    |
| 4.34452   | 5.35915   | 5.60463   | 5.72386   | 5.73321   | 6.14234   | 6.31534   | 6.36444   | 6.37846   | 6.38781   |
| 1.142E-05 | 8.732E-06 | 5.239E-06 | 4.152E-06 | 1.937E-06 | 1.162E-06 | 7.854E-07 |           |           |           |
| 95.130    | 96.581    | 97.410    | 97.651    | 98.998    | 99.965    | 100.000   |           |           |           |
| 6.43925   | 6.53744   | 6.59355   | 6.60991   | 6.70109   | 6.76655   | 6.76889   |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

| CHI/Q           | WITH RESPECT TO | WHEN THE WIND BLOWS   |
|-----------------|-----------------|-----------------------|
| SEC/CUBIC METER | THE TOTAL TIME  | INTO THIS SECTOR ONLY |

|                  |                                    |              |       |
|------------------|------------------------------------|--------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2) = | 1.766 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 2.820 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 3.409 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 5.601 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 6.138 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 7) = | 6.311 |

| K  | I | XQSAVE(K,I) | XQINT(K,I) | XQSLOP(K,I) |
|----|---|-------------|------------|-------------|
| 12 | 1 | -6.51806    | -11.17049  | -1.24305    |

Calculation No. PM-1055 Revision 0

Attachment J

12 2 -8.55435 -11.97717 -1.62634  
 12 3 -8.87417 -12.03187 -1.65501  
 12 4 -9.01335 -14.48388 -2.99942  
 12 5 -9.71722 -25.02701 -9.63368  
 12 6 -10.15982 -50.07148 -25.86205  
 12 7 -10.52476 NUMXQ(K) = 7

|           |       |        |
|-----------|-------|--------|
| 7.563E-04 | 0.068 | 1.000  |
| 5.013E-04 | 0.203 | 3.000  |
| 4.082E-04 | 0.338 | 5.000  |
| 3.034E-04 | 0.677 | 10.000 |
| 2.522E-04 | 1.015 | 15.000 |
| 2.199E-04 | 1.354 | 20.000 |
| 1.970E-04 | 1.692 | 25.000 |
| 1.757E-04 | 2.031 | 30.000 |
| 1.582E-04 | 2.369 | 35.000 |
| 1.441E-04 | 2.708 | 40.000 |
| 1.324E-04 | 3.046 | 45.000 |
| 1.225E-04 | 3.384 | 50.000 |
| 1.081E-04 | 3.723 | 55.000 |
| 9.583E-05 | 4.061 | 60.000 |
| 8.562E-05 | 4.400 | 65.000 |
| 7.702E-05 | 4.738 | 70.000 |
| 6.970E-05 | 5.077 | 75.000 |
| 6.339E-05 | 5.415 | 80.000 |
| 5.312E-05 | 5.754 | 85.000 |
| 4.028E-05 | 6.092 | 90.000 |
| 3.463E-04 | 0.5   | 7.39   |

ANNUAL AVERAGE = 6.49E-06

K= 12 FIVEXQ(K) = 3.463E-04 FIVEPR(K) = 7.387



**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

| CLASS             | METER/SEC<br>AT 10.0 METERS | PERCENTY | DISTANCE<br>METERS | TERRAIN HT<br>METERS | EFF PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |           |
|-------------------|-----------------------------|----------|--------------------|----------------------|------------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|-----------|
|                   |                             |          |                    |                      |                        |                   |                   |                      | MEANDER                           | BLDG WAKE | USED      |
| CA=1292.SQ.METERS |                             |          |                    |                      |                        |                   |                   |                      |                                   |           |           |
| A                 | 1.6                         | 0.43     | 823.               | 0.                   | 0.                     | 157.1             | 310.1             | 157.1                | 4.187E-06                         | 4.152E-06 | 4.152E-06 |
| A                 | 3.3                         | 2.64     | 823.               | 0.                   | 0.                     | 157.1             | 310.1             | 157.1                | 1.954E-06                         | 1.937E-06 | 1.937E-06 |
| A                 | 5.6                         | 1.64     | 823.               | 0.                   | 0.                     | 157.1             | 310.1             | 157.1                | 1.172E-06                         | 1.162E-06 | 1.162E-06 |
| A                 | 8.2                         | 0.11     | 823.               | 0.                   | 0.                     | 157.1             | 310.1             | 157.1                | 7.921E-07                         | 7.854E-07 | 7.854E-07 |
| B                 | 1.6                         | 0.43     | 823.               | 0.                   | 0.                     | 118.1             | 88.8              | 118.1                | 1.945E-05                         | 1.871E-05 | 1.871E-05 |
| B                 | 3.3                         | 1.81     | 823.               | 0.                   | 0.                     | 118.1             | 88.8              | 118.1                | 9.075E-06                         | 8.732E-06 | 8.732E-06 |
| B                 | 5.6                         | 1.45     | 823.               | 0.                   | 0.                     | 118.1             | 88.8              | 118.1                | 5.445E-06                         | 5.239E-06 | 5.239E-06 |
| B                 | 8.2                         | 0.06     | 823.               | 0.                   | 0.                     | 118.1             | 88.8              | 118.1                | 3.679E-06                         | 3.540E-06 | 3.540E-06 |
| C                 | 1.6                         | 0.17     | 823.               | 0.                   | 0.                     | 89.7              | 51.2              | 89.7                 | 4.443E-05                         | 4.078E-05 | 4.078E-05 |
| C                 | 3.3                         | 1.19     | 823.               | 0.                   | 0.                     | 89.7              | 51.2              | 89.7                 | 2.073E-05                         | 1.903E-05 | 1.903E-05 |
| C                 | 5.6                         | 0.99     | 823.               | 0.                   | 0.                     | 89.7              | 51.2              | 89.7                 | 1.244E-05                         | 1.142E-05 | 1.142E-05 |
| C                 | 8.2                         | 0.09     | 823.               | 0.                   | 0.                     | 89.7              | 51.2              | 89.7                 | 8.406E-06                         | 7.714E-06 | 7.714E-06 |
| D                 | 0.2                         | 0.01     | 823.               | 0.                   | 0.                     | 63.2              | 27.1              | 124.7                | 4.217E-04                         | 6.716E-04 | 4.217E-04 |
| D                 | 1.6                         | 3.46     | 823.               | 0.                   | 0.                     | 63.2              | 27.1              | 124.7                | 6.024E-05                         | 9.594E-05 | 6.024E-05 |
| D                 | 3.3                         | 8.42     | 823.               | 0.                   | 0.                     | 63.2              | 27.1              | 90.6                 | 3.869E-05                         | 4.477E-05 | 3.869E-05 |
| D                 | 5.6                         | 6.06     | 823.               | 0.                   | 0.                     | 63.2              | 27.1              | 66.1                 | 3.183E-05                         | 2.686E-05 | 2.686E-05 |
| D                 | 8.2                         | 1.22     | 823.               | 0.                   | 0.                     | 63.2              | 27.1              | 63.2                 | 2.250E-05                         | 1.815E-05 | 1.815E-05 |
| E                 | 0.2                         | 0.09     | 823.               | 0.                   | 0.                     | 44.9              | 18.7              | 132.5                | 5.778E-04                         | 1.144E-03 | 5.778E-04 |
| E                 | 1.6                         | 12.70    | 823.               | 0.                   | 0.                     | 44.9              | 18.7              | 132.5                | 8.255E-05                         | 1.634E-04 | 8.255E-05 |
| E                 | 3.3                         | 18.93    | 823.               | 0.                   | 0.                     | 44.9              | 18.7              | 79.9                 | 6.389E-05                         | 7.627E-05 | 6.389E-05 |
| E                 | 5.6                         | 3.49     | 823.               | 0.                   | 0.                     | 44.9              | 18.7              | 48.4                 | 6.329E-05                         | 4.576E-05 | 4.576E-05 |
| E                 | 8.2                         | 0.17     | 823.               | 0.                   | 0.                     | 44.9              | 18.7              | 44.9                 | 4.606E-05                         | 3.092E-05 | 3.092E-05 |
| F                 | 0.2                         | 0.11     | 823.               | 0.                   | 0.                     | 31.0              | 12.0              | 121.7                | 9.797E-04                         | 1.827E-03 | 9.797E-04 |
| F                 | 1.6                         | 14.17    | 823.               | 0.                   | 0.                     | 31.0              | 12.0              | 121.7                | 1.400E-04                         | 2.609E-04 | 1.400E-04 |
| F                 | 3.3                         | 6.04     | 823.               | 0.                   | 0.                     | 31.0              | 12.0              | 64.2                 | 1.238E-04                         | 1.218E-04 | 1.218E-04 |
| G                 | 0.2                         | 0.10     | 823.               | 0.                   | 0.                     | 21.4              | 7.7               | 125.7                | 1.477E-03                         | 2.891E-03 | 1.477E-03 |
| G                 | 1.6                         | 12.04    | 823.               | 0.                   | 0.                     | 21.4              | 7.7               | 125.7                | 2.109E-04                         | 4.129E-04 | 2.109E-04 |
| G                 | 3.3                         | 2.01     | 823.               | 0.                   | 0.                     | 21.4              | 7.7               | 54.9                 | 2.255E-04                         | 1.927E-04 | 1.927E-04 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 6.389E-05 |
| 0.095     | 0.201     | 0.292     | 0.300     | 12.344    | 14.356    | 28.526    | 34.563    | 47.259    | 66.190    |
| 0.00786   | 0.01660   | 0.02407   | 0.02473   | 1.01832   | 1.18431   | 2.35324   | 2.85121   | 3.89858   | 5.46027   |
| 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 | 1.142E-05 |
| 69.648    | 73.134    | 73.304    | 81.721    | 81.891    | 87.955    | 89.146    | 89.571    | 90.789    | 91.781    |
| 5.74549   | 6.03305   | 6.04708   | 6.74143   | 6.75545   | 7.25576   | 7.35395   | 7.38902   | 7.48954   | 7.57137   |
| 8.732E-06 | 7.714E-06 | 5.239E-06 | 4.152E-06 | 3.540E-06 | 1.937E-06 | 1.162E-06 | 7.854E-07 |           |           |
| 93.595    | 93.680    | 95.126    | 95.551    | 95.607    | 98.243    | 99.887    | 100.000   |           |           |
| 7.72099   | 7.72801   | 7.84724   | 7.88231   | 7.88698   | 8.10440   | 8.24000   | 8.24935   |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

| CHI/Q           | WITH RESPECT TO | WHEN THE WIND BLOWS   |
|-----------------|-----------------|-----------------------|
| SEC/CUBIC METER | THE TOTAL TIME  | INTO THIS SECTOR ONLY |

|   |              |       |
|---|--------------|-------|
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2) = | 2.351 |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 2.848 |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 5.456 |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 5.742 |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 6.738 |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 7) = | 7.252 |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 8) = | 7.486 |

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)

Calculation No. PM-1055 Revision 0

Attachment J

|    |   |           |              |           |
|----|---|-----------|--------------|-----------|
| 13 | 1 | -6.51806  | -11.48381    | -1.31392  |
| 13 | 2 | -8.87417  | -12.22066    | -1.68491  |
| 13 | 3 | -9.01335  | -13.08667    | -2.13986  |
| 13 | 4 | -9.65837  | -13.38812    | -2.32802  |
| 13 | 5 | -9.71722  | -18.31104    | -5.45004  |
| 13 | 6 | -10.15982 | -24.39482    | -9.51776  |
| 13 | 7 | -10.52476 | -44.64853    | -23.41603 |
| 13 | 8 | -10.91680 | NUMXQ(K) = 8 |           |

|           |       |        |
|-----------|-------|--------|
| 6.435E-04 | 0.082 | 1.000  |
| 4.135E-04 | 0.247 | 3.000  |
| 3.314E-04 | 0.412 | 5.000  |
| 2.405E-04 | 0.825 | 10.000 |
| 1.968E-04 | 1.237 | 15.000 |
| 1.696E-04 | 1.650 | 20.000 |
| 1.505E-04 | 2.062 | 25.000 |
| 1.350E-04 | 2.475 | 30.000 |
| 1.203E-04 | 2.887 | 35.000 |
| 1.060E-04 | 3.300 | 40.000 |
| 9.459E-05 | 3.712 | 45.000 |
| 8.523E-05 | 4.125 | 50.000 |
| 7.742E-05 | 4.537 | 55.000 |
| 7.080E-05 | 4.950 | 60.000 |
| 6.512E-05 | 5.362 | 65.000 |
| 5.942E-05 | 5.775 | 70.000 |
| 4.917E-05 | 6.187 | 75.000 |
| 4.108E-05 | 6.599 | 80.000 |
| 3.185E-05 | 7.012 | 85.000 |
| 2.023E-05 | 7.424 | 90.000 |
| 3.039E-04 | 0.5   | 6.06   |

ANNUAL AVERAGE = 6.50E-06

K= 13 FIVEXQ(K) = 3.039E-04 FIVEPR(K) = 6.061

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 1.6                                      | 0.39                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.187E-06         | 4.152E-06            | 4.152E-06                         |           |      |
| A               | 3.3                                      | 2.50                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.954E-06         | 1.937E-06            | 1.937E-06                         |           |      |
| A               | 5.6                                      | 0.87                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.172E-06         | 1.162E-06            | 1.162E-06                         |           |      |
| A               | 8.2                                      | 0.19                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 7.921E-07         | 7.854E-07            | 7.854E-07                         |           |      |
| B               | 1.6                                      | 0.29                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 1.945E-05         | 1.871E-05            | 1.871E-05                         |           |      |
| B               | 3.3                                      | 1.71                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 9.075E-06         | 8.732E-06            | 8.732E-06                         |           |      |
| B               | 5.6                                      | 1.71                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 5.445E-06         | 5.239E-06            | 5.239E-06                         |           |      |
| B               | 8.2                                      | 0.39                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 3.679E-06         | 3.540E-06            | 3.540E-06                         |           |      |
| B               | 10.7                                     | 0.02                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 2.836E-06         | 2.729E-06            | 2.729E-06                         |           |      |
| C               | 1.6                                      | 0.17                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.443E-05         | 4.078E-05            | 4.078E-05                         |           |      |
| C               | 3.3                                      | 0.89                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.073E-05         | 1.903E-05            | 1.903E-05                         |           |      |
| C               | 5.6                                      | 1.28                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.244E-05         | 1.142E-05            | 1.142E-05                         |           |      |
| C               | 8.2                                      | 0.29                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 8.406E-06         | 7.714E-06            | 7.714E-06                         |           |      |
| D               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.217E-04         | 6.716E-04            | 4.217E-04                         |           |      |
| D               | 1.6                                      | 3.08                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.024E-05         | 9.594E-05            | 6.024E-05                         |           |      |
| D               | 3.3                                      | 10.41                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 90.6              | 3.869E-05         | 4.477E-05            | 3.869E-05                         |           |      |
| D               | 5.6                                      | 13.85                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 66.1              | 3.183E-05         | 2.686E-05            | 2.686E-05                         |           |      |
| D               | 8.2                                      | 1.37                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.250E-05         | 1.815E-05            | 1.815E-05                         |           |      |
| D               | 10.7                                     | 0.02                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 1.735E-05         | 1.399E-05            | 1.399E-05                         |           |      |
| E               | 0.2                                      | 0.09                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 5.778E-04         | 1.144E-03            | 5.778E-04                         |           |      |
| E               | 1.6                                      | 11.99                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 8.255E-05         | 1.634E-04            | 8.255E-05                         |           |      |
| E               | 3.3                                      | 24.18                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 79.9              | 6.389E-05         | 7.627E-05            | 6.389E-05                         |           |      |
| E               | 5.6                                      | 4.65                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 48.4              | 6.329E-05         | 4.576E-05            | 4.576E-05                         |           |      |
| E               | 8.2                                      | 0.19                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 4.606E-05         | 3.092E-05            | 3.092E-05                         |           |      |
| F               | 0.2                                      | 0.07                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 9.797E-04         | 1.827E-03            | 9.797E-04                         |           |      |
| F               | 1.6                                      | 10.02                | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.400E-04         | 2.609E-04            | 1.400E-04                         |           |      |
| F               | 3.3                                      | 3.28                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 64.2              | 1.238E-04         | 1.218E-04            | 1.218E-04                         |           |      |
| F               | 5.6                                      | 0.02                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 34.1              | 1.400E-04         | 7.306E-05            | 7.306E-05                         |           |      |
| G               | 0.2                                      | 0.04                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.477E-03         | 2.891E-03            | 1.477E-03                         |           |      |
| G               | 1.6                                      | 5.64                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.109E-04         | 4.129E-04            | 2.109E-04                         |           |      |
| G               | 3.3                                      | 0.39                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 54.9              | 2.255E-04         | 1.927E-04            | 1.927E-04                         |           |      |

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 7.306E-05 |
| 0.045     | 0.119     | 0.205     | 0.212     | 5.848     | 6.234     | 16.253    | 19.529    | 31.524    | 31.548    |
| 0.00433   | 0.01160   | 0.01990   | 0.02059   | 0.56765   | 0.60506   | 1.57761   | 1.89556   | 3.05982   | 3.06216   |
| 6.389E-05 | 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 |
| 55.730    | 58.813    | 63.462    | 63.630    | 74.035    | 74.228    | 88.077    | 88.969    | 89.258    | 90.631    |
| 5.40938   | 5.70863   | 6.15983   | 6.17620   | 7.18616   | 7.20486   | 8.54914   | 8.63564   | 8.66369   | 8.79695   |
| 1.399E-05 | 1.142E-05 | 8.732E-06 | 7.714E-06 | 5.239E-06 | 4.152E-06 | 3.540E-06 | 2.729E-06 | 1.937E-06 | 1.162E-06 |
| 90.655    | 91.931    | 93.641    | 93.930    | 95.640    | 96.026    | 96.411    | 96.435    | 98.940    | 99.807    |
| 8.79929   | 8.92319   | 9.08918   | 9.11724   | 9.28323   | 9.32063   | 9.35804   | 9.36038   | 9.60352   | 9.68768   |
| 7.854E-07 |           |           |           |           |           |           |           |           |           |
| 100.000   |           |           |           |           |           |           |           |           |           |
| 9.70638   |           |           |           |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.576  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 5.406  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 5.705  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 7.182  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 8.546

| K  | I | XQSAVE(K, I) | XQINT(K, I)  | XQSLOP(K, I) |
|----|---|--------------|--------------|--------------|
| 14 | 1 | -6.51806     | -11.72884    | -1.32745     |
| 14 | 2 | -8.87417     | -11.97563    | -1.44222     |
| 14 | 3 | -9.65837     | -13.20141    | -2.20511     |
| 14 | 4 | -9.71722     | -15.65874    | -3.76034     |
| 14 | 5 | -10.15982    | -15.89438    | -3.92148     |
| 14 | 6 | -10.52476    | -44.72396    | -24.97599    |
| 14 | 7 | -10.91680    | NUMXQ(K) = 7 |              |
|    |   | 4.932E-04    | 0.097        | 1.000        |
|    |   | 3.135E-04    | 0.291        | 3.000        |
|    |   | 2.497E-04    | 0.485        | 5.000        |
|    |   | 1.795E-04    | 0.971        | 10.000       |
|    |   | 1.460E-04    | 1.456        | 15.000       |
|    |   | 1.240E-04    | 1.941        | 20.000       |
|    |   | 1.084E-04    | 2.427        | 25.000       |
|    |   | 9.673E-05    | 2.912        | 30.000       |
|    |   | 8.762E-05    | 3.397        | 35.000       |
|    |   | 8.026E-05    | 3.883        | 40.000       |
|    |   | 7.414E-05    | 4.368        | 45.000       |
|    |   | 6.895E-05    | 4.853        | 50.000       |
|    |   | 6.449E-05    | 5.339        | 55.000       |
|    |   | 5.802E-05    | 5.824        | 60.000       |
|    |   | 4.984E-05    | 6.309        | 65.000       |
|    |   | 4.319E-05    | 6.794        | 70.000       |
|    |   | 3.768E-05    | 7.280        | 75.000       |
|    |   | 3.294E-05    | 7.765        | 80.000       |
|    |   | 2.898E-05    | 8.250        | 85.000       |
|    |   | 1.998E-05    | 8.736        | 90.000       |
|    |   | 2.463E-04    | 0.5          | 5.15         |

ANNUAL AVERAGE = 5.73E-06

K= 14 FIVEXQ(K) = 2.463E-04 FIVEPR(K) = 5.151

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| A     | 1.6                                      | 0.49                 | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 4.187E-06            | 4.152E-06                         | 4.152E-06 |      |
| A     | 3.3                                      | 1.58                 | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 1.954E-06            | 1.937E-06                         | 1.937E-06 |      |
| A     | 5.6                                      | 0.51                 | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 1.172E-06            | 1.162E-06                         | 1.162E-06 |      |
| A     | 8.2                                      | 0.06                 | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 7.921E-07            | 7.854E-07                         | 7.854E-07 |      |
| B     | 1.6                                      | 0.18                 | 823.               | 0.                | 0.           | 0.            | 118.1              | 88.8              | 118.1             | 1.945E-05            | 1.871E-05                         | 1.871E-05 |      |
| B     | 3.3                                      | 1.40                 | 823.               | 0.                | 0.           | 0.            | 118.1              | 88.8              | 118.1             | 9.075E-06            | 8.732E-06                         | 8.732E-06 |      |
| B     | 5.6                                      | 1.83                 | 823.               | 0.                | 0.           | 0.            | 118.1              | 88.8              | 118.1             | 5.445E-06            | 5.239E-06                         | 5.239E-06 |      |
| B     | 8.2                                      | 0.43                 | 823.               | 0.                | 0.           | 0.            | 118.1              | 88.8              | 118.1             | 3.679E-06            | 3.540E-06                         | 3.540E-06 |      |
| C     | 1.6                                      | 0.18                 | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 4.443E-05            | 4.078E-05                         | 4.078E-05 |      |
| C     | 3.3                                      | 0.94                 | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 2.073E-05            | 1.903E-05                         | 1.903E-05 |      |
| C     | 5.6                                      | 1.64                 | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 1.244E-05            | 1.142E-05                         | 1.142E-05 |      |
| C     | 8.2                                      | 0.41                 | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 8.406E-06            | 7.714E-06                         | 7.714E-06 |      |
| D     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 124.7             | 4.217E-04            | 6.716E-04                         | 4.217E-04 |      |
| D     | 1.6                                      | 3.94                 | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 124.7             | 6.024E-05            | 9.594E-05                         | 6.024E-05 |      |
| D     | 3.3                                      | 15.18                | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 90.6              | 3.869E-05            | 4.477E-05                         | 3.869E-05 |      |
| D     | 5.6                                      | 18.92                | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 66.1              | 3.183E-05            | 2.686E-05                         | 2.686E-05 |      |
| D     | 8.2                                      | 3.47                 | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 63.2              | 2.250E-05            | 1.815E-05                         | 1.815E-05 |      |
| E     | 0.2                                      | 0.09                 | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 132.5             | 5.778E-04            | 1.144E-03                         | 5.778E-04 |      |
| E     | 1.6                                      | 12.49                | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 132.5             | 8.255E-05            | 1.634E-04                         | 8.255E-05 |      |
| E     | 3.3                                      | 19.45                | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 79.9              | 6.389E-05            | 7.627E-05                         | 6.389E-05 |      |
| E     | 5.6                                      | 5.27                 | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 48.4              | 6.329E-05            | 4.576E-05                         | 4.576E-05 |      |
| E     | 8.2                                      | 0.18                 | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 44.9              | 4.606E-05            | 3.092E-05                         | 3.092E-05 |      |
| F     | 0.2                                      | 0.05                 | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 121.7             | 9.797E-04            | 1.827E-03                         | 9.797E-04 |      |
| F     | 1.6                                      | 6.79                 | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 121.7             | 1.400E-04            | 2.609E-04                         | 1.400E-04 |      |
| F     | 3.3                                      | 1.87                 | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 64.2              | 1.238E-04            | 1.218E-04                         | 1.218E-04 |      |
| F     | 5.6                                      | 0.02                 | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 34.1              | 1.400E-04            | 7.306E-05                         | 7.306E-05 |      |
| G     | 0.2                                      | 0.02                 | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 125.7             | 1.477E-03            | 2.891E-03                         | 1.477E-03 |      |
| G     | 1.6                                      | 2.44                 | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 125.7             | 2.109E-04            | 4.129E-04                         | 2.109E-04 |      |
| G     | 3.3                                      | 0.14                 | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 54.9              | 2.255E-04            | 1.927E-04                         | 1.927E-04 |      |

CA=1292.SQ.METERS

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 7.306E-05 |
| 0.019     | 0.070     | 0.159     | 0.168     | 2.610     | 2.753     | 9.544     | 11.411    | 23.905    | 23.926    |
| 0.00220   | 0.00798   | 0.01814   | 0.01918   | 0.29738   | 0.31375   | 1.08758   | 1.30033   | 2.72409   | 2.72643   |
| 6.389E-05 | 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 |
| 43.375    | 47.314    | 52.587    | 52.772    | 67.954    | 68.138    | 87.054    | 87.998    | 88.183    | 91.650    |
| 4.94273   | 5.39160   | 5.99243   | 6.01347   | 7.74349   | 7.76453   | 9.92005   | 10.02759  | 10.04863  | 10.44373  |
| 1.142E-05 | 8.732E-06 | 7.714E-06 | 5.239E-06 | 4.152E-06 | 3.540E-06 | 1.937E-06 | 1.162E-06 | 7.854E-07 |           |
| 93.291    | 94.686    | 95.097    | 96.923    | 97.415    | 97.846    | 99.426    | 99.938    | 100.000   |           |
| 10.63076  | 10.78974  | 10.83649  | 11.04456  | 11.10067  | 11.14977  | 11.32978  | 11.38823  | 11.39524  |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 1.086  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 4.939  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 5.388  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 7.740  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 9.917

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 15 1 -6.51806 -11.89504 -1.31622  
 15 2 -8.87417 -11.66752 -1.21708



Calculation No. PM-1055 Revision 0

Attachment J

|    |   |           |             |          |        |
|----|---|-----------|-------------|----------|--------|
| 15 | 3 | -9.65837  | -11.94803   | -1.38701 |        |
| 15 | 4 | -9.71722  | -13.55345   | -2.38518 |        |
| 15 | 5 | -10.15982 | -13.96383   | -2.67361 |        |
| 15 | 6 | -10.52476 | NUMXQ(K)= 6 |          |        |
|    |   | 3.788E-04 | 0.114       |          | 1.000  |
|    |   | 2.401E-04 | 0.342       |          | 3.000  |
|    |   | 1.909E-04 | 0.570       |          | 5.000  |
|    |   | 1.370E-04 | 1.140       |          | 10.000 |
|    |   | 1.129E-04 | 1.709       |          | 15.000 |
|    |   | 9.769E-05 | 2.279       |          | 20.000 |
|    |   | 8.694E-05 | 2.849       |          | 25.000 |
|    |   | 7.878E-05 | 3.419       |          | 30.000 |
|    |   | 7.230E-05 | 3.988       |          | 35.000 |
|    |   | 6.698E-05 | 4.558       |          | 40.000 |
|    |   | 6.233E-05 | 5.128       |          | 45.000 |
|    |   | 5.643E-05 | 5.698       |          | 50.000 |
|    |   | 5.033E-05 | 6.267       |          | 55.000 |
|    |   | 4.524E-05 | 6.837       |          | 60.000 |
|    |   | 4.094E-05 | 7.407       |          | 65.000 |
|    |   | 3.708E-05 | 7.977       |          | 70.000 |
|    |   | 3.355E-05 | 8.546       |          | 75.000 |
|    |   | 3.050E-05 | 9.116       |          | 80.000 |
|    |   | 2.785E-05 | 9.686       |          | 85.000 |
|    |   | 2.026E-04 | 0.5         |          | 4.39   |

ANNUAL AVERAGE = 5.54E-06

K= 15 FIVEXQ(K)= 2.026E-04 FIVEPR(K)= 4.388

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 1.6                                      | 0.84                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.187E-06         | 4.152E-06            | 4.152E-06                         |           |      |
| A               | 3.3                                      | 4.22                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.954E-06         | 1.937E-06            | 1.937E-06                         |           |      |
| A               | 5.6                                      | 1.88                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.172E-06         | 1.162E-06            | 1.162E-06                         |           |      |
| A               | 8.2                                      | 0.02                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 7.921E-07         | 7.854E-07            | 7.854E-07                         |           |      |
| B               | 1.6                                      | 0.79                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 1.945E-05         | 1.871E-05            | 1.871E-05                         |           |      |
| B               | 3.3                                      | 3.47                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 9.075E-06         | 8.732E-06            | 8.732E-06                         |           |      |
| B               | 5.6                                      | 3.51                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 5.445E-06         | 5.239E-06            | 5.239E-06                         |           |      |
| B               | 8.2                                      | 0.19                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 3.679E-06         | 3.540E-06            | 3.540E-06                         |           |      |
| C               | 1.6                                      | 0.69                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.443E-05         | 4.078E-05            | 4.078E-05                         |           |      |
| C               | 3.3                                      | 2.61                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.073E-05         | 1.903E-05            | 1.903E-05                         |           |      |
| C               | 5.6                                      | 2.61                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.244E-05         | 1.142E-05            | 1.142E-05                         |           |      |
| C               | 8.2                                      | 0.33                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 8.406E-06         | 7.714E-06            | 7.714E-06                         |           |      |
| D               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.217E-04         | 6.716E-04            | 4.217E-04                         |           |      |
| D               | 1.6                                      | 4.97                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.024E-05         | 9.594E-05            | 6.024E-05                         |           |      |
| D               | 3.3                                      | 19.27                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 90.6              | 3.869E-05         | 4.477E-05            | 3.869E-05                         |           |      |
| D               | 5.6                                      | 16.55                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 66.1              | 3.183E-05         | 2.686E-05            | 2.686E-05                         |           |      |
| D               | 8.2                                      | 2.76                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.250E-05         | 1.815E-05            | 1.815E-05                         |           |      |
| D               | 24.5                                     | 0.06                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 7.570E-06         | 6.105E-06            | 6.105E-06                         |           |      |
| E               | 0.2                                      | 0.06                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 5.778E-04         | 1.144E-03            | 5.778E-04                         |           |      |
| E               | 1.6                                      | 8.92                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 8.255E-05         | 1.634E-04            | 8.255E-05                         |           |      |
| E               | 3.3                                      | 15.90                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 79.9              | 6.389E-05         | 7.627E-05            | 6.389E-05                         |           |      |
| E               | 5.6                                      | 4.41                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 48.4              | 6.329E-05         | 4.576E-05            | 4.576E-05                         |           |      |
| E               | 8.2                                      | 0.21                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 4.606E-05         | 3.092E-05            | 3.092E-05                         |           |      |
| E               | 10.7                                     | 0.02                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 3.551E-05         | 2.383E-05            | 2.383E-05                         |           |      |
| E               | 24.5                                     | 0.13                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 1.549E-05         | 1.040E-05            | 1.040E-05                         |           |      |
| F               | 0.2                                      | 0.03                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 9.797E-04         | 1.827E-03            | 9.797E-04                         |           |      |
| F               | 1.6                                      | 3.39                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.400E-04         | 2.609E-04            | 1.400E-04                         |           |      |
| F               | 3.3                                      | 0.79                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 64.2              | 1.238E-04         | 1.218E-04            | 1.218E-04                         |           |      |
| F               | 5.6                                      | 0.04                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 34.1              | 1.400E-04         | 7.306E-05            | 7.306E-05                         |           |      |
| G               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.477E-03         | 2.891E-03            | 1.477E-03                         |           |      |
| G               | 1.6                                      | 1.21                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.109E-04         | 4.129E-04            | 2.109E-04                         |           |      |
| G               | 3.3                                      | 0.06                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 54.9              | 2.255E-04         | 1.927E-04            | 1.927E-04                         |           |      |
| G               | 5.6                                      | 0.02                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 24.2              | 3.073E-04         | 1.156E-04            | 1.156E-04                         |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 1.156E-04 | 8.255E-05 |
| 0.010     | 0.035     | 0.099     | 0.110     | 1.322     | 1.385     | 4.770     | 5.564     | 5.585     | 14.508    |
| 0.00107   | 0.00390   | 0.01102   | 0.01231   | 0.14790   | 0.15492   | 0.53365   | 0.62249   | 0.62483   | 1.62310   |
| 7.306E-05 | 6.389E-05 | 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 2.383E-05 | 1.903E-05 |
| 14.550    | 30.453    | 35.427    | 39.836    | 40.526    | 59.793    | 60.002    | 76.553    | 76.574    | 79.186    |
| 1.62777   | 3.40689   | 3.96331   | 4.45660   | 4.53375   | 6.68926   | 6.71264   | 8.56423   | 8.56657   | 8.85880   |
| 1.871E-05 | 1.815E-05 | 1.142E-05 | 1.040E-05 | 8.732E-06 | 7.714E-06 | 6.105E-06 | 5.239E-06 | 4.152E-06 | 3.540E-06 |
| 79.980    | 82.739    | 85.351    | 85.476    | 88.945    | 89.280    | 89.342    | 92.853    | 93.689    | 93.877    |
| 8.94764   | 9.25624   | 9.54847   | 9.56250   | 9.95059   | 9.98799   | 9.99501   | 10.38777  | 10.48128  | 10.50232  |
| 1.937E-06 | 1.162E-06 | 7.854E-07 |           |           |           |           |           |           |           |
| 98.098    | 99.979    | 100.000   |           |           |           |           |           |           |           |
| 10.97457  | 11.18498  | 11.18732  |           |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 1.621  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 6.685  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 8.561  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 9.253

Calculation No. PM-1055 Revision 0

Attachment J

| K  | I | XQSAVE (K,I) | XQINT (K,I)   | XQSLOP (K,I) |
|----|---|--------------|---------------|--------------|
| 16 | 1 | -6.51806     | -12.32618     | -1.36693     |
| 16 | 2 | -9.40215     | -11.14419     | -0.81437     |
| 16 | 3 | -9.65837     | -11.21124     | -0.85112     |
| 16 | 4 | -9.71722     | -12.75544     | -1.73083     |
| 16 | 5 | -10.15982    | -14.32732     | -2.77900     |
| 16 | 6 | -10.52476    | -23.00779     | -9.12290     |
| 16 | 7 | -10.91680    | NUMXQ (K) = 7 |              |
|    |   | 2.895E-04    | 0.112         | 1.000        |
|    |   | 1.804E-04    | 0.336         | 3.000        |
|    |   | 1.422E-04    | 0.559         | 5.000        |
|    |   | 1.007E-04    | 1.119         | 10.000       |
|    |   | 8.165E-05    | 1.678         | 15.000       |
|    |   | 7.415E-05    | 2.237         | 20.000       |
|    |   | 6.860E-05    | 2.797         | 25.000       |
|    |   | 6.424E-05    | 3.356         | 30.000       |
|    |   | 6.053E-05    | 3.916         | 35.000       |
|    |   | 5.458E-05    | 4.475         | 40.000       |
|    |   | 4.950E-05    | 5.034         | 45.000       |
|    |   | 4.526E-05    | 5.594         | 50.000       |
|    |   | 4.166E-05    | 6.153         | 55.000       |
|    |   | 3.850E-05    | 6.712         | 60.000       |
|    |   | 3.429E-05    | 7.272         | 65.000       |
|    |   | 3.074E-05    | 7.831         | 70.000       |
|    |   | 2.771E-05    | 8.390         | 75.000       |
|    |   | 2.153E-05    | 8.950         | 80.000       |
|    |   | 1.500E-04    | 0.5           | 4.47         |

ANNUAL AVERAGE = 4.28E-06

K= 16 FIVEXQ (K) = 1.500E-04 FIVEPR (K) = 4.469

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

| CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER | BLDG WAKE | USED |
|-------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|---------|-----------|------|
|       | AT 10.0 METERS         |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |         |           |      |
| A     | 1.6                    | 2.07                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.187E-06         | 4.152E-06            | 4.152E-06                         |         |           |      |
| A     | 3.3                    | 3.09                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.954E-06         | 1.937E-06            | 1.937E-06                         |         |           |      |
| A     | 5.6                    | 1.12                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.172E-06         | 1.162E-06            | 1.162E-06                         |         |           |      |
| A     | 8.2                    | 0.09                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 7.921E-07         | 7.854E-07            | 7.854E-07                         |         |           |      |
| A     | 24.5                   | 0.01                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 2.664E-07         | 2.642E-07            | 2.642E-07                         |         |           |      |
| B     | 1.6                    | 1.14                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 1.945E-05         | 1.871E-05            | 1.871E-05                         |         |           |      |
| B     | 3.3                    | 2.32                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 9.075E-06         | 8.732E-06            | 8.732E-06                         |         |           |      |
| B     | 5.6                    | 1.66                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 5.445E-06         | 5.239E-06            | 5.239E-06                         |         |           |      |
| B     | 8.2                    | 0.19                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 3.679E-06         | 3.540E-06            | 3.540E-06                         |         |           |      |
| B     | 10.7                   | 0.00                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 2.836E-06         | 2.729E-06            | 2.729E-06                         |         |           |      |
| B     | 24.5                   | 0.00                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 1.237E-06         | 1.191E-06            | 1.191E-06                         |         |           |      |
| C     | 1.6                    | 0.70                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.443E-05         | 4.078E-05            | 4.078E-05                         |         |           |      |
| C     | 3.3                    | 1.33                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.073E-05         | 1.903E-05            | 1.903E-05                         |         |           |      |
| C     | 5.6                    | 1.13                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.244E-05         | 1.142E-05            | 1.142E-05                         |         |           |      |
| C     | 8.2                    | 0.15                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 8.406E-06         | 7.714E-06            | 7.714E-06                         |         |           |      |
| C     | 10.7                   | 0.00                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 6.479E-06         | 5.947E-06            | 5.947E-06                         |         |           |      |
| D     | 0.2                    | 0.02                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 8.327E-04         | 6.716E-04            | 6.716E-04                         |         |           |      |
| D     | 1.6                    | 8.11                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 1.190E-04         | 9.594E-05            | 9.594E-05                         |         |           |      |
| D     | 3.3                    | 12.97                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 5.551E-05         | 4.477E-05            | 4.477E-05                         |         |           |      |
| D     | 5.6                    | 8.31                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 3.331E-05         | 2.686E-05            | 2.686E-05                         |         |           |      |
| D     | 8.2                    | 1.17                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.250E-05         | 1.815E-05            | 1.815E-05                         |         |           |      |
| D     | 10.7                   | 0.01                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 1.735E-05         | 1.399E-05            | 1.399E-05                         |         |           |      |
| D     | 24.5                   | 0.01                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 7.570E-06         | 6.105E-06            | 6.105E-06                         |         |           |      |
| E     | 0.2                    | 0.13                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 1.704E-03         | 1.144E-03            | 1.144E-03                         |         |           |      |
| E     | 1.6                    | 17.70                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 2.435E-04         | 1.634E-04            | 1.634E-04                         |         |           |      |
| E     | 3.3                    | 17.17                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 1.136E-04         | 7.627E-05            | 7.627E-05                         |         |           |      |
| E     | 5.6                    | 3.18                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 6.817E-05         | 4.576E-05            | 4.576E-05                         |         |           |      |
| E     | 8.2                    | 0.17                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 4.606E-05         | 3.092E-05            | 3.092E-05                         |         |           |      |
| E     | 10.7                   | 0.00                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 3.551E-05         | 2.383E-05            | 2.383E-05                         |         |           |      |
| E     | 24.5                   | 0.02                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 1.549E-05         | 1.040E-05            | 1.040E-05                         |         |           |      |
| F     | 0.2                    | 0.06                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 31.0              | 3.845E-03         | 1.827E-03            | 1.827E-03                         |         |           |      |
| F     | 1.6                    | 8.14                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 31.0              | 5.492E-04         | 2.609E-04            | 2.609E-04                         |         |           |      |
| F     | 3.3                    | 2.33                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 31.0              | 2.563E-04         | 1.218E-04            | 1.218E-04                         |         |           |      |
| F     | 5.6                    | 0.02                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 31.0              | 1.538E-04         | 7.306E-05            | 7.306E-05                         |         |           |      |

|   |     |      |      |    |    |      |     |      |           |           |           |
|---|-----|------|------|----|----|------|-----|------|-----------|-----------|-----------|
| G | 0.2 | 0.04 | 823. | 0. | 0. | 21.4 | 7.7 | 21.4 | 8.673E-03 | 2.891E-03 | 2.891E-03 |
| G | 1.6 | 4.43 | 823. | 0. | 0. | 21.4 | 7.7 | 21.4 | 1.239E-03 | 4.129E-04 | 4.129E-04 |
| G | 3.3 | 1.01 | 823. | 0. | 0. | 21.4 | 7.7 | 21.4 | 5.782E-04 | 1.927E-04 | 1.927E-04 |
| G | 5.6 | 0.00 | 823. | 0. | 0. | 21.4 | 7.7 | 21.4 | 3.469E-04 | 1.156E-04 | 1.156E-04 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 823.0 METERS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.891E-03 | 1.827E-03 | 1.144E-03 | 6.716E-04 | 4.129E-04 | 2.609E-04 | 1.927E-04 | 1.634E-04 | 1.218E-04 | 1.156E-04 |
| 0.035     | 0.096     | 0.222     | 0.241     | 4.671     | 12.807    | 13.817    | 31.514    | 33.841    | 33.845    |
| 0.03507   | 0.09585   | 0.22210   | 0.24080   | 4.67106   | 12.80684  | 13.81680  | 31.51447  | 33.84065  | 33.84533  |
| 9.594E-05 | 7.627E-05 | 7.306E-05 | 4.576E-05 | 4.477E-05 | 4.078E-05 | 3.092E-05 | 2.686E-05 | 2.383E-05 | 1.903E-05 |
| 41.953    | 59.127    | 59.146    | 62.328    | 75.293    | 75.995    | 76.165    | 84.472    | 84.477    | 85.807    |
| 41.95306  | 59.12704  | 59.14574  | 62.32758  | 75.29340  | 75.99477  | 76.16543  | 84.47188  | 84.47655  | 85.80680  |
| 1.871E-05 | 1.815E-05 | 1.399E-05 | 1.142E-05 | 1.040E-05 | 8.732E-06 | 7.714E-06 | 6.105E-06 | 5.947E-06 | 5.239E-06 |
| 86.948    | 88.121    | 88.128    | 89.260    | 89.276    | 91.595    | 91.745    | 91.757    | 91.759    | 93.424    |
| 86.94768  | 88.12128  | 88.12830  | 89.25983  | 89.27619  | 91.59535  | 91.74497  | 91.75666  | 91.75900  | 93.42356  |
| 4.152E-06 | 3.540E-06 | 2.729E-06 | 1.937E-06 | 1.191E-06 | 1.162E-06 | 7.854E-07 | 2.642E-07 |           |           |
| 95.495    | 95.689    | 95.691    | 98.777    | 98.780    | 99.897    | 99.991    | 100.000   |           |           |
| 95.49491  | 95.68896  | 95.69129  | 98.77728  | 98.77962  | 99.89712  | 99.99063  | 99.99998  |           |           |

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

**PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED**

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|           |        |        |
|-----------|--------|--------|
| 1.012E-03 | 1.000  | 1.000  |
| 6.517E-04 | 3.000  | 3.000  |
| 5.162E-04 | 5.000  | 5.000  |
| 3.605E-04 | 10.000 | 10.000 |
| 2.829E-04 | 15.000 | 15.000 |
| 2.333E-04 | 20.000 | 20.000 |
| 1.978E-04 | 25.000 | 25.000 |
| 1.705E-04 | 30.000 | 30.000 |
| 1.475E-04 | 35.000 | 35.000 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|           |        |        |
|-----------|--------|--------|
| 1.280E-04 | 40.000 | 40.000 |
| 1.117E-04 | 45.000 | 45.000 |
| 9.762E-05 | 50.000 | 50.000 |
| 8.535E-05 | 55.000 | 55.000 |
| 7.427E-05 | 60.000 | 60.000 |
| 6.360E-05 | 65.000 | 65.000 |
| 5.400E-05 | 70.000 | 70.000 |
| 4.526E-05 | 75.000 | 75.000 |
| 3.507E-05 | 80.000 | 80.000 |
| 2.549E-05 | 85.000 | 85.000 |
| 1.604E-05 | 90.000 | 90.000 |
| 5.162E-04 | 5.0    | 5.00   |

K= 17      FIVEXQ(K)= 5.162E-04      FIVEPR(K)= 5.000



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 1.156E-04 | 8.255E-05 |
| 0.035     | 0.096     | 0.222     | 0.241     | 4.671     | 5.681     | 13.817    | 16.143    | 16.148    | 33.845    |
| 0.03507   | 0.09585   | 0.22210   | 0.24080   | 4.67106   | 5.68102   | 13.81680  | 16.14298  | 16.14766  | 33.84532  |
| 7.306E-05 | 6.389E-05 | 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 2.383E-05 | 1.903E-05 |
| 33.864    | 51.038    | 59.146    | 62.328    | 63.029    | 75.995    | 76.165    | 84.472    | 84.477    | 85.807    |
| 33.86403  | 51.03802  | 59.14575  | 62.32759  | 63.02894  | 75.99476  | 76.16543  | 84.47186  | 84.47653  | 85.80677  |
| 1.871E-05 | 1.815E-05 | 1.399E-05 | 1.142E-05 | 1.040E-05 | 8.732E-06 | 7.714E-06 | 6.105E-06 | 5.947E-06 | 5.239E-06 |
| 86.948    | 88.121    | 88.128    | 89.260    | 89.276    | 91.595    | 91.745    | 91.757    | 91.759    | 93.424    |
| 86.94765  | 88.12126  | 88.12827  | 89.25978  | 89.27615  | 91.59528  | 91.74490  | 91.75658  | 91.75892  | 93.42348  |
| 4.152E-06 | 3.540E-06 | 2.729E-06 | 1.937E-06 | 1.191E-06 | 1.162E-06 | 7.854E-07 | 2.642E-07 |           |           |
| 95.495    | 95.689    | 95.691    | 98.777    | 98.780    | 99.897    | 99.991    | 100.000   |           |           |
| 95.49483  | 95.68887  | 95.69120  | 98.77720  | 98.77953  | 99.89703  | 99.99052  | 99.99987  |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

| K  | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|----|---|-------------|--------------|-------------|
| 18 | 1 | -6.51806    | -9.80595     | -0.97009    |
| 18 | 2 | -9.40215    | -9.60481     | -0.48686    |
| 18 | 3 | -9.71722    | -9.50206     | -0.93185    |
| 18 | 4 | -10.15982   | -9.32390     | -1.18425    |
| 18 | 5 | -10.52476   | -8.14652     | -2.34535    |
| 18 | 6 | -10.91680   | -9.46307     | -1.23075    |
| 18 | 7 | -14.05704   | NUMXQ(K) = 7 |             |

|           |        |        |
|-----------|--------|--------|
| 5.268E-04 | 1.000  | 1.000  |
| 3.419E-04 | 3.000  | 3.000  |
| 2.719E-04 | 5.000  | 5.000  |
| 1.911E-04 | 10.000 | 10.000 |
| 1.507E-04 | 15.000 | 15.000 |
| 1.247E-04 | 20.000 | 20.000 |
| 1.060E-04 | 25.000 | 25.000 |
| 9.164E-05 | 30.000 | 30.000 |
| 8.129E-05 | 35.000 | 35.000 |
| 7.624E-05 | 40.000 | 40.000 |
| 7.165E-05 | 45.000 | 45.000 |
| 6.740E-05 | 50.000 | 50.000 |
| 6.341E-05 | 55.000 | 55.000 |
| 5.901E-05 | 60.000 | 60.000 |
| 5.219E-05 | 65.000 | 65.000 |
| 4.584E-05 | 70.000 | 70.000 |
| 3.985E-05 | 75.000 | 75.000 |
| 3.295E-05 | 80.000 | 80.000 |
| 2.549E-05 | 85.000 | 85.000 |
| 1.604E-05 | 90.000 | 90.000 |

2.719E-04                      5.0                      5.00

K= 18            FIVEXQ(K)= 2.719E-04            FIVEPR(K)= 5.000

| K  | HIGHPR   | PR      | GRNDVT (K) |
|----|----------|---------|------------|
| 1  | -3.19248 | 0.07054 | 7.16050    |
| 2  | -1.89452 | 2.90780 | 3.52922    |
| 3  | -3.30045 | 0.04827 | 3.23970    |
| 4  | -3.26009 | 0.05569 | 2.96101    |
| 5  | -3.11367 | 0.09239 | 3.59423    |
| 6  | -3.13272 | 0.08661 | 3.74028    |
| 7  | -3.22275 | 0.06349 | 4.91057    |
| 8  | -3.21567 | 0.06508 | 6.63198    |
| 9  | -3.18699 | 0.07189 | 8.27142    |
| 10 | -3.19007 | 0.07113 | 4.16751    |
| 11 | -2.92509 | 0.17219 | 4.48639    |
| 12 | -2.57624 | 0.49942 | 6.76889    |
| 13 | -2.67575 | 0.37282 | 8.24935    |
| 14 | -2.83305 | 0.23054 | 9.70638    |
| 15 | -2.98351 | 0.14248 | 11.39525   |
| 16 | -3.18823 | 0.07158 | 11.18732   |

| K | HOURS (K) | TOTHR     |
|---|-----------|-----------|
| 1 | 6.17897   | 6.17897   |
| 2 | 254.72330 | 260.90230 |
| 3 | 4.22826   | 265.13060 |
| 4 | 4.87885   | 270.00940 |
| 5 | 8.09364   | 278.10300 |
| 6 | 7.58665   | 285.68970 |
| 7 | 5.56180   | 291.25150 |
| 8 | 5.70069   | 296.95210 |
| 9 | 6.29749   | 303.24960 |

Calculation No. PM-1055 Revision 0

Attachment J

|    |          |           |
|----|----------|-----------|
| 10 | 6.23066  | 309.48030 |
| 11 | 15.08348 | 324.56380 |
| 12 | 43.74879 | 368.31260 |
| 13 | 32.65860 | 400.97120 |
| 14 | 20.19520 | 421.16640 |
| 15 | 12.48168 | 433.64800 |
| 16 | 6.27034  | 439.91840 |

| K | FIVEXQ    | SVANN     | SLTIME  | TIMINT  | I | TIME  | XQT       |
|---|-----------|-----------|---------|---------|---|-------|-----------|
| 1 | 1.596E-04 | 3.660E-06 | -0.4502 | -8.4310 | 1 | 8.0   | -9.36720  |
|   |           |           |         |         | 2 | 16.0  | -9.67927  |
|   |           |           |         |         | 3 | 72.0  | -10.35644 |
|   |           |           |         |         | 4 | 624.0 | -11.32868 |
| 2 | 1.296E-04 | 2.400E-06 | -0.4757 | -8.6213 | 1 | 8.0   | -9.61057  |
|   |           |           |         |         | 2 | 16.0  | -9.94032  |
|   |           |           |         |         | 3 | 72.0  | -10.65584 |
|   |           |           |         |         | 4 | 624.0 | -11.68316 |
| 3 | 1.335E-04 | 2.444E-06 | -0.4771 | -8.5909 | 1 | 8.0   | -9.58300  |
|   |           |           |         |         | 2 | 16.0  | -9.91369  |
|   |           |           |         |         | 3 | 72.0  | -10.63127 |
|   |           |           |         |         | 4 | 624.0 | -11.66153 |
| 4 | 1.318E-04 | 2.308E-06 | -0.4824 | -8.5997 | 1 | 8.0   | -9.60279  |
|   |           |           |         |         | 2 | 16.0  | -9.93716  |
|   |           |           |         |         | 3 | 72.0  | -10.66271 |
|   |           |           |         |         | 4 | 624.0 | -11.70443 |
| 5 | 1.638E-04 | 3.105E-06 | -0.4729 | -8.3888 | 1 | 8.0   | -9.37231  |
|   |           |           |         |         | 2 | 16.0  | -9.70014  |
|   |           |           |         |         | 3 | 72.0  | -10.41148 |
|   |           |           |         |         | 4 | 624.0 | -11.43281 |
| 6 | 1.620E-04 | 2.863E-06 | -0.4813 | -8.3945 | 1 | 8.0   | -9.39530  |
|   |           |           |         |         | 2 | 16.0  | -9.72889  |
|   |           |           |         |         | 3 | 72.0  | -10.45275 |
|   |           |           |         |         | 4 | 624.0 | -11.49202 |
| 7 | 1.499E-04 | 2.932E-06 | -0.4692 | -8.4806 | 1 | 8.0   | -9.45616  |
|   |           |           |         |         | 2 | 16.0  | -9.78136  |
|   |           |           |         |         | 3 | 72.0  | -10.48702 |
|   |           |           |         |         | 4 | 624.0 | -11.50018 |
| 8 | 1.601E-04 | 3.492E-06 | -0.4562 | -8.4235 | 1 | 8.0   | -9.37217  |
|   |           |           |         |         | 2 | 16.0  | -9.68838  |
|   |           |           |         |         | 3 | 72.0  | -10.37454 |
|   |           |           |         |         | 4 | 624.0 | -11.35969 |
| 9 | 1.662E-04 | 3.785E-06 | -0.4511 | -8.3896 | 1 | 8.0   | -9.32757  |
|   |           |           |         |         | 2 | 16.0  | -9.64022  |
|   |           |           |         |         | 3 | 72.0  | -10.31864 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|    |           |           |         |         |   |       |           |
|----|-----------|-----------|---------|---------|---|-------|-----------|
| 10 | 1.483E-04 | 2.548E-06 | -0.4846 | -8.4806 | 4 | 624.0 | -11.29270 |
|    |           |           |         |         | 1 | 8.0   | -9.48837  |
|    |           |           |         |         | 2 | 16.0  | -9.82430  |
|    |           |           |         |         | 3 | 72.0  | -10.55325 |
|    |           |           |         |         | 4 | 624.0 | -11.59984 |
| 11 | 2.170E-04 | 3.470E-06 | -0.4932 | -8.0936 | 1 | 8.0   | -9.11931  |
|    |           |           |         |         | 2 | 16.0  | -9.46119  |
|    |           |           |         |         | 3 | 72.0  | -10.20306 |
|    |           |           |         |         | 4 | 624.0 | -11.26821 |
| 12 | 3.463E-04 | 6.487E-06 | -0.4744 | -7.6393 | 1 | 8.0   | -8.62570  |
|    |           |           |         |         | 2 | 16.0  | -8.95451  |
|    |           |           |         |         | 3 | 72.0  | -9.66800  |
|    |           |           |         |         | 4 | 624.0 | -10.69239 |
| 13 | 3.039E-04 | 6.501E-06 | -0.4585 | -7.7810 | 1 | 8.0   | -8.73448  |
|    |           |           |         |         | 2 | 16.0  | -9.05229  |
|    |           |           |         |         | 3 | 72.0  | -9.74193  |
|    |           |           |         |         | 4 | 624.0 | -10.73208 |
| 14 | 2.463E-04 | 5.732E-06 | -0.4485 | -7.9981 | 1 | 8.0   | -8.93071  |
|    |           |           |         |         | 2 | 16.0  | -9.24157  |
|    |           |           |         |         | 3 | 72.0  | -9.91610  |
|    |           |           |         |         | 4 | 624.0 | -10.88456 |
| 15 | 2.026E-04 | 5.538E-06 | -0.4293 | -8.2066 | 1 | 8.0   | -9.09929  |
|    |           |           |         |         | 2 | 16.0  | -9.39686  |
|    |           |           |         |         | 3 | 72.0  | -10.04255 |
|    |           |           |         |         | 4 | 624.0 | -10.96962 |
| 16 | 1.500E-04 | 4.285E-06 | -0.4241 | -8.5107 | 1 | 8.0   | -9.39252  |
|    |           |           |         |         | 2 | 16.0  | -9.68646  |
|    |           |           |         |         | 3 | 72.0  | -10.32428 |
|    |           |           |         |         | 4 | 624.0 | -11.24004 |
| 17 | 5.162E-04 | 6.501E-06 | -0.5217 | -7.2074 | 1 | 8.0   | -8.29226  |
|    |           |           |         |         | 2 | 16.0  | -8.65387  |
|    |           |           |         |         | 3 | 72.0  | -9.43855  |
|    |           |           |         |         | 4 | 624.0 | -10.56514 |
| 18 | 2.719E-04 | 6.501E-06 | -0.4453 | -7.9013 | 1 | 8.0   | -8.82721  |
|    |           |           |         |         | 2 | 16.0  | -9.13584  |
|    |           |           |         |         | 3 | 72.0  | -9.80555  |
|    |           |           |         |         | 4 | 624.0 | -10.76709 |

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
VERSUS  
AVERAGING TIME

| DOWNWIND SECTOR | DISTANCE (METERS) | RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER) |           |            |          |           | HOURS PER YEAR MAX |                                  | DOWNWIND SECTOR |
|-----------------|-------------------|---|-----------|------------|----------|-----------|--------------------|----------------------------------|-----------------|
|                 |                   | 0-2 HOURS   | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE     | 0-2 HR X/Q IS EXCEEDED IN SECTOR |                 |
| S               | 823.              | 1.60E-04  | 8.55E-05  | 6.26E-05   | 3.18E-05 | 1.20E-05  | 3.66E-06           | 6.2                              | S               |
| SSW             | 823.              | 1.30E-04  | 6.70E-05  | 4.82E-05   | 2.36E-05 | 8.43E-06  | 2.40E-06           | 254.7                            | SSW             |
| SW              | 823.              | 1.33E-04  | 6.89E-05  | 4.95E-05   | 2.41E-05 | 8.62E-06  | 2.44E-06           | 4.2                              | SW              |
| WSW             | 823.              | 1.32E-04  | 6.75E-05  | 4.83E-05   | 2.34E-05 | 8.26E-06  | 2.31E-06           | 4.9                              | WSW             |
| W               | 823.              | 1.64E-04  | 8.50E-05  | 6.13E-05   | 3.01E-05 | 1.08E-05  | 3.11E-06           | 8.1                              | W               |
| WNW             | 823.              | 1.62E-04  | 8.31E-05  | 5.95E-05   | 2.89E-05 | 1.02E-05  | 2.86E-06           | 7.6                              | WNW             |
| NW              | 823.              | 1.50E-04  | 7.82E-05  | 5.65E-05   | 2.79E-05 | 1.01E-05  | 2.93E-06           | 5.6                              | NW              |
| NNW             | 823.              | 1.60E-04  | 8.51E-05  | 6.20E-05   | 3.12E-05 | 1.17E-05  | 3.49E-06           | 5.7                              | NNW             |
| N               | 823.              | 1.66E-04  | 8.89E-05  | 6.51E-05   | 3.30E-05 | 1.25E-05  | 3.79E-06           | 6.3                              | N               |
| NNE             | 823.              | 1.48E-04  | 7.57E-05  | 5.41E-05   | 2.61E-05 | 9.17E-06  | 2.55E-06           | 6.2                              | NNE             |
| NE              | 823.              | 2.17E-04  | 1.10E-04  | 7.78E-05   | 3.71E-05 | 1.28E-05  | 3.47E-06           | 15.1                             | NE              |
| ENE             | 823.              | 3.46E-04  | 1.79E-04  | 1.29E-04   | 6.33E-05 | 2.27E-05  | 6.49E-06           | 43.7                             | ENE             |
| E               | 823.              | 3.04E-04  | 1.61E-04  | 1.17E-04   | 5.88E-05 | 2.18E-05  | 6.50E-06           | 32.7                             | E               |
| ESE             | 823.              | 2.46E-04  | 1.32E-04  | 9.69E-05   | 4.94E-05 | 1.87E-05  | 5.73E-06           | 20.2                             | ESE             |
| SE              | 823.              | 2.03E-04  | 1.12E-04  | 8.30E-05   | 4.35E-05 | 1.72E-05  | 5.54E-06           | 12.5                             | SE              |
| SSE             | 823.              | 1.50E-04  | 8.33E-05  | 6.21E-05   | 3.28E-05 | 1.31E-05  | 4.28E-06           | 6.3                              | SSE             |
| MAX X/Q         |                   | 3.46E-04  |           |            |          |           |                    | TOTAL HOURS AROUND SITE: 439.9   |                 |
| SRP 2.3.4       | 823.              | 5.16E-04  | 2.50E-04  | 1.74E-04   | 7.96E-05 | 2.58E-05  | 6.50E-06           |                                  |                 |
| SITE LIMIT      |                   | 2.72E-04  | 1.47E-04  | 1.08E-04   | 5.51E-05 | 2.11E-05  | 6.50E-06           |                                  |                 |

0.5 PERCENT X/Q TO AN INDIVIDUAL IS LIMITING.

**\*\*NOTE\*\***: VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
CHECK THE REASONABLENESS OF THE ENVELOPES  
COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

| CLASS | METER/SEC      | FREQUENCY PERCENT | DISTANCE METERS | TERRAIN METERS | HT EFF METERS | PLUME HT METERS | SIGMA-Y METERS | SIGMA-Z METERS | MEANDER-SY METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-------|----------------|-------------------|-----------------|----------------|---------------|-----------------|----------------|----------------|-------------------|-----------------------------------|-----------|------|
|       |                |                   |                 |                |               |                 |                |                |                   | MEANDER                           | BLDG WAKE | USED |
|       | AT 10.0 METERS |                   |                 |                |               |                 |                |                |                   | CA=1292.SQ.METERS                 |           |      |
| A     | 1.6            | 2.87              | 7300.           | 0.             | 0.            | 1000.0          | 1000.0         | 1000.0         | 2.039E-07         | 2.039E-07                         | 2.039E-07 |      |
| A     | 3.3            | 5.49              | 7300.           | 0.             | 0.            | 1000.0          | 1000.0         | 1000.0         | 9.517E-08         | 9.514E-08                         | 9.514E-08 |      |
| A     | 5.6            | 0.91              | 7300.           | 0.             | 0.            | 1000.0          | 1000.0         | 1000.0         | 5.710E-08         | 5.708E-08                         | 5.708E-08 |      |
| A     | 8.2            | 0.03              | 7300.           | 0.             | 0.            | 1000.0          | 1000.0         | 1000.0         | 3.858E-08         | 3.857E-08                         | 3.857E-08 |      |
| B     | 1.6            | 1.96              | 7300.           | 0.             | 0.            | 848.1           | 962.0          | 848.1          | 2.500E-07         | 2.498E-07                         | 2.498E-07 |      |
| B     | 3.3            | 4.70              | 7300.           | 0.             | 0.            | 848.1           | 962.0          | 848.1          | 1.166E-07         | 1.166E-07                         | 1.166E-07 |      |
| B     | 5.6            | 1.24              | 7300.           | 0.             | 0.            | 848.1           | 962.0          | 848.1          | 6.999E-08         | 6.995E-08                         | 6.995E-08 |      |
| B     | 8.2            | 0.07              | 7300.           | 0.             | 0.            | 848.1           | 962.0          | 848.1          | 4.729E-08         | 4.727E-08                         | 4.727E-08 |      |
| C     | 1.6            | 1.04              | 7300.           | 0.             | 0.            | 644.0           | 373.7          | 644.0          | 8.473E-07         | 8.459E-07                         | 8.459E-07 |      |
| C     | 3.3            | 1.89              | 7300.           | 0.             | 0.            | 644.0           | 373.7          | 644.0          | 3.954E-07         | 3.947E-07                         | 3.947E-07 |      |
| C     | 5.6            | 0.52              | 7300.           | 0.             | 0.            | 644.0           | 373.7          | 644.0          | 2.372E-07         | 2.368E-07                         | 2.368E-07 |      |
| C     | 8.2            | 0.03              | 7300.           | 0.             | 0.            | 644.0           | 373.7          | 644.0          | 1.603E-07         | 1.600E-07                         | 1.600E-07 |      |
| D     | 0.2            | 0.03              | 7300.           | 0.             | 0.            | 453.5           | 111.1          | 515.1          | 2.494E-05         | 2.810E-05                         | 2.494E-05 |      |
| D     | 1.6            | 12.70             | 7300.           | 0.             | 0.            | 453.5           | 111.1          | 515.1          | 3.563E-06         | 4.014E-06                         | 3.563E-06 |      |
| D     | 3.3            | 18.64             | 7300.           | 0.             | 0.            | 453.5           | 111.1          | 481.0          | 1.781E-06         | 1.873E-06                         | 1.781E-06 |      |
| D     | 5.6            | 7.18              | 7300.           | 0.             | 0.            | 453.5           | 111.1          | 456.4          | 1.126E-06         | 1.124E-06                         | 1.124E-06 |      |
| D     | 8.2            | 0.75              | 7300.           | 0.             | 0.            | 453.5           | 111.1          | 453.5          | 7.657E-07         | 7.595E-07                         | 7.595E-07 |      |
| D     | 24.5           | 0.07              | 7300.           | 0.             | 0.            | 453.5           | 111.1          | 453.5          | 2.575E-07         | 2.555E-07                         | 2.555E-07 |      |
| E     | 0.2            | 0.12              | 7300.           | 0.             | 0.            | 322.5           | 67.5           | 410.0          | 5.173E-05         | 6.456E-05                         | 5.173E-05 |      |
| E     | 1.6            | 16.88             | 7300.           | 0.             | 0.            | 322.5           | 67.5           | 410.0          | 7.390E-06         | 9.223E-06                         | 7.390E-06 |      |
| E     | 3.3            | 14.63             | 7300.           | 0.             | 0.            | 322.5           | 67.5           | 357.4          | 3.956E-06         | 4.304E-06                         | 3.956E-06 |      |
| E     | 5.6            | 2.38              | 7300.           | 0.             | 0.            | 322.5           | 67.5           | 325.9          | 2.603E-06         | 2.582E-06                         | 2.582E-06 |      |
| E     | 8.2            | 0.13              | 7300.           | 0.             | 0.            | 322.5           | 67.5           | 322.5          | 1.778E-06         | 1.745E-06                         | 1.745E-06 |      |
| E     | 24.5           | 0.03              | 7300.           | 0.             | 0.            | 322.5           | 67.5           | 322.5          | 5.980E-07         | 5.869E-07                         | 5.869E-07 |      |
| F     | 0.2            | 0.03              | 7300.           | 0.             | 0.            | 222.6           | 40.9           | 313.3          | 1.117E-04         | 1.504E-04                         | 1.117E-04 |      |
| F     | 1.6            | 4.24              | 7300.           | 0.             | 0.            | 222.6           | 40.9           | 313.3          | 1.595E-05         | 2.148E-05                         | 1.595E-05 |      |
| F     | 3.3            | 0.23              | 7300.           | 0.             | 0.            | 222.6           | 40.9           | 255.8          | 9.119E-06         | 1.002E-05                         | 9.119E-06 |      |
| G     | 0.2            | 0.01              | 7300.           | 0.             | 0.            | 153.6           | 24.8           | 257.9          | 2.237E-04         | 3.389E-04                         | 2.237E-04 |      |
| G     | 1.6            | 1.14              | 7300.           | 0.             | 0.            | 153.6           | 24.8           | 257.9          | 3.195E-05         | 4.842E-05                         | 3.195E-05 |      |
| G     | 3.3            | 0.03              | 7300.           | 0.             | 0.            | 153.6           | 24.8           | 187.1          | 2.056E-05         | 2.260E-05                         | 2.056E-05 |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

S SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 |
| 0.009     | 0.041     | 0.161     | 1.304     | 1.333     | 1.366     | 5.610     | 5.839     | 22.719    | 37.346    |
| 0.00065   | 0.00292   | 0.01154   | 0.09337   | 0.09546   | 0.09780   | 0.40172   | 0.41809   | 1.62677   | 2.67413   |
| 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 | 5.869E-07 | 3.947E-07 | 2.555E-07 |
| 50.046    | 52.430    | 71.073    | 71.203    | 78.386    | 79.431    | 80.182    | 80.214    | 82.108    | 82.173    |
| 3.58356   | 3.75423   | 5.08915   | 5.09850   | 5.61283   | 5.68765   | 5.74142   | 5.74375   | 5.87935   | 5.88403   |
| 2.498E-07 | 2.368E-07 | 2.039E-07 | 1.600E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 |
| 84.132    | 84.655    | 87.528    | 87.561    | 92.262    | 97.747    | 98.988    | 99.902    | 99.967    | 100.000   |
| 6.02430   | 6.06171   | 6.26744   | 6.26977   | 6.60643   | 6.99919   | 7.08803   | 7.15349   | 7.15817   | 7.16050   |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 1.625  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 3.580  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 5.085  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5) = 5.609  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6) = 6.264  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 7) = 6.995

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 1 1 -8.40538 -15.09581 -1.53422

Calculation No. PM-1055 Revision 0

Attachment J

1 2 -11.81533 -16.44928 -2.16721  
 1 3 -12.54483 -20.11912 -4.20419  
 1 4 -13.23843 -28.87754 -9.55570  
 1 5 -13.69861 -62.60479 -30.78827  
 1 6 -15.40582 -35.94715 -13.39928  
 1 7 -16.16796 NUMXQ(K)= 7

|           |       |        |
|-----------|-------|--------|
| 3.702E-05 | 0.072 | 1.000  |
| 2.223E-05 | 0.215 | 3.000  |
| 1.722E-05 | 0.358 | 5.000  |
| 1.192E-05 | 0.716 | 10.000 |
| 9.470E-06 | 1.074 | 15.000 |
| 7.987E-06 | 1.432 | 20.000 |
| 6.797E-06 | 1.790 | 25.000 |
| 5.776E-06 | 2.148 | 30.000 |
| 5.015E-06 | 2.506 | 35.000 |
| 4.425E-06 | 2.864 | 40.000 |
| 3.953E-06 | 3.222 | 45.000 |
| 3.567E-06 | 3.580 | 50.000 |
| 2.970E-06 | 3.938 | 55.000 |
| 2.504E-06 | 4.296 | 60.000 |
| 2.134E-06 | 4.654 | 65.000 |
| 1.837E-06 | 5.012 | 70.000 |
| 1.385E-06 | 5.370 | 75.000 |
| 8.224E-07 | 5.728 | 80.000 |
| 3.221E-07 | 6.086 | 85.000 |
| 1.685E-07 | 6.444 | 90.000 |
| 1.447E-05 | 0.5   | 6.98   |

ANNUAL AVERAGE = 1.50E-07

K= 1 FIVEXQ(K)= 1.447E-05 FIVEPR(K)= 6.983



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |           |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|-----------|
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE | USED      |
| AT 10.0 METERS  |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |           |
| A               | 1.6                    | 8.88                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 2.039E-07         | 2.039E-07         | 2.039E-07            | 2.039E-07                         | 2.039E-07 | 2.039E-07 |
| A               | 3.3                    | 5.37                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 9.517E-08         | 9.514E-08         | 9.514E-08            | 9.514E-08                         | 9.514E-08 | 9.514E-08 |
| A               | 5.6                    | 0.07                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 5.710E-08         | 5.708E-08         | 5.708E-08            | 5.708E-08                         | 5.708E-08 | 5.708E-08 |
| A               | 24.5                   | 0.07                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 1.298E-08         | 1.297E-08         | 1.297E-08            | 1.297E-08                         | 1.297E-08 | 1.297E-08 |
| B               | 1.6                    | 3.71                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 2.500E-07         | 2.498E-07         | 2.498E-07            | 2.498E-07                         | 2.498E-07 | 2.498E-07 |
| B               | 3.3                    | 2.65                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 1.166E-07         | 1.166E-07         | 1.166E-07            | 1.166E-07                         | 1.166E-07 | 1.166E-07 |
| B               | 5.6                    | 0.13                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 6.999E-08         | 6.995E-08         | 6.995E-08            | 6.995E-08                         | 6.995E-08 | 6.995E-08 |
| C               | 1.6                    | 3.05                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 8.473E-07         | 8.459E-07         | 8.459E-07            | 8.459E-07                         | 8.459E-07 | 8.459E-07 |
| C               | 3.3                    | 0.66                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 3.954E-07         | 3.947E-07         | 3.947E-07            | 3.947E-07                         | 3.947E-07 | 3.947E-07 |
| C               | 5.6                    | 0.07                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 2.372E-07         | 2.368E-07         | 2.368E-07            | 2.368E-07                         | 2.368E-07 | 2.368E-07 |
| D               | 0.2                    | 0.05                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 2.494E-05         | 2.810E-05         | 2.494E-05            | 2.494E-05                         | 2.494E-05 | 2.494E-05 |
| D               | 1.6                    | 22.39                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 3.563E-06         | 4.014E-06         | 3.563E-06            | 3.563E-06                         | 3.563E-06 | 3.563E-06 |
| D               | 3.3                    | 10.60                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 481.0        | 1.781E-06         | 1.873E-06         | 1.781E-06            | 1.781E-06                         | 1.781E-06 | 1.781E-06 |
| D               | 5.6                    | 0.53                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 456.4        | 1.126E-06         | 1.124E-06         | 1.124E-06            | 1.124E-06                         | 1.124E-06 | 1.124E-06 |
| E               | 0.2                    | 0.20                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 5.173E-05         | 6.456E-05         | 5.173E-05            | 5.173E-05                         | 5.173E-05 | 5.173E-05 |
| E               | 1.6                    | 27.56                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 7.390E-06         | 9.223E-06         | 7.390E-06            | 7.390E-06                         | 7.390E-06 | 7.390E-06 |
| E               | 3.3                    | 6.09                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 357.4        | 3.956E-06         | 4.304E-06         | 3.956E-06            | 3.956E-06                         | 3.956E-06 | 3.956E-06 |
| E               | 5.6                    | 0.26                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 325.9        | 2.603E-06         | 2.582E-06         | 2.582E-06            | 2.582E-06                         | 2.582E-06 | 2.582E-06 |
| F               | 0.2                    | 0.04                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.117E-04         | 1.504E-04         | 1.117E-04            | 1.117E-04                         | 1.117E-04 | 1.117E-04 |
| F               | 1.6                    | 5.37                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.595E-05         | 2.148E-05         | 1.595E-05            | 1.595E-05                         | 1.595E-05 | 1.595E-05 |
| G               | 0.2                    | 0.02                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 2.237E-04         | 3.389E-04         | 2.237E-04            | 2.237E-04                         | 2.237E-04 | 2.237E-04 |
| G               | 1.6                    | 1.99                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 3.195E-05         | 4.842E-05         | 3.195E-05            | 3.195E-05                         | 3.195E-05 | 3.195E-05 |
| G               | 3.3                    | 0.26                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 187.1        | 2.056E-05         | 2.260E-05         | 2.056E-05            | 2.056E-05                         | 2.056E-05 | 2.056E-05 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 7.390E-06 | 3.956E-06 | 3.563E-06 |
| 0.016     | 0.056     | 0.252     | 2.240     | 2.291     | 2.556     | 7.922     | 35.479    | 41.574    | 63.964    |
| 0.00056   | 0.00197   | 0.00891   | 0.07904   | 0.08087   | 0.09022   | 0.27959   | 1.25214   | 1.46722   | 2.25742   |
| 2.582E-06 | 1.781E-06 | 1.124E-06 | 8.459E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 | 2.039E-07 | 1.166E-07 | 9.514E-08 |
| 64.229    | 74.828    | 75.358    | 78.405    | 79.067    | 82.777    | 82.843    | 91.720    | 94.369    | 99.735    |
| 2.26677   | 2.64083   | 2.65954   | 2.76708   | 2.79046   | 2.92138   | 2.92371   | 3.23699   | 3.33050   | 3.51987   |
| 6.995E-08 | 5.708E-08 | 1.297E-08 |           |           |           |           |           |           |           |
| 99.868    | 99.934    | 100.000   |           |           |           |           |           |           |           |
| 3.52455   | 3.52689   | 3.52922   |           |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.079  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.251  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.255  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 2.638  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 3.517

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 2 1 -8.40538 -15.33090 -1.57598  
 2 2 -10.35129 -15.38766 -1.59395

Calculation No. PM-1055 Revision 0

Attachment J

2 3 -11.81533 -18.69992 -3.07185  
2 4 -12.54483 -33.33123 -10.37398  
2 5 -13.23843 -57.88254 -23.04991  
2 6 -16.16796 NUMXQ(K) = 6

|           |       |        |
|-----------|-------|--------|
| 4.575E-05 | 0.035 | 1.000  |
| 2.785E-05 | 0.106 | 3.000  |
| 2.173E-05 | 0.176 | 5.000  |
| 1.522E-05 | 0.353 | 10.000 |
| 1.222E-05 | 0.529 | 15.000 |
| 1.039E-05 | 0.706 | 20.000 |
| 9.124E-06 | 0.882 | 25.000 |
| 8.185E-06 | 1.059 | 30.000 |
| 7.452E-06 | 1.235 | 35.000 |
| 6.402E-06 | 1.412 | 40.000 |
| 5.548E-06 | 1.588 | 45.000 |
| 4.870E-06 | 1.765 | 50.000 |
| 4.322E-06 | 1.941 | 55.000 |
| 3.869E-06 | 2.118 | 60.000 |
| 3.321E-06 | 2.294 | 65.000 |
| 2.397E-06 | 2.470 | 70.000 |
| 1.740E-06 | 2.647 | 75.000 |
| 9.124E-07 | 2.823 | 80.000 |
| 4.943E-07 | 3.000 | 85.000 |
| 2.757E-07 | 3.176 | 90.000 |
| 1.261E-05 | 0.5   | 14.17  |

ANNUAL AVERAGE = 9.86E-08

K= 2 FIVEXQ(K) = 1.261E-05 FIVEPR(K) = 14.167

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

| CLASS          | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                   |           |  |
|----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|-----------|--|
|                |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE         | USED      |  |
| AT 10.0 METERS |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   | CA=1292.SQ.METERS |           |  |
| A              | 1.6                    | 10.17                | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 1000.0            | 1000.0               | 2.039E-07                         | 2.039E-07         | 2.039E-07 |  |
| A              | 3.3                    | 2.24                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 1000.0            | 1000.0               | 9.517E-08                         | 9.514E-08         | 9.514E-08 |  |
| A              | 5.6                    | 0.07                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 1000.0            | 1000.0               | 5.710E-08                         | 5.708E-08         | 5.708E-08 |  |
| A              | 24.5                   | 0.07                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 1000.0            | 1000.0               | 1.298E-08                         | 1.297E-08         | 1.297E-08 |  |
| B              | 1.6                    | 4.62                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 962.0             | 848.1                | 2.500E-07                         | 2.498E-07         | 2.498E-07 |  |
| B              | 3.3                    | 0.79                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 962.0             | 848.1                | 1.166E-07                         | 1.166E-07         | 1.166E-07 |  |
| C              | 1.6                    | 1.88                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 373.7             | 644.0                | 8.473E-07                         | 8.459E-07         | 8.459E-07 |  |
| C              | 3.3                    | 0.22                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 373.7             | 644.0                | 3.954E-07                         | 3.947E-07         | 3.947E-07 |  |
| D              | 0.2                    | 0.07                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 515.1             | 111.1             | 515.1                | 2.494E-05                         | 2.810E-05         | 2.494E-05 |  |
| D              | 1.6                    | 31.54                | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 515.1             | 111.1             | 515.1                | 3.563E-06                         | 4.014E-06         | 3.563E-06 |  |
| D              | 3.3                    | 4.76                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 515.1             | 111.1             | 481.0                | 1.781E-06                         | 1.873E-06         | 1.781E-06 |  |
| E              | 0.2                    | 0.21                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 410.0             | 67.5              | 410.0                | 5.173E-05                         | 6.456E-05         | 5.173E-05 |  |
| E              | 1.6                    | 29.95                | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 410.0             | 67.5              | 410.0                | 7.390E-06                         | 9.223E-06         | 7.390E-06 |  |
| E              | 3.3                    | 5.48                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 410.0             | 67.5              | 357.4                | 3.956E-06                         | 4.304E-06         | 3.956E-06 |  |
| E              | 5.6                    | 0.07                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 410.0             | 67.5              | 325.9                | 2.603E-06                         | 2.582E-06         | 2.582E-06 |  |
| F              | 0.2                    | 0.04                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 313.3             | 40.9              | 313.3                | 1.117E-04                         | 1.504E-04         | 1.117E-04 |  |
| F              | 1.6                    | 5.34                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 313.3             | 40.9              | 313.3                | 1.595E-05                         | 2.148E-05         | 1.595E-05 |  |
| F              | 3.3                    | 0.36                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 313.3             | 40.9              | 255.8                | 9.119E-06                         | 1.002E-05         | 9.119E-06 |  |
| G              | 0.2                    | 0.02                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 257.9             | 24.8              | 257.9                | 2.237E-04                         | 3.389E-04         | 2.237E-04 |  |
| G              | 1.6                    | 2.09                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 257.9             | 24.8              | 257.9                | 3.195E-05                         | 4.842E-05         | 3.195E-05 |  |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 | 3.563E-06 |
| 0.017     | 0.056     | 0.270     | 2.363     | 2.436     | 7.776     | 8.136     | 38.084    | 43.568    | 75.104    |
| 0.00054   | 0.00183   | 0.00875   | 0.07655   | 0.07891   | 0.25191   | 0.26360   | 1.23381   | 1.41149   | 2.43314   |
| 2.582E-06 | 1.781E-06 | 8.459E-07 | 3.947E-07 | 2.498E-07 | 2.039E-07 | 1.166E-07 | 9.514E-08 | 5.708E-08 | 1.297E-08 |
| 75.176    | 79.939    | 81.815    | 82.031    | 86.650    | 96.825    | 97.619    | 99.856    | 99.928    | 100.000   |
| 2.43548   | 2.58978   | 2.65056   | 2.65757   | 2.80720   | 3.13684   | 3.16255   | 3.23503   | 3.23737   | 3.23970   |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.076  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.232  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.431  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 3.134

| K | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|---|---|-------------|--------------|-------------|
| 3 | 1 | -8.40538    | -15.35362    | -1.57851    |
| 3 | 2 | -10.35129   | -15.38259    | -1.58765    |
| 3 | 3 | -11.81533   | -17.77768    | -2.65362    |
| 3 | 4 | -12.54483   | -63.60229    | -25.89164   |
| 3 | 5 | -15.40582   | NUMXQ(K) = 5 |             |
|   |   | 4.681E-05   | 0.032        | 1.000       |
|   |   | 2.859E-05   | 0.097        | 3.000       |

**Calculation No. PM-1055 Revision 0****Attachment J**

|           |       |        |
|-----------|-------|--------|
| 2.237E-05 | 0.162 | 5.000  |
| 1.573E-05 | 0.324 | 10.000 |
| 1.266E-05 | 0.486 | 15.000 |
| 1.079E-05 | 0.648 | 20.000 |
| 9.497E-06 | 0.810 | 25.000 |
| 8.533E-06 | 0.972 | 30.000 |
| 7.780E-06 | 1.134 | 35.000 |
| 7.027E-06 | 1.296 | 40.000 |
| 6.218E-06 | 1.458 | 45.000 |
| 5.564E-06 | 1.620 | 50.000 |
| 5.025E-06 | 1.782 | 55.000 |
| 4.572E-06 | 1.944 | 60.000 |
| 4.188E-06 | 2.106 | 65.000 |
| 3.857E-06 | 2.268 | 70.000 |
| 3.569E-06 | 2.430 | 75.000 |
| 1.769E-06 | 2.592 | 80.000 |
| 8.974E-07 | 2.754 | 85.000 |
| 4.702E-07 | 2.916 | 90.000 |
| 1.247E-05 | 0.5   | 15.43  |

ANNUAL AVERAGE = 1.00E-07

K= 3 FIVEXQ(K)= 1.247E-05 FIVEPR(K)=15.434

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

| CLASS          | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                   |      |  |
|----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|------|--|
|                |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE         | USED |  |
| AT 10.0 METERS |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   | CA=1292.SQ.METERS |      |  |
| A              | 1.6                    | 11.29                | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 2.039E-07         | 2.039E-07            | 2.039E-07                         |                   |      |  |
| A              | 3.3                    | 2.21                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 9.517E-08         | 9.514E-08            | 9.514E-08                         |                   |      |  |
| B              | 1.6                    | 5.29                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 2.500E-07         | 2.498E-07            | 2.498E-07                         |                   |      |  |
| B              | 3.3                    | 1.18                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 1.166E-07         | 1.166E-07            | 1.166E-07                         |                   |      |  |
| C              | 1.6                    | 3.79                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 8.473E-07         | 8.459E-07            | 8.459E-07                         |                   |      |  |
| C              | 3.3                    | 0.63                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 3.954E-07         | 3.947E-07            | 3.947E-07                         |                   |      |  |
| D              | 0.2                    | 0.06                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 515.1             | 2.494E-05         | 2.810E-05            | 2.494E-05                         |                   |      |  |
| D              | 1.6                    | 25.11                | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 515.1             | 3.563E-06         | 4.014E-06            | 3.563E-06                         |                   |      |  |
| D              | 3.3                    | 2.76                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 481.0             | 1.781E-06         | 1.873E-06            | 1.781E-06                         |                   |      |  |
| E              | 0.2                    | 0.22                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 410.0             | 5.173E-05         | 6.456E-05            | 5.173E-05                         |                   |      |  |
| E              | 1.6                    | 30.24                | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 410.0             | 7.390E-06         | 9.223E-06            | 7.390E-06                         |                   |      |  |
| E              | 3.3                    | 5.84                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 357.4             | 3.956E-06         | 4.304E-06            | 3.956E-06                         |                   |      |  |
| F              | 0.2                    | 0.05                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 313.3             | 1.117E-04         | 1.504E-04            | 1.117E-04                         |                   |      |  |
| F              | 1.6                    | 7.26                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 313.3             | 1.595E-05         | 2.148E-05            | 1.595E-05                         |                   |      |  |
| F              | 3.3                    | 0.16                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 255.8             | 9.119E-06         | 1.002E-05            | 9.119E-06                         |                   |      |  |
| G              | 0.2                    | 0.03                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 257.9             | 2.237E-04         | 3.389E-04            | 2.237E-04                         |                   |      |  |
| G              | 1.6                    | 3.87                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 257.9             | 3.195E-05         | 4.842E-05            | 3.195E-05                         |                   |      |  |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 | 3.563E-06 |
| 0.031     | 0.085     | 0.301     | 4.169     | 4.227     | 11.491    | 11.649    | 41.889    | 47.732    | 72.839    |
| 0.00091   | 0.00251   | 0.00890   | 0.12346   | 0.12517   | 0.34026   | 0.34493   | 1.24033   | 1.41334   | 2.15678   |
| 1.781E-06 | 8.459E-07 | 3.947E-07 | 2.498E-07 | 2.039E-07 | 1.166E-07 | 9.514E-08 |           |           |           |
| 75.603    | 79.393    | 80.024    | 85.314    | 96.605    | 97.789    | 100.000   |           |           |           |
| 2.23861   | 2.35082   | 2.36953   | 2.52616   | 2.86048   | 2.89555   | 2.96101   |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.123  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 1.239  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.155

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)

|   |   |           |             |          |
|---|---|-----------|-------------|----------|
| 4 | 1 | -8.40538  | -15.02958   | -1.54531 |
| 4 | 2 | -10.35129 | -16.01503   | -1.87082 |
| 4 | 3 | -11.81533 | -19.19168   | -3.28591 |
| 4 | 4 | -12.54483 | NUMXQ(K)= 4 |          |
|   |   | 6.002E-05 | 0.030       | 1.000    |
|   |   | 3.718E-05 | 0.089       | 3.000    |
|   |   | 2.881E-05 | 0.148       | 5.000    |
|   |   | 1.910E-05 | 0.296       | 10.000   |



Calculation No. PM-1055 Revision 0

Attachment J

|           |       |        |
|-----------|-------|--------|
| 1.482E-05 | 0.444 | 15.000 |
| 1.230E-05 | 0.592 | 20.000 |
| 1.060E-05 | 0.740 | 25.000 |
| 9.356E-06 | 0.888 | 30.000 |
| 8.401E-06 | 1.036 | 35.000 |
| 7.640E-06 | 1.184 | 40.000 |
| 6.746E-06 | 1.332 | 45.000 |
| 5.889E-06 | 1.481 | 50.000 |
| 5.198E-06 | 1.629 | 55.000 |
| 4.632E-06 | 1.777 | 60.000 |
| 4.161E-06 | 1.925 | 65.000 |
| 3.763E-06 | 2.073 | 70.000 |
| 1.374E-05 | 0.5   | 16.89  |

ANNUAL AVERAGE = 9.60E-08

K= 4 FIVEXQ(K) = 1.374E-05 FIVEPR(K) = 16.886

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |           |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|-----------|
|                 |  |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE | USED      |
|                 |  |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |           |
| A               | 1.6                                      | 6.63                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 1000.0            | 1000.0            | 1000.0               | 2.039E-07                         | 2.039E-07 | 2.039E-07 |
| A               | 3.3                                      | 2.86                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 1000.0            | 1000.0            | 1000.0               | 9.517E-08                         | 9.514E-08 | 9.514E-08 |
| A               | 24.5                                     | 0.13                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 1000.0            | 1000.0            | 1000.0               | 1.298E-08                         | 1.297E-08 | 1.297E-08 |
| B               | 1.6                                      | 3.97                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 848.1             | 962.0             | 848.1                | 2.500E-07                         | 2.498E-07 | 2.498E-07 |
| B               | 3.3                                      | 0.78                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 848.1             | 962.0             | 848.1                | 1.166E-07                         | 1.166E-07 | 1.166E-07 |
| B               | 5.6                                      | 0.07                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 848.1             | 962.0             | 848.1                | 6.999E-08                         | 6.995E-08 | 6.995E-08 |
| C               | 1.6                                      | 2.28                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 644.0             | 373.7             | 644.0                | 8.473E-07                         | 8.459E-07 | 8.459E-07 |
| C               | 3.3                                      | 0.59                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 644.0             | 373.7             | 644.0                | 3.954E-07                         | 3.947E-07 | 3.947E-07 |
| C               | 5.6                                      | 0.07                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 644.0             | 373.7             | 644.0                | 2.372E-07                         | 2.368E-07 | 2.368E-07 |
| D               | 0.2                                      | 0.04                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 453.5             | 111.1             | 515.1                | 2.494E-05                         | 2.810E-05 | 2.494E-05 |
| D               | 1.6                                      | 19.25                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 453.5             | 111.1             | 515.1                | 3.563E-06                         | 4.014E-06 | 3.563E-06 |
| D               | 3.3                                      | 4.23                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 481.0        | 453.5             | 111.1             | 481.0                | 1.781E-06                         | 1.873E-06 | 1.781E-06 |
| D               | 5.6                                      | 0.13                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 456.4        | 453.5             | 111.1             | 456.4                | 1.126E-06                         | 1.124E-06 | 1.124E-06 |
| E               | 0.2                                      | 0.24                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 322.5             | 67.5              | 410.0                | 5.173E-05                         | 6.456E-05 | 5.173E-05 |
| E               | 1.6                                      | 33.50                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 322.5             | 67.5              | 410.0                | 7.390E-06                         | 9.223E-06 | 7.390E-06 |
| E               | 3.3                                      | 6.89                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 357.4        | 322.5             | 67.5              | 357.4                | 3.956E-06                         | 4.304E-06 | 3.956E-06 |
| E               | 5.6                                      | 0.39                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 325.9        | 322.5             | 67.5              | 325.9                | 2.603E-06                         | 2.582E-06 | 2.582E-06 |
| F               | 0.2                                      | 0.09                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 222.6             | 40.9              | 313.3                | 1.117E-04                         | 1.504E-04 | 1.117E-04 |
| F               | 1.6                                      | 11.71                | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 222.6             | 40.9              | 313.3                | 1.595E-05                         | 2.148E-05 | 1.595E-05 |
| F               | 3.3                                      | 0.20                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 255.8        | 222.6             | 40.9              | 255.8                | 9.119E-06                         | 1.002E-05 | 9.119E-06 |
| G               | 0.2                                      | 0.05                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 153.6             | 24.8              | 257.9                | 2.237E-04                         | 3.389E-04 | 2.237E-04 |
| G               | 1.6                                      | 5.72                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 153.6             | 24.8              | 257.9                | 3.195E-05                         | 4.842E-05 | 3.195E-05 |
| G               | 3.3                                      | 0.20                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 187.1        | 153.6             | 24.8              | 187.1                | 2.056E-05                         | 2.260E-05 | 2.056E-05 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 |
| 0.045     | 0.133     | 0.372     | 6.096     | 6.140     | 6.335     | 18.043    | 18.238    | 51.737    | 58.631    |
| 0.00163   | 0.00477   | 0.01336   | 0.21909   | 0.22069   | 0.22770   | 0.64852   | 0.65553   | 1.85954   | 2.10735   |
| 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.124E-06 | 8.459E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 | 2.039E-07 | 1.166E-07 |
| 77.885    | 78.275    | 82.503    | 82.633    | 84.910    | 85.495    | 89.463    | 89.528    | 96.162    | 96.943    |
| 2.79936   | 2.81339   | 2.96535   | 2.97002   | 3.05185   | 3.07289   | 3.21550   | 3.21784   | 3.45630   | 3.48435   |
| 9.514E-08 | 6.995E-08 | 1.297E-08 |           |           |           |           |           |           |           |
| 99.805    | 99.870    | 100.000   |           |           |           |           |           |           |           |
| 3.58722   | 3.58956   | 3.59423   |           |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

| CHI/Q           | WITH RESPECT TO | WHEN THE WIND BLOWS   |
|-----------------|-----------------|-----------------------|
| SEC/CUBIC METER | THE TOTAL TIME  | INTO THIS SECTOR ONLY |

|                  |                                    |              |       |
|------------------|------------------------------------|--------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2) = | 0.219 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 0.648 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 1.858 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 2.797 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 2.963 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 7) = | 3.453 |

| K | I | XQSAVE(K,I) | XQINT(K,I) | XQSLOP(K,I) |
|---|---|-------------|------------|-------------|
| 5 | 1 | -8.40538    | -14.60021  | -1.49104    |

Calculation No. PM-1055 Revision 0

Attachment J

5 2 -10.35129 -15.77918 -1.90477  
5 3 -11.04582 -15.81571 -1.91947  
5 4 -11.81533 -20.62666 -4.22787  
5 5 -12.54483 -65.09892 -27.49278  
5 6 -13.23843 -73.07284 -31.71999  
5 7 -15.40582 NUMXQ(K)= 7

|           |       |        |
|-----------|-------|--------|
| 7.072E-05 | 0.036 | 1.000  |
| 4.425E-05 | 0.108 | 3.000  |
| 3.507E-05 | 0.180 | 5.000  |
| 2.350E-05 | 0.359 | 10.000 |
| 1.806E-05 | 0.539 | 15.000 |
| 1.486E-05 | 0.719 | 20.000 |
| 1.271E-05 | 0.899 | 25.000 |
| 1.115E-05 | 1.078 | 30.000 |
| 9.957E-06 | 1.258 | 35.000 |
| 9.009E-06 | 1.438 | 40.000 |
| 8.236E-06 | 1.617 | 45.000 |
| 7.590E-06 | 1.797 | 50.000 |
| 6.646E-06 | 1.977 | 55.000 |
| 5.705E-06 | 2.157 | 60.000 |
| 4.948E-06 | 2.336 | 65.000 |
| 4.330E-06 | 2.516 | 70.000 |
| 3.819E-06 | 2.696 | 75.000 |
| 2.583E-06 | 2.875 | 80.000 |
| 1.173E-06 | 3.055 | 85.000 |
| 5.240E-07 | 3.235 | 90.000 |
| 1.898E-05 | 0.5   | 13.91  |

ANNUAL AVERAGE = 1.35E-07

K= 5 FIVEXQ(K)= 1.898E-05 FIVEPR(K)=13.911

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters.

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

| CLASS          | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF. PLUME<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|----------------|------------------------|----------------------|--------------------|-------------------|--------------|----------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                |                        |                      |                    |                   |              |                      |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| AT 10.0 METERS |                        |                      |                    |                   |              |                      |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A              | 1.6                    | 4.94                 | 7300.              | 0.                | 0.           | 1000.0               | 1000.0            | 1000.0            | 2.039E-07            | 2.039E-07                         | 2.039E-07 |      |
| A              | 3.3                    | 6.06                 | 7300.              | 0.                | 0.           | 1000.0               | 1000.0            | 1000.0            | 9.517E-08            | 9.514E-08                         | 9.514E-08 |      |
| A              | 5.6                    | 0.50                 | 7300.              | 0.                | 0.           | 1000.0               | 1000.0            | 1000.0            | 5.710E-08            | 5.708E-08                         | 5.708E-08 |      |
| B              | 1.6                    | 2.75                 | 7300.              | 0.                | 0.           | 848.1                | 962.0             | 848.1             | 2.500E-07            | 2.498E-07                         | 2.498E-07 |      |
| B              | 3.3                    | 1.94                 | 7300.              | 0.                | 0.           | 848.1                | 962.0             | 848.1             | 1.166E-07            | 1.166E-07                         | 1.166E-07 |      |
| B              | 5.6                    | 0.38                 | 7300.              | 0.                | 0.           | 848.1                | 962.0             | 848.1             | 6.999E-08            | 6.995E-08                         | 6.995E-08 |      |
| C              | 1.6                    | 1.69                 | 7300.              | 0.                | 0.           | 644.0                | 373.7             | 644.0             | 8.473E-07            | 8.459E-07                         | 8.459E-07 |      |
| C              | 3.3                    | 0.63                 | 7300.              | 0.                | 0.           | 644.0                | 373.7             | 644.0             | 3.954E-07            | 3.947E-07                         | 3.947E-07 |      |
| C              | 5.6                    | 0.06                 | 7300.              | 0.                | 0.           | 644.0                | 373.7             | 644.0             | 2.372E-07            | 2.368E-07                         | 2.368E-07 |      |
| C              | 8.2                    | 0.06                 | 7300.              | 0.                | 0.           | 644.0                | 373.7             | 644.0             | 1.603E-07            | 1.600E-07                         | 1.600E-07 |      |
| D              | 0.2                    | 0.03                 | 7300.              | 0.                | 0.           | 453.5                | 111.1             | 515.1             | 2.494E-05            | 2.810E-05                         | 2.494E-05 |      |
| D              | 1.6                    | 10.94                | 7300.              | 0.                | 0.           | 453.5                | 111.1             | 515.1             | 3.563E-06            | 4.014E-06                         | 3.563E-06 |      |
| D              | 3.3                    | 9.06                 | 7300.              | 0.                | 0.           | 453.5                | 111.1             | 481.0             | 1.781E-06            | 1.873E-06                         | 1.781E-06 |      |
| D              | 5.6                    | 0.50                 | 7300.              | 0.                | 0.           | 453.5                | 111.1             | 456.4             | 1.126E-06            | 1.124E-06                         | 1.124E-06 |      |
| E              | 0.2                    | 0.21                 | 7300.              | 0.                | 0.           | 322.5                | 67.5              | 410.0             | 5.173E-05            | 6.456E-05                         | 5.173E-05 |      |
| E              | 1.6                    | 29.38                | 7300.              | 0.                | 0.           | 322.5                | 67.5              | 410.0             | 7.390E-06            | 9.223E-06                         | 7.390E-06 |      |
| E              | 3.3                    | 11.06                | 7300.              | 0.                | 0.           | 322.5                | 67.5              | 357.4             | 3.956E-06            | 4.304E-06                         | 3.956E-06 |      |
| E              | 5.6                    | 1.06                 | 7300.              | 0.                | 0.           | 322.5                | 67.5              | 325.9             | 2.603E-06            | 2.582E-06                         | 2.582E-06 |      |
| F              | 0.2                    | 0.10                 | 7300.              | 0.                | 0.           | 222.6                | 40.9              | 313.3             | 1.117E-04            | 1.504E-04                         | 1.117E-04 |      |
| F              | 1.6                    | 14.00                | 7300.              | 0.                | 0.           | 222.6                | 40.9              | 313.3             | 1.595E-05            | 2.148E-05                         | 1.595E-05 |      |
| F              | 3.3                    | 0.88                 | 7300.              | 0.                | 0.           | 222.6                | 40.9              | 255.8             | 9.119E-06            | 1.002E-05                         | 9.119E-06 |      |
| G              | 0.2                    | 0.03                 | 7300.              | 0.                | 0.           | 153.6                | 24.8              | 257.9             | 2.237E-04            | 3.389E-04                         | 2.237E-04 |      |
| G              | 1.6                    | 3.44                 | 7300.              | 0.                | 0.           | 153.6                | 24.8              | 257.9             | 3.195E-05            | 4.842E-05                         | 3.195E-05 |      |
| G              | 3.3                    | 0.31                 | 7300.              | 0.                | 0.           | 153.6                | 24.8              | 187.1             | 2.056E-05            | 2.260E-05                         | 2.056E-05 |      |

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 |
| 0.027     | 0.132     | 0.341     | 3.779     | 3.804     | 4.117     | 18.118    | 18.993    | 48.371    | 59.434    |
| 0.00102   | 0.00493   | 0.01277   | 0.14135   | 0.14230   | 0.15398   | 0.67767   | 0.71040   | 1.80920   | 2.22300   |
| 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.124E-06 | 8.459E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 | 2.039E-07 | 1.600E-07 |
| 70.373    | 71.435    | 80.498    | 80.998    | 82.686    | 83.311    | 86.061    | 86.124    | 91.062    | 91.124    |
| 2.63213   | 2.67187   | 3.01086   | 3.02956   | 3.09269   | 3.11606   | 3.21893   | 3.22127   | 3.40596   | 3.40830   |
| 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 |           |           |           |           |           |           |
| 93.062    | 99.125    | 99.500    | 100.000   |           |           |           |           |           |           |
| 3.48077   | 3.70755   | 3.72157   | 3.74028   |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

| CHI/Q           | WITH RESPECT TO | WHEN THE WIND BLOWS   |
|-----------------|-----------------|-----------------------|
| SEC/CUBIC METER | THE TOTAL TIME  | INTO THIS SECTOR ONLY |

|                  |                                    |             |       |
|------------------|------------------------------------|-------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE( 2) = | 0.677 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE( 3) = | 1.807 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE( 4) = | 2.630 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE( 5) = | 3.008 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE( 6) = | 3.704 |

| K | I | XQSAVE(K, I) | XQINT(K, I) | XQSLOP(K, I) |
|---|---|--------------|-------------|--------------|
| 6 | 1 | -8.40538     | -14.68508   | -1.47380     |
| 6 | 2 | -11.04582    | -16.12625   | -2.05743     |

Calculation No. PM-1055 Revision 0

Attachment J

|           |   |           |           |           |  |
|-----------|---|-----------|-----------|-----------|--|
| 6         | 3 | -11.81533 | -21.54951 | -4.64573  |  |
| 6         | 4 | -12.54483 | -35.46656 | -11.82587 |  |
| 6         | 5 | -13.23843 | -72.10627 | -31.31903 |  |
| 6         | 6 | -16.16796 | NUMXQ(K)= | 6         |  |
| 6.030E-05 |   | 0.037     |           | 1.000     |  |
| 3.789E-05 |   | 0.112     |           | 3.000     |  |
| 3.008E-05 |   | 0.187     |           | 5.000     |  |
| 2.160E-05 |   | 0.374     |           | 10.000    |  |
| 1.761E-05 |   | 0.561     |           | 15.000    |  |
| 1.483E-05 |   | 0.748     |           | 20.000    |  |
| 1.253E-05 |   | 0.935     |           | 25.000    |  |
| 1.088E-05 |   | 1.122     |           | 30.000    |  |
| 9.630E-06 |   | 1.309     |           | 35.000    |  |
| 8.646E-06 |   | 1.496     |           | 40.000    |  |
| 7.849E-06 |   | 1.683     |           | 45.000    |  |
| 6.941E-06 |   | 1.870     |           | 50.000    |  |
| 5.784E-06 |   | 2.057     |           | 55.000    |  |
| 4.885E-06 |   | 2.244     |           | 60.000    |  |
| 4.174E-06 |   | 2.431     |           | 65.000    |  |
| 3.601E-06 |   | 2.618     |           | 70.000    |  |
| 2.570E-06 |   | 2.805     |           | 75.000    |  |
| 1.839E-06 |   | 2.992     |           | 80.000    |  |
| 8.366E-07 |   | 3.179     |           | 85.000    |  |
| 3.754E-07 |   | 3.366     |           | 90.000    |  |
| 1.868E-05 |   | 0.5       |           | 13.37     |  |

ANNUAL AVERAGE = 1.27E-07

K= 6 FIVEXQ(K)= 1.868E-05 FIVEPR(K)=13.368

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

DATA PERIOD:

TYPE OF RELEASE: Ground Release

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION

WIND SENSORS HEIGHT: 10.1 meters

DELTA-T HEIGHTS: 10.1-45.7 meters

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

| CLASS          | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| AT 10.0 METERS |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A              | 1.6                    | 2.38                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 2.039E-07         | 2.039E-07            | 2.039E-07                         |           |      |
| A              | 3.3                    | 5.19                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 9.517E-08         | 9.514E-08            | 9.514E-08                         |           |      |
| A              | 5.6                    | 0.29                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 5.710E-08         | 5.708E-08            | 5.708E-08                         |           |      |
| B              | 1.6                    | 1.10                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 2.500E-07         | 2.498E-07            | 2.498E-07                         |           |      |
| B              | 3.3                    | 2.67                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 1.166E-07         | 1.166E-07            | 1.166E-07                         |           |      |
| B              | 5.6                    | 0.43                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 6.999E-08         | 6.995E-08            | 6.995E-08                         |           |      |
| B              | 24.5                   | 0.05                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 1.591E-08         | 1.590E-08            | 1.590E-08                         |           |      |
| C              | 1.6                    | 0.52                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 8.473E-07         | 8.459E-07            | 8.459E-07                         |           |      |
| C              | 3.3                    | 1.57                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 3.954E-07         | 3.947E-07            | 3.947E-07                         |           |      |
| C              | 5.6                    | 0.24                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 2.372E-07         | 2.368E-07            | 2.368E-07                         |           |      |
| D              | 0.2                    | 0.02                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 515.1             | 2.494E-05         | 2.810E-05            | 2.494E-05                         |           |      |
| D              | 1.6                    | 7.33                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 515.1             | 3.563E-06         | 4.014E-06            | 3.563E-06                         |           |      |
| D              | 3.3                    | 18.14                | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 481.0             | 1.781E-06         | 1.873E-06            | 1.781E-06                         |           |      |
| D              | 5.6                    | 3.67                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 456.4             | 1.126E-06         | 1.124E-06            | 1.124E-06                         |           |      |
| D              | 8.2                    | 0.10                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 453.5             | 7.657E-07         | 7.595E-07            | 7.595E-07                         |           |      |
| E              | 0.2                    | 0.18                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 410.0             | 5.173E-05         | 6.456E-05            | 5.173E-05                         |           |      |
| E              | 1.6                    | 25.85                | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 410.0             | 7.390E-06         | 9.223E-06            | 7.390E-06                         |           |      |
| E              | 3.3                    | 18.81                | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 357.4             | 3.956E-06         | 4.304E-06            | 3.956E-06                         |           |      |
| E              | 5.6                    | 2.48                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 325.9             | 2.603E-06         | 2.582E-06            | 2.582E-06                         |           |      |
| E              | 8.2                    | 0.05                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 322.5             | 1.778E-06         | 1.745E-06            | 1.745E-06                         |           |      |
| F              | 0.2                    | 0.05                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 313.3             | 1.117E-04         | 1.504E-04            | 1.117E-04                         |           |      |
| F              | 1.6                    | 6.14                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 313.3             | 1.595E-05         | 2.148E-05            | 1.595E-05                         |           |      |
| F              | 3.3                    | 1.14                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 255.8             | 9.119E-06         | 1.002E-05            | 9.119E-06                         |           |      |
| G              | 0.2                    | 0.01                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 257.9             | 2.237E-04         | 3.389E-04            | 2.237E-04                         |           |      |
| G              | 1.6                    | 1.52                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 257.9             | 3.195E-05         | 4.842E-05            | 3.195E-05                         |           |      |
| G              | 3.3                    | 0.10                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 187.1             | 2.056E-05         | 2.260E-05            | 2.056E-05                         |           |      |



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 |
| 0.012     | 0.058     | 0.242     | 1.766     | 1.783     | 1.878     | 8.020     | 9.162     | 35.014    | 53.819    |
| 0.00059   | 0.00285   | 0.01190   | 0.08671   | 0.08754   | 0.09222   | 0.39380   | 0.44991   | 1.71938   | 2.64283   |
| 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 |
| 61.151    | 63.627    | 81.766    | 81.813    | 85.479    | 86.003    | 86.098    | 87.669    | 88.764    | 89.002    |
| 3.00287   | 3.12443   | 4.01516   | 4.01750   | 4.19752   | 4.22323   | 4.22791   | 4.30506   | 4.35883   | 4.37052   |
| 2.039E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 1.590E-08 |           |           |           |           |
| 91.383    | 94.049    | 99.238    | 99.667    | 99.952    | 100.000   |           |           |           |           |
| 4.48741   | 4.61833   | 4.87316   | 4.89420   | 4.90823   | 4.91057   |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 1.717  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 3.000  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 4.012  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 4.194  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 4.870

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 7 1 -8.40538 -15.00167 -1.50587  
 7 2 -11.81533 -18.37962 -3.10230

Calculation No. PM-1055 Revision 0

Attachment J

|           |           |             |           |
|-----------|-----------|-------------|-----------|
| 7 3       | -12.54483 | -22.46722   | -5.27565  |
| 7 4       | -13.23843 | -52.08302   | -22.20554 |
| 7 5       | -13.69861 | -73.85634   | -34.80150 |
| 7 6       | -16.16796 | NUMXQ(K)= 6 |           |
| 4.368E-05 | 0.049     |             | 1.000     |
| 2.689E-05 | 0.147     |             | 3.000     |
| 2.112E-05 | 0.246     |             | 5.000     |
| 1.492E-05 | 0.491     |             | 10.000    |
| 1.203E-05 | 0.737     |             | 15.000    |
| 1.026E-05 | 0.982     |             | 20.000    |
| 9.027E-06 | 1.228     |             | 25.000    |
| 8.110E-06 | 1.473     |             | 30.000    |
| 7.392E-06 | 1.719     |             | 35.000    |
| 6.245E-06 | 1.964     |             | 40.000    |
| 5.365E-06 | 2.210     |             | 45.000    |
| 4.672E-06 | 2.455     |             | 50.000    |
| 4.114E-06 | 2.701     |             | 55.000    |
| 3.657E-06 | 2.946     |             | 60.000    |
| 3.089E-06 | 3.192     |             | 65.000    |
| 2.592E-06 | 3.437     |             | 70.000    |
| 2.197E-06 | 3.683     |             | 75.000    |
| 1.879E-06 | 3.928     |             | 80.000    |
| 1.192E-06 | 4.174     |             | 85.000    |
| 4.830E-07 | 4.420     |             | 90.000    |
| 1.478E-05 | 0.5       |             | 10.18     |

ANNUAL AVERAGE = 1.27E-07

K= 7 FIVEXQ(K)= 1.478E-05 FIVEPR(K)=10.182

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| AT 10.0 METERS  |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 1.6                    | 1.13                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 2.039E-07         | 2.039E-07         | 2.039E-07            |                                   |           |      |
| A               | 3.3                    | 2.78                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 9.517E-08         | 9.514E-08         | 9.514E-08            |                                   |           |      |
| A               | 5.6                    | 1.02                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 5.710E-08         | 5.708E-08         | 5.708E-08            |                                   |           |      |
| A               | 8.2                    | 0.18                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 3.858E-08         | 3.857E-08         | 3.857E-08            |                                   |           |      |
| B               | 1.6                    | 0.46                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 2.500E-07         | 2.498E-07         | 2.498E-07            |                                   |           |      |
| B               | 3.3                    | 2.54                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 1.166E-07         | 1.166E-07         | 1.166E-07            |                                   |           |      |
| B               | 5.6                    | 1.20                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 6.999E-08         | 6.995E-08         | 6.995E-08            |                                   |           |      |
| B               | 8.2                    | 0.25                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 4.729E-08         | 4.727E-08         | 4.727E-08            |                                   |           |      |
| C               | 1.6                    | 0.18                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 8.473E-07         | 8.459E-07         | 8.459E-07            |                                   |           |      |
| C               | 3.3                    | 1.87                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 3.954E-07         | 3.947E-07         | 3.947E-07            |                                   |           |      |
| C               | 5.6                    | 0.60                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 2.372E-07         | 2.368E-07         | 2.368E-07            |                                   |           |      |
| C               | 8.2                    | 0.11                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 1.603E-07         | 1.600E-07         | 1.600E-07            |                                   |           |      |
| C               | 10.7                   | 0.04                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 1.236E-07         | 1.234E-07         | 1.234E-07            |                                   |           |      |
| D               | 0.2                    | 0.02                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 2.494E-05         | 2.810E-05         | 2.494E-05            |                                   |           |      |
| D               | 1.6                    | 8.07                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 3.563E-06         | 4.014E-06         | 3.563E-06            |                                   |           |      |
| D               | 3.3                    | 20.87                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 481.0        | 1.781E-06         | 1.873E-06         | 1.781E-06            |                                   |           |      |
| D               | 5.6                    | 5.29                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 456.4        | 1.126E-06         | 1.124E-06         | 1.124E-06            |                                   |           |      |
| D               | 8.2                    | 0.42                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 453.5        | 7.657E-07         | 7.595E-07         | 7.595E-07            |                                   |           |      |
| E               | 0.2                    | 0.15                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 5.173E-05         | 6.456E-05         | 5.173E-05            |                                   |           |      |
| E               | 1.6                    | 21.15                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 7.390E-06         | 9.223E-06         | 7.390E-06            |                                   |           |      |
| E               | 3.3                    | 23.87                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 357.4        | 3.956E-06         | 4.304E-06         | 3.956E-06            |                                   |           |      |
| E               | 5.6                    | 2.50                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 325.9        | 2.603E-06         | 2.582E-06         | 2.582E-06            |                                   |           |      |
| E               | 8.2                    | 0.21                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 322.5        | 1.778E-06         | 1.745E-06         | 1.745E-06            |                                   |           |      |
| F               | 0.2                    | 0.03                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.117E-04         | 1.504E-04         | 1.117E-04            |                                   |           |      |
| F               | 1.6                    | 3.49                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.595E-05         | 2.148E-05         | 1.595E-05            |                                   |           |      |
| F               | 3.3                    | 0.63                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 255.8        | 9.119E-06         | 1.002E-05         | 9.119E-06            |                                   |           |      |
| G               | 0.2                    | 0.01                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 2.237E-04         | 3.389E-04         | 2.237E-04            |                                   |           |      |
| G               | 1.6                    | 0.95                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 3.195E-05         | 4.842E-05         | 3.195E-05            |                                   |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 | 3.563E-06 |
| 0.008     | 0.034     | 0.184     | 1.136     | 1.155     | 4.645     | 5.279     | 26.430    | 50.295    | 58.368    |
| 0.00050   | 0.00223   | 0.01224   | 0.07536   | 0.07659   | 0.30804   | 0.35012   | 1.75284   | 3.33558   | 3.87095   |
| 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 | 2.039E-07 |
| 60.871    | 81.740    | 81.951    | 87.239    | 87.415    | 87.838    | 89.707    | 90.165    | 90.764    | 91.892    |
| 4.03694   | 5.42096   | 5.43499   | 5.78567   | 5.79736   | 5.82541   | 5.94932   | 5.97971   | 6.01945   | 6.09427   |
| 1.600E-07 | 1.234E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 |           |           |
| 91.998    | 92.033    | 94.571    | 97.356    | 98.555    | 99.577    | 99.824    | 100.000   |           |           |
| 6.10128   | 6.10362   | 6.27194   | 6.45663   | 6.53612   | 6.60392   | 6.62029   | 6.63197   |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 1.751  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 3.868  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 5.417  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 5.782  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 6.268  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 7)= 6.453

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 8 1 -8.40538 -14.92852 -1.47675

Calculation No. PM-1055 Revision 0

Attachment J

8 2 -11.81533 -16.31359 -2.13376  
 8 3 -12.54483 -20.17421 -4.31952  
 8 4 -13.23843 -36.09462 -14.23456  
 8 5 -13.69861 -101.29270 -55.67347  
 8 6 -15.96463 -37.00098 -13.72546  
 8 7 -16.16796 NUMXQ(K) = 7

|           |       |        |
|-----------|-------|--------|
| 3.764E-05 | 0.066 | 1.000  |
| 2.311E-05 | 0.199 | 3.000  |
| 1.811E-05 | 0.332 | 5.000  |
| 1.274E-05 | 0.663 | 10.000 |
| 1.024E-05 | 0.995 | 15.000 |
| 8.703E-06 | 1.326 | 20.000 |
| 7.639E-06 | 1.658 | 25.000 |
| 6.617E-06 | 1.990 | 30.000 |
| 5.768E-06 | 2.321 | 35.000 |
| 5.106E-06 | 2.653 | 40.000 |
| 4.576E-06 | 2.984 | 45.000 |
| 4.141E-06 | 3.316 | 50.000 |
| 3.777E-06 | 3.648 | 55.000 |
| 3.372E-06 | 3.979 | 60.000 |
| 2.869E-06 | 4.311 | 65.000 |
| 2.465E-06 | 4.642 | 70.000 |
| 2.136E-06 | 4.974 | 75.000 |
| 1.864E-06 | 5.306 | 80.000 |
| 1.352E-06 | 5.637 | 85.000 |
| 4.708E-07 | 5.969 | 90.000 |
| 1.475E-05 | 0.5   | 7.54   |

ANNUAL AVERAGE = 1.49E-07

K= 8 FIVEXQ(K) = 1.475E-05 FIVEPR(K) = 7.539

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                   |      |  |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|------|--|
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE         | USED |  |
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      |                                   | CA=1292.SQ.METERS |      |  |
| A     | 1.6                                      | 0.23                 | 7300.              | 0.                | 0.           | 0.            | 1000.0             | 1000.0            | 1000.0            | 2.039E-07            | 2.039E-07                         | 2.039E-07         |      |  |
| A     | 3.3                                      | 2.01                 | 7300.              | 0.                | 0.           | 0.            | 1000.0             | 1000.0            | 1000.0            | 9.517E-08            | 9.514E-08                         | 9.514E-08         |      |  |
| A     | 5.6                                      | 2.77                 | 7300.              | 0.                | 0.           | 0.            | 1000.0             | 1000.0            | 1000.0            | 5.710E-08            | 5.708E-08                         | 5.708E-08         |      |  |
| A     | 8.2                                      | 0.37                 | 7300.              | 0.                | 0.           | 0.            | 1000.0             | 1000.0            | 1000.0            | 3.858E-08            | 3.857E-08                         | 3.857E-08         |      |  |
| B     | 1.6                                      | 0.34                 | 7300.              | 0.                | 0.           | 0.            | 848.1              | 962.0             | 848.1             | 2.500E-07            | 2.498E-07                         | 2.498E-07         |      |  |
| B     | 3.3                                      | 2.57                 | 7300.              | 0.                | 0.           | 0.            | 848.1              | 962.0             | 848.1             | 1.166E-07            | 1.166E-07                         | 1.166E-07         |      |  |
| B     | 5.6                                      | 4.10                 | 7300.              | 0.                | 0.           | 0.            | 848.1              | 962.0             | 848.1             | 6.999E-08            | 6.995E-08                         | 6.995E-08         |      |  |
| B     | 8.2                                      | 0.62                 | 7300.              | 0.                | 0.           | 0.            | 848.1              | 962.0             | 848.1             | 4.729E-08            | 4.727E-08                         | 4.727E-08         |      |  |
| C     | 1.6                                      | 0.17                 | 7300.              | 0.                | 0.           | 0.            | 644.0              | 373.7             | 644.0             | 8.473E-07            | 8.459E-07                         | 8.459E-07         |      |  |
| C     | 3.3                                      | 1.87                 | 7300.              | 0.                | 0.           | 0.            | 644.0              | 373.7             | 644.0             | 3.954E-07            | 3.947E-07                         | 3.947E-07         |      |  |
| C     | 5.6                                      | 2.12                 | 7300.              | 0.                | 0.           | 0.            | 644.0              | 373.7             | 644.0             | 2.372E-07            | 2.368E-07                         | 2.368E-07         |      |  |
| C     | 8.2                                      | 0.23                 | 7300.              | 0.                | 0.           | 0.            | 644.0              | 373.7             | 644.0             | 1.603E-07            | 1.600E-07                         | 1.600E-07         |      |  |
| D     | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 515.1             | 2.494E-05            | 2.810E-05                         | 2.494E-05         |      |  |
| D     | 1.6                                      | 5.00                 | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 515.1             | 3.563E-06            | 4.014E-06                         | 3.563E-06         |      |  |
| D     | 3.3                                      | 15.38                | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 481.0             | 1.781E-06            | 1.873E-06                         | 1.781E-06         |      |  |
| D     | 5.6                                      | 9.19                 | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 456.4             | 1.126E-06            | 1.124E-06                         | 1.124E-06         |      |  |
| D     | 8.2                                      | 1.27                 | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 453.5             | 7.657E-07            | 7.595E-07                         | 7.595E-07         |      |  |
| E     | 0.2                                      | 0.13                 | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 410.0             | 5.173E-05            | 6.456E-05                         | 5.173E-05         |      |  |
| E     | 1.6                                      | 17.92                | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 410.0             | 7.390E-06            | 9.223E-06                         | 7.390E-06         |      |  |
| E     | 3.3                                      | 21.79                | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 357.4             | 3.956E-06            | 4.304E-06                         | 3.956E-06         |      |  |
| E     | 5.6                                      | 5.71                 | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 325.9             | 2.603E-06            | 2.582E-06                         | 2.582E-06         |      |  |
| E     | 8.2                                      | 0.71                 | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 322.5             | 1.778E-06            | 1.745E-06                         | 1.745E-06         |      |  |
| E     | 10.7                                     | 0.03                 | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 322.5             | 1.370E-06            | 1.345E-06                         | 1.345E-06         |      |  |
| F     | 0.2                                      | 0.03                 | 7300.              | 0.                | 0.           | 0.            | 222.6              | 40.9              | 313.3             | 1.117E-04            | 1.504E-04                         | 1.117E-04         |      |  |
| F     | 1.6                                      | 3.42                 | 7300.              | 0.                | 0.           | 0.            | 222.6              | 40.9              | 313.3             | 1.595E-05            | 2.148E-05                         | 1.595E-05         |      |  |
| F     | 3.3                                      | 1.38                 | 7300.              | 0.                | 0.           | 0.            | 222.6              | 40.9              | 255.8             | 9.119E-06            | 1.002E-05                         | 9.119E-06         |      |  |
| G     | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 0.            | 153.6              | 24.8              | 257.9             | 2.237E-04            | 3.389E-04                         | 2.237E-04         |      |  |
| G     | 1.6                                      | 0.65                 | 7300.              | 0.                | 0.           | 0.            | 153.6              | 24.8              | 257.9             | 3.195E-05            | 4.842E-05                         | 3.195E-05         |      |  |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 | 3.563E-06 |
| 0.005     | 0.031     | 0.159     | 0.809     | 0.820     | 4.240     | 5.625     | 23.545    | 45.337    | 50.339    |
| 0.00043   | 0.00254   | 0.01311   | 0.06688   | 0.06784   | 0.35072   | 0.46528   | 1.94748   | 3.74998   | 4.16378   |
| 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.345E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 |
| 56.049    | 71.425    | 72.131    | 72.160    | 81.345    | 81.515    | 82.787    | 84.652    | 84.992    | 87.111    |
| 4.63603   | 5.90783   | 5.96628   | 5.96862   | 6.72843   | 6.74245   | 6.84766   | 7.00196   | 7.03001   | 7.20535   |
| 2.039E-07 | 1.600E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 |           |           |
| 87.338    | 87.564    | 90.136    | 92.143    | 96.241    | 99.011    | 99.633    | 100.000   |           |           |
| 7.22405   | 7.24276   | 7.45550   | 7.62149   | 7.96048   | 8.18959   | 8.24103   | 8.27142   |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.945  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 4.160  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 5.904  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 5.962  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 6.725  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 8.186

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 9 1 -8.40538 -14.76598 -1.42878

Calculation No. PM-1055 Revision 0

Attachment J

9 2 -11.81533 -16.34240 -2.19212  
9 3 -12.54483 -19.63423 -4.09230  
9 4 -13.23843 -19.67864 -4.12072  
9 5 -13.25883 -24.43392 -7.17302  
9 6 -13.69861 -56.60621 -28.66959  
9 7 -16.67879 NUMXQ(K) = 7

|           |       |        |
|-----------|-------|--------|
| 3.464E-05 | 0.083 | 1.000  |
| 2.142E-05 | 0.248 | 3.000  |
| 1.683E-05 | 0.414 | 5.000  |
| 1.188E-05 | 0.827 | 10.000 |
| 9.552E-06 | 1.241 | 15.000 |
| 8.125E-06 | 1.654 | 20.000 |
| 7.000E-06 | 2.068 | 25.000 |
| 5.915E-06 | 2.481 | 30.000 |
| 5.110E-06 | 2.895 | 35.000 |
| 4.488E-06 | 3.309 | 40.000 |
| 3.993E-06 | 3.722 | 45.000 |
| 3.588E-06 | 4.136 | 50.000 |
| 3.003E-06 | 4.549 | 55.000 |
| 2.531E-06 | 4.963 | 60.000 |
| 2.157E-06 | 5.376 | 65.000 |
| 1.856E-06 | 5.790 | 70.000 |
| 1.515E-06 | 6.204 | 75.000 |
| 1.196E-06 | 6.617 | 80.000 |
| 5.841E-07 | 7.031 | 85.000 |
| 2.469E-07 | 7.444 | 90.000 |
| 1.534E-05 | 0.5   | 6.04   |

ANNUAL AVERAGE = 1.62E-07

K= 9 FIVEXQ(K) = 1.534E-05 FIVEPR(K) = 6.045



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |  |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|--|
|       |  |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |  |
|       |  |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |  |
| A     | 1.6                                      | 0.17                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 2.039E-07         | 2.039E-07         | 2.039E-07            |                                   |           |      |  |
| A     | 3.3                                      | 2.41                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 9.517E-08         | 9.514E-08         | 9.514E-08            |                                   |           |      |  |
| A     | 5.6                                      | 1.74                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 5.710E-08         | 5.708E-08         | 5.708E-08            |                                   |           |      |  |
| A     | 8.2                                      | 0.06                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 3.858E-08         | 3.857E-08         | 3.857E-08            |                                   |           |      |  |
| B     | 1.6                                      | 0.11                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 2.500E-07         | 2.498E-07         | 2.498E-07            |                                   |           |      |  |
| B     | 3.3                                      | 2.52                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 1.166E-07         | 1.166E-07         | 1.166E-07            |                                   |           |      |  |
| B     | 5.6                                      | 2.58                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 6.999E-08         | 6.995E-08         | 6.995E-08            |                                   |           |      |  |
| B     | 8.2                                      | 0.06                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 4.729E-08         | 4.727E-08         | 4.727E-08            |                                   |           |      |  |
| C     | 3.3                                      | 1.35                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 3.954E-07         | 3.947E-07         | 3.947E-07            |                                   |           |      |  |
| C     | 5.6                                      | 1.74                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 2.372E-07         | 2.368E-07         | 2.368E-07            |                                   |           |      |  |
| D     | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 2.494E-05         | 2.810E-05         | 2.494E-05            |                                   |           |      |  |
| D     | 1.6                                      | 5.16                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 3.563E-06         | 4.014E-06         | 3.563E-06            |                                   |           |      |  |
| D     | 3.3                                      | 13.07                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 481.0        | 1.781E-06         | 1.873E-06         | 1.781E-06            |                                   |           |      |  |
| D     | 5.6                                      | 6.06                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 456.4        | 1.126E-06         | 1.124E-06         | 1.124E-06            |                                   |           |      |  |
| D     | 8.2                                      | 0.56                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 453.5        | 7.657E-07         | 7.595E-07         | 7.595E-07            |                                   |           |      |  |
| D     | 10.7                                     | 0.11                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 453.5        | 5.902E-07         | 5.854E-07         | 5.854E-07            |                                   |           |      |  |
| E     | 0.2                                      | 0.15                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 5.173E-05         | 6.456E-05         | 5.173E-05            |                                   |           |      |  |
| E     | 1.6                                      | 21.04                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 7.390E-06         | 9.223E-06         | 7.390E-06            |                                   |           |      |  |
| E     | 3.3                                      | 21.93                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 357.4        | 3.956E-06         | 4.304E-06         | 3.956E-06            |                                   |           |      |  |
| E     | 5.6                                      | 3.03                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 325.9        | 2.603E-06         | 2.582E-06         | 2.582E-06            |                                   |           |      |  |
| E     | 8.2                                      | 0.22                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 322.5        | 1.778E-06         | 1.745E-06         | 1.745E-06            |                                   |           |      |  |
| F     | 0.2                                      | 0.08                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.117E-04         | 1.504E-04         | 1.117E-04            |                                   |           |      |  |
| F     | 1.6                                      | 11.00                | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.595E-05         | 2.148E-05         | 1.595E-05            |                                   |           |      |  |
| F     | 3.3                                      | 2.58                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 255.8        | 9.119E-06         | 1.002E-05         | 9.119E-06            |                                   |           |      |  |
| G     | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 2.237E-04         | 3.389E-04         | 2.237E-04            |                                   |           |      |  |
| G     | 1.6                                      | 1.85                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 3.195E-05         | 4.842E-05         | 3.195E-05            |                                   |           |      |  |
| G     | 3.3                                      | 0.39                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 187.1        | 2.056E-05         | 2.260E-05         | 2.056E-05            |                                   |           |      |  |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 |
| 0.015     | 0.097     | 0.247     | 2.098     | 2.110     | 2.503     | 13.498    | 16.078    | 37.115    | 59.049    |
| 0.00061   | 0.00403   | 0.01029   | 0.08744   | 0.08793   | 0.10430   | 0.56252   | 0.67006   | 1.54676   | 2.46087   |
| 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.124E-06 | 7.595E-07 | 5.854E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 |
| 64.210    | 67.239    | 80.310    | 80.534    | 86.593    | 87.154    | 87.266    | 88.612    | 88.724    | 90.463    |
| 2.67595   | 2.80220   | 3.34692   | 3.35627   | 3.60876   | 3.63214   | 3.63682   | 3.69293   | 3.69760   | 3.77008   |
| 2.039E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 |           |           |           |
| 90.632    | 93.156    | 95.568    | 98.149    | 99.888    | 99.944    | 100.000   |           |           |           |
| 3.77709   | 3.88230   | 3.98282   | 4.09037   | 4.16284   | 4.16518   | 4.16752   |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.562  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.545  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.673  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 3.344  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 3.606  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 4.159

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 10 1 -8.40538 -14.68705 -1.43625

Calculation No. PM-1055 Revision 0

Attachment J

|    |   |           |             |           |        |
|----|---|-----------|-------------|-----------|--------|
| 10 | 2 | -11.04582 | -16.22211   | -2.04174  |        |
| 10 | 3 | -11.81533 | -18.74508   | -3.21067  |        |
| 10 | 4 | -12.54483 | -26.12405   | -7.03173  |        |
| 10 | 5 | -13.23843 | -37.97973   | -13.50141 |        |
| 10 | 6 | -13.69861 | -94.98652   | -45.19980 |        |
| 10 | 7 | -16.67879 | NUMXQ(K)= 7 |           |        |
|    |   | 5.080E-05 | 0.042       |           | 1.000  |
|    |   | 3.217E-05 | 0.125       |           | 3.000  |
|    |   | 2.564E-05 | 0.208       |           | 5.000  |
|    |   | 1.851E-05 | 0.417       |           | 10.000 |
|    |   | 1.479E-05 | 0.625       |           | 15.000 |
|    |   | 1.197E-05 | 0.834       |           | 20.000 |
|    |   | 1.010E-05 | 1.042       |           | 25.000 |
|    |   | 8.763E-06 | 1.250       |           | 30.000 |
|    |   | 7.750E-06 | 1.459       |           | 35.000 |
|    |   | 6.713E-06 | 1.667       |           | 40.000 |
|    |   | 5.758E-06 | 1.875       |           | 45.000 |
|    |   | 5.009E-06 | 2.084       |           | 50.000 |
|    |   | 4.406E-06 | 2.292       |           | 55.000 |
|    |   | 3.913E-06 | 2.501       |           | 60.000 |
|    |   | 3.433E-06 | 2.709       |           | 65.000 |
|    |   | 2.735E-06 | 2.917       |           | 70.000 |
|    |   | 2.208E-06 | 3.126       |           | 75.000 |
|    |   | 1.803E-06 | 3.334       |           | 80.000 |
|    |   | 1.260E-06 | 3.542       |           | 85.000 |
|    |   | 5.063E-07 | 3.751       |           | 90.000 |
|    |   | 1.692E-05 | 0.5         |           | 12.00  |

