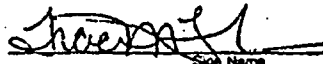
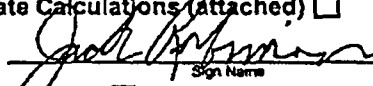
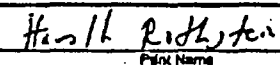
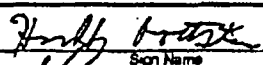
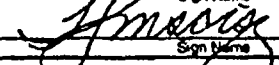
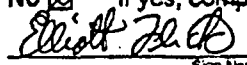


ATTACHMENT 16

**Calculation DRE04-0030, "Atmospheric Dispersion Factors (X/Qs)
for Accident Release," Revision 1**

ATTACHMENT 1
Design Analysis Cover Sheet

Design Analysis (Major Revision)		Last Page No.: 15	
Analysis No.: DRE04-0030		Revision: 1	
Title: Atmospheric Dispersion Factors (X/Qs) for Accident Release			
EC/ECR No.: 356383		Revision: 0	
Station(s): Dresden	Component(s):		
Unit No.: 00 (Common)			
Discipline: M			
Descrip. Code/Keyword: R00			
Safety/QA Class: S			
System Code: Varies			
Structure: N/A			
CONTROLLED DOCUMENT REFERENCES *			
Document No.:	From/To	Document No.:	From/To
Drawing M-3	From		
Drawing M-7	From		
Drawing M-1D	From		
Drawing M-300	From		
Is this Design Analysis Safeguards Information? Yes ☐ No ☒ If yes, see SY-AA-101-106 Does this Design Analysis contain Unverified Assumptions? Yes ☐ No ☒ If yes, AT/AR#: _____ This Design Analysis SUPERCEDES: DRE01-0007, DRE01-0008 In its entirety.			
Description of Revision (list affected pages for partials): - Downwash incorporated into the ARCON96 model run for the Station Chimney to Control Room Intake Scenario. - Terrain incorporated into the PAVAN model run for the Station Chimney to EAB scenario Affected parts of the calculation include the calculation body and Attachments E, H, I, J, K, L. Attachments A, B, C, D, F, and G are unchanged.			
Preparer: Traci Thomas			8/11/05
Print Name		Sign Name	Date
Method of Review: Detailed Review ☒ Alternate Calculations (Attached) ☐ Testing ☐			
Reviewer: Jack Robinson			8/12/05
Print Name		Sign Name	Date
Review Notes: Independent review ☒ Peer review ☐			
(For External Analyses Only)			
External Approver: 			9/12/05
Print Name		Sign Name	Date
Exelon Reviewer: T.J. Mscisz			8/14/05
Print Name		Sign Name	Date
Is a Supplemental Review Required? Yes ☐ No ☒ If yes, complete Attachment 3			
Exelon Approver: E. Flick			8/13/05
Print Name		Sign Name	Date

DRE 04-CR0 R1

OWNER'S ACCEPTANCE REVIEW CHECKLIST FOR EXTERNAL DESIGN ANALYSIS

	Yes	No	N/A
1. Do assumptions have sufficient rationale?	☒	☐	☐
2. Are assumptions compatible with the way the plant is operated and with the licensing basis?	☒	☐	☐
3. Do the design inputs have sufficient rationale?	☒	☐	☐
4. Are design inputs correct and reasonable?	☒	☐	☐
5. Are design inputs compatible with the way the plant is operated and with the licensing basis?	☒	☐	☐
6. Are Engineering Judgments clearly documented and justified?	☒	☐	☐
7. Are Engineering Judgments compatible with the way the plant is operated and with the licensing basis?	☒	☐	☐
8. Do the results and conclusions satisfy the purpose and objective of the design analysis?	☒	☐	☐
9. Are the results and conclusions compatible with the way the plant is operated and with the licensing basis?	☒	☐	☐
10. Does the design analysis include the applicable design basis documentation?	☒	☐	☐
11. Have any limitations on the use of the results been identified and transmitted to the appropriate organizations?	☒	☐	☐
12. Are there any unverified assumptions?	☐	☒	☐
13. Do all unverified assumptions have a tracking and closure mechanism in place?	☐	☐	☒
14. Have all affected design analyses been documented on the Affected Documents List (ADL) for the associated Configuration Change?	☒	☐	☐
15. Do the sources of input and analysis methodology used meet current technical requirement and regulatory commitments? (If the input sources or analysis methodology are based on an out-of-date methodology or code, additional reconciliation may be required if the site had committed to a more recent code)	☒	☐	☐
16. Have vendor supporting technical documents and references (including GE DRFs) been reviewed when necessary?	☒	☐	☐

EXELON REVIEWER:

T.J. Mscisz / J. Mscisz

DATE:

5/14/05

TABLE OF CONTENTS

OWNER'S ACCEPTANCE REVIEW CHECKLIST FOR EXTERNAL DESIGN ANALYSIS.....	2
1.0 PURPOSE/OBJECTIVE.....	4
2.0 ARCON96 ANALYSIS OF CONTROL ROOM X/Q	4
2.1 Methodology and Acceptance Criteria.....	4
2.2 Design Input	5
2.2.1 Source/Control Room Intake Scenarios.....	5
2.2.2 Meteorological Data.....	6
2.3 Calculations	7
3.0 PAVAN 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/Receptor Scenarios	9
3.2.1.1 Control Room Intake	9
3.2.1.2 EAB and LPZ	9
3.2.2 Meteorological Data.....	10
3.3 Calculations	12
4.0 SUMMARY AND CONCLUSIONS	14
5.0 REFERENCES.....	15

ATTACHMENTS

- A. Excerpt of Drawing M-3 – Locations of Unit 2 MSIV, Unit 3 MSIV, Reactor Building Vent Exhaust Stack, and Control Room Intake
- B. Excerpt of Drawing M-1D – Location of Station Chimney and Control Room Intake
- C. Excerpt of Drawing M-300 – Intake Height
- D. Calculation of Building Areas
- E. ARCON96 and PAVAN Input Parameters and X/Q Summary
- F. Wind Rose Diagrams
- G. Joint Frequency Distributions
- H. ARCON96 Input and Output
- I. PAVAN Input and Output
- J. ARCON96 Computer Disclosure Sheet
- K. PAVAN Computer Disclosure Sheet
- L. Dresden Topographic Map

1.0 PURPOSE/OBJECTIVE

This calculation, DRE04-0030, Rev. 1, presents the atmospheric relative concentration (X/Q) values for Alternative Source Term (AST) accident evaluations for the Dresden Station. 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 sec/m^3) resulting from certain postulated accidental radiological releases. The values resulting from this calculation will serve as input to the calculation of the radiological doses using Alternative Source Terms (AST) per Regulatory Guide (RG) 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 RG 1.194 (Reference 4). These analyses are presented in Section 2.0 (ARCON96) and in Section 3.0 (PAVAN).

The X/Q values resulting at the EAB and LPZ are calculated using the NRC-sponsored computer code PAVAN, consistent with the procedures in RG 1.145 (Reference 5). This analysis is presented in Section 3.0.

2.0 ARCON96 ANALYSIS OF CONTROL ROOM X/Q

ARCON96 is a commercial software package designated by Washington Group International (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 WGI Nuclear Engineering Standard for 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 RG 1.23 (Reference 6) 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 7).

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 8).

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 (95th 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 95th percentile relative concentrations.

2.2 Design Input

2.2.1 Source/Control Room Intake Scenarios

There are four (4) release points identified for Dresden: the Unit 2 MSIV, the Unit 3 MSIV, the Station Chimney and the Reactor Building Vent Exhaust Stack. Both the Unit 2 and Unit 3 MSIV release heights are assumed to be 0 m above grade elevation since the releases actually occur below grade. The Station Chimney has a release height of 94.6 m and the Reactor Building Vent Exhaust Stack has a release height of 48.6 m (Reference 9). The Unit 2 MSIV, Unit 3 MSIV and the Reactor Building Vent Exhaust Stack are all less than 2.5 times the height of their adjacent buildings, and therefore per RG 1.194 they are modeled as "ground" level releases. Consistent with the original Dresden Station licensing as documented in the Dresden SER, the Station Chimney (although somewhat less than 2.5 times the height of its adjacent buildings) is treated as an elevated release. The locations of the Unit 2 MSIV, Unit 3 MSIV, and Reactor Building Vent Exhaust Stack can be seen in Attachment A and the location of the Station Chimney in Attachment B.

The Control Room Intake is located 11.3 m above grade as seen in Attachment C, and is identified with respect to the MSIV and Vent Exhaust Stack in Attachment A and the Station Chimney in Attachment B.

ARCON96 is executed for each of the following Source/Control Room Intake scenarios:

- 1) Unit 2 MSIV to Control Room Intake

- 2) Unit 3 MSIV to Control Room Intake
- 3) Station Chimney to Control Room Intake
- 4) Reactor Building Vent Exhaust Stack to Control Room Intake.

Per RG 1.194 Table A-2, the building area perpendicular to the wind direction should be utilized in ARCON96. For the Unit 2 MSIV, Unit 3 MSIV, and Reactor Building Vent Exhaust Stack scenarios, the Reactor Building cross-sectional area was utilized. For the Station Chimney scenario, the Turbine Building area was utilized. Calculations of these building areas are shown in Attachment D.

The source in all modeling scenarios is treated as a point source. The ARCON96 input parameter values were set in accordance with RG 1.194, Table A-2 (e.g. surface roughness length = 0.2 m; wind direction window = 90 degrees, 45 degree on either side of line of sight from source to receptor; minimum wind speed = 0.5 m/s; and averaging sector width constant = 4.3).

The Station Chimney to Control Room Intake scenario was modeled in ARCON96 in Rev. 0 of this calculation without considering the effects of stack downwash (i.e. the vertical velocity, stack radius and stack flow were set to zero). In response to the NRC RAI dated July 22, 2005, additional ARCON96 model runs were completed with downwash incorporated by setting the vertical velocity (derived from the stack flow divided by the stack top internal area), stack radius (to the outside edge at the stack top) and stack flow (the design Standby Gas Treatment System flow) to 0.21 m/s, 1.86 m, and 1.89m³/s, respectively, based on values indicated in the Dresden UFSAR.

Other parameters utilized by ARCON96 (i.e. wind direction, horizontal distance, etc.) are contained in Attachment E.

2.2.2 Meteorological Data

The Dresden meteorological tower data for the five-year period, 1995-1999, as supplied by Exelon (Reference 10), were applied in the ARCON96 modeling analyses. Wind measurements were taken at 35 ft, 150 ft, and 300 ft. The vertical temperature difference (i.e., delta T) was measured between 150 ft and 35 ft and between 300 ft and 35 ft. Wind speeds reported as "calm" were assigned a value of 0.5 mph (i.e. 0.22 m/s). As stated in Section 2.2.1, however, ARCON96 assigns a default value of 0.5 m/s to each wind speed lower than 0.5 m/s.

Executing ARCON96 requires the meteorological input file to contain two (2) wind levels (lower and upper) and one (1) delta T stability class. Since the Dresden X/Q analysis necessitates the modeling of both ground-level and elevated sources, two ARCON96 meteorological databases were developed from the three (3) levels of wind measurements (i.e. 35 ft, 150 ft, and 300 ft) and the two (2) sets of delta T measurements (i.e. 150-35 ft and 300-35 ft) as follows:

TABLE 2-1

Meteorological Database	Lower Level Wind	Upper Level Wind	Delta T Stability Class Levels
a	35 ft	150 ft	150-35 ft
b	35 ft	300 ft	300-35 ft

The most representative database was then selected to be utilized in ARCON96 for each of the source/Control Room Intake scenarios as shown below:

TABLE 2-2

Scenario	Meteorological Database*
Unit 2 MSIV	a
Unit 3 MSIV	a
Station Chimney	b
Reactor Building Vent Exhaust Stack	a

* Identified in Table 2-1.

Attachment F includes the five-year wind rose diagrams based on the lower, middle and upper level meteorological data.

Attachment G contains the joint wind direction, wind speed, and stability class distribution tables, based on both of the five-year meteorological databases shown in Table 2-1 of Section 2.2.1 (These data are provided both in the format of number of observations and percent occurrence frequency).

2.3 Calculations

The X/Q values resulting from the ARCON96 modeling analysis of each source/Control Room Intake scenario are presented in Table 2-3 below.

TABLE 2-3							
ARCON96 Analysis X/Q Results Control Room Intake							
Receptor	Source	Downwash Included?	X/Q (sec/m ³)*				
			0-2 hours	2-8 hours	8-24 hours	1-4 days	4-30 days
Control Room Intake	Unit 2 MSIV	N/A	1.30E-03	1.06E-03	4.49E-04	2.96E-04	2.44E-04
	Unit 3 MSIV	N/A	4.48E-04	3.74E-04	1.57E-04	1.04E-04	8.42E-05
	Station Chimney	No	1.00E-18	1.00E-18	4.19E-16	1.43E-16	8.32E-17
		Yes	1.00E-15	1.00E-15	1.84E-13	5.95E-14	3.82E-14
	Reactor Building Vent Exhaust Stack	N/A	6.44E-04	4.91E-04	2.02E-04	1.36E-04	1.05E-04

*Highlighted cells indicate maximum X/Q values.

3.0 PAVAN ANALYSIS 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 1 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 1 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 RG 1.194 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 RG 1.145. The technical basis for the program is presented by Snell and Jubach (Reference 11). 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 σ_y and σ_z 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/Receptor Scenarios

3.2.1.1 Control Room Intake

For the Station Chimney to Control Room Intake scenario, PAVAN was executed in elevated release mode. The stack-to-intake horizontal distance is 81 m. The release height of the Station Chimney is 94.6 m, however, RG 1.194, Section 3.2.2 requires the release height to be measured from the height of the Control Room Intake (11.3 m above grade elevation); therefore, the actual Station Chimney release height of 94.6 m above grade was reduced by 11.3 m, to 83.3 m for modeling. Other PAVAN input parameter values included the Reactor Building height of 43.1 m (Reference 9) and the minimum Reactor Building vertical cross-sectional area of 1545 m².

Following the execution of PAVAN for the distance from the Station Chimney to the Control Room Intake, a review of this output was performed in accordance with RG 1.194 guidance to estimate an approximate distance range within which the actual maximum 0-2 hour X/Q would be predicted to occur in each given downwind sector. An additional set of PAVAN runs was then executed for several distances in this range. The distances modeled to determine the actual maximum X/Q are as follows: 75, 81 (actual), 100, 150, 200, 300, 350, 375, 400, 425, 450, 600, 800, 1000, 1500, 1800, 1900, 2000, 2200, 2500, and 3000 meters.

Terrain was not considered for the Station Chimney to Control Room Intake scenario because the distance from intake to source is so small that the terrain would not be expected to have a significant effect on the X/Q values.