ANNUAL AVERAGE = 1.14E-07

K= 10 FIVEXQ(K)= 1.692E-05 FIVEPR(K)=11.998

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                                |      |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------------|-------------------|-------------------|----------------------|-----------------------------------|--------------------------------|------|
|       |  |                      |                    |                   |              |               |                       |                   |                   |                      | MEANDER                           | BLDG WAKE<br>CA=1292.SQ.METERS | USED |
| A     | 1.6                                      | 0.21                 | 7300.              | 0.                | 0.           | 0.            | 1000.0                | 1000.0            | 1000.0            | 2.039E-07            | 2.039E-07                         | 2.039E-07                      |      |
| A     | 3.3                                      | 2.81                 | 7300.              | 0.                | 0.           | 0.            | 1000.0                | 1000.0            | 1000.0            | 9.517E-08            | 9.514E-08                         | 9.514E-08                      |      |
| A     | 5.6                                      | 2.03                 | 7300.              | 0.                | 0.           | 0.            | 1000.0                | 1000.0            | 1000.0            | 5.710E-08            | 5.708E-08                         | 5.708E-08                      |      |
| A     | 8.2                                      | 0.16                 | 7300.              | 0.                | 0.           | 0.            | 1000.0                | 1000.0            | 1000.0            | 3.858E-08            | 3.857E-08                         | 3.857E-08                      |      |
| B     | 1.6                                      | 0.31                 | 7300.              | 0.                | 0.           | 0.            | 848.1                 | 962.0             | 848.1             | 2.500E-07            | 2.498E-07                         | 2.498E-07                      |      |
| B     | 3.3                                      | 3.34                 | 7300.              | 0.                | 0.           | 0.            | 848.1                 | 962.0             | 848.1             | 1.166E-07            | 1.166E-07                         | 1.166E-07                      |      |
| B     | 5.6                                      | 1.46                 | 7300.              | 0.                | 0.           | 0.            | 848.1                 | 962.0             | 848.1             | 6.999E-08            | 6.995E-08                         | 6.995E-08                      |      |
| B     | 8.2                                      | 0.16                 | 7300.              | 0.                | 0.           | 0.            | 848.1                 | 962.0             | 848.1             | 4.729E-08            | 4.727E-08                         | 4.727E-08                      |      |
| C     | 1.6                                      | 0.26                 | 7300.              | 0.                | 0.           | 0.            | 644.0                 | 373.7             | 644.0             | 8.473E-07            | 8.459E-07                         | 8.459E-07                      |      |
| C     | 3.3                                      | 1.25                 | 7300.              | 0.                | 0.           | 0.            | 644.0                 | 373.7             | 644.0             | 3.954E-07            | 3.947E-07                         | 3.947E-07                      |      |
| C     | 5.6                                      | 1.15                 | 7300.              | 0.                | 0.           | 0.            | 644.0                 | 373.7             | 644.0             | 2.372E-07            | 2.368E-07                         | 2.368E-07                      |      |
| D     | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 0.            | 453.5                 | 111.1             | 515.1             | 2.494E-05            | 2.810E-05                         | 2.494E-05                      |      |
| D     | 1.6                                      | 4.06                 | 7300.              | 0.                | 0.           | 0.            | 453.5                 | 111.1             | 515.1             | 3.563E-06            | 4.014E-06                         | 3.563E-06                      |      |
| D     | 3.3                                      | 9.80                 | 7300.              | 0.                | 0.           | 0.            | 453.5                 | 111.1             | 481.0             | 1.781E-06            | 1.873E-06                         | 1.781E-06                      |      |
| D     | 5.6                                      | 4.06                 | 7300.              | 0.                | 0.           | 0.            | 453.5                 | 111.1             | 456.4             | 1.126E-06            | 1.124E-06                         | 1.124E-06                      |      |
| D     | 8.2                                      | 0.26                 | 7300.              | 0.                | 0.           | 0.            | 453.5                 | 111.1             | 453.5             | 7.657E-07            | 7.595E-07                         | 7.595E-07                      |      |
| E     | 0.2                                      | 0.12                 | 7300.              | 0.                | 0.           | 0.            | 322.5                 | 67.5              | 410.0             | 5.173E-05            | 6.456E-05                         | 5.173E-05                      |      |
| E     | 1.6                                      | 16.94                | 7300.              | 0.                | 0.           | 0.            | 322.5                 | 67.5              | 410.0             | 7.390E-06            | 9.223E-06                         | 7.390E-06                      |      |
| E     | 3.3                                      | 16.88                | 7300.              | 0.                | 0.           | 0.            | 322.5                 | 67.5              | 357.4             | 3.956E-06            | 4.304E-06                         | 3.956E-06                      |      |
| E     | 5.6                                      | 2.40                 | 7300.              | 0.                | 0.           | 0.            | 322.5                 | 67.5              | 325.9             | 2.603E-06            | 2.582E-06                         | 2.582E-06                      |      |
| F     | 0.2                                      | 0.11                 | 7300.              | 0.                | 0.           | 0.            | 222.6                 | 40.9              | 313.3             | 1.117E-04            | 1.504E-04                         | 1.117E-04                      |      |
| F     | 1.6                                      | 15.32                | 7300.              | 0.                | 0.           | 0.            | 222.6                 | 40.9              | 313.3             | 1.595E-05            | 2.148E-05                         | 1.595E-05                      |      |
| F     | 3.3                                      | 5.05                 | 7300.              | 0.                | 0.           | 0.            | 222.6                 | 40.9              | 255.8             | 9.119E-06            | 1.002E-05                         | 9.119E-06                      |      |
| F     | 5.6                                      | 0.05                 | 7300.              | 0.                | 0.           | 0.            | 222.6                 | 40.9              | 225.6             | 6.202E-06            | 6.015E-06                         | 6.015E-06                      |      |
| G     | 0.2                                      | 0.07                 | 7300.              | 0.                | 0.           | 0.            | 153.6                 | 24.8              | 257.9             | 2.237E-04            | 3.389E-04                         | 2.237E-04                      |      |
| G     | 1.6                                      | 8.65                 | 7300.              | 0.                | 0.           | 0.            | 153.6                 | 24.8              | 257.9             | 3.195E-05            | 4.842E-05                         | 3.195E-05                      |      |
| G     | 3.3                                      | 3.07                 | 7300.              | 0.                | 0.           | 0.            | 153.6                 | 24.8              | 187.1             | 2.056E-05            | 2.260E-05                         | 2.056E-05                      |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 6.015E-06 |
| 0.068     | 0.183     | 0.304     | 8.954     | 8.963     | 12.038    | 27.358    | 32.413    | 49.349    | 49.401    |
| 0.00307   | 0.00821   | 0.01363   | 0.40171   | 0.40213   | 0.54007   | 1.22740   | 1.45418   | 2.21398   | 2.21632   |
| 3.956E-06 | 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 |
| 66.285    | 70.349    | 72.746    | 82.543    | 86.608    | 86.868    | 87.129    | 88.379    | 88.692    | 89.838    |
| 2.97379   | 3.15614   | 3.26369   | 3.70321   | 3.88556   | 3.89725   | 3.90894   | 3.96505   | 3.97907   | 4.03051   |
| 2.039E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 |           |           |           |
| 90.047    | 93.382    | 96.196    | 97.655    | 99.687    | 99.844    | 100.000   |           |           |           |
| 4.03986   | 4.18948   | 4.31573   | 4.38119   | 4.47236   | 4.47938   | 4.48639   |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.401  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.226  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.212  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 3.153  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 3.700  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 3.882

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 11 1 -8.40538 -14.15498 -1.43480

Calculation No. PM-1055 Revision 0

Attachment J

11 2 -10.35129 -14.92988 -1.72710  
11 3 -11.04582 -18.34724 -3.24669  
11 4 -11.81533 -21.39976 -4.76394  
11 5 -12.54483 -30.42010 -9.61687  
11 6 -13.23843 -50.44180 -20.82336  
11 7 -13.69861 NUMXQ(K) = 7

|           |       |        |
|-----------|-------|--------|
| 8.357E-05 | 0.045 | 1.000  |
| 5.281E-05 | 0.135 | 3.000  |
| 4.203E-05 | 0.224 | 5.000  |
| 2.995E-05 | 0.449 | 10.000 |
| 2.345E-05 | 0.673 | 15.000 |
| 1.957E-05 | 0.897 | 20.000 |
| 1.693E-05 | 1.122 | 25.000 |
| 1.421E-05 | 1.346 | 30.000 |
| 1.166E-05 | 1.570 | 35.000 |
| 9.794E-06 | 1.795 | 40.000 |
| 8.373E-06 | 2.019 | 45.000 |
| 7.199E-06 | 2.243 | 50.000 |
| 5.939E-06 | 2.468 | 55.000 |
| 4.970E-06 | 2.692 | 60.000 |
| 4.209E-06 | 2.916 | 65.000 |
| 3.601E-06 | 3.140 | 70.000 |
| 2.705E-06 | 3.365 | 75.000 |
| 2.043E-06 | 3.589 | 80.000 |
| 1.345E-06 | 3.813 | 85.000 |
| 2.808E-05 | 0.5   | 11.14  |

ANNUAL AVERAGE = 1.59E-07

K= 11 FIVEXQ(K)= 2.808E-05 FIVEPR(K)=11.145

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER           | BLDG WAKE | USED |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|-----------|------|
|       |  |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   | CA=1292.SQ.METERS |           |      |
| A     | 1.6                                      | 0.24                 | 7300.              |                   | 0.           | 0.            |                 |              | 1000.0            | 1000.0            | 1000.0               | 2.039E-07                         | 2.039E-07         | 2.039E-07 |      |
| A     | 3.3                                      | 1.35                 | 7300.              |                   | 0.           | 0.            |                 |              | 1000.0            | 1000.0            | 1000.0               | 9.517E-08                         | 9.514E-08         | 9.514E-08 |      |
| A     | 5.6                                      | 0.97                 | 7300.              |                   | 0.           | 0.            |                 |              | 1000.0            | 1000.0            | 1000.0               | 5.710E-08                         | 5.708E-08         | 5.708E-08 |      |
| A     | 8.2                                      | 0.03                 | 7300.              |                   | 0.           | 0.            |                 |              | 1000.0            | 1000.0            | 1000.0               | 3.858E-08                         | 3.857E-08         | 3.857E-08 |      |
| B     | 1.6                                      | 0.21                 | 7300.              |                   | 0.           | 0.            |                 |              | 848.1             | 962.0             | 848.1                | 2.500E-07                         | 2.498E-07         | 2.498E-07 |      |
| B     | 3.3                                      | 1.45                 | 7300.              |                   | 0.           | 0.            |                 |              | 848.1             | 962.0             | 848.1                | 1.166E-07                         | 1.166E-07         | 1.166E-07 |      |
| B     | 5.6                                      | 0.83                 | 7300.              |                   | 0.           | 0.            |                 |              | 848.1             | 962.0             | 848.1                | 6.999E-08                         | 6.995E-08         | 6.995E-08 |      |
| C     | 1.6                                      | 0.14                 | 7300.              |                   | 0.           | 0.            |                 |              | 644.0             | 373.7             | 644.0                | 8.473E-07                         | 8.459E-07         | 8.459E-07 |      |
| C     | 3.3                                      | 0.73                 | 7300.              |                   | 0.           | 0.            |                 |              | 644.0             | 373.7             | 644.0                | 3.954E-07                         | 3.947E-07         | 3.947E-07 |      |
| C     | 5.6                                      | 0.76                 | 7300.              |                   | 0.           | 0.            |                 |              | 644.0             | 373.7             | 644.0                | 2.372E-07                         | 2.368E-07         | 2.368E-07 |      |
| D     | 0.2                                      | 0.01                 | 7300.              |                   | 0.           | 0.            |                 |              | 453.5             | 111.1             | 515.1                | 2.494E-05                         | 2.810E-05         | 2.494E-05 |      |
| D     | 1.6                                      | 3.63                 | 7300.              |                   | 0.           | 0.            |                 |              | 453.5             | 111.1             | 515.1                | 3.563E-06                         | 4.014E-06         | 3.563E-06 |      |
| D     | 3.3                                      | 6.04                 | 7300.              |                   | 0.           | 0.            |                 |              | 453.5             | 111.1             | 481.0                | 1.781E-06                         | 1.873E-06         | 1.781E-06 |      |
| D     | 5.6                                      | 2.56                 | 7300.              |                   | 0.           | 0.            |                 |              | 453.5             | 111.1             | 456.4                | 1.126E-06                         | 1.124E-06         | 1.124E-06 |      |
| D     | 8.2                                      | 0.14                 | 7300.              |                   | 0.           | 0.            |                 |              | 453.5             | 111.1             | 453.5                | 7.657E-07                         | 7.595E-07         | 7.595E-07 |      |
| E     | 0.2                                      | 0.10                 | 7300.              |                   | 0.           | 0.            |                 |              | 322.5             | 67.5              | 410.0                | 5.173E-05                         | 6.456E-05         | 5.173E-05 |      |
| E     | 1.6                                      | 13.64                | 7300.              |                   | 0.           | 0.            |                 |              | 322.5             | 67.5              | 410.0                | 7.390E-06                         | 9.223E-06         | 7.390E-06 |      |
| E     | 3.3                                      | 14.99                | 7300.              |                   | 0.           | 0.            |                 |              | 322.5             | 67.5              | 357.4                | 3.956E-06                         | 4.304E-06         | 3.956E-06 |      |
| E     | 5.6                                      | 1.76                 | 7300.              |                   | 0.           | 0.            |                 |              | 322.5             | 67.5              | 325.9                | 2.603E-06                         | 2.582E-06         | 2.582E-06 |      |
| F     | 0.2                                      | 0.12                 | 7300.              |                   | 0.           | 0.            |                 |              | 222.6             | 40.9              | 313.3                | 1.117E-04                         | 1.504E-04         | 1.117E-04 |      |
| F     | 1.6                                      | 15.58                | 7300.              |                   | 0.           | 0.            |                 |              | 222.6             | 40.9              | 313.3                | 1.595E-05                         | 2.148E-05         | 1.595E-05 |      |
| F     | 3.3                                      | 8.70                 | 7300.              |                   | 0.           | 0.            |                 |              | 222.6             | 40.9              | 255.8                | 9.119E-06                         | 1.002E-05         | 9.119E-06 |      |
| F     | 5.6                                      | 0.10                 | 7300.              |                   | 0.           | 0.            |                 |              | 222.6             | 40.9              | 225.6                | 6.202E-06                         | 6.015E-06         | 6.015E-06 |      |
| G     | 0.2                                      | 0.13                 | 7300.              |                   | 0.           | 0.            |                 |              | 153.6             | 24.8              | 257.9                | 2.237E-04                         | 3.389E-04         | 2.237E-04 |      |
| G     | 1.6                                      | 16.99                | 7300.              |                   | 0.           | 0.            |                 |              | 153.6             | 24.8              | 257.9                | 3.195E-05                         | 4.842E-05         | 3.195E-05 |      |
| G     | 3.3                                      | 8.77                 | 7300.              |                   | 0.           | 0.            |                 |              | 153.6             | 24.8              | 187.1                | 2.056E-05                         | 2.260E-05         | 2.056E-05 |      |
| G     | 5.6                                      | 0.03                 | 7300.              |                   | 0.           | 0.            |                 |              | 153.6             | 24.8              | 156.4                | 1.476E-05                         | 1.356E-05         | 1.356E-05 |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 10 columns of numerical data representing CHI/Q values, normalized frequencies, and total frequencies across three rows of data.

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 1.172
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 2.820
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.334
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.601
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 6.129
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 6.302

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)
12 1 -8.40538 -13.33734 -1.31774



Calculation No. PM-1055 Revision 0

Attachment J

12 2 -10.35129 -14.74649 -1.93960  
12 3 -11.04582 -18.58338 -3.95059  
12 4 -11.81533 -21.89563 -5.88398  
12 5 -12.54483 -36.94700 -15.35505  
12 6 -13.23843 -63.53146 -32.57270  
12 7 -13.69861 NUMXQ(K) = 7

|           |       |        |
|-----------|-------|--------|
| 1.101E-04 | 0.068 | 1.000  |
| 7.116E-05 | 0.203 | 3.000  |
| 5.723E-05 | 0.338 | 5.000  |
| 4.179E-05 | 0.677 | 10.000 |
| 3.435E-05 | 1.015 | 15.000 |
| 2.871E-05 | 1.354 | 20.000 |
| 2.418E-05 | 1.692 | 25.000 |
| 2.093E-05 | 2.031 | 30.000 |
| 1.846E-05 | 2.369 | 35.000 |
| 1.652E-05 | 2.708 | 40.000 |
| 1.398E-05 | 3.046 | 45.000 |
| 1.161E-05 | 3.384 | 50.000 |
| 9.784E-06 | 3.723 | 55.000 |
| 8.347E-06 | 4.061 | 60.000 |
| 7.103E-06 | 4.400 | 65.000 |
| 5.771E-06 | 4.738 | 70.000 |
| 4.744E-06 | 5.077 | 75.000 |
| 3.939E-06 | 5.415 | 80.000 |
| 2.916E-06 | 5.754 | 85.000 |
| 1.876E-06 | 6.092 | 90.000 |
| 4.809E-05 | 0.5   | 7.39   |

ANNUAL AVERAGE = 3.00E-07

K= 12 FIVEXQ(K) = 4.809E-05 FIVEPR(K) = 7.387

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                                |      |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|--------------------------------|------|
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE<br>CA=1292.SQ.METERS | USED |
| A     | 1.6                                      | 0.43                 | 7300.              | 0.                | 0.           | 0.            | 1000.0             | 1000.0            | 1000.0            | 2.039E-07            | 2.039E-07                         | 2.039E-07                      |      |
| A     | 3.3                                      | 2.64                 | 7300.              | 0.                | 0.           | 0.            | 1000.0             | 1000.0            | 1000.0            | 9.517E-08            | 9.514E-08                         | 9.514E-08                      |      |
| A     | 5.6                                      | 1.64                 | 7300.              | 0.                | 0.           | 0.            | 1000.0             | 1000.0            | 1000.0            | 5.710E-08            | 5.708E-08                         | 5.708E-08                      |      |
| A     | 8.2                                      | 0.11                 | 7300.              | 0.                | 0.           | 0.            | 1000.0             | 1000.0            | 1000.0            | 3.858E-08            | 3.857E-08                         | 3.857E-08                      |      |
| B     | 1.6                                      | 0.43                 | 7300.              | 0.                | 0.           | 0.            | 848.1              | 962.0             | 848.1             | 2.500E-07            | 2.498E-07                         | 2.498E-07                      |      |
| B     | 3.3                                      | 1.81                 | 7300.              | 0.                | 0.           | 0.            | 848.1              | 962.0             | 848.1             | 1.166E-07            | 1.166E-07                         | 1.166E-07                      |      |
| B     | 5.6                                      | 1.45                 | 7300.              | 0.                | 0.           | 0.            | 848.1              | 962.0             | 848.1             | 6.999E-08            | 6.995E-08                         | 6.995E-08                      |      |
| B     | 8.2                                      | 0.06                 | 7300.              | 0.                | 0.           | 0.            | 848.1              | 962.0             | 848.1             | 4.729E-08            | 4.727E-08                         | 4.727E-08                      |      |
| C     | 1.6                                      | 0.17                 | 7300.              | 0.                | 0.           | 0.            | 644.0              | 373.7             | 644.0             | 8.473E-07            | 8.459E-07                         | 8.459E-07                      |      |
| C     | 3.3                                      | 1.19                 | 7300.              | 0.                | 0.           | 0.            | 644.0              | 373.7             | 644.0             | 3.954E-07            | 3.947E-07                         | 3.947E-07                      |      |
| C     | 5.6                                      | 0.99                 | 7300.              | 0.                | 0.           | 0.            | 644.0              | 373.7             | 644.0             | 2.372E-07            | 2.368E-07                         | 2.368E-07                      |      |
| C     | 8.2                                      | 0.09                 | 7300.              | 0.                | 0.           | 0.            | 644.0              | 373.7             | 644.0             | 1.603E-07            | 1.600E-07                         | 1.600E-07                      |      |
| D     | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 515.1             | 2.494E-05            | 2.810E-05                         | 2.494E-05                      |      |
| D     | 1.6                                      | 3.46                 | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 515.1             | 3.563E-06            | 4.014E-06                         | 3.563E-06                      |      |
| D     | 3.3                                      | 8.42                 | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 481.0             | 1.781E-06            | 1.873E-06                         | 1.781E-06                      |      |
| D     | 5.6                                      | 6.06                 | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 456.4             | 1.126E-06            | 1.124E-06                         | 1.124E-06                      |      |
| D     | 8.2                                      | 1.22                 | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 453.5             | 7.657E-07            | 7.595E-07                         | 7.595E-07                      |      |
| E     | 0.2                                      | 0.09                 | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 410.0             | 5.173E-05            | 6.456E-05                         | 5.173E-05                      |      |
| E     | 1.6                                      | 12.70                | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 410.0             | 7.390E-06            | 9.223E-06                         | 7.390E-06                      |      |
| E     | 3.3                                      | 18.93                | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 357.4             | 3.956E-06            | 4.304E-06                         | 3.956E-06                      |      |
| E     | 5.6                                      | 3.49                 | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 325.9             | 2.603E-06            | 2.582E-06                         | 2.582E-06                      |      |
| E     | 8.2                                      | 0.17                 | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 322.5             | 1.778E-06            | 1.745E-06                         | 1.745E-06                      |      |
| F     | 0.2                                      | 0.11                 | 7300.              | 0.                | 0.           | 0.            | 222.6              | 40.9              | 313.3             | 1.117E-04            | 1.504E-04                         | 1.117E-04                      |      |
| F     | 1.6                                      | 14.17                | 7300.              | 0.                | 0.           | 0.            | 222.6              | 40.9              | 313.3             | 1.595E-05            | 2.148E-05                         | 1.595E-05                      |      |
| F     | 3.3                                      | 6.04                 | 7300.              | 0.                | 0.           | 0.            | 222.6              | 40.9              | 255.8             | 9.119E-06            | 1.002E-05                         | 9.119E-06                      |      |
| G     | 0.2                                      | 0.10                 | 7300.              | 0.                | 0.           | 0.            | 153.6              | 24.8              | 257.9             | 2.237E-04            | 3.389E-04                         | 2.237E-04                      |      |
| G     | 1.6                                      | 12.04                | 7300.              | 0.                | 0.           | 0.            | 153.6              | 24.8              | 257.9             | 3.195E-05            | 4.842E-05                         | 3.195E-05                      |      |
| G     | 3.3                                      | 2.01                 | 7300.              | 0.                | 0.           | 0.            | 153.6              | 24.8              | 187.1             | 2.056E-05            | 2.260E-05                         | 2.056E-05                      |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 |
| 0.095     | 0.201     | 0.292     | 12.336    | 12.344    | 14.356    | 28.526    | 34.563    | 47.259    | 66.190    |
| 0.00786   | 0.01660   | 0.02407   | 1.01766   | 1.01832   | 1.18431   | 2.35324   | 2.85121   | 3.89858   | 5.46027   |
| 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 |
| 69.648    | 73.134    | 81.551    | 81.721    | 87.785    | 87.955    | 89.174    | 90.364    | 90.789    | 91.781    |
| 5.74549   | 6.03305   | 6.72740   | 6.74143   | 7.24173   | 7.25576   | 7.35628   | 7.45448   | 7.48954   | 7.57137   |
| 2.039E-07 | 1.600E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 |           |           |
| 92.206    | 92.292    | 94.105    | 96.741    | 98.186    | 99.830    | 99.887    | 100.000   |           |           |
| 7.60644   | 7.61345   | 7.76307   | 7.98050   | 8.09973   | 8.23532   | 8.24000   | 8.24935   |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|                  |                                    |              |       |
|------------------|------------------------------------|--------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2) = | 1.016 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 2.351 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 3.895 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 5.456 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 5.742 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 7) = | 6.724 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 8) = | 7.238 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 9) = | 8.232 |

Calculation No. PM-1055 Revision 0

Attachment J

| K  | I | XQSAVE(K, I) | XQINT(K, I)  | XQSLOP(K, I) |
|----|---|--------------|--------------|--------------|
| 13 | 1 | -8.40538     | -13.44553    | -1.33360     |
| 13 | 2 | -10.35129    | -15.17515    | -2.07906     |
| 13 | 3 | -11.04582    | -17.89402    | -3.44798     |
| 13 | 4 | -11.81533    | -18.66356    | -3.88448     |
| 13 | 5 | -12.44017    | -19.07274    | -4.13988     |
| 13 | 6 | -12.54483    | -26.19342    | -8.65569     |
| 13 | 7 | -13.23843    | -31.17334    | -11.98294    |
| 13 | 8 | -13.69861    | -77.01177    | -43.41573    |
| 13 | 9 | -16.67879    | NUMXQ(K) = 9 |              |
|    |   | 9.627E-05    | 0.082        | 1.000        |
|    |   | 6.145E-05    | 0.247        | 3.000        |
|    |   | 4.908E-05    | 0.412        | 5.000        |
|    |   | 3.545E-05    | 0.825        | 10.000       |
|    |   | 2.737E-05    | 1.237        | 15.000       |
|    |   | 2.163E-05    | 1.650        | 20.000       |
|    |   | 1.790E-05    | 2.062        | 25.000       |
|    |   | 1.482E-05    | 2.475        | 30.000       |
|    |   | 1.177E-05    | 2.887        | 35.000       |
|    |   | 9.601E-06    | 3.300        | 40.000       |
|    |   | 7.987E-06    | 3.712        | 45.000       |
|    |   | 6.676E-06    | 4.125        | 50.000       |
|    |   | 5.607E-06    | 4.537        | 55.000       |
|    |   | 4.767E-06    | 4.950        | 60.000       |
|    |   | 4.096E-06    | 5.362        | 65.000       |
|    |   | 3.486E-06    | 5.775        | 70.000       |
|    |   | 2.581E-06    | 6.187        | 75.000       |
|    |   | 1.940E-06    | 6.599        | 80.000       |
|    |   | 1.376E-06    | 7.012        | 85.000       |
|    |   | 6.354E-07    | 7.424        | 90.000       |
|    |   | 4.495E-05    | 0.5          | 6.06         |

ANNUAL AVERAGE = 2.98E-07

K= 13 FIVEXQ(K) = 4.495E-05 FIVEPR(K) = 6.061

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER           | BLDG WAKE | USED      |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|-----------|-----------|
|                 |  |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   | CA=1292.SQ.METERS |           |           |
| A               | 1.6                                      | 0.39                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 2.039E-07         | 2.039E-07         | 2.039E-07            | 2.039E-07                         | 2.039E-07         | 2.039E-07 | 2.039E-07 |
| A               | 3.3                                      | 2.50                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 9.517E-08         | 9.514E-08         | 9.514E-08            | 9.517E-08                         | 9.514E-08         | 9.514E-08 | 9.514E-08 |
| A               | 5.6                                      | 0.87                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 5.710E-08         | 5.708E-08         | 5.708E-08            | 5.710E-08                         | 5.708E-08         | 5.708E-08 | 5.708E-08 |
| A               | 8.2                                      | 0.19                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 3.858E-08         | 3.857E-08         | 3.857E-08            | 3.858E-08                         | 3.857E-08         | 3.857E-08 | 3.857E-08 |
| B               | 1.6                                      | 0.29                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 2.500E-07         | 2.498E-07         | 2.498E-07            | 2.500E-07                         | 2.498E-07         | 2.498E-07 | 2.498E-07 |
| B               | 3.3                                      | 1.71                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 1.166E-07         | 1.166E-07         | 1.166E-07            | 1.166E-07                         | 1.166E-07         | 1.166E-07 | 1.166E-07 |
| B               | 5.6                                      | 1.71                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 6.999E-08         | 6.995E-08         | 6.995E-08            | 6.999E-08                         | 6.995E-08         | 6.995E-08 | 6.995E-08 |
| B               | 8.2                                      | 0.39                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 4.729E-08         | 4.727E-08         | 4.727E-08            | 4.729E-08                         | 4.727E-08         | 4.727E-08 | 4.727E-08 |
| B               | 10.7                                     | 0.02                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 3.645E-08         | 3.643E-08         | 3.643E-08            | 3.645E-08                         | 3.643E-08         | 3.643E-08 | 3.643E-08 |
| C               | 1.6                                      | 0.17                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 8.473E-07         | 8.459E-07         | 8.459E-07            | 8.473E-07                         | 8.459E-07         | 8.459E-07 | 8.459E-07 |
| C               | 3.3                                      | 0.89                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 3.954E-07         | 3.947E-07         | 3.947E-07            | 3.954E-07                         | 3.947E-07         | 3.947E-07 | 3.947E-07 |
| C               | 5.6                                      | 1.28                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 2.372E-07         | 2.368E-07         | 2.368E-07            | 2.372E-07                         | 2.368E-07         | 2.368E-07 | 2.368E-07 |
| C               | 8.2                                      | 0.29                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 1.603E-07         | 1.600E-07         | 1.600E-07            | 1.603E-07                         | 1.600E-07         | 1.600E-07 | 1.600E-07 |
| D               | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 2.494E-05         | 2.810E-05         | 2.494E-05            | 2.494E-05                         | 2.810E-05         | 2.494E-05 | 2.494E-05 |
| D               | 1.6                                      | 3.08                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 3.563E-06         | 4.014E-06         | 3.563E-06            | 3.563E-06                         | 4.014E-06         | 3.563E-06 | 3.563E-06 |
| D               | 3.3                                      | 10.41                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 481.0        | 1.781E-06         | 1.873E-06         | 1.781E-06            | 1.781E-06                         | 1.873E-06         | 1.781E-06 | 1.781E-06 |
| D               | 5.6                                      | 13.85                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 456.4        | 1.126E-06         | 1.124E-06         | 1.124E-06            | 1.126E-06                         | 1.124E-06         | 1.124E-06 | 1.124E-06 |
| D               | 8.2                                      | 1.37                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 453.5        | 7.657E-07         | 7.595E-07         | 7.595E-07            | 7.657E-07                         | 7.595E-07         | 7.595E-07 | 7.595E-07 |
| D               | 10.7                                     | 0.02                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 453.5        | 5.902E-07         | 5.854E-07         | 5.854E-07            | 5.902E-07                         | 5.854E-07         | 5.854E-07 | 5.854E-07 |
| E               | 0.2                                      | 0.09                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 5.173E-05         | 6.456E-05         | 5.173E-05            | 5.173E-05                         | 6.456E-05         | 5.173E-05 | 5.173E-05 |
| E               | 1.6                                      | 11.99                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 7.390E-06         | 9.223E-06         | 7.390E-06            | 7.390E-06                         | 9.223E-06         | 7.390E-06 | 7.390E-06 |
| E               | 3.3                                      | 24.18                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 357.4        | 3.956E-06         | 4.304E-06         | 3.956E-06            | 3.956E-06                         | 4.304E-06         | 3.956E-06 | 3.956E-06 |
| E               | 5.6                                      | 4.65                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 325.9        | 2.603E-06         | 2.582E-06         | 2.582E-06            | 2.603E-06                         | 2.582E-06         | 2.582E-06 | 2.582E-06 |
| E               | 8.2                                      | 0.19                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 322.5        | 1.778E-06         | 1.745E-06         | 1.745E-06            | 1.778E-06                         | 1.745E-06         | 1.745E-06 | 1.745E-06 |
| F               | 0.2                                      | 0.07                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.117E-04         | 1.504E-04         | 1.117E-04            | 1.117E-04                         | 1.504E-04         | 1.117E-04 | 1.117E-04 |
| F               | 1.6                                      | 10.02                | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.595E-05         | 2.148E-05         | 1.595E-05            | 1.595E-05                         | 2.148E-05         | 1.595E-05 | 1.595E-05 |
| F               | 3.3                                      | 3.28                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 255.8        | 9.119E-06         | 1.002E-05         | 9.119E-06            | 9.119E-06                         | 1.002E-05         | 9.119E-06 | 9.119E-06 |
| F               | 5.6                                      | 0.02                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 225.6        | 6.202E-06         | 6.015E-06         | 6.015E-06            | 6.202E-06                         | 6.015E-06         | 6.015E-06 | 6.015E-06 |
| G               | 0.2                                      | 0.04                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 2.237E-04         | 3.389E-04         | 2.237E-04            | 2.237E-04                         | 3.389E-04         | 2.237E-04 | 2.237E-04 |
| G               | 1.6                                      | 5.64                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 3.195E-05         | 4.842E-05         | 3.195E-05            | 3.195E-05                         | 4.842E-05         | 3.195E-05 | 3.195E-05 |
| G               | 3.3                                      | 0.39                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 187.1        | 2.056E-05         | 2.260E-05         | 2.056E-05            | 2.056E-05                         | 2.260E-05         | 2.056E-05 | 2.056E-05 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 6.015E-06 |
| 0.045     | 0.119     | 0.205     | 5.841     | 5.848     | 6.234     | 16.253    | 19.529    | 31.524    | 31.548    |
| 0.00433   | 0.01160   | 0.01990   | 0.56696   | 0.56765   | 0.60506   | 1.57761   | 1.89556   | 3.05982   | 3.06216   |
| 3.956E-06 | 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 | 5.854E-07 | 3.947E-07 |
| 55.730    | 58.813    | 63.462    | 73.867    | 74.060    | 87.909    | 88.077    | 89.450    | 89.474    | 90.366    |
| 5.40938   | 5.70863   | 6.15983   | 7.16979   | 7.18850   | 8.53277   | 8.54914   | 8.68239   | 8.68473   | 8.77123   |
| 2.498E-07 | 2.368E-07 | 2.039E-07 | 1.600E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 |
| 90.655    | 91.931    | 92.317    | 92.606    | 94.316    | 96.821    | 98.531    | 99.398    | 99.783    | 99.976    |
| 8.79929   | 8.92319   | 8.96060   | 8.98866   | 9.15464   | 9.39778   | 9.56377   | 9.64794   | 9.68534   | 9.70404   |
| 3.643E-08 |           |           |           |           |           |           |           |           |           |
| 100.000   |           |           |           |           |           |           |           |           |           |
| 9.70638   |           |           |           |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.566  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.576  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 5.406  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 5.705  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 8.529

| K  | I | XQSAVE(K, I) | XQINT(K, I)  | XQSLOP(K, I) |
|----|---|--------------|--------------|--------------|
| 14 | 1 | -8.40538     | -13.88919    | -1.39701     |
| 14 | 2 | -10.35129    | -14.95571    | -1.81815     |
| 14 | 3 | -11.04582    | -16.56041    | -2.56435     |
| 14 | 4 | -12.44017    | -18.74070    | -3.92132     |
| 14 | 5 | -12.54483    | -21.23772    | -5.50167     |
| 14 | 6 | -13.69861    | -70.06627    | -41.13431    |
| 14 | 7 | -14.09066    | NUMXQ(K) = 7 |              |
|    |   | 7.054E-05    | 0.097        | 1.000        |
|    |   | 4.378E-05    | 0.291        | 3.000        |
|    |   | 3.446E-05    | 0.485        | 5.000        |
|    |   | 2.243E-05    | 0.971        | 10.000       |
|    |   | 1.690E-05    | 1.456        | 15.000       |
|    |   | 1.286E-05    | 1.941        | 20.000       |
|    |   | 1.012E-05    | 2.427        | 25.000       |
|    |   | 8.271E-06    | 2.912        | 30.000       |
|    |   | 6.938E-06    | 3.397        | 35.000       |
|    |   | 5.935E-06    | 3.883        | 40.000       |
|    |   | 5.154E-06    | 4.368        | 45.000       |
|    |   | 4.531E-06    | 4.853        | 50.000       |
|    |   | 4.023E-06    | 5.339        | 55.000       |
|    |   | 3.373E-06    | 5.824        | 60.000       |
|    |   | 2.700E-06    | 6.309        | 65.000       |
|    |   | 2.190E-06    | 6.794        | 70.000       |
|    |   | 1.796E-06    | 7.280        | 75.000       |
|    |   | 1.488E-06    | 7.765        | 80.000       |
|    |   | 1.243E-06    | 8.250        | 85.000       |
|    |   | 3.397E-05    | 0.5          | 5.15         |

ANNUAL AVERAGE = 2.58E-07

K= 14 FIVEXQ(K) = 3.397E-05 FIVEPR(K) = 5.151

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER           | BLDG WAKE | USED      |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|-----------|-----------|
|                 |  |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   | CA=1292.SQ.METERS |           |           |
| A               | 1.6                                      | 0.49                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 2.039E-07         | 2.039E-07         | 2.039E-07            | 2.039E-07                         | 2.039E-07         | 2.039E-07 | 2.039E-07 |
| A               | 3.3                                      | 1.58                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 9.517E-08         | 9.514E-08         | 9.514E-08            | 9.514E-08                         | 9.514E-08         | 9.514E-08 | 9.514E-08 |
| A               | 5.6                                      | 0.51                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 5.710E-08         | 5.708E-08         | 5.708E-08            | 5.708E-08                         | 5.708E-08         | 5.708E-08 | 5.708E-08 |
| A               | 8.2                                      | 0.06                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 3.858E-08         | 3.857E-08         | 3.857E-08            | 3.857E-08                         | 3.857E-08         | 3.857E-08 | 3.857E-08 |
| B               | 1.6                                      | 0.18                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 2.500E-07         | 2.498E-07         | 2.498E-07            | 2.498E-07                         | 2.498E-07         | 2.498E-07 | 2.498E-07 |
| B               | 3.3                                      | 1.40                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 1.166E-07         | 1.166E-07         | 1.166E-07            | 1.166E-07                         | 1.166E-07         | 1.166E-07 | 1.166E-07 |
| B               | 5.6                                      | 1.83                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 6.999E-08         | 6.995E-08         | 6.995E-08            | 6.995E-08                         | 6.995E-08         | 6.995E-08 | 6.995E-08 |
| B               | 8.2                                      | 0.43                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 4.729E-08         | 4.727E-08         | 4.727E-08            | 4.727E-08                         | 4.727E-08         | 4.727E-08 | 4.727E-08 |
| C               | 1.6                                      | 0.18                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 8.473E-07         | 8.459E-07         | 8.459E-07            | 8.459E-07                         | 8.459E-07         | 8.459E-07 | 8.459E-07 |
| C               | 3.3                                      | 0.94                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 3.954E-07         | 3.947E-07         | 3.947E-07            | 3.947E-07                         | 3.947E-07         | 3.947E-07 | 3.947E-07 |
| C               | 5.6                                      | 1.64                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 2.372E-07         | 2.368E-07         | 2.368E-07            | 2.368E-07                         | 2.368E-07         | 2.368E-07 | 2.368E-07 |
| C               | 8.2                                      | 0.41                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 1.603E-07         | 1.600E-07         | 1.600E-07            | 1.600E-07                         | 1.600E-07         | 1.600E-07 | 1.600E-07 |
| D               | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 2.494E-05         | 2.810E-05         | 2.494E-05            | 2.494E-05                         | 2.810E-05         | 2.494E-05 | 2.494E-05 |
| D               | 1.6                                      | 3.94                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 3.563E-06         | 4.014E-06         | 3.563E-06            | 3.563E-06                         | 4.014E-06         | 3.563E-06 | 3.563E-06 |
| D               | 3.3                                      | 15.18                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 481.0        | 1.781E-06         | 1.873E-06         | 1.781E-06            | 1.781E-06                         | 1.873E-06         | 1.781E-06 | 1.781E-06 |
| D               | 5.6                                      | 18.92                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 456.4        | 1.126E-06         | 1.124E-06         | 1.124E-06            | 1.124E-06                         | 1.124E-06         | 1.124E-06 | 1.124E-06 |
| D               | 8.2                                      | 3.47                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 453.5        | 7.657E-07         | 7.595E-07         | 7.595E-07            | 7.595E-07                         | 7.595E-07         | 7.595E-07 | 7.595E-07 |
| E               | 0.2                                      | 0.09                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 5.173E-05         | 6.456E-05         | 5.173E-05            | 5.173E-05                         | 6.456E-05         | 5.173E-05 | 5.173E-05 |
| E               | 1.6                                      | 12.49                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 7.390E-06         | 9.223E-06         | 7.390E-06            | 7.390E-06                         | 9.223E-06         | 7.390E-06 | 7.390E-06 |
| E               | 3.3                                      | 19.45                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 357.4        | 3.956E-06         | 4.304E-06         | 3.956E-06            | 3.956E-06                         | 4.304E-06         | 3.956E-06 | 3.956E-06 |
| E               | 5.6                                      | 5.27                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 325.9        | 2.603E-06         | 2.582E-06         | 2.582E-06            | 2.582E-06                         | 2.582E-06         | 2.582E-06 | 2.582E-06 |
| E               | 8.2                                      | 0.18                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 322.5        | 1.778E-06         | 1.745E-06         | 1.745E-06            | 1.745E-06                         | 1.745E-06         | 1.745E-06 | 1.745E-06 |
| F               | 0.2                                      | 0.05                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.117E-04         | 1.504E-04         | 1.117E-04            | 1.117E-04                         | 1.504E-04         | 1.117E-04 | 1.117E-04 |
| F               | 1.6                                      | 6.79                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.595E-05         | 2.148E-05         | 1.595E-05            | 1.595E-05                         | 2.148E-05         | 1.595E-05 | 1.595E-05 |
| F               | 3.3                                      | 1.87                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 255.8        | 9.119E-06         | 1.002E-05         | 9.119E-06            | 9.119E-06                         | 1.002E-05         | 9.119E-06 | 9.119E-06 |
| F               | 5.6                                      | 0.02                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 225.6        | 6.202E-06         | 6.015E-06         | 6.015E-06            | 6.015E-06                         | 6.015E-06         | 6.015E-06 | 6.015E-06 |
| G               | 0.2                                      | 0.02                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 2.237E-04         | 3.389E-04         | 2.237E-04            | 2.237E-04                         | 3.389E-04         | 2.237E-04 | 2.237E-04 |
| G               | 1.6                                      | 2.44                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 3.195E-05         | 4.842E-05         | 3.195E-05            | 3.195E-05                         | 4.842E-05         | 3.195E-05 | 3.195E-05 |
| G               | 3.3                                      | 0.14                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 187.1        | 2.056E-05         | 2.260E-05         | 2.056E-05            | 2.056E-05                         | 2.260E-05         | 2.056E-05 | 2.056E-05 |



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 6.015E-06 |
| 0.019     | 0.070     | 0.159     | 2.601     | 2.610     | 2.753     | 9.544     | 11.411    | 23.905    | 23.926    |
| 0.00220   | 0.00798   | 0.01814   | 0.29635   | 0.29738   | 0.31375   | 1.08758   | 1.30033   | 2.72409   | 2.72643   |
| 3.956E-06 | 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 | 3.947E-07 | 2.498E-07 |
| 43.375    | 47.314    | 52.587    | 67.769    | 67.954    | 86.870    | 87.054    | 90.522    | 91.465    | 91.650    |
| 4.94273   | 5.39160   | 5.99243   | 7.72245   | 7.74349   | 9.89901   | 9.92005   | 10.31515  | 10.42269  | 10.44373  |
| 2.368E-07 | 2.039E-07 | 1.600E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 |           |
| 93.291    | 93.784    | 94.194    | 95.589    | 97.169    | 98.995    | 99.508    | 99.938    | 100.000   |           |
| 10.63076  | 10.68687  | 10.73363  | 10.89260  | 11.07262  | 11.28069  | 11.33914  | 11.38823  | 11.39524  |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|                  |                                    |              |        |
|------------------|------------------------------------|--------------|--------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2) = | 0.296  |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 1.086  |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 2.721  |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 4.939  |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 5.388  |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 7) = | 9.896  |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 8) = | 10.312 |

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)

Calculation No. PM-1055 Revision 0

Attachment J

|    |   |           |              |           |
|----|---|-----------|--------------|-----------|
| 15 | 1 | -8.40538  | -14.36887    | -1.45979  |
| 15 | 2 | -10.35129 | -14.53344    | -1.51958  |
| 15 | 3 | -11.04582 | -15.79721    | -2.07021  |
| 15 | 4 | -11.81533 | -16.22378    | -2.29199  |
| 15 | 5 | -12.44017 | -16.51185    | -2.46650  |
| 15 | 6 | -12.54483 | -18.32850    | -3.59600  |
| 15 | 7 | -13.69861 | -35.13582    | -16.65015 |
| 15 | 8 | -14.09066 | NUMXQ(K) = 8 |           |
|    |   | 4.946E-05 | 0.114        | 1.000     |
|    |   | 2.974E-05 | 0.342        | 3.000     |
|    |   | 2.282E-05 | 0.570        | 5.000     |
|    |   | 1.538E-05 | 1.140        | 10.000    |
|    |   | 1.106E-05 | 1.709        | 15.000    |
|    |   | 8.655E-06 | 2.279        | 20.000    |
|    |   | 7.067E-06 | 2.849        | 25.000    |
|    |   | 5.871E-06 | 3.419        | 30.000    |
|    |   | 4.994E-06 | 3.988        | 35.000    |
|    |   | 4.325E-06 | 4.558        | 40.000    |
|    |   | 3.786E-06 | 5.128        | 45.000    |
|    |   | 3.229E-06 | 5.698        | 50.000    |
|    |   | 2.718E-06 | 6.267        | 55.000    |
|    |   | 2.314E-06 | 6.837        | 60.000    |
|    |   | 1.990E-06 | 7.407        | 65.000    |
|    |   | 1.727E-06 | 7.977        | 70.000    |
|    |   | 1.509E-06 | 8.546        | 75.000    |
|    |   | 1.328E-06 | 9.116        | 80.000    |
|    |   | 1.175E-06 | 9.686        | 85.000    |
|    |   | 8.026E-07 | 10.256       | 90.000    |
|    |   | 2.446E-05 | 0.5          | 4.39      |

ANNUAL AVERAGE = 2.42E-07

K= 15 FIVEXQ(K) = 2.446E-05 FIVEPR(K) = 4.388

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER           | BLDG WAKE | USED      |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|-----------|-----------|
|       |  |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   | CA=1292.SQ.METERS |           |           |
| A     | 1.6                                      | 0.84                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 2.039E-07         | 2.039E-07         | 2.039E-07            | 2.039E-07                         | 2.039E-07         | 2.039E-07 | 2.039E-07 |
| A     | 3.3                                      | 4.22                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 9.517E-08         | 9.514E-08         | 9.514E-08            | 9.517E-08                         | 9.514E-08         | 9.514E-08 | 9.514E-08 |
| A     | 5.6                                      | 1.88                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 5.710E-08         | 5.708E-08         | 5.708E-08            | 5.710E-08                         | 5.708E-08         | 5.708E-08 | 5.708E-08 |
| A     | 8.2                                      | 0.02                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 3.858E-08         | 3.857E-08         | 3.857E-08            | 3.858E-08                         | 3.857E-08         | 3.857E-08 | 3.857E-08 |
| B     | 1.6                                      | 0.79                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 2.500E-07         | 2.498E-07         | 2.498E-07            | 2.500E-07                         | 2.498E-07         | 2.498E-07 | 2.498E-07 |
| B     | 3.3                                      | 3.47                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 1.166E-07         | 1.166E-07         | 1.166E-07            | 1.166E-07                         | 1.166E-07         | 1.166E-07 | 1.166E-07 |
| B     | 5.6                                      | 3.51                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 6.999E-08         | 6.995E-08         | 6.995E-08            | 6.999E-08                         | 6.995E-08         | 6.995E-08 | 6.995E-08 |
| B     | 8.2                                      | 0.19                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 4.729E-08         | 4.727E-08         | 4.727E-08            | 4.729E-08                         | 4.727E-08         | 4.727E-08 | 4.727E-08 |
| C     | 1.6                                      | 0.69                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 8.473E-07         | 8.459E-07         | 8.459E-07            | 8.473E-07                         | 8.459E-07         | 8.459E-07 | 8.459E-07 |
| C     | 3.3                                      | 2.61                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 3.954E-07         | 3.947E-07         | 3.947E-07            | 3.954E-07                         | 3.947E-07         | 3.947E-07 | 3.947E-07 |
| C     | 5.6                                      | 2.61                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 2.372E-07         | 2.368E-07         | 2.368E-07            | 2.372E-07                         | 2.368E-07         | 2.368E-07 | 2.368E-07 |
| C     | 8.2                                      | 0.33                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 1.603E-07         | 1.600E-07         | 1.600E-07            | 1.603E-07                         | 1.600E-07         | 1.600E-07 | 1.600E-07 |
| D     | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 2.494E-05         | 2.810E-05         | 2.494E-05            | 2.494E-05                         | 2.810E-05         | 2.494E-05 | 2.494E-05 |
| D     | 1.6                                      | 4.97                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 3.563E-06         | 4.014E-06         | 3.563E-06            | 3.563E-06                         | 4.014E-06         | 3.563E-06 | 3.563E-06 |
| D     | 3.3                                      | 19.27                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 481.0        | 1.781E-06         | 1.873E-06         | 1.781E-06            | 1.781E-06                         | 1.873E-06         | 1.781E-06 | 1.781E-06 |
| D     | 5.6                                      | 16.55                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 456.4        | 1.126E-06         | 1.124E-06         | 1.124E-06            | 1.126E-06                         | 1.124E-06         | 1.124E-06 | 1.124E-06 |
| D     | 8.2                                      | 2.76                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 453.5        | 7.657E-07         | 7.595E-07         | 7.595E-07            | 7.657E-07                         | 7.595E-07         | 7.595E-07 | 7.595E-07 |
| D     | 24.5                                     | 0.06                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 453.5        | 2.575E-07         | 2.555E-07         | 2.555E-07            | 2.575E-07                         | 2.555E-07         | 2.555E-07 | 2.555E-07 |
| E     | 0.2                                      | 0.06                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 5.173E-05         | 6.456E-05         | 5.173E-05            | 5.173E-05                         | 6.456E-05         | 5.173E-05 | 5.173E-05 |
| E     | 1.6                                      | 8.92                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 7.390E-06         | 9.223E-06         | 7.390E-06            | 7.390E-06                         | 9.223E-06         | 7.390E-06 | 7.390E-06 |
| E     | 3.3                                      | 15.90                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 357.4        | 3.956E-06         | 4.304E-06         | 3.956E-06            | 3.956E-06                         | 4.304E-06         | 3.956E-06 | 3.956E-06 |
| E     | 5.6                                      | 4.41                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 325.9        | 2.603E-06         | 2.582E-06         | 2.582E-06            | 2.603E-06                         | 2.582E-06         | 2.582E-06 | 2.582E-06 |
| E     | 8.2                                      | 0.21                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 322.5        | 1.778E-06         | 1.745E-06         | 1.745E-06            | 1.778E-06                         | 1.745E-06         | 1.745E-06 | 1.745E-06 |
| E     | 10.7                                     | 0.02                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 322.5        | 1.370E-06         | 1.345E-06         | 1.345E-06            | 1.370E-06                         | 1.345E-06         | 1.345E-06 | 1.345E-06 |
| E     | 24.5                                     | 0.13                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 322.5        | 5.980E-07         | 5.869E-07         | 5.869E-07            | 5.980E-07                         | 5.869E-07         | 5.869E-07 | 5.869E-07 |
| F     | 0.2                                      | 0.03                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.117E-04         | 1.504E-04         | 1.117E-04            | 1.117E-04                         | 1.504E-04         | 1.117E-04 | 1.117E-04 |
| F     | 1.6                                      | 3.39                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.595E-05         | 2.148E-05         | 1.595E-05            | 1.595E-05                         | 2.148E-05         | 1.595E-05 | 1.595E-05 |
| F     | 3.3                                      | 0.79                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 255.8        | 9.119E-06         | 1.002E-05         | 9.119E-06            | 9.119E-06                         | 1.002E-05         | 9.119E-06 | 9.119E-06 |
| F     | 5.6                                      | 0.04                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 225.6        | 6.202E-06         | 6.015E-06         | 6.015E-06            | 6.202E-06                         | 6.015E-06         | 6.015E-06 | 6.015E-06 |
| G     | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 2.237E-04         | 3.389E-04         | 2.237E-04            | 2.237E-04                         | 3.389E-04         | 2.237E-04 | 2.237E-04 |
| G     | 1.6                                      | 1.21                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 3.195E-05         | 4.842E-05         | 3.195E-05            | 3.195E-05                         | 4.842E-05         | 3.195E-05 | 3.195E-05 |
| G     | 3.3                                      | 0.06                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 187.1        | 2.056E-05         | 2.260E-05         | 2.056E-05            | 2.056E-05                         | 2.260E-05         | 2.056E-05 | 2.056E-05 |
| G     | 5.6                                      | 0.02                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 156.4        | 1.476E-05         | 1.356E-05         | 1.356E-05            | 1.476E-05                         | 1.356E-05         | 1.356E-05 | 1.356E-05 |

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 1.356E-05 | 9.119E-06 | 7.390E-06 |
| 0.010     | 0.035     | 0.099     | 1.311     | 1.322     | 1.385     | 4.770     | 4.791     | 5.585     | 14.508    |
| 0.00107   | 0.00390   | 0.01102   | 0.14662   | 0.14790   | 0.15492   | 0.53365   | 0.53599   | 0.62483   | 1.62310   |
| 6.015E-06 | 3.956E-06 | 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.345E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 |
| 14.550    | 30.453    | 35.427    | 39.836    | 59.104    | 59.313    | 59.333    | 75.884    | 76.574    | 79.332    |
| 1.62777   | 3.40689   | 3.96331   | 4.45660   | 6.61211   | 6.63549   | 6.63783   | 8.48942   | 8.56657   | 8.87517   |
| 5.869E-07 | 3.947E-07 | 2.555E-07 | 2.498E-07 | 2.368E-07 | 2.039E-07 | 1.600E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 |
| 79.458    | 82.070    | 82.133    | 82.927    | 85.539    | 86.375    | 86.709    | 90.178    | 94.399    | 97.910    |
| 8.88919   | 9.18143   | 9.18844   | 9.27728   | 9.56951   | 9.66303   | 9.70043   | 10.08852  | 10.56077  | 10.95353  |
| 5.708E-08 | 4.727E-08 | 3.857E-08 |           |           |           |           |           |           |           |
| 99.791    | 99.979    | 100.000   |           |           |           |           |           |           |           |
| 11.16394  | 11.18498  | 11.18732  |           |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY.

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.146  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.533  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 1.621  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 3.960  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 6.608

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 8.486  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8)= 8.872

| K  | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |        |
|----|---|-------------|--------------|-------------|--------|
| 16 | 1 | -8.40538    | -14.89552    | -1.52744    |        |
| 16 | 2 | -10.35129   | -15.25439    | -1.64807    |        |
| 16 | 3 | -11.04582   | -15.78638    | -1.85640    |        |
| 16 | 4 | -11.81533   | -15.88159    | -1.90091    |        |
| 16 | 5 | -12.54483   | -17.42011    | -2.77738    |        |
| 16 | 6 | -13.23843   | -18.46740    | -3.47297    |        |
| 16 | 7 | -13.69861   | -35.74646    | -16.05679   |        |
| 16 | 8 | -14.09066   | NUMXQ(K) = 8 |             |        |
|    |   | 3.621E-05   | 0.112        |             | 1.000  |
|    |   | 2.068E-05   | 0.336        |             | 3.000  |
|    |   | 1.547E-05   | 0.559        |             | 5.000  |
|    |   | 9.678E-06   | 1.119        |             | 10.000 |
|    |   | 7.205E-06   | 1.678        |             | 15.000 |
|    |   | 5.754E-06   | 2.237        |             | 20.000 |
|    |   | 4.799E-06   | 2.797        |             | 25.000 |
|    |   | 4.116E-06   | 3.356        |             | 30.000 |
|    |   | 3.601E-06   | 3.916        |             | 35.000 |
|    |   | 3.042E-06   | 4.475        |             | 40.000 |
|    |   | 2.600E-06   | 5.034        |             | 45.000 |
|    |   | 2.252E-06   | 5.594        |             | 50.000 |
|    |   | 1.972E-06   | 6.153        |             | 55.000 |
|    |   | 1.733E-06   | 6.712        |             | 60.000 |
|    |   | 1.500E-06   | 7.272        |             | 65.000 |
|    |   | 1.308E-06   | 7.831        |             | 70.000 |
|    |   | 1.149E-06   | 8.390        |             | 75.000 |
|    |   | 1.656E-05   | 0.5          |             | 4.47   |

ANNUAL AVERAGE = 1.76E-07

K= 16 FIVEXQ(K) = 1.656E-05 FIVEPR(K) = 4.469

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER           | BLDG WAKE | USED      |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|-----------|-----------|
|                 |  |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   | CA=1292.SQ.METERS |           |           |
| A               | 1.6                                      | 2.07                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 2.039E-07         | 2.039E-07         | 2.039E-07            | 2.039E-07                         | 2.039E-07         | 2.039E-07 | 2.039E-07 |
| A               | 3.3                                      | 3.09                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 9.517E-08         | 9.514E-08         | 9.514E-08            | 9.517E-08                         | 9.514E-08         | 9.514E-08 | 9.514E-08 |
| A               | 5.6                                      | 1.12                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 5.710E-08         | 5.708E-08         | 5.708E-08            | 5.710E-08                         | 5.708E-08         | 5.708E-08 | 5.708E-08 |
| A               | 8.2                                      | 0.09                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 3.858E-08         | 3.857E-08         | 3.857E-08            | 3.858E-08                         | 3.857E-08         | 3.857E-08 | 3.857E-08 |
| A               | 24.5                                     | 0.01                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 1.298E-08         | 1.297E-08         | 1.297E-08            | 1.298E-08                         | 1.297E-08         | 1.297E-08 | 1.297E-08 |
| B               | 1.6                                      | 1.14                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 2.500E-07         | 2.498E-07         | 2.498E-07            | 2.500E-07                         | 2.498E-07         | 2.498E-07 | 2.498E-07 |
| B               | 3.3                                      | 2.32                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 1.166E-07         | 1.166E-07         | 1.166E-07            | 1.166E-07                         | 1.166E-07         | 1.166E-07 | 1.166E-07 |
| B               | 5.6                                      | 1.66                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 6.999E-08         | 6.995E-08         | 6.995E-08            | 6.999E-08                         | 6.995E-08         | 6.995E-08 | 6.995E-08 |
| B               | 8.2                                      | 0.19                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 4.729E-08         | 4.727E-08         | 4.727E-08            | 4.729E-08                         | 4.727E-08         | 4.727E-08 | 4.727E-08 |
| B               | 10.7                                     | 0.00                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 3.645E-08         | 3.643E-08         | 3.643E-08            | 3.645E-08                         | 3.643E-08         | 3.643E-08 | 3.643E-08 |
| B               | 24.5                                     | 0.00                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 1.591E-08         | 1.590E-08         | 1.590E-08            | 1.591E-08                         | 1.590E-08         | 1.590E-08 | 1.590E-08 |
| C               | 1.6                                      | 0.70                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 8.473E-07         | 8.459E-07         | 8.459E-07            | 8.473E-07                         | 8.459E-07         | 8.459E-07 | 8.459E-07 |
| C               | 3.3                                      | 1.33                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 3.954E-07         | 3.947E-07         | 3.947E-07            | 3.954E-07                         | 3.947E-07         | 3.947E-07 | 3.947E-07 |
| C               | 5.6                                      | 1.13                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 2.372E-07         | 2.368E-07         | 2.368E-07            | 2.372E-07                         | 2.368E-07         | 2.368E-07 | 2.368E-07 |
| C               | 8.2                                      | 0.15                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 1.603E-07         | 1.600E-07         | 1.600E-07            | 1.603E-07                         | 1.600E-07         | 1.600E-07 | 1.600E-07 |
| C               | 10.7                                     | 0.00                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 1.236E-07         | 1.234E-07         | 1.234E-07            | 1.236E-07                         | 1.234E-07         | 1.234E-07 | 1.234E-07 |
| D               | 0.2                                      | 0.02                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 453.5        | 2.833E-05         | 2.810E-05         | 2.810E-05            | 2.833E-05                         | 2.810E-05         | 2.810E-05 | 2.810E-05 |
| D               | 1.6                                      | 8.11                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 453.5        | 4.047E-06         | 4.014E-06         | 4.014E-06            | 4.047E-06                         | 4.014E-06         | 4.014E-06 | 4.014E-06 |
| D               | 3.3                                      | 12.97                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 453.5        | 1.889E-06         | 1.873E-06         | 1.873E-06            | 1.889E-06                         | 1.873E-06         | 1.873E-06 | 1.873E-06 |
| D               | 5.6                                      | 8.31                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 453.5        | 1.133E-06         | 1.124E-06         | 1.124E-06            | 1.133E-06                         | 1.124E-06         | 1.124E-06 | 1.124E-06 |
| D               | 8.2                                      | 1.17                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 453.5        | 7.657E-07         | 7.595E-07         | 7.595E-07            | 7.657E-07                         | 7.595E-07         | 7.595E-07 | 7.595E-07 |
| D               | 10.7                                     | 0.01                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 453.5        | 5.902E-07         | 5.854E-07         | 5.854E-07            | 5.902E-07                         | 5.854E-07         | 5.854E-07 | 5.854E-07 |
| D               | 24.5                                     | 0.01                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 453.5        | 2.575E-07         | 2.555E-07         | 2.555E-07            | 2.575E-07                         | 2.555E-07         | 2.555E-07 | 2.555E-07 |
| E               | 0.2                                      | 0.13                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 322.5        | 6.578E-05         | 6.456E-05         | 6.456E-05            | 6.578E-05                         | 6.456E-05         | 6.456E-05 | 6.456E-05 |
| E               | 1.6                                      | 17.70                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 322.5        | 9.397E-06         | 9.223E-06         | 9.223E-06            | 9.397E-06                         | 9.223E-06         | 9.223E-06 | 9.223E-06 |
| E               | 3.3                                      | 17.17                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 322.5        | 4.385E-06         | 4.304E-06         | 4.304E-06            | 4.385E-06                         | 4.304E-06         | 4.304E-06 | 4.304E-06 |
| E               | 5.6                                      | 3.18                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 322.5        | 2.631E-06         | 2.582E-06         | 2.582E-06            | 2.631E-06                         | 2.582E-06         | 2.582E-06 | 2.582E-06 |
| E               | 8.2                                      | 0.17                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 322.5        | 1.778E-06         | 1.745E-06         | 1.745E-06            | 1.778E-06                         | 1.745E-06         | 1.745E-06 | 1.745E-06 |
| E               | 10.7                                     | 0.00                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 322.5        | 1.370E-06         | 1.345E-06         | 1.345E-06            | 1.370E-06                         | 1.345E-06         | 1.345E-06 | 1.345E-06 |
| E               | 24.5                                     | 0.02                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 322.5        | 5.980E-07         | 5.869E-07         | 5.869E-07            | 5.980E-07                         | 5.869E-07         | 5.869E-07 | 5.869E-07 |
| F               | 0.2                                      | 0.06                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 222.6        | 1.572E-04         | 1.504E-04         | 1.504E-04            | 1.572E-04                         | 1.504E-04         | 1.504E-04 | 1.504E-04 |
| F               | 1.6                                      | 8.14                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 222.6        | 2.245E-05         | 2.148E-05         | 2.148E-05            | 2.245E-05                         | 2.148E-05         | 2.148E-05 | 2.148E-05 |
| F               | 3.3                                      | 2.33                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 222.6        | 1.048E-05         | 1.002E-05         | 1.002E-05            | 1.048E-05                         | 1.002E-05         | 1.002E-05 | 1.002E-05 |
| F               | 5.6                                      | 0.02                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 222.6        | 6.287E-06         | 6.015E-06         | 6.015E-06            | 6.287E-06                         | 6.015E-06         | 6.015E-06 | 6.015E-06 |

|   |     |      |       |    |    |       |      |       |           |           |           |
|---|-----|------|-------|----|----|-------|------|-------|-----------|-----------|-----------|
| G | 0.2 | 0.04 | 7300. | 0. | 0. | 153.6 | 24.8 | 153.6 | 3.755E-04 | 3.389E-04 | 3.389E-04 |
| G | 1.6 | 4.43 | 7300. | 0. | 0. | 153.6 | 24.8 | 153.6 | 5.364E-05 | 4.842E-05 | 4.842E-05 |
| G | 3.3 | 1.01 | 7300. | 0. | 0. | 153.6 | 24.8 | 153.6 | 2.503E-05 | 2.260E-05 | 2.260E-05 |
| G | 5.6 | 0.00 | 7300. | 0. | 0. | 153.6 | 24.8 | 153.6 | 1.502E-05 | 1.356E-05 | 1.356E-05 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 7300.0 METERS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 3.389E-04 | 1.504E-04 | 6.456E-05 | 4.842E-05 | 2.810E-05 | 2.260E-05 | 2.148E-05 | 1.356E-05 | 1.002E-05 | 9.223E-06 |
| 0.035     | 0.096     | 0.222     | 4.652     | 4.671     | 5.681     | 13.817    | 13.821    | 16.148    | 33.845    |
| 0.03507   | 0.09585   | 0.22210   | 4.65236   | 4.67106   | 5.68102   | 13.81680  | 13.82148  | 16.14766  | 33.84533  |
| 6.015E-06 | 4.304E-06 | 4.014E-06 | 2.582E-06 | 1.873E-06 | 1.745E-06 | 1.345E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 |
| 33.864    | 51.038    | 59.146    | 62.328    | 75.293    | 75.464    | 75.469    | 83.775    | 84.477    | 85.650    |
| 33.86403  | 51.03801  | 59.14574  | 62.32758  | 75.29340  | 75.46407  | 75.46874  | 83.77519  | 84.47655  | 85.65016  |
| 5.869E-07 | 5.854E-07 | 3.947E-07 | 2.555E-07 | 2.498E-07 | 2.368E-07 | 2.039E-07 | 1.600E-07 | 1.234E-07 | 1.166E-07 |
| 85.667    | 85.674    | 87.004    | 87.015    | 88.156    | 89.288    | 91.359    | 91.509    | 91.511    | 93.830    |
| 85.66653  | 85.67354  | 87.00378  | 87.01547  | 88.15635  | 89.28788  | 91.35922  | 91.50884  | 91.51118  | 93.83035  |
| 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 | 3.643E-08 | 1.590E-08 | 1.297E-08 |           |           |
| 96.916    | 98.581    | 99.698    | 99.892    | 99.986    | 99.988    | 99.991    | 100.000   |           |           |
| 96.91634  | 98.58090  | 99.69840  | 99.89245  | 99.98596  | 99.98830  | 99.99063  | 99.99998  |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|           |        |        |
|-----------|--------|--------|
| 1.011E-04 | 1.000  | 1.000  |
| 6.089E-05 | 3.000  | 3.000  |
| 4.628E-05 | 5.000  | 5.000  |
| 2.882E-05 | 10.000 | 10.000 |
| 2.093E-05 | 15.000 | 15.000 |
| 1.624E-05 | 20.000 | 20.000 |
| 1.306E-05 | 25.000 | 25.000 |
| 1.074E-05 | 30.000 | 30.000 |

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 4.649



**Calculation No. PM-1055 Revision 0**

**Attachment J**

|           |        |        |
|-----------|--------|--------|
| 8.956E-06 | 35.000 | 35.000 |
| 7.541E-06 | 40.000 | 40.000 |
| 6.386E-06 | 45.000 | 45.000 |
| 5.424E-06 | 50.000 | 50.000 |
| 4.606E-06 | 55.000 | 55.000 |
| 3.868E-06 | 60.000 | 60.000 |
| 3.097E-06 | 65.000 | 65.000 |
| 2.450E-06 | 70.000 | 70.000 |
| 1.903E-06 | 75.000 | 75.000 |
| 1.434E-06 | 80.000 | 80.000 |
| 8.920E-07 | 85.000 | 85.000 |
| 2.948E-07 | 90.000 | 90.000 |
| 4.628E-05 | 5.0    | 5.00   |

K= 17      FIVEXQ(K) = 4.628E-05      FIVEPR(K) = 5.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 1.356E-05 | 9.119E-06 | 7.390E-06 |
| 0.035     | 0.096     | 0.222     | 4.652     | 4.671     | 5.681     | 13.817    | 13.821    | 16.148    | 33.845    |
| 0.03507   | 0.09585   | 0.22210   | 4.65236   | 4.67106   | 5.68102   | 13.81680  | 13.82148  | 16.14766  | 33.84532  |
| 6.015E-06 | 3.956E-06 | 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.345E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 |
| 33.864    | 51.038    | 59.146    | 62.328    | 75.293    | 75.464    | 75.469    | 83.775    | 84.477    | 85.650    |
| 33.86403  | 51.03802  | 59.14575  | 62.32759  | 75.29342  | 75.46409  | 75.46876  | 83.77519  | 84.47657  | 85.65018  |
| 5.869E-07 | 5.854E-07 | 3.947E-07 | 2.555E-07 | 2.498E-07 | 2.368E-07 | 2.039E-07 | 1.600E-07 | 1.234E-07 | 1.166E-07 |
| 85.667    | 85.674    | 87.004    | 87.016    | 88.156    | 89.288    | 91.359    | 91.509    | 91.511    | 93.830    |
| 85.66654  | 85.67355  | 87.00379  | 87.01548  | 88.15636  | 89.28787  | 91.35921  | 91.50883  | 91.51116  | 93.83031  |
| 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 | 3.643E-08 | 1.590E-08 | 1.297E-08 |           |           |
| 96.916    | 98.581    | 99.698    | 99.892    | 99.986    | 99.988    | 99.991    | 100.000   |           |           |
| 96.91631  | 98.58086  | 99.69836  | 99.89240  | 99.98589  | 99.98823  | 99.99056  | 99.99991  |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 4.649

| K  | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|----|---|-------------|-------------|-------------|
| 18 | 1 | -8.40538    | -12.26369   | -1.13840    |
| 18 | 2 | -10.35129   | -12.27977   | -1.14797    |
| 18 | 3 | -12.54483   | -12.19166   | -1.52956    |
| 18 | 4 | -13.69861   | -9.25157    | -4.51377    |
| 18 | 5 | -15.40582   | -14.40481   | -0.73418    |
| 18 | 6 | -17.07083   | NUMXQ(K)= 6 |             |

|           |        |        |
|-----------|--------|--------|
| 6.673E-05 | 1.000  | 1.000  |
| 4.018E-05 | 3.000  | 3.000  |
| 3.070E-05 | 5.000  | 5.000  |
| 2.023E-05 | 10.000 | 10.000 |
| 1.526E-05 | 15.000 | 15.000 |
| 1.220E-05 | 20.000 | 20.000 |
| 1.007E-05 | 25.000 | 25.000 |
| 8.476E-06 | 30.000 | 30.000 |
| 7.225E-06 | 35.000 | 35.000 |
| 6.210E-06 | 40.000 | 40.000 |
| 5.364E-06 | 45.000 | 45.000 |
| 4.645E-06 | 50.000 | 50.000 |
| 4.022E-06 | 55.000 | 55.000 |
| 3.445E-06 | 60.000 | 60.000 |
| 2.816E-06 | 65.000 | 65.000 |
| 2.276E-06 | 70.000 | 70.000 |
| 1.809E-06 | 75.000 | 75.000 |
| 1.400E-06 | 80.000 | 80.000 |
| 8.920E-07 | 85.000 | 85.000 |
| 2.948E-07 | 90.000 | 90.000 |
| 3.070E-05 | 5.0    | 5.00   |

K= 18 FIVEXQ(K) = 3.070E-05 FIVEPR(K) = 5.000

| K  | HIGHPR   | PR      | GRNDVT(K) |
|----|----------|---------|-----------|
| 1  | -3.35890 | 0.03913 | 7.16050   |
| 2  | -2.03897 | 2.07263 | 3.52922   |
| 3  | -3.42797 | 0.03041 | 3.23970   |
| 4  | -3.29192 | 0.04976 | 2.96101   |
| 5  | -3.12377 | 0.08928 | 3.59423   |
| 6  | -3.21792 | 0.06457 | 3.74028   |
| 7  | -3.35960 | 0.03904 | 4.91057   |
| 8  | -3.37633 | 0.03673 | 6.63198   |
| 9  | -3.37593 | 0.03679 | 8.27142   |
| 10 | -3.30341 | 0.04776 | 4.16751   |
| 11 | -2.93591 | 0.16629 | 4.48639   |
| 12 | -2.57624 | 0.49942 | 6.76889   |
| 13 | -2.62672 | 0.43107 | 8.24935   |
| 14 | -2.82508 | 0.23636 | 9.70638   |
| 15 | -3.03218 | 0.12140 | 11.39525  |
| 16 | -3.24267 | 0.05922 | 11.18732  |

| K | HOURS(K)  | TOTHR     |
|---|-----------|-----------|
| 1 | 3.42783   | 3.42783   |
| 2 | 181.56260 | 184.99040 |
| 3 | 2.66394   | 187.65440 |
| 4 | 4.35880   | 192.01320 |
| 5 | 7.82109   | 199.83420 |
| 6 | 5.65631   | 205.49060 |
| 7 | 3.41947   | 208.91000 |
| 8 | 3.21793   | 212.12800 |
| 9 | 3.22263   | 215.35060 |

Calculation No. PM-1055 Revision 0

Attachment J

|    |          |           |
|----|----------|-----------|
| 10 | 4.18388  | 219.53450 |
| 11 | 14.56709 | 234.10160 |
| 12 | 43.74879 | 277.85030 |
| 13 | 37.76197 | 315.61230 |
| 14 | 20.70481 | 336.31710 |
| 15 | 10.63488 | 346.95200 |
| 16 | 5.18743  | 352.13940 |

| K | FIVEXQ    | SVANN     | SLTIME  | TIMINT   | I | TIME  | XQT       |
|---|-----------|-----------|---------|----------|---|-------|-----------|
| 1 | 1.447E-05 | 1.504E-07 | -0.5446 | -10.7658 |   |       |           |
|   |           |           |         |          | 1 | 8.0   | -11.89830 |
|   |           |           |         |          | 2 | 16.0  | -12.27580 |
|   |           |           |         |          | 3 | 72.0  | -13.09494 |
|   |           |           |         |          | 4 | 624.0 | -14.27103 |
| 2 | 1.261E-05 | 9.865E-08 | -0.5785 | -10.8803 |   |       |           |
|   |           |           |         |          | 1 | 8.0   | -12.08320 |
|   |           |           |         |          | 2 | 16.0  | -12.48416 |
|   |           |           |         |          | 3 | 72.0  | -13.35422 |
|   |           |           |         |          | 4 | 624.0 | -14.60340 |
| 3 | 1.247E-05 | 1.001E-07 | -0.5754 | -10.8936 |   |       |           |
|   |           |           |         |          | 1 | 8.0   | -12.09012 |
|   |           |           |         |          | 2 | 16.0  | -12.48897 |
|   |           |           |         |          | 3 | 72.0  | -13.35445 |
|   |           |           |         |          | 4 | 624.0 | -14.59706 |
| 4 | 1.374E-05 | 9.602E-08 | -0.5919 | -10.7851 |   |       |           |
|   |           |           |         |          | 1 | 8.0   | -12.01594 |
|   |           |           |         |          | 2 | 16.0  | -12.42624 |
|   |           |           |         |          | 3 | 72.0  | -13.31655 |
|   |           |           |         |          | 4 | 624.0 | -14.59482 |
| 5 | 1.898E-05 | 1.347E-07 | -0.5901 | -10.4630 |   |       |           |
|   |           |           |         |          | 1 | 8.0   | -11.69008 |
|   |           |           |         |          | 2 | 16.0  | -12.09911 |
|   |           |           |         |          | 3 | 72.0  | -12.98666 |
|   |           |           |         |          | 4 | 624.0 | -14.26096 |
| 6 | 1.868E-05 | 1.269E-07 | -0.5953 | -10.4756 |   |       |           |
|   |           |           |         |          | 1 | 8.0   | -11.71356 |
|   |           |           |         |          | 2 | 16.0  | -12.12622 |
|   |           |           |         |          | 3 | 72.0  | -13.02166 |
|   |           |           |         |          | 4 | 624.0 | -14.30729 |
| 7 | 1.478E-05 | 1.274E-07 | -0.5669 | -10.7292 |   |       |           |
|   |           |           |         |          | 1 | 8.0   | -11.90813 |
|   |           |           |         |          | 2 | 16.0  | -12.30111 |
|   |           |           |         |          | 3 | 72.0  | -13.15384 |
|   |           |           |         |          | 4 | 624.0 | -14.37814 |
| 8 | 1.475E-05 | 1.488E-07 | -0.5482 | -10.7441 |   |       |           |
|   |           |           |         |          | 1 | 8.0   | -11.88408 |
|   |           |           |         |          | 2 | 16.0  | -12.26408 |
|   |           |           |         |          | 3 | 72.0  | -13.08865 |
|   |           |           |         |          | 4 | 624.0 | -14.27254 |
| 9 | 1.534E-05 | 1.620E-07 | -0.5427 | -10.7089 |   |       |           |
|   |           |           |         |          | 1 | 8.0   | -11.83749 |
|   |           |           |         |          | 2 | 16.0  | -12.21368 |
|   |           |           |         |          | 3 | 72.0  | -13.02999 |

Calculation No. PM-1055 Revision 0

Attachment J

|    |           |           |         |          |       |           |
|----|-----------|-----------|---------|----------|-------|-----------|
|    |           |           |         | 4        | 624.0 | -14.20200 |
| 10 | 1.692E-05 | 1.143E-07 | -0.5960 | -10.5738 |       |           |
|    |           |           |         | 1        | 8.0   | -11.81323 |
|    |           |           |         | 2        | 16.0  | -12.22637 |
|    |           |           |         | 3        | 72.0  | -13.12287 |
|    |           |           |         | 4        | 624.0 | -14.41002 |
| 11 | 2.808E-05 | 1.588E-07 | -0.6172 | -10.0526 |       |           |
|    |           |           |         | 1        | 8.0   | -11.33605 |
|    |           |           |         | 2        | 16.0  | -11.76385 |
|    |           |           |         | 3        | 72.0  | -12.69214 |
|    |           |           |         | 4        | 624.0 | -14.02494 |
| 12 | 4.809E-05 | 3.000E-07 | -0.6055 | -9.5228  |       |           |
|    |           |           |         | 1        | 8.0   | -10.78191 |
|    |           |           |         | 2        | 16.0  | -11.20160 |
|    |           |           |         | 3        | 72.0  | -12.11229 |
|    |           |           |         | 4        | 624.0 | -13.41982 |
| 13 | 4.495E-05 | 2.981E-07 | -0.5982 | -9.5952  |       |           |
|    |           |           |         | 1        | 8.0   | -10.83913 |
|    |           |           |         | 2        | 16.0  | -11.25377 |
|    |           |           |         | 3        | 72.0  | -12.15351 |
|    |           |           |         | 4        | 624.0 | -13.44532 |
| 14 | 3.397E-05 | 2.581E-07 | -0.5820 | -9.8868  |       |           |
|    |           |           |         | 1        | 8.0   | -11.09693 |
|    |           |           |         | 2        | 16.0  | -11.50031 |
|    |           |           |         | 3        | 72.0  | -12.37562 |
|    |           |           |         | 4        | 624.0 | -13.63235 |
| 15 | 2.446E-05 | 2.418E-07 | -0.5506 | -10.2370 |       |           |
|    |           |           |         | 1        | 8.0   | -11.38191 |
|    |           |           |         | 2        | 16.0  | -11.76355 |
|    |           |           |         | 3        | 72.0  | -12.59168 |
|    |           |           |         | 4        | 624.0 | -13.78066 |
| 16 | 1.656E-05 | 1.756E-07 | -0.5422 | -10.6327 |       |           |
|    |           |           |         | 1        | 8.0   | -11.76022 |
|    |           |           |         | 2        | 16.0  | -12.13604 |
|    |           |           |         | 3        | 72.0  | -12.95154 |
|    |           |           |         | 4        | 624.0 | -14.12241 |
| 17 | 4.628E-05 | 3.000E-07 | -0.6009 | -9.5643  |       |           |
|    |           |           |         | 1        | 8.0   | -10.81389 |
|    |           |           |         | 2        | 16.0  | -11.23041 |
|    |           |           |         | 3        | 72.0  | -12.13423 |
|    |           |           |         | 4        | 624.0 | -13.43189 |
| 18 | 3.070E-05 | 3.000E-07 | -0.5520 | -10.0085 |       |           |
|    |           |           |         | 1        | 8.0   | -11.15633 |
|    |           |           |         | 2        | 16.0  | -11.53894 |
|    |           |           |         | 3        | 72.0  | -12.36916 |
|    |           |           |         | 4        | 624.0 | -13.56116 |

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T  
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
VERSUS  
AVERAGING TIME

| DOWNWIND DISTANCE<br>SECTOR (METERS) | RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)<br>VERSUS<br>AVERAGING TIME |           |            |          |           | HOURS PER YEAR MAX<br>0-2 HR X/Q IS<br>EXCEEDED |           | DOWNWIND<br>SECTOR |
|--------------------------------------|---|-----------|------------|----------|-----------|---|-----------|--------------------|
|                                      | 0-2 HOURS   | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE                                  | IN SECTOR |                    |
| S 7300.                              | 1.45E-05  | 6.80E-06  | 4.66E-06   | 2.06E-06 | 6.34E-07  | 1.50E-07  | 3.4       | S                  |
| SSW 7300.                            | 1.26E-05  | 5.65E-06  | 3.79E-06   | 1.59E-06 | 4.55E-07  | 9.86E-08  | 181.6     | SSW                |
| SW 7300.                             | 1.25E-05  | 5.61E-06  | 3.77E-06   | 1.59E-06 | 4.58E-07  | 1.00E-07  | 2.7       | SW                 |
| WSW 7300.                            | 1.37E-05  | 6.05E-06  | 4.01E-06   | 1.65E-06 | 4.59E-07  | 9.60E-08  | 4.4       | WSW                |
| W 7300.                              | 1.90E-05  | 8.38E-06  | 5.56E-06   | 2.29E-06 | 6.41E-07  | 1.35E-07  | 7.8       | W                  |
| WNW 7300.                            | 1.87E-05  | 8.18E-06  | 5.42E-06   | 2.21E-06 | 6.12E-07  | 1.27E-07  | 5.7       | WNW                |
| NW 7300.                             | 1.48E-05  | 6.74E-06  | 4.55E-06   | 1.94E-06 | 5.70E-07  | 1.27E-07  | 3.4       | NW                 |
| NNW 7300.                            | 1.48E-05  | 6.90E-06  | 4.72E-06   | 2.07E-06 | 6.33E-07  | 1.49E-07  | 3.2       | NNW                |
| N 7300.                              | 1.53E-05  | 7.23E-06  | 4.96E-06   | 2.19E-06 | 6.79E-07  | 1.62E-07  | 3.2       | N                  |
| NNE 7300.                            | 1.69E-05  | 7.41E-06  | 4.90E-06   | 2.00E-06 | 5.52E-07  | 1.14E-07  | 4.2       | NNE                |
| NE 7300.                             | 2.81E-05  | 1.19E-05  | 7.78E-06   | 3.08E-06 | 8.11E-07  | 1.59E-07  | 14.6      | NE                 |
| ENE 7300.                            | 4.81E-05  | 2.08E-05  | 1.37E-05   | 5.49E-06 | 1.49E-06  | 3.00E-07  | 43.7      | ENE                |
| E 7300.                              | 4.50E-05  | 1.96E-05  | 1.30E-05   | 5.27E-06 | 1.45E-06  | 2.98E-07  | 37.8      | E                  |
| ESE 7300.                            | 3.40E-05  | 1.52E-05  | 1.01E-05   | 4.22E-06 | 1.20E-06  | 2.58E-07  | 20.7      | ESE                |
| SE 7300.                             | 2.45E-05  | 1.14E-05  | 7.78E-06   | 3.40E-06 | 1.04E-06  | 2.42E-07  | 10.6      | SE                 |
| SSE 7300.                            | 1.66E-05  | 7.81E-06  | 5.36E-06   | 2.37E-06 | 7.36E-07  | 1.76E-07  | 5.2       | SSE                |
| MAX X/Q                              | 4.81E-05  |           |            |          |           | TOTAL HOURS AROUND SITE: 352.1                  |           |                    |
| SRP 2.3.4 7300.                      | 4.63E-05  | 2.01E-05  | 1.33E-05   | 5.37E-06 | 1.47E-06  | 3.00E-07  |           |                    |
| SITE LIMIT                           | 3.07E-05  | 1.43E-05  | 9.74E-06   | 4.25E-06 | 1.29E-06  | 3.00E-07  |           |                    |

0.5 PERCENT X/Q TO AN INDIVIDUAL IS LIMITING.

**\*\*NOTE\*\*:** VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
CHECK THE REASONABLENESS OF THE ENVELOPES  
COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.







101. 0.50 3.50 7.50 12.5 18.5 24.0 55.0  
0823.0823.0823.0823.0823.0823.0823.0823.0823.0823.0823.0823.0823.0823.0823.  
7300.7300.7300.7300.7300.7300.7300.7300.7300.7300.7300.7300.7300.7300.7300.  
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.  
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.

**PAVAN Output**

**Reactor Building Stacks to EAB and LPZ (Tower 33' wind and 150'-33' Delta T Stability Class)**

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Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS A

WIND SPEED (M/S)

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.22     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1.56 1.56     | 0.206 | 0.313 | 0.330 | 0.334 | 0.238 | 0.185 | 0.117 | 0.075 | 0.019 | 0.007 | 0.009 | 0.016 | 0.035 | 0.037 | 0.056 | 0.094 | 2.071 |
| 3.35 3.34     | 0.393 | 0.189 | 0.072 | 0.065 | 0.103 | 0.227 | 0.255 | 0.185 | 0.166 | 0.101 | 0.126 | 0.091 | 0.217 | 0.243 | 0.180 | 0.472 | 3.086 |
| 5.59 5.57     | 0.065 | 0.002 | 0.002 | 0.000 | 0.000 | 0.019 | 0.014 | 0.068 | 0.229 | 0.072 | 0.091 | 0.065 | 0.136 | 0.084 | 0.058 | 0.210 | 1.118 |
| 8.27 8.25     | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.012 | 0.030 | 0.002 | 0.007 | 0.002 | 0.009 | 0.019 | 0.007 | 0.002 | 0.094 |
| 10.73 10.70   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 24.59 24.53   | 0.000 | 0.002 | 0.002 | 0.000 | 0.005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.009 |
| TOTAL         | 0.67  | 0.51  | 0.41  | 0.40  | 0.35  | 0.43  | 0.39  | 0.34  | 0.44  | 0.18  | 0.23  | 0.18  | 0.40  | 0.38  | 0.30  | 0.78  | 6.38  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS B

WIND SPEED (M/S)

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.22     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1.56 1.56     | 0.140 | 0.131 | 0.150 | 0.157 | 0.143 | 0.103 | 0.054 | 0.030 | 0.028 | 0.005 | 0.014 | 0.014 | 0.035 | 0.028 | 0.021 | 0.089 | 1.141 |
| 3.35 3.34     | 0.337 | 0.094 | 0.026 | 0.035 | 0.028 | 0.072 | 0.131 | 0.168 | 0.213 | 0.105 | 0.150 | 0.098 | 0.150 | 0.166 | 0.159 | 0.388 | 2.319 |
| 5.59 5.57     | 0.089 | 0.005 | 0.000 | 0.000 | 0.002 | 0.014 | 0.021 | 0.079 | 0.339 | 0.108 | 0.065 | 0.056 | 0.119 | 0.166 | 0.208 | 0.393 | 1.665 |
| 8.27 8.25     | 0.005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.016 | 0.051 | 0.002 | 0.007 | 0.000 | 0.005 | 0.037 | 0.049 | 0.021 | 0.194 |
| 10.73 10.70   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.002 |
| 24.59 24.53   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 |
| TOTAL         | 0.57  | 0.23  | 0.18  | 0.19  | 0.17  | 0.19  | 0.21  | 0.29  | 0.63  | 0.22  | 0.24  | 0.17  | 0.31  | 0.40  | 0.44  | 0.89  | 5.32  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS C

WIND SPEED (M/S)

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.22     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1.56 1.56     | 0.075 | 0.108 | 0.061 | 0.112 | 0.082 | 0.063 | 0.026 | 0.012 | 0.014 | 0.000 | 0.012 | 0.009 | 0.014 | 0.016 | 0.021 | 0.077 | 0.701 |
| 3.35 3.34     | 0.136 | 0.023 | 0.007 | 0.019 | 0.021 | 0.023 | 0.077 | 0.124 | 0.154 | 0.056 | 0.056 | 0.049 | 0.098 | 0.087 | 0.108 | 0.292 | 1.330 |
| 5.59 5.57     | 0.037 | 0.002 | 0.000 | 0.000 | 0.002 | 0.002 | 0.012 | 0.040 | 0.175 | 0.072 | 0.051 | 0.051 | 0.082 | 0.124 | 0.187 | 0.292 | 1.132 |
| 8.27 8.25     | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.007 | 0.019 | 0.000 | 0.000 | 0.000 | 0.007 | 0.028 | 0.047 | 0.037 | 0.150 |
| 10.73 10.70   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 |
| 24.59 24.53   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| TOTAL         | 0.25  | 0.13  | 0.07  | 0.13  | 0.11  | 0.09  | 0.11  | 0.18  | 0.36  | 0.13  | 0.12  | 0.11  | 0.20  | 0.25  | 0.36  | 0.70  | 3.32  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS D

WIND SPEED (M/S)

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.22     | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.019 |
| 1.56 1.56     | 0.909 | 0.790 | 1.022 | 0.743 | 0.692 | 0.409 | 0.360 | 0.535 | 0.414 | 0.215 | 0.182 | 0.245 | 0.285 | 0.299 | 0.449 | 0.556 | 8.108 |

Calculation No. PM-1055 Revision 0

Attachment J

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |        |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 3.35  | 3.34  | 1.335 | 0.374 | 0.154 | 0.082 | 0.152 | 0.339 | 0.891 | 1.384 | 1.272 | 0.545 | 0.440 | 0.409 | 0.694 | 1.010 | 1.730 | 2.156 | 12.966 |
| 5.59  | 5.57  | 0.514 | 0.019 | 0.000 | 0.000 | 0.005 | 0.019 | 0.180 | 0.351 | 0.760 | 0.252 | 0.182 | 0.173 | 0.500 | 1.344 | 2.156 | 1.852 | 8.306  |
| 8.27  | 8.25  | 0.054 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.005 | 0.028 | 0.105 | 0.023 | 0.012 | 0.009 | 0.101 | 0.133 | 0.395 | 0.309 | 1.174  |
| 10.73 | 10.70 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.005 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.007  |
| 24.59 | 24.53 | 0.005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.007 | 0.012  |
| TOTAL |       | 2.82  | 1.18  | 1.18  | 0.83  | 0.85  | 0.77  | 1.44  | 2.30  | 2.55  | 1.04  | 0.82  | 0.84  | 1.58  | 2.79  | 4.73  | 4.88  | 30.59  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS E

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL  |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 0.22 0.22     | 0.009 | 0.007 | 0.007 | 0.006 | 0.009 | 0.008 | 0.009 | 0.010 | 0.011 | 0.006 | 0.005 | 0.007 | 0.007 | 0.008 | 0.010 | 0.007 | 0.126  |
| 1.56 1.56     | 1.209 | 0.973 | 0.970 | 0.895 | 1.204 | 1.099 | 1.269 | 1.403 | 1.482 | 0.877 | 0.760 | 0.923 | 1.047 | 1.164 | 1.424 | 0.998 | 17.698 |
| 3.35 3.34     | 1.047 | 0.215 | 0.178 | 0.173 | 0.248 | 0.414 | 0.923 | 1.583 | 1.802 | 0.914 | 0.757 | 1.015 | 1.562 | 2.347 | 2.216 | 1.779 | 17.174 |
| 5.59 5.56     | 0.171 | 0.009 | 0.002 | 0.000 | 0.014 | 0.040 | 0.122 | 0.166 | 0.472 | 0.126 | 0.108 | 0.119 | 0.288 | 0.451 | 0.601 | 0.493 | 3.182  |
| 8.27 8.23     | 0.009 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.014 | 0.058 | 0.009 | 0.000 | 0.000 | 0.014 | 0.019 | 0.021 | 0.023 | 0.171  |
| 10.73 10.68   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.005  |
| 24.59 24.47   | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.014 | 0.016  |
| TOTAL         | 2.45  | 1.20  | 1.16  | 1.07  | 1.47  | 1.56  | 2.33  | 3.18  | 3.83  | 1.93  | 1.63  | 2.06  | 2.92  | 3.99  | 4.27  | 3.32  | 38.37  |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS F

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.22     | 0.002 | 0.001 | 0.001 | 0.002 | 0.003 | 0.004 | 0.002 | 0.002 | 0.002 | 0.003 | 0.005 | 0.008 | 0.009 | 0.007 | 0.006 | 0.003 | 0.061 |
| 1.56 1.56     | 0.304 | 0.189 | 0.173 | 0.215 | 0.421 | 0.524 | 0.302 | 0.231 | 0.283 | 0.458 | 0.687 | 1.054 | 1.169 | 0.973 | 0.774 | 0.379 | 8.136 |
| 3.35 3.34     | 0.016 | 0.000 | 0.012 | 0.005 | 0.007 | 0.033 | 0.056 | 0.042 | 0.115 | 0.108 | 0.227 | 0.589 | 0.498 | 0.318 | 0.213 | 0.089 | 2.326 |
| 5.59 5.56     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.007 | 0.000 | 0.002 | 0.002 | 0.005 | 0.019 |
| 8.27 8.23     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 10.73 10.68   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 24.59 24.47   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| TOTAL         | 0.32  | 0.19  | 0.19  | 0.22  | 0.43  | 0.56  | 0.36  | 0.28  | 0.40  | 0.57  | 0.92  | 1.66  | 1.68  | 1.30  | 0.99  | 0.48  | 10.54 |

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION  
WIND SPEED (M/S)

ATMOSPHERIC STABILITY CLASS G

| TOWER RELEASE | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | TOTAL |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.22 0.22     | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 0.003 | 0.009 | 0.008 | 0.004 | 0.002 | 0.001 | 0.035 |
| 1.56 1.56     | 0.082 | 0.070 | 0.068 | 0.115 | 0.206 | 0.129 | 0.075 | 0.063 | 0.054 | 0.077 | 0.388 | 1.150 | 0.994 | 0.547 | 0.278 | 0.136 | 4.430 |
| 3.35 3.34     | 0.002 | 0.009 | 0.000 | 0.000 | 0.007 | 0.012 | 0.005 | 0.000 | 0.000 | 0.016 | 0.138 | 0.594 | 0.166 | 0.037 | 0.016 | 0.007 | 1.010 |
| 5.59 5.56     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.002 | 0.005 |
| 8.27 8.23     | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 10.73 10.68   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 24.59 24.47   | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| TOTAL         | 0.08  | 0.08  | 0.07  | 0.12  | 0.21  | 0.14  | 0.08  | 0.06  | 0.05  | 0.09  | 0.53  | 1.76  | 1.17  | 0.59  | 0.30  | 0.15  | 5.48  |

WIND MEASURED AT 10.1 METERS.

WIND SPEED CORRECTED TO THE RELEASE HEIGHT OF 10.0 METERS.

OVERALL WIND DIRECTION FREQUENCY

| WIND DIRECTION: | N   | NNE | NE  | ENE | E   | ESE | SE  | SSE | S   | SSW | SW  | WSW | W   | WNW | NW   | NNW  |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| FREQUENCY:      | 7.2 | 3.5 | 3.2 | 3.0 | 3.6 | 3.7 | 4.9 | 6.6 | 8.3 | 4.2 | 4.5 | 6.8 | 8.2 | 9.7 | 11.4 | 11.2 |

OVERALL WIND SPEED FREQUENCY AS MEASURED ON THE TOWER:

MAX.WIND SPEED (M/S): 0.224 1.565 3.353 5.588 8.270 10.729 24.587  
WIND SPEED FREQUENCY: 0.24 42.29 40.21 15.43 1.78 0.02 0.04

BUILDING AND RELEASE CHARACTERISTICS:

RELEASE HEIGHT: 10.00 METERS  
MIXING VOLUME COEFFICIENT: 0.50  
BUILDING CROSS-SECTIONAL AREA: 2584.00 SQUARE METERS

BOUNDARY DISTANCES (METERS) FROM THE SOURCE FOR EACH DOWNWIND SECTOR:

| DOWNWIND SECTOR | S     | SSW   | SW    | WSW   | W     | WNW   | NW    | NNW   | N     | NNE   | NE    | ENE   | E     | ESE   | SE    | SSE   |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| BOUNDARY 1      | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  | 823.  |
| BOUNDARY 2      | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. | 7300. |

THE CONVERSION FACTOR APPLIED TO THE WIND SPEED CLASSES IS 0.447

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

Page 1295 of 1411

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

WINDSPEEDS ADJUSTED TO 10.0 METERS.

PERCENT OF THE TIME A GIVEN WINDSPEED IS LOWER:

| WINDSPEED<br>(METER/SEC) | CUMULATIVE FREQUENCY<br>(PERCENT) |
|--------------------------|-----------------------------------|
| 0.22                     | 0.22                              |
| 0.22                     | 0.24                              |
| 1.56                     | 30.50                             |
| 1.56                     | 42.53                             |
| 3.34                     | 63.04                             |
| 3.34                     | 82.74                             |
| 5.56                     | 85.94                             |
| 5.57                     | 98.16                             |
| 8.23                     | 98.33                             |
| 8.25                     | 99.94                             |
| 10.68                    | 99.95                             |
| 10.70                    | 99.96                             |
| 24.47                    | 99.98                             |
| 24.53                    | 100.00                            |

| WINDSPEED<br>(INTERPOLATED)<br>(METER/SEC) | CUMULATIVE FREQUENCY<br>(PERCENT) |
|--|-----------------------------------|
| 0.22                                       | 0.24                              |
| 1.56                                       | 42.53                             |
| 3.34                                       | 82.74                             |
| 5.57                                       | 98.16                             |
| 8.25                                       | 99.94                             |
| 10.69                                      | 99.96                             |
| 24.50                                      | 100.00                            |

LOG-NORMAL INTERPOLATION PERCENTILES

| WINDSPEED<br>(METER/SEC) | CUMULATIVE FREQUENCY<br>(PERCENT) |
|--------------------------|-----------------------------------|
| 0.32                     | 1.00                              |
| 0.45                     | 3.00                              |
| 0.53                     | 5.00                              |
| 0.69                     | 10.00                             |
| 0.83                     | 15.00                             |
| 0.96                     | 20.00                             |



|      |       |
|------|-------|
| 1.09 | 25.00 |
| 1.21 | 30.00 |
| 1.35 | 35.00 |
| 1.48 | 40.00 |
| 1.62 | 45.00 |
| 1.77 | 50.00 |
| 1.92 | 55.00 |
| 2.10 | 60.00 |
| 2.29 | 65.00 |
| 2.52 | 70.00 |
| 2.79 | 75.00 |
| 3.12 | 80.00 |
| 3.55 | 85.00 |
| 3.88 | 90.00 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

| CLASS             | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-------------------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                   |  |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| CA=1292.SQ.METERS |  |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |           |      |
| A                 | 1.6                                      | 2.87                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 4.187E-06         | 4.152E-06         | 4.152E-06            |                                   |           |      |
| A                 | 3.3                                      | 5.49                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.954E-06         | 1.937E-06         | 1.937E-06            |                                   |           |      |
| A                 | 5.6                                      | 0.91                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.172E-06         | 1.162E-06         | 1.162E-06            |                                   |           |      |
| A                 | 8.2                                      | 0.03                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 7.921E-07         | 7.854E-07         | 7.854E-07            |                                   |           |      |
| B                 | 1.6                                      | 1.96                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 1.945E-05         | 1.871E-05         | 1.871E-05            |                                   |           |      |
| B                 | 3.3                                      | 4.70                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 9.075E-06         | 8.732E-06         | 8.732E-06            |                                   |           |      |
| B                 | 5.6                                      | 1.24                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 5.445E-06         | 5.239E-06         | 5.239E-06            |                                   |           |      |
| B                 | 8.2                                      | 0.07                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 3.679E-06         | 3.540E-06         | 3.540E-06            |                                   |           |      |
| C                 | 1.6                                      | 1.04                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 4.443E-05         | 4.078E-05         | 4.078E-05            |                                   |           |      |
| C                 | 3.3                                      | 1.89                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 2.073E-05         | 1.903E-05         | 1.903E-05            |                                   |           |      |
| C                 | 5.6                                      | 0.52                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 1.244E-05         | 1.142E-05         | 1.142E-05            |                                   |           |      |
| C                 | 8.2                                      | 0.03                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 8.406E-06         | 7.714E-06         | 7.714E-06            |                                   |           |      |
| D                 | 0.2                                      | 0.03                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 4.217E-04         | 6.716E-04         | 4.217E-04            |                                   |           |      |
| D                 | 1.6                                      | 12.70                | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 6.024E-05         | 9.594E-05         | 6.024E-05            |                                   |           |      |
| D                 | 3.3                                      | 18.64                | 823.               | 0.                | 0.           | 63.2          | 27.1            | 90.6         | 3.869E-05         | 4.477E-05         | 3.869E-05            |                                   |           |      |
| D                 | 5.6                                      | 7.18                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 66.1         | 3.183E-05         | 2.686E-05         | 2.686E-05            |                                   |           |      |
| D                 | 8.2                                      | 0.75                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 2.250E-05         | 1.815E-05         | 1.815E-05            |                                   |           |      |
| D                 | 24.5                                     | 0.07                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 7.570E-06         | 6.105E-06         | 6.105E-06            |                                   |           |      |
| E                 | 0.2                                      | 0.12                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 5.778E-04         | 1.144E-03         | 5.778E-04            |                                   |           |      |
| E                 | 1.6                                      | 16.88                | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 8.255E-05         | 1.634E-04         | 8.255E-05            |                                   |           |      |
| E                 | 3.3                                      | 14.63                | 823.               | 0.                | 0.           | 44.9          | 18.7            | 79.9         | 6.389E-05         | 7.627E-05         | 6.389E-05            |                                   |           |      |
| E                 | 5.6                                      | 2.38                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 48.4         | 6.329E-05         | 4.576E-05         | 4.576E-05            |                                   |           |      |
| E                 | 8.2                                      | 0.13                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 4.606E-05         | 3.092E-05         | 3.092E-05            |                                   |           |      |
| E                 | 24.5                                     | 0.03                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 1.549E-05         | 1.040E-05         | 1.040E-05            |                                   |           |      |
| F                 | 0.2                                      | 0.03                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 9.797E-04         | 1.827E-03         | 9.797E-04            |                                   |           |      |
| F                 | 1.6                                      | 4.24                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.400E-04         | 2.609E-04         | 1.400E-04            |                                   |           |      |
| F                 | 3.3                                      | 0.23                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 64.2         | 1.238E-04         | 1.218E-04         | 1.218E-04            |                                   |           |      |
| G                 | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 1.477E-03         | 2.891E-03         | 1.477E-03            |                                   |           |      |
| G                 | 1.6                                      | 1.14                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 2.109E-04         | 4.129E-04         | 2.109E-04            |                                   |           |      |
| G                 | 3.3                                      | 0.03                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 54.9         | 2.255E-04         | 1.927E-04         | 1.927E-04            |                                   |           |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

S SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 6.389E-05 |
| 0.009     | 0.041     | 0.161     | 0.190     | 1.333     | 1.366     | 5.610     | 5.839     | 22.719    | 37.346    |
| 0.00065   | 0.00292   | 0.01154   | 0.01364   | 0.09546   | 0.09780   | 0.40172   | 0.41809   | 1.62677   | 2.67413   |
| 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 | 1.142E-05 |
| 50.046    | 52.430    | 53.474    | 72.117    | 72.248    | 79.431    | 81.324    | 83.283    | 84.034    | 84.557    |
| 3.58356   | 3.75423   | 3.82904   | 5.16396   | 5.17332   | 5.68765   | 5.82324   | 5.96351   | 6.01729   | 6.05469   |
| 1.040E-05 | 8.732E-06 | 7.714E-06 | 6.105E-06 | 5.239E-06 | 4.152E-06 | 3.540E-06 | 1.937E-06 | 1.162E-06 | 7.854E-07 |
| 84.589    | 89.291    | 89.324    | 89.389    | 90.630    | 93.503    | 93.568    | 99.053    | 99.967    | 100.000   |
| 6.05703   | 6.39368   | 6.39602   | 6.40070   | 6.48954   | 6.69527   | 6.69994   | 7.09271   | 7.15817   | 7.16050   |

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.003  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 3.580  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 5.160  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5) = 5.684  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6) = 6.013

K I XQSAVE(K, I) XQINT(K, I) XQSLOP(K, I)  
 1 1 -6.51806 -11.75655 -1.20127  
 1 2 -6.92826 -11.98287 -1.25757

Calculation No. PM-1055 Revision 0

Attachment J

|           |           |               |           |
|-----------|-----------|---------------|-----------|
| 1 3       | -9.71722  | -14.35068     | -2.57185  |
| 1 4       | -10.15982 | -22.64514     | -7.66200  |
| 1 5       | -10.52476 | -32.48936     | -13.88511 |
| 1 6       | -10.91680 | NUMXQ (K) = 6 |           |
| 3.446E-04 | 0.072     |               | 1.000     |
| 2.268E-04 | 0.215     |               | 3.000     |
| 1.840E-04 | 0.358     |               | 5.000     |
| 1.361E-04 | 0.716     |               | 10.000    |
| 1.127E-04 | 1.074     |               | 15.000    |
| 9.803E-05 | 1.432     |               | 20.000    |
| 8.762E-05 | 1.790     |               | 25.000    |
| 7.973E-05 | 2.148     |               | 30.000    |
| 7.345E-05 | 2.506     |               | 35.000    |
| 6.831E-05 | 2.864     |               | 40.000    |
| 6.398E-05 | 3.222     |               | 45.000    |
| 6.027E-05 | 3.580     |               | 50.000    |
| 5.389E-05 | 3.938     |               | 55.000    |
| 4.854E-05 | 4.296     |               | 60.000    |
| 4.403E-05 | 4.654     |               | 65.000    |
| 4.016E-05 | 5.012     |               | 70.000    |
| 3.340E-05 | 5.370     |               | 75.000    |
| 2.557E-05 | 5.728     |               | 80.000    |
| 1.596E-04 | 0.5       |               | 6.98      |

ANNUAL AVERAGE = 3.66E-06

K= 1 FIVEXQ (K) = 1.596E-04 FIVEPR (K) = 6.983

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 | AT 10.0 METERS         |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292 SQ.METERS                 |           |      |
| A               | 1.6                    | 8.88                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 4.187E-06         | 4.152E-06         | 4.152E-06            |                                   |           |      |
| A               | 3.3                    | 5.37                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.954E-06         | 1.937E-06         | 1.937E-06            |                                   |           |      |
| A               | 5.6                    | 0.07                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.172E-06         | 1.162E-06         | 1.162E-06            |                                   |           |      |
| A               | 24.5                   | 0.07                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 2.664E-07         | 2.642E-07         | 2.642E-07            |                                   |           |      |
| B               | 1.6                    | 3.71                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 1.945E-05         | 1.871E-05         | 1.871E-05            |                                   |           |      |
| B               | 3.3                    | 2.65                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 9.075E-06         | 8.732E-06         | 8.732E-06            |                                   |           |      |
| B               | 5.6                    | 0.13                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 5.445E-06         | 5.239E-06         | 5.239E-06            |                                   |           |      |
| C               | 1.6                    | 3.05                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 4.443E-05         | 4.078E-05         | 4.078E-05            |                                   |           |      |
| C               | 3.3                    | 0.66                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 2.073E-05         | 1.903E-05         | 1.903E-05            |                                   |           |      |
| C               | 5.6                    | 0.07                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 1.244E-05         | 1.142E-05         | 1.142E-05            |                                   |           |      |
| D               | 0.2                    | 0.05                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 4.217E-04         | 6.716E-04         | 4.217E-04            |                                   |           |      |
| D               | 1.6                    | 22.39                | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 6.024E-05         | 9.594E-05         | 6.024E-05            |                                   |           |      |
| D               | 3.3                    | 10.60                | 823.               | 0.                | 0.           | 63.2          | 27.1            | 90.6         | 3.869E-05         | 4.477E-05         | 3.869E-05            |                                   |           |      |
| D               | 5.6                    | 0.53                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 66.1         | 3.183E-05         | 2.686E-05         | 2.686E-05            |                                   |           |      |
| E               | 0.2                    | 0.20                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 5.778E-04         | 1.144E-03         | 5.778E-04            |                                   |           |      |
| E               | 1.6                    | 27.56                | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 8.255E-05         | 1.634E-04         | 8.255E-05            |                                   |           |      |
| E               | 3.3                    | 6.09                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 79.9         | 6.389E-05         | 7.627E-05         | 6.389E-05            |                                   |           |      |
| E               | 5.6                    | 0.26                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 48.4         | 6.329E-05         | 4.576E-05         | 4.576E-05            |                                   |           |      |
| F               | 0.2                    | 0.04                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 9.797E-04         | 1.827E-03         | 9.797E-04            |                                   |           |      |
| F               | 1.6                    | 5.37                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.400E-04         | 2.609E-04         | 1.400E-04            |                                   |           |      |
| G               | 0.2                    | 0.02                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 1.477E-03         | 2.891E-03         | 1.477E-03            |                                   |           |      |
| G               | 1.6                    | 1.99                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 2.109E-04         | 4.129E-04         | 2.109E-04            |                                   |           |      |
| G               | 3.3                    | 0.26                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 54.9         | 2.255E-04         | 1.927E-04         | 1.927E-04            |                                   |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SSW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 8.255E-05 | 6.389E-05 | 6.024E-05 |
| 0.016     | 0.056     | 0.252     | 0.304     | 2.291     | 2.556     | 7.922     | 35.479    | 41.574    | 63.964    |
| 0.00056   | 0.00197   | 0.00891   | 0.01073   | 0.08087   | 0.09022   | 0.27959   | 1.25214   | 1.46722   | 2.25742   |
| 4.576E-05 | 4.078E-05 | 3.869E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.142E-05 | 8.732E-06 | 5.239E-06 | 4.152E-06 |
| 64.229    | 67.276    | 77.875    | 78.405    | 79.067    | 82.777    | 82.843    | 85.493    | 85.625    | 94.502    |
| 2.26677   | 2.37432   | 2.74837   | 2.76708   | 2.79046   | 2.92138   | 2.92371   | 3.01723   | 3.02191   | 3.33518   |
| 1.937E-06 | 1.162E-06 | 2.642E-07 |           |           |           |           |           |           |           |
| 99.868    | 99.934    | 100.000   |           |           |           |           |           |           |           |
| 3.52455   | 3.52689   | 3.52922   |           |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 2.255  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 2.746  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 3.332

K I XQSAVE(K, I) XQINT(K, I) XQSLOP(K, I)  
2 1 -6.51806 -12.39852 -1.33817  
2 2 -9.71722 -20.25639 -5.25984  
2 3 -10.15982 -60.28563 -26.11320  
2 4 -12.39204 NUMXQ(K) = 4

**Calculation No. PM-1055 Revision 0****Attachment J**

|           |       |        |
|-----------|-------|--------|
| 3.838E-04 | 0.035 | 1.000  |
| 2.521E-04 | 0.106 | 3.000  |
| 2.047E-04 | 0.176 | 5.000  |
| 1.518E-04 | 0.353 | 10.000 |
| 1.262E-04 | 0.529 | 15.000 |
| 1.101E-04 | 0.706 | 20.000 |
| 9.879E-05 | 0.882 | 25.000 |
| 9.018E-05 | 1.059 | 30.000 |
| 8.335E-05 | 1.235 | 35.000 |
| 7.775E-05 | 1.412 | 40.000 |
| 7.305E-05 | 1.588 | 45.000 |
| 6.902E-05 | 1.765 | 50.000 |
| 6.552E-05 | 1.941 | 55.000 |
| 6.244E-05 | 2.118 | 60.000 |
| 5.813E-05 | 2.294 | 65.000 |
| 4.926E-05 | 2.470 | 70.000 |
| 4.216E-05 | 2.647 | 75.000 |
| 2.849E-05 | 2.823 | 80.000 |
| 1.422E-05 | 3.000 | 85.000 |
| 7.341E-06 | 3.176 | 90.000 |
| 1.296E-04 | 0.5   | 14.17  |

ANNUAL AVERAGE = 2.40E-06

K= 2 FIVEXQ(K)= 1.296E-04 FIVEPR(K)=14.167

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR.

| CLASS          | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                   |      |  |
|----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|------|--|
|                |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE         | USED |  |
| AT 10.0 METERS |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   | CA=1292.SQ.METERS |      |  |
| A              | 1.6                    | 10.17                | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 4.187E-06         | 4.152E-06         | 4.152E-06            |                                   |                   |      |  |
| A              | 3.3                    | 2.24                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.954E-06         | 1.937E-06         | 1.937E-06            |                                   |                   |      |  |
| A              | 5.6                    | 0.07                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.172E-06         | 1.162E-06         | 1.162E-06            |                                   |                   |      |  |
| A              | 24.5                   | 0.07                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 2.664E-07         | 2.642E-07         | 2.642E-07            |                                   |                   |      |  |
| B              | 1.6                    | 4.62                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 1.945E-05         | 1.871E-05         | 1.871E-05            |                                   |                   |      |  |
| B              | 3.3                    | 0.79                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 9.075E-06         | 8.732E-06         | 8.732E-06            |                                   |                   |      |  |
| C              | 1.6                    | 1.88                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 4.443E-05         | 4.078E-05         | 4.078E-05            |                                   |                   |      |  |
| C              | 3.3                    | 0.22                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 2.073E-05         | 1.903E-05         | 1.903E-05            |                                   |                   |      |  |
| D              | 0.2                    | 0.07                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 4.217E-04         | 6.716E-04         | 4.217E-04            |                                   |                   |      |  |
| D              | 1.6                    | 31.54                | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 6.024E-05         | 9.594E-05         | 6.024E-05            |                                   |                   |      |  |
| D              | 3.3                    | 4.76                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 90.6         | 3.869E-05         | 4.477E-05         | 3.869E-05            |                                   |                   |      |  |
| E              | 0.2                    | 0.21                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 5.778E-04         | 1.144E-03         | 5.778E-04            |                                   |                   |      |  |
| E              | 1.6                    | 29.95                | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 8.255E-05         | 1.634E-04         | 8.255E-05            |                                   |                   |      |  |
| E              | 3.3                    | 5.48                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 79.9         | 6.389E-05         | 7.627E-05         | 6.389E-05            |                                   |                   |      |  |
| E              | 5.6                    | 0.07                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 48.4         | 6.329E-05         | 4.576E-05         | 4.576E-05            |                                   |                   |      |  |
| F              | 0.2                    | 0.04                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 9.797E-04         | 1.827E-03         | 9.797E-04            |                                   |                   |      |  |
| F              | 1.6                    | 5.34                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.400E-04         | 2.609E-04         | 1.400E-04            |                                   |                   |      |  |
| F              | 3.3                    | 0.36                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 64.2         | 1.238E-04         | 1.218E-04         | 1.218E-04            |                                   |                   |      |  |
| G              | 0.2                    | 0.02                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 1.477E-03         | 2.891E-03         | 1.477E-03            |                                   |                   |      |  |
| G              | 1.6                    | 2.09                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 2.109E-04         | 4.129E-04         | 2.109E-04            |                                   |                   |      |  |



**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

SW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 6.389E-05 | 6.024E-05 |
| 0.017     | 0.056     | 0.270     | 0.343     | 2.436     | 7.776     | 8.136     | 38.084    | 43.568    | 75.104    |
| 0.00054   | 0.00183   | 0.00875   | 0.01111   | 0.07891   | 0.25191   | 0.26360   | 1.23381   | 1.41149   | 2.43314   |
| 4.576E-05 | 4.078E-05 | 3.869E-05 | 1.903E-05 | 1.871E-05 | 8.732E-06 | 4.152E-06 | 1.937E-06 | 1.162E-06 | 2.642E-07 |
| 75.176    | 77.052    | 81.815    | 82.031    | 86.650    | 87.444    | 97.619    | 99.856    | 99.928    | 100.000   |
| 2.43548   | 2.49626   | 2.65056   | 2.65757   | 2.80720   | 2.83291   | 3.16255   | 3.23503   | 3.23737   | 3.23970   |

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 2.431  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 2.648

| K         | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|-----------|---|-------------|--------------|-------------|
| 3         | 1 | -6.51806    | -12.31359    | -1.31664    |
| 3         | 2 | -9.71722    | -33.49255    | -12.05666   |
| 3         | 3 | -10.15982   | NUMXQ(K) = 3 |             |
| 4.006E-04 |   | 0.032       |              | 1.000       |
| 2.656E-04 |   | 0.097       |              | 3.000       |
| 2.167E-04 |   | 0.162       |              | 5.000       |
| 1.619E-04 |   | 0.324       |              | 10.000      |
| 1.352E-04 |   | 0.486       |              | 15.000      |
| 1.184E-04 |   | 0.648       |              | 20.000      |

Calculation No. PM-1055 Revision 0

Attachment J

|           |       |        |
|-----------|-------|--------|
| 1.065E-04 | 0.810 | 25.000 |
| 9.747E-05 | 0.972 | 30.000 |
| 9.028E-05 | 1.134 | 35.000 |
| 8.437E-05 | 1.296 | 40.000 |
| 7.940E-05 | 1.458 | 45.000 |
| 7.515E-05 | 1.620 | 50.000 |
| 7.144E-05 | 1.782 | 55.000 |
| 6.817E-05 | 1.944 | 60.000 |
| 6.526E-05 | 2.106 | 65.000 |
| 6.265E-05 | 2.268 | 70.000 |
| 6.028E-05 | 2.430 | 75.000 |
| 4.348E-05 | 2.592 | 80.000 |
| 1.335E-04 | 0.5   | 15.43  |

ANNUAL AVERAGE = 2.44E-06

K= 3 FIVEXQ(K) = 1.335E-04 FIVEPR(K) = 15.434

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T  
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

| CLASS          | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                |                        |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| AT 10.0 METERS |                        |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A              | 1.6                    | 11.29                | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.187E-06         | 4.152E-06            | 4.152E-06                         |           |      |
| A              | 3.3                    | 2.21                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.954E-06         | 1.937E-06            | 1.937E-06                         |           |      |
| B              | 1.6                    | 5.29                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 1.945E-05         | 1.871E-05            | 1.871E-05                         |           |      |
| B              | 3.3                    | 1.18                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 9.075E-06         | 8.732E-06            | 8.732E-06                         |           |      |
| C              | 1.6                    | 3.79                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.443E-05         | 4.078E-05            | 4.078E-05                         |           |      |
| C              | 3.3                    | 0.63                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.073E-05         | 1.903E-05            | 1.903E-05                         |           |      |
| D              | 0.2                    | 0.06                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.217E-04         | 6.716E-04            | 4.217E-04                         |           |      |
| D              | 1.6                    | 25.11                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.024E-05         | 9.594E-05            | 6.024E-05                         |           |      |
| D              | 3.3                    | 2.76                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 90.6              | 3.869E-05         | 4.477E-05            | 3.869E-05                         |           |      |
| E              | 0.2                    | 0.22                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 5.778E-04         | 1.144E-03            | 5.778E-04                         |           |      |
| E              | 1.6                    | 30.24                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 8.255E-05         | 1.634E-04            | 8.255E-05                         |           |      |
| E              | 3.3                    | 5.84                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 79.9              | 6.389E-05         | 7.627E-05            | 6.389E-05                         |           |      |
| F              | 0.2                    | 0.05                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 9.797E-04         | 1.827E-03            | 9.797E-04                         |           |      |
| F              | 1.6                    | 7.26                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.400E-04         | 2.609E-04            | 1.400E-04                         |           |      |
| F              | 3.3                    | 0.16                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 64.2              | 1.238E-04         | 1.218E-04            | 1.218E-04                         |           |      |
| G              | 0.2                    | 0.03                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.477E-03         | 2.891E-03            | 1.477E-03                         |           |      |
| G              | 1.6                    | 3.87                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.109E-04         | 4.129E-04            | 2.109E-04                         |           |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145.

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

WSW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 6.389E-05 | 6.024E-05 |
| 0.031     | 0.085     | 0.301     | 0.359     | 4.227     | 11.491    | 11.649    | 41.889    | 47.732    | 72.839    |
| 0.00091   | 0.00251   | 0.00890   | 0.01062   | 0.12517   | 0.34026   | 0.34493   | 1.24033   | 1.41334   | 2.15678   |
| 4.078E-05 | 3.869E-05 | 1.903E-05 | 1.871E-05 | 8.732E-06 | 4.152E-06 | 1.937E-06 |           |           |           |
| 76.629    | 79.393    | 80.024    | 85.314    | 86.499    | 97.789    | 100.000   |           |           |           |
| 2.26900   | 2.35082   | 2.36953   | 2.52616   | 2.56123   | 2.89555   | 2.96101   |           |           |           |

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 1.239  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 2.155

| K | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|---|---|-------------|-------------|-------------|
| 4 | 1 | -6.51806    | -12.57305   | -1.41253    |
| 4 | 2 | -9.40215    | -12.58798   | -1.41917    |
| 4 | 3 | -9.71722    | NUMXQ(K)= 3 |             |
|   |   | 4.436E-04   | 0.030       | 1.000       |
|   |   | 2.864E-04   | 0.089       | 3.000       |
|   |   | 2.306E-04   | 0.148       | 5.000       |
|   |   | 1.691E-04   | 0.296       | 10.000      |
|   |   | 1.396E-04   | 0.444       | 15.000      |
|   |   | 1.213E-04   | 0.592       | 20.000      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|           |       |        |
|-----------|-------|--------|
| 1.084E-04 | 0.740 | 25.000 |
| 9.863E-05 | 0.888 | 30.000 |
| 9.093E-05 | 1.036 | 35.000 |
| 8.464E-05 | 1.184 | 40.000 |
| 7.936E-05 | 1.332 | 45.000 |
| 7.483E-05 | 1.481 | 50.000 |
| 7.091E-05 | 1.629 | 55.000 |
| 6.747E-05 | 1.777 | 60.000 |
| 6.441E-05 | 1.925 | 65.000 |
| 6.167E-05 | 2.073 | 70.000 |
| 1.318E-04 | 0.5   | 16.89  |

ANNUAL AVERAGE = 2.31E-06

K= 4 FIVEXQ(K) = 1.318E-04 FIVEPR(K) = 16.886

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

DATA PERIOD:

TYPE OF RELEASE: Ground Release

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION

WIND SENSORS HEIGHT: 10.1 meters

DELTA-T HEIGHTS: 10.1-45.7 meters

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

| CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER | BLDG WAKE | USED |
|-------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|---------|-----------|------|
|       | AT 10.0 METERS         |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |         |           |      |
| A     | 1.6                    | 6.63                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 4.187E-06         | 4.152E-06         | 4.152E-06            |                                   |         |           |      |
| A     | 3.3                    | 2.86                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.954E-06         | 1.937E-06         | 1.937E-06            |                                   |         |           |      |
| A     | 24.5                   | 0.13                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 2.664E-07         | 2.642E-07         | 2.642E-07            |                                   |         |           |      |
| B     | 1.6                    | 3.97                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 1.945E-05         | 1.871E-05         | 1.871E-05            |                                   |         |           |      |
| B     | 3.3                    | 0.78                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 9.075E-06         | 8.732E-06         | 8.732E-06            |                                   |         |           |      |
| B     | 5.6                    | 0.07                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 5.445E-06         | 5.239E-06         | 5.239E-06            |                                   |         |           |      |
| C     | 1.6                    | 2.28                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 4.443E-05         | 4.078E-05         | 4.078E-05            |                                   |         |           |      |
| C     | 3.3                    | 0.59                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 2.073E-05         | 1.903E-05         | 1.903E-05            |                                   |         |           |      |
| C     | 5.6                    | 0.07                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 1.244E-05         | 1.142E-05         | 1.142E-05            |                                   |         |           |      |
| D     | 0.2                    | 0.04                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 4.217E-04         | 6.716E-04         | 4.217E-04            |                                   |         |           |      |
| D     | 1.6                    | 19.25                | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 6.024E-05         | 9.594E-05         | 6.024E-05            |                                   |         |           |      |
| D     | 3.3                    | 4.23                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 90.6         | 3.869E-05         | 4.477E-05         | 3.869E-05            |                                   |         |           |      |
| D     | 5.6                    | 0.13                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 66.1         | 3.183E-05         | 2.686E-05         | 2.686E-05            |                                   |         |           |      |
| E     | 0.2                    | 0.24                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 5.778E-04         | 1.144E-03         | 5.778E-04            |                                   |         |           |      |
| E     | 1.6                    | 33.50                | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 8.255E-05         | 1.634E-04         | 8.255E-05            |                                   |         |           |      |
| E     | 3.3                    | 6.89                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 79.9         | 6.389E-05         | 7.627E-05         | 6.389E-05            |                                   |         |           |      |
| E     | 5.6                    | 0.39                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 48.4         | 6.329E-05         | 4.576E-05         | 4.576E-05            |                                   |         |           |      |
| F     | 0.2                    | 0.09                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 9.797E-04         | 1.827E-03         | 9.797E-04            |                                   |         |           |      |
| F     | 1.6                    | 11.71                | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.400E-04         | 2.609E-04         | 1.400E-04            |                                   |         |           |      |
| F     | 3.3                    | 0.20                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 64.2         | 1.238E-04         | 1.218E-04         | 1.218E-04            |                                   |         |           |      |
| G     | 0.2                    | 0.05                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 1.477E-03         | 2.891E-03         | 1.477E-03            |                                   |         |           |      |
| G     | 1.6                    | 5.72                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 2.109E-04         | 4.129E-04         | 2.109E-04            |                                   |         |           |      |
| G     | 3.3                    | 0.20                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 54.9         | 2.255E-04         | 1.927E-04         | 1.927E-04            |                                   |         |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 6.389E-05 |
| 0.045     | 0.133     | 0.372     | 0.416     | 6.140     | 6.335     | 18.043    | 18.238    | 51.737    | 58.631    |
| 0.00163   | 0.00477   | 0.01336   | 0.01496   | 0.22069   | 0.22770   | 0.64852   | 0.65553   | 1.85954   | 2.10735   |
| 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.142E-05 | 8.732E-06 | 5.239E-06 |
| 77.885    | 78.275    | 80.552    | 84.779    | 84.910    | 85.495    | 89.463    | 89.528    | 90.308    | 90.373    |
| 2.79936   | 2.81339   | 2.89521   | 3.04717   | 3.05185   | 3.07289   | 3.21550   | 3.21784   | 3.24589   | 3.24823   |
| 4.152E-06 | 1.937E-06 | 2.642E-07 |           |           |           |           |           |           |           |
| 97.008    | 99.870    | 100.000   |           |           |           |           |           |           |           |
| 3.48669   | 3.58956   | 3.59423   |           |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 1.858  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 2.797  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 3.044  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 3.213

| K | I | XQSAVE(K,I) | XQINT(K,I) | XQSLOP(K,I) |
|---|---|-------------|------------|-------------|
| 5 | 1 | -6.51806    | -12.30507  | -1.39289    |
| 5 | 2 | -9.40215    | -13.20774  | -1.82600    |
| 5 | 3 | -9.71722    | -32.43827  | -11.88613   |

Calculation No. PM-1055 Revision 0

Attachment J

5 4 -10.15982 -67.17355 -30.41830  
5 5 -10.88636 NUMXQ(K) = 5

|           |       |        |
|-----------|-------|--------|
| 5.036E-04 | 0.036 | 1.000  |
| 3.250E-04 | 0.108 | 3.000  |
| 2.615E-04 | 0.180 | 5.000  |
| 1.915E-04 | 0.359 | 10.000 |
| 1.580E-04 | 0.539 | 15.000 |
| 1.371E-04 | 0.719 | 20.000 |
| 1.224E-04 | 0.899 | 25.000 |
| 1.113E-04 | 1.078 | 30.000 |
| 1.025E-04 | 1.258 | 35.000 |
| 9.530E-05 | 1.438 | 40.000 |
| 8.929E-05 | 1.617 | 45.000 |
| 8.416E-05 | 1.797 | 50.000 |
| 7.885E-05 | 1.977 | 55.000 |
| 7.381E-05 | 2.157 | 60.000 |
| 6.941E-05 | 2.336 | 65.000 |
| 6.553E-05 | 2.516 | 70.000 |
| 6.207E-05 | 2.696 | 75.000 |
| 5.241E-05 | 2.875 | 80.000 |
| 3.737E-05 | 3.055 | 85.000 |
| 1.638E-04 | 0.5   | 13.91  |

ANNUAL AVERAGE = 3.11E-06

K= 5 FIVEXQ(K) = 1.638E-04 FIVEPR(K) = 13.911



**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 | AT 10.0 METERS         |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 1.6                    | 4.94                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 4.187E-06         | 4.152E-06         | 4.152E-06            |                                   |           |      |
| A               | 3.3                    | 6.06                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.954E-06         | 1.937E-06         | 1.937E-06            |                                   |           |      |
| A               | 5.6                    | 0.50                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.172E-06         | 1.162E-06         | 1.162E-06            |                                   |           |      |
| B               | 1.6                    | 2.75                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 1.945E-05         | 1.871E-05         | 1.871E-05            |                                   |           |      |
| B               | 3.3                    | 1.94                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 9.075E-06         | 8.732E-06         | 8.732E-06            |                                   |           |      |
| B               | 5.6                    | 0.38                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 5.445E-06         | 5.239E-06         | 5.239E-06            |                                   |           |      |
| C               | 1.6                    | 1.69                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 4.443E-05         | 4.078E-05         | 4.078E-05            |                                   |           |      |
| C               | 3.3                    | 0.63                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 2.073E-05         | 1.903E-05         | 1.903E-05            |                                   |           |      |
| C               | 5.6                    | 0.06                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 1.244E-05         | 1.142E-05         | 1.142E-05            |                                   |           |      |
| C               | 8.2                    | 0.06                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 8.406E-06         | 7.714E-06         | 7.714E-06            |                                   |           |      |
| D               | 0.2                    | 0.03                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 4.217E-04         | 6.716E-04         | 4.217E-04            |                                   |           |      |
| D               | 1.6                    | 10.94                | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 6.024E-05         | 9.594E-05         | 6.024E-05            |                                   |           |      |
| D               | 3.3                    | 9.06                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 90.6         | 3.869E-05         | 4.477E-05         | 3.869E-05            |                                   |           |      |
| D               | 5.6                    | 0.50                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 66.1         | 3.183E-05         | 2.686E-05         | 2.686E-05            |                                   |           |      |
| E               | 0.2                    | 0.21                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 5.778E-04         | 1.144E-03         | 5.778E-04            |                                   |           |      |
| E               | 1.6                    | 29.38                | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 8.255E-05         | 1.634E-04         | 8.255E-05            |                                   |           |      |
| E               | 3.3                    | 11.06                | 823.               | 0.                | 0.           | 44.9          | 18.7            | 79.9         | 6.389E-05         | 7.627E-05         | 6.389E-05            |                                   |           |      |
| E               | 5.6                    | 1.06                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 48.4         | 6.329E-05         | 4.576E-05         | 4.576E-05            |                                   |           |      |
| F               | 0.2                    | 0.10                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 9.797E-04         | 1.827E-03         | 9.797E-04            |                                   |           |      |
| F               | 1.6                    | 14.00                | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.400E-04         | 2.609E-04         | 1.400E-04            |                                   |           |      |
| F               | 3.3                    | 0.88                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 64.2         | 1.238E-04         | 1.218E-04         | 1.218E-04            |                                   |           |      |
| G               | 0.2                    | 0.03                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 1.477E-03         | 2.891E-03         | 1.477E-03            |                                   |           |      |
| G               | 1.6                    | 3.44                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 2.109E-04         | 4.129E-04         | 2.109E-04            |                                   |           |      |
| G               | 3.3                    | 0.31                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 54.9         | 2.255E-04         | 1.927E-04         | 1.927E-04            |                                   |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 6.389E-05 |
| 0.027     | 0.132     | 0.341     | 0.367     | 3.804     | 4.117     | 18.118    | 18.993    | 48.371    | 59.434    |
| 0.00102   | 0.00493   | 0.01277   | 0.01371   | 0.14230   | 0.15398   | 0.67767   | 0.71040   | 1.80920   | 2.22300   |
| 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.142E-05 | 8.732E-06 | 7.714E-06 |
| 70.373    | 71.435    | 73.123    | 82.186    | 82.686    | 83.311    | 86.061    | 86.124    | 88.062    | 88.124    |
| 2.63213   | 2.67187   | 2.73499   | 3.07398   | 3.09269   | 3.11606   | 3.21893   | 3.22127   | 3.29374   | 3.29608   |
| 5.239E-06 | 4.152E-06 | 1.937E-06 | 1.162E-06 |           |           |           |           |           |           |
| 88.499    | 93.437    | 99.500    | 100.000   |           |           |           |           |           |           |
| 3.31011   | 3.49480   | 3.72157   | 3.74028   |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.005  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.677  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 1.807  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 2.630  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 3.071  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 3.718