3.2.1.2 EAB and LPZ

The PAVAN model was also executed to determine the ground-level X/Q for the following source/receptor scenarios:

- 1) Unit 2 and 3 MSIV to the EAB and LPZ
- 2) Station Chimney to the EAB and LPZ
- 3) Reactor Building Vent Exhaust Stack to the EAB and LPZ

The EAB and LPZ are located at 800 m and 8000 m, respectively. The MSIV release points and the Reactor Building Vent Exhaust Stack releases do not qualify as elevated releases per RG 1.145; therefore, they were executed by PAVAN as "ground" type releases requiring an assumption of a 10 m release height. The Station Chimney was executed as an elevated release with a height of 94.6 m. The Reactor Building height of 43.1 m and the minimum calculated Reactor Building vertical cross-sectional area of 1545 m² were assumed for all three scenarios.

For the Station Chimney to EAB scenario, terrain effects were not considered in Rev. 0 of this calculation; however, in response to the NRC RAI dated July 22, 2005, additional PAVAN model runs were completed to incorporate the terrain data shown below in Table 3-2 for EAB X/Q. This terrain height data was obtained from the topographic map shown in Attachment L and includes the 100 ft bluff located 1300 m in the North through East sectors, the only significant terrain feature historically considered for the Station in the Dresden UFSAR.

TABLE 3-2 PAVAN Terrain Heights																
Downwind Sector	S	SSW	SW	WSW	W	WNW	NW	NNW	N	NNE	NE	ENE	E	ESE	SE	SSE
Terrain Height (m)	0	0	0	0	0	0	0	0	31	31	31	31	31	0	0	0
Distance at which terrain height occurs (m)	800	800	800	800	800	800	800	800	1300	1300	1300	1300	1300	800	800	800

3.2.2 Meteorological Data

The Dresden meteorological data from the five-year period, 1995-1999, as supplied by Exelon, were used in the PAVAN analysis. 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 from the two meteorological databases identified in Section 2.2.2, Table 2-1, by using the WGI pre-qualified program ARCONtoPAVANMETrev1 (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 RG 1.23 (Reference 6) with the first category identified as "calm". The minimum wind speed (i.e. wind threshold) was set to 0.93 mph and calm wind speeds were assigned a value of 0.5 mph. A midpoint was also assumed between each of the RG 1.23 wind speed categories, Nos. 2-6, as to be inclusive of all monitored wind speeds. The RG 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 <0.93
2	1 to 3	>=0.93 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

The wind measurement level and delta T measurement layer selected as most representative of the release elevation assumed by PAVAN for each scenario are identified in Table 3-4. The joint wind-stability frequency distribution matrix input to each PAVAN modeling scenario was compiled from the data measured at the levels as indicated.

TABLE 3-4

Scenario	PAVAN Release Mode	Wind Level	Delta T Stability Class Layer
Station Chimney to Control Room Intake	Elevated	300 ft	300-35 ft
Unit 2 and 3 MSIV to EAB and LPZ	Ground (10 m)	35 ft	150-35 ft
Station Chimney to EAB and LPZ	Elevated	300 ft	300-35 ft
Reactor Building Vent Exhaust Stack to EAB and LPZ	Ground (10 m)	35 ft	150-35 ft

3.3 Calculations

The Dresden X/Q results are presented below in Table 3-5 for the Control Room Intake and in Table 3-6 for the EAB and LPZ.

TABLE 3-5

PAVAN Analysis X/Q Results Control Room Intake						
Scenario	Horizontal Distance (m)	X/Q (sec/m³)				
		0-2 hours	0-8 hours	8-24 hours	1-4 days	4-30 days
Station Chimney to CR Intake	75	6.35E-06	4.83E-08	4.21E-09	2.12E-11	1.06E-14
	81 (Actual Distance)	6.35E-06	8.88E-08	1.05E-08	1.02E-10	1.32E-13
	100	6.35E-06	3.14E-07	6.99E-08	2.68E-09	2.48E-11
	150	6.35E-06	1.11E-06	4.66E-07	4.66E-07	7.04E-08
	200	6.35E-06	1.97E-06	1.10E-06	3.10E-07	5.01E-08
	300	6.35E-06	2.75E-06	1.81E-06	7.31E-07	1.99E-07
	350	6.42E-06	2.87E-06	1.92E-06	8.03E-07	2.29E-07
	375	6.37E-06	2.87E-06	1.93E-06	8.13E-07	2.35E-07
	400	6.35E-06	2.87E-06	1.93E-06	8.18E-07	2.38E-07
	425	6.31E-06	2.86E-06	1.93E-06	8.17E-07	2.38E-07
	450	6.31E-06	2.86E-06	1.93E-06	8.15E-07	2.38E-07
	600	5.68E-06	2.59E-06	1.75E-06	7.48E-07	2.21E-07
	800	5.66E-06	2.57E-06	1.73E-06	7.34E-07	2.14E-07
	1000	5.10E-06	2.38E-06	1.62E-06	7.09E-07	2.16E-07
	1500	4.76E-06	2.31E-06	1.60E-06	7.31E-07	2.36E-07
	1800	4.71E-06	2.30E-06	1.60E-06	7.35E-07	2.40E-07
	1900	4.55E-06	2.23E-06	1.56E-06	7.20E-07	2.37E-07
	2000	4.51E-06	2.21E-06	1.55E-06	7.15E-07	2.36E-07
	2200	4.53E-06	2.22E-06	1.55E-06	7.13E-07	2.34E-07
	2500	4.43E-06	2.16E-06	1.51E-06	6.93E-07	2.27E-07
	3000	4.15E-06	2.02E-06	1.41E-06	6.49E-07	2.12E-07

TABLE 3-6
PAVAN Analysis X/Q Results
EAB and LPZ

Scenario			X/Q (sec/m ³) ⁽²⁾						
Receptor	Source	X/Q Parameter	Terrain Included?	0-0.5 hour (max fumigation)	0-2 hours	0-8 hours	8-24 hours	1-4 days	4-30 days
EAB (800 m)	Unit 2 and 3 MSIV	Direction-Specific Max	N/A ⁽¹⁾	N/A	2.51E-04 (NE)	1.21E-04 (NE)	8.43E-05 (NE)	3.83E-05 (NE)	1.29E-05 (SE)
		Site Limit	N/A	N/A	2.14E-04	1.08E-04	7.69E-05	3.67E-05	1.27E-05
	Station Chimney	Direction-Specific Max	No	7.07E-05 (NNW)	3.78E-06 (WSW)	1.69E-06 (NW)	1.14E-06 (NW)	4.96E-07 (ENE)	1.52E-07 (ENE)
		Site Limit	No	N/A	4.01E-06	1.84E-06	1.24E-06	5.32E-07	1.57E-07
		Direction-Specific Max	Yes	8.74E-05 (N through E)	6.74E-06 (ENE)	3.06E-06 (ENE)	2.06E-06 (ENE)	8.75E-07 (ENE)	2.56E-07 (ENE)
		Site Limit	Yes	N/A	5.16E-06	2.45E-06	1.69E-06	7.51E-07	2.35E-07
	Reactor Building Vent Exhaust Stack	Direction-Specific Max	N/A	N/A	2.51E-04 (NE)	1.21E-04 (NE)	8.43E-05 (NE)	3.83E-05 (NE)	1.29E-05 (SE)
		Site Limit	N/A	N/A	2.14E-04	1.08E-04	7.69E-05	3.67E-05	1.27E-05
LPZ (8000 m)	Unit 2 and 3 MSIV	Direction-Specific Max	N/A	N/A	2.63E-05 (SE)	1.09E-05 (SE)	7.02E-06 (SE)	2.70E-06 (SE)	6.86E-07 (SE)
		Site Limit	N/A	N/A	2.24E-05	9.55E-6	6.23E-06	2.47E-06	6.53E-07
	Station Chimney	Direction-Specific Max	N/A	8.84E-06 (NNW)	1.74E-06 (WSW)	8.35E-07 (WSW)	5.78E-07 (WSW)	2.60E-7 (WSW)	8.25E-08 (WSW)
		Site Limit	N/A	N/A	1.78E-06	8.50E-07	5.87E-07	2.63E-07	8.31E-08
	Reactor Building Vent Exhaust Stack	Direction-Specific Max	N/A	N/A	2.63E-05 (SE)	1.09E-05 (SE)	7.02E-06 (SE)	2.70E-06 (SE)	6.86E-07 (SE)
		Site Limit	N/A	N/A	2.24E-05	9.55E-06	6.23E-06	2.47E-06	6.53E-07

1) N/A – Not Applicable

2) Shading and bolding indicates the higher of the Direction-Specific Max and Site Limit. For the Station Chimney to EAB scenario, shading and bolding also indicates the maximum of the PAVAN runs that incorporate terrain compared to those which do not.

4.0 SUMMARY AND CONCLUSIONS

The ARCON96 and PAVAN X/Q modeling calculation results are summarized below in Table 4-1 and in Attachment E for the regulated time-averaging periods. Control Room Intake results for the Station Chimney are calculated using the ARCON96 model, supplemented with PAVAN according to RG 1.194 methodology (described above in Section 3.0).

TABLE 4-1

X/Q Results Summary							
Scenario		X/Q (sec/m³)					
Receptor	Source	0-0.5 hour (max fumigation)	0-2 hours	2-8 hours*	8-24 hours	1-4 days	4-30 days
Control Room Intake	Unit 2 MSIV	N/A	1.30E-03	1.06E-03	4.49E-04	2.96E-04	2.44E-04
	Unit 3 MSIV	N/A	4.48E-04	3.74E-04	1.57E-04	1.04E-04	8.42E-05
	Station Chimney	N/A	6.42E-06	1.00E-15	1.84E-13	3.41E-08	1.00E-08
	Reactor Building Vent Exhaust Stack	N/A	6.44E-04	4.91E-04	2.02E-04	1.36E-04	1.05E-04
EAB (800 m)	Unit 2 and 3 MSIV	N/A	2.51E-04 (NE)	1.21E-04 (NE)	8.43E-05 (NE)	3.83E-05 (NE)	1.29E-05 (SE)
	Station Chimney	8.74E-05 (N through E)	6.74E-06 (ENE)	3.06E-06 (ENE)	2.06E-06 (ENE)	8.75E-07 (ENE)	2.56E-07 (E)
	Reactor Building Vent Exhaust Stack	N/A	2.51E-04 (NE)	1.21E-04 (NE)	8.43E-05 (NE)	3.83E-05 (NE)	1.29E-05 (SE)
LPZ (8000 m)	Unit 2 and 3 MSIV	N/A	2.63E-05 (SE)	1.09E-05 (SE)	7.02E-06 (SE)	2.70E-06 (SE)	6.86E-07 (SE)
	Station Chimney	8.84E-06 (NNW)	1.78E-06	8.50E-07	5.87E-07	2.63E-07	8.31E-08
	Reactor Building Vent Exhaust Stack	N/A	2.63E-05 (SE)	1.09E-05 (SE)	7.02E-06 (SE)	2.70E-06 (SE)	6.86E-07 (SE)

* Results for the EAB and LPZ represent a 0-8 hour time period as calculated by PAVAN.

All input and output files associated with the ARCON96 and PAVAN modeling results are provided in Attachments H and I, respectively (PAVAN output has been shortened to include only the input and X/Q summary). The corresponding WGI Computer Disclosure Sheets are contained in Attachments J and K.