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 6 1 -6.51806 -11.28245 -1.11817

Calculation No. PM-1055 Revision 0

Attachment J

|           |           |              |           |
|-----------|-----------|--------------|-----------|
| 6 2       | -6.92826  | -12.24676    | -1.36580  |
| 6 3       | -8.87417  | -12.36000    | -1.41166  |
| 6 4       | -9.40215  | -13.60631    | -2.00648  |
| 6 5       | -9.71722  | -22.36591    | -6.52576  |
| 6 6       | -10.15982 | -75.21242    | -34.77917 |
| 6 7       | -13.15417 | NUMXQ(K) = 7 |           |
| 4.799E-04 | 0.037     |              | 1.000     |
| 3.120E-04 | 0.112     |              | 3.000     |
| 2.519E-04 | 0.187     |              | 5.000     |
| 1.854E-04 | 0.374     |              | 10.000    |
| 1.533E-04 | 0.561     |              | 15.000    |
| 1.331E-04 | 0.748     |              | 20.000    |
| 1.186E-04 | 0.935     |              | 25.000    |
| 1.076E-04 | 1.122     |              | 30.000    |
| 9.898E-05 | 1.309     |              | 35.000    |
| 9.193E-05 | 1.496     |              | 40.000    |
| 8.602E-05 | 1.683     |              | 45.000    |
| 8.034E-05 | 1.870     |              | 50.000    |
| 7.425E-05 | 2.057     |              | 55.000    |
| 6.903E-05 | 2.244     |              | 60.000    |
| 6.449E-05 | 2.431     |              | 65.000    |
| 6.051E-05 | 2.618     |              | 70.000    |
| 5.030E-05 | 2.805     |              | 75.000    |
| 4.182E-05 | 2.992     |              | 80.000    |
| 2.300E-05 | 3.179     |              | 85.000    |
| 9.448E-06 | 3.366     |              | 90.000    |
| 1.620E-04 | 0.5       |              | 13.37     |

ANNUAL AVERAGE = 2.86E-06

K= 6 FIVEXQ(K) = 1.620E-04 FIVEPR(K) = 13.368

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 1.6                                      | 2.38                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.187E-06         | 4.152E-06            | 4.152E-06                         |           |      |
| A               | 3.3                                      | 5.19                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.954E-06         | 1.937E-06            | 1.937E-06                         |           |      |
| A               | 5.6                                      | 0.29                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.172E-06         | 1.162E-06            | 1.162E-06                         |           |      |
| B               | 1.6                                      | 1.10                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 1.945E-05         | 1.871E-05            | 1.871E-05                         |           |      |
| B               | 3.3                                      | 2.67                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 9.075E-06         | 8.732E-06            | 8.732E-06                         |           |      |
| B               | 5.6                                      | 0.43                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 5.445E-06         | 5.239E-06            | 5.239E-06                         |           |      |
| B               | 24.5                                     | 0.05                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 1.237E-06         | 1.191E-06            | 1.191E-06                         |           |      |
| C               | 1.6                                      | 0.52                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.443E-05         | 4.078E-05            | 4.078E-05                         |           |      |
| C               | 3.3                                      | 1.57                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.073E-05         | 1.903E-05            | 1.903E-05                         |           |      |
| C               | 5.6                                      | 0.24                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.244E-05         | 1.142E-05            | 1.142E-05                         |           |      |
| D               | 0.2                                      | 0.02                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.217E-04         | 6.716E-04            | 4.217E-04                         |           |      |
| D               | 1.6                                      | 7.33                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.024E-05         | 9.594E-05            | 6.024E-05                         |           |      |
| D               | 3.3                                      | 18.14                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 90.6              | 3.869E-05         | 4.477E-05            | 3.869E-05                         |           |      |
| D               | 5.6                                      | 3.67                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 66.1              | 3.183E-05         | 2.686E-05            | 2.686E-05                         |           |      |
| D               | 8.2                                      | 0.10                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.250E-05         | 1.815E-05            | 1.815E-05                         |           |      |
| E               | 0.2                                      | 0.18                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 5.778E-04         | 1.144E-03            | 5.778E-04                         |           |      |
| E               | 1.6                                      | 25.85                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 8.255E-05         | 1.634E-04            | 8.255E-05                         |           |      |
| E               | 3.3                                      | 18.81                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 79.9              | 6.389E-05         | 7.627E-05            | 6.389E-05                         |           |      |
| E               | 5.6                                      | 2.48                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 48.4              | 6.329E-05         | 4.576E-05            | 4.576E-05                         |           |      |
| E               | 8.2                                      | 0.05                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 4.606E-05         | 3.092E-05            | 3.092E-05                         |           |      |
| F               | 0.2                                      | 0.05                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 9.797E-04         | 1.827E-03            | 9.797E-04                         |           |      |
| F               | 1.6                                      | 6.14                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.400E-04         | 2.609E-04            | 1.400E-04                         |           |      |
| F               | 3.3                                      | 1.14                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 64.2              | 1.238E-04         | 1.218E-04            | 1.218E-04                         |           |      |
| G               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.477E-03         | 2.891E-03            | 1.477E-03                         |           |      |
| G               | 1.6                                      | 1.52                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.109E-04         | 4.129E-04            | 2.109E-04                         |           |      |
| G               | 3.3                                      | 0.10                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 54.9              | 2.255E-04         | 1.927E-04            | 1.927E-04                         |           |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

NW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 6.389E-05 |
| 0.012     | 0.058     | 0.242     | 0.259     | 1.783     | 1.878     | 8.020     | 9.162     | 35.014    | 53.819    |
| 0.00059   | 0.00285   | 0.01190   | 0.01273   | 0.08754   | 0.09222   | 0.39380   | 0.44991   | 1.71938   | 2.64283   |
| 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 | 1.142E-05 |
| 61.151    | 63.627    | 64.150    | 82.289    | 82.337    | 86.003    | 87.574    | 88.669    | 88.764    | 89.002    |
| 3.00287   | 3.12443   | 3.15015   | 4.04088   | 4.04322   | 4.22323   | 4.30038   | 4.35415   | 4.35883   | 4.37052   |
| 8.732E-06 | 5.239E-06 | 4.152E-06 | 1.937E-06 | 1.191E-06 | 1.162E-06 |           |           |           |           |
| 91.668    | 92.097    | 94.477    | 99.667    | 99.714    | 100.000   |           |           |           |           |
| 4.50144   | 4.52248   | 4.63937   | 4.89420   | 4.89654   | 4.91057   |           |           |           |           |

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.003  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.717  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 3.000  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 4.037  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 4.220

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 7 1 -6.51806 -11.57853 -1.15526  
 7 2 -6.92826 -12.14371 -1.29567

Calculation No. PM-1055 Revision 0

Attachment J

|           |           |           |           |
|-----------|-----------|-----------|-----------|
| 7 3       | -9.40215  | -12.23725 | -1.33987  |
| 7 4       | -9.71722  | -15.90901 | -3.29212  |
| 7 5       | -10.15982 | -41.06927 | -17.69945 |
| 7 6       | -10.52476 | NUMXQ(K)= | 6         |
| 3.807E-04 | 0.049     |           | 1.000     |
| 2.508E-04 | 0.147     |           | 3.000     |
| 2.037E-04 | 0.246     |           | 5.000     |
| 1.511E-04 | 0.491     |           | 10.000    |
| 1.255E-04 | 0.737     |           | 15.000    |
| 1.094E-04 | 0.982     |           | 20.000    |
| 9.805E-05 | 1.228     |           | 25.000    |
| 8.942E-05 | 1.473     |           | 30.000    |
| 8.256E-05 | 1.719     |           | 35.000    |
| 7.675E-05 | 1.964     |           | 40.000    |
| 7.188E-05 | 2.210     |           | 45.000    |
| 6.771E-05 | 2.455     |           | 50.000    |
| 6.410E-05 | 2.701     |           | 55.000    |
| 6.092E-05 | 2.946     |           | 60.000    |
| 5.510E-05 | 3.192     |           | 65.000    |
| 4.939E-05 | 3.437     |           | 70.000    |
| 4.455E-05 | 3.683     |           | 75.000    |
| 4.040E-05 | 3.928     |           | 80.000    |
| 2.961E-05 | 4.174     |           | 85.000    |
| 1.499E-04 | 0.5       |           | 10.18     |

ANNUAL AVERAGE = 2.93E-06

K= 7 FIVEXQ(K)= 1.499E-04 FIVEPR(K)=10.182

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

| CLASS             | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-------------------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                   |  |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| CA=1292.SQ.METERS |  |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |           |      |
| A                 | 1.6                                      | 1.13                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 4.187E-06         | 4.152E-06         | 4.152E-06            |                                   |           |      |
| A                 | 3.3                                      | 2.78                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.954E-06         | 1.937E-06         | 1.937E-06            |                                   |           |      |
| A                 | 5.6                                      | 1.02                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.172E-06         | 1.162E-06         | 1.162E-06            |                                   |           |      |
| A                 | 8.2                                      | 0.18                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 7.921E-07         | 7.854E-07         | 7.854E-07            |                                   |           |      |
| B                 | 1.6                                      | 0.46                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 1.945E-05         | 1.871E-05         | 1.871E-05            |                                   |           |      |
| B                 | 3.3                                      | 2.54                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 9.075E-06         | 8.732E-06         | 8.732E-06            |                                   |           |      |
| B                 | 5.6                                      | 1.20                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 5.445E-06         | 5.239E-06         | 5.239E-06            |                                   |           |      |
| B                 | 8.2                                      | 0.25                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 3.679E-06         | 3.540E-06         | 3.540E-06            |                                   |           |      |
| C                 | 1.6                                      | 0.18                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 4.443E-05         | 4.078E-05         | 4.078E-05            |                                   |           |      |
| C                 | 3.3                                      | 1.87                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 2.073E-05         | 1.903E-05         | 1.903E-05            |                                   |           |      |
| C                 | 5.6                                      | 0.60                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 1.244E-05         | 1.142E-05         | 1.142E-05            |                                   |           |      |
| C                 | 8.2                                      | 0.11                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 8.406E-06         | 7.714E-06         | 7.714E-06            |                                   |           |      |
| C                 | 10.7                                     | 0.04                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 6.479E-06         | 5.947E-06         | 5.947E-06            |                                   |           |      |
| D                 | 0.2                                      | 0.02                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 4.217E-04         | 6.716E-04         | 4.217E-04            |                                   |           |      |
| D                 | 1.6                                      | 8.07                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 6.024E-05         | 9.594E-05         | 6.024E-05            |                                   |           |      |
| D                 | 3.3                                      | 20.87                | 823.               | 0.                | 0.           | 63.2          | 27.1            | 90.6         | 3.869E-05         | 4.477E-05         | 3.869E-05            |                                   |           |      |
| D                 | 5.6                                      | 5.29                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 66.1         | 3.183E-05         | 2.686E-05         | 2.686E-05            |                                   |           |      |
| D                 | 8.2                                      | 0.42                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 2.250E-05         | 1.815E-05         | 1.815E-05            |                                   |           |      |
| E                 | 0.2                                      | 0.15                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 5.778E-04         | 1.144E-03         | 5.778E-04            |                                   |           |      |
| E                 | 1.6                                      | 21.15                | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 8.255E-05         | 1.634E-04         | 8.255E-05            |                                   |           |      |
| E                 | 3.3                                      | 23.87                | 823.               | 0.                | 0.           | 44.9          | 18.7            | 79.9         | 6.389E-05         | 7.627E-05         | 6.389E-05            |                                   |           |      |
| E                 | 5.6                                      | 2.50                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 48.4         | 6.329E-05         | 4.576E-05         | 4.576E-05            |                                   |           |      |
| E                 | 8.2                                      | 0.21                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 4.606E-05         | 3.092E-05         | 3.092E-05            |                                   |           |      |
| F                 | 0.2                                      | 0.03                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 9.797E-04         | 1.827E-03         | 9.797E-04            |                                   |           |      |
| F                 | 1.6                                      | 3.49                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.400E-04         | 2.609E-04         | 1.400E-04            |                                   |           |      |
| F                 | 3.3                                      | 0.63                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 64.2         | 1.238E-04         | 1.218E-04         | 1.218E-04            |                                   |           |      |
| G                 | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 1.477E-03         | 2.891E-03         | 1.477E-03            |                                   |           |      |
| G                 | 1.6                                      | 0.95                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 2.109E-04         | 4.129E-04         | 2.109E-04            |                                   |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 6.389E-05 | 6.024E-05 |
| 0.008     | 0.034     | 0.184     | 0.203     | 1.155     | 4.645     | 5.279     | 26.430    | 50.295    | 58.368    |
| 0.00050   | 0.00223   | 0.01224   | 0.01347   | 0.07659   | 0.30804   | 0.35012   | 1.75284   | 3.33558   | 3.87095   |
| 4.576E-05 | 4.078E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 | 1.142E-05 | 8.732E-06 |
| 60.871    | 61.047    | 81.916    | 82.128    | 87.415    | 89.284    | 89.742    | 90.165    | 90.764    | 93.302    |
| 4.03694   | 4.04863   | 5.43265   | 5.44668   | 5.79736   | 5.92126   | 5.95166   | 5.97971   | 6.01945   | 6.18778   |
| 7.714E-06 | 5.947E-06 | 5.239E-06 | 4.152E-06 | 3.540E-06 | 1.937E-06 | 1.162E-06 | 7.854E-07 |           |           |
| 93.408    | 93.443    | 94.642    | 95.770    | 96.017    | 98.801    | 99.824    | 100.000   |           |           |
| 6.19479   | 6.19713   | 6.27662   | 6.35143   | 6.36780   | 6.55249   | 6.62029   | 6.63198   |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 3.868  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 5.429  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 5.794  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 5.976

K I XQSAVE(K, I) XQINT(K, I) XQSLOP(K, I)  
 8 1 -6.51806 -11.84871 -1.20678  
 8 2 -9.71722 -14.55362 -2.73822  
 8 3 -10.15982 -28.30371 -11.30728



Calculation No. PM-1055 Revision 0

Attachment J

8 4 -10.52476 -50.18600 -25.22426

8 5 -10.91680 NUMXQ(K)= 5

|           |       |        |
|-----------|-------|--------|
| 3.442E-04 | 0.066 | 1.000  |
| 2.310E-04 | 0.199 | 3.000  |
| 1.893E-04 | 0.332 | 5.000  |
| 1.420E-04 | 0.663 | 10.000 |
| 1.188E-04 | 0.995 | 15.000 |
| 1.040E-04 | 1.326 | 20.000 |
| 9.350E-05 | 1.658 | 25.000 |
| 8.549E-05 | 1.990 | 30.000 |
| 7.910E-05 | 2.321 | 35.000 |
| 7.383E-05 | 2.653 | 40.000 |
| 6.939E-05 | 2.984 | 45.000 |
| 6.558E-05 | 3.316 | 50.000 |
| 6.225E-05 | 3.648 | 55.000 |
| 5.817E-05 | 3.979 | 60.000 |
| 5.251E-05 | 4.311 | 65.000 |
| 4.769E-05 | 4.642 | 70.000 |
| 4.354E-05 | 4.974 | 75.000 |
| 3.995E-05 | 5.306 | 80.000 |
| 3.146E-05 | 5.637 | 85.000 |
| 1.858E-05 | 5.969 | 90.000 |
| 1.601E-04 | 0.5   | 7.54   |

ANNUAL AVERAGE = 3.49E-06

K= 8 FIVEXQ(K)= 1.601E-04 FIVEPR(K)= 7.539

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER           | BLDG WAKE | USED |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|-----------|------|
|       |  |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   | CA=1292.SQ.METERS |           |      |
| A     | 1.6                                      | 0.23                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 4.187E-06         | 4.152E-06         | 4.152E-06            | 4.187E-06                         | 4.152E-06         | 4.152E-06 |      |
| A     | 3.3                                      | 2.01                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.954E-06         | 1.937E-06         | 1.937E-06            | 1.954E-06                         | 1.937E-06         | 1.937E-06 |      |
| A     | 5.6                                      | 2.77                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.172E-06         | 1.162E-06         | 1.162E-06            | 1.172E-06                         | 1.162E-06         | 1.162E-06 |      |
| A     | 8.2                                      | 0.37                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 7.921E-07         | 7.854E-07         | 7.854E-07            | 7.921E-07                         | 7.854E-07         | 7.854E-07 |      |
| B     | 1.6                                      | 0.34                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 1.945E-05         | 1.871E-05         | 1.871E-05            | 1.945E-05                         | 1.871E-05         | 1.871E-05 |      |
| B     | 3.3                                      | 2.57                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 9.075E-06         | 8.732E-06         | 8.732E-06            | 9.075E-06                         | 8.732E-06         | 8.732E-06 |      |
| B     | 5.6                                      | 4.10                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 5.445E-06         | 5.239E-06         | 5.239E-06            | 5.445E-06                         | 5.239E-06         | 5.239E-06 |      |
| B     | 8.2                                      | 0.62                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 3.679E-06         | 3.540E-06         | 3.540E-06            | 3.679E-06                         | 3.540E-06         | 3.540E-06 |      |
| C     | 1.6                                      | 0.17                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 4.443E-05         | 4.078E-05         | 4.078E-05            | 4.443E-05                         | 4.078E-05         | 4.078E-05 |      |
| C     | 3.3                                      | 1.87                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 2.073E-05         | 1.903E-05         | 1.903E-05            | 2.073E-05                         | 1.903E-05         | 1.903E-05 |      |
| C     | 5.6                                      | 2.12                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 1.244E-05         | 1.142E-05         | 1.142E-05            | 1.244E-05                         | 1.142E-05         | 1.142E-05 |      |
| C     | 8.2                                      | 0.23                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 8.406E-06         | 7.714E-06         | 7.714E-06            | 8.406E-06                         | 7.714E-06         | 7.714E-06 |      |
| D     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 4.217E-04         | 6.716E-04         | 4.217E-04            | 4.217E-04                         | 6.716E-04         | 4.217E-04 |      |
| D     | 1.6                                      | 5.00                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 6.024E-05         | 9.594E-05         | 6.024E-05            | 6.024E-05                         | 9.594E-05         | 6.024E-05 |      |
| D     | 3.3                                      | 15.38                | 823.               | 0.                | 0.           | 63.2          | 27.1            | 90.6         | 3.869E-05         | 4.477E-05         | 3.869E-05            | 3.869E-05                         | 4.477E-05         | 3.869E-05 |      |
| D     | 5.6                                      | 9.19                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 66.1         | 3.183E-05         | 2.686E-05         | 2.686E-05            | 3.183E-05                         | 2.686E-05         | 2.686E-05 |      |
| D     | 8.2                                      | 1.27                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 2.250E-05         | 1.815E-05         | 1.815E-05            | 2.250E-05                         | 1.815E-05         | 1.815E-05 |      |
| E     | 0.2                                      | 0.13                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 5.778E-04         | 1.144E-03         | 5.778E-04            | 5.778E-04                         | 1.144E-03         | 5.778E-04 |      |
| E     | 1.6                                      | 17.92                | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 8.255E-05         | 1.634E-04         | 8.255E-05            | 8.255E-05                         | 1.634E-04         | 8.255E-05 |      |
| E     | 3.3                                      | 21.79                | 823.               | 0.                | 0.           | 44.9          | 18.7            | 79.9         | 6.389E-05         | 7.627E-05         | 6.389E-05            | 6.389E-05                         | 7.627E-05         | 6.389E-05 |      |
| E     | 5.6                                      | 5.71                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 48.4         | 6.329E-05         | 4.576E-05         | 4.576E-05            | 6.329E-05                         | 4.576E-05         | 4.576E-05 |      |
| E     | 8.2                                      | 0.71                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 4.606E-05         | 3.092E-05         | 3.092E-05            | 4.606E-05                         | 3.092E-05         | 3.092E-05 |      |
| E     | 10.7                                     | 0.03                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 3.551E-05         | 2.383E-05         | 2.383E-05            | 3.551E-05                         | 2.383E-05         | 2.383E-05 |      |
| F     | 0.2                                      | 0.03                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 9.797E-04         | 1.827E-03         | 9.797E-04            | 9.797E-04                         | 1.827E-03         | 9.797E-04 |      |
| F     | 1.6                                      | 3.42                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.400E-04         | 2.609E-04         | 1.400E-04            | 1.400E-04                         | 2.609E-04         | 1.400E-04 |      |
| F     | 3.3                                      | 1.38                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 64.2         | 1.238E-04         | 1.218E-04         | 1.238E-04            | 1.238E-04                         | 1.218E-04         | 1.218E-04 |      |
| G     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 1.477E-03         | 2.891E-03         | 1.477E-03            | 1.477E-03                         | 2.891E-03         | 1.477E-03 |      |
| G     | 1.6                                      | 0.65                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 2.109E-04         | 4.129E-04         | 2.109E-04            | 2.109E-04                         | 4.129E-04         | 2.109E-04 |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 6.389E-05 | 6.024E-05 |
| 0.005     | 0.031     | 0.159     | 0.170     | 0.820     | 4.240     | 5.625     | 23.545    | 45.337    | 50.339    |
| 0.00043   | 0.00254   | 0.01311   | 0.01407   | 0.06784   | 0.35072   | 0.46528   | 1.94748   | 3.74998   | 4.16378   |
| 4.576E-05 | 4.078E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 2.383E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 | 1.142E-05 |
| 56.049    | 56.218    | 71.594    | 72.301    | 81.487    | 81.515    | 83.381    | 83.720    | 84.992    | 87.111    |
| 4.63603   | 4.65006   | 5.92186   | 5.98031   | 6.74012   | 6.74245   | 6.89675   | 6.92481   | 7.03001   | 7.20535   |
| 8.732E-06 | 7.714E-06 | 5.239E-06 | 4.152E-06 | 3.540E-06 | 1.937E-06 | 1.162E-06 | 7.854E-07 |           |           |
| 89.684    | 89.910    | 94.008    | 94.234    | 94.856    | 96.863    | 99.633    | 100.000   |           |           |
| 7.41810   | 7.43680   | 7.77579   | 7.79449   | 7.84593   | 8.01192   | 8.24103   | 8.27142   |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

| CHI/Q           | WITH RESPECT TO | WHEN THE WIND BLOWS   |
|-----------------|-----------------|-----------------------|
| SEC/CUBIC METER | THE TOTAL TIME  | INTO THIS SECTOR ONLY |

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.003  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 3.747  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 4.160  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 5.918  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 6.736  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 7.026

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
9 1 -6.51806 -11.08605 -1.02611

Calculation No. PM-1055 Revision 0

Attachment J

9 2 -6.92826 -11.79912 -1.20208  
9 3 -9.65837 -11.81984 -1.21372  
9 4 -9.71722 -14.20946 -2.59311  
9 5 -10.15982 -18.79955 -5.53229  
9 6 -10.52476 -37.32388 -17.91712  
9 7 -10.91680 NUMXQ(K) = 7

|           |       |        |
|-----------|-------|--------|
| 3.299E-04 | 0.083 | 1.000  |
| 2.201E-04 | 0.248 | 3.000  |
| 1.797E-04 | 0.414 | 5.000  |
| 1.340E-04 | 0.827 | 10.000 |
| 1.116E-04 | 1.241 | 15.000 |
| 9.738E-05 | 1.654 | 20.000 |
| 8.728E-05 | 2.068 | 25.000 |
| 7.958E-05 | 2.481 | 30.000 |
| 7.345E-05 | 2.895 | 35.000 |
| 6.840E-05 | 3.309 | 40.000 |
| 6.415E-05 | 3.722 | 45.000 |
| 6.047E-05 | 4.136 | 50.000 |
| 5.405E-05 | 4.549 | 55.000 |
| 4.850E-05 | 4.963 | 60.000 |
| 4.383E-05 | 5.376 | 65.000 |
| 3.984E-05 | 5.790 | 70.000 |
| 3.398E-05 | 6.204 | 75.000 |
| 2.831E-05 | 6.617 | 80.000 |
| 1.662E-04 | 0.5   | 6.04   |

ANNUAL AVERAGE = 3.79E-06

K= 9 FIVEXQ(K) = 1.662E-04 FIVEPR(K) = 6.045

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 1.6                                      | 0.17                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.187E-06         | 4.152E-06            | 4.152E-06                         |           |      |
| A               | 3.3                                      | 2.41                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.954E-06         | 1.937E-06            | 1.937E-06                         |           |      |
| A               | 5.6                                      | 1.74                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.172E-06         | 1.162E-06            | 1.162E-06                         |           |      |
| A               | 8.2                                      | 0.06                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 7.921E-07         | 7.854E-07            | 7.854E-07                         |           |      |
| B               | 1.6                                      | 0.11                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 1.945E-05         | 1.871E-05            | 1.871E-05                         |           |      |
| B               | 3.3                                      | 2.52                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 9.075E-06         | 8.732E-06            | 8.732E-06                         |           |      |
| B               | 5.6                                      | 2.58                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 5.445E-06         | 5.239E-06            | 5.239E-06                         |           |      |
| B               | 8.2                                      | 0.06                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 3.679E-06         | 3.540E-06            | 3.540E-06                         |           |      |
| C               | 3.3                                      | 1.35                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.073E-05         | 1.903E-05            | 1.903E-05                         |           |      |
| C               | 5.6                                      | 1.74                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.244E-05         | 1.142E-05            | 1.142E-05                         |           |      |
| D               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.217E-04         | 6.716E-04            | 4.217E-04                         |           |      |
| D               | 1.6                                      | 5.16                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.024E-05         | 9.594E-05            | 6.024E-05                         |           |      |
| D               | 3.3                                      | 13.07                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 90.6              | 3.869E-05         | 4.477E-05            | 3.869E-05                         |           |      |
| D               | 5.6                                      | 6.06                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 66.1              | 3.183E-05         | 2.686E-05            | 2.686E-05                         |           |      |
| D               | 8.2                                      | 0.56                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.250E-05         | 1.815E-05            | 1.815E-05                         |           |      |
| D               | 10.7                                     | 0.11                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 1.735E-05         | 1.399E-05            | 1.399E-05                         |           |      |
| E               | 0.2                                      | 0.15                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 5.778E-04         | 1.144E-03            | 5.778E-04                         |           |      |
| E               | 1.6                                      | 21.04                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 8.255E-05         | 1.634E-04            | 8.255E-05                         |           |      |
| E               | 3.3                                      | 21.93                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 79.9              | 6.389E-05         | 7.627E-05            | 6.389E-05                         |           |      |
| E               | 5.6                                      | 3.03                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 48.4              | 6.329E-05         | 4.576E-05            | 4.576E-05                         |           |      |
| E               | 8.2                                      | 0.22                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 4.606E-05         | 3.092E-05            | 3.092E-05                         |           |      |
| F               | 0.2                                      | 0.08                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 9.797E-04         | 1.827E-03            | 9.797E-04                         |           |      |
| F               | 1.6                                      | 11.00                | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.400E-04         | 2.609E-04            | 1.400E-04                         |           |      |
| F               | 3.3                                      | 2.58                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 64.2              | 1.238E-04         | 1.218E-04            | 1.218E-04                         |           |      |
| G               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.477E-03         | 2.891E-03            | 1.477E-03                         |           |      |
| G               | 1.6                                      | 1.85                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.109E-04         | 4.129E-04            | 2.109E-04                         |           |      |
| G               | 3.3                                      | 0.39                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 54.9              | 2.255E-04         | 1.927E-04            | 1.927E-04                         |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 6.389E-05 |
| 0.015     | 0.097     | 0.247     | 0.259     | 2.110     | 2.503     | 13.498    | 16.078    | 37.115    | 59.049    |
| 0.00061   | 0.00403   | 0.01029   | 0.01078   | 0.08793   | 0.10430   | 0.56252   | 0.67006   | 1.54676   | 2.46087   |
| 6.024E-05 | 4.576E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 | 1.399E-05 | 1.142E-05 |
| 64.210    | 67.239    | 80.310    | 80.534    | 86.593    | 87.939    | 88.051    | 88.612    | 88.724    | 90.463    |
| 2.67595   | 2.80220   | 3.34692   | 3.35627   | 3.60876   | 3.66487   | 3.66955   | 3.69293   | 3.69760   | 3.77008   |
| 8.732E-06 | 5.239E-06 | 4.152E-06 | 3.540E-06 | 1.937E-06 | 1.162E-06 | 7.854E-07 |           |           |           |
| 92.988    | 95.568    | 95.737    | 95.793    | 98.205    | 99.944    | 100.000   |           |           |           |
| 3.87528   | 3.98282   | 3.98984   | 3.99218   | 4.09270   | 4.16518   | 4.16752   |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 2.458  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.673  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 3.344  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 3.606  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 3.872

| K  | I | XQSAVE(K,I) | XQINT(K,I) | XQSLOP(K,I) |
|----|---|-------------|------------|-------------|
| 10 | 1 | -6.51806    | -10.67817  | -0.95117    |
| 10 | 2 | -6.92826    | -12.37723  | -1.38214    |

Calculation No. PM-1055 Revision 0

Attachment J

10 3 -9.65837 -12.87442 -1.63489  
10 4 -9.71722 -18.38227 -4.48702  
10 5 -10.15982 -29.78085 -10.70727  
10 6 -10.52476 -72.37913 -34.39386  
10 7 -11.64850 NUMXQ(K) = 7

|           |       |        |
|-----------|-------|--------|
| 4.271E-04 | 0.042 | 1.000  |
| 2.751E-04 | 0.125 | 3.000  |
| 2.212E-04 | 0.208 | 5.000  |
| 1.616E-04 | 0.417 | 10.000 |
| 1.331E-04 | 0.625 | 15.000 |
| 1.153E-04 | 0.834 | 20.000 |
| 1.028E-04 | 1.042 | 25.000 |
| 9.338E-05 | 1.250 | 30.000 |
| 8.593E-05 | 1.459 | 35.000 |
| 7.984E-05 | 1.667 | 40.000 |
| 7.474E-05 | 1.875 | 45.000 |
| 7.038E-05 | 2.084 | 50.000 |
| 6.661E-05 | 2.292 | 55.000 |
| 6.318E-05 | 2.501 | 60.000 |
| 5.882E-05 | 2.709 | 65.000 |
| 5.088E-05 | 2.917 | 70.000 |
| 4.438E-05 | 3.126 | 75.000 |
| 3.900E-05 | 3.334 | 80.000 |
| 2.940E-05 | 3.542 | 85.000 |
| 1.464E-05 | 3.751 | 90.000 |
| 1.483E-04 | 0.5   | 12.00  |

ANNUAL AVERAGE = 2.55E-06

K= 10 FIVEXQ(K) = 1.483E-04 FIVEPR(K) = 11.998

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                                |      |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|--------------------------------|------|
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE<br>CA=1292.SQ.METERS | USED |
| A     | 1.6                                      | 0.21                 | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 4.187E-06            | 4.152E-06                         | 4.152E-06                      |      |
| A     | 3.3                                      | 2.81                 | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 1.954E-06            | 1.937E-06                         | 1.937E-06                      |      |
| A     | 5.6                                      | 2.03                 | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 1.172E-06            | 1.162E-06                         | 1.162E-06                      |      |
| A     | 8.2                                      | 0.16                 | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 7.921E-07            | 7.854E-07                         | 7.854E-07                      |      |
| B     | 1.6                                      | 0.31                 | 823.               | 0.                | 0.           | 0.            | 118.1              | 88.8              | 118.1             | 1.945E-05            | 1.871E-05                         | 1.871E-05                      |      |
| B     | 3.3                                      | 3.34                 | 823.               | 0.                | 0.           | 0.            | 118.1              | 88.8              | 118.1             | 9.075E-06            | 8.732E-06                         | 8.732E-06                      |      |
| B     | 5.6                                      | 1.46                 | 823.               | 0.                | 0.           | 0.            | 118.1              | 88.8              | 118.1             | 5.445E-06            | 5.239E-06                         | 5.239E-06                      |      |
| B     | 8.2                                      | 0.16                 | 823.               | 0.                | 0.           | 0.            | 118.1              | 88.8              | 118.1             | 3.679E-06            | 3.540E-06                         | 3.540E-06                      |      |
| C     | 1.6                                      | 0.26                 | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 4.443E-05            | 4.078E-05                         | 4.078E-05                      |      |
| C     | 3.3                                      | 1.25                 | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 2.073E-05            | 1.903E-05                         | 1.903E-05                      |      |
| C     | 5.6                                      | 1.15                 | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 1.244E-05            | 1.142E-05                         | 1.142E-05                      |      |
| D     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 124.7             | 4.217E-04            | 6.716E-04                         | 4.217E-04                      |      |
| D     | 1.6                                      | 4.06                 | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 124.7             | 6.024E-05            | 9.594E-05                         | 6.024E-05                      |      |
| D     | 3.3                                      | 9.80                 | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 90.6              | 3.869E-05            | 4.477E-05                         | 3.869E-05                      |      |
| D     | 5.6                                      | 4.06                 | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 66.1              | 3.183E-05            | 2.686E-05                         | 2.686E-05                      |      |
| D     | 8.2                                      | 0.26                 | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 63.2              | 2.250E-05            | 1.815E-05                         | 1.815E-05                      |      |
| E     | 0.2                                      | 0.12                 | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 132.5             | 5.778E-04            | 1.144E-03                         | 5.778E-04                      |      |
| E     | 1.6                                      | 16.94                | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 132.5             | 8.255E-05            | 1.634E-04                         | 8.255E-05                      |      |
| E     | 3.3                                      | 16.88                | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 79.9              | 6.389E-05            | 7.627E-05                         | 6.389E-05                      |      |
| E     | 5.6                                      | 2.40                 | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 48.4              | 6.329E-05            | 4.576E-05                         | 4.576E-05                      |      |
| F     | 0.2                                      | 0.11                 | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 121.7             | 9.797E-04            | 1.827E-03                         | 9.797E-04                      |      |
| F     | 1.6                                      | 15.32                | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 121.7             | 1.400E-04            | 2.609E-04                         | 1.400E-04                      |      |
| F     | 3.3                                      | 5.05                 | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 64.2              | 1.238E-04            | 1.218E-04                         | 1.218E-04                      |      |
| F     | 5.6                                      | 0.05                 | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 34.1              | 1.400E-04            | 7.306E-05                         | 7.306E-05                      |      |
| G     | 0.2                                      | 0.07                 | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 125.7             | 1.477E-03            | 2.891E-03                         | 1.477E-03                      |      |
| G     | 1.6                                      | 8.65                 | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 125.7             | 2.109E-04            | 4.129E-04                         | 2.109E-04                      |      |
| G     | 3.3                                      | 3.07                 | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 54.9              | 2.255E-04            | 1.927E-04                         | 1.927E-04                      |      |



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 7.306E-05 |
| 0.068     | 0.183     | 0.304     | 0.313     | 8.963     | 12.038    | 27.358    | 32.413    | 49.349    | 49.401    |
| 0.00307   | 0.00821   | 0.01363   | 0.01405   | 0.40213   | 0.54007   | 1.22740   | 1.45418   | 2.21398   | 2.21632   |
| 6.389E-05 | 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 | 1.142E-05 |
| 66.285    | 70.349    | 72.746    | 73.007    | 82.804    | 86.868    | 88.119    | 88.432    | 88.692    | 89.838    |
| 2.97379   | 3.15614   | 3.26369   | 3.27538   | 3.71489   | 3.89725   | 3.95336   | 3.96738   | 3.97907   | 4.03051   |
| 8.732E-06 | 5.239E-06 | 4.152E-06 | 3.540E-06 | 1.937E-06 | 1.162E-06 | 7.854E-07 |           |           |           |
| 93.174    | 94.633    | 94.841    | 94.997    | 97.811    | 99.844    | 100.000   |           |           |           |
| 4.18013   | 4.24559   | 4.25494   | 4.26196   | 4.38820   | 4.47938   | 4.48639   |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

| CHI/Q           | WITH RESPECT TO | WHEN THE WIND BLOWS   |
|-----------------|-----------------|-----------------------|
| SEC/CUBIC METER | THE TOTAL TIME  | INTO THIS SECTOR ONLY |

|                  |                                    |             |       |
|------------------|------------------------------------|-------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE( 2) = | 1.226 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE( 3) = | 1.453 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE( 4) = | 2.971 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE( 5) = | 3.153 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE( 6) = | 3.712 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE( 7) = | 3.894 |

| K  | I | XQSAVE(K,I) | XQINT(K,I) | XQSLOP(K,I) |
|----|---|-------------|------------|-------------|
| 11 | 1 | -6.51806    | -11.88757  | -1.33995    |

Calculation No. PM-1055 Revision 0

Attachment J

11 2 -8.87417 -13.61017 -2.10593  
11 3 -9.01335 -13.74251 -2.16656  
11 4 -9.65837 -13.87055 -2.23449  
11 5 -9.71722 -20.89988 -6.01626  
11 6 -10.15982 -39.71434 -16.55554  
11 7 -10.52476 NUMXQ(K) = 7

|           |       |        |
|-----------|-------|--------|
| 5.888E-04 | 0.045 | 1.000  |
| 3.835E-04 | 0.135 | 3.000  |
| 3.099E-04 | 0.224 | 5.000  |
| 2.281E-04 | 0.449 | 10.000 |
| 1.887E-04 | 0.673 | 15.000 |
| 1.640E-04 | 0.897 | 20.000 |
| 1.466E-04 | 1.122 | 25.000 |
| 1.298E-04 | 1.346 | 30.000 |
| 1.140E-04 | 1.570 | 35.000 |
| 1.015E-04 | 1.795 | 40.000 |
| 9.139E-05 | 2.019 | 45.000 |
| 8.309E-05 | 2.243 | 50.000 |
| 7.613E-05 | 2.468 | 55.000 |
| 7.020E-05 | 2.692 | 60.000 |
| 6.509E-05 | 2.916 | 65.000 |
| 6.054E-05 | 3.140 | 70.000 |
| 5.070E-05 | 3.365 | 75.000 |
| 4.253E-05 | 3.589 | 80.000 |
| 3.171E-05 | 3.813 | 85.000 |
| 2.170E-04 | 0.5   | 11.14  |

ANNUAL AVERAGE = 3.47E-06

K= 11 FIVEXQ(K) = 2.170E-04 FIVEPR(K) = 11.145

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 |  |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 1.6                                      | 0.24                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.187E-06         | 4.152E-06            | 4.152E-06                         |           |      |
| A               | 3.3                                      | 1.35                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.954E-06         | 1.937E-06            | 1.937E-06                         |           |      |
| A               | 5.6                                      | 0.97                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.172E-06         | 1.162E-06            | 1.162E-06                         |           |      |
| A               | 8.2                                      | 0.03                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 7.921E-07         | 7.854E-07            | 7.854E-07                         |           |      |
| B               | 1.6                                      | 0.21                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 1.945E-05         | 1.871E-05            | 1.871E-05                         |           |      |
| B               | 3.3                                      | 1.45                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 9.075E-06         | 8.732E-06            | 8.732E-06                         |           |      |
| B               | 5.6                                      | 0.83                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 5.445E-06         | 5.239E-06            | 5.239E-06                         |           |      |
| C               | 1.6                                      | 0.14                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.443E-05         | 4.078E-05            | 4.078E-05                         |           |      |
| C               | 3.3                                      | 0.73                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.073E-05         | 1.903E-05            | 1.903E-05                         |           |      |
| C               | 5.6                                      | 0.76                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.244E-05         | 1.142E-05            | 1.142E-05                         |           |      |
| D               | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.217E-04         | 6.716E-04            | 4.217E-04                         |           |      |
| D               | 1.6                                      | 3.63                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.024E-05         | 9.594E-05            | 6.024E-05                         |           |      |
| D               | 3.3                                      | 6.04                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 90.6              | 3.869E-05         | 4.477E-05            | 3.869E-05                         |           |      |
| D               | 5.6                                      | 2.56                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 66.1              | 3.183E-05         | 2.686E-05            | 2.686E-05                         |           |      |
| D               | 8.2                                      | 0.14                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.250E-05         | 1.815E-05            | 1.815E-05                         |           |      |
| E               | 0.2                                      | 0.10                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 5.778E-04         | 1.144E-03            | 5.778E-04                         |           |      |
| E               | 1.6                                      | 13.64                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 8.255E-05         | 1.634E-04            | 8.255E-05                         |           |      |
| E               | 3.3                                      | 14.99                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 79.9              | 6.389E-05         | 7.627E-05            | 6.389E-05                         |           |      |
| E               | 5.6                                      | 1.76                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 48.4              | 6.329E-05         | 4.576E-05            | 4.576E-05                         |           |      |
| F               | 0.2                                      | 0.12                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 9.797E-04         | 1.827E-03            | 9.797E-04                         |           |      |
| F               | 1.6                                      | 15.58                | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.400E-04         | 2.609E-04            | 1.400E-04                         |           |      |
| F               | 3.3                                      | 8.70                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 64.2              | 1.238E-04         | 1.218E-04            | 1.218E-04                         |           |      |
| F               | 5.6                                      | 0.10                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 34.1              | 1.400E-04         | 7.306E-05            | 7.306E-05                         |           |      |
| G               | 0.2                                      | 0.13                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.477E-03         | 2.891E-03            | 1.477E-03                         |           |      |
| G               | 1.6                                      | 16.99                | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.109E-04         | 4.129E-04            | 2.109E-04                         |           |      |
| G               | 3.3                                      | 8.77                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 54.9              | 2.255E-04         | 1.927E-04            | 1.927E-04                         |           |      |
| G               | 5.6                                      | 0.03                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 24.2              | 3.073E-04         | 1.156E-04            | 1.156E-04                         |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 1.156E-04 | 8.255E-05 |
| 0.135     | 0.251     | 0.348     | 0.357     | 17.349    | 26.122    | 41.699    | 50.403    | 50.437    | 64.080    |
| 0.00910   | 0.01698   | 0.02357   | 0.02414   | 1.17437   | 1.76819   | 2.82256   | 3.41171   | 3.41405   | 4.33750   |
| 7.306E-05 | 6.389E-05 | 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 |
| 64.184    | 79.173    | 82.800    | 84.561    | 84.699    | 90.744    | 93.300    | 94.025    | 94.232    | 94.370    |
| 4.34452   | 5.35915   | 5.60463   | 5.72386   | 5.73321   | 6.14234   | 6.31534   | 6.36444   | 6.37846   | 6.38781   |
| 1.142E-05 | 8.732E-06 | 5.239E-06 | 4.152E-06 | 1.937E-06 | 1.162E-06 | 7.854E-07 |           |           |           |
| 95.130    | 96.581    | 97.410    | 97.651    | 98.998    | 99.965    | 100.000   |           |           |           |
| 6.43925   | 6.53744   | 6.59355   | 6.60991   | 6.70109   | 6.76655   | 6.76889   |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

| CHI/Q           | WITH RESPECT TO | WHEN THE WIND BLOWS   |
|-----------------|-----------------|-----------------------|
| SEC/CUBIC METER | THE TOTAL TIME  | INTO THIS SECTOR ONLY |

|                  |                                    |              |       |
|------------------|------------------------------------|--------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2) = | 1.766 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 2.820 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 3.409 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 5.601 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 6.138 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 7) = | 6.311 |

| K  | I | XQSAVE(K,I) | XQINT(K,I) | XQSLOP(K,I) |
|----|---|-------------|------------|-------------|
| 12 | 1 | -6.51806    | -11.17049  | -1.24305    |

Calculation No. PM-1055 Revision 0

Attachment J

12 2 -8.55435 -11.97717 -1.62634  
12 3 -8.87417 -12.03187 -1.65501  
12 4 -9.01335 -14.48388 -2.99942  
12 5 -9.71722 -25.02701 -9.63368  
12 6 -10.15982 -50.07148 -25.86205  
12 7 -10.52476 NUMXQ(K) = 7

|           |       |        |
|-----------|-------|--------|
| 7.563E-04 | 0.068 | 1.000  |
| 5.013E-04 | 0.203 | 3.000  |
| 4.082E-04 | 0.338 | 5.000  |
| 3.034E-04 | 0.677 | 10.000 |
| 2.522E-04 | 1.015 | 15.000 |
| 2.199E-04 | 1.354 | 20.000 |
| 1.970E-04 | 1.692 | 25.000 |
| 1.757E-04 | 2.031 | 30.000 |
| 1.582E-04 | 2.369 | 35.000 |
| 1.441E-04 | 2.708 | 40.000 |
| 1.324E-04 | 3.046 | 45.000 |
| 1.225E-04 | 3.384 | 50.000 |
| 1.081E-04 | 3.723 | 55.000 |
| 9.583E-05 | 4.061 | 60.000 |
| 8.562E-05 | 4.400 | 65.000 |
| 7.702E-05 | 4.738 | 70.000 |
| 6.970E-05 | 5.077 | 75.000 |
| 6.339E-05 | 5.415 | 80.000 |
| 5.312E-05 | 5.754 | 85.000 |
| 4.028E-05 | 6.092 | 90.000 |
| 3.463E-04 | 0.5   | 7.39   |

ANNUAL AVERAGE = 6.49E-06

K= 12 FIVEXQ(K) = 3.463E-04 FIVEPR(K) = 7.387

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR.

| CLASS | METER/SEC      | PERCENT | DISTANCE METERS | TERRAIN METERS | HT METERS | EFF PLUME METERS | SIGMA-Y METERS | SIGMA-Z METERS | MEANDER-SY METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-------|----------------|---------|-----------------|----------------|-----------|------------------|----------------|----------------|-------------------|-----------------------------------|-----------|------|
|       | AT 10.0 METERS |         |                 |                |           |                  |                |                |                   | MEANDER                           | BLDG WAKE | USED |
|       |                |         |                 |                |           |                  |                |                |                   | CA=1292.SQ.METERS                 |           |      |
| A     | 1.6            | 0.43    | 823.            | 0.             | 0.        | 157.1            | 310.1          | 157.1          | 4.187E-06         | 4.152E-06                         | 4.152E-06 |      |
| A     | 3.3            | 2.64    | 823.            | 0.             | 0.        | 157.1            | 310.1          | 157.1          | 1.954E-06         | 1.937E-06                         | 1.937E-06 |      |
| A     | 5.6            | 1.64    | 823.            | 0.             | 0.        | 157.1            | 310.1          | 157.1          | 1.172E-06         | 1.162E-06                         | 1.162E-06 |      |
| A     | 8.2            | 0.11    | 823.            | 0.             | 0.        | 157.1            | 310.1          | 157.1          | 7.921E-07         | 7.854E-07                         | 7.854E-07 |      |
| B     | 1.6            | 0.43    | 823.            | 0.             | 0.        | 118.1            | 88.8           | 118.1          | 1.945E-05         | 1.871E-05                         | 1.871E-05 |      |
| B     | 3.3            | 1.81    | 823.            | 0.             | 0.        | 118.1            | 88.8           | 118.1          | 9.075E-06         | 8.732E-06                         | 8.732E-06 |      |
| B     | 5.6            | 1.45    | 823.            | 0.             | 0.        | 118.1            | 88.8           | 118.1          | 5.445E-06         | 5.239E-06                         | 5.239E-06 |      |
| B     | 8.2            | 0.06    | 823.            | 0.             | 0.        | 118.1            | 88.8           | 118.1          | 3.679E-06         | 3.540E-06                         | 3.540E-06 |      |
| C     | 1.6            | 0.17    | 823.            | 0.             | 0.        | 89.7             | 51.2           | 89.7           | 4.443E-05         | 4.078E-05                         | 4.078E-05 |      |
| C     | 3.3            | 1.19    | 823.            | 0.             | 0.        | 89.7             | 51.2           | 89.7           | 2.073E-05         | 1.903E-05                         | 1.903E-05 |      |
| C     | 5.6            | 0.99    | 823.            | 0.             | 0.        | 89.7             | 51.2           | 89.7           | 1.244E-05         | 1.142E-05                         | 1.142E-05 |      |
| C     | 8.2            | 0.09    | 823.            | 0.             | 0.        | 89.7             | 51.2           | 89.7           | 8.406E-06         | 7.714E-06                         | 7.714E-06 |      |
| D     | 0.2            | 0.01    | 823.            | 0.             | 0.        | 63.2             | 27.1           | 124.7          | 4.217E-04         | 6.716E-04                         | 4.217E-04 |      |
| D     | 1.6            | 3.46    | 823.            | 0.             | 0.        | 63.2             | 27.1           | 124.7          | 6.024E-05         | 9.594E-05                         | 6.024E-05 |      |
| D     | 3.3            | 8.42    | 823.            | 0.             | 0.        | 63.2             | 27.1           | 90.6           | 3.869E-05         | 4.477E-05                         | 3.869E-05 |      |
| D     | 5.6            | 6.06    | 823.            | 0.             | 0.        | 63.2             | 27.1           | 66.1           | 3.183E-05         | 2.686E-05                         | 2.686E-05 |      |
| D     | 8.2            | 1.22    | 823.            | 0.             | 0.        | 63.2             | 27.1           | 63.2           | 2.250E-05         | 1.815E-05                         | 1.815E-05 |      |
| E     | 0.2            | 0.09    | 823.            | 0.             | 0.        | 44.9             | 18.7           | 132.5          | 5.778E-04         | 1.144E-03                         | 5.778E-04 |      |
| E     | 1.6            | 12.70   | 823.            | 0.             | 0.        | 44.9             | 18.7           | 132.5          | 8.255E-05         | 1.634E-04                         | 8.255E-05 |      |
| E     | 3.3            | 18.93   | 823.            | 0.             | 0.        | 44.9             | 18.7           | 79.9           | 6.389E-05         | 7.627E-05                         | 6.389E-05 |      |
| E     | 5.6            | 3.49    | 823.            | 0.             | 0.        | 44.9             | 18.7           | 48.4           | 6.329E-05         | 4.576E-05                         | 4.576E-05 |      |
| E     | 8.2            | 0.17    | 823.            | 0.             | 0.        | 44.9             | 18.7           | 44.9           | 4.606E-05         | 3.092E-05                         | 3.092E-05 |      |
| F     | 0.2            | 0.11    | 823.            | 0.             | 0.        | 31.0             | 12.0           | 121.7          | 9.797E-04         | 1.827E-03                         | 9.797E-04 |      |
| F     | 1.6            | 14.17   | 823.            | 0.             | 0.        | 31.0             | 12.0           | 121.7          | 1.400E-04         | 2.609E-04                         | 1.400E-04 |      |
| F     | 3.3            | 6.04    | 823.            | 0.             | 0.        | 31.0             | 12.0           | 64.2           | 1.238E-04         | 1.218E-04                         | 1.218E-04 |      |
| G     | 0.2            | 0.10    | 823.            | 0.             | 0.        | 21.4             | 7.7            | 125.7          | 1.477E-03         | 2.891E-03                         | 1.477E-03 |      |
| G     | 1.6            | 12.04   | 823.            | 0.             | 0.        | 21.4             | 7.7            | 125.7          | 2.109E-04         | 4.129E-04                         | 2.109E-04 |      |
| G     | 3.3            | 2.01    | 823.            | 0.             | 0.        | 21.4             | 7.7            | 54.9           | 2.255E-04         | 1.927E-04                         | 1.927E-04 |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T  
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED  
AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 6.389E-05 |
| 0.095     | 0.201     | 0.292     | 0.300     | 12.344    | 14.356    | 28.526    | 34.563    | 47.259    | 66.190    |
| 0.00786   | 0.01660   | 0.02407   | 0.02473   | 1.01832   | 1.18431   | 2.35324   | 2.85121   | 3.89858   | 5.46027   |
| 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 | 1.142E-05 |
| 69.648    | 73.134    | 73.304    | 81.721    | 81.891    | 87.955    | 89.146    | 89.571    | 90.789    | 91.781    |
| 5.74549   | 6.03305   | 6.04708   | 6.74143   | 6.75545   | 7.25576   | 7.35395   | 7.38902   | 7.48954   | 7.57137   |
| 8.732E-06 | 7.714E-06 | 5.239E-06 | 4.152E-06 | 3.540E-06 | 1.937E-06 | 1.162E-06 | 7.854E-07 |           |           |
| 93.595    | 93.680    | 95.126    | 95.551    | 95.607    | 98.243    | 99.887    | 100.000   |           |           |
| 7.72099   | 7.72801   | 7.84724   | 7.88231   | 7.88698   | 8.10440   | 8.24000   | 8.24935   |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|   |              |       |
|---|--------------|-------|
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2) = | 2.351 |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 2.848 |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 5.456 |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 5.742 |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 6.738 |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 7) = | 7.252 |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 8) = | 7.486 |

Calculation No. PM-1055 Revision 0

Attachment J

|    |   |           |              |           |
|----|---|-----------|--------------|-----------|
| 13 | 1 | -6.51806  | -11.48381    | -1.31392  |
| 13 | 2 | -8.87417  | -12.22066    | -1.68491  |
| 13 | 3 | -9.01335  | -13.08667    | -2.13986  |
| 13 | 4 | -9.65837  | -13.38812    | -2.32802  |
| 13 | 5 | -9.71722  | -18.31104    | -5.45004  |
| 13 | 6 | -10.15982 | -24.39482    | -9.51776  |
| 13 | 7 | -10.52476 | -44.64853    | -23.41603 |
| 13 | 8 | -10.91680 | NUMXQ(K) = 8 |           |

|           |       |        |
|-----------|-------|--------|
| 6.435E-04 | 0.082 | 1.000  |
| 4.135E-04 | 0.247 | 3.000  |
| 3.314E-04 | 0.412 | 5.000  |
| 2.405E-04 | 0.825 | 10.000 |
| 1.968E-04 | 1.237 | 15.000 |
| 1.696E-04 | 1.650 | 20.000 |
| 1.505E-04 | 2.062 | 25.000 |
| 1.350E-04 | 2.475 | 30.000 |
| 1.203E-04 | 2.887 | 35.000 |
| 1.060E-04 | 3.300 | 40.000 |
| 9.459E-05 | 3.712 | 45.000 |
| 8.523E-05 | 4.125 | 50.000 |
| 7.742E-05 | 4.537 | 55.000 |
| 7.080E-05 | 4.950 | 60.000 |
| 6.512E-05 | 5.362 | 65.000 |
| 5.942E-05 | 5.775 | 70.000 |
| 4.917E-05 | 6.187 | 75.000 |
| 4.108E-05 | 6.599 | 80.000 |
| 3.185E-05 | 7.012 | 85.000 |
| 2.023E-05 | 7.424 | 90.000 |
| 3.039E-04 | 0.5   | 6.06   |

ANNUAL AVERAGE = 6.50E-06

K= 13 FIVEXQ(K) = 3.039E-04 FIVEPR(K) = 6.061



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                                |      |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|--------------------------------|------|
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE<br>CA=1292.SQ.METERS | USED |
| A     | 1.6                                      | 0.39                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 4.187E-06         | 4.152E-06            | 4.152E-06                         |                                |      |
| A     | 3.3                                      | 2.50                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.954E-06         | 1.937E-06            | 1.937E-06                         |                                |      |
| A     | 5.6                                      | 0.87                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 1.172E-06         | 1.162E-06            | 1.162E-06                         |                                |      |
| A     | 8.2                                      | 0.19                 | 823.               | 0.                | 0.           | 157.1         | 310.1              | 157.1             | 7.921E-07         | 7.854E-07            | 7.854E-07                         |                                |      |
| B     | 1.6                                      | 0.29                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 1.945E-05         | 1.871E-05            | 1.871E-05                         |                                |      |
| B     | 3.3                                      | 1.71                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 9.075E-06         | 8.732E-06            | 8.732E-06                         |                                |      |
| B     | 5.6                                      | 1.71                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 5.445E-06         | 5.239E-06            | 5.239E-06                         |                                |      |
| B     | 8.2                                      | 0.39                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 3.679E-06         | 3.540E-06            | 3.540E-06                         |                                |      |
| B     | 10.7                                     | 0.02                 | 823.               | 0.                | 0.           | 118.1         | 88.8               | 118.1             | 2.836E-06         | 2.729E-06            | 2.729E-06                         |                                |      |
| C     | 1.6                                      | 0.17                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 4.443E-05         | 4.078E-05            | 4.078E-05                         |                                |      |
| C     | 3.3                                      | 0.89                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 2.073E-05         | 1.903E-05            | 1.903E-05                         |                                |      |
| C     | 5.6                                      | 1.28                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 1.244E-05         | 1.142E-05            | 1.142E-05                         |                                |      |
| C     | 8.2                                      | 0.29                 | 823.               | 0.                | 0.           | 89.7          | 51.2               | 89.7              | 8.406E-06         | 7.714E-06            | 7.714E-06                         |                                |      |
| D     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 4.217E-04         | 6.716E-04            | 4.217E-04                         |                                |      |
| D     | 1.6                                      | 3.08                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 124.7             | 6.024E-05         | 9.594E-05            | 6.024E-05                         |                                |      |
| D     | 3.3                                      | 10.41                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 90.6              | 3.869E-05         | 4.477E-05            | 3.869E-05                         |                                |      |
| D     | 5.6                                      | 13.85                | 823.               | 0.                | 0.           | 63.2          | 27.1               | 66.1              | 3.183E-05         | 2.686E-05            | 2.686E-05                         |                                |      |
| D     | 8.2                                      | 1.37                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 2.250E-05         | 1.815E-05            | 1.815E-05                         |                                |      |
| D     | 10.7                                     | 0.02                 | 823.               | 0.                | 0.           | 63.2          | 27.1               | 63.2              | 1.735E-05         | 1.399E-05            | 1.399E-05                         |                                |      |
| E     | 0.2                                      | 0.09                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 5.778E-04         | 1.144E-03            | 5.778E-04                         |                                |      |
| E     | 1.6                                      | 11.99                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 132.5             | 8.255E-05         | 1.634E-04            | 8.255E-05                         |                                |      |
| E     | 3.3                                      | 24.18                | 823.               | 0.                | 0.           | 44.9          | 18.7               | 79.9              | 6.389E-05         | 7.627E-05            | 6.389E-05                         |                                |      |
| E     | 5.6                                      | 4.65                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 48.4              | 6.329E-05         | 4.576E-05            | 4.576E-05                         |                                |      |
| E     | 8.2                                      | 0.19                 | 823.               | 0.                | 0.           | 44.9          | 18.7               | 44.9              | 4.606E-05         | 3.092E-05            | 3.092E-05                         |                                |      |
| F     | 0.2                                      | 0.07                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 9.797E-04         | 1.827E-03            | 9.797E-04                         |                                |      |
| F     | 1.6                                      | 10.02                | 823.               | 0.                | 0.           | 31.0          | 12.0               | 121.7             | 1.400E-04         | 2.609E-04            | 1.400E-04                         |                                |      |
| F     | 3.3                                      | 3.28                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 64.2              | 1.238E-04         | 1.218E-04            | 1.218E-04                         |                                |      |
| F     | 5.6                                      | 0.02                 | 823.               | 0.                | 0.           | 31.0          | 12.0               | 34.1              | 1.400E-04         | 7.306E-05            | 7.306E-05                         |                                |      |
| G     | 0.2                                      | 0.04                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 1.477E-03         | 2.891E-03            | 1.477E-03                         |                                |      |
| G     | 1.6                                      | 5.64                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 125.7             | 2.109E-04         | 4.129E-04            | 2.109E-04                         |                                |      |
| G     | 3.3                                      | 0.39                 | 823.               | 0.                | 0.           | 21.4          | 7.7                | 54.9              | 2.255E-04         | 1.927E-04            | 1.927E-04                         |                                |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

**SITE EXCLUSION BOUNDARY CALCULATIONS:**

ESE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 7.306E-05 |
| 0.045     | 0.119     | 0.205     | 0.212     | 5.848     | 6.234     | 16.253    | 19.529    | 31.524    | 31.548    |
| 0.00433   | 0.01160   | 0.01990   | 0.02059   | 0.56765   | 0.60506   | 1.57761   | 1.89556   | 3.05982   | 3.06216   |
| 6.389E-05 | 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 |
| 55.730    | 58.813    | 63.462    | 63.630    | 74.035    | 74.228    | 88.077    | 88.969    | 89.258    | 90.631    |
| 5.40938   | 5.70863   | 6.15983   | 6.17620   | 7.18616   | 7.20486   | 8.54914   | 8.63564   | 8.66369   | 8.79695   |
| 1.399E-05 | 1.142E-05 | 8.732E-06 | 7.714E-06 | 5.239E-06 | 4.152E-06 | 3.540E-06 | 2.729E-06 | 1.937E-06 | 1.162E-06 |
| 90.655    | 91.931    | 93.641    | 93.930    | 95.640    | 96.026    | 96.411    | 96.435    | 98.940    | 99.807    |
| 8.79929   | 8.92319   | 9.08918   | 9.11724   | 9.28323   | 9.32063   | 9.35804   | 9.36038   | 9.60352   | 9.68768   |
| 7.854E-07 |           |           |           |           |           |           |           |           |           |
| 100.000   |           |           |           |           |           |           |           |           |           |
| 9.70638   |           |           |           |           |           |           |           |           |           |

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|                  |                                    |              |       |
|------------------|------------------------------------|--------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2) = | 1.576 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 5.406 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 5.705 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 7.182 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 8.546 |

| K  | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|----|---|-------------|--------------|-------------|
| 14 | 1 | -6.51806    | -11.72884    | -1.32745    |
| 14 | 2 | -8.87417    | -11.97563    | -1.44222    |
| 14 | 3 | -9.65837    | -13.20141    | -2.20511    |
| 14 | 4 | -9.71722    | -15.65874    | -3.76034    |
| 14 | 5 | -10.15982   | -15.89438    | -3.92148    |
| 14 | 6 | -10.52476   | -44.72396    | -24.97599   |
| 14 | 7 | -10.91680   | NUMXQ(K) = 7 |             |
|    |   | 4.932E-04   | 0.097        | 1.000       |
|    |   | 3.135E-04   | 0.291        | 3.000       |
|    |   | 2.497E-04   | 0.485        | 5.000       |
|    |   | 1.795E-04   | 0.971        | 10.000      |
|    |   | 1.460E-04   | 1.456        | 15.000      |
|    |   | 1.240E-04   | 1.941        | 20.000      |
|    |   | 1.084E-04   | 2.427        | 25.000      |
|    |   | 9.673E-05   | 2.912        | 30.000      |
|    |   | 8.762E-05   | 3.397        | 35.000      |
|    |   | 8.026E-05   | 3.883        | 40.000      |
|    |   | 7.414E-05   | 4.368        | 45.000      |
|    |   | 6.895E-05   | 4.853        | 50.000      |
|    |   | 6.449E-05   | 5.339        | 55.000      |
|    |   | 5.802E-05   | 5.824        | 60.000      |
|    |   | 4.984E-05   | 6.309        | 65.000      |
|    |   | 4.319E-05   | 6.794        | 70.000      |
|    |   | 3.768E-05   | 7.280        | 75.000      |
|    |   | 3.294E-05   | 7.765        | 80.000      |
|    |   | 2.898E-05   | 8.250        | 85.000      |
|    |   | 1.998E-05   | 8.736        | 90.000      |
|    |   | 2.463E-04   | 0.5          | 5.15        |