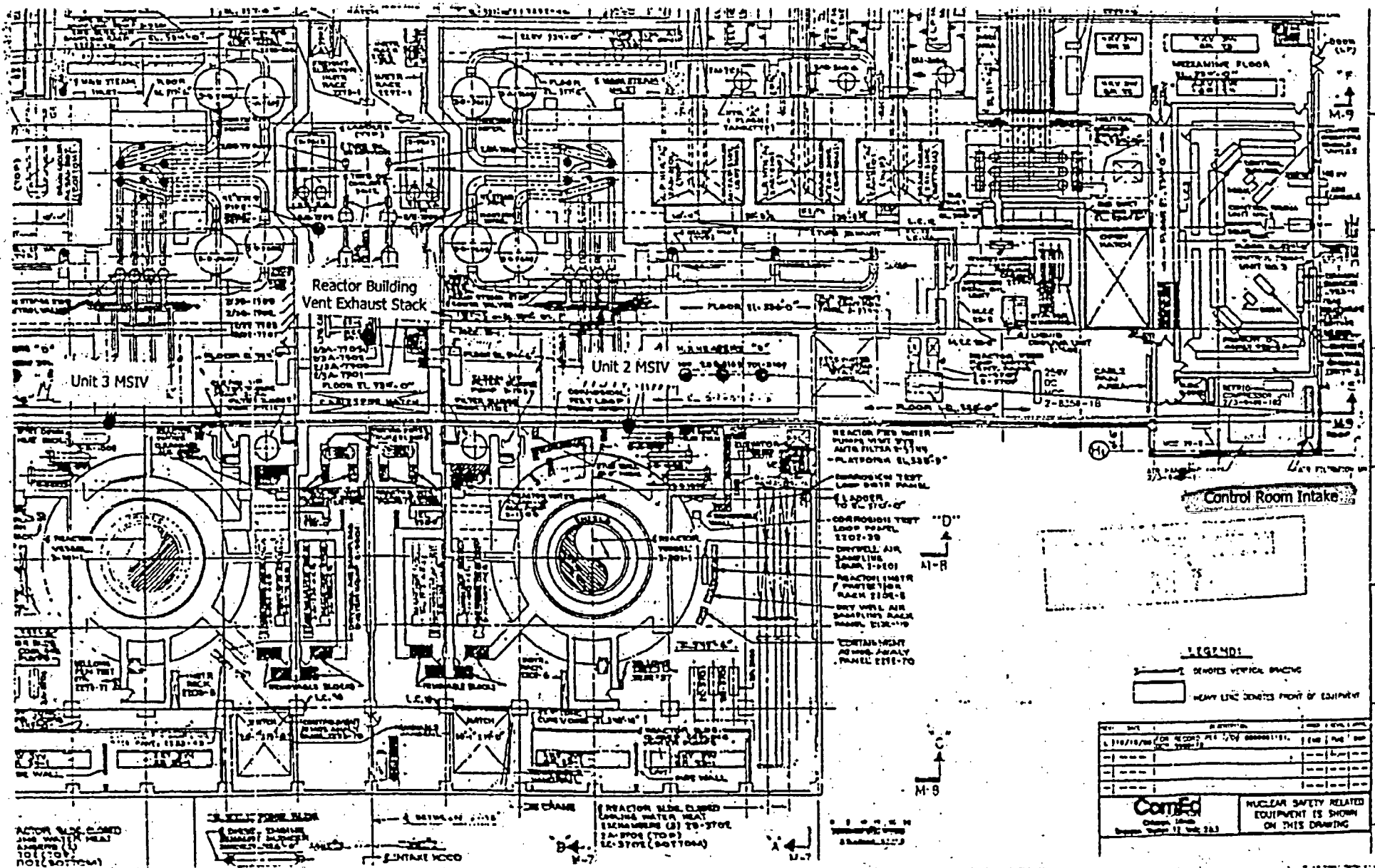
5.0 REFERENCES

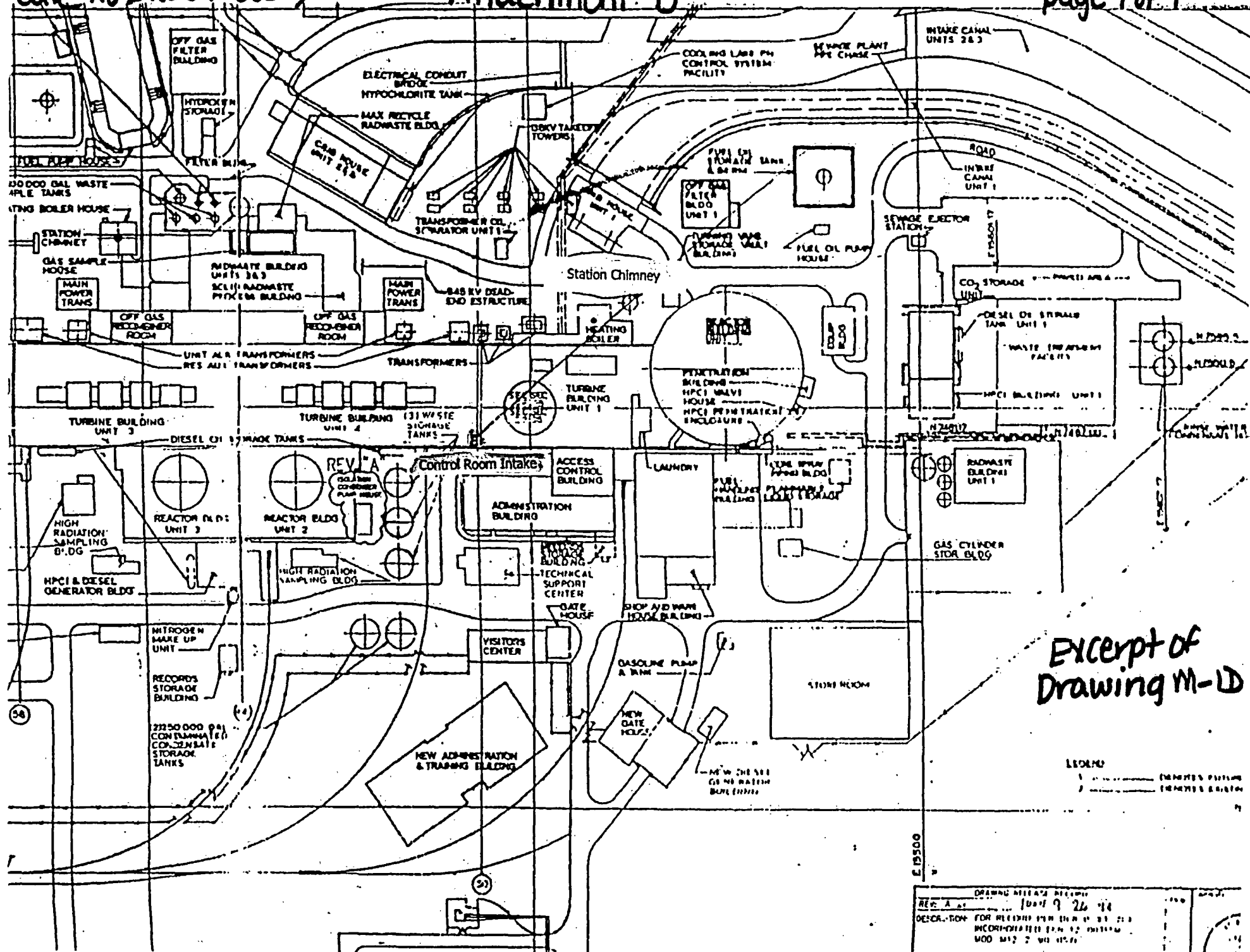
- 1) *Regulatory Guide 1.183, "Alternative Radiological Source Terms For Evaluating Design Basis Accidents At Nuclear Power Reactors"*; U.S. Nuclear Regulatory Commission; July 2000.
- 2) *Atmospheric Relative Concentrations in Building Wakes*; NUREG/CR-6331, PNNL-10521, Rev. 1; prepared by J. V. Ramsdell, 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) *Regulatory Guide 1.194; Atmospheric Relative Concentrations for Control Room Radiological Habitability Assessments at Nuclear Power Plants*; U.S. Nuclear Regulatory Commission; June 2003.
- 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) *Regulatory Guide 1.23 (Safety Guide 23), Onsite Meteorological Programs*; U. S. Nuclear Regulatory Commission; USNRC Office of Standards Development; Washington, D.C.; 1972.
- 7) *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.
- 8) *Atmospheric Dispersion Estimates in the Vicinity of Buildings*; J. V. Ramsdell and C. J. Fosmire, Pacific Northwest Laboratory; 1995.
- 9) Dresden Drawing M-7, *General Arrangement Sections "A-A" & "B-B"*.
- 10) Dresden 1995-1999 Meteorological Tower Data; provided by Exelon via e-mail on 6/7/2004 from Tom Mscisz.
- 11) *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.

Calc No. DRE04-0030, Rev. D

Attachment A
(Excerpt of Drawing M-3)

Page 1 of 1

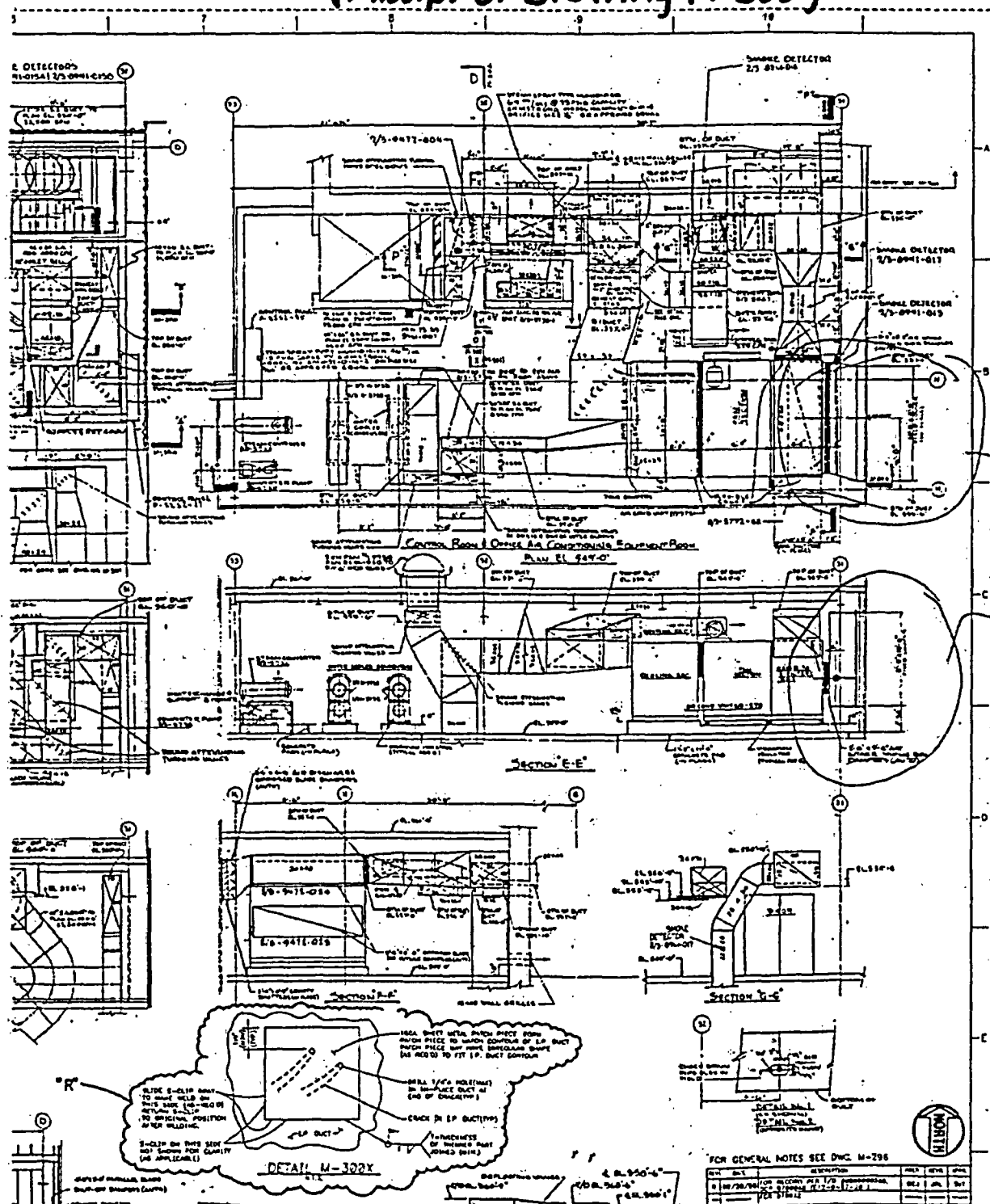




Calc. No. DRE04-0030, Rev. 0

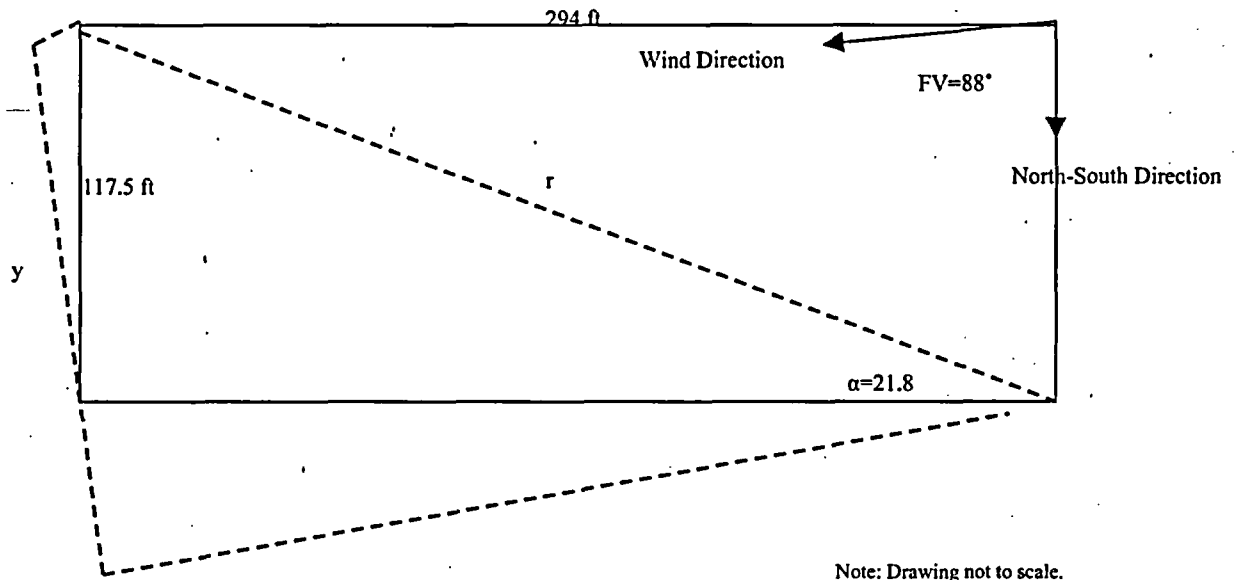
Page 1 of 1

Attachment C (Excerpt of Drawing M-300)



ACTUAL
CR
INTAKE

Projected Area of the Reactor Building
Scenario: Unit 2 MSIV to Control Room Intake



$$y = r \sin(90^\circ - \alpha + FV - \Theta'_N)$$

- Reactor Building height = 141.5 ft (per Drawing M-8)
- Reactor Building width = 117.5 (per Drawing M-7)
- Reactor Building length = 294 ft (per Drawing M-3)
- Wind direction = 268°
- $r = \sqrt{\text{width}^2 + \text{length}^2} = \sqrt{117.5^2 + 294^2} = 316.6 \text{ ft}$
- $\sin \alpha = \left(\frac{\text{width}}{r} \right) = \left(\frac{117.5}{316.6} \right) = .3711 \quad \therefore \alpha = 21.8^\circ$
- $FV = 88^\circ$
- $\Theta'_N = 0^\circ$

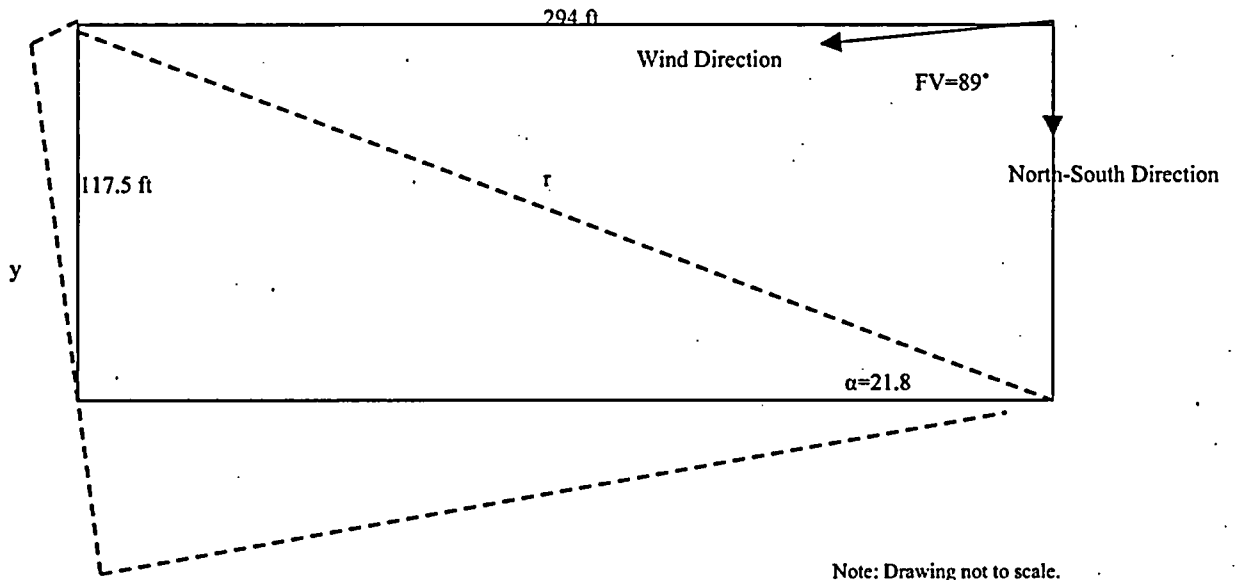
$$y = 316.6 \sin(90^\circ - 21.8 + 88^\circ - 0^\circ)$$

$$y = 316.6 \sin(156.2)$$

$$y = 127.8 \text{ ft}$$

$$\text{Projected Area} = (141.5)(127.8) = 18083.7 \text{ ft}^2 = 1680 \text{ m}^2$$