ANNUAL AVERAGE = 5.73E-06

K= 14 FIVEXQ(K) = 2.463E-04 FIVEPR(K) = 5.151

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                   |      |  |  |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|------|--|--|
|       |  |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE         | USED |  |  |
|       |  |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   | CA=1292.SQ.METERS |      |  |  |
| A     | 1.6                                      | 0.49                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 4.187E-06         | 4.152E-06         | 4.152E-06            |                                   |                   |      |  |  |
| A     | 3.3                                      | 1.58                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.954E-06         | 1.937E-06         | 1.937E-06            |                                   |                   |      |  |  |
| A     | 5.6                                      | 0.51                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 1.172E-06         | 1.162E-06         | 1.162E-06            |                                   |                   |      |  |  |
| A     | 8.2                                      | 0.06                 | 823.               | 0.                | 0.           | 157.1         | 310.1           | 157.1        | 7.921E-07         | 7.854E-07         | 7.854E-07            |                                   |                   |      |  |  |
| B     | 1.6                                      | 0.18                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 1.945E-05         | 1.871E-05         | 1.871E-05            |                                   |                   |      |  |  |
| B     | 3.3                                      | 1.40                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 9.075E-06         | 8.732E-06         | 8.732E-06            |                                   |                   |      |  |  |
| B     | 5.6                                      | 1.83                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 5.445E-06         | 5.239E-06         | 5.239E-06            |                                   |                   |      |  |  |
| B     | 8.2                                      | 0.43                 | 823.               | 0.                | 0.           | 118.1         | 88.8            | 118.1        | 3.679E-06         | 3.540E-06         | 3.540E-06            |                                   |                   |      |  |  |
| C     | 1.6                                      | 0.18                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 4.443E-05         | 4.078E-05         | 4.078E-05            |                                   |                   |      |  |  |
| C     | 3.3                                      | 0.94                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 2.073E-05         | 1.903E-05         | 1.903E-05            |                                   |                   |      |  |  |
| C     | 5.6                                      | 1.64                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 1.244E-05         | 1.142E-05         | 1.142E-05            |                                   |                   |      |  |  |
| C     | 8.2                                      | 0.41                 | 823.               | 0.                | 0.           | 89.7          | 51.2            | 89.7         | 8.406E-06         | 7.714E-06         | 7.714E-06            |                                   |                   |      |  |  |
| D     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 4.217E-04         | 6.716E-04         | 4.217E-04            |                                   |                   |      |  |  |
| D     | 1.6                                      | 3.94                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 124.7        | 6.024E-05         | 9.594E-05         | 6.024E-05            |                                   |                   |      |  |  |
| D     | 3.3                                      | 15.18                | 823.               | 0.                | 0.           | 63.2          | 27.1            | 90.6         | 3.869E-05         | 4.477E-05         | 3.869E-05            |                                   |                   |      |  |  |
| D     | 5.6                                      | 18.92                | 823.               | 0.                | 0.           | 63.2          | 27.1            | 66.1         | 3.183E-05         | 2.686E-05         | 2.686E-05            |                                   |                   |      |  |  |
| D     | 8.2                                      | 3.47                 | 823.               | 0.                | 0.           | 63.2          | 27.1            | 63.2         | 2.250E-05         | 1.815E-05         | 1.815E-05            |                                   |                   |      |  |  |
| E     | 0.2                                      | 0.09                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 5.778E-04         | 1.144E-03         | 5.778E-04            |                                   |                   |      |  |  |
| E     | 1.6                                      | 12.49                | 823.               | 0.                | 0.           | 44.9          | 18.7            | 132.5        | 8.255E-05         | 1.634E-04         | 8.255E-05            |                                   |                   |      |  |  |
| E     | 3.3                                      | 19.45                | 823.               | 0.                | 0.           | 44.9          | 18.7            | 79.9         | 6.389E-05         | 7.627E-05         | 6.389E-05            |                                   |                   |      |  |  |
| E     | 5.6                                      | 5.27                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 48.4         | 6.329E-05         | 4.576E-05         | 4.576E-05            |                                   |                   |      |  |  |
| E     | 8.2                                      | 0.18                 | 823.               | 0.                | 0.           | 44.9          | 18.7            | 44.9         | 4.606E-05         | 3.092E-05         | 3.092E-05            |                                   |                   |      |  |  |
| F     | 0.2                                      | 0.05                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 9.797E-04         | 1.827E-03         | 9.797E-04            |                                   |                   |      |  |  |
| F     | 1.6                                      | 6.79                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 121.7        | 1.400E-04         | 2.609E-04         | 1.400E-04            |                                   |                   |      |  |  |
| F     | 3.3                                      | 1.87                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 64.2         | 1.238E-04         | 1.218E-04         | 1.218E-04            |                                   |                   |      |  |  |
| F     | 5.6                                      | 0.02                 | 823.               | 0.                | 0.           | 31.0          | 12.0            | 34.1         | 1.400E-04         | 7.306E-05         | 7.306E-05            |                                   |                   |      |  |  |
| G     | 0.2                                      | 0.02                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 1.477E-03         | 2.891E-03         | 1.477E-03            |                                   |                   |      |  |  |
| G     | 1.6                                      | 2.44                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 125.7        | 2.109E-04         | 4.129E-04         | 2.109E-04            |                                   |                   |      |  |  |
| G     | 3.3                                      | 0.14                 | 823.               | 0.                | 0.           | 21.4          | 7.7             | 54.9         | 2.255E-04         | 1.927E-04         | 1.927E-04            |                                   |                   |      |  |  |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584 D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 8.255E-05 | 7.306E-05 |
| 0.019     | 0.070     | 0.159     | 0.168     | 2.610     | 2.753     | 9.544     | 11.411    | 23.905    | 23.926    |
| 0.00220   | 0.00798   | 0.01814   | 0.01918   | 0.29738   | 0.31375   | 1.08758   | 1.30033   | 2.72409   | 2.72643   |
| 6.389E-05 | 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 1.903E-05 | 1.871E-05 | 1.815E-05 |
| 43.375    | 47.314    | 52.587    | 52.772    | 67.954    | 68.138    | 87.054    | 87.998    | 88.183    | 91.650    |
| 4.94273   | 5.39160   | 5.99243   | 6.01347   | 7.74349   | 7.76453   | 9.92005   | 10.02759  | 10.04863  | 10.44373  |
| 1.142E-05 | 8.732E-06 | 7.714E-06 | 5.239E-06 | 4.152E-06 | 3.540E-06 | 1.937E-06 | 1.162E-06 | 7.854E-07 |           |
| 93.291    | 94.686    | 95.097    | 96.923    | 97.415    | 97.846    | 99.426    | 99.938    | 100.000   |           |
| 10.63076  | 10.78974  | 10.83649  | 11.04456  | 11.10067  | 11.14977  | 11.32978  | 11.38823  | 11.39524  |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 1.086  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 4.939  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 5.388  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5) = 7.740  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6) = 9.917

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 15 1 -6.51806 -11.89504 -1.31622  
 15 2 -8.87417 -11.66752 -1.21708

Calculation No. PM-1055 Revision 0

Attachment J

|    |   |           |              |          |        |
|----|---|-----------|--------------|----------|--------|
| 15 | 3 | -9.65837  | -11.94803    | -1.38701 |        |
| 15 | 4 | -9.71722  | -13.55345    | -2.38518 |        |
| 15 | 5 | -10.15982 | -13.96383    | -2.67361 |        |
| 15 | 6 | -10.52476 | NUMXQ(K) = 6 |          |        |
|    |   | 3.788E-04 | 0.114        |          | 1.000  |
|    |   | 2.401E-04 | 0.342        |          | 3.000  |
|    |   | 1.909E-04 | 0.570        |          | 5.000  |
|    |   | 1.370E-04 | 1.140        |          | 10.000 |
|    |   | 1.129E-04 | 1.709        |          | 15.000 |
|    |   | 9.769E-05 | 2.279        |          | 20.000 |
|    |   | 8.694E-05 | 2.849        |          | 25.000 |
|    |   | 7.878E-05 | 3.419        |          | 30.000 |
|    |   | 7.230E-05 | 3.988        |          | 35.000 |
|    |   | 6.698E-05 | 4.558        |          | 40.000 |
|    |   | 6.233E-05 | 5.128        |          | 45.000 |
|    |   | 5.643E-05 | 5.698        |          | 50.000 |
|    |   | 5.033E-05 | 6.267        |          | 55.000 |
|    |   | 4.524E-05 | 6.837        |          | 60.000 |
|    |   | 4.094E-05 | 7.407        |          | 65.000 |
|    |   | 3.708E-05 | 7.977        |          | 70.000 |
|    |   | 3.355E-05 | 8.546        |          | 75.000 |
|    |   | 3.050E-05 | 9.116        |          | 80.000 |
|    |   | 2.785E-05 | 9.686        |          | 85.000 |
|    |   | 2.026E-04 | 0.5          |          | 4.39   |

ANNUAL AVERAGE = 5.54E-06

K= 15 FIVEXQ(K) = 2.026E-04 FIVEPR(K) = 4.388

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met. data, 33 ft wind, 33-150 ft. Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                   |      |  |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|------|--|
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE         | USED |  |
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      |                                   | CA=1292.SQ.METERS |      |  |
| A     | 1.6                                      | 0.84                 | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 4.187E-06            | 4.152E-06                         | 4.152E-06         |      |  |
| A     | 3.3                                      | 4.22                 | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 1.954E-06            | 1.937E-06                         | 1.937E-06         |      |  |
| A     | 5.6                                      | 1.88                 | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 1.172E-06            | 1.162E-06                         | 1.162E-06         |      |  |
| A     | 8.2                                      | 0.02                 | 823.               | 0.                | 0.           | 0.            | 157.1              | 310.1             | 157.1             | 7.921E-07            | 7.854E-07                         | 7.854E-07         |      |  |
| B     | 1.6                                      | 0.79                 | 823.               | 0.                | 0.           | 0.            | 118.1              | 88.8              | 118.1             | 1.945E-05            | 1.871E-05                         | 1.871E-05         |      |  |
| B     | 3.3                                      | 3.47                 | 823.               | 0.                | 0.           | 0.            | 118.1              | 88.8              | 118.1             | 9.075E-06            | 8.732E-06                         | 8.732E-06         |      |  |
| B     | 5.6                                      | 3.51                 | 823.               | 0.                | 0.           | 0.            | 118.1              | 88.8              | 118.1             | 5.445E-06            | 5.239E-06                         | 5.239E-06         |      |  |
| B     | 8.2                                      | 0.19                 | 823.               | 0.                | 0.           | 0.            | 118.1              | 88.8              | 118.1             | 3.679E-06            | 3.540E-06                         | 3.540E-06         |      |  |
| C     | 1.6                                      | 0.69                 | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 4.443E-05            | 4.078E-05                         | 4.078E-05         |      |  |
| C     | 3.3                                      | 2.61                 | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 2.073E-05            | 1.903E-05                         | 1.903E-05         |      |  |
| C     | 5.6                                      | 2.61                 | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 1.244E-05            | 1.142E-05                         | 1.142E-05         |      |  |
| C     | 8.2                                      | 0.33                 | 823.               | 0.                | 0.           | 0.            | 89.7               | 51.2              | 89.7              | 8.406E-06            | 7.714E-06                         | 7.714E-06         |      |  |
| D     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 124.7             | 4.217E-04            | 6.716E-04                         | 4.217E-04         |      |  |
| D     | 1.6                                      | 4.97                 | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 124.7             | 6.024E-05            | 9.594E-05                         | 6.024E-05         |      |  |
| D     | 3.3                                      | 19.27                | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 90.6              | 3.869E-05            | 4.477E-05                         | 3.869E-05         |      |  |
| D     | 5.6                                      | 16.55                | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 66.1              | 3.183E-05            | 2.686E-05                         | 2.686E-05         |      |  |
| D     | 8.2                                      | 2.76                 | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 63.2              | 2.250E-05            | 1.815E-05                         | 1.815E-05         |      |  |
| D     | 24.5                                     | 0.06                 | 823.               | 0.                | 0.           | 0.            | 63.2               | 27.1              | 63.2              | 7.570E-06            | 6.105E-06                         | 6.105E-06         |      |  |
| E     | 0.2                                      | 0.06                 | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 132.5             | 5.778E-04            | 1.144E-03                         | 5.778E-04         |      |  |
| E     | 1.6                                      | 8.92                 | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 132.5             | 8.255E-05            | 1.634E-04                         | 8.255E-05         |      |  |
| E     | 3.3                                      | 15.90                | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 79.9              | 6.389E-05            | 7.627E-05                         | 6.389E-05         |      |  |
| E     | 5.6                                      | 4.41                 | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 48.4              | 6.329E-05            | 4.576E-05                         | 4.576E-05         |      |  |
| E     | 8.2                                      | 0.21                 | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 44.9              | 4.606E-05            | 3.092E-05                         | 3.092E-05         |      |  |
| E     | 10.7                                     | 0.02                 | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 44.9              | 3.551E-05            | 2.383E-05                         | 2.383E-05         |      |  |
| E     | 24.5                                     | 0.13                 | 823.               | 0.                | 0.           | 0.            | 44.9               | 18.7              | 44.9              | 1.549E-05            | 1.040E-05                         | 1.040E-05         |      |  |
| F     | 0.2                                      | 0.03                 | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 121.7             | 9.797E-04            | 1.827E-03                         | 9.797E-04         |      |  |
| F     | 1.6                                      | 3.39                 | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 121.7             | 1.400E-04            | 2.609E-04                         | 1.400E-04         |      |  |
| F     | 3.3                                      | 0.79                 | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 64.2              | 1.238E-04            | 1.218E-04                         | 1.218E-04         |      |  |
| F     | 5.6                                      | 0.04                 | 823.               | 0.                | 0.           | 0.            | 31.0               | 12.0              | 34.1              | 1.400E-04            | 7.306E-05                         | 7.306E-05         |      |  |
| G     | 0.2                                      | 0.01                 | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 125.7             | 1.477E-03            | 2.891E-03                         | 1.477E-03         |      |  |
| G     | 1.6                                      | 1.21                 | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 125.7             | 2.109E-04            | 4.129E-04                         | 2.109E-04         |      |  |
| G     | 3.3                                      | 0.06                 | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 54.9              | 2.255E-04            | 1.927E-04                         | 1.927E-04         |      |  |
| G     | 5.6                                      | 0.02                 | 823.               | 0.                | 0.           | 0.            | 21.4               | 7.7               | 24.2              | 3.073E-04            | 1.156E-04                         | 1.156E-04         |      |  |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 823.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 1.156E-04 | 8.255E-05 |
| 0.010     | 0.035     | 0.099     | 0.110     | 1.322     | 1.385     | 4.770     | 5.564     | 5.585     | 14.508    |
| 0.00107   | 0.00390   | 0.01102   | 0.01231   | 0.14790   | 0.15492   | 0.53365   | 0.62249   | 0.62483   | 1.62310   |
| 7.306E-05 | 6.389E-05 | 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 2.383E-05 | 1.903E-05 |
| 14.550    | 30.453    | 35.427    | 39.836    | 40.526    | 59.793    | 60.002    | 76.553    | 76.574    | 79.186    |
| 1.62777   | 3.40689   | 3.96331   | 4.45660   | 4.53375   | 6.68926   | 6.71264   | 8.56423   | 8.56657   | 8.85880   |
| 1.871E-05 | 1.815E-05 | 1.142E-05 | 1.040E-05 | 8.732E-06 | 7.714E-06 | 6.105E-06 | 5.239E-06 | 4.152E-06 | 3.540E-06 |
| 79.980    | 82.739    | 85.351    | 85.476    | 88.945    | 89.280    | 89.342    | 92.853    | 93.689    | 93.877    |
| 8.94764   | 9.25624   | 9.54847   | 9.56250   | 9.95059   | 9.98799   | 9.99501   | 10.38777  | 10.48128  | 10.50232  |
| 1.937E-06 | 1.162E-06 | 7.854E-07 |           |           |           |           |           |           |           |
| 98.098    | 99.979    | 100.000   |           |           |           |           |           |           |           |
| 10.97457  | 11.18498  | 11.18732  |           |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.621  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 6.685  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 8.561  
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 9.253



**Calculation No. PM-1055 Revision 0**

**Attachment J**

| K  | I | XQSAVE (K, I) | XQINT (K, I)  | XQSLOP (K, I) |
|----|---|---------------|---------------|---------------|
| 16 | 1 | -6.51806      | -12.32618     | -1.36693      |
| 16 | 2 | -9.40215      | -11.14419     | -0.81437      |
| 16 | 3 | -9.65837      | -11.21124     | -0.85112      |
| 16 | 4 | -9.71722      | -12.75544     | -1.73083      |
| 16 | 5 | -10.15982     | -14.32732     | -2.77900      |
| 16 | 6 | -10.52476     | -23.00779     | -9.12290      |
| 16 | 7 | -10.91680     | NUMXQ (K) = 7 |               |
|    |   | 2.895E-04     | 0.112         | 1.000         |
|    |   | 1.804E-04     | 0.336         | 3.000         |
|    |   | 1.422E-04     | 0.559         | 5.000         |
|    |   | 1.007E-04     | 1.119         | 10.000        |
|    |   | 8.165E-05     | 1.678         | 15.000        |
|    |   | 7.415E-05     | 2.237         | 20.000        |
|    |   | 6.860E-05     | 2.797         | 25.000        |
|    |   | 6.424E-05     | 3.356         | 30.000        |
|    |   | 6.053E-05     | 3.916         | 35.000        |
|    |   | 5.458E-05     | 4.475         | 40.000        |
|    |   | 4.950E-05     | 5.034         | 45.000        |
|    |   | 4.526E-05     | 5.594         | 50.000        |
|    |   | 4.166E-05     | 6.153         | 55.000        |
|    |   | 3.850E-05     | 6.712         | 60.000        |
|    |   | 3.429E-05     | 7.272         | 65.000        |
|    |   | 3.074E-05     | 7.831         | 70.000        |
|    |   | 2.771E-05     | 8.390         | 75.000        |
|    |   | 2.153E-05     | 8.950         | 80.000        |
|    |   | 1.500E-04     | 0.5           | 4.47          |

ANNUAL AVERAGE = 4.28E-06

K= 16 FIVEXQ (K) = 1.500E-04 FIVEPR (K) = 4.469

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | BLDG WAKE         | USED |
|-------|--|----------------------|--------------------|-------------------|------------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|------|
|       |  |                      |                    |                   |                  |                    |                   |                   |                      | MEANDER                           | CA=1292.SQ.METERS |      |
| A     | 1.6                                      | 2.07                 | 823.               | 0.                | 0.               | 157.1              | 310.1             | 157.1             | 4.187E-06            | 4.152E-06                         | 4.152E-06         |      |
| A     | 3.3                                      | 3.09                 | 823.               | 0.                | 0.               | 157.1              | 310.1             | 157.1             | 1.954E-06            | 1.937E-06                         | 1.937E-06         |      |
| A     | 5.6                                      | 1.12                 | 823.               | 0.                | 0.               | 157.1              | 310.1             | 157.1             | 1.172E-06            | 1.162E-06                         | 1.162E-06         |      |
| A     | 8.2                                      | 0.09                 | 823.               | 0.                | 0.               | 157.1              | 310.1             | 157.1             | 7.921E-07            | 7.854E-07                         | 7.854E-07         |      |
| A     | 24.5                                     | 0.01                 | 823.               | 0.                | 0.               | 157.1              | 310.1             | 157.1             | 2.664E-07            | 2.642E-07                         | 2.642E-07         |      |
| B     | 1.6                                      | 1.14                 | 823.               | 0.                | 0.               | 118.1              | 88.8              | 118.1             | 1.945E-05            | 1.871E-05                         | 1.871E-05         |      |
| B     | 3.3                                      | 2.32                 | 823.               | 0.                | 0.               | 118.1              | 88.8              | 118.1             | 9.075E-06            | 8.732E-06                         | 8.732E-06         |      |
| B     | 5.6                                      | 1.66                 | 823.               | 0.                | 0.               | 118.1              | 88.8              | 118.1             | 5.445E-06            | 5.239E-06                         | 5.239E-06         |      |
| B     | 8.2                                      | 0.19                 | 823.               | 0.                | 0.               | 118.1              | 88.8              | 118.1             | 3.679E-06            | 3.540E-06                         | 3.540E-06         |      |
| B     | 10.7                                     | 0.00                 | 823.               | 0.                | 0.               | 118.1              | 88.8              | 118.1             | 2.836E-06            | 2.729E-06                         | 2.729E-06         |      |
| B     | 24.5                                     | 0.00                 | 823.               | 0.                | 0.               | 118.1              | 88.8              | 118.1             | 1.237E-06            | 1.191E-06                         | 1.191E-06         |      |
| C     | 1.6                                      | 0.70                 | 823.               | 0.                | 0.               | 89.7               | 51.2              | 89.7              | 4.443E-05            | 4.078E-05                         | 4.078E-05         |      |
| C     | 3.3                                      | 1.33                 | 823.               | 0.                | 0.               | 89.7               | 51.2              | 89.7              | 2.073E-05            | 1.903E-05                         | 1.903E-05         |      |
| C     | 5.6                                      | 1.13                 | 823.               | 0.                | 0.               | 89.7               | 51.2              | 89.7              | 1.244E-05            | 1.142E-05                         | 1.142E-05         |      |
| C     | 8.2                                      | 0.15                 | 823.               | 0.                | 0.               | 89.7               | 51.2              | 89.7              | 8.406E-06            | 7.714E-06                         | 7.714E-06         |      |
| C     | 10.7                                     | 0.00                 | 823.               | 0.                | 0.               | 89.7               | 51.2              | 89.7              | 6.479E-06            | 5.947E-06                         | 5.947E-06         |      |
| D     | 0.2                                      | 0.02                 | 823.               | 0.                | 0.               | 63.2               | 27.1              | 63.2              | 8.327E-04            | 6.716E-04                         | 6.716E-04         |      |
| D     | 1.6                                      | 8.11                 | 823.               | 0.                | 0.               | 63.2               | 27.1              | 63.2              | 1.190E-04            | 9.594E-05                         | 9.594E-05         |      |
| D     | 3.3                                      | 12.97                | 823.               | 0.                | 0.               | 63.2               | 27.1              | 63.2              | 5.551E-05            | 4.477E-05                         | 4.477E-05         |      |
| D     | 5.6                                      | 8.31                 | 823.               | 0.                | 0.               | 63.2               | 27.1              | 63.2              | 3.331E-05            | 2.686E-05                         | 2.686E-05         |      |
| D     | 8.2                                      | 1.17                 | 823.               | 0.                | 0.               | 63.2               | 27.1              | 63.2              | 2.250E-05            | 1.815E-05                         | 1.815E-05         |      |
| D     | 10.7                                     | 0.01                 | 823.               | 0.                | 0.               | 63.2               | 27.1              | 63.2              | 1.735E-05            | 1.399E-05                         | 1.399E-05         |      |
| D     | 24.5                                     | 0.01                 | 823.               | 0.                | 0.               | 63.2               | 27.1              | 63.2              | 7.570E-06            | 6.105E-06                         | 6.105E-06         |      |
| E     | 0.2                                      | 0.13                 | 823.               | 0.                | 0.               | 44.9               | 18.7              | 44.9              | 1.704E-03            | 1.144E-03                         | 1.144E-03         |      |
| E     | 1.6                                      | 17.70                | 823.               | 0.                | 0.               | 44.9               | 18.7              | 44.9              | 2.435E-04            | 1.634E-04                         | 1.634E-04         |      |
| E     | 3.3                                      | 17.17                | 823.               | 0.                | 0.               | 44.9               | 18.7              | 44.9              | 1.136E-04            | 7.627E-05                         | 7.627E-05         |      |
| E     | 5.6                                      | 3.18                 | 823.               | 0.                | 0.               | 44.9               | 18.7              | 44.9              | 6.817E-05            | 4.576E-05                         | 4.576E-05         |      |
| E     | 8.2                                      | 0.17                 | 823.               | 0.                | 0.               | 44.9               | 18.7              | 44.9              | 4.606E-05            | 3.092E-05                         | 3.092E-05         |      |
| E     | 10.7                                     | 0.00                 | 823.               | 0.                | 0.               | 44.9               | 18.7              | 44.9              | 3.551E-05            | 2.383E-05                         | 2.383E-05         |      |
| E     | 24.5                                     | 0.02                 | 823.               | 0.                | 0.               | 44.9               | 18.7              | 44.9              | 1.549E-05            | 1.040E-05                         | 1.040E-05         |      |
| F     | 0.2                                      | 0.06                 | 823.               | 0.                | 0.               | 31.0               | 12.0              | 31.0              | 3.845E-03            | 1.827E-03                         | 1.827E-03         |      |
| F     | 1.6                                      | 8.14                 | 823.               | 0.                | 0.               | 31.0               | 12.0              | 31.0              | 5.492E-04            | 2.609E-04                         | 2.609E-04         |      |
| F     | 3.3                                      | 2.33                 | 823.               | 0.                | 0.               | 31.0               | 12.0              | 31.0              | 2.563E-04            | 1.218E-04                         | 1.218E-04         |      |
| F     | 5.6                                      | 0.02                 | 823.               | 0.                | 0.               | 31.0               | 12.0              | 31.0              | 1.538E-04            | 7.306E-05                         | 7.306E-05         |      |

|   |     |      |      |    |    |      |     |      |           |           |           |
|---|-----|------|------|----|----|------|-----|------|-----------|-----------|-----------|
| G | 0.2 | 0.04 | 823. | 0. | 0. | 21.4 | 7.7 | 21.4 | 8.673E-03 | 2.891E-03 | 2.891E-03 |
| G | 1.6 | 4.43 | 823. | 0. | 0. | 21.4 | 7.7 | 21.4 | 1.239E-03 | 4.129E-04 | 4.129E-04 |
| G | 3.3 | 1.01 | 823. | 0. | 0. | 21.4 | 7.7 | 21.4 | 5.782E-04 | 1.927E-04 | 1.927E-04 |
| G | 5.6 | 0.00 | 823. | 0. | 0. | 21.4 | 7.7 | 21.4 | 3.469E-04 | 1.156E-04 | 1.156E-04 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 823.0 METERS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.891E-03 | 1.827E-03 | 1.144E-03 | 6.716E-04 | 4.129E-04 | 2.609E-04 | 1.927E-04 | 1.634E-04 | 1.218E-04 | 1.156E-04 |
| 0.035     | 0.096     | 0.222     | 0.241     | 4.671     | 12.807    | 13.817    | 31.514    | 33.841    | 33.845    |
| 0.03507   | 0.09585   | 0.22210   | 0.24080   | 4.67106   | 12.80684  | 13.81680  | 31.51447  | 33.84065  | 33.84533  |
| 9.594E-05 | 7.627E-05 | 7.306E-05 | 4.576E-05 | 4.477E-05 | 4.078E-05 | 3.092E-05 | 2.686E-05 | 2.383E-05 | 1.903E-05 |
| 41.953    | 59.127    | 59.146    | 62.328    | 75.293    | 75.995    | 76.165    | 84.472    | 84.477    | 85.807    |
| 41.95306  | 59.12704  | 59.14574  | 62.32758  | 75.29340  | 75.99477  | 76.16543  | 84.47188  | 84.47655  | 85.80680  |
| 1.871E-05 | 1.815E-05 | 1.399E-05 | 1.142E-05 | 1.040E-05 | 8.732E-06 | 7.714E-06 | 6.105E-06 | 5.947E-06 | 5.239E-06 |
| 86.948    | 88.121    | 88.128    | 89.260    | 89.276    | 91.595    | 91.745    | 91.757    | 91.759    | 93.424    |
| 86.94768  | 88.12128  | 88.12830  | 89.25983  | 89.27619  | 91.59535  | 91.74497  | 91.75666  | 91.75900  | 93.42356  |
| 4.152E-06 | 3.540E-06 | 2.729E-06 | 1.937E-06 | 1.191E-06 | 1.162E-06 | 7.854E-07 | 2.642E-07 |           |           |
| 95.495    | 95.689    | 95.691    | 98.777    | 98.780    | 99.897    | 99.991    | 100.000   |           |           |
| 95.49491  | 95.68896  | 95.69129  | 98.77728  | 98.77962  | 99.89712  | 99.99063  | 99.99998  |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|           |        |        |
|-----------|--------|--------|
| 1.012E-03 | 1.000  | 1.000  |
| 6.517E-04 | 3.000  | 3.000  |
| 5.162E-04 | 5.000  | 5.000  |
| 3.605E-04 | 10.000 | 10.000 |
| 2.829E-04 | 15.000 | 15.000 |
| 2.333E-04 | 20.000 | 20.000 |
| 1.978E-04 | 25.000 | 25.000 |
| 1.705E-04 | 30.000 | 30.000 |
| 1.475E-04 | 35.000 | 35.000 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|           |        |        |
|-----------|--------|--------|
| 1.280E-04 | 40.000 | 40.000 |
| 1.117E-04 | 45.000 | 45.000 |
| 9.762E-05 | 50.000 | 50.000 |
| 8.535E-05 | 55.000 | 55.000 |
| 7.427E-05 | 60.000 | 60.000 |
| 6.360E-05 | 65.000 | 65.000 |
| 5.400E-05 | 70.000 | 70.000 |
| 4.526E-05 | 75.000 | 75.000 |
| 3.507E-05 | 80.000 | 80.000 |
| 2.549E-05 | 85.000 | 85.000 |
| 1.604E-05 | 90.000 | 90.000 |

5.162E-04                    5.0                    5.00

K= 17      FIVEXQ(K)= 5.162E-04      FIVEPR(K)= 5.000

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584 D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.477E-03 | 9.797E-04 | 5.778E-04 | 4.217E-04 | 2.109E-04 | 1.927E-04 | 1.400E-04 | 1.218E-04 | 1.156E-04 | 8.255E-05 |
| 0.035     | 0.096     | 0.222     | 0.241     | 4.671     | 5.681     | 13.817    | 16.143    | 16.148    | 33.845    |
| 0.03507   | 0.09585   | 0.22210   | 0.24080   | 4.67106   | 5.68102   | 13.81680  | 16.14298  | 16.14766  | 33.84532  |
| 7.306E-05 | 6.389E-05 | 6.024E-05 | 4.576E-05 | 4.078E-05 | 3.869E-05 | 3.092E-05 | 2.686E-05 | 2.383E-05 | 1.903E-05 |
| 33.864    | 51.038    | 59.146    | 62.328    | 63.029    | 75.995    | 76.165    | 84.472    | 84.477    | 85.807    |
| 33.86403  | 51.03802  | 59.14575  | 62.32759  | 63.02894  | 75.99476  | 76.16543  | 84.47186  | 84.47653  | 85.80677  |
| 1.871E-05 | 1.815E-05 | 1.399E-05 | 1.142E-05 | 1.040E-05 | 8.732E-06 | 7.714E-06 | 6.105E-06 | 5.947E-06 | 5.239E-06 |
| 86.948    | 88.121    | 88.128    | 89.260    | 89.276    | 91.595    | 91.745    | 91.757    | 91.759    | 93.424    |
| 86.94765  | 88.12126  | 88.12827  | 89.25978  | 89.27615  | 91.59528  | 91.74490  | 91.75658  | 91.75892  | 93.42348  |
| 4.152E-06 | 3.540E-06 | 2.729E-06 | 1.937E-06 | 1.191E-06 | 1.162E-06 | 7.854E-07 | 2.642E-07 |           |           |
| 95.495    | 95.689    | 95.691    | 98.777    | 98.780    | 99.897    | 99.991    | 100.000   |           |           |
| 95.49483  | 95.68887  | 95.69120  | 98.77720  | 98.77953  | 99.89703  | 99.99052  | 99.99987  |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

| K  | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLQP(K,I) |
|----|---|-------------|--------------|-------------|
| 18 | 1 | -6.51806    | -9.80595     | -0.97009    |
| 18 | 2 | -9.40215    | -9.60481     | -0.48686    |
| 18 | 3 | -9.71722    | -9.50206     | -0.93185    |
| 18 | 4 | -10.15982   | -9.32390     | -1.18425    |
| 18 | 5 | -10.52476   | -8.14652     | -2.34535    |
| 18 | 6 | -10.91680   | -9.46307     | -1.23075    |
| 18 | 7 | -14.05704   | NUMXQ(K) = 7 |             |

|           |        |        |
|-----------|--------|--------|
| 5.268E-04 | 1.000  | 1.000  |
| 3.419E-04 | 3.000  | 3.000  |
| 2.719E-04 | 5.000  | 5.000  |
| 1.911E-04 | 10.000 | 10.000 |
| 1.507E-04 | 15.000 | 15.000 |
| 1.247E-04 | 20.000 | 20.000 |
| 1.060E-04 | 25.000 | 25.000 |
| 9.164E-05 | 30.000 | 30.000 |
| 8.129E-05 | 35.000 | 35.000 |
| 7.624E-05 | 40.000 | 40.000 |
| 7.165E-05 | 45.000 | 45.000 |
| 6.740E-05 | 50.000 | 50.000 |
| 6.341E-05 | 55.000 | 55.000 |
| 5.901E-05 | 60.000 | 60.000 |
| 5.219E-05 | 65.000 | 65.000 |
| 4.584E-05 | 70.000 | 70.000 |
| 3.985E-05 | 75.000 | 75.000 |
| 3.295E-05 | 80.000 | 80.000 |
| 2.549E-05 | 85.000 | 85.000 |
| 1.604E-05 | 90.000 | 90.000 |

2.719E-04                      5.0                      5.00

K= 18            FIVEXQ(K) = 2.719E-04            FIVEPR(K) = 5.000

| K  | HIGHPR   | PR      | GRNDVT (K) |
|----|----------|---------|------------|
| 1  | -3.19248 | 0.07054 | 7.16050    |
| 2  | -1.89452 | 2.90780 | 3.52922    |
| 3  | -3.30045 | 0.04827 | 3.23970    |
| 4  | -3.26009 | 0.05569 | 2.96101    |
| 5  | -3.11367 | 0.09239 | 3.59423    |
| 6  | -3.13272 | 0.08661 | 3.74028    |
| 7  | -3.22275 | 0.06349 | 4.91057    |
| 8  | -3.21567 | 0.06508 | 6.63198    |
| 9  | -3.18699 | 0.07189 | 8.27142    |
| 10 | -3.19007 | 0.07113 | 4.16751    |
| 11 | -2.92509 | 0.17219 | 4.48639    |
| 12 | -2.57624 | 0.49942 | 6.76889    |
| 13 | -2.67575 | 0.37282 | 8.24935    |
| 14 | -2.83305 | 0.23054 | 9.70638    |
| 15 | -2.98351 | 0.14248 | 11.39525   |
| 16 | -3.18823 | 0.07158 | 11.18732   |

| K | HOURS (K) | TOTHS     |
|---|-----------|-----------|
| 1 | 6.17897   | 6.17897   |
| 2 | 254.72330 | 260.90230 |
| 3 | 4.22826   | 265.13060 |
| 4 | 4.87885   | 270.00940 |
| 5 | 8.09364   | 278.10300 |
| 6 | 7.58665   | 285.68970 |
| 7 | 5.56180   | 291.25150 |
| 8 | 5.70069   | 296.95210 |
| 9 | 6.29749   | 303.24960 |

Calculation No. PM-1055 Revision 0

Attachment J

|    |          |           |
|----|----------|-----------|
| 10 | 6.23066  | 309.48030 |
| 11 | 15.08348 | 324.56380 |
| 12 | 43.74879 | 368.31260 |
| 13 | 32.65860 | 400.97120 |
| 14 | 20.19520 | 421.16640 |
| 15 | 12.48168 | 433.64800 |
| 16 | 6.27034  | 439.91840 |

| K | FIVEXQ    | SVANN     | SLTIME  | TIMINT  | I | TIME  | XQT       |
|---|-----------|-----------|---------|---------|---|-------|-----------|
| 1 | 1.596E-04 | 3.660E-06 | -0.4502 | -8.4310 | 1 | 8.0   | -9.36720  |
|   |           |           |         |         | 2 | 16.0  | -9.67927  |
|   |           |           |         |         | 3 | 72.0  | -10.35644 |
|   |           |           |         |         | 4 | 624.0 | -11.32868 |
| 2 | 1.296E-04 | 2.400E-06 | -0.4757 | -8.6213 | 1 | 8.0   | -9.61057  |
|   |           |           |         |         | 2 | 16.0  | -9.94032  |
|   |           |           |         |         | 3 | 72.0  | -10.65584 |
|   |           |           |         |         | 4 | 624.0 | -11.68316 |
| 3 | 1.335E-04 | 2.444E-06 | -0.4771 | -8.5909 | 1 | 8.0   | -9.58300  |
|   |           |           |         |         | 2 | 16.0  | -9.91369  |
|   |           |           |         |         | 3 | 72.0  | -10.63127 |
|   |           |           |         |         | 4 | 624.0 | -11.66153 |
| 4 | 1.318E-04 | 2.308E-06 | -0.4824 | -8.5997 | 1 | 8.0   | -9.60279  |
|   |           |           |         |         | 2 | 16.0  | -9.93716  |
|   |           |           |         |         | 3 | 72.0  | -10.66271 |
|   |           |           |         |         | 4 | 624.0 | -11.70443 |
| 5 | 1.638E-04 | 3.105E-06 | -0.4729 | -8.3888 | 1 | 8.0   | -9.37231  |
|   |           |           |         |         | 2 | 16.0  | -9.70014  |
|   |           |           |         |         | 3 | 72.0  | -10.41148 |
|   |           |           |         |         | 4 | 624.0 | -11.43281 |
| 6 | 1.620E-04 | 2.863E-06 | -0.4813 | -8.3945 | 1 | 8.0   | -9.39530  |
|   |           |           |         |         | 2 | 16.0  | -9.72889  |
|   |           |           |         |         | 3 | 72.0  | -10.45275 |
|   |           |           |         |         | 4 | 624.0 | -11.49202 |
| 7 | 1.499E-04 | 2.932E-06 | -0.4692 | -8.4806 | 1 | 8.0   | -9.45616  |
|   |           |           |         |         | 2 | 16.0  | -9.78136  |
|   |           |           |         |         | 3 | 72.0  | -10.48702 |
|   |           |           |         |         | 4 | 624.0 | -11.50018 |
| 8 | 1.601E-04 | 3.492E-06 | -0.4562 | -8.4235 | 1 | 8.0   | -9.37217  |
|   |           |           |         |         | 2 | 16.0  | -9.68838  |
|   |           |           |         |         | 3 | 72.0  | -10.37454 |
|   |           |           |         |         | 4 | 624.0 | -11.35969 |
| 9 | 1.662E-04 | 3.785E-06 | -0.4511 | -8.3896 | 1 | 8.0   | -9.32757  |
|   |           |           |         |         | 2 | 16.0  | -9.64022  |
|   |           |           |         |         | 3 | 72.0  | -10.31864 |



Calculation No. PM-1055 Revision 0

Attachment J

|    |           |           |         |         |    |           |           |
|----|-----------|-----------|---------|---------|----|-----------|-----------|
| 10 | 1.483E-04 | 2.548E-06 | -0.4846 | -8.4806 | 4  | 624.0     | -11.29270 |
|    |           |           |         |         | 1  | 8.0       | -9.48837  |
|    |           |           |         |         | 2  | 16.0      | -9.82430  |
|    |           |           |         |         | 3  | 72.0      | -10.55325 |
|    |           |           |         |         | 4  | 624.0     | -11.59984 |
| 11 | 2.170E-04 | 3.470E-06 | -0.4932 | -8.0936 | 1  | 8.0       | -9.11931  |
|    |           |           |         |         | 2  | 16.0      | -9.46119  |
|    |           |           |         |         | 3  | 72.0      | -10.20306 |
|    |           |           |         |         | 4  | 624.0     | -11.26821 |
|    |           |           |         |         | 12 | 3.463E-04 | 6.487E-06 |
| 2  | 16.0      | -8.95451  |         |         |    |           |           |
| 3  | 72.0      | -9.66800  |         |         |    |           |           |
| 4  | 624.0     | -10.69239 |         |         |    |           |           |
| 13 | 3.039E-04 | 6.501E-06 | -0.4585 | -7.7810 |    |           |           |
|    |           |           |         |         | 2  | 16.0      | -9.05229  |
|    |           |           |         |         | 3  | 72.0      | -9.74193  |
|    |           |           |         |         | 4  | 624.0     | -10.73208 |
|    |           |           |         |         | 14 | 2.463E-04 | 5.732E-06 |
| 2  | 16.0      | -9.24157  |         |         |    |           |           |
| 3  | 72.0      | -9.91610  |         |         |    |           |           |
| 4  | 624.0     | -10.88456 |         |         |    |           |           |
| 15 | 2.026E-04 | 5.538E-06 | -0.4293 | -8.2066 |    |           |           |
|    |           |           |         |         | 2  | 16.0      | -9.39686  |
|    |           |           |         |         | 3  | 72.0      | -10.04255 |
|    |           |           |         |         | 4  | 624.0     | -10.96962 |
|    |           |           |         |         | 16 | 1.500E-04 | 4.285E-06 |
| 2  | 16.0      | -9.68646  |         |         |    |           |           |
| 3  | 72.0      | -10.32428 |         |         |    |           |           |
| 4  | 624.0     | -11.24004 |         |         |    |           |           |
| 17 | 5.162E-04 | 6.501E-06 | -0.5217 | -7.2074 |    |           |           |
|    |           |           |         |         | 2  | 16.0      | -8.65387  |
|    |           |           |         |         | 3  | 72.0      | -9.43855  |
|    |           |           |         |         | 4  | 624.0     | -10.56514 |
|    |           |           |         |         | 18 | 2.719E-04 | 6.501E-06 |
| 2  | 16.0      | -9.13584  |         |         |    |           |           |
| 3  | 72.0      | -9.80555  |         |         |    |           |           |
| 4  | 624.0     | -10.76709 |         |         |    |           |           |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)

| DOWNWIND SECTOR | DISTANCE (METERS) | VERSUS AVERAGING TIME |           |            |          |           | HOURS PER YEAR MAX EXCEEDED |           | DOWNWIND SECTOR |
|-----------------|-------------------|-----------------------|-----------|------------|----------|-----------|-----------------------------|-----------|-----------------|
|                 |                   | 0-2 HOURS             | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE              | IN SECTOR |                 |
| S               | 823.              | 1.60E-04              | 8.55E-05  | 6.26E-05   | 3.18E-05 | 1.20E-05  | 3.66E-06                    | 6.2       | S               |
| SSW             | 823.              | 1.30E-04              | 6.70E-05  | 4.82E-05   | 2.36E-05 | 8.43E-06  | 2.40E-06                    | 254.7     | SSW             |
| SW              | 823.              | 1.33E-04              | 6.89E-05  | 4.95E-05   | 2.41E-05 | 8.62E-06  | 2.44E-06                    | 4.2       | SW              |
| WSW             | 823.              | 1.32E-04              | 6.75E-05  | 4.83E-05   | 2.34E-05 | 8.26E-06  | 2.31E-06                    | 4.9       | WSW             |
| W               | 823.              | 1.64E-04              | 8.50E-05  | 6.13E-05   | 3.01E-05 | 1.08E-05  | 3.11E-06                    | 8.1       | W               |
| WNW             | 823.              | 1.62E-04              | 8.31E-05  | 5.95E-05   | 2.89E-05 | 1.02E-05  | 2.86E-06                    | 7.6       | WNW             |
| NW              | 823.              | 1.50E-04              | 7.82E-05  | 5.65E-05   | 2.79E-05 | 1.01E-05  | 2.93E-06                    | 5.6       | NW              |
| NNW             | 823.              | 1.60E-04              | 8.51E-05  | 6.20E-05   | 3.12E-05 | 1.17E-05  | 3.49E-06                    | 5.7       | NNW             |
| N               | 823.              | 1.66E-04              | 8.89E-05  | 6.51E-05   | 3.30E-05 | 1.25E-05  | 3.79E-06                    | 6.3       | N               |
| NNE             | 823.              | 1.48E-04              | 7.57E-05  | 5.41E-05   | 2.61E-05 | 9.17E-06  | 2.55E-06                    | 6.2       | NNE             |
| NE              | 823.              | 2.17E-04              | 1.10E-04  | 7.78E-05   | 3.71E-05 | 1.28E-05  | 3.47E-06                    | 15.1      | NE              |
| ENE             | 823.              | 3.46E-04              | 1.79E-04  | 1.29E-04   | 6.33E-05 | 2.27E-05  | 6.49E-06                    | 43.7      | ENE             |
| E               | 823.              | 3.04E-04              | 1.61E-04  | 1.17E-04   | 5.88E-05 | 2.18E-05  | 6.50E-06                    | 32.7      | E               |
| ESE             | 823.              | 2.46E-04              | 1.32E-04  | 9.69E-05   | 4.94E-05 | 1.87E-05  | 5.73E-06                    | 20.2      | ESE             |
| SE              | 823.              | 2.03E-04              | 1.12E-04  | 8.30E-05   | 4.35E-05 | 1.72E-05  | 5.54E-06                    | 12.5      | SE              |
| SSE             | 823.              | 1.50E-04              | 8.33E-05  | 6.21E-05   | 3.28E-05 | 1.31E-05  | 4.28E-06                    | 6.3       | SSE             |
| MAX X/Q         |                   | 3.46E-04              |           |            |          |           | TOTAL HOURS AROUND SITE:    | 439.9     |                 |
| SRP 2.3.4       | 823.              | 5.16E-04              | 2.50E-04  | 1.74E-04   | 7.96E-05 | 2.58E-05  | 6.50E-06                    |           |                 |
| SITE LIMIT      |                   | 2.72E-04              | 1.47E-04  | 1.08E-04   | 5.51E-05 | 2.11E-05  | 6.50E-06                    |           |                 |

0.5 PERCENT X/Q TO AN INDIVIDUAL IS LIMITING.

\*\*NOTE\*\*: VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY. CHECK THE REASONABLENESS OF THE ENVELOPES COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE S SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| A     | 1.6                                      | 2.87                 | 7300.              | 0.                | 0.           | 0.            | 1000.0             | 1000.0            | 1000.0            | 2.039E-07            | 2.039E-07                         | 2.039E-07 |      |
| A     | 3.3                                      | 5.49                 | 7300.              | 0.                | 0.           | 0.            | 1000.0             | 1000.0            | 1000.0            | 9.517E-08            | 9.514E-08                         | 9.514E-08 |      |
| A     | 5.6                                      | 0.91                 | 7300.              | 0.                | 0.           | 0.            | 1000.0             | 1000.0            | 1000.0            | 5.710E-08            | 5.708E-08                         | 5.708E-08 |      |
| A     | 8.2                                      | 0.03                 | 7300.              | 0.                | 0.           | 0.            | 1000.0             | 1000.0            | 1000.0            | 3.858E-08            | 3.857E-08                         | 3.857E-08 |      |
| B     | 1.6                                      | 1.96                 | 7300.              | 0.                | 0.           | 0.            | 848.1              | 962.0             | 848.1             | 2.500E-07            | 2.498E-07                         | 2.498E-07 |      |
| B     | 3.3                                      | 4.70                 | 7300.              | 0.                | 0.           | 0.            | 848.1              | 962.0             | 848.1             | 1.166E-07            | 1.166E-07                         | 1.166E-07 |      |
| B     | 5.6                                      | 1.24                 | 7300.              | 0.                | 0.           | 0.            | 848.1              | 962.0             | 848.1             | 6.999E-08            | 6.995E-08                         | 6.995E-08 |      |
| B     | 8.2                                      | 0.07                 | 7300.              | 0.                | 0.           | 0.            | 848.1              | 962.0             | 848.1             | 4.729E-08            | 4.727E-08                         | 4.727E-08 |      |
| C     | 1.6                                      | 1.04                 | 7300.              | 0.                | 0.           | 0.            | 644.0              | 373.7             | 644.0             | 8.473E-07            | 8.459E-07                         | 8.459E-07 |      |
| C     | 3.3                                      | 1.89                 | 7300.              | 0.                | 0.           | 0.            | 644.0              | 373.7             | 644.0             | 3.954E-07            | 3.947E-07                         | 3.947E-07 |      |
| C     | 5.6                                      | 0.52                 | 7300.              | 0.                | 0.           | 0.            | 644.0              | 373.7             | 644.0             | 2.372E-07            | 2.368E-07                         | 2.368E-07 |      |
| C     | 8.2                                      | 0.03                 | 7300.              | 0.                | 0.           | 0.            | 644.0              | 373.7             | 644.0             | 1.603E-07            | 1.600E-07                         | 1.600E-07 |      |
| D     | 0.2                                      | 0.03                 | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 515.1             | 2.494E-05            | 2.810E-05                         | 2.494E-05 |      |
| D     | 1.6                                      | 12.70                | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 515.1             | 3.563E-06            | 4.014E-06                         | 3.563E-06 |      |
| D     | 3.3                                      | 18.64                | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 481.0             | 1.781E-06            | 1.873E-06                         | 1.781E-06 |      |
| D     | 5.6                                      | 7.18                 | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 456.4             | 1.126E-06            | 1.124E-06                         | 1.124E-06 |      |
| D     | 8.2                                      | 0.75                 | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 453.5             | 7.657E-07            | 7.595E-07                         | 7.595E-07 |      |
| D     | 24.5                                     | 0.07                 | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 453.5             | 2.575E-07            | 2.555E-07                         | 2.555E-07 |      |
| E     | 0.2                                      | 0.12                 | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 410.0             | 5.173E-05            | 6.456E-05                         | 5.173E-05 |      |
| E     | 1.6                                      | 16.88                | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 410.0             | 7.390E-06            | 9.223E-06                         | 7.390E-06 |      |
| E     | 3.3                                      | 14.63                | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 357.4             | 3.956E-06            | 4.304E-06                         | 3.956E-06 |      |
| E     | 5.6                                      | 2.38                 | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 325.9             | 2.603E-06            | 2.582E-06                         | 2.582E-06 |      |
| E     | 8.2                                      | 0.13                 | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 322.5             | 1.778E-06            | 1.745E-06                         | 1.745E-06 |      |
| E     | 24.5                                     | 0.03                 | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 322.5             | 5.980E-07            | 5.869E-07                         | 5.869E-07 |      |
| F     | 0.2                                      | 0.03                 | 7300.              | 0.                | 0.           | 0.            | 222.6              | 40.9              | 313.3             | 1.117E-04            | 1.504E-04                         | 1.117E-04 |      |
| F     | 1.6                                      | 4.24                 | 7300.              | 0.                | 0.           | 0.            | 222.6              | 40.9              | 313.3             | 1.595E-05            | 2.148E-05                         | 1.595E-05 |      |
| F     | 3.3                                      | 0.23                 | 7300.              | 0.                | 0.           | 0.            | 222.6              | 40.9              | 255.8             | 9.119E-06            | 1.002E-05                         | 9.119E-06 |      |
| G     | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 0.            | 153.6              | 24.8              | 257.9             | 2.237E-04            | 3.389E-04                         | 2.237E-04 |      |
| G     | 1.6                                      | 1.14                 | 7300.              | 0.                | 0.           | 0.            | 153.6              | 24.8              | 257.9             | 3.195E-05            | 4.842E-05                         | 3.195E-05 |      |
| G     | 3.3                                      | 0.03                 | 7300.              | 0.                | 0.           | 0.            | 153.6              | 24.8              | 187.1             | 2.056E-05            | 2.260E-05                         | 2.056E-05 |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

S SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 |
| 0.009     | 0.041     | 0.161     | 1.304     | 1.333     | 1.366     | 5.610     | 5.839     | 22.719    | 37.346    |
| 0.00065   | 0.00292   | 0.01154   | 0.09337   | 0.09546   | 0.09780   | 0.40172   | 0.41809   | 1.62677   | 2.67413   |
| 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 | 5.869E-07 | 3.947E-07 | 2.555E-07 |
| 50.046    | 52.430    | 71.073    | 71.203    | 78.386    | 79.431    | 80.182    | 80.214    | 82.108    | 82.173    |
| 3.58356   | 3.75423   | 5.08915   | 5.09850   | 5.61283   | 5.68765   | 5.74142   | 5.74375   | 5.87935   | 5.88403   |
| 2.498E-07 | 2.368E-07 | 2.039E-07 | 1.600E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 |
| 84.132    | 84.655    | 87.528    | 87.561    | 92.262    | 97.747    | 98.988    | 99.902    | 99.967    | 100.000   |
| 6.02430   | 6.06171   | 6.26744   | 6.26977   | 6.60643   | 6.99919   | 7.08803   | 7.15349   | 7.15817   | 7.16050   |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.625  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 3.580  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 5.085  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 5.609  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 6.264  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 6.995

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)

1 1 -8.40538 -15.09581 -1.53422

Calculation No. PM-1055 Revision 0

Attachment J

|   |   |           |              |           |
|---|---|-----------|--------------|-----------|
| 1 | 2 | -11.81533 | -16.44928    | -2.16721  |
| 1 | 3 | -12.54483 | -20.11912    | -4.20419  |
| 1 | 4 | -13.23843 | -28.87754    | -9.55570  |
| 1 | 5 | -13.69861 | -62.60479    | -30.78827 |
| 1 | 6 | -15.40582 | -35.94715    | -13.39928 |
| 1 | 7 | -16.16796 | NUMXQ(K) = 7 |           |
|   |   | 3.702E-05 | 0.072        | 1.000     |
|   |   | 2.223E-05 | 0.215        | 3.000     |
|   |   | 1.722E-05 | 0.358        | 5.000     |
|   |   | 1.192E-05 | 0.716        | 10.000    |
|   |   | 9.470E-06 | 1.074        | 15.000    |
|   |   | 7.987E-06 | 1.432        | 20.000    |
|   |   | 6.797E-06 | 1.790        | 25.000    |
|   |   | 5.776E-06 | 2.148        | 30.000    |
|   |   | 5.015E-06 | 2.506        | 35.000    |
|   |   | 4.425E-06 | 2.864        | 40.000    |
|   |   | 3.953E-06 | 3.222        | 45.000    |
|   |   | 3.567E-06 | 3.580        | 50.000    |
|   |   | 2.970E-06 | 3.938        | 55.000    |
|   |   | 2.504E-06 | 4.296        | 60.000    |
|   |   | 2.134E-06 | 4.654        | 65.000    |
|   |   | 1.837E-06 | 5.012        | 70.000    |
|   |   | 1.385E-06 | 5.370        | 75.000    |
|   |   | 8.224E-07 | 5.728        | 80.000    |
|   |   | 3.221E-07 | 6.086        | 85.000    |
|   |   | 1.685E-07 | 6.444        | 90.000    |
|   |   | 1.447E-05 | 0.5          | 6.98      |

ANNUAL AVERAGE = 1.50E-07

K= 1 FIVEXQ(K) = 1.447E-05 FIVEPR(K) = 6.983

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSW SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| AT 10.0 METERS  |                        |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 1.6                    | 8.88                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 2.039E-07         | 2.039E-07         | 2.039E-07            |                                   |           |      |
| A               | 3.3                    | 5.37                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 9.517E-08         | 9.514E-08         | 9.514E-08            |                                   |           |      |
| A               | 5.6                    | 0.07                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 5.710E-08         | 5.708E-08         | 5.708E-08            |                                   |           |      |
| A               | 24.5                   | 0.07                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 1.298E-08         | 1.297E-08         | 1.297E-08            |                                   |           |      |
| B               | 1.6                    | 3.71                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 2.500E-07         | 2.498E-07         | 2.498E-07            |                                   |           |      |
| B               | 3.3                    | 2.65                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 1.166E-07         | 1.166E-07         | 1.166E-07            |                                   |           |      |
| B               | 5.6                    | 0.13                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 6.999E-08         | 6.995E-08         | 6.995E-08            |                                   |           |      |
| C               | 1.6                    | 3.05                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 8.473E-07         | 8.459E-07         | 8.459E-07            |                                   |           |      |
| C               | 3.3                    | 0.66                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 3.954E-07         | 3.947E-07         | 3.947E-07            |                                   |           |      |
| C               | 5.6                    | 0.07                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 2.372E-07         | 2.368E-07         | 2.368E-07            |                                   |           |      |
| D               | 0.2                    | 0.05                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 2.494E-05         | 2.810E-05         | 2.494E-05            |                                   |           |      |
| D               | 1.6                    | 22.39                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 3.563E-06         | 4.014E-06         | 3.563E-06            |                                   |           |      |
| D               | 3.3                    | 10.60                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 481.0        | 1.781E-06         | 1.873E-06         | 1.781E-06            |                                   |           |      |
| D               | 5.6                    | 0.53                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 456.4        | 1.126E-06         | 1.124E-06         | 1.124E-06            |                                   |           |      |
| E               | 0.2                    | 0.20                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 5.173E-05         | 6.456E-05         | 5.173E-05            |                                   |           |      |
| E               | 1.6                    | 27.56                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 7.390E-06         | 9.223E-06         | 7.390E-06            |                                   |           |      |
| E               | 3.3                    | 6.09                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 357.4        | 3.956E-06         | 4.304E-06         | 3.956E-06            |                                   |           |      |
| E               | 5.6                    | 0.26                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 325.9        | 2.603E-06         | 2.582E-06         | 2.582E-06            |                                   |           |      |
| F               | 0.2                    | 0.04                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.117E-04         | 1.504E-04         | 1.117E-04            |                                   |           |      |
| F               | 1.6                    | 5.37                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.595E-05         | 2.148E-05         | 1.595E-05            |                                   |           |      |
| G               | 0.2                    | 0.02                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 2.237E-04         | 3.389E-04         | 2.237E-04            |                                   |           |      |
| G               | 1.6                    | 1.99                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 3.195E-05         | 4.842E-05         | 3.195E-05            |                                   |           |      |
| G               | 3.3                    | 0.26                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 187.1        | 2.056E-05         | 2.260E-05         | 2.056E-05            |                                   |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 7.390E-06 | 3.956E-06 | 3.563E-06 |
| 0.016     | 0.056     | 0.252     | 2.240     | 2.291     | 2.556     | 7.922     | 35.479    | 41.574    | 63.964    |
| 0.00056   | 0.00197   | 0.00891   | 0.07904   | 0.08087   | 0.09022   | 0.27959   | 1.25214   | 1.46722   | 2.25742   |
| 2.582E-06 | 1.781E-06 | 1.124E-06 | 8.459E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 | 2.039E-07 | 1.166E-07 | 9.514E-08 |
| 64.229    | 74.828    | 75.358    | 78.405    | 79.067    | 82.777    | 82.843    | 91.720    | 94.369    | 99.735    |
| 2.26677   | 2.64083   | 2.65954   | 2.76708   | 2.79046   | 2.92138   | 2.92371   | 3.23699   | 3.33050   | 3.51987   |
| 6.995E-08 | 5.708E-08 | 1.297E-08 |           |           |           |           |           |           |           |
| 99.868    | 99.934    | 100.000   |           |           |           |           |           |           |           |
| 3.52455   | 3.52689   | 3.52922   |           |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.079  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 1.251  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 2.255  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5) = 2.638  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6) = 3.517

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 2 1 -8.40538 -15.33090 -1.57598  
 2 2 -10.35129 -15.38766 -1.59395

Calculation No. PM-1055 Revision 0

Attachment J

|           |           |             |           |
|-----------|-----------|-------------|-----------|
| 2 3       | -11.81533 | -18.69992   | -3.07185  |
| 2 4       | -12.54483 | -33.33123   | -10.37398 |
| 2 5       | -13.23843 | -57.88254   | -23.04991 |
| 2 6       | -16.16796 | NUMXQ(K)= 6 |           |
| 4.575E-05 | 0.035     | 1.000       |           |
| 2.785E-05 | 0.106     | 3.000       |           |
| 2.173E-05 | 0.176     | 5.000       |           |
| 1.522E-05 | 0.353     | 10.000      |           |
| 1.222E-05 | 0.529     | 15.000      |           |
| 1.039E-05 | 0.706     | 20.000      |           |
| 9.124E-06 | 0.882     | 25.000      |           |
| 8.185E-06 | 1.059     | 30.000      |           |
| 7.452E-06 | 1.235     | 35.000      |           |
| 6.402E-06 | 1.412     | 40.000      |           |
| 5.548E-06 | 1.588     | 45.000      |           |
| 4.870E-06 | 1.765     | 50.000      |           |
| 4.322E-06 | 1.941     | 55.000      |           |
| 3.869E-06 | 2.118     | 60.000      |           |
| 3.321E-06 | 2.294     | 65.000      |           |
| 2.397E-06 | 2.470     | 70.000      |           |
| 1.740E-06 | 2.647     | 75.000      |           |
| 9.124E-07 | 2.823     | 80.000      |           |
| 4.943E-07 | 3.000     | 85.000      |           |
| 2.757E-07 | 3.176     | 90.000      |           |
| 1.261E-05 | 0.5       | 14.17       |           |

ANNUAL AVERAGE = 9.86E-08

K= 2 FIVEXQ(K)= 1.261E-05 FIVEPR(K)=14.167



Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SW SECTOR:

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |           |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|-----------|
|                 |  |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE | USED      |
|                 |  |                      |                    |                   |              |               |                 |              |                   |                   |                      | CA=1292.SQ.METERS                 |           |           |
| A               | 1.6                                      | 10.17                | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 1000.0            | 1000.0            | 1000.0               | 2.039E-07                         | 2.039E-07 | 2.039E-07 |
| A               | 3.3                                      | 2.24                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 1000.0            | 1000.0            | 1000.0               | 9.517E-08                         | 9.514E-08 | 9.514E-08 |
| A               | 5.6                                      | 0.07                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 1000.0            | 1000.0            | 1000.0               | 5.710E-08                         | 5.708E-08 | 5.708E-08 |
| A               | 24.5                                     | 0.07                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 1000.0            | 1000.0            | 1000.0               | 1.298E-08                         | 1.297E-08 | 1.297E-08 |
| B               | 1.6                                      | 4.62                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 848.1             | 962.0             | 848.1                | 2.500E-07                         | 2.498E-07 | 2.498E-07 |
| B               | 3.3                                      | 0.79                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 848.1             | 962.0             | 848.1                | 1.166E-07                         | 1.166E-07 | 1.166E-07 |
| C               | 1.6                                      | 1.88                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 644.0             | 373.7             | 644.0                | 8.473E-07                         | 8.459E-07 | 8.459E-07 |
| C               | 3.3                                      | 0.22                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 644.0             | 373.7             | 644.0                | 3.954E-07                         | 3.947E-07 | 3.947E-07 |
| D               | 0.2                                      | 0.07                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 453.5             | 111.1             | 515.1                | 2.494E-05                         | 2.810E-05 | 2.494E-05 |
| D               | 1.6                                      | 31.54                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 453.5             | 111.1             | 515.1                | 3.563E-06                         | 4.014E-06 | 3.563E-06 |
| D               | 3.3                                      | 4.76                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 481.0        | 453.5             | 111.1             | 481.0                | 1.781E-06                         | 1.873E-06 | 1.781E-06 |
| E               | 0.2                                      | 0.21                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 322.5             | 67.5              | 410.0                | 5.173E-05                         | 6.456E-05 | 5.173E-05 |
| E               | 1.6                                      | 29.95                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 322.5             | 67.5              | 410.0                | 7.390E-06                         | 9.223E-06 | 7.390E-06 |
| E               | 3.3                                      | 5.48                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 357.4        | 322.5             | 67.5              | 357.4                | 3.956E-06                         | 4.304E-06 | 3.956E-06 |
| E               | 5.6                                      | 0.07                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 325.9        | 322.5             | 67.5              | 325.9                | 2.603E-06                         | 2.582E-06 | 2.582E-06 |
| F               | 0.2                                      | 0.04                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 222.6             | 40.9              | 313.3                | 1.117E-04                         | 1.504E-04 | 1.117E-04 |
| F               | 1.6                                      | 5.34                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 222.6             | 40.9              | 313.3                | 1.595E-05                         | 2.148E-05 | 1.595E-05 |
| F               | 3.3                                      | 0.36                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 255.8        | 222.6             | 40.9              | 255.8                | 9.119E-06                         | 1.002E-05 | 9.119E-06 |
| G               | 0.2                                      | 0.02                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 153.6             | 24.8              | 257.9                | 2.237E-04                         | 3.389E-04 | 2.237E-04 |
| G               | 1.6                                      | 2.09                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 153.6             | 24.8              | 257.9                | 3.195E-05                         | 4.842E-05 | 3.195E-05 |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 | 3.563E-06 |
| 0.017     | 0.056     | 0.270     | 2.363     | 2.436     | 7.776     | 8.136     | 38.084    | 43.568    | 75.104    |
| 0.00054   | 0.00183   | 0.00875   | 0.07655   | 0.07891   | 0.25191   | 0.26360   | 1.23381   | 1.41149   | 2.43314   |
| 2.582E-06 | 1.781E-06 | 8.459E-07 | 3.947E-07 | 2.498E-07 | 2.039E-07 | 1.166E-07 | 9.514E-08 | 5.708E-08 | 1.297E-08 |
| 75.176    | 79.939    | 81.815    | 82.031    | 86.650    | 96.825    | 97.619    | 99.856    | 99.928    | 100.000   |
| 2.43548   | 2.58978   | 2.65056   | 2.65757   | 2.80720   | 3.13684   | 3.16255   | 3.23503   | 3.23737   | 3.23970   |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.076  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.232  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.431  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 3.134

| K | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|---|---|-------------|--------------|-------------|
| 3 | 1 | -8.40538    | -15.35362    | -1.57851    |
| 3 | 2 | -10.35129   | -15.38259    | -1.58765    |
| 3 | 3 | -11.81533   | -17.77768    | -2.65362    |
| 3 | 4 | -12.54483   | -63.60229    | -25.89164   |
| 3 | 5 | -15.40582   | NUMXQ(K) = 5 |             |
|   |   | 4.681E-05   | 0.032        | 1.000       |
|   |   | 2.859E-05   | 0.097        | 3.000       |

Calculation No. PM-1055 Revision 0

Attachment J

|           |       |        |
|-----------|-------|--------|
| 2.237E-05 | 0.162 | 5.000  |
| 1.573E-05 | 0.324 | 10.000 |
| 1.266E-05 | 0.486 | 15.000 |
| 1.079E-05 | 0.648 | 20.000 |
| 9.497E-06 | 0.810 | 25.000 |
| 8.533E-06 | 0.972 | 30.000 |
| 7.780E-06 | 1.134 | 35.000 |
| 7.027E-06 | 1.296 | 40.000 |
| 6.218E-06 | 1.458 | 45.000 |
| 5.564E-06 | 1.620 | 50.000 |
| 5.025E-06 | 1.782 | 55.000 |
| 4.572E-06 | 1.944 | 60.000 |
| 4.188E-06 | 2.106 | 65.000 |
| 3.857E-06 | 2.268 | 70.000 |
| 3.569E-06 | 2.430 | 75.000 |
| 1.769E-06 | 2.592 | 80.000 |
| 8.974E-07 | 2.754 | 85.000 |
| 4.702E-07 | 2.916 | 90.000 |
| 1.247E-05 | 0.5   | 15.43  |

ANNUAL AVERAGE = 1.00E-07

K= 3 FIVEXQ(K)= 1.247E-05 FIVEPR(K)=15.434

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WSW SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                                |      |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|--------------------------------|------|
|       |  |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE<br>CA=1292.SQ.METERS | USED |
| A     | 1.6                                      | 11.29                | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 2.039E-07         | 2.039E-07         | 2.039E-07            |                                   |                                |      |
| A     | 3.3                                      | 2.21                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 9.517E-08         | 9.514E-08         | 9.514E-08            |                                   |                                |      |
| B     | 1.6                                      | 5.29                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 2.500E-07         | 2.498E-07         | 2.498E-07            |                                   |                                |      |
| B     | 3.3                                      | 1.18                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 1.166E-07         | 1.166E-07         | 1.166E-07            |                                   |                                |      |
| C     | 1.6                                      | 3.79                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 8.473E-07         | 8.459E-07         | 8.459E-07            |                                   |                                |      |
| C     | 3.3                                      | 0.63                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 3.954E-07         | 3.947E-07         | 3.947E-07            |                                   |                                |      |
| D     | 0.2                                      | 0.06                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 2.494E-05         | 2.810E-05         | 2.494E-05            |                                   |                                |      |
| D     | 1.6                                      | 25.11                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 3.563E-06         | 4.014E-06         | 3.563E-06            |                                   |                                |      |
| D     | 3.3                                      | 2.76                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 481.0        | 1.781E-06         | 1.873E-06         | 1.781E-06            |                                   |                                |      |
| E     | 0.2                                      | 0.22                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 5.173E-05         | 6.456E-05         | 5.173E-05            |                                   |                                |      |
| E     | 1.6                                      | 30.24                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 7.390E-06         | 9.223E-06         | 7.390E-06            |                                   |                                |      |
| E     | 3.3                                      | 5.84                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 357.4        | 3.956E-06         | 4.304E-06         | 3.956E-06            |                                   |                                |      |
| F     | 0.2                                      | 0.05                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.117E-04         | 1.504E-04         | 1.117E-04            |                                   |                                |      |
| F     | 1.6                                      | 7.26                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.595E-05         | 2.148E-05         | 1.595E-05            |                                   |                                |      |
| F     | 3.3                                      | 0.16                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 255.8        | 9.119E-06         | 1.002E-05         | 9.119E-06            |                                   |                                |      |
| G     | 0.2                                      | 0.03                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 2.237E-04         | 3.389E-04         | 2.237E-04            |                                   |                                |      |
| G     | 1.6                                      | 3.87                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 3.195E-05         | 4.842E-05         | 3.195E-05            |                                   |                                |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 | 3.563E-06 |
| 0.031     | 0.085     | 0.301     | 4.169     | 4.227     | 11.491    | 11.649    | 41.889    | 47.732    | 72.839    |
| 0.00091   | 0.00251   | 0.00890   | 0.12346   | 0.12517   | 0.34026   | 0.34493   | 1.24033   | 1.41334   | 2.15678   |
| 1.781E-06 | 8.459E-07 | 3.947E-07 | 2.498E-07 | 2.039E-07 | 1.166E-07 | 9.514E-08 |           |           |           |
| 75.603    | 79.393    | 80.024    | 85.314    | 96.605    | 97.789    | 100.000   |           |           |           |
| 2.23861   | 2.35082   | 2.36953   | 2.52616   | 2.86048   | 2.89555   | 2.96101   |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2 ) = 0.123  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3 ) = 1.239  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4 ) = 2.155

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)

|   |   |           |              |          |
|---|---|-----------|--------------|----------|
| 4 | 1 | -8.40538  | -15.02958    | -1.54531 |
| 4 | 2 | -10.35129 | -16.01503    | -1.87082 |
| 4 | 3 | -11.81533 | -19.19168    | -3.28591 |
| 4 | 4 | -12.54483 | NUMXQ(K) = 4 |          |
|   |   | 6.002E-05 | 0.030        | 1.000    |
|   |   | 3.718E-05 | 0.089        | 3.000    |
|   |   | 2.881E-05 | 0.148        | 5.000    |
|   |   | 1.910E-05 | 0.296        | 10.000   |

Calculation No. PM-1055 Revision 0

Attachment J

|           |       |        |
|-----------|-------|--------|
| 1.482E-05 | 0.444 | 15.000 |
| 1.230E-05 | 0.592 | 20.000 |
| 1.060E-05 | 0.740 | 25.000 |
| 9.356E-06 | 0.888 | 30.000 |
| 8.401E-06 | 1.036 | 35.000 |
| 7.640E-06 | 1.184 | 40.000 |
| 6.746E-06 | 1.332 | 45.000 |
| 5.889E-06 | 1.481 | 50.000 |
| 5.198E-06 | 1.629 | 55.000 |
| 4.632E-06 | 1.777 | 60.000 |
| 4.161E-06 | 1.925 | 65.000 |
| 3.763E-06 | 2.073 | 70.000 |
| 1.374E-05 | 0.5   | 16.89  |

ANNUAL AVERAGE = 9.60E-08

K= 4 FIVEXQ(K)= 1.374E-05 FIVEPR(K)=16.886

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE W SECTOR.

| CLASS             | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-------------------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                   |  |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| CA=1292.SQ.METERS |  |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   |           |      |
| A                 | 1.6                                      | 6.63                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 2.039E-07         | 2.039E-07         | 2.039E-07            |                                   |           |      |
| A                 | 3.3                                      | 2.86                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 9.517E-08         | 9.514E-08         | 9.514E-08            |                                   |           |      |
| A                 | 24.5                                     | 0.13                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 1.298E-08         | 1.297E-08         | 1.297E-08            |                                   |           |      |
| B                 | 1.6                                      | 3.97                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 2.500E-07         | 2.498E-07         | 2.498E-07            |                                   |           |      |
| B                 | 3.3                                      | 0.78                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 1.166E-07         | 1.166E-07         | 1.166E-07            |                                   |           |      |
| B                 | 5.6                                      | 0.07                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 6.999E-08         | 6.995E-08         | 6.995E-08            |                                   |           |      |
| C                 | 1.6                                      | 2.28                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 8.473E-07         | 8.459E-07         | 8.459E-07            |                                   |           |      |
| C                 | 3.3                                      | 0.59                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 3.954E-07         | 3.947E-07         | 3.947E-07            |                                   |           |      |
| C                 | 5.6                                      | 0.07                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 2.372E-07         | 2.368E-07         | 2.368E-07            |                                   |           |      |
| D                 | 0.2                                      | 0.04                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 2.494E-05         | 2.810E-05         | 2.494E-05            |                                   |           |      |
| D                 | 1.6                                      | 19.25                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 3.563E-06         | 4.014E-06         | 3.563E-06            |                                   |           |      |
| D                 | 3.3                                      | 4.23                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 481.0        | 1.781E-06         | 1.873E-06         | 1.781E-06            |                                   |           |      |
| D                 | 5.6                                      | 0.13                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 456.4        | 1.126E-06         | 1.124E-06         | 1.124E-06            |                                   |           |      |
| E                 | 0.2                                      | 0.24                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 5.173E-05         | 6.456E-05         | 5.173E-05            |                                   |           |      |
| E                 | 1.6                                      | 33.50                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 7.390E-06         | 9.223E-06         | 7.390E-06            |                                   |           |      |
| E                 | 3.3                                      | 6.89                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 357.4        | 3.956E-06         | 4.304E-06         | 3.956E-06            |                                   |           |      |
| E                 | 5.6                                      | 0.39                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 325.9        | 2.603E-06         | 2.582E-06         | 2.582E-06            |                                   |           |      |
| F                 | 0.2                                      | 0.09                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.117E-04         | 1.504E-04         | 1.117E-04            |                                   |           |      |
| F                 | 1.6                                      | 11.71                | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.595E-05         | 2.148E-05         | 1.595E-05            |                                   |           |      |
| F                 | 3.3                                      | 0.20                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 255.8        | 9.119E-06         | 1.002E-05         | 9.119E-06            |                                   |           |      |
| G                 | 0.2                                      | 0.05                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 2.237E-04         | 3.389E-04         | 2.237E-04            |                                   |           |      |
| G                 | 1.6                                      | 5.72                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 3.195E-05         | 4.842E-05         | 3.195E-05            |                                   |           |      |
| G                 | 3.3                                      | 0.20                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 187.1        | 2.056E-05         | 2.260E-05         | 2.056E-05            |                                   |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met. data, 33 ft. wind, 33-150 ft Delta T.