Projected Area of the Reactor Building
Scenario: Unit 3 MSIV to Control Room Intake



$$y = r \sin(90^\circ - \alpha + FV - \Theta'_N)$$

- Reactor Building height = 141.5 ft (per Drawing M-8)
- Reactor Building width = 117.5 (per Drawing M-7)
- Reactor Building length = 294 ft (per Drawing M-3)
- Wind direction = 269°
- $r = \sqrt{\text{width}^2 + \text{length}^2} = \sqrt{117.5^2 + 294^2} = 316.6 \text{ ft}$
- $\sin \alpha = \left(\frac{\text{width}}{r} \right) = \left(\frac{117.5}{316.6} \right) = .3711 \quad \therefore \alpha = 21.8^\circ$
- $FV = 89^\circ$
- $\Theta'_N = 0^\circ$

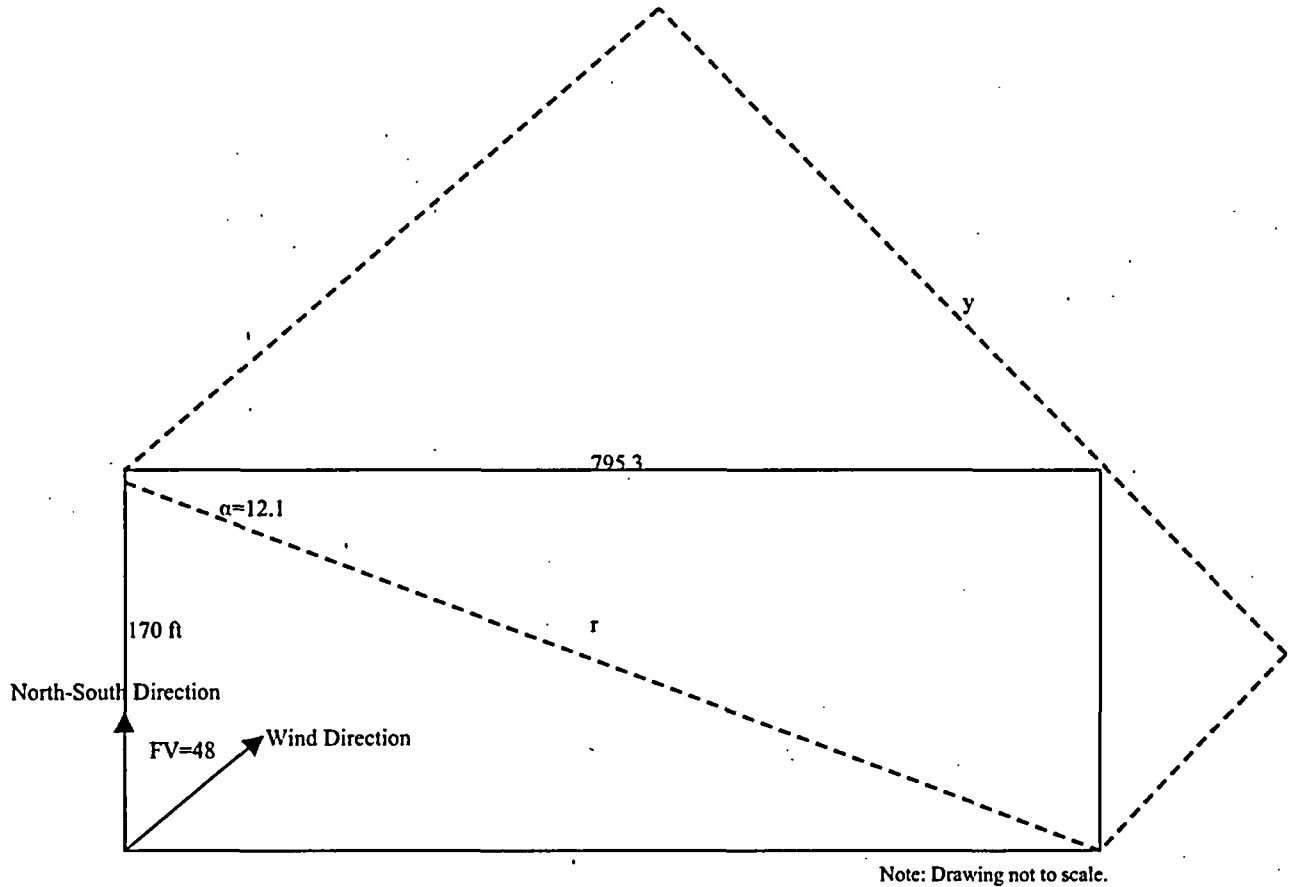
$$y = 316.6 \sin(90^\circ - 21.8 + 89^\circ - 0^\circ)$$

$$y = 316.6 \sin(157.2)$$

$$y = 122.7 \text{ ft}$$

$$\text{Projected Area} = (141.5)(122.7) = 17362.1 \text{ ft}^2 = 1613 \text{ m}^2$$

Projected Area of the Turbine Building
Scenario: Station Chimney to Control Room Intake



$$y = r \sin(90^\circ - \alpha + FV - \Theta'_N)$$

- Turbine Building height = 105.5 ft
- Turbine Building width = 795.3 ft (per Drawing M-1D; measured)
- Turbine Building length = 170 ft (per Drawing M-7)
- Wind direction = 314°
- $r = \sqrt{\text{width}^2 + \text{length}^2} = \sqrt{170^2 + 795.3^2} = 813.3 \text{ ft}$
- $\sin \alpha = \left(\frac{\text{width}}{r} \right) = \left(\frac{170}{813.3} \right) = .2090 \quad \therefore \alpha = 12.1^\circ$
- $FV = 48^\circ$
- $\Theta'_N = 0^\circ$

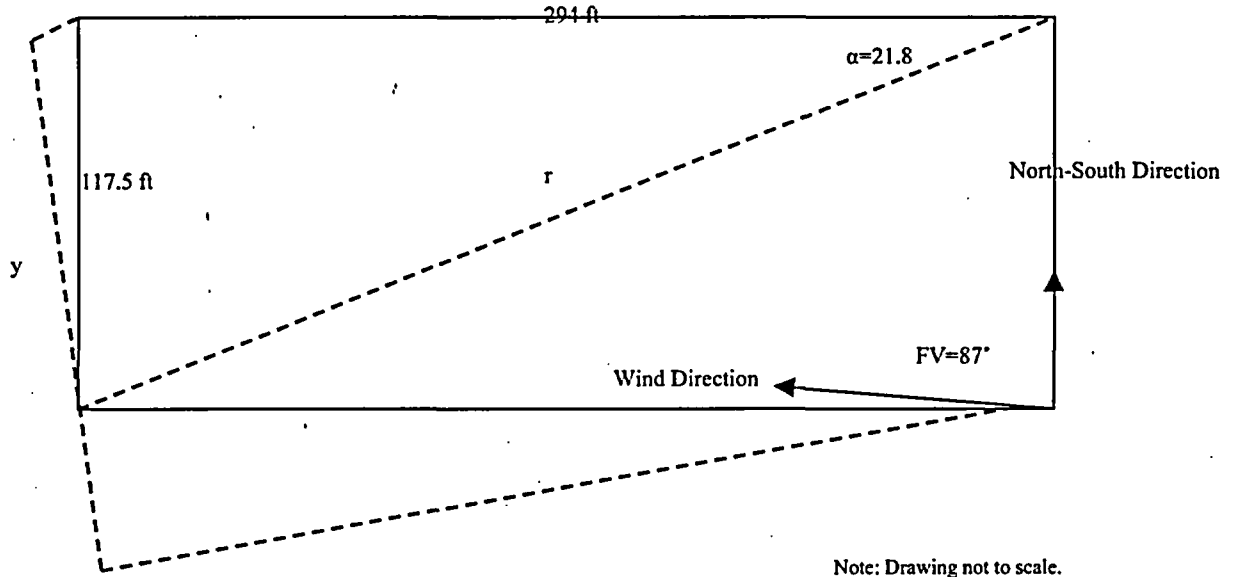
$$y = 813.3 \sin(90^\circ - 12.1 + 48^\circ - 0^\circ)$$

$$y = 813.3 \sin(125.9)$$

$$y = 658.8 \text{ ft}$$

$$\text{Projected Area} = (105.5)(658.8) = 69503.4 \text{ ft}^2 = 6457.1 \text{ m}^2$$

Projected Area of the Reactor Building
Scenario: Unit 2 and 3 Reactor Building Vent Exhaust Stack to Control
Room Intake



$$y = r \sin(90^\circ - \alpha + FV - \Theta'_N)$$

- Reactor Building height = 141.5 ft
- Reactor Building width = 117.5 (per Drawing M-7)
- Reactor Building length = 294 ft (per Drawing M-3)
- Wind direction = 269°
- $r = \sqrt{\text{width}^2 + \text{length}^2} = \sqrt{117.5^2 + 294^2} = 316.6 \text{ ft}$
- $\sin \alpha = \left(\frac{\text{width}}{r} \right) = \left(\frac{117.5}{316.6} \right) = .3711 \quad \therefore \alpha = 21.8^\circ$
- $FV = 87^\circ$
- $\Theta'_N = 0^\circ$

$$y = 316.6 \sin(90^\circ - 21.8 + 87^\circ - 0^\circ)$$

$$y = 316.6 \sin(155.2)$$

$$y = 132.8 \text{ ft}$$

$$\text{Projected Area} = (141.5)(132.8) = 18791.2 \text{ ft}^2 = 1745.8 \text{ m}^2$$

														X/Q (sec/m ³)						
Source of Data	Model utilized	Release Point	Intake/Receptor	Used for DBA ⁽¹⁾	Horizontal Distance (m)	Direction from Intake to Source (°)	Release Height (m)	Intake Height (m)	Building Area (m ²)	Vertical Velocity (m/s)	Stack Radius (m)	Stack Flow (m ³ /s)	0-8 hr (Fumigation)	0-2 hrs	2-8 hrs ⁽²⁾	8-24 hrs	1-4 days	4-30 days	Notes	
Revised X/Q calculated with corrected met data	WGI	ARCON96	Unit 2 MSIV	Control Room	LOCA, CRDA	67.1	268	0	11.3	Reactor Building 1660	0	0	0	N/A ⁽³⁾	1.30E-03	1.06E-03	4.49E-04	2.96E-04	2.44E-04	Building area perpendicular to wind direction was used per RG 1.194, Table A-2.
	WGI	ARCON96	Unit 3 MSIV	Control Room	LOCA, CRDA	118.9	269	0	11.3	Reactor Building 1613	0	0	0	N/A	4.48E-04	3.74E-04	1.57E-04	1.04E-04	8.42E-05	Building area perpendicular to wind direction was used per RG 1.194, Table A-2.
	WGI	ARCON96 and PAVAN	Station Chimney	Control Room	LOCA	80.8	48	94.8 (ARCON96); 83.3 (PAVAN)	11.3	Turbine Building 6457.1 (ARCON96); Reactor Building 1545 (PAVAN)	0	0	0	N/A	6.42E-06	1.00E-16	4.19E-16	3.41E-06	1.00E-06	Building area perpendicular to wind direction was used per RG 1.194, Table A-2. ARCON96 and PAVAN were used together to determine X/Q values according to RG 1.194, Section 3.2.2.
	WGI	ARCON96 and PAVAN	Station Chimney	Control Room	LOCA	80.8	48	94.8 (ARCON96); 83.3 (PAVAN)	11.3	Turbine Building 6457.1 (ARCON96); Reactor Building 1545 (PAVAN)	0.21	1.86	1.89	N/A	6.42E-06	1.00E-15	1.84E-13	3.41E-06	1.00E-06	Building area perpendicular to wind direction was used per RG 1.194, Table A-2. ARCON96 and PAVAN were used together to determine X/Q values according to RG 1.194, Section 3.2.2.
	WGI	ARCON96	Reactor Building Exhaust Stack	Control Room	FHA	95.5	273	48.6	11.3	Reactor Building 1745.8	0	0	0	N/A	6.44E-04	4.91E-04	2.02E-04	1.36E-04	1.05E-04	Building area perpendicular to wind direction was used per RG 1.194, Table A-2.
	WGI	PAVAN	Unit 2 and 3 MSIV	EAB	LOCA, CRDA	800	N/A	10	N/A	Reactor Building 1545	N/A	N/A	N/A	N/A	2.51E-04 (NE)	1.21E-04 (NE)	8.43E-05 (NE)	3.83E-05 (NE)	1.29E-05 (SE)	PAVAN requires a ground-level release height of 10 m. The higher of the max sector X/Q (wind direction sector specified) and site limit X/Q (wind direction independent) value was selected.
	WGI	PAVAN	Station Chimney	EAB	LOCA	800	N/A	94.6	N/A	Reactor Building 1545	N/A	N/A	N/A	7.07E-05 (NNW)	4.01E-06	1.84E-06	1.24E-06	5.32E-07	1.57E-07	The higher of the max sector X/Q (wind direction sector specified) and site limit X/Q (wind direction independent) value was selected. Terrain data not included.
	WGI	PAVAN	Station Chimney	EAB	LOCA	800	N/A	94.6	N/A	Reactor Building 1545	N/A	N/A	N/A	8.74E-05 (N through E)	6.74E-06 (ENE)	3.09E-06 (ENE)	2.06E-06 (ENE)	6.75E-07 (ENE)	2.56E-07 (ENE)	The higher of the max sector X/Q (wind direction sector specified) and site limit X/Q (wind direction independent) value was selected. Historic terrain data included.
	WGI	PAVAN	Reactor Building Exhaust Stack	EAB	FHA	800	N/A	10	N/A	Reactor Building 1545	N/A	N/A	N/A	N/A	2.51E-04 (NE)	1.21E-04 (NE)	8.43E-05 (NE)	3.83E-05 (NE)	1.29E-05 (SE)	PAVAN requires a ground-level release height of 10 m. The higher of the max sector X/Q (wind direction sector specified) and site limit X/Q (wind direction independent) value was selected.
	WGI	PAVAN	Unit 2 and 3 MSIV	LPZ	LOCA, CRDA	8000	N/A	10	N/A	Reactor Building 1545	N/A	N/A	N/A	N/A	2.63E-05 (SE)	1.09E-05 (SE)	7.02E-06 (SE)	2.70E-06 (SE)	6.86E-07 (SE)	PAVAN requires a ground-level release height of 10 m. The higher of the max sector X/Q (wind direction sector specified) and site limit X/Q (wind direction independent) value was selected.
	WGI	PAVAN	Station Chimney	LPZ	LOCA	8000	N/A	94.6	N/A	Reactor Building 1545	N/A	N/A	N/A	8.84E-06 (NNW)	1.78E-06	8.50E-07	5.87E-07	2.63E-07	8.31E-06	The higher of the max sector X/Q (wind direction sector specified) and site limit X/Q (wind direction independent) value was selected.
	WGI	PAVAN	Reactor Building Exhaust Stack	LPZ	FHA	8000	N/A	10	N/A	Reactor Building 1545	N/A	N/A	N/A	N/A	2.63E-05 (SE)	1.09E-05 (SE)	7.02E-06 (SE)	2.70E-06 (SE)	6.86E-07 (SE)	PAVAN requires a ground-level release height of 10 m. The higher of the max sector X/Q (wind direction sector specified) and site limit X/Q (wind direction independent) value was selected.