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 |
| 0.045     | 0.133     | 0.372     | 6.096     | 6.140     | 6.335     | 18.043    | 18.238    | 51.737    | 58.631    |
| 0.00163   | 0.00477   | 0.01336   | 0.21909   | 0.22069   | 0.22770   | 0.64852   | 0.65553   | 1.85954   | 2.10735   |
| 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.124E-06 | 8.459E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 | 2.039E-07 | 1.166E-07 |
| 77.885    | 78.275    | 82.503    | 82.633    | 84.910    | 85.495    | 89.463    | 89.528    | 96.162    | 96.943    |
| 2.79936   | 2.81339   | 2.96535   | 2.97002   | 3.05185   | 3.07289   | 3.21550   | 3.21784   | 3.45630   | 3.48435   |
| 9.514E-08 | 6.995E-08 | 1.297E-08 |           |           |           |           |           |           |           |
| 99.805    | 99.870    | 100.000   |           |           |           |           |           |           |           |
| 3.58722   | 3.58956   | 3.59423   |           |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.219  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 0.648  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 1.858  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 2.797  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 2.963  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 3.453

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 5 1 -8.40538 -14.60021 -1.49104



Calculation No. PM-1055 Revision 0

Attachment J

5 2 -10.35129 -15.77918 -1.90477  
 5 3 -11.04582 -15.81571 -1.91947  
 5 4 -11.81533 -20.62666 -4.22787  
 5 5 -12.54483 -65.09892 -27.49278  
 5 6 -13.23843 -73.07284 -31.71999  
 5 7 -15.40582 NUMXQ(K) = 7

|           |       |        |
|-----------|-------|--------|
| 7.072E-05 | 0.036 | 1.000  |
| 4.425E-05 | 0.108 | 3.000  |
| 3.507E-05 | 0.180 | 5.000  |
| 2.350E-05 | 0.359 | 10.000 |
| 1.806E-05 | 0.539 | 15.000 |
| 1.486E-05 | 0.719 | 20.000 |
| 1.271E-05 | 0.899 | 25.000 |
| 1.115E-05 | 1.078 | 30.000 |
| 9.957E-06 | 1.258 | 35.000 |
| 9.009E-06 | 1.438 | 40.000 |
| 8.236E-06 | 1.617 | 45.000 |
| 7.590E-06 | 1.797 | 50.000 |
| 6.646E-06 | 1.977 | 55.000 |
| 5.705E-06 | 2.157 | 60.000 |
| 4.948E-06 | 2.336 | 65.000 |
| 4.330E-06 | 2.516 | 70.000 |
| 3.819E-06 | 2.696 | 75.000 |
| 2.583E-06 | 2.875 | 80.000 |
| 1.173E-06 | 3.055 | 85.000 |
| 5.240E-07 | 3.235 | 90.000 |
| 1.898E-05 | 0.5   | 13.91  |

ANNUAL AVERAGE = 1.35E-07

K= 5 FIVEXQ(K) = 1.898E-05 FIVEPR(K) = 13.911

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom  
 DATA PERIOD:  
 TYPE OF RELEASE: Ground Release  
 SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION  
 WIND SENSORS HEIGHT: 10.1 meters  
 DELTA-T HEIGHTS: 10.1-45.7 meters

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T  
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE WNW SECTOR.

| CLASS          | METER/SEC | PERCENT | DISTANCE METERS | TERRAIN METERS | HT METERS | EFF PLUME HT METERS | SIGMA-Y METERS | SIGMA-Z METERS | MEANDER-SY METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                   |           |  |
|----------------|-----------|---------|-----------------|----------------|-----------|---------------------|----------------|----------------|-------------------|-----------------------------------|-------------------|-----------|--|
|                |           |         |                 |                |           |                     |                |                |                   | MEANDER                           | BLDG WAKE         | USED      |  |
| AT 10.0 METERS |           |         |                 |                |           |                     |                |                |                   |                                   | CA=1292.SQ.METERS |           |  |
| A              | 1.6       | 4.94    | 7300.           | 0.             | 0.        | 0.                  | 1000.0         | 1000.0         | 1000.0            | 2.039E-07                         | 2.039E-07         | 2.039E-07 |  |
| A              | 3.3       | 6.06    | 7300.           | 0.             | 0.        | 0.                  | 1000.0         | 1000.0         | 1000.0            | 9.517E-08                         | 9.514E-08         | 9.514E-08 |  |
| A              | 5.6       | 0.50    | 7300.           | 0.             | 0.        | 0.                  | 1000.0         | 1000.0         | 1000.0            | 5.710E-08                         | 5.708E-08         | 5.708E-08 |  |
| B              | 1.6       | 2.75    | 7300.           | 0.             | 0.        | 0.                  | 848.1          | 962.0          | 848.1             | 2.500E-07                         | 2.498E-07         | 2.498E-07 |  |
| B              | 3.3       | 1.94    | 7300.           | 0.             | 0.        | 0.                  | 848.1          | 962.0          | 848.1             | 1.166E-07                         | 1.166E-07         | 1.166E-07 |  |
| B              | 5.6       | 0.38    | 7300.           | 0.             | 0.        | 0.                  | 848.1          | 962.0          | 848.1             | 6.999E-08                         | 6.995E-08         | 6.995E-08 |  |
| C              | 1.6       | 1.69    | 7300.           | 0.             | 0.        | 0.                  | 644.0          | 373.7          | 644.0             | 8.473E-07                         | 8.459E-07         | 8.459E-07 |  |
| C              | 3.3       | 0.63    | 7300.           | 0.             | 0.        | 0.                  | 644.0          | 373.7          | 644.0             | 3.954E-07                         | 3.947E-07         | 3.947E-07 |  |
| C              | 5.6       | 0.06    | 7300.           | 0.             | 0.        | 0.                  | 644.0          | 373.7          | 644.0             | 2.372E-07                         | 2.368E-07         | 2.368E-07 |  |
| C              | 8.2       | 0.06    | 7300.           | 0.             | 0.        | 0.                  | 644.0          | 373.7          | 644.0             | 1.603E-07                         | 1.600E-07         | 1.600E-07 |  |
| D              | 0.2       | 0.03    | 7300.           | 0.             | 0.        | 0.                  | 453.5          | 111.1          | 515.1             | 2.494E-05                         | 2.810E-05         | 2.494E-05 |  |
| D              | 1.6       | 10.94   | 7300.           | 0.             | 0.        | 0.                  | 453.5          | 111.1          | 515.1             | 3.563E-06                         | 4.014E-06         | 3.563E-06 |  |
| D              | 3.3       | 9.06    | 7300.           | 0.             | 0.        | 0.                  | 453.5          | 111.1          | 481.0             | 1.781E-06                         | 1.873E-06         | 1.781E-06 |  |
| D              | 5.6       | 0.50    | 7300.           | 0.             | 0.        | 0.                  | 453.5          | 111.1          | 456.4             | 1.126E-06                         | 1.124E-06         | 1.124E-06 |  |
| E              | 0.2       | 0.21    | 7300.           | 0.             | 0.        | 0.                  | 322.5          | 67.5           | 410.0             | 5.173E-05                         | 6.456E-05         | 5.173E-05 |  |
| E              | 1.6       | 29.38   | 7300.           | 0.             | 0.        | 0.                  | 322.5          | 67.5           | 410.0             | 7.390E-06                         | 9.223E-06         | 7.390E-06 |  |
| E              | 3.3       | 11.06   | 7300.           | 0.             | 0.        | 0.                  | 322.5          | 67.5           | 357.4             | 3.956E-06                         | 4.304E-06         | 3.956E-06 |  |
| E              | 5.6       | 1.06    | 7300.           | 0.             | 0.        | 0.                  | 322.5          | 67.5           | 325.9             | 2.603E-06                         | 2.582E-06         | 2.582E-06 |  |
| F              | 0.2       | 0.10    | 7300.           | 0.             | 0.        | 0.                  | 222.6          | 40.9           | 313.3             | 1.117E-04                         | 1.504E-04         | 1.117E-04 |  |
| F              | 1.6       | 14.00   | 7300.           | 0.             | 0.        | 0.                  | 222.6          | 40.9           | 313.3             | 1.595E-05                         | 2.148E-05         | 1.595E-05 |  |
| F              | 3.3       | 0.88    | 7300.           | 0.             | 0.        | 0.                  | 222.6          | 40.9           | 255.8             | 9.119E-06                         | 1.002E-05         | 9.119E-06 |  |
| G              | 0.2       | 0.03    | 7300.           | 0.             | 0.        | 0.                  | 153.6          | 24.8           | 257.9             | 2.237E-04                         | 3.389E-04         | 2.237E-04 |  |
| G              | 1.6       | 3.44    | 7300.           | 0.             | 0.        | 0.                  | 153.6          | 24.8           | 257.9             | 3.195E-05                         | 4.842E-05         | 3.195E-05 |  |
| G              | 3.3       | 0.31    | 7300.           | 0.             | 0.        | 0.                  | 153.6          | 24.8           | 187.1             | 2.056E-05                         | 2.260E-05         | 2.056E-05 |  |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 |
| 0.027     | 0.132     | 0.341     | 3.779     | 3.804     | 4.117     | 18.118    | 18.993    | 48.371    | 59.434    |
| 0.00102   | 0.00493   | 0.01277   | 0.14135   | 0.14230   | 0.15398   | 0.67767   | 0.71040   | 1.80920   | 2.22300   |
| 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.124E-06 | 8.459E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 | 2.039E-07 | 1.600E-07 |
| 70.373    | 71.435    | 80.498    | 80.998    | 82.686    | 83.311    | 86.061    | 86.124    | 91.062    | 91.124    |
| 2.63213   | 2.67187   | 3.01086   | 3.02956   | 3.09269   | 3.11606   | 3.21893   | 3.22127   | 3.40596   | 3.40830   |
| 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 |           |           |           |           |           |           |
| 93.062    | 99.125    | 99.500    | 100.000   |           |           |           |           |           |           |
| 3.48077   | 3.70755   | 3.72157   | 3.74028   |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 0.677  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3)= 1.807  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4)= 2.630  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5)= 3.008  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6)= 3.704

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 6 1 -8.40538 -14.68508 -1.47380  
 6 2 -11.04582 -16.12625 -2.05743

Calculation No. PM-1055 Revision 0

Attachment J

6 3 -11.81533 -21.54951 -4.64573  
6 4 -12.54483 -35.46656 -11.82587  
6 5 -13.23843 -72.10627 -31.31903  
6 6 -16.16796 NUMXQ(K)= 6

|           |       |        |
|-----------|-------|--------|
| 6.030E-05 | 0.037 | 1.000  |
| 3.789E-05 | 0.112 | 3.000  |
| 3.008E-05 | 0.187 | 5.000  |
| 2.160E-05 | 0.374 | 10.000 |
| 1.761E-05 | 0.561 | 15.000 |
| 1.483E-05 | 0.748 | 20.000 |
| 1.253E-05 | 0.935 | 25.000 |
| 1.088E-05 | 1.122 | 30.000 |
| 9.630E-06 | 1.309 | 35.000 |
| 8.646E-06 | 1.496 | 40.000 |
| 7.849E-06 | 1.683 | 45.000 |
| 6.941E-06 | 1.870 | 50.000 |
| 5.784E-06 | 2.057 | 55.000 |
| 4.885E-06 | 2.244 | 60.000 |
| 4.174E-06 | 2.431 | 65.000 |
| 3.601E-06 | 2.618 | 70.000 |
| 2.570E-06 | 2.805 | 75.000 |
| 1.839E-06 | 2.992 | 80.000 |
| 8.366E-07 | 3.179 | 85.000 |
| 3.754E-07 | 3.366 | 90.000 |
| 1.868E-05 | 0.5   | 13.37  |

ANNUAL AVERAGE = 1.27E-07

K= 6 FIVEXQ(K)= 1.868E-05 FIVEPR(K)=13.368

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

DATA PERIOD:

TYPE OF RELEASE: Ground Release

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION

WIND SENSORS HEIGHT: 10.1 meters

DELTA-T HEIGHTS: 10.1 45.7 meters

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NW SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                   |      |  |  |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|------|--|--|
|       |  |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE         | USED |  |  |
|       |  |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   | CA=1292.SQ.METERS |      |  |  |
| A     | 1.6                                      | 2.38                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 2.039E-07         | 2.039E-07         | 2.039E-07            |                                   |                   |      |  |  |
| A     | 3.3                                      | 5.19                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 9.517E-08         | 9.514E-08         | 9.514E-08            |                                   |                   |      |  |  |
| A     | 5.6                                      | 0.29                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 5.710E-08         | 5.708E-08         | 5.708E-08            |                                   |                   |      |  |  |
| B     | 1.6                                      | 1.10                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 2.500E-07         | 2.498E-07         | 2.498E-07            |                                   |                   |      |  |  |
| B     | 3.3                                      | 2.67                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 1.166E-07         | 1.166E-07         | 1.166E-07            |                                   |                   |      |  |  |
| B     | 5.6                                      | 0.43                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 6.999E-08         | 6.995E-08         | 6.995E-08            |                                   |                   |      |  |  |
| B     | 24.5                                     | 0.05                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 1.591E-08         | 1.590E-08         | 1.590E-08            |                                   |                   |      |  |  |
| C     | 1.6                                      | 0.52                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 8.473E-07         | 8.459E-07         | 8.459E-07            |                                   |                   |      |  |  |
| C     | 3.3                                      | 1.57                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 3.954E-07         | 3.947E-07         | 3.947E-07            |                                   |                   |      |  |  |
| C     | 5.6                                      | 0.24                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 2.372E-07         | 2.368E-07         | 2.368E-07            |                                   |                   |      |  |  |
| D     | 0.2                                      | 0.02                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 2.494E-05         | 2.810E-05         | 2.494E-05            |                                   |                   |      |  |  |
| D     | 1.6                                      | 7.33                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 3.563E-06         | 4.014E-06         | 3.563E-06            |                                   |                   |      |  |  |
| D     | 3.3                                      | 18.14                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 481.0        | 1.781E-06         | 1.873E-06         | 1.781E-06            |                                   |                   |      |  |  |
| D     | 5.6                                      | 3.67                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 456.4        | 1.126E-06         | 1.124E-06         | 1.124E-06            |                                   |                   |      |  |  |
| D     | 8.2                                      | 0.10                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 453.5        | 7.657E-07         | 7.595E-07         | 7.595E-07            |                                   |                   |      |  |  |
| E     | 0.2                                      | 0.18                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 5.173E-05         | 6.456E-05         | 5.173E-05            |                                   |                   |      |  |  |
| E     | 1.6                                      | 25.85                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 7.390E-06         | 9.223E-06         | 7.390E-06            |                                   |                   |      |  |  |
| E     | 3.3                                      | 18.81                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 357.4        | 3.956E-06         | 4.304E-06         | 3.956E-06            |                                   |                   |      |  |  |
| E     | 5.6                                      | 2.48                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 325.9        | 2.603E-06         | 2.582E-06         | 2.582E-06            |                                   |                   |      |  |  |
| E     | 8.2                                      | 0.05                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 322.5        | 1.778E-06         | 1.745E-06         | 1.745E-06            |                                   |                   |      |  |  |
| F     | 0.2                                      | 0.05                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.117E-04         | 1.504E-04         | 1.117E-04            |                                   |                   |      |  |  |
| F     | 1.6                                      | 6.14                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.595E-05         | 2.148E-05         | 1.595E-05            |                                   |                   |      |  |  |
| F     | 3.3                                      | 1.14                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 255.8        | 9.119E-06         | 1.002E-05         | 9.119E-06            |                                   |                   |      |  |  |
| G     | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 2.237E-04         | 3.389E-04         | 2.237E-04            |                                   |                   |      |  |  |
| G     | 1.6                                      | 1.52                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 3.195E-05         | 4.842E-05         | 3.195E-05            |                                   |                   |      |  |  |
| G     | 3.3                                      | 0.10                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 187.1        | 2.056E-05         | 2.260E-05         | 2.056E-05            |                                   |                   |      |  |  |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met. data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 |
| 0.012     | 0.058     | 0.242     | 1.766     | 1.783     | 1.878     | 8.020     | 9.162     | 35.014    | 53.819    |
| 0.00059   | 0.00285   | 0.01190   | 0.08671   | 0.08754   | 0.09222   | 0.39380   | 0.44991   | 1.71938   | 2.64283   |
| 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 |
| 61.151    | 63.627    | 81.766    | 81.813    | 85.479    | 86.003    | 86.098    | 87.669    | 88.764    | 89.002    |
| 3.00287   | 3.12443   | 4.01516   | 4.01750   | 4.19752   | 4.22323   | 4.22791   | 4.30506   | 4.35883   | 4.37052   |
| 2.039E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 1.590E-08 |           |           |           |           |
| 91.383    | 94.049    | 99.238    | 99.667    | 99.952    | 100.000   |           |           |           |           |
| 4.48741   | 4.61833   | 4.87316   | 4.89420   | 4.90823   | 4.91057   |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS.  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 1.717  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 3.000  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 4.012  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 4.194  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 4.870

| K | I | XQSAVE(K,I) | XQINT(K,I) | XQSLOP(K,I) |
|---|---|-------------|------------|-------------|
| 7 | 1 | -8.40538    | -15.00167  | -1.50587    |
| 7 | 2 | -11.81533   | -18.37962  | -3.10230    |

Calculation No. PM-1055 Revision 0

Attachment J

7 3 -12.54483 -22.46722 -5.27565  
7 4 -13.23843 -52.08302 -22.20554  
7 5 -13.69861 -73.85634 -34.80150  
7 6 -16.16796 NUMXQ(K) = 6

|           |       |        |
|-----------|-------|--------|
| 4.368E-05 | 0.049 | 1.000  |
| 2.689E-05 | 0.147 | 3.000  |
| 2.112E-05 | 0.246 | 5.000  |
| 1.492E-05 | 0.491 | 10.000 |
| 1.203E-05 | 0.737 | 15.000 |
| 1.026E-05 | 0.982 | 20.000 |
| 9.027E-06 | 1.228 | 25.000 |
| 8.110E-06 | 1.473 | 30.000 |
| 7.392E-06 | 1.719 | 35.000 |
| 6.245E-06 | 1.964 | 40.000 |
| 5.365E-06 | 2.210 | 45.000 |
| 4.672E-06 | 2.455 | 50.000 |
| 4.114E-06 | 2.701 | 55.000 |
| 3.657E-06 | 2.946 | 60.000 |
| 3.089E-06 | 3.192 | 65.000 |
| 2.592E-06 | 3.437 | 70.000 |
| 2.197E-06 | 3.683 | 75.000 |
| 1.879E-06 | 3.928 | 80.000 |
| 1.192E-06 | 4.174 | 85.000 |
| 4.830E-07 | 4.420 | 90.000 |
| 1.478E-05 | 0.5   | 10.18  |

ANNUAL AVERAGE = 1.27E-07

K= 7 FIVEXQ(K) = 1.478E-05 FIVEPR(K) = 10.182

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNW SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                                |      |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|--------------------------------|------|
|       |  |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE<br>CA=1292.SQ.METERS | USED |
| A     | 1.6                                      | 1.13                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 2.039E-07         | 2.039E-07         | 2.039E-07            |                                   |                                |      |
| A     | 3.3                                      | 2.78                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 9.517E-08         | 9.514E-08         | 9.514E-08            |                                   |                                |      |
| A     | 5.6                                      | 1.02                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 5.710E-08         | 5.708E-08         | 5.708E-08            |                                   |                                |      |
| A     | 8.2                                      | 0.18                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0          | 1000.0       | 3.858E-08         | 3.857E-08         | 3.857E-08            |                                   |                                |      |
| B     | 1.6                                      | 0.46                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 2.500E-07         | 2.498E-07         | 2.498E-07            |                                   |                                |      |
| B     | 3.3                                      | 2.54                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 1.166E-07         | 1.166E-07         | 1.166E-07            |                                   |                                |      |
| B     | 5.6                                      | 1.20                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 6.999E-08         | 6.995E-08         | 6.995E-08            |                                   |                                |      |
| B     | 8.2                                      | 0.25                 | 7300.              | 0.                | 0.           | 848.1         | 962.0           | 848.1        | 4.729E-08         | 4.727E-08         | 4.727E-08            |                                   |                                |      |
| C     | 1.6                                      | 0.18                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 8.473E-07         | 8.459E-07         | 8.459E-07            |                                   |                                |      |
| C     | 3.3                                      | 1.87                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 3.954E-07         | 3.947E-07         | 3.947E-07            |                                   |                                |      |
| C     | 5.6                                      | 0.60                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 2.372E-07         | 2.368E-07         | 2.368E-07            |                                   |                                |      |
| C     | 8.2                                      | 0.11                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 1.603E-07         | 1.600E-07         | 1.600E-07            |                                   |                                |      |
| C     | 10.7                                     | 0.04                 | 7300.              | 0.                | 0.           | 644.0         | 373.7           | 644.0        | 1.236E-07         | 1.234E-07         | 1.234E-07            |                                   |                                |      |
| D     | 0.2                                      | 0.02                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 2.494E-05         | 2.810E-05         | 2.494E-05            |                                   |                                |      |
| D     | 1.6                                      | 8.07                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 515.1        | 3.563E-06         | 4.014E-06         | 3.563E-06            |                                   |                                |      |
| D     | 3.3                                      | 20.87                | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 481.0        | 1.781E-06         | 1.873E-06         | 1.781E-06            |                                   |                                |      |
| D     | 5.6                                      | 5.29                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 456.4        | 1.126E-06         | 1.124E-06         | 1.124E-06            |                                   |                                |      |
| D     | 8.2                                      | 0.42                 | 7300.              | 0.                | 0.           | 453.5         | 111.1           | 453.5        | 7.657E-07         | 7.595E-07         | 7.595E-07            |                                   |                                |      |
| E     | 0.2                                      | 0.15                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 5.173E-05         | 6.456E-05         | 5.173E-05            |                                   |                                |      |
| E     | 1.6                                      | 21.15                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 410.0        | 7.390E-06         | 9.223E-06         | 7.390E-06            |                                   |                                |      |
| E     | 3.3                                      | 23.87                | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 357.4        | 3.956E-06         | 4.304E-06         | 3.956E-06            |                                   |                                |      |
| E     | 5.6                                      | 2.50                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 325.9        | 2.603E-06         | 2.582E-06         | 2.582E-06            |                                   |                                |      |
| E     | 8.2                                      | 0.21                 | 7300.              | 0.                | 0.           | 322.5         | 67.5            | 322.5        | 1.778E-06         | 1.745E-06         | 1.745E-06            |                                   |                                |      |
| F     | 0.2                                      | 0.03                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.117E-04         | 1.504E-04         | 1.117E-04            |                                   |                                |      |
| F     | 1.6                                      | 3.49                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 313.3        | 1.595E-05         | 2.148E-05         | 1.595E-05            |                                   |                                |      |
| F     | 3.3                                      | 0.63                 | 7300.              | 0.                | 0.           | 222.6         | 40.9            | 255.8        | 9.119E-06         | 1.002E-05         | 9.119E-06            |                                   |                                |      |
| G     | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 2.237E-04         | 3.389E-04         | 2.237E-04            |                                   |                                |      |
| G     | 1.6                                      | 0.95                 | 7300.              | 0.                | 0.           | 153.6         | 24.8            | 257.9        | 3.195E-05         | 4.842E-05         | 3.195E-05            |                                   |                                |      |



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 | 3.563E-06 |
| 0.008     | 0.034     | 0.184     | 1.136     | 1.155     | 4.645     | 5.279     | 26.430    | 50.295    | 58.368    |
| 0.00050   | 0.00223   | 0.01224   | 0.07536   | 0.07659   | 0.30804   | 0.35012   | 1.75284   | 3.33558   | 3.87095   |
| 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 | 2.039E-07 |
| 60.871    | 81.740    | 81.951    | 87.239    | 87.415    | 87.838    | 89.707    | 90.165    | 90.764    | 91.892    |
| 4.03694   | 5.42096   | 5.43499   | 5.78567   | 5.79736   | 5.82541   | 5.94932   | 5.97971   | 6.01945   | 6.09427   |
| 1.600E-07 | 1.234E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 |           |           |
| 91.998    | 92.033    | 94.571    | 97.356    | 98.555    | 99.577    | 99.824    | 100.000   |           |           |
| 6.10128   | 6.10362   | 6.27194   | 6.45663   | 6.53612   | 6.60392   | 6.62029   | 6.63197   |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 1.751  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 3.868  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 5.417  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.782  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 6.268  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 6.453

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 8 1 -8.40538 -14.92852 -1.47675

Calculation No. PM-1055 Revision 0

Attachment J

8 2 -11.81533 -16.31359 -2.13376  
8 3 -12.54483 -20.17421 -4.31952  
8 4 -13.23843 -36.09462 -14.23456  
8 5 -13.69861 -101.29270 -55.67347  
8 6 -15.96463 -37.00098 -13.72546  
8 7 -16.16796 NUMXQ(K) = 7

|           |       |        |
|-----------|-------|--------|
| 3.764E-05 | 0.066 | 1.000  |
| 2.311E-05 | 0.199 | 3.000  |
| 1.811E-05 | 0.332 | 5.000  |
| 1.274E-05 | 0.663 | 10.000 |
| 1.024E-05 | 0.995 | 15.000 |
| 8.703E-06 | 1.326 | 20.000 |
| 7.639E-06 | 1.658 | 25.000 |
| 6.617E-06 | 1.990 | 30.000 |
| 5.768E-06 | 2.321 | 35.000 |
| 5.106E-06 | 2.653 | 40.000 |
| 4.576E-06 | 2.984 | 45.000 |
| 4.141E-06 | 3.316 | 50.000 |
| 3.777E-06 | 3.648 | 55.000 |
| 3.372E-06 | 3.979 | 60.000 |
| 2.869E-06 | 4.311 | 65.000 |
| 2.465E-06 | 4.642 | 70.000 |
| 2.136E-06 | 4.974 | 75.000 |
| 1.864E-06 | 5.306 | 80.000 |
| 1.352E-06 | 5.637 | 85.000 |
| 4.708E-07 | 5.969 | 90.000 |
| 1.475E-05 | 0.5   | 7.54   |

ANNUAL AVERAGE = 1.49E-07

K= 8 FIVEXQ(K) = 1.475E-05 FIVEPR(K) = 7.539

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE N SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|       |  |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| A     | 1.6                                      | 0.23                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 2.039E-07         | 2.039E-07            | 2.039E-07                         |           |      |
| A     | 3.3                                      | 2.01                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 9.517E-08         | 9.514E-08            | 9.514E-08                         |           |      |
| A     | 5.6                                      | 2.77                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 5.710E-08         | 5.708E-08            | 5.708E-08                         |           |      |
| A     | 8.2                                      | 0.37                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 3.858E-08         | 3.857E-08            | 3.857E-08                         |           |      |
| B     | 1.6                                      | 0.34                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 2.500E-07         | 2.498E-07            | 2.498E-07                         |           |      |
| B     | 3.3                                      | 2.57                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 1.166E-07         | 1.166E-07            | 1.166E-07                         |           |      |
| B     | 5.6                                      | 4.10                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 6.999E-08         | 6.995E-08            | 6.995E-08                         |           |      |
| B     | 8.2                                      | 0.62                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 4.729E-08         | 4.727E-08            | 4.727E-08                         |           |      |
| C     | 1.6                                      | 0.17                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 8.473E-07         | 8.459E-07            | 8.459E-07                         |           |      |
| C     | 3.3                                      | 1.87                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 3.954E-07         | 3.947E-07            | 3.947E-07                         |           |      |
| C     | 5.6                                      | 2.12                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 2.372E-07         | 2.368E-07            | 2.368E-07                         |           |      |
| C     | 8.2                                      | 0.23                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 1.603E-07         | 1.600E-07            | 1.600E-07                         |           |      |
| D     | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 515.1             | 2.494E-05         | 2.810E-05            | 2.494E-05                         |           |      |
| D     | 1.6                                      | 5.00                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 515.1             | 3.563E-06         | 4.014E-06            | 3.563E-06                         |           |      |
| D     | 3.3                                      | 15.38                | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 481.0             | 1.781E-06         | 1.873E-06            | 1.781E-06                         |           |      |
| D     | 5.6                                      | 9.19                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 456.4             | 1.126E-06         | 1.124E-06            | 1.124E-06                         |           |      |
| D     | 8.2                                      | 1.27                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 453.5             | 7.657E-07         | 7.595E-07            | 7.595E-07                         |           |      |
| E     | 0.2                                      | 0.13                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 410.0             | 5.173E-05         | 6.456E-05            | 5.173E-05                         |           |      |
| E     | 1.6                                      | 17.92                | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 410.0             | 7.390E-06         | 9.223E-06            | 7.390E-06                         |           |      |
| E     | 3.3                                      | 21.79                | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 357.4             | 3.956E-06         | 4.304E-06            | 3.956E-06                         |           |      |
| E     | 5.6                                      | 5.71                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 325.9             | 2.603E-06         | 2.582E-06            | 2.582E-06                         |           |      |
| E     | 8.2                                      | 0.71                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 322.5             | 1.778E-06         | 1.745E-06            | 1.745E-06                         |           |      |
| E     | 10.7                                     | 0.03                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 322.5             | 1.370E-06         | 1.345E-06            | 1.345E-06                         |           |      |
| F     | 0.2                                      | 0.03                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 313.3             | 1.117E-04         | 1.504E-04            | 1.117E-04                         |           |      |
| F     | 1.6                                      | 3.42                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 313.3             | 1.595E-05         | 2.148E-05            | 1.595E-05                         |           |      |
| F     | 3.3                                      | 1.38                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 255.8             | 9.119E-06         | 1.002E-05            | 9.119E-06                         |           |      |
| G     | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 257.9             | 2.237E-04         | 3.389E-04            | 2.237E-04                         |           |      |
| G     | 1.6                                      | 0.65                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 257.9             | 3.195E-05         | 4.842E-05            | 3.195E-05                         |           |      |

CA=1292.SQ.METERS

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 | 3.563E-06 |
| 0.005     | 0.031     | 0.159     | 0.809     | 0.820     | 4.240     | 5.625     | 23.545    | 45.337    | 50.339    |
| 0.00043   | 0.00254   | 0.01311   | 0.06688   | 0.06784   | 0.35072   | 0.46528   | 1.94748   | 3.74998   | 4.16378   |
| 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.345E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 |
| 56.049    | 71.425    | 72.131    | 72.160    | 81.345    | 81.515    | 82.787    | 84.652    | 84.992    | 87.111    |
| 4.63603   | 5.90783   | 5.96628   | 5.96862   | 6.72843   | 6.74245   | 6.84766   | 7.00196   | 7.03001   | 7.20535   |
| 2.039E-07 | 1.600E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 |           |           |
| 87.338    | 87.564    | 90.136    | 92.143    | 96.241    | 99.011    | 99.633    | 100.000   |           |           |
| 7.22405   | 7.24276   | 7.45550   | 7.62149   | 7.96048   | 8.18959   | 8.24103   | 8.27142   |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 1.945  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 4.160  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 5.904  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.962  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 6.725  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 8.186

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 9 1 -8.40538 -14.76598 -1.42878

Calculation No. PM-1055 Revision 0

Attachment J

9 2 -11.81533 -16.34240 -2.19212  
9 3 -12.54483 -19.63423 -4.09230  
9 4 -13.23843 -19.67864 -4.12072  
9 5 -13.25883 -24.43392 -7.17302  
9 6 -13.69861 -56.60621 -28.66959  
9 7 -16.67879 NUMXQ(K) = 7

|           |       |        |
|-----------|-------|--------|
| 3.464E-05 | 0.083 | 1.000  |
| 2.142E-05 | 0.248 | 3.000  |
| 1.683E-05 | 0.414 | 5.000  |
| 1.188E-05 | 0.827 | 10.000 |
| 9.552E-06 | 1.241 | 15.000 |
| 8.125E-06 | 1.654 | 20.000 |
| 7.000E-06 | 2.068 | 25.000 |
| 5.915E-06 | 2.481 | 30.000 |
| 5.110E-06 | 2.895 | 35.000 |
| 4.488E-06 | 3.309 | 40.000 |
| 3.993E-06 | 3.722 | 45.000 |
| 3.588E-06 | 4.136 | 50.000 |
| 3.003E-06 | 4.549 | 55.000 |
| 2.531E-06 | 4.963 | 60.000 |
| 2.157E-06 | 5.376 | 65.000 |
| 1.856E-06 | 5.790 | 70.000 |
| 1.515E-06 | 6.204 | 75.000 |
| 1.196E-06 | 6.617 | 80.000 |
| 5.841E-07 | 7.031 | 85.000 |
| 2.469E-07 | 7.444 | 90.000 |
| 1.534E-05 | 0.5   | 6.04   |

ANNUAL AVERAGE = 1.62E-07

K= 9 FIVEXQ(K) = 1.534E-05 FIVEPR(K) = 6.045

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NNE SECTOR.

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |                                |      |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|--------------------------------|------|
|       |  |                      |                    |                   |              |               |                 |              |                   |                   |                      | MEANDER                           | BLDG WAKE<br>CA=1292.SQ.METERS | USED |
| A     | 1.6                                      | 0.17                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 2.039E-07         | 2.039E-07            | 2.039E-07                         |                                |      |
| A     | 3.3                                      | 2.41                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 9.517E-08         | 9.514E-08            | 9.514E-08                         |                                |      |
| A     | 5.6                                      | 1.74                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 5.710E-08         | 5.708E-08            | 5.708E-08                         |                                |      |
| A     | 8.2                                      | 0.06                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 3.858E-08         | 3.857E-08            | 3.857E-08                         |                                |      |
| B     | 1.6                                      | 0.11                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 2.500E-07         | 2.498E-07            | 2.498E-07                         |                                |      |
| B     | 3.3                                      | 2.52                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 1.166E-07         | 1.166E-07            | 1.166E-07                         |                                |      |
| B     | 5.6                                      | 2.58                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 6.999E-08         | 6.995E-08            | 6.995E-08                         |                                |      |
| B     | 8.2                                      | 0.06                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 4.729E-08         | 4.727E-08            | 4.727E-08                         |                                |      |
| C     | 3.3                                      | 1.35                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 3.954E-07         | 3.947E-07            | 3.947E-07                         |                                |      |
| C     | 5.6                                      | 1.74                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 2.372E-07         | 2.368E-07            | 2.368E-07                         |                                |      |
| D     | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 515.1             | 2.494E-05         | 2.810E-05            | 2.494E-05                         |                                |      |
| D     | 1.6                                      | 5.16                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 515.1             | 3.563E-06         | 4.014E-06            | 3.563E-06                         |                                |      |
| D     | 3.3                                      | 13.07                | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 481.0             | 1.781E-06         | 1.873E-06            | 1.781E-06                         |                                |      |
| D     | 5.6                                      | 6.06                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 456.4             | 1.126E-06         | 1.124E-06            | 1.124E-06                         |                                |      |
| D     | 8.2                                      | 0.56                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 453.5             | 7.657E-07         | 7.595E-07            | 7.595E-07                         |                                |      |
| D     | 10.7                                     | 0.11                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 453.5             | 5.902E-07         | 5.854E-07            | 5.854E-07                         |                                |      |
| E     | 0.2                                      | 0.15                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 410.0             | 5.173E-05         | 6.456E-05            | 5.173E-05                         |                                |      |
| E     | 1.6                                      | 21.04                | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 410.0             | 7.390E-06         | 9.223E-06            | 7.390E-06                         |                                |      |
| E     | 3.3                                      | 21.93                | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 357.4             | 3.956E-06         | 4.304E-06            | 3.956E-06                         |                                |      |
| E     | 5.6                                      | 3.03                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 325.9             | 2.603E-06         | 2.582E-06            | 2.582E-06                         |                                |      |
| E     | 8.2                                      | 0.22                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 322.5             | 1.778E-06         | 1.745E-06            | 1.745E-06                         |                                |      |
| F     | 0.2                                      | 0.08                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 313.3             | 1.117E-04         | 1.504E-04            | 1.117E-04                         |                                |      |
| F     | 1.6                                      | 11.00                | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 313.3             | 1.595E-05         | 2.148E-05            | 1.595E-05                         |                                |      |
| F     | 3.3                                      | 2.58                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 255.8             | 9.119E-06         | 1.002E-05            | 9.119E-06                         |                                |      |
| G     | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 257.9             | 2.237E-04         | 3.389E-04            | 2.237E-04                         |                                |      |
| G     | 1.6                                      | 1.85                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 257.9             | 3.195E-05         | 4.842E-05            | 3.195E-05                         |                                |      |
| G     | 3.3                                      | 0.39                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 187.1             | 2.056E-05         | 2.260E-05            | 2.056E-05                         |                                |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 |
| 0.015     | 0.097     | 0.247     | 2.098     | 2.110     | 2.503     | 13.498    | 16.078    | 37.115    | 59.049    |
| 0.00061   | 0.00403   | 0.01029   | 0.08744   | 0.08793   | 0.10430   | 0.56252   | 0.67006   | 1.54676   | 2.46087   |
| 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.124E-06 | 7.595E-07 | 5.854E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 |
| 64.210    | 67.239    | 80.310    | 80.534    | 86.593    | 87.154    | 87.266    | 88.612    | 88.724    | 90.463    |
| 2.67595   | 2.80220   | 3.34692   | 3.35627   | 3.60876   | 3.63214   | 3.63682   | 3.69293   | 3.69760   | 3.77008   |
| 2.039E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 |           |           |           |
| 90.632    | 93.156    | 95.568    | 98.149    | 99.888    | 99.944    | 100.000   |           |           |           |
| 3.77709   | 3.88230   | 3.98282   | 4.09037   | 4.16284   | 4.16518   | 4.16752   |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS.  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2) = 0.562  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3) = 1.545  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4) = 2.673  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5) = 3.344  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6) = 3.606  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 4.159

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 10 1 -8.40538 -14.68705 -1.43625

Calculation No. PM-1055 Revision 0

Attachment J

10 2 -11.04582 -16.22211 -2.04174  
 10 3 -11.81533 -18.74508 -3.21067  
 10 4 -12.54483 -26.12405 -7.03173  
 10 5 -13.23843 -37.97973 -13.50141  
 10 6 -13.69861 -94.98652 -45.19980  
 10 7 -16.67879 NUMXQ(K)= 7

|           |       |        |
|-----------|-------|--------|
| 5.080E-05 | 0.042 | 1.000  |
| 3.217E-05 | 0.125 | 3.000  |
| 2.564E-05 | 0.208 | 5.000  |
| 1.851E-05 | 0.417 | 10.000 |
| 1.479E-05 | 0.625 | 15.000 |
| 1.197E-05 | 0.834 | 20.000 |
| 1.010E-05 | 1.042 | 25.000 |
| 8.763E-06 | 1.250 | 30.000 |
| 7.750E-06 | 1.459 | 35.000 |
| 6.713E-06 | 1.667 | 40.000 |
| 5.758E-06 | 1.875 | 45.000 |
| 5.009E-06 | 2.084 | 50.000 |
| 4.406E-06 | 2.292 | 55.000 |
| 3.913E-06 | 2.501 | 60.000 |
| 3.433E-06 | 2.709 | 65.000 |
| 2.735E-06 | 2.917 | 70.000 |
| 2.208E-06 | 3.126 | 75.000 |
| 1.803E-06 | 3.334 | 80.000 |
| 1.260E-06 | 3.542 | 85.000 |
| 5.063E-07 | 3.751 | 90.000 |
| 1.692E-05 | 0.5   | 12.00  |

ANNUAL AVERAGE = 1.14E-07

K= 10 FIVEXQ(K)= 1.692E-05 FIVEPR(K)=11.998



Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE NE SECTOR.

| CLASS             | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-------------------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                   |  |                      |                    |                   |              |               |                       |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| CA=1292.SQ.METERS |  |                      |                    |                   |              |               |                       |                   |                   |                      |                                   |           |      |
| A                 | 1.6                                      | 0.21                 | 7300.              | 0.                | 0.           | 0.            | 1000.0                | 1000.0            | 1000.0            | 2.039E-07            | 2.039E-07                         | 2.039E-07 |      |
| A                 | 3.3                                      | 2.81                 | 7300.              | 0.                | 0.           | 0.            | 1000.0                | 1000.0            | 1000.0            | 9.517E-08            | 9.514E-08                         | 9.514E-08 |      |
| A                 | 5.6                                      | 2.03                 | 7300.              | 0.                | 0.           | 0.            | 1000.0                | 1000.0            | 1000.0            | 5.710E-08            | 5.708E-08                         | 5.708E-08 |      |
| A                 | 8.2                                      | 0.16                 | 7300.              | 0.                | 0.           | 0.            | 1000.0                | 1000.0            | 1000.0            | 3.858E-08            | 3.857E-08                         | 3.857E-08 |      |
| B                 | 1.6                                      | 0.31                 | 7300.              | 0.                | 0.           | 0.            | 848.1                 | 962.0             | 848.1             | 2.500E-07            | 2.498E-07                         | 2.498E-07 |      |
| B                 | 3.3                                      | 3.34                 | 7300.              | 0.                | 0.           | 0.            | 848.1                 | 962.0             | 848.1             | 1.166E-07            | 1.166E-07                         | 1.166E-07 |      |
| B                 | 5.6                                      | 1.46                 | 7300.              | 0.                | 0.           | 0.            | 848.1                 | 962.0             | 848.1             | 6.999E-08            | 6.995E-08                         | 6.995E-08 |      |
| B                 | 8.2                                      | 0.16                 | 7300.              | 0.                | 0.           | 0.            | 848.1                 | 962.0             | 848.1             | 4.729E-08            | 4.727E-08                         | 4.727E-08 |      |
| C                 | 1.6                                      | 0.26                 | 7300.              | 0.                | 0.           | 0.            | 644.0                 | 373.7             | 644.0             | 8.473E-07            | 8.459E-07                         | 8.459E-07 |      |
| C                 | 3.3                                      | 1.25                 | 7300.              | 0.                | 0.           | 0.            | 644.0                 | 373.7             | 644.0             | 3.954E-07            | 3.947E-07                         | 3.947E-07 |      |
| C                 | 5.6                                      | 1.15                 | 7300.              | 0.                | 0.           | 0.            | 644.0                 | 373.7             | 644.0             | 2.372E-07            | 2.368E-07                         | 2.368E-07 |      |
| D                 | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 0.            | 453.5                 | 111.1             | 515.1             | 2.494E-05            | 2.810E-05                         | 2.494E-05 |      |
| D                 | 1.6                                      | 4.06                 | 7300.              | 0.                | 0.           | 0.            | 453.5                 | 111.1             | 515.1             | 3.563E-06            | 4.014E-06                         | 3.563E-06 |      |
| D                 | 3.3                                      | 9.80                 | 7300.              | 0.                | 0.           | 0.            | 453.5                 | 111.1             | 481.0             | 1.781E-06            | 1.873E-06                         | 1.781E-06 |      |
| D                 | 5.6                                      | 4.06                 | 7300.              | 0.                | 0.           | 0.            | 453.5                 | 111.1             | 456.4             | 1.126E-06            | 1.124E-06                         | 1.124E-06 |      |
| D                 | 8.2                                      | 0.26                 | 7300.              | 0.                | 0.           | 0.            | 453.5                 | 111.1             | 453.5             | 7.657E-07            | 7.595E-07                         | 7.595E-07 |      |
| E                 | 0.2                                      | 0.12                 | 7300.              | 0.                | 0.           | 0.            | 322.5                 | 67.5              | 410.0             | 5.173E-05            | 6.456E-05                         | 5.173E-05 |      |
| E                 | 1.6                                      | 16.94                | 7300.              | 0.                | 0.           | 0.            | 322.5                 | 67.5              | 410.0             | 7.390E-06            | 9.223E-06                         | 7.390E-06 |      |
| E                 | 3.3                                      | 16.88                | 7300.              | 0.                | 0.           | 0.            | 322.5                 | 67.5              | 357.4             | 3.956E-06            | 4.304E-06                         | 3.956E-06 |      |
| E                 | 5.6                                      | 2.40                 | 7300.              | 0.                | 0.           | 0.            | 322.5                 | 67.5              | 325.9             | 2.603E-06            | 2.582E-06                         | 2.582E-06 |      |
| F                 | 0.2                                      | 0.11                 | 7300.              | 0.                | 0.           | 0.            | 222.6                 | 40.9              | 313.3             | 1.117E-04            | 1.504E-04                         | 1.117E-04 |      |
| F                 | 1.6                                      | 15.32                | 7300.              | 0.                | 0.           | 0.            | 222.6                 | 40.9              | 313.3             | 1.595E-05            | 2.148E-05                         | 1.595E-05 |      |
| F                 | 3.3                                      | 5.05                 | 7300.              | 0.                | 0.           | 0.            | 222.6                 | 40.9              | 255.8             | 9.119E-06            | 1.002E-05                         | 9.119E-06 |      |
| F                 | 5.6                                      | 0.05                 | 7300.              | 0.                | 0.           | 0.            | 222.6                 | 40.9              | 225.6             | 6.202E-06            | 6.015E-06                         | 6.015E-06 |      |
| G                 | 0.2                                      | 0.07                 | 7300.              | 0.                | 0.           | 0.            | 153.6                 | 24.8              | 257.9             | 2.237E-04            | 3.389E-04                         | 2.237E-04 |      |
| G                 | 1.6                                      | 8.65                 | 7300.              | 0.                | 0.           | 0.            | 153.6                 | 24.8              | 257.9             | 3.195E-05            | 4.842E-05                         | 3.195E-05 |      |
| G                 | 3.3                                      | 3.07                 | 7300.              | 0.                | 0.           | 0.            | 153.6                 | 24.8              | 187.1             | 2.056E-05            | 2.260E-05                         | 2.056E-05 |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 6.015E-06 |
| 0.068     | 0.183     | 0.304     | 8.954     | 8.963     | 12.038    | 27.358    | 32.413    | 49.349    | 49.401    |
| 0.00307   | 0.00821   | 0.01363   | 0.40171   | 0.40213   | 0.54007   | 1.22740   | 1.45418   | 2.21398   | 2.21632   |
| 3.956E-06 | 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 |
| 66.285    | 70.349    | 72.746    | 82.543    | 86.608    | 86.868    | 87.129    | 88.379    | 88.692    | 89.838    |
| 2.97379   | 3.15614   | 3.26369   | 3.70321   | 3.88556   | 3.89725   | 3.90894   | 3.96505   | 3.97907   | 4.03051   |
| 2.039E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 |           |           |           |
| 90.047    | 93.382    | 96.196    | 97.655    | 99.687    | 99.844    | 100.000   |           |           |           |
| 4.03986   | 4.18948   | 4.31573   | 4.38119   | 4.47236   | 4.47938   | 4.48639   |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2) = 0.401  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 3) = 1.226  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 4) = 2.212  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 5) = 3.153  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 6) = 3.700  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 7) = 3.882

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 11 1 -8.40538 -14.15498 -1.43480

Calculation No. PM-1055 Revision 0

Attachment J

11 2 -10.35129 -14.92988 -1.72710  
11 3 -11.04582 -18.34724 -3.24669  
11 4 -11.81533 -21.39976 -4.76394  
11 5 -12.54483 -30.42010 -9.61687  
11 6 -13.23843 -50.44180 -20.82336  
11 7 -13.69861 NUMXQ(K) = 7

|           |       |        |
|-----------|-------|--------|
| 8.357E-05 | 0.045 | 1.000  |
| 5.281E-05 | 0.135 | 3.000  |
| 4.203E-05 | 0.224 | 5.000  |
| 2.995E-05 | 0.449 | 10.000 |
| 2.345E-05 | 0.673 | 15.000 |
| 1.957E-05 | 0.897 | 20.000 |
| 1.693E-05 | 1.122 | 25.000 |
| 1.421E-05 | 1.346 | 30.000 |
| 1.166E-05 | 1.570 | 35.000 |
| 9.794E-06 | 1.795 | 40.000 |
| 8.373E-06 | 2.019 | 45.000 |
| 7.199E-06 | 2.243 | 50.000 |
| 5.939E-06 | 2.468 | 55.000 |
| 4.970E-06 | 2.692 | 60.000 |
| 4.209E-06 | 2.916 | 65.000 |
| 3.601E-06 | 3.140 | 70.000 |
| 2.705E-06 | 3.365 | 75.000 |
| 2.043E-06 | 3.589 | 80.000 |
| 1.345E-06 | 3.813 | 85.000 |

2.808E-05 0.5 11.14

ANNUAL AVERAGE = 1.59E-07

K= 11 FIVEXQ(K)= 2.808E-05 FIVEPR(K)=11.145

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ENE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-----------------|------------------------|----------------------|--------------------|-------------------|------------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                 |                        |                      |                    |                   |                  |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|                 | AT 10.0 METERS         |                      |                    |                   |                  |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A               | 1.6                    | 0.24                 | 7300.              | 0.                | 0.               | 1000.0             | 1000.0            | 1000.0            | 2.039E-07            | 2.039E-07                         | 2.039E-07 |      |
| A               | 3.3                    | 1.35                 | 7300.              | 0.                | 0.               | 1000.0             | 1000.0            | 1000.0            | 9.517E-08            | 9.514E-08                         | 9.514E-08 |      |
| A               | 5.6                    | 0.97                 | 7300.              | 0.                | 0.               | 1000.0             | 1000.0            | 1000.0            | 5.710E-08            | 5.708E-08                         | 5.708E-08 |      |
| A               | 8.2                    | 0.03                 | 7300.              | 0.                | 0.               | 1000.0             | 1000.0            | 1000.0            | 3.858E-08            | 3.857E-08                         | 3.857E-08 |      |
| B               | 1.6                    | 0.21                 | 7300.              | 0.                | 0.               | 848.1              | 962.0             | 848.1             | 2.500E-07            | 2.498E-07                         | 2.498E-07 |      |
| B               | 3.3                    | 1.45                 | 7300.              | 0.                | 0.               | 848.1              | 962.0             | 848.1             | 1.166E-07            | 1.166E-07                         | 1.166E-07 |      |
| B               | 5.6                    | 0.83                 | 7300.              | 0.                | 0.               | 848.1              | 962.0             | 848.1             | 6.999E-08            | 6.995E-08                         | 6.995E-08 |      |
| C               | 1.6                    | 0.14                 | 7300.              | 0.                | 0.               | 644.0              | 373.7             | 644.0             | 8.473E-07            | 8.459E-07                         | 8.459E-07 |      |
| C               | 3.3                    | 0.73                 | 7300.              | 0.                | 0.               | 644.0              | 373.7             | 644.0             | 3.954E-07            | 3.947E-07                         | 3.947E-07 |      |
| C               | 5.6                    | 0.76                 | 7300.              | 0.                | 0.               | 644.0              | 373.7             | 644.0             | 2.372E-07            | 2.368E-07                         | 2.368E-07 |      |
| D               | 0.2                    | 0.01                 | 7300.              | 0.                | 0.               | 453.5              | 111.1             | 515.1             | 2.494E-05            | 2.810E-05                         | 2.494E-05 |      |
| D               | 1.6                    | 3.63                 | 7300.              | 0.                | 0.               | 453.5              | 111.1             | 515.1             | 3.563E-06            | 4.014E-06                         | 3.563E-06 |      |
| D               | 3.3                    | 6.04                 | 7300.              | 0.                | 0.               | 453.5              | 111.1             | 481.0             | 1.781E-06            | 1.873E-06                         | 1.781E-06 |      |
| D               | 5.6                    | 2.56                 | 7300.              | 0.                | 0.               | 453.5              | 111.1             | 456.4             | 1.126E-06            | 1.124E-06                         | 1.124E-06 |      |
| D               | 8.2                    | 0.14                 | 7300.              | 0.                | 0.               | 453.5              | 111.1             | 453.5             | 7.657E-07            | 7.595E-07                         | 7.595E-07 |      |
| E               | 0.2                    | 0.10                 | 7300.              | 0.                | 0.               | 322.5              | 67.5              | 410.0             | 5.173E-05            | 6.456E-05                         | 5.173E-05 |      |
| E               | 1.6                    | 13.64                | 7300.              | 0.                | 0.               | 322.5              | 67.5              | 410.0             | 7.390E-06            | 9.223E-06                         | 7.390E-06 |      |
| E               | 3.3                    | 14.99                | 7300.              | 0.                | 0.               | 322.5              | 67.5              | 357.4             | 3.956E-06            | 4.304E-06                         | 3.956E-06 |      |
| E               | 5.6                    | 1.76                 | 7300.              | 0.                | 0.               | 322.5              | 67.5              | 325.9             | 2.603E-06            | 2.582E-06                         | 2.582E-06 |      |
| F               | 0.2                    | 0.12                 | 7300.              | 0.                | 0.               | 222.6              | 40.9              | 313.3             | 1.117E-04            | 1.504E-04                         | 1.117E-04 |      |
| F               | 1.6                    | 15.58                | 7300.              | 0.                | 0.               | 222.6              | 40.9              | 313.3             | 1.595E-05            | 2.148E-05                         | 1.595E-05 |      |
| F               | 3.3                    | 8.70                 | 7300.              | 0.                | 0.               | 222.6              | 40.9              | 255.8             | 9.119E-06            | 1.002E-05                         | 9.119E-06 |      |
| F               | 5.6                    | 0.10                 | 7300.              | 0.                | 0.               | 222.6              | 40.9              | 225.6             | 6.202E-06            | 6.015E-06                         | 6.015E-06 |      |
| G               | 0.2                    | 0.13                 | 7300.              | 0.                | 0.               | 153.6              | 24.8              | 257.9             | 2.237E-04            | 3.389E-04                         | 2.237E-04 |      |
| G               | 1.6                    | 16.99                | 7300.              | 0.                | 0.               | 153.6              | 24.8              | 257.9             | 3.195E-05            | 4.842E-05                         | 3.195E-05 |      |
| G               | 3.3                    | 8.77                 | 7300.              | 0.                | 0.               | 153.6              | 24.8              | 187.1             | 2.056E-05            | 2.260E-05                         | 2.056E-05 |      |
| G               | 5.6                    | 0.03                 | 7300.              | 0.                | 0.               | 153.6              | 24.8              | 156.4             | 1.476E-05            | 1.356E-05                         | 1.356E-05 |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 1.356E-05 | 9.119E-06 | 7.390E-06 |
| 0.135     | 0.251     | 0.348     | 17.341    | 17.349    | 26.122    | 41.699    | 41.734    | 50.437    | 64.080    |
| 0.00910   | 0.01698   | 0.02357   | 1.17380   | 1.17437   | 1.76819   | 2.82256   | 2.82490   | 3.41405   | 4.33750   |
| 6.015E-06 | 3.956E-06 | 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 | 3.947E-07 | 2.498E-07 |
| 64.184    | 79.173    | 82.800    | 84.561    | 90.606    | 93.161    | 93.300    | 93.438    | 94.163    | 94.370    |
| 4.34452   | 5.35915   | 5.60463   | 5.72386   | 6.13299   | 6.30599   | 6.31534   | 6.32469   | 6.37379   | 6.38781   |
| 2.368E-07 | 2.039E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 3.857E-08 |           |           |           |
| 95.130    | 95.372    | 96.822    | 98.169    | 98.998    | 99.965    | 100.000   |           |           |           |
| 6.43925   | 6.45561   | 6.55380   | 6.64498   | 6.70109   | 6.76655   | 6.76889   |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 2)= 1.172  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 3)= 2.820  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 4)= 4.334  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 5)= 5.601  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 6)= 6.129  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7)= 6.302

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)  
 12 1 -8.40538 -13.33734 -1.31774

Calculation No. PM-1055 Revision 0

Attachment J

12 2 -10.35129 -14.74649 -1.93960  
 12 3 -11.04582 -18.58338 -3.95059  
 12 4 -11.81533 -21.89563 -5.88398  
 12 5 -12.54483 -36.94700 -15.35505  
 12 6 -13.23843 -63.53146 -32.57270  
 12 7 -13.69861 NUMXQ(K) = 7

|           |       |        |
|-----------|-------|--------|
| 1.101E-04 | 0.068 | 1.000  |
| 7.116E-05 | 0.203 | 3.000  |
| 5.723E-05 | 0.338 | 5.000  |
| 4.179E-05 | 0.677 | 10.000 |
| 3.435E-05 | 1.015 | 15.000 |
| 2.871E-05 | 1.354 | 20.000 |
| 2.418E-05 | 1.692 | 25.000 |
| 2.093E-05 | 2.031 | 30.000 |
| 1.846E-05 | 2.369 | 35.000 |
| 1.652E-05 | 2.708 | 40.000 |
| 1.398E-05 | 3.046 | 45.000 |
| 1.161E-05 | 3.384 | 50.000 |
| 9.784E-06 | 3.723 | 55.000 |
| 8.347E-06 | 4.061 | 60.000 |
| 7.103E-06 | 4.400 | 65.000 |
| 5.771E-06 | 4.738 | 70.000 |
| 4.744E-06 | 5.077 | 75.000 |
| 3.939E-06 | 5.415 | 80.000 |
| 2.916E-06 | 5.754 | 85.000 |
| 1.876E-06 | 6.092 | 90.000 |
| 4.809E-05 | 0.5   | 7.39   |

ANNUAL AVERAGE = 3.00E-07

K= 12 FIVEXQ(K) = 4.809E-05 FIVEPR(K) = 7.387

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE E SECTOR:

| CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|-------|--|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
|       |  |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A     | 1.6                                      | 0.43                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0             | 1000.0            | 2.039E-07         | 2.039E-07            | 2.039E-07                         |           |      |
| A     | 3.3                                      | 2.64                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0             | 1000.0            | 9.517E-08         | 9.514E-08            | 9.514E-08                         |           |      |
| A     | 5.6                                      | 1.64                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0             | 1000.0            | 5.710E-08         | 5.708E-08            | 5.708E-08                         |           |      |
| A     | 8.2                                      | 0.11                 | 7300.              | 0.                | 0.           | 1000.0        | 1000.0             | 1000.0            | 3.858E-08         | 3.857E-08            | 3.857E-08                         |           |      |
| B     | 1.6                                      | 0.43                 | 7300.              | 0.                | 0.           | 848.1         | 962.0              | 848.1             | 2.500E-07         | 2.498E-07            | 2.498E-07                         |           |      |
| B     | 3.3                                      | 1.81                 | 7300.              | 0.                | 0.           | 848.1         | 962.0              | 848.1             | 1.166E-07         | 1.166E-07            | 1.166E-07                         |           |      |
| B     | 5.6                                      | 1.45                 | 7300.              | 0.                | 0.           | 848.1         | 962.0              | 848.1             | 6.999E-08         | 6.995E-08            | 6.995E-08                         |           |      |
| B     | 8.2                                      | 0.06                 | 7300.              | 0.                | 0.           | 848.1         | 962.0              | 848.1             | 4.729E-08         | 4.727E-08            | 4.727E-08                         |           |      |
| C     | 1.6                                      | 0.17                 | 7300.              | 0.                | 0.           | 644.0         | 373.7              | 644.0             | 8.473E-07         | 8.459E-07            | 8.459E-07                         |           |      |
| C     | 3.3                                      | 1.19                 | 7300.              | 0.                | 0.           | 644.0         | 373.7              | 644.0             | 3.954E-07         | 3.947E-07            | 3.947E-07                         |           |      |
| C     | 5.6                                      | 0.99                 | 7300.              | 0.                | 0.           | 644.0         | 373.7              | 644.0             | 2.372E-07         | 2.368E-07            | 2.368E-07                         |           |      |
| C     | 8.2                                      | 0.09                 | 7300.              | 0.                | 0.           | 644.0         | 373.7              | 644.0             | 1.603E-07         | 1.600E-07            | 1.600E-07                         |           |      |
| D     | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 453.5         | 111.1              | 515.1             | 2.494E-05         | 2.810E-05            | 2.494E-05                         |           |      |
| D     | 1.6                                      | 3.46                 | 7300.              | 0.                | 0.           | 453.5         | 111.1              | 515.1             | 3.563E-06         | 4.014E-06            | 3.563E-06                         |           |      |
| D     | 3.3                                      | 8.42                 | 7300.              | 0.                | 0.           | 453.5         | 111.1              | 481.0             | 1.781E-06         | 1.873E-06            | 1.781E-06                         |           |      |
| D     | 5.6                                      | 6.06                 | 7300.              | 0.                | 0.           | 453.5         | 111.1              | 456.4             | 1.126E-06         | 1.124E-06            | 1.124E-06                         |           |      |
| D     | 8.2                                      | 1.22                 | 7300.              | 0.                | 0.           | 453.5         | 111.1              | 453.5             | 7.657E-07         | 7.595E-07            | 7.595E-07                         |           |      |
| E     | 0.2                                      | 0.09                 | 7300.              | 0.                | 0.           | 322.5         | 67.5               | 410.0             | 5.173E-05         | 6.456E-05            | 5.173E-05                         |           |      |
| E     | 1.6                                      | 12.70                | 7300.              | 0.                | 0.           | 322.5         | 67.5               | 410.0             | 7.390E-06         | 9.223E-06            | 7.390E-06                         |           |      |
| E     | 3.3                                      | 18.93                | 7300.              | 0.                | 0.           | 322.5         | 67.5               | 357.4             | 3.956E-06         | 4.304E-06            | 3.956E-06                         |           |      |
| E     | 5.6                                      | 3.49                 | 7300.              | 0.                | 0.           | 322.5         | 67.5               | 325.9             | 2.603E-06         | 2.582E-06            | 2.582E-06                         |           |      |
| E     | 8.2                                      | 0.17                 | 7300.              | 0.                | 0.           | 322.5         | 67.5               | 322.5             | 1.778E-06         | 1.745E-06            | 1.745E-06                         |           |      |
| F     | 0.2                                      | 0.11                 | 7300.              | 0.                | 0.           | 222.6         | 40.9               | 313.3             | 1.117E-04         | 1.504E-04            | 1.117E-04                         |           |      |
| F     | 1.6                                      | 14.17                | 7300.              | 0.                | 0.           | 222.6         | 40.9               | 313.3             | 1.595E-05         | 2.148E-05            | 1.595E-05                         |           |      |
| F     | 3.3                                      | 6.04                 | 7300.              | 0.                | 0.           | 222.6         | 40.9               | 255.8             | 9.119E-06         | 1.002E-05            | 9.119E-06                         |           |      |
| G     | 0.2                                      | 0.10                 | 7300.              | 0.                | 0.           | 153.6         | 24.8               | 257.9             | 2.237E-04         | 3.389E-04            | 2.237E-04                         |           |      |
| G     | 1.6                                      | 12.04                | 7300.              | 0.                | 0.           | 153.6         | 24.8               | 257.9             | 3.195E-05         | 4.842E-05            | 3.195E-05                         |           |      |
| G     | 3.3                                      | 2.01                 | 7300.              | 0.                | 0.           | 153.6         | 24.8               | 187.1             | 2.056E-05         | 2.260E-05            | 2.056E-05                         |           |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T  
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED  
AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.  
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.  
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 3.956E-06 |
| 0.095     | 0.201     | 0.292     | 12.336    | 12.344    | 14.356    | 28.526    | 34.563    | 47.259    | 66.190    |
| 0.00786   | 0.01660   | 0.02407   | 1.01766   | 1.01832   | 1.18431   | 2.35324   | 2.85121   | 3.89858   | 5.46027   |
| 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 | 3.947E-07 | 2.498E-07 | 2.368E-07 |
| 69.648    | 73.134    | 81.551    | 81.721    | 87.785    | 87.955    | 89.174    | 90.364    | 90.789    | 91.781    |
| 5.74549   | 6.03305   | 6.72740   | 6.74143   | 7.24173   | 7.25576   | 7.35628   | 7.45448   | 7.48954   | 7.57137   |
| 2.039E-07 | 1.600E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 |           |           |
| 92.206    | 92.292    | 94.105    | 96.741    | 98.186    | 99.830    | 99.887    | 100.000   |           |           |
| 7.60644   | 7.61345   | 7.76307   | 7.98050   | 8.09973   | 8.23532   | 8.24000   | 8.24935   |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE  
ORDERED X/Q-FREQUENCY VALUES, AND AS  
PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|                  |                                    |              |       |
|------------------|------------------------------------|--------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2) = | 1.016 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 2.351 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 3.895 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 5.456 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 5.742 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 7) = | 6.724 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 8) = | 7.238 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 9) = | 8.232 |



Calculation No. PM-1055 Revision 0

Attachment J

| K  | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|----|---|-------------|--------------|-------------|
| 13 | 1 | -8.40538    | -13.44553    | -1.33360    |
| 13 | 2 | -10.35129   | -15.17515    | -2.07906    |
| 13 | 3 | -11.04582   | -17.89402    | -3.44798    |
| 13 | 4 | -11.81533   | -18.66356    | -3.88448    |
| 13 | 5 | -12.44017   | -19.07274    | -4.13988    |
| 13 | 6 | -12.54483   | -26.19342    | -8.65569    |
| 13 | 7 | -13.23843   | -31.17334    | -11.98294   |
| 13 | 8 | -13.69861   | -77.01177    | -43.41573   |
| 13 | 9 | -16.67879   | NUMXQ(K) = 9 |             |

|           |       |        |
|-----------|-------|--------|
| 9.627E-05 | 0.082 | 1.000  |
| 6.145E-05 | 0.247 | 3.000  |
| 4.908E-05 | 0.412 | 5.000  |
| 3.545E-05 | 0.825 | 10.000 |
| 2.737E-05 | 1.237 | 15.000 |
| 2.163E-05 | 1.650 | 20.000 |
| 1.790E-05 | 2.062 | 25.000 |
| 1.482E-05 | 2.475 | 30.000 |
| 1.177E-05 | 2.887 | 35.000 |
| 9.601E-06 | 3.300 | 40.000 |
| 7.987E-06 | 3.712 | 45.000 |
| 6.676E-06 | 4.125 | 50.000 |
| 5.607E-06 | 4.537 | 55.000 |
| 4.767E-06 | 4.950 | 60.000 |
| 4.096E-06 | 5.362 | 65.000 |
| 3.486E-06 | 5.775 | 70.000 |
| 2.581E-06 | 6.187 | 75.000 |
| 1.940E-06 | 6.599 | 80.000 |
| 1.376E-06 | 7.012 | 85.000 |
| 6.354E-07 | 7.424 | 90.000 |
| 4.495E-05 | 0.5   | 6.06   |

ANNUAL AVERAGE = 2.98E-07

K= 13 FIVEXQ(K) = 4.495E-05 FIVEPR(K) = 6.061

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ESE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER           | BLDG WAKE | USED |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|-----------|------|
|                 |  |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   | CA=1292.SQ.METERS |           |      |
| A               | 1.6                                      | 0.39                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 2.039E-07         | 2.039E-07            | 2.039E-07                         |                   |           |      |
| A               | 3.3                                      | 2.50                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 9.517E-08         | 9.514E-08            | 9.514E-08                         |                   |           |      |
| A               | 5.6                                      | 0.87                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 5.710E-08         | 5.708E-08            | 5.708E-08                         |                   |           |      |
| A               | 8.2                                      | 0.19                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 3.858E-08         | 3.857E-08            | 3.857E-08                         |                   |           |      |
| B               | 1.6                                      | 0.29                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 2.500E-07         | 2.498E-07            | 2.498E-07                         |                   |           |      |
| B               | 3.3                                      | 1.71                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 1.166E-07         | 1.166E-07            | 1.166E-07                         |                   |           |      |
| B               | 5.6                                      | 1.71                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 6.999E-08         | 6.995E-08            | 6.995E-08                         |                   |           |      |
| B               | 8.2                                      | 0.39                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 4.729E-08         | 4.727E-08            | 4.727E-08                         |                   |           |      |
| B               | 10.7                                     | 0.02                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 3.645E-08         | 3.643E-08            | 3.643E-08                         |                   |           |      |
| C               | 1.6                                      | 0.17                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 8.473E-07         | 8.459E-07            | 8.459E-07                         |                   |           |      |
| C               | 3.3                                      | 0.89                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 3.954E-07         | 3.947E-07            | 3.947E-07                         |                   |           |      |
| C               | 5.6                                      | 1.28                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 2.372E-07         | 2.368E-07            | 2.368E-07                         |                   |           |      |
| C               | 8.2                                      | 0.29                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 1.603E-07         | 1.600E-07            | 1.600E-07                         |                   |           |      |
| D               | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 515.1             | 2.494E-05         | 2.810E-05            | 2.494E-05                         |                   |           |      |
| D               | 1.6                                      | 3.08                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 515.1             | 3.563E-06         | 4.014E-06            | 3.563E-06                         |                   |           |      |
| D               | 3.3                                      | 10.41                | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 481.0             | 1.781E-06         | 1.873E-06            | 1.781E-06                         |                   |           |      |
| D               | 5.6                                      | 13.85                | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 456.4             | 1.126E-06         | 1.124E-06            | 1.124E-06                         |                   |           |      |
| D               | 8.2                                      | 1.37                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 453.5             | 7.657E-07         | 7.595E-07            | 7.595E-07                         |                   |           |      |
| D               | 10.7                                     | 0.02                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 453.5             | 5.902E-07         | 5.854E-07            | 5.854E-07                         |                   |           |      |
| E               | 0.2                                      | 0.09                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 410.0             | 5.173E-05         | 6.456E-05            | 5.173E-05                         |                   |           |      |
| E               | 1.6                                      | 11.99                | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 410.0             | 7.390E-06         | 9.223E-06            | 7.390E-06                         |                   |           |      |
| E               | 3.3                                      | 24.18                | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 357.4             | 3.956E-06         | 4.304E-06            | 3.956E-06                         |                   |           |      |
| E               | 5.6                                      | 4.65                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 325.9             | 2.603E-06         | 2.582E-06            | 2.582E-06                         |                   |           |      |
| E               | 8.2                                      | 0.19                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 322.5             | 1.778E-06         | 1.745E-06            | 1.745E-06                         |                   |           |      |
| F               | 0.2                                      | 0.07                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 313.3             | 1.117E-04         | 1.504E-04            | 1.117E-04                         |                   |           |      |
| F               | 1.6                                      | 10.02                | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 313.3             | 1.595E-05         | 2.148E-05            | 1.595E-05                         |                   |           |      |
| F               | 3.3                                      | 3.28                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 255.8             | 9.119E-06         | 1.002E-05            | 9.119E-06                         |                   |           |      |
| F               | 5.6                                      | 0.02                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 225.6             | 6.202E-06         | 6.015E-06            | 6.015E-06                         |                   |           |      |
| G               | 0.2                                      | 0.04                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 257.9             | 2.237E-04         | 3.389E-04            | 2.237E-04                         |                   |           |      |
| G               | 1.6                                      | 5.64                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 257.9             | 3.195E-05         | 4.842E-05            | 3.195E-05                         |                   |           |      |
| G               | 3.3                                      | 0.39                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 187.1             | 2.056E-05         | 2.260E-05            | 2.056E-05                         |                   |           |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 6.015E-06 |
| 0.045     | 0.119     | 0.205     | 5.841     | 5.848     | 6.234     | 16.253    | 19.529    | 31.524    | 31.548    |
| 0.00433   | 0.01160   | 0.01990   | 0.56696   | 0.56765   | 0.60506   | 1.57761   | 1.89556   | 3.05982   | 3.06216   |
| 3.956E-06 | 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 | 5.854E-07 | 3.947E-07 |
| 55.730    | 58.813    | 63.462    | 73.867    | 74.060    | 87.909    | 88.077    | 89.450    | 89.474    | 90.366    |
| 5.40938   | 5.70863   | 6.15983   | 7.16979   | 7.18850   | 8.53277   | 8.54914   | 8.68239   | 8.68473   | 8.77123   |
| 2.498E-07 | 2.368E-07 | 2.039E-07 | 1.600E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 |
| 90.655    | 91.931    | 92.317    | 92.606    | 94.316    | 96.821    | 98.531    | 99.398    | 99.783    | 99.976    |
| 8.79929   | 8.92319   | 8.96060   | 8.98866   | 9.15464   | 9.39778   | 9.56377   | 9.64794   | 9.68534   | 9.70404   |
| 3.643E-08 |           |           |           |           |           |           |           |           |           |
| 100.000   |           |           |           |           |           |           |           |           |           |
| 9.70638   |           |           |           |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|                  |                                    |              |       |
|------------------|------------------------------------|--------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2) = | 0.566 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 1.576 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 5.406 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 5.705 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 8.529 |

| K  | I | XQSAVE(K, I) | XQINT(K, I) | XQSLOP(K, I) |
|----|---|--------------|-------------|--------------|
| 14 | 1 | -8.40538     | -13.88919   | -1.39701     |
| 14 | 2 | -10.35129    | -14.95571   | -1.81815     |
| 14 | 3 | -11.04582    | -16.56041   | -2.56435     |
| 14 | 4 | -12.44017    | -18.74070   | -3.92132     |
| 14 | 5 | -12.54483    | -21.23772   | -5.50167     |
| 14 | 6 | -13.69861    | -70.06627   | -41.13431    |
| 14 | 7 | -14.09066    | NUMXQ(K)= 7 |              |
|    |   | 7.054E-05    | 0.097       | 1.000        |
|    |   | 4.378E-05    | 0.291       | 3.000        |
|    |   | 3.446E-05    | 0.485       | 5.000        |
|    |   | 2.243E-05    | 0.971       | 10.000       |
|    |   | 1.690E-05    | 1.456       | 15.000       |
|    |   | 1.286E-05    | 1.941       | 20.000       |
|    |   | 1.012E-05    | 2.427       | 25.000       |
|    |   | 8.271E-06    | 2.912       | 30.000       |
|    |   | 6.938E-06    | 3.397       | 35.000       |
|    |   | 5.935E-06    | 3.883       | 40.000       |
|    |   | 5.154E-06    | 4.368       | 45.000       |
|    |   | 4.531E-06    | 4.853       | 50.000       |
|    |   | 4.023E-06    | 5.339       | 55.000       |
|    |   | 3.373E-06    | 5.824       | 60.000       |
|    |   | 2.700E-06    | 6.309       | 65.000       |
|    |   | 2.190E-06    | 6.794       | 70.000       |
|    |   | 1.796E-06    | 7.280       | 75.000       |
|    |   | 1.488E-06    | 7.765       | 80.000       |
|    |   | 1.243E-06    | 8.250       | 85.000       |
|    |   | 3.397E-05    | 0.5         | 5.15         |

ANNUAL AVERAGE = 2.58E-07

K= 14 FIVEXQ(K)= 3.397E-05 FIVEPR(K)= 5.151

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SE SECTOR.

| CLASS          | WINDSPEED<br>METER/SEC | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) |           |      |
|----------------|------------------------|----------------------|--------------------|-------------------|--------------|---------------|--------------------|-------------------|-------------------|----------------------|-----------------------------------|-----------|------|
|                |                        |                      |                    |                   |              |               |                    |                   |                   |                      | MEANDER                           | BLDG WAKE | USED |
| AT 10.0 METERS |                        |                      |                    |                   |              |               |                    |                   |                   |                      | CA=1292.SQ.METERS                 |           |      |
| A              | 1.6                    | 0.49                 | 7300.              | 0.                | 0.           | 0.            | 1000.0             | 1000.0            | 1000.0            | 2.039E-07            | 2.039E-07                         | 2.039E-07 |      |
| A              | 3.3                    | 1.58                 | 7300.              | 0.                | 0.           | 0.            | 1000.0             | 1000.0            | 1000.0            | 9.517E-08            | 9.514E-08                         | 9.514E-08 |      |
| A              | 5.6                    | 0.51                 | 7300.              | 0.                | 0.           | 0.            | 1000.0             | 1000.0            | 1000.0            | 5.710E-08            | 5.708E-08                         | 5.708E-08 |      |
| A              | 8.2                    | 0.06                 | 7300.              | 0.                | 0.           | 0.            | 1000.0             | 1000.0            | 1000.0            | 3.858E-08            | 3.857E-08                         | 3.857E-08 |      |
| B              | 1.6                    | 0.18                 | 7300.              | 0.                | 0.           | 0.            | 848.1              | 962.0             | 848.1             | 2.500E-07            | 2.498E-07                         | 2.498E-07 |      |
| B              | 3.3                    | 1.40                 | 7300.              | 0.                | 0.           | 0.            | 848.1              | 962.0             | 848.1             | 1.166E-07            | 1.166E-07                         | 1.166E-07 |      |
| B              | 5.6                    | 1.83                 | 7300.              | 0.                | 0.           | 0.            | 848.1              | 962.0             | 848.1             | 6.999E-08            | 6.995E-08                         | 6.995E-08 |      |
| B              | 8.2                    | 0.43                 | 7300.              | 0.                | 0.           | 0.            | 848.1              | 962.0             | 848.1             | 4.729E-08            | 4.727E-08                         | 4.727E-08 |      |
| C              | 1.6                    | 0.18                 | 7300.              | 0.                | 0.           | 0.            | 644.0              | 373.7             | 644.0             | 8.473E-07            | 8.459E-07                         | 8.459E-07 |      |
| C              | 3.3                    | 0.94                 | 7300.              | 0.                | 0.           | 0.            | 644.0              | 373.7             | 644.0             | 3.954E-07            | 3.947E-07                         | 3.947E-07 |      |
| C              | 5.6                    | 1.64                 | 7300.              | 0.                | 0.           | 0.            | 644.0              | 373.7             | 644.0             | 2.372E-07            | 2.368E-07                         | 2.368E-07 |      |
| C              | 8.2                    | 0.41                 | 7300.              | 0.                | 0.           | 0.            | 644.0              | 373.7             | 644.0             | 1.603E-07            | 1.600E-07                         | 1.600E-07 |      |
| D              | 0.2                    | 0.01                 | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 515.1             | 2.494E-05            | 2.810E-05                         | 2.494E-05 |      |
| D              | 1.6                    | 3.94                 | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 515.1             | 3.563E-06            | 4.014E-06                         | 3.563E-06 |      |
| D              | 3.3                    | 15.18                | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 481.0             | 1.781E-06            | 1.873E-06                         | 1.781E-06 |      |
| D              | 5.6                    | 18.92                | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 456.4             | 1.126E-06            | 1.124E-06                         | 1.124E-06 |      |
| D              | 8.2                    | 3.47                 | 7300.              | 0.                | 0.           | 0.            | 453.5              | 111.1             | 453.5             | 7.657E-07            | 7.595E-07                         | 7.595E-07 |      |
| E              | 0.2                    | 0.09                 | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 410.0             | 5.173E-05            | 6.456E-05                         | 5.173E-05 |      |
| E              | 1.6                    | 12.49                | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 410.0             | 7.390E-05            | 9.223E-06                         | 7.390E-06 |      |
| E              | 3.3                    | 19.45                | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 357.4             | 3.956E-06            | 4.304E-06                         | 3.956E-06 |      |
| E              | 5.6                    | 5.27                 | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 325.9             | 2.603E-06            | 2.582E-06                         | 2.582E-06 |      |
| E              | 8.2                    | 0.18                 | 7300.              | 0.                | 0.           | 0.            | 322.5              | 67.5              | 322.5             | 1.778E-06            | 1.745E-06                         | 1.745E-06 |      |
| F              | 0.2                    | 0.05                 | 7300.              | 0.                | 0.           | 0.            | 222.6              | 40.9              | 313.3             | 1.117E-04            | 1.504E-04                         | 1.117E-04 |      |
| F              | 1.6                    | 6.79                 | 7300.              | 0.                | 0.           | 0.            | 222.6              | 40.9              | 313.3             | 1.595E-05            | 2.148E-05                         | 1.595E-05 |      |
| F              | 3.3                    | 1.87                 | 7300.              | 0.                | 0.           | 0.            | 222.6              | 40.9              | 255.8             | 9.119E-06            | 1.002E-05                         | 9.119E-06 |      |
| F              | 5.6                    | 0.02                 | 7300.              | 0.                | 0.           | 0.            | 222.6              | 40.9              | 225.6             | 6.202E-06            | 6.015E-06                         | 6.015E-06 |      |
| G              | 0.2                    | 0.02                 | 7300.              | 0.                | 0.           | 0.            | 153.6              | 24.8              | 257.9             | 2.237E-04            | 3.389E-04                         | 2.237E-04 |      |
| G              | 1.6                    | 2.44                 | 7300.              | 0.                | 0.           | 0.            | 153.6              | 24.8              | 257.9             | 3.195E-05            | 4.842E-05                         | 3.195E-05 |      |
| G              | 3.3                    | 0.14                 | 7300.              | 0.                | 0.           | 0.            | 153.6              | 24.8              | 187.1             | 2.056E-05            | 2.260E-05                         | 2.056E-05 |      |

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 9.119E-06 | 7.390E-06 | 6.015E-06 |
| 0.019     | 0.070     | 0.159     | 2.601     | 2.610     | 2.753     | 9.544     | 11.411    | 23.905    | 23.926    |
| 0.00220   | 0.00798   | 0.01814   | 0.29635   | 0.29738   | 0.31375   | 1.08758   | 1.30033   | 2.72409   | 2.72643   |
| 3.956E-06 | 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 | 3.947E-07 | 2.498E-07 |
| 43.375    | 47.314    | 52.587    | 67.769    | 67.954    | 86.870    | 87.054    | 90.522    | 91.465    | 91.650    |
| 4.94273   | 5.39160   | 5.99243   | 7.72245   | 7.74349   | 9.89901   | 9.92005   | 10.31515  | 10.42269  | 10.44373  |
| 2.368E-07 | 2.039E-07 | 1.600E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 |           |
| 93.291    | 93.784    | 94.194    | 95.589    | 97.169    | 98.995    | 99.508    | 99.938    | 100.000   |           |
| 10.63076  | 10.68687  | 10.73363  | 10.89260  | 11.07262  | 11.28069  | 11.33914  | 11.38823  | 11.39524  |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

| CHI/Q           | WITH RESPECT TO | WHEN THE WIND BLOWS   |
|-----------------|-----------------|-----------------------|
| SEC/CUBIC METER | THE TOTAL TIME  | INTO THIS SECTOR ONLY |

|   |              |        |
|---|--------------|--------|
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2) = | 0.296  |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 1.086  |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 2.721  |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 4.939  |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 5.388  |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 7) = | 9.896  |
| HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 8) = | 10.312 |

K I XQSAVE(K,I) XQINT(K,I) XQSLOP(K,I)

Calculation No. PM-1055 Revision 0

Attachment J

15 1 -8.40538 -14.36887 -1.45979  
 15 2 -10.35129 -14.53344 -1.51958  
 15 3 -11.04582 -15.79721 -2.07021  
 15 4 -11.81533 -16.22378 -2.29199  
 15 5 -12.44017 -16.51185 -2.46650  
 15 6 -12.54483 -18.32850 -3.59600  
 15 7 -13.69861 -35.13582 -16.65015  
 15 8 -14.09066 NUMXQ (K) = 8

|           |        |        |
|-----------|--------|--------|
| 4.946E-05 | 0.114  | 1.000  |
| 2.974E-05 | 0.342  | 3.000  |
| 2.282E-05 | 0.570  | 5.000  |
| 1.538E-05 | 1.140  | 10.000 |
| 1.106E-05 | 1.709  | 15.000 |
| 8.655E-06 | 2.279  | 20.000 |
| 7.067E-06 | 2.849  | 25.000 |
| 5.871E-06 | 3.419  | 30.000 |
| 4.994E-06 | 3.988  | 35.000 |
| 4.325E-06 | 4.558  | 40.000 |
| 3.786E-06 | 5.128  | 45.000 |
| 3.229E-06 | 5.698  | 50.000 |
| 2.718E-06 | 6.267  | 55.000 |
| 2.314E-06 | 6.837  | 60.000 |
| 1.990E-06 | 7.407  | 65.000 |
| 1.727E-06 | 7.977  | 70.000 |
| 1.509E-06 | 8.546  | 75.000 |
| 1.328E-06 | 9.116  | 80.000 |
| 1.175E-06 | 9.686  | 85.000 |
| 8.026E-07 | 10.256 | 90.000 |
| 2.446E-05 | 0.5    | 4.39   |

ANNUAL AVERAGE = 2.42E-07

K= 15 FIVEXQ (K) = 2.446E-05 FIVEPR (K) = 4.388

Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE SSE SECTOR.

| STABILITY CLASS | WINDSPEED<br>METER/SEC<br>AT 10.0 METERS | FREQUENCY<br>PERCENT | DISTANCE<br>METERS | TERRAIN<br>METERS | HT<br>METERS | EFF<br>METERS | PLUME<br>METERS | HT<br>METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER           | BLDG WAKE | USED |
|-----------------|--|----------------------|--------------------|-------------------|--------------|---------------|-----------------|--------------|-------------------|-------------------|----------------------|-----------------------------------|-------------------|-----------|------|
|                 |  |                      |                    |                   |              |               |                 |              |                   |                   |                      |                                   | CA=1292.SQ.METERS |           |      |
| A               | 1.6                                      | 0.84                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 2.039E-07         | 2.039E-07            | 2.039E-07                         |                   |           |      |
| A               | 3.3                                      | 4.22                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 9.517E-08         | 9.514E-08            | 9.514E-08                         |                   |           |      |
| A               | 5.6                                      | 1.88                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 5.710E-08         | 5.708E-08            | 5.708E-08                         |                   |           |      |
| A               | 8.2                                      | 0.02                 | 7300.              | 0.                | 0.           | 0.            | 1000.0          | 1000.0       | 1000.0            | 3.858E-08         | 3.857E-08            | 3.857E-08                         |                   |           |      |
| B               | 1.6                                      | 0.79                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 2.500E-07         | 2.498E-07            | 2.498E-07                         |                   |           |      |
| B               | 3.3                                      | 3.47                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 1.166E-07         | 1.166E-07            | 1.166E-07                         |                   |           |      |
| B               | 5.6                                      | 3.51                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 6.999E-08         | 6.995E-08            | 6.995E-08                         |                   |           |      |
| B               | 8.2                                      | 0.19                 | 7300.              | 0.                | 0.           | 0.            | 848.1           | 962.0        | 848.1             | 4.729E-08         | 4.727E-08            | 4.727E-08                         |                   |           |      |
| C               | 1.6                                      | 0.69                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 8.473E-07         | 8.459E-07            | 8.459E-07                         |                   |           |      |
| C               | 3.3                                      | 2.61                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 3.954E-07         | 3.947E-07            | 3.947E-07                         |                   |           |      |
| C               | 5.6                                      | 2.61                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 2.372E-07         | 2.368E-07            | 2.368E-07                         |                   |           |      |
| C               | 8.2                                      | 0.33                 | 7300.              | 0.                | 0.           | 0.            | 644.0           | 373.7        | 644.0             | 1.603E-07         | 1.600E-07            | 1.600E-07                         |                   |           |      |
| D               | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 515.1             | 2.494E-05         | 2.810E-05            | 2.494E-05                         |                   |           |      |
| D               | 1.6                                      | 4.97                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 515.1             | 3.563E-06         | 4.014E-06            | 3.563E-06                         |                   |           |      |
| D               | 3.3                                      | 19.27                | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 481.0             | 1.781E-06         | 1.873E-06            | 1.781E-06                         |                   |           |      |
| D               | 5.6                                      | 16.55                | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 456.4             | 1.126E-06         | 1.124E-06            | 1.124E-06                         |                   |           |      |
| D               | 8.2                                      | 2.76                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 453.5             | 7.657E-07         | 7.595E-07            | 7.595E-07                         |                   |           |      |
| D               | 24.5                                     | 0.06                 | 7300.              | 0.                | 0.           | 0.            | 453.5           | 111.1        | 453.5             | 2.575E-07         | 2.555E-07            | 2.555E-07                         |                   |           |      |
| E               | 0.2                                      | 0.06                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 410.0             | 5.173E-05         | 6.456E-05            | 5.173E-05                         |                   |           |      |
| E               | 1.6                                      | 8.92                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 410.0             | 7.390E-06         | 9.223E-06            | 7.390E-06                         |                   |           |      |
| E               | 3.3                                      | 15.90                | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 357.4             | 3.956E-06         | 4.304E-06            | 3.956E-06                         |                   |           |      |
| E               | 5.6                                      | 4.41                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 325.9             | 2.603E-06         | 2.582E-06            | 2.582E-06                         |                   |           |      |
| E               | 8.2                                      | 0.21                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 322.5             | 1.778E-06         | 1.745E-06            | 1.745E-06                         |                   |           |      |
| E               | 10.7                                     | 0.02                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 322.5             | 1.370E-06         | 1.345E-06            | 1.345E-06                         |                   |           |      |
| E               | 24.5                                     | 0.13                 | 7300.              | 0.                | 0.           | 0.            | 322.5           | 67.5         | 322.5             | 5.980E-07         | 5.869E-07            | 5.869E-07                         |                   |           |      |
| F               | 0.2                                      | 0.03                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 313.3             | 1.117E-04         | 1.504E-04            | 1.117E-04                         |                   |           |      |
| F               | 1.6                                      | 3.39                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 313.3             | 1.595E-05         | 2.148E-05            | 1.595E-05                         |                   |           |      |
| F               | 3.3                                      | 0.79                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 255.8             | 9.119E-06         | 1.002E-05            | 9.119E-06                         |                   |           |      |
| F               | 5.6                                      | 0.04                 | 7300.              | 0.                | 0.           | 0.            | 222.6           | 40.9         | 225.6             | 6.202E-06         | 6.015E-06            | 6.015E-06                         |                   |           |      |
| G               | 0.2                                      | 0.01                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 257.9             | 2.237E-04         | 3.389E-04            | 2.237E-04                         |                   |           |      |
| G               | 1.6                                      | 1.21                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 257.9             | 3.195E-05         | 4.842E-05            | 3.195E-05                         |                   |           |      |
| G               | 3.3                                      | 0.06                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 187.1             | 2.056E-05         | 2.260E-05            | 2.056E-05                         |                   |           |      |
| G               | 5.6                                      | 0.02                 | 7300.              | 0.                | 0.           | 0.            | 153.6           | 24.8         | 156.4             | 1.476E-05         | 1.356E-05            | 1.356E-05                         |                   |           |      |



Calculation No. PM-1055 Revision 0

Attachment J

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 7300.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 1.356E-05 | 9.119E-06 | 7.390E-06 |
| 0.010     | 0.035     | 0.099     | 1.311     | 1.322     | 1.385     | 4.770     | 4.791     | 5.585     | 14.508    |
| 0.00107   | 0.00390   | 0.01102   | 0.14662   | 0.14790   | 0.15492   | 0.53365   | 0.53599   | 0.62483   | 1.62310   |
| 6.015E-06 | 3.956E-06 | 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.345E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 |
| 14.550    | 30.453    | 35.427    | 39.836    | 59.104    | 59.313    | 59.333    | 75.884    | 76.574    | 79.332    |
| 1.62777   | 3.40689   | 3.96331   | 4.45660   | 6.61211   | 6.63549   | 6.63783   | 8.48942   | 8.56657   | 8.87517   |
| 5.869E-07 | 3.947E-07 | 2.555E-07 | 2.498E-07 | 2.368E-07 | 2.039E-07 | 1.600E-07 | 1.166E-07 | 9.514E-08 | 6.995E-08 |
| 79.458    | 82.070    | 82.133    | 82.927    | 85.539    | 86.375    | 86.709    | 90.178    | 94.399    | 97.910    |
| 8.88919   | 9.18143   | 9.18844   | 9.27728   | 9.56951   | 9.66303   | 9.70043   | 10.08852  | 10.56077  | 10.95353  |
| 5.708E-08 | 4.727E-08 | 3.857E-08 |           |           |           |           |           |           |           |
| 99.791    | 99.979    | 100.000   |           |           |           |           |           |           |           |
| 11.16394  | 11.18498  | 11.18732  |           |           |           |           |           |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|                  |                                    |              |       |
|------------------|------------------------------------|--------------|-------|
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 2) = | 0.146 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 3) = | 0.533 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 4) = | 1.621 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 5) = | 3.960 |
| HANDCHECK GRAPH: | SLOPE LT -1.0 FOR LOW PERCENTAGES. | XSAVE ( 6) = | 6.608 |

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 7) = 8.486  
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE ( 8) = 8.872

| K  | I | XQSAVE(K,I) | XQINT(K,I)   | XQSLOP(K,I) |
|----|---|-------------|--------------|-------------|
| 16 | 1 | -8.40538    | -14.89552    | -1.52744    |
| 16 | 2 | -10.35129   | -15.25439    | -1.64807    |
| 16 | 3 | -11.04582   | -15.78638    | -1.85640    |
| 16 | 4 | -11.81533   | -15.88159    | -1.90091    |
| 16 | 5 | -12.54483   | -17.42011    | -2.77738    |
| 16 | 6 | -13.23843   | -18.46740    | -3.47297    |
| 16 | 7 | -13.69861   | -35.74646    | -16.05679   |
| 16 | 8 | -14.09066   | NUMXQ(K) = 8 |             |
|    |   | 3.621E-05   | 0.112        | 1.000       |
|    |   | 2.068E-05   | 0.336        | 3.000       |
|    |   | 1.547E-05   | 0.559        | 5.000       |
|    |   | 9.678E-06   | 1.119        | 10.000      |
|    |   | 7.205E-06   | 1.678        | 15.000      |
|    |   | 5.754E-06   | 2.237        | 20.000      |
|    |   | 4.799E-06   | 2.797        | 25.000      |
|    |   | 4.116E-06   | 3.356        | 30.000      |
|    |   | 3.601E-06   | 3.916        | 35.000      |
|    |   | 3.042E-06   | 4.475        | 40.000      |
|    |   | 2.600E-06   | 5.034        | 45.000      |
|    |   | 2.252E-06   | 5.594        | 50.000      |
|    |   | 1.972E-06   | 6.153        | 55.000      |
|    |   | 1.733E-06   | 6.712        | 60.000      |
|    |   | 1.500E-06   | 7.272        | 65.000      |
|    |   | 1.308E-06   | 7.831        | 70.000      |
|    |   | 1.149E-06   | 8.390        | 75.000      |
|    |   | 1.656E-05   | 0.5          | 4.47        |

ANNUAL AVERAGE = 1.76E-07

K= 16 FIVEXQ(K) = 1.656E-05 FIVEPR(K) = 4.469

Calculation No. PM-1055 Revision 0

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

Attachment J

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1 45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

PARAMETER VALUES FOR THE CHI/Q CALCULATIONS FOR THE ALL SECTOR.

| CLASS          | METER/SEC | PERCENT | METERS            | METERS | METERS | SIGMA-Y<br>METERS | SIGMA-Z<br>METERS | MEANDER-SY<br>METERS | ** CHI/Q VALUES (SEC/CUBIC METER) | MEANDER   | BLDG WAKE | USED |
|----------------|-----------|---------|-------------------|--------|--------|-------------------|-------------------|----------------------|-----------------------------------|-----------|-----------|------|
| AT 10.0 METERS |           |         | CA=1292.SQ.METERS |        |        |                   |                   |                      |                                   |           |           |      |
| A              | 1.6       | 2.07    | 7300.             | 0.     | 0.     | 1000.0            | 1000.0            | 1000.0               | 2.039E-07                         | 2.039E-07 | 2.039E-07 |      |
| A              | 3.3       | 3.09    | 7300.             | 0.     | 0.     | 1000.0            | 1000.0            | 1000.0               | 9.517E-08                         | 9.514E-08 | 9.514E-08 |      |
| A              | 5.6       | 1.12    | 7300.             | 0.     | 0.     | 1000.0            | 1000.0            | 1000.0               | 5.710E-08                         | 5.708E-08 | 5.708E-08 |      |
| A              | 8.2       | 0.09    | 7300.             | 0.     | 0.     | 1000.0            | 1000.0            | 1000.0               | 3.858E-08                         | 3.857E-08 | 3.857E-08 |      |
| A              | 24.5      | 0.01    | 7300.             | 0.     | 0.     | 1000.0            | 1000.0            | 1000.0               | 1.298E-08                         | 1.297E-08 | 1.297E-08 |      |
| B              | 1.6       | 1.14    | 7300.             | 0.     | 0.     | 848.1             | 962.0             | 848.1                | 2.500E-07                         | 2.498E-07 | 2.498E-07 |      |
| B              | 3.3       | 2.32    | 7300.             | 0.     | 0.     | 848.1             | 962.0             | 848.1                | 1.166E-07                         | 1.166E-07 | 1.166E-07 |      |
| B              | 5.6       | 1.66    | 7300.             | 0.     | 0.     | 848.1             | 962.0             | 848.1                | 6.999E-08                         | 6.995E-08 | 6.995E-08 |      |
| B              | 8.2       | 0.19    | 7300.             | 0.     | 0.     | 848.1             | 962.0             | 848.1                | 4.729E-08                         | 4.727E-08 | 4.727E-08 |      |
| B              | 10.7      | 0.00    | 7300.             | 0.     | 0.     | 848.1             | 962.0             | 848.1                | 3.645E-08                         | 3.643E-08 | 3.643E-08 |      |
| B              | 24.5      | 0.00    | 7300.             | 0.     | 0.     | 848.1             | 962.0             | 848.1                | 1.591E-08                         | 1.590E-08 | 1.590E-08 |      |
| C              | 1.6       | 0.70    | 7300.             | 0.     | 0.     | 644.0             | 373.7             | 644.0                | 8.473E-07                         | 8.459E-07 | 8.459E-07 |      |
| C              | 3.3       | 1.33    | 7300.             | 0.     | 0.     | 644.0             | 373.7             | 644.0                | 3.954E-07                         | 3.947E-07 | 3.947E-07 |      |
| C              | 5.6       | 1.13    | 7300.             | 0.     | 0.     | 644.0             | 373.7             | 644.0                | 2.372E-07                         | 2.368E-07 | 2.368E-07 |      |
| C              | 8.2       | 0.15    | 7300.             | 0.     | 0.     | 644.0             | 373.7             | 644.0                | 1.603E-07                         | 1.600E-07 | 1.600E-07 |      |
| C              | 10.7      | 0.00    | 7300.             | 0.     | 0.     | 644.0             | 373.7             | 644.0                | 1.236E-07                         | 1.234E-07 | 1.234E-07 |      |
| D              | 0.2       | 0.02    | 7300.             | 0.     | 0.     | 453.5             | 111.1             | 453.5                | 2.833E-05                         | 2.810E-05 | 2.810E-05 |      |
| D              | 1.6       | 8.11    | 7300.             | 0.     | 0.     | 453.5             | 111.1             | 453.5                | 4.047E-06                         | 4.014E-06 | 4.014E-06 |      |
| D              | 3.3       | 12.97   | 7300.             | 0.     | 0.     | 453.5             | 111.1             | 453.5                | 1.889E-06                         | 1.873E-06 | 1.873E-06 |      |
| D              | 5.6       | 8.31    | 7300.             | 0.     | 0.     | 453.5             | 111.1             | 453.5                | 1.133E-06                         | 1.124E-06 | 1.124E-06 |      |
| D              | 8.2       | 1.17    | 7300.             | 0.     | 0.     | 453.5             | 111.1             | 453.5                | 7.657E-07                         | 7.595E-07 | 7.595E-07 |      |
| D              | 10.7      | 0.01    | 7300.             | 0.     | 0.     | 453.5             | 111.1             | 453.5                | 5.902E-07                         | 5.854E-07 | 5.854E-07 |      |
| D              | 24.5      | 0.01    | 7300.             | 0.     | 0.     | 453.5             | 111.1             | 453.5                | 2.575E-07                         | 2.555E-07 | 2.555E-07 |      |
| E              | 0.2       | 0.13    | 7300.             | 0.     | 0.     | 322.5             | 67.5              | 322.5                | 6.578E-05                         | 6.456E-05 | 6.456E-05 |      |
| E              | 1.6       | 17.70   | 7300.             | 0.     | 0.     | 322.5             | 67.5              | 322.5                | 9.397E-06                         | 9.223E-06 | 9.223E-06 |      |
| E              | 3.3       | 17.17   | 7300.             | 0.     | 0.     | 322.5             | 67.5              | 322.5                | 4.385E-06                         | 4.304E-06 | 4.304E-06 |      |
| E              | 5.6       | 3.18    | 7300.             | 0.     | 0.     | 322.5             | 67.5              | 322.5                | 2.631E-06                         | 2.582E-06 | 2.582E-06 |      |
| E              | 8.2       | 0.17    | 7300.             | 0.     | 0.     | 322.5             | 67.5              | 322.5                | 1.778E-06                         | 1.745E-06 | 1.745E-06 |      |
| E              | 10.7      | 0.00    | 7300.             | 0.     | 0.     | 322.5             | 67.5              | 322.5                | 1.370E-06                         | 1.345E-06 | 1.345E-06 |      |
| E              | 24.5      | 0.02    | 7300.             | 0.     | 0.     | 322.5             | 67.5              | 322.5                | 5.980E-07                         | 5.869E-07 | 5.869E-07 |      |
| F              | 0.2       | 0.06    | 7300.             | 0.     | 0.     | 222.6             | 40.9              | 222.6                | 1.572E-04                         | 1.504E-04 | 1.504E-04 |      |
| F              | 1.6       | 8.14    | 7300.             | 0.     | 0.     | 222.6             | 40.9              | 222.6                | 2.245E-05                         | 2.148E-05 | 2.148E-05 |      |
| F              | 3.3       | 2.33    | 7300.             | 0.     | 0.     | 222.6             | 40.9              | 222.6                | 1.048E-05                         | 1.002E-05 | 1.002E-05 |      |
| F              | 5.6       | 0.02    | 7300.             | 0.     | 0.     | 222.6             | 40.9              | 222.6                | 6.287E-06                         | 6.015E-06 | 6.015E-06 |      |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|   |     |      |       |    |    |       |      |       |           |           |           |
|---|-----|------|-------|----|----|-------|------|-------|-----------|-----------|-----------|
| G | 0.2 | 0.04 | 7300. | 0. | 0. | 153.6 | 24.8 | 153.6 | 3.755E-04 | 3.389E-04 | 3.389E-04 |
| G | 1.6 | 4.43 | 7300. | 0. | 0. | 153.6 | 24.8 | 153.6 | 5.364E-05 | 4.842E-05 | 4.842E-05 |
| G | 3.3 | 1.01 | 7300. | 0. | 0. | 153.6 | 24.8 | 153.6 | 2.503E-05 | 2.260E-05 | 2.260E-05 |
| G | 5.6 | 0.00 | 7300. | 0. | 0. | 153.6 | 24.8 | 153.6 | 1.502E-05 | 1.356E-05 | 1.356E-05 |

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.

MINIMUM BOUNDARY DISTANCE = 7300.0 METERS.

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 3.389E-04 | 1.504E-04 | 6.456E-05 | 4.842E-05 | 2.810E-05 | 2.260E-05 | 2.148E-05 | 1.356E-05 | 1.002E-05 | 9.223E-06 |
| 0.035     | 0.096     | 0.222     | 4.652     | 4.671     | 5.681     | 13.817    | 13.821    | 16.148    | 33.845    |
| 0.03507   | 0.09585   | 0.22210   | 4.65236   | 4.67106   | 5.68102   | 13.81680  | 13.82148  | 16.14766  | 33.84533  |
| 6.015E-06 | 4.304E-06 | 4.014E-06 | 2.582E-06 | 1.873E-06 | 1.745E-06 | 1.345E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 |
| 33.864    | 51.038    | 59.146    | 62.328    | 75.293    | 75.464    | 75.469    | 83.775    | 84.477    | 85.650    |
| 33.86403  | 51.03801  | 59.14574  | 62.32758  | 75.29340  | 75.46407  | 75.46874  | 83.77519  | 84.47655  | 85.65016  |
| 5.869E-07 | 5.854E-07 | 3.947E-07 | 2.555E-07 | 2.498E-07 | 2.368E-07 | 2.039E-07 | 1.600E-07 | 1.234E-07 | 1.166E-07 |
| 85.667    | 85.674    | 87.004    | 87.015    | 88.156    | 89.288    | 91.359    | 91.509    | 91.511    | 93.830    |
| 85.66653  | 85.67354  | 87.00378  | 87.01547  | 88.15635  | 89.28788  | 91.35922  | 91.50884  | 91.51118  | 93.83035  |
| 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 | 3.643E-08 | 1.590E-08 | 1.297E-08 |           |           |
| 96.916    | 98.581    | 99.698    | 99.892    | 99.986    | 99.988    | 99.991    | 100.000   |           |           |
| 96.91634  | 98.58090  | 99.69840  | 99.89245  | 99.98596  | 99.98830  | 99.99063  | 99.99998  |           |           |

X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

|           |        |        |
|-----------|--------|--------|
| 1.011E-04 | 1.000  | 1.000  |
| 6.089E-05 | 3.000  | 3.000  |
| 4.628E-05 | 5.000  | 5.000  |
| 2.882E-05 | 10.000 | 10.000 |
| 2.093E-05 | 15.000 | 15.000 |
| 1.624E-05 | 20.000 | 20.000 |
| 1.306E-05 | 25.000 | 25.000 |
| 1.074E-05 | 30.000 | 30.000 |

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2) = 4.649

|           |        |        |
|-----------|--------|--------|
| 8.956E-06 | 35.000 | 35.000 |
| 7.541E-06 | 40.000 | 40.000 |
| 6.386E-06 | 45.000 | 45.000 |
| 5.424E-06 | 50.000 | 50.000 |
| 4.606E-06 | 55.000 | 55.000 |
| 3.868E-06 | 60.000 | 60.000 |
| 3.097E-06 | 65.000 | 65.000 |
| 2.450E-06 | 70.000 | 70.000 |
| 1.903E-06 | 75.000 | 75.000 |
| 1.434E-06 | 80.000 | 80.000 |
| 8.920E-07 | 85.000 | 85.000 |
| 2.948E-07 | 90.000 | 90.000 |
| 4.628E-05 | 5.0    | 5.00   |

K= 17      FIVEXQ(K) = 4.628E-05      FIVEPR(K) = 5.000

**Calculation No. PM-1055 Revision 0**

**Attachment J**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2584. D= 54.3

CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED. THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR. THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2.237E-04 | 1.117E-04 | 5.173E-05 | 3.195E-05 | 2.494E-05 | 2.056E-05 | 1.595E-05 | 1.356E-05 | 9.119E-06 | 7.390E-06 |
| 0.035     | 0.096     | 0.222     | 4.652     | 4.671     | 5.681     | 13.817    | 13.821    | 16.148    | 33.845    |
| 0.03507   | 0.09585   | 0.22210   | 4.65236   | 4.67106   | 5.68102   | 13.81680  | 13.82148  | 16.14766  | 33.84532  |
| 6.015E-06 | 3.956E-06 | 3.563E-06 | 2.582E-06 | 1.781E-06 | 1.745E-06 | 1.345E-06 | 1.124E-06 | 8.459E-07 | 7.595E-07 |
| 33.864    | 51.038    | 59.146    | 62.328    | 75.293    | 75.464    | 75.469    | 83.775    | 84.477    | 85.650    |
| 33.86403  | 51.03802  | 59.14575  | 62.32759  | 75.29342  | 75.46409  | 75.46876  | 83.77519  | 84.47657  | 85.65018  |
| 5.869E-07 | 5.854E-07 | 3.947E-07 | 2.555E-07 | 2.498E-07 | 2.368E-07 | 2.039E-07 | 1.600E-07 | 1.234E-07 | 1.166E-07 |
| 85.667    | 85.674    | 87.004    | 87.016    | 88.156    | 89.288    | 91.359    | 91.509    | 91.511    | 93.830    |
| 85.66654  | 85.67355  | 87.00379  | 87.01548  | 88.15636  | 89.28787  | 91.35921  | 91.50883  | 91.51116  | 93.83031  |
| 9.514E-08 | 6.995E-08 | 5.708E-08 | 4.727E-08 | 3.857E-08 | 3.643E-08 | 1.590E-08 | 1.297E-08 |           |           |
| 96.916    | 98.581    | 99.698    | 99.892    | 99.986    | 99.988    | 99.991    | 100.000   |           |           |
| 96.91631  | 98.58086  | 99.69836  | 99.89240  | 99.98589  | 99.98823  | 99.99056  | 99.99991  |           |           |

**X/Q PERCENTILES**

(BASED ON THE UPPER ENVELOPE OF THE ORDERED X/Q-FREQUENCY VALUES, AND AS PLOTTED ON A LOG-NORMAL GRAPH.)

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS  
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE( 2)= 4.649

| K  | I | XQSAVE(K,I) | XQINT(K,I)  | XQSLOP(K,I) |
|----|---|-------------|-------------|-------------|
| 18 | 1 | -8.40538    | -12.26369   | -1.13840    |
| 18 | 2 | -10.35129   | -12.27977   | -1.14797    |
| 18 | 3 | -12.54483   | -12.19166   | -1.52956    |
| 18 | 4 | -13.69861   | -9.25157    | -4.51377    |
| 18 | 5 | -15.40582   | -14.40481   | -0.73418    |
| 18 | 6 | -17.07083   | NUMXQ(K)= 6 |             |

Calculation No. PM-1055 Revision 0

Attachment J

|           |        |        |
|-----------|--------|--------|
| 6.673E-05 | 1.000  | 1.000  |
| 4.018E-05 | 3.000  | 3.000  |
| 3.070E-05 | 5.000  | 5.000  |
| 2.023E-05 | 10.000 | 10.000 |
| 1.526E-05 | 15.000 | 15.000 |
| 1.220E-05 | 20.000 | 20.000 |
| 1.007E-05 | 25.000 | 25.000 |
| 8.476E-06 | 30.000 | 30.000 |
| 7.225E-06 | 35.000 | 35.000 |
| 6.210E-06 | 40.000 | 40.000 |
| 5.364E-06 | 45.000 | 45.000 |
| 4.645E-06 | 50.000 | 50.000 |
| 4.022E-06 | 55.000 | 55.000 |
| 3.445E-06 | 60.000 | 60.000 |
| 2.816E-06 | 65.000 | 65.000 |
| 2.276E-06 | 70.000 | 70.000 |
| 1.809E-06 | 75.000 | 75.000 |
| 1.400E-06 | 80.000 | 80.000 |
| 8.920E-07 | 85.000 | 85.000 |
| 2.948E-07 | 90.000 | 90.000 |
| 3.070E-05 | 5.0    | 5.00   |

K= 18 FIVEXQ(K) = 3.070E-05 FIVEPR(K) = 5.000

| K  | HIGHPR   | PR      | GRNDVT (K) |
|----|----------|---------|------------|
| 1  | -3.35890 | 0.03913 | 7.16050    |
| 2  | -2.03897 | 2.07263 | 3.52922    |
| 3  | -3.42797 | 0.03041 | 3.23970    |
| 4  | -3.29192 | 0.04976 | 2.96101    |
| 5  | -3.12377 | 0.08928 | 3.59423    |
| 6  | -3.21792 | 0.06457 | 3.74028    |
| 7  | -3.35960 | 0.03904 | 4.91057    |
| 8  | -3.37633 | 0.03673 | 6.63198    |
| 9  | -3.37593 | 0.03679 | 8.27142    |
| 10 | -3.30341 | 0.04776 | 4.16751    |
| 11 | -2.93591 | 0.16629 | 4.48639    |
| 12 | -2.57624 | 0.49942 | 6.76889    |
| 13 | -2.62672 | 0.43107 | 8.24935    |
| 14 | -2.82508 | 0.23636 | 9.70638    |
| 15 | -3.03218 | 0.12140 | 11.39525   |
| 16 | -3.24267 | 0.05922 | 11.18732   |

| K | HOURS (K) | TOTHR     |
|---|-----------|-----------|
| 1 | 3.42783   | 3.42783   |
| 2 | 181.56260 | 184.99040 |
| 3 | 2.66394   | 187.65440 |
| 4 | 4.35880   | 192.01320 |
| 5 | 7.82109   | 199.83420 |
| 6 | 5.65631   | 205.49060 |
| 7 | 3.41947   | 208.91000 |
| 8 | 3.21793   | 212.12800 |
| 9 | 3.22263   | 215.35060 |



Calculation No. PM-1055 Revision 0

Attachment J

|    |          |           |
|----|----------|-----------|
| 10 | 4.18388  | 219.53450 |
| 11 | 14.56709 | 234.10160 |
| 12 | 43.74879 | 277.85030 |
| 13 | 37.76197 | 315.61230 |
| 14 | 20.70481 | 336.31710 |
| 15 | 10.63488 | 346.95200 |
| 16 | 5.18743  | 352.13940 |

| K | FIVEXQ    | SVANN     | SLTIME  | TIMINT   | I | TIME  | XQT       |
|---|-----------|-----------|---------|----------|---|-------|-----------|
| 1 | 1.447E-05 | 1.504E-07 | -0.5446 | -10.7658 | 1 | 8.0   | -11.89830 |
|   |           |           |         |          | 2 | 16.0  | -12.27580 |
|   |           |           |         |          | 3 | 72.0  | -13.09494 |
|   |           |           |         |          | 4 | 624.0 | -14.27103 |
| 2 | 1.261E-05 | 9.865E-08 | -0.5785 | -10.8803 | 1 | 8.0   | -12.08320 |
|   |           |           |         |          | 2 | 16.0  | -12.48416 |
|   |           |           |         |          | 3 | 72.0  | -13.35422 |
|   |           |           |         |          | 4 | 624.0 | -14.60340 |
| 3 | 1.247E-05 | 1.001E-07 | -0.5754 | -10.8936 | 1 | 8.0   | -12.09012 |
|   |           |           |         |          | 2 | 16.0  | -12.48897 |
|   |           |           |         |          | 3 | 72.0  | -13.35445 |
|   |           |           |         |          | 4 | 624.0 | -14.59706 |
| 4 | 1.374E-05 | 9.602E-08 | -0.5919 | -10.7851 | 1 | 8.0   | -12.01594 |
|   |           |           |         |          | 2 | 16.0  | -12.42624 |
|   |           |           |         |          | 3 | 72.0  | -13.31655 |
|   |           |           |         |          | 4 | 624.0 | -14.59482 |
| 5 | 1.898E-05 | 1.347E-07 | -0.5901 | -10.4630 | 1 | 8.0   | -11.69008 |
|   |           |           |         |          | 2 | 16.0  | -12.09911 |
|   |           |           |         |          | 3 | 72.0  | -12.98666 |
|   |           |           |         |          | 4 | 624.0 | -14.26096 |
| 6 | 1.868E-05 | 1.269E-07 | -0.5953 | -10.4756 | 1 | 8.0   | -11.71356 |
|   |           |           |         |          | 2 | 16.0  | -12.12622 |
|   |           |           |         |          | 3 | 72.0  | -13.02166 |
|   |           |           |         |          | 4 | 624.0 | -14.30729 |
| 7 | 1.478E-05 | 1.274E-07 | -0.5669 | -10.7292 | 1 | 8.0   | -11.90813 |
|   |           |           |         |          | 2 | 16.0  | -12.30111 |
|   |           |           |         |          | 3 | 72.0  | -13.15384 |
|   |           |           |         |          | 4 | 624.0 | -14.37814 |
| 8 | 1.475E-05 | 1.488E-07 | -0.5482 | -10.7441 | 1 | 8.0   | -11.88408 |
|   |           |           |         |          | 2 | 16.0  | -12.26408 |
|   |           |           |         |          | 3 | 72.0  | -13.08865 |
|   |           |           |         |          | 4 | 624.0 | -14.27254 |
| 9 | 1.534E-05 | 1.620E-07 | -0.5427 | -10.7089 | 1 | 8.0   | -11.83749 |
|   |           |           |         |          | 2 | 16.0  | -12.21368 |
|   |           |           |         |          | 3 | 72.0  | -13.02999 |

**Calculation No. PM-1055 Revision 0**

**Attachment J**

|    |           |           |         |          |   |       |           |
|----|-----------|-----------|---------|----------|---|-------|-----------|
| 10 | 1.692E-05 | 1.143E-07 | -0.5960 | -10.5738 | 4 | 624.0 | -14.20200 |
|    |           |           |         |          | 1 | 8.0   | -11.81323 |
|    |           |           |         |          | 2 | 16.0  | -12.22637 |
|    |           |           |         |          | 3 | 72.0  | -13.12287 |
|    |           |           |         |          | 4 | 624.0 | -14.41002 |
| 11 | 2.808E-05 | 1.588E-07 | -0.6172 | -10.0526 | 1 | 8.0   | -11.33605 |
|    |           |           |         |          | 2 | 16.0  | -11.76385 |
|    |           |           |         |          | 3 | 72.0  | -12.69214 |
|    |           |           |         |          | 4 | 624.0 | -14.02494 |
| 12 | 4.809E-05 | 3.000E-07 | -0.6055 | -9.5228  | 1 | 8.0   | -10.78191 |
|    |           |           |         |          | 2 | 16.0  | -11.20160 |
|    |           |           |         |          | 3 | 72.0  | -12.11229 |
|    |           |           |         |          | 4 | 624.0 | -13.41982 |
| 13 | 4.495E-05 | 2.981E-07 | -0.5982 | -9.5952  | 1 | 8.0   | -10.83913 |
|    |           |           |         |          | 2 | 16.0  | -11.25377 |
|    |           |           |         |          | 3 | 72.0  | -12.15351 |
|    |           |           |         |          | 4 | 624.0 | -13.44532 |
| 14 | 3.397E-05 | 2.581E-07 | -0.5820 | -9.8868  | 1 | 8.0   | -11.09693 |
|    |           |           |         |          | 2 | 16.0  | -11.50031 |
|    |           |           |         |          | 3 | 72.0  | -12.37562 |
|    |           |           |         |          | 4 | 624.0 | -13.63235 |
| 15 | 2.446E-05 | 2.418E-07 | -0.5506 | -10.2370 | 1 | 8.0   | -11.38191 |
|    |           |           |         |          | 2 | 16.0  | -11.76355 |
|    |           |           |         |          | 3 | 72.0  | -12.59168 |
|    |           |           |         |          | 4 | 624.0 | -13.78066 |
| 16 | 1.656E-05 | 1.756E-07 | -0.5422 | -10.6327 | 1 | 8.0   | -11.76022 |
|    |           |           |         |          | 2 | 16.0  | -12.13604 |
|    |           |           |         |          | 3 | 72.0  | -12.95154 |
|    |           |           |         |          | 4 | 624.0 | -14.12241 |
| 17 | 4.628E-05 | 3.000E-07 | -0.6009 | -9.5643  | 1 | 8.0   | -10.81389 |
|    |           |           |         |          | 2 | 16.0  | -11.23041 |
|    |           |           |         |          | 3 | 72.0  | -12.13423 |
|    |           |           |         |          | 4 | 624.0 | -13.43189 |
| 18 | 3.070E-05 | 3.000E-07 | -0.5520 | -10.0085 | 1 | 8.0   | -11.15633 |
|    |           |           |         |          | 2 | 16.0  | -11.53894 |
|    |           |           |         |          | 3 | 72.0  | -12.36916 |
|    |           |           |         |          | 4 | 624.0 | -13.56116 |

**Calculation No. PM-1055 Revision 0**

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

**Attachment J**

RUN DATE: 01/28/03

PLANT NAME: Peach Bottom

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.1 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.1-45.7 meters

SOURCE OF DATA:

COMMENTS: Peach Bottom, Tower 2 1984-1988 met data, 33 ft wind, 33-150 ft Delta T

PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)  
VERSUS  
AVERAGING TIME

| DOWNWIND DISTANCE<br>SECTOR (METERS) | RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)<br>VERSUS AVERAGING TIME |           |            |          |           | HOURS PER YEAR MAX<br>0-2 HR X/Q IS<br>EXCEEDED IN SECTOR |       | DOWNWIND<br>SECTOR |
|--------------------------------------|--|-----------|------------|----------|-----------|---|-------|--------------------|
|                                      | 0-2 HOURS  | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE  |       |                    |
| S 7300.                              | 1.45E-05   | 6.80E-06  | 4.66E-06   | 2.06E-06 | 6.34E-07  | 1.50E-07  | 3.4   | S                  |
| SSW 7300.                            | 1.26E-05   | 5.65E-06  | 3.79E-06   | 1.59E-06 | 4.55E-07  | 9.86E-08  | 181.6 | SSW                |
| SW 7300.                             | 1.25E-05   | 5.61E-06  | 3.77E-06   | 1.59E-06 | 4.58E-07  | 1.00E-07  | 2.7   | SW                 |
| WSW 7300.                            | 1.37E-05   | 6.05E-06  | 4.01E-06   | 1.65E-06 | 4.59E-07  | 9.60E-08  | 4.4   | WSW                |
| W 7300.                              | 1.90E-05   | 8.38E-06  | 5.56E-06   | 2.29E-06 | 6.41E-07  | 1.35E-07  | 7.8   | W                  |
| WNW 7300.                            | 1.87E-05   | 8.18E-06  | 5.42E-06   | 2.21E-06 | 6.12E-07  | 1.27E-07  | 5.7   | WNW                |
| NW 7300.                             | 1.48E-05   | 6.74E-06  | 4.55E-06   | 1.94E-06 | 5.70E-07  | 1.27E-07  | 3.4   | NW                 |
| NNW 7300.                            | 1.48E-05   | 6.90E-06  | 4.72E-06   | 2.07E-06 | 6.33E-07  | 1.49E-07  | 3.2   | NNW                |
| N 7300.                              | 1.53E-05   | 7.23E-06  | 4.96E-06   | 2.19E-06 | 6.79E-07  | 1.62E-07  | 3.2   | N                  |
| NNE 7300.                            | 1.69E-05   | 7.41E-06  | 4.90E-06   | 2.00E-06 | 5.52E-07  | 1.14E-07  | 4.2   | NNE                |
| NE 7300.                             | 2.81E-05   | 1.19E-05  | 7.78E-06   | 3.08E-06 | 8.11E-07  | 1.59E-07  | 14.6  | NE                 |
| ENE 7300.                            | 4.81E-05   | 2.08E-05  | 1.37E-05   | 5.49E-06 | 1.49E-06  | 3.00E-07  | 43.7  | ENE                |
| E 7300.                              | 4.50E-05   | 1.96E-05  | 1.30E-05   | 5.27E-06 | 1.45E-06  | 2.98E-07  | 37.8  | E                  |
| ESE 7300.                            | 3.40E-05   | 1.52E-05  | 1.01E-05   | 4.22E-06 | 1.20E-06  | 2.58E-07  | 20.7  | ESE                |
| SE 7300.                             | 2.45E-05   | 1.14E-05  | 7.78E-06   | 3.40E-06 | 1.04E-06  | 2.42E-07  | 10.6  | SE                 |
| SSE 7300.                            | 1.66E-05   | 7.81E-06  | 5.36E-06   | 2.37E-06 | 7.36E-07  | 1.76E-07  | 5.2   | SSE                |
| MAX X/Q                              | 4.81E-05   |           |            |          |           | TOTAL HOURS AROUND SITE:                                  | 352.1 |                    |
| SRP 2.3.4 7300.                      | 4.63E-05   | 2.01E-05  | 1.33E-05   | 5.37E-06 | 1.47E-06  | 3.00E-07  |       |                    |
| SITE LIMIT                           | 3.07E-05   | 1.43E-05  | 9.74E-06   | 4.25E-06 | 1.29E-06  | 3.00E-07  |       |                    |

0.5 PERCENT X/Q TO AN INDIVIDUAL IS LIMITING.

**\*\*NOTE\*\***: VALUES ON THIS PAGE ARE APPROXIMATIONS ONLY.  
CHECK THE REASONABLENESS OF THE ENVELOPES  
COMPUTED FOR THE 0-2 HOUR VALUES. FOR ANY  
FAULTY ENVELOPES, ADJUST THE ABOVE VALUES.



**Computer Disclosure Sheet**Discipline Nuclear

Client: Exelon Corporation/ Amergen  
 Project: Peach Bottom Atomic Power Station

Date: March 20, 2003  
 Job No. 26427-NCS0005.CALC

Program(s) used  
 ARCON96

Rev No.  
 1

Rev. Date  
 5/1997

Calculation No: PM-1055, Rev. 0  
 Status  Prelim  
 Final  
 Void

WGI Prequalification  Yes  
 No

Run No. 1

Description: ARCON96 X/Q analysis consistent with procedures in Draft Regulatory Guide 1111  
 for Control Room habitability assessments.

Analysis Description: ARCON96 calculations of X/Q are performed for stack and vent releases to the Control Room Intake. Centerline X/Q values, sector X/Q values and 95% max X/Q values are computed for 0-2 hours, 2-8 hours and 8-24 hours, 1-4 day, and 4-30 days.

The attached computer output has been reviewed, the input data checked,  
 And the results approved for release. Input criteria for this analysis were established.

By:

On:

Run by: T.Thomas

Checked by: J. Robinson

Approved by: J. Robinson

*T. Thomas 3/20/03*  
*J. Robinson 03-20-03*  
*J. Robinson 03-20-03*

Remarks: WGI Form for Computer Software Control