Notes:

- 1) Design basis accident (DBA)
2) The PAVAN X/Q values are for 0-8 hours.
3) N/A = Not Applicable

DRS 1995-1999 35 ft

January 1

December 31

Midnight-11 PM

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

CALM WINDS 0.10%

WIND SPEED (KNOTS)



1-3

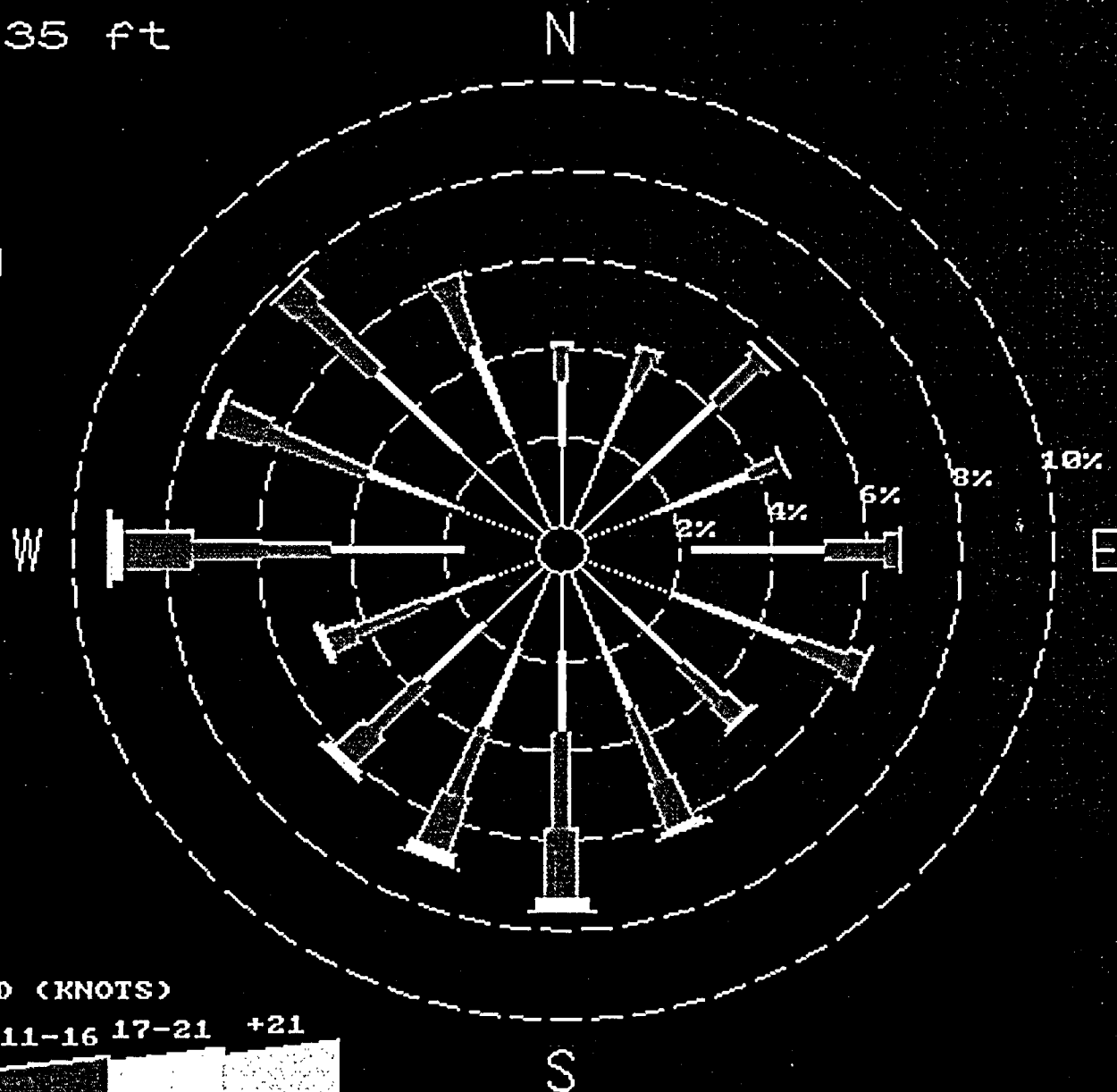
4-6

7-10

11-16

17-21

+21



DRS 1995-1999 150 ft

January 1

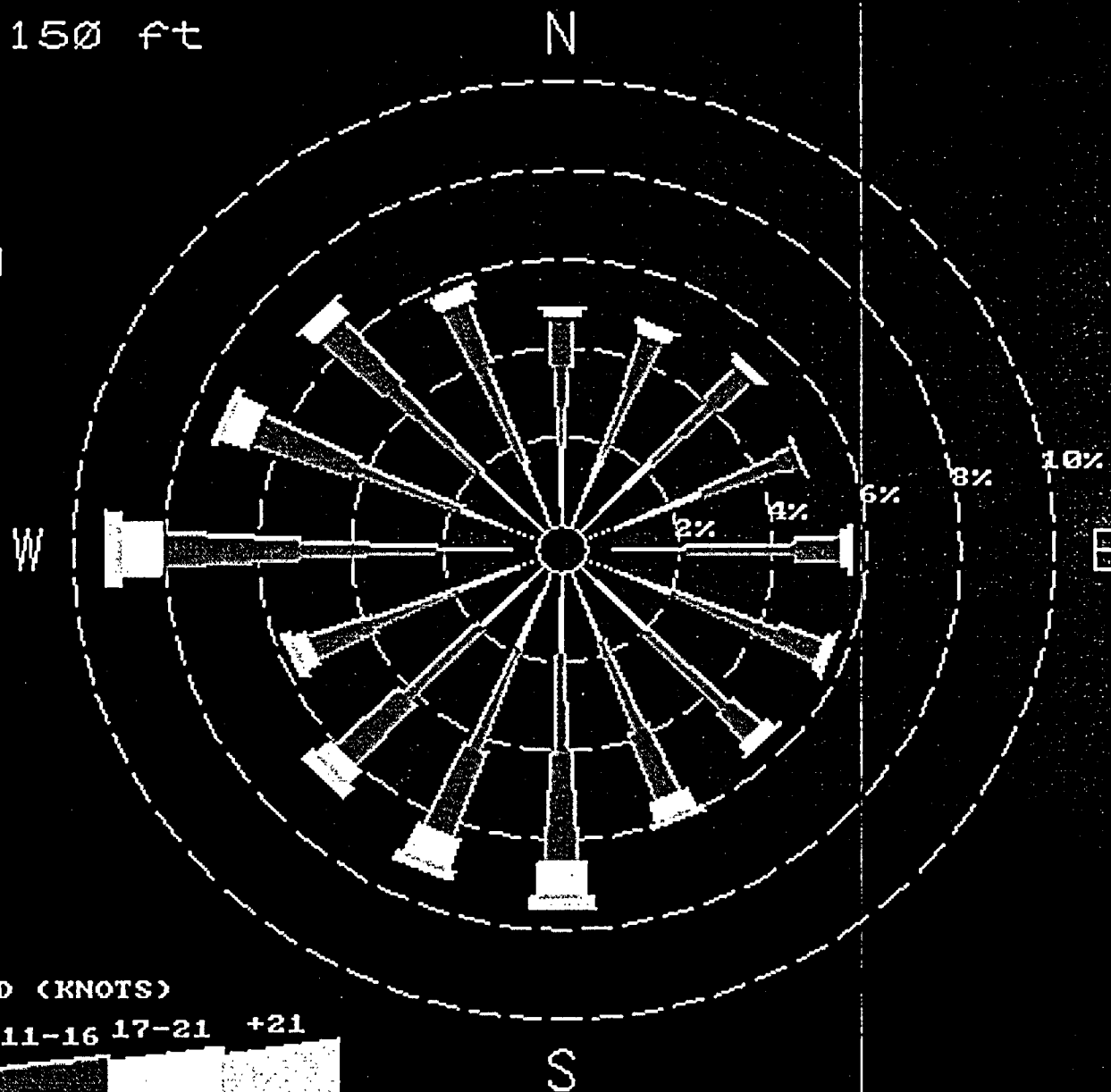
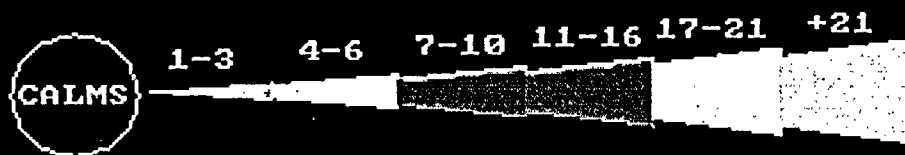
December 31

Midnight-11 PM

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

CALM WINDS 0.02%

WIND SPEED (KNOTS)



DRS 1995-1999 300 ft

January 1

December 31

Midnight-11 PM

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

CALM WINDS 0.02%

WIND SPEED (KNOTS)



1-3

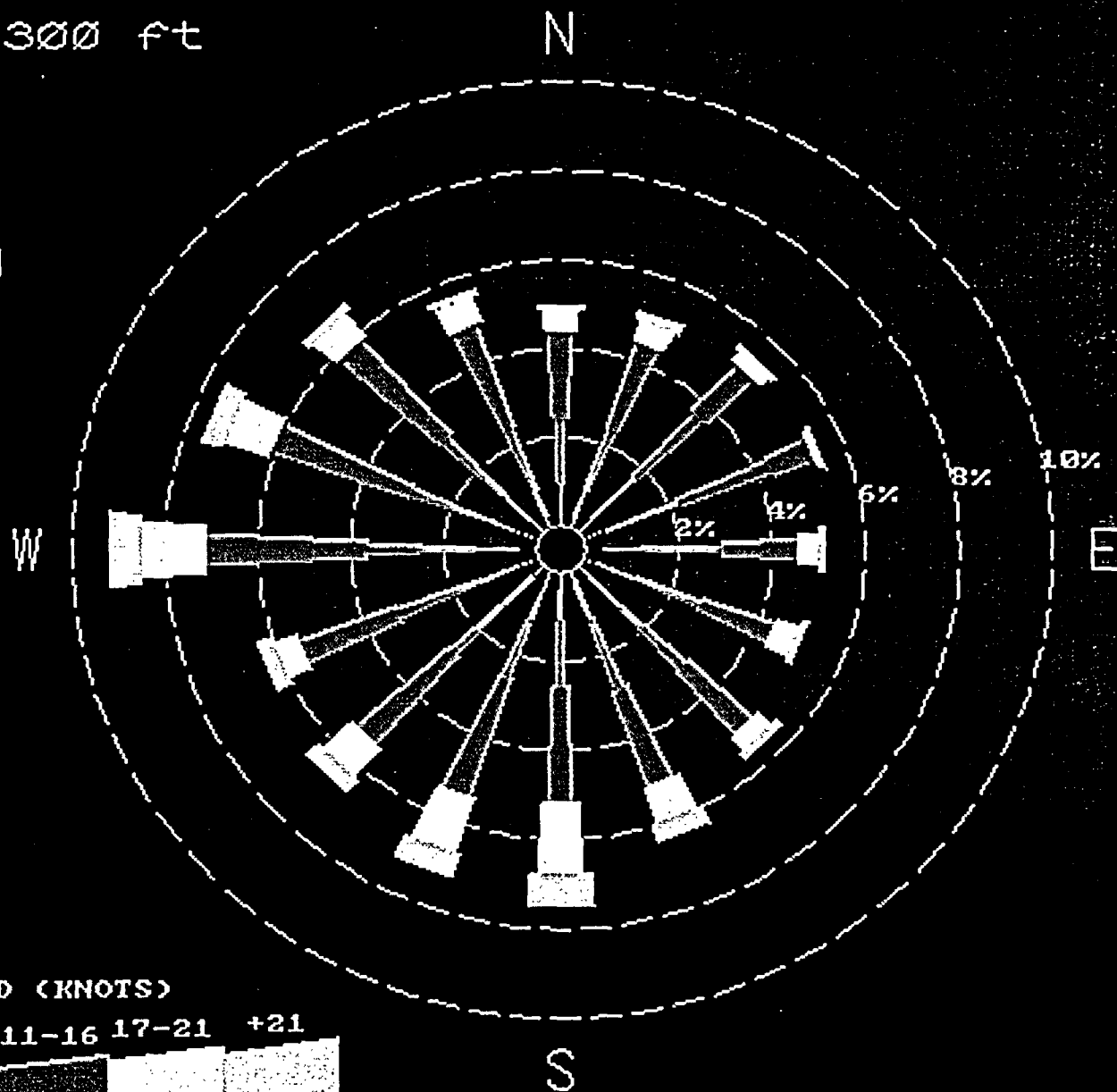
4-6

7-10

11-16

17-21

+21



Dresden

Joint Frequency Distribution

1995-1999

35 ft wind

150-35 ft Delta T

	Wind Speed Category ⁽¹⁾	Wind Direction Category																Total	Calms	Total
		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW			
1 (A)	2	10	20	15	20	11	10	8	3	8	8	6	6	5	9	6	12	157	0	5403
	3	171	163	239	231	119	194	200	90	79	78	82	148	90	99	140	176	2299		
	4	106	96	176	49	93	113	108	60	72	111	116	168	106	247	266	180	2067		
	5	10	4	18	3	14	19	14	31	37	104	86	52	71	128	98	58	747		
	6	1	0	1	0	1	7	2	1	16	21	22	6	19	21	0	0	118		
2 (B)	7	0	0	0	0	0	0	0	0	6	8	0	1	0	0	0	0	15	0	1247
	2	7	3	7	3	5	3	4	7	1	3	4	6	2	2	5	4	66		
	3	35	23	30	35	26	32	33	21	20	17	17	39	40	43	45	36	492		
	4	20	8	24	11	14	19	22	24	39	25	30	49	44	60	49	24	462		
	5	1	0	2	2	2	4	3	10	23	29	14	23	21	24	14	13	185		
3 (C)	6	0	0	0	0	0	0	3	0	6	8	9	2	3	4	0	0	35	0	1443
	7	0	0	0	0	0	0	0	0	1	3	1	2	0	0	0	0	7		
	2	10	8	5	4	10	4	6	2	6	4	4	5	3	2	7	13	93		
	3	33	34	28	32	20	39	26	24	22	24	30	46	38	50	46	42	534		
	4	10	16	29	8	20	22	24	40	33	28	36	55	63	69	43	21	517		
4 (D)	5	1	2	5	0	6	6	13	16	34	33	25	15	33	23	23	10	245	0	11630
	6	0	0	2	0	0	1	2	1	2	14	5	1	14	4	0	0	46		
	7	0	0	0	0	0	0	0	0	1	5	0	1	1	0	0	0	8		
	2	69	84	55	51	48	47	39	24	53	37	44	26	33	58	71	76	815		
	3	262	203	318	424	339	237	139	163	173	164	195	178	336	325	311	310	4077		
5 (E)	4	149	144	250	179	312	213	148	237	250	202	199	227	560	565	402	271	4308	1	16763
	5	34	33	66	10	42	80	86	159	226	181	128	117	315	292	106	85	1960		
	6	2	0	3	0	1	6	12	16	50	60	42	40	101	27	3	10	373		
	7	0	0	0	0	0	0	0	5	10	16	25	24	17	0	0	0	97		
	2	205	212	161	146	155	154	108	115	144	112	93	80	121	131	204	192	2333		
6 (F)	3	296	376	546	566	755	765	330	513	459	402	292	184	592	560	543	505	7684	1	5058
	4	137	143	206	139	241	297	192	456	578	430	336	167	490	391	251	223	4677		
	5	16	28	66	3	40	84	104	206	362	260	115	60	174	90	58	73	1739		
	6	1	0	0	0	3	5	12	45	113	56	25	3	8	3	2	1	277		
	7	0	0	0	0	0	0	2	14	14	5	12	3	2	0	0	0	52		
7 (G)	2	159	110	81	80	140	139	125	134	162	178	168	116	127	149	175	221	2264	2	1967
	3	54	54	65	7	95	460	179	135	196	299	288	107	133	174	129	155	2530		
	4	2	1	2	6	7	14	18	16	50	29	57	28	3	2	5	1	241		
	5	0	0	0	0	8	1	0	1	3	0	1	1	4	0	0	0	19		
	6	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3		
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	43511
	2	63	35	23	28	56	75	54	48	76	102	125	71	69	80	185	153	1243		
	3	2	5	1	1	28	159	20	7	17	90	236	32	8	7	37	53	703		
	4	0	0	0	0	4	0	1	0	1	1	10	0	0	0	0	0	17		
	5	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2		
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	43511
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Notes:

(1) Wind Speed Categories defined as follows:

Category	Wind Speed (mph)
2	>=0.93 to <3.5
3	>=3.5 to <7.5
4	>=7.5 to <12.5
5	>=12.5 to <18.5
6	>=18.5 to <24
7	>=24

Dresden

Joint Frequency Distribution

1995-1999

35 ft wind

150-35 ft Delta T

	Wind Speed Category ⁽¹⁾	Wind Direction Category																Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1 (A)	2	0.022982694	0.045965	0.034474	0.045965	0.025281	0.022983	0.018386	0.006895	0.018386	0.018386	0.01379	0.01379	0.011491	0.020684	0.01379	0.0275792	0.360828
	3	0.393004068	0.374618	0.549286	0.5309	0.273494	0.445864	0.459654	0.206844	0.181563	0.179265	0.188458	0.340144	0.206844	0.227529	0.321758	0.4044954	5.283721
	4	0.243616557	0.220634	0.404495	0.112615	0.213739	0.259704	0.248213	0.137896	0.165475	0.255108	0.266599	0.386109	0.243617	0.567673	0.61134	0.4136885	4.750523
	5	0.022982694	0.009193	0.041369	0.006895	0.032176	0.043667	0.032176	0.071246	0.085036	0.23902	0.197651	0.11951	0.163177	0.294178	0.22523	0.1332996	1.716807
	6	0.002298269	0	0.002298	0	0.002298	0.016088	0.004597	0.002298	0.036772	0.048264	0.050562	0.01379	0.043667	0.048264	0	0	0.271196
	7	0	0	0	0	0	0	0	0	0.01379	0.018386	0	0.002298	0	0	0	0	0.034474
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 (B)	2	0.016087886	0.006895	0.016088	0.006895	0.011491	0.006895	0.009193	0.016088	0.002298	0.006895	0.009193	0.01379	0.004597	0.004597	0.011491	0.0091931	0.151686
	3	0.080439429	0.05286	0.068948	0.080439	0.059755	0.073545	0.075843	0.048264	0.045965	0.039071	0.039071	0.089633	0.091931	0.098826	0.103422	0.0827377	1.130749
	4	0.045965388	0.018386	0.055158	0.025281	0.032176	0.043667	0.050562	0.055158	0.089633	0.057457	0.068948	0.112615	0.101124	0.137896	0.112615	0.0551585	1.0618
	5	0.002298269	0	0.004597	0.004597	0.004597	0.009193	0.006895	0.022983	0.05286	0.06665	0.032176	0.05286	0.048264	0.055158	0.032176	0.0298775	0.42518
	6	0	0	0	0	0	0	0	0.006895	0	0.01379	0.018386	0.020684	0.004597	0.006895	0.009193	0	0.080439
	7	0	0	0	0	0	0	0	0	0.002298	0.006895	0.002298	0.004597	0	0	0	0	0.016088
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 (C)	2	0.022982694	0.018386	0.011491	0.009193	0.022983	0.009193	0.01379	0.004597	0.01379	0.009193	0.009193	0.011491	0.006895	0.004597	0.016088	0.0298775	0.213739
	3	0.07584289	0.078141	0.064352	0.073545	0.045965	0.089633	0.059755	0.055158	0.050562	0.055158	0.068948	0.10572	0.087334	0.114913	0.10572	0.0965273	1.227276
	4	0.022982694	0.036772	0.06665	0.018386	0.045965	0.050562	0.055158	0.091931	0.075843	0.064352	0.082738	0.126405	0.144791	0.158581	0.098826	0.0482637	1.188205
	5	0.002298269	0.004597	0.011491	0	0.01379	0.01379	0.029878	0.036772	0.078141	0.075843	0.057457	0.034474	0.075843	0.05286	0.05286	0.0229827	0.563076
	6	0	0	0.004597	0	0	0.002298	0.004597	0.002298	0.004597	0.032176	0.011491	0.002298	0.032176	0.009193	0	0	0.10572
	7	0	0	0	0	0	0	0	0	0	0.002298	0.011491	0	0.002298	0.002298	0	0	0.018386
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 (D)	2	0.158580589	0.193055	0.126405	0.117212	0.110317	0.108019	0.089633	0.055158	0.121808	0.085036	0.101124	0.059755	0.075843	0.1333	0.163177	0.1746685	1.87309
	3	0.602146584	0.466549	0.73085	0.974466	0.779113	0.54469	0.319459	0.374618	0.397601	0.376916	0.448163	0.409092	0.772219	0.746938	0.714762	0.7124635	9.370044
	4	0.342442141	0.330951	0.574567	0.41139	0.71706	0.489531	0.340144	0.54469	0.574567	0.46425	0.457356	0.521707	1.287031	1.298522	0.923904	0.622831	9.900945
	5	0.078141116	0.075843	0.151686	0.022983	0.096527	0.183862	0.197651	0.365425	0.519409	0.415987	0.294178	0.268898	0.723955	0.671095	0.243617	0.1953529	4.504608
	6	0.004596539	0	0.006895	0	0.002298	0.01379	0.027579	0.036772	0.114913	0.137896	0.096527	0.091931	0.232125	0.062053	0.006895	0.0229827	0.857254
	7	0	0	0	0	0	0	0	0	0.011491	0.022983	0.036772	0.055158	0.039071	0	0	0	0.222932
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 (E)	2	0.471145228	0.487233	0.370021	0.335547	0.356232	0.353933	0.248213	0.264301	0.330951	0.257406	0.213739	0.183862	0.278091	0.301073	0.468847	0.4412677	5.361863
	3	0.680287743	0.864149	1.254855	1.30082	1.735193	1.758176	0.758429	1.179012	1.054906	0.923904	0.671095	0.422882	1.360575	1.287031	1.24796	1.160626	17.6599
	4	0.314862908	0.328653	0.473443	0.319459	0.553883	0.682586	0.441268	1.048011	1.3284	0.988256	0.772219	0.383811	1.126152	0.898623	0.576866	0.5125141	10.74901
	5	0.03677231	0.064352	0.151686	0.006895	0.091931	0.193055	0.23902	0.473443	0.831974	0.59755	0.264301	0.137896	0.399899	0.206844	0.1333	0.1677737	3.99669
	6	0.002298269	0	0	0	0.006895	0.011491	0.027579	0.103422	0.259704	0.128703	0.057457	0.006895	0.018386	0.006895	0.004597	0.0022983	0.636621
	7	0	0	0	0	0	0	0.004597	0.032176	0.032176	0.011491	0.027579	0.006895	0.004597	0	0	0	0.11951
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 (F)	2	0.365424835	0.25281	0.18616	0.183862	0.321758	0.319459	0.287284	0.307968	0.37232	0.409092	0.386109	0.266599	0.29188	0.342442	0.402197	0.5079175	5.203282
	3	0.124106548	0.124107	0.149388	0.016088	0.218336	1.057204	0.41139	0.310266	0.450461	0.687183	0.661902	0.245915	0.30567	0.399899	0.296477	0.3562318	5.814622
	4	0.004596539	0.002298	0.004597	0.01379	0.016088	0.032176	0.041369	0.036772	0.114913	0.06665	0.131001	0.064352	0.006895	0.004597	0.011491	0.0022983	0.553883
	5	0	0	0	0	0.018386	0.002298	0	0.002298	0.006895	0	0.002298	0.002298	0.009193	0	0	0	0.043667
	6	0	0	0	0	0.004597	0.002298	0	0	0	0	0	0	0	0	0	0	0.006895
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 (G)	2	0.144790972	0.080439	0.05286	0.064352	0.128703	0.17237	0.124107	0.110317	0.174668	0.234423	0.287284	0.163177	0.158581	0.183862	0.42518	0.3516352	2.856749
	3	0.004596539	0.011491	0.002298	0.002298	0.064352	0.365425	0.045965	0.016088	0.039071	0.206844	0.542392	0.073545	0.018386	0.016088	0.085036	0.1218083	1.615683
	4	0	0	0	0	0.009193	0	0.002298	0	0.002298	0.002298	0.022983	0	0	0	0	0	0.039071
	5	0	0	0	0	0	0	0	0	0.002298	0	0	0.002298	0	0	0	0	0.004597
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99.99081																		100

Notes:

(1) Wind Speed Categories defined as follows:

Category	Wind Speed (mph)
2	>=0.93 to <3.5
3	>=3.5 to <7.5
4	>=7.5 to <12.5
5	>=12.5 to <18.5
6	>=18.5 to <24
7	>=24

Dresden
Joint Frequency Distribution
1995-1999
150 ft wind
150-35 ft Delta T

	Wind Speed Category ⁽¹⁾	Wind Direction Category																Total	Calms	Total
		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW			
1 (A)	2	3	7	3	8	3	3	3	2	7	6	5	2	4	1	4	4	65		
	3	82	77	110	132	90	142	162	63	49	69	59	104	61	47	52	54	1353		
	4	156	164	147	130	87	117	156	84	70	88	98	129	77	144	173	160	1880		
	5	86	119	92	15	40	42	25	29	45	99	89	114	77	212	217	161	1482		
	6	10	9	13	0	8	16	5	7	18	51	60	16	41	66	56	38	414		
2 (B)	7	6	3	1	0	2	7	0	1	13	21	21	10	25	25	12	1	148	0	5422
	2	2	2	0	2	0	1	4	4	2	1	4	3	1	3	4	0	33		
	3	16	9	24	16	20	26	31	15	19	8	17	30	24	22	21	26	324		
	4	18	23	13	21	17	18	23	25	30	29	24	41	33	47	36	24	422		
	5	21	11	19	9	9	5	7	12	30	20	20	29	33	37	30	25	317		
3 (C)	6	2	2	1	1	1	3	1	3	8	17	11	11	12	18	11	8	110		
	7	0	0	0	0	1	0	2	0	4	7	9	5	4	6	3	0	41	0	1247
	2	6	6	2	4	5	5	4	3	2	2	3	6	1	3	2	3	57		
	3	25	21	15	21	16	26	24	19	18	23	24	25	22	28	24	24	355		
	4	17	22	14	17	15	26	25	36	31	26	33	49	45	60	37	23	476		
4 (D)	5	11	14	25	2	12	11	10	19	28	32	25	34	46	40	34	25	368		
	6	1	3	2	1	1	7	6	5	12	16	12	5	17	12	16	7	123		
	7	0	2	2	0	0	1	1	1	2	15	6	3	18	7	5	0	63	0	1442
	2	18	24	22	25	18	20	27	17	29	29	27	21	26	27	31	33	394		
	3	136	113	133	235	131	141	109	105	135	122	147	123	163	156	143	128	2220		
5 (E)	4	207	164	222	322	323	222	132	215	207	160	183	173	370	356	305	266	3827		
	5	153	153	174	96	201	147	97	180	243	199	163	169	480	438	277	201	3371		
	6	31	64	45	4	32	44	47	72	88	107	70	81	190	190	81	76	1222		
	7	19	20	20	0	3	6	6	13	52	60	71	60	147	61	15	25	578	0	11612
	2	19	16	32	41	42	24	28	25	30	34	30	26	25	24	25	24	445		
6 (F)	3	148	187	245	441	281	218	168	179	203	212	157	94	159	187	212	165	3256		
	4	287	317	414	401	624	567	382	505	484	479	303	180	569	518	429	452	6911		
	5	190	205	170	61	180	238	134	329	610	462	336	179	447	361	237	234	4373		
	6	31	59	46	1	31	63	58	113	236	203	89	40	120	81	54	57	1282		
	7	7	26	10	0	14	11	9	48	116	68	56	16	19	17	11	12	440	0	16707
7 (G)	2	11	16	22	36	25	27	22	28	35	20	23	20	22	6	10	14	337		
	3	111	78	79	73	98	96	135	112	99	122	168	111	144	87	88	61	1682		
	4	164	109	63	5	50	199	288	132	147	290	334	148	159	160	152	163	2563		
	5	13	9	10	2	4	20	26	18	78	70	108	46	20	19	6	14	463		
	6	0	0	0	0	4	4	0	1	5	3	4	3	1	1	0	0	26		
7 (G)	7	0	0	0	0	2	2	0	0	0	0	0	0	1	0	0	0	5	0	5056
	2	15	17	20	23	20	16	9	15	15	16	18	21	25	14	14	10	268		
	3	45	51	27	12	28	24	38	58	32	39	59	103	89	51	43	50	749		
	4	79	16	1	1	6	19	100	53	16	56	112	201	64	21	40	61	846		
	5	0	0	0	0	4	2	6	0	2	7	52	29	1	1	0	8	112		
7 (G)	6	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2		
	7	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1979
																			43465	

Notes:

(1) Wind Speed Categories defined as follows:

Category	Wind Speed (mph)
2	>=0.93 to <3.5
3	>=3.5 to <7.5
4	>=7.5 to <12.5
5	>=12.5 to <18.5
6	>=18.5 to <24
7	>=24

Dresden
Joint Frequency Distribution
1995-1999
35 ft wind
150-35 ft Delta T

	Wind Speed Category ⁽¹⁾	Wind Direction Category																Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1 (A)	2	0.006902105	0.016105	0.006902	0.018406	0.006902	0.006902	0.006902	0.004601	0.016105	0.013804	0.011504	0.004601	0.009203	0.002301	0.009203	0.0092028	0.149546
	3	0.188657541	0.177154	0.253077	0.303693	0.207063	0.3267	0.372714	0.144944	0.112734	0.158748	0.135741	0.239273	0.140343	0.108133	0.119636	0.1242379	3.112849
	4	0.358909467	0.377315	0.338203	0.299091	0.200161	0.269182	0.358909	0.193259	0.161049	0.202462	0.225469	0.296791	0.177154	0.331301	0.398021	0.3681123	4.555389
	5	0.197860347	0.273784	0.211665	0.034511	0.092028	0.096629	0.057518	0.06672	0.103532	0.227769	0.204762	0.26228	0.177154	0.487749	0.499252	0.370413	3.363626
	6	0.023007017	0.020706	0.029909	0	0.018406	0.036811	0.011504	0.016105	0.041413	0.117336	0.138042	0.036811	0.094329	0.151846	0.128839	0.0874267	0.952491
2 (B)	7	0.01380421	0.006902	0.002301	0	0.004601	0.016105	0	0.002301	0.029909	0.048315	0.048315	0.023007	0.057518	0.057518	0.027608	0.0023007	0.340504
	2	0.004601403	0.004601	0	0.004601	0	0.002301	0.009203	0.009203	0.004601	0.002301	0.009203	0.006902	0.002301	0.006902	0.009203	0	0.075923
	3	0.036811227	0.020706	0.055217	0.036811	0.046014	0.059818	0.071322	0.034511	0.043713	0.018406	0.039112	0.069021	0.055217	0.050615	0.048315	0.0598182	0.745427
	4	0.041412631	0.052916	0.029909	0.048315	0.039112	0.041413	0.052916	0.057518	0.069021	0.06672	0.055217	0.094329	0.075923	0.108133	0.082825	0.0552168	0.970896
	5	0.048314736	0.025308	0.043713	0.020706	0.020706	0.011504	0.016105	0.027608	0.069021	0.046014	0.046014	0.06672	0.075923	0.085126	0.069021	0.0575175	0.729322
3 (C)	6	0.004601403	0.004601	0.002301	0.002301	0.002301	0.006902	0.002301	0.006902	0.018406	0.039112	0.025308	0.025308	0.027608	0.041413	0.025308	0.0184056	0.253077
	7	0	0	0	0	0.002301	0	0.004601	0	0.009203	0.016105	0.020706	0.011504	0.009203	0.013804	0.006902	0	0.094329
	2	0.01380421	0.013804	0.004601	0.009203	0.011504	0.011504	0.009203	0.006902	0.004601	0.004601	0.006902	0.013804	0.002301	0.006902	0.004601	0.0069021	0.13114
	3	0.057517543	0.048315	0.034511	0.048315	0.036811	0.059818	0.055217	0.043713	0.041413	0.052916	0.055217	0.057518	0.050615	0.06442	0.055217	0.0552168	0.816749
	4	0.039111929	0.050615	0.03221	0.039112	0.034511	0.059818	0.057518	0.082825	0.071322	0.059818	0.075923	0.112734	0.103532	0.138042	0.085126	0.0529161	1.095134
4 (D)	5	0.025307719	0.03221	0.057518	0.004601	0.027608	0.025308	0.023007	0.043713	0.06442	0.073622	0.057518	0.078224	0.105832	0.092028	0.078224	0.0575175	0.846658
	6	0.002300702	0.006902	0.004601	0.002301	0.002301	0.016105	0.013804	0.011504	0.027608	0.036811	0.027608	0.011504	0.039112	0.027608	0.036811	0.0161049	0.282986
	7	0	0.004601	0.004601	0	0	0.002301	0.002301	0.002301	0.004601	0.034511	0.013804	0.006902	0.041413	0.016105	0.011504	0	0.144944
	2	0.041412631	0.055217	0.050615	0.057518	0.041413	0.046014	0.062119	0.039112	0.06672	0.062119	0.048315	0.059818	0.062119	0.071322	0.0759232	0.906476	
	3	0.312895433	0.259979	0.305993	0.540665	0.301392	0.324399	0.250776	0.241574	0.310595	0.280686	0.338203	0.282986	0.375014	0.358909	0.329	0.2944898	5.107558
5 (E)	4	0.476245255	0.377315	0.510756	0.740826	0.743127	0.510756	0.303693	0.494651	0.476245	0.368112	0.421028	0.398021	0.85126	0.81905	0.701714	0.6119867	8.804785
	5	0.352007362	0.352007	0.400322	0.220867	0.462441	0.338203	0.223168	0.414126	0.559071	0.45784	0.375014	0.388819	1.104337	1.007707	0.637294	0.462441	7.755665
	6	0.071321753	0.147245	0.103532	0.009203	0.073622	0.101231	0.108133	0.165651	0.202462	0.246175	0.161049	0.186357	0.437133	0.437133	0.186357	0.1748533	2.811457
	7	0.043713333	0.046014	0.046014	0	0.006902	0.013804	0.013804	0.029909	0.119636	0.138042	0.16335	0.138042	0.338203	0.140343	0.034511	0.0575175	1.329806
	2	0.043713333	0.036811	0.073622	0.094329	0.096629	0.055217	0.06442	0.057518	0.069021	0.078224	0.069021	0.059818	0.057518	0.055217	0.057518	0.0552168	1.023812
6 (F)	3	0.340503854	0.430231	0.563672	1.014609	0.646497	0.501553	0.386518	0.411826	0.467042	0.487749	0.36121	0.216266	0.365812	0.430231	0.487749	0.3796158	7.491085
	4	0.660301392	0.729322	0.952491	0.922581	1.435638	1.304498	0.878868	1.161854	1.11354	1.102036	0.697113	0.414126	1.309099	1.191763	0.987001	1.0399172	15.90015
	5	0.437133326	0.471644	0.391119	0.140343	0.414126	0.547567	0.308294	0.756931	1.403428	1.062924	0.773036	0.411826	1.028414	0.830553	0.545266	0.5383642	10.06097
	6	0.071321753	0.135741	0.105832	0.002301	0.071322	0.144944	0.133441	0.259979	0.542966	0.467042	0.204762	0.092028	0.276084	0.186357	0.124238	0.13114	2.9485
	7	0.016104912	0.059818	0.023007	0	0.03221	0.025308	0.020706	0.110434	0.266881	0.156448	0.128839	0.036811	0.043713	0.039112	0.025308	0.0276084	1.012309
7 (G)	2	0.025307719	0.036811	0.050615	0.082825	0.057518	0.062119	0.050615	0.06442	0.080525	0.046014	0.052916	0.046014	0.050615	0.013804	0.023007	0.0322098	0.775336
	3	0.25537789	0.179455	0.181755	0.167951	0.225469	0.220867	0.310595	0.257679	0.227769	0.280686	0.386518	0.255378	0.331301	0.200161	0.202462	0.1403428	3.823766
	4	0.377315081	0.250776	0.144944	0.011504	0.115035	0.45784	0.662602	0.303693	0.338203	0.667203	0.768434	0.340504	0.365812	0.368112	0.349707	0.3750144	5.896898
	5	0.029909122	0.020706	0.023007	0.004601	0.009203	0.046014	0.059818	0.041413	0.179455	0.161049	0.248476	0.105832	0.046014	0.043713	0.013804	0.0322098	1.065225
	6	0	0	0	0	0.009203	0.009203	0	0.002301	0.011504	0.006902	0.009203	0.006902	0.002301	0.002301	0	0	0.059818
7 (G)	7	0	0	0	0	0.004601	0.004601	0	0	0	0	0	0	0.002301	0	0	0	0.011504
	2	0.034510526	0.039112	0.046014	0.052916	0.046014	0.036811	0.020706	0.034511	0.034511	0.036811	0.041413	0.048315	0.057518	0.03221	0.03221	0.023007	0.816588
	3	0.103531577	0.117336	0.062119	0.027608	0.06442	0.055217	0.087427	0.133441	0.073622	0.089727	0.135741	0.236972	0.204762	0.117336	0.09893	0.1150351	1.723226
	4	0.181755435	0.036811	0.002301	0.002301	0.013804	0.043713	0.23007	0.121937	0.036811	0.128839	0.257679	0.462441	0.147245	0.048315	0.092028	0.1403428	1.948394
	5	0	0	0	0	0.009203	0.004601	0.013804	0	0.004601	0.016105	0.119636	0.06872	0.002301	0.002301	0	0.0184056	0.257679
7 (G)	6	0	0	0	0	0	0	0	0	0.002301	0	0	0.002301	0	0	0	0	0.004601
	7	0	0	0	0	0	0	0	0	0	0	0	0.002301	0	0	0	0	0.002301
	2	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301
	3	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301
	4	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301	0.002301

99.977

0.002301 4.553089

100

0.002301 4.553089
99.9977 100

Notes:

(1) Wind Speed Categories defined as follows:

Category	Wind Speed (mph)
2	>=0.93 to <3.5
3	>=3.5 to <7.5
4	>=7.5 to <12.5
5	>=12.5 to <18.5
6	>=18.5 to <24
7	>=24

Dresden

Joint Frequency Distribution

1995-1999

35 ft wind

300-35 ft Delta T

	Wind Speed Category ⁽¹⁾	Wind Direction Category																Total	Calms	Total
		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW			
1 (A)	2	2	3	4	5	3	2	2	0	1	2	2	2	2	3	3	4	40		
	3	61	73	118	97	58	86	104	34	29	35	34	41	27	26	30	55	908		
	4	36	53	86	22	45	44	46	23	19	44	36	53	14	58	77	59	715		
	5	6	1	6	2	9	5	6	5	6	30	24	18	16	50	39	12	235		
	6	0	0	0	0	0	0	3	0	0	4	8	9	2	1	5	0	32		
2 (B)	7	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0	1932
	2	1	6	7	8	7	5	7	5	5	7	2	7	4	6	3	4	84		
	3	57	42	67	89	41	68	67	43	31	35	34	77	40	50	59	56	856		
	4	34	23	57	17	35	39	42	35	44	47	54	90	57	118	101	55	848		
	5	3	2	9	0	2	6	3	26	35	57	34	25	32	52	32	20	338		
3 (C)	6	1	0	1	0	1	1	0	0	7	19	8	2	12	8	0	0	60		
	7	0	0	0	0	0	0	0	0	4	7	0	1	0	0	0	0	12	0	2198
	2	13	16	9	6	18	10	4	5	8	8	12	8	5	2	7	12	143		
	3	71	58	69	69	44	73	67	45	51	36	46	91	80	89	88	83	1060		
	4	36	16	47	21	30	39	39	58	75	58	67	98	100	129	105	66	984		
4 (D)	5	2	1	5	3	5	10	13	24	46	65	46	42	54	50	41	28	435		
	6	0	0	0	0	0	0	3	5	1	18	11	14	4	12	12	0	80		
	7	0	0	0	0	0	0	0	0	4	8	1	2	0	0	0	0	15	0	2717
	2	110	123	95	78	66	54	51	40	61	44	47	33	48	88	97	109	1144		
	3	400	360	560	735	528	327	193	249	246	231	255	245	492	492	490	484	6287		
5 (E)	4	266	289	415	282	486	342	212	353	389	289	296	320	856	849	611	433	6688		
	5	45	62	133	11	89	127	139	242	364	290	193	153	470	388	169	167	3042		
	6	3	0	5	0	6	10	24	43	91	92	59	43	119	34	0	7	536		
	7	0	0	0	0	0	0	0	0	12	15	19	35	28	19	0	0	130	0	17827
	2	218	219	151	153	153	175	131	117	163	153	139	111	133	118	203	206	2543		
6 (F)	3	224	290	368	298	588	765	369	459	433	430	363	212	502	455	424	383	6563		
	4	57	37	82	48	94	200	160	354	462	362	297	123	237	188	126	109	2936		
	5	6	1	4	2	7	46	59	121	224	163	70	31	42	18	13	13	820		
	6	0	0	0	0	0	3	2	19	50	29	13	1	1	0	5	4	127		
	7	0	0	0	0	0	0	0	7	7	2	2	0	1	0	0	0	19	1	13009
7 (G)	2	147	90	68	68	150	146	108	122	155	173	190	114	129	154	225	253	2292		
	3	43	36	50	9	106	477	116	114	150	277	331	63	89	137	117	174	2289		
	4	1	0	1	2	2	16	8	8	21	17	31	6	3	1	1	5	123		
	5	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	4		
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7 (G)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4709
	2	31	14	12	13	28	39	41	41	53	57	51	35	38	60	114	83	710		
	3	1	4	0	0	27	90	8	8	19	24	69	5	6	8	34	41	344		
	4	0	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	4		
	5	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1		
7 (G)	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1061
																				43453

Notes:

(1) Wind Speed Categories defined as follows:

Category	Wind Speed (mph)
2	>=0.93 to <3.5
3	>=3.5 to <7.5
4	>=7.5 to <12.5
5	>=12.5 to <18.5
6	>=18.5 to <24
7	>=24

Dresden

Joint Frequency Distribution

1995-1999

35 ft wind

300-35 ft Delta T

	Wind Speed Category ⁽¹⁾	Wind Direction Category																Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1 (A)	2	0.004602674	0.006904	0.009205	0.011507	0.006904	0.004603	0.004603	0	0.002301	0.004603	0.004603	0.004603	0.004603	0.006904	0.006904	0.0092053	0.092053
	3	0.140381562	0.167998	0.271558	0.22323	0.133478	0.197915	0.239339	0.078245	0.066739	0.080547	0.078245	0.094355	0.062136	0.059835	0.06904	0.1265735	2.089614
	4	0.082848135	0.121971	0.197915	0.050629	0.10356	0.101259	0.105862	0.052931	0.043725	0.101259	0.082848	0.121971	0.032219	0.133478	0.177203	0.1357789	1.645456
	5	0.013808022	0.002301	0.013808	0.004603	0.020712	0.011507	0.013808	0.011507	0.013808	0.06904	0.055232	0.041424	0.036821	0.115067	0.089752	0.027616	0.540814
	6	0	0	0	0	0	0.006904	0	0	0.009205	0.018411	0.020712	0.004603	0.002301	0.011507	0	0	0.073643
2 (B)	2	0.002301337	0.013808	0.016109	0.018411	0.016109	0.011507	0.016109	0.011507	0.011507	0.016109	0.004603	0.016109	0.009205	0.013808	0.006904	0.0092053	0.193312
	3	0.131176213	0.096656	0.15419	0.204819	0.094355	0.156491	0.15419	0.098957	0.071341	0.080547	0.078245	0.177203	0.092053	0.115067	0.135779	0.1288749	1.969945
	4	0.078245461	0.052931	0.131176	0.039123	0.080547	0.089752	0.096656	0.080547	0.101259	0.108163	0.124272	0.20712	0.131176	0.271558	0.232435	0.1265735	1.951534
	5	0.006904011	0.004603	0.020712	0	0.004603	0.013808	0.006904	0.059835	0.080547	0.131176	0.078245	0.057533	0.073643	0.11967	0.073643	0.0460267	0.777852
	6	0.002301337	0	0.002301	0	0.002301	0.002301	0	0	0.016109	0.043725	0.018411	0.004603	0.027616	0.018411	0	0	0.13808
3 (C)	2	0.029917382	0.036821	0.020712	0.013808	0.041424	0.023013	0.009205	0.011507	0.018411	0.018411	0.027616	0.018411	0.011507	0.004603	0.016109	0.027616	0.329091
	3	0.163394932	0.133478	0.158792	0.158792	0.101259	0.167998	0.15419	0.10356	0.117368	0.082848	0.105862	0.209422	0.184107	0.204819	0.202518	0.191011	2.439417
	4	0.082848135	0.036821	0.108163	0.048328	0.06904	0.089752	0.089752	0.133478	0.1726	0.133478	0.15419	0.225531	0.230134	0.296872	0.24164	0.1518882	2.284516
	5	0.004602674	0.002301	0.011507	0.006904	0.011507	0.023013	0.029917	0.055232	0.105862	0.149587	0.105862	0.096656	0.124272	0.115067	0.094355	0.0644374	1.001082
	6	0	0	0	0	0	0.006904	0.011507	0.002301	0.041424	0.025315	0.032219	0.009205	0.027616	0.027616	0	0	0.184107
4 (D)	2	0.253147078	0.283064	0.218627	0.179504	0.151888	0.124272	0.117368	0.092053	0.140382	0.101259	0.108163	0.075944	0.110464	0.202518	0.22323	0.2508457	2.83273
	3	0.920534831	0.828481	1.288749	1.691483	1.215106	0.752537	0.444158	0.573033	0.566129	0.531609	0.586841	0.563828	1.132258	1.132258	1.127655	1.1138471	14.46851
	4	0.612155662	0.665086	0.955055	0.648977	1.11845	0.787057	0.487883	0.812372	0.89522	0.665086	0.681196	0.738428	1.969945	1.953835	1.406117	0.996479	15.39134
	5	0.103560168	0.142683	0.306078	0.025315	0.204819	0.29227	0.319886	0.556924	0.837687	0.667388	0.444158	0.352105	1.081628	0.892919	0.388926	0.3843233	7.000667
	6	0.006904011	0	0.011507	0	0.013808	0.023013	0.055232	0.098957	0.209422	0.211723	0.135779	0.098957	0.273859	0.078245	0	0.0181094	1.233517
5 (E)	2	0.501691483	0.503993	0.347502	0.352105	0.352105	0.402734	0.301475	0.269256	0.375118	0.352105	0.319886	0.255448	0.306078	0.271558	0.467171	0.4740754	5.8523
	3	0.515499505	0.667388	0.846892	0.685798	1.353186	1.760523	0.849193	1.056314	0.996479	0.989575	0.835385	0.487883	1.155271	1.047108	0.975767	0.8814121	15.10368
	4	0.131176213	0.085149	0.18871	0.110464	0.216326	0.460267	0.368214	0.814673	1.063218	0.833084	0.683497	0.283064	0.545417	0.432651	0.289968	0.2508457	6.756726
	5	0.013808022	0.002301	0.009205	0.004603	0.016109	0.105862	0.135779	0.278462	0.5155	0.375118	0.161094	0.071341	0.096656	0.041424	0.029917	0.0299174	1.887096
	6	0	0	0	0	0	0.006904	0.004603	0.043725	0.115067	0.066739	0.029917	0.002301	0.002301	0	0.011507	0.0092053	0.29227
6 (F)	2	0.33829655	0.20712	0.156491	0.156491	0.345201	0.335995	0.248544	0.280763	0.356707	0.398131	0.437254	0.262352	0.296872	0.354406	0.517801	0.5822383	5.274665
	3	0.098957494	0.082848	0.115067	0.020712	0.243942	1.097738	0.266955	0.262352	0.345201	0.63747	0.761743	0.144984	0.204819	0.315283	0.269256	0.4004327	5.267761
	4	0.002301337	0	0.002301	0.004603	0.004603	0.036821	0.018411	0.018411	0.048328	0.039123	0.071341	0.013808	0.006904	0.002301	0.002301	0.0115067	0.283064
	5	0	0	0	0	0	0	0	0	0.004603	0	0	0.002301	0.002301	0	0	0.009205	0
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 (G)	2	0.071341449	0.032219	0.027616	0.029917	0.064437	0.089752	0.094355	0.094355	0.121971	0.131176	0.117368	0.080547	0.087451	0.13808	0.262352	0.191011	1.633949
	3	0.002301337	0.009205	0	0	0.062136	0.20712	0.018411	0.018411	0.043725	0.055232	0.158792	0.011507	0.013808	0.018411	0.078245	0.0943548	0.79166
	4	0	0	0	0	0	0.002301	0	0.002301	0.004603	0	0	0	0	0	0	0	0.009205
	5	0	0	0	0	0	0	0	0.002301	0	0	0	0	0	0	0	0	0.002301
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.004603 2.441719
		99.99079																
		100																

Notes:

(1) Wind Speed Categories defined as follows:

Category	Wind Speed (mph)
2	>=0.93 to <3.5
3	>=3.5 to <7.5
4	>=7.5 to <12.5
5	>=12.5 to <18.5
6	>=18.5 to <24
7	>=24

Dresden

Joint Frequency Distribution

1995-1999

300 ft wind

300-35 ft Delta T

	Wind Speed Category ⁽¹⁾	Wind Direction Category																	Total	Calms	Total
		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW				
1 (A)	2	1	0	0	1	0	2	1	0	2	0	0	2	1	0	2	1	13			
	3	15	24	44	54	40	65	45	22	17	25	25	24	13	9	10	10	442			
	4	57	85	63	61	34	47	86	32	23	38	25	39	23	28	37	39	717			
	5	36	69	46	9	28	19	13	9	6	37	33	34	12	57	60	64	532			
	6	4	13	9	0	8	5	0	2	2	12	17	4	6	29	27	12	150			
2 (B)	7	3	1	2	0	3	3	1	0	4	9	8	9	8	21	5	3	80	0	1934	
	2	1	1	1	2	5	2	1	3	4	1	6	3	1	1	3	1	36			
	3	22	21	27	54	36	52	61	19	20	30	24	51	29	14	26	18	504			
	4	45	34	42	44	34	31	53	43	40	38	35	69	31	64	56	51	710			
	5	35	31	38	6	15	13	14	18	36	48	37	65	43	88	84	43	614			
3 (C)	6	5	7	10	1	3	6	1	8	17	36	27	14	17	35	21	21	229			
	7	4	2	2	0	3	1	0	1	10	21	11	7	17	26	6	1	112	0	2205	
	2	3	5	5	6	1	5	5	2	6	5	4	2	2	6	1	2	60			
	3	38	32	35	38	41	49	67	34	31	32	37	64	40	43	33	38	652			
	4	44	36	34	41	33	45	38	61	53	50	57	79	74	97	74	58	874			
4 (D)	5	40	30	35	11	15	10	20	28	51	54	50	61	62	85	76	49	677			
	6	8	2	6	1	5	8	6	10	21	42	32	20	33	38	32	25	289			
	7	2	1	1	0	0	6	6	1	19	21	16	13	22	31	9	8	156	0	2708	
	2	24	18	26	37	26	25	28	15	20	28	26	19	30	34	27	35	418			
	3	117	122	179	297	134	106	107	114	124	125	134	130	152	141	162	151	2295			
5 (E)	4	264	209	345	612	373	215	186	254	244	212	215	230	433	410	341	286	4829			
	5	302	314	335	265	343	219	160	283	342	237	275	246	628	653	451	378	5431			
	6	138	169	128	24	161	146	108	150	280	212	133	119	427	373	205	171	2944			
	7	38	101	69	2	48	41	54	104	161	158	120	115	276	202	68	82	1639	0	17556	
	2	10	14	12	27	24	17	17	13	13	15	21	14	8	9	3	234				
6 (F)	3	54	57	113	234	120	78	91	110	83	76	93	92	94	77	79	58	1509			
	4	150	195	254	306	294	214	291	291	225	215	177	224	237	192	234	155	3654			
	5	242	230	207	75	278	311	292	394	457	510	390	219	352	368	315	307	4947			
	6	72	60	22	4	44	93	68	141	401	324	189	79	128	124	71	77	1897			
	7	7	4	5	2	6	24	28	70	199	142	64	22	29	16	15	12	645	0	12886	
7 (G)	2	12	4	14	15	7	10	11	17	15	17	16	14	13	9	9	12	195			
	3	26	29	42	58	48	43	50	60	56	57	35	55	71	46	41	29	746			
	4	96	75	56	36	53	70	134	133	84	64	110	176	180	81	89	60	1497			
	5	130	118	34	2	33	101	166	116	96	148	270	211	100	86	107	116	1834			
	6	37	15	7	0	2	29	20	14	43	72	79	31	10	37	8	22	426			
7 (G)	7	1	0	0	0	0	0	0	1	4	5	2	2	2	0	0	1	18	0	4716	
	2	2	8	9	8	1	4	3	4	7	4	2	3	1	7	4	5	72			
	3	3	7	20	21	4	4	9	8	19	12	20	14	12	19	9	14	195			
	4	36	28	14	3	4	12	18	21	24	18	24	29	51	25	17	16	340			
	5	36	37	6	0	1	4	25	33	10	24	29	57	40	13	30	26	371			
7 (G)	6	11	1	0	0	0	8	5	6	2	12	19	6	2	4	1	10	87			
	7	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	1067	
																			43072		

Notes:

(1) Wind Speed Categories defined as follows:

Category	Wind Speed (mph)
2	>=0.93 to <3.5
3	>=3.5 to <7.5
4	>=7.5 to <12.5
5	>=12.5 to <18.5
6	>=18.5 to <24
7	>=24

Dresden

Joint Frequency Distribution

1995-1999

300 ft wind

300-35 ft Delta T

	Wind Speed Category ⁽¹⁾	Wind Direction Category																Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1 (A)	2	0.002321694	0	0	0.002322	0	0.004643	0.002322	0	0.004643	0	0	0.004643	0.002322	0	0.004643	0.0023217	0.030182
	3	0.034825409	0.055721	0.102155	0.125371	0.092868	0.15091	0.104476	0.051077	0.039469	0.058042	0.058042	0.055721	0.030182	0.020895	0.023217	0.0232169	1.026189
	4	0.132336553	0.197344	0.146267	0.141623	0.078938	0.10912	0.199666	0.074294	0.053399	0.088224	0.058042	0.090546	0.053399	0.065007	0.085903	0.0905461	1.684855
	5	0.083580981	0.160197	0.106798	0.020895	0.065007	0.044112	0.030182	0.020895	0.01393	0.085903	0.076616	0.078938	0.02786	0.132337	0.139302	0.1485884	1.235141
	6	0.009286776	0.030182	0.020895	0	0.018574	0.011608	0	0.004643	0.004643	0.02786	0.039469	0.009287	0.01393	0.067329	0.062686	0.0278603	0.348254
	7	0.006965082	0.002322	0.004643	0	0.006965	0.006965	0.002322	0	0.009287	0.020895	0.018574	0.020895	0.018574	0.048756	0.011608	0.0069651	0.185736
2 (B)	2	0.002321694	0.002322	0.002322	0.004643	0.011608	0.004643	0.002322	0.006965	0.009287	0.002322	0.01393	0.006965	0.002322	0.002322	0.006965	0.0023217	0.083581
	3	0.051077266	0.048756	0.062686	0.125371	0.083581	0.120728	0.141623	0.044112	0.046434	0.069651	0.055721	0.118406	0.067329	0.032504	0.060364	0.0417905	1.170134
	4	0.104476226	0.078938	0.097511	0.102155	0.078938	0.071973	0.12305	0.099833	0.092868	0.088224	0.081259	0.160197	0.071973	0.148588	0.130015	0.1184064	1.648403
	5	0.081259287	0.071973	0.088224	0.01393	0.034825	0.030182	0.032504	0.04179	0.083581	0.111441	0.085903	0.15091	0.099833	0.204309	0.195022	0.0998328	1.42552
	6	0.01160847	0.016252	0.023217	0.002322	0.006965	0.01393	0.002322	0.018574	0.039469	0.083581	0.062686	0.032504	0.039469	0.081259	0.048756	0.0487556	0.531868
	7	0.009286776	0.004643	0.004643	0	0.006965	0.002322	0	0.002322	0.023217	0.048756	0.025539	0.016252	0.039469	0.060364	0.01393	0.0023217	0.26003
3 (C)	2	0.006965082	0.011608	0.011608	0.01393	0.002322	0.011608	0.011608	0.004643	0.01393	0.011608	0.009287	0.004643	0.004643	0.01393	0.002322	0.0046434	0.139302
	3	0.088224368	0.074294	0.081259	0.088224	0.095189	0.113763	0.155553	0.078938	0.071973	0.074294	0.085903	0.148588	0.092868	0.099833	0.076616	0.0882244	1.513744
	4	0.102154532	0.083581	0.078938	0.095189	0.076616	0.104476	0.088224	0.141623	0.12305	0.116085	0.132337	0.183414	0.171805	0.225204	0.171805	0.1346582	2.02916
	5	0.092867756	0.069651	0.081259	0.025539	0.034825	0.023217	0.046434	0.065007	0.118406	0.125371	0.116085	0.141623	0.143945	0.197344	0.176449	0.113763	1.571787
	6	0.018573551	0.004643	0.01393	0.002322	0.011608	0.01393	0.01393	0.023217	0.048756	0.097511	0.074294	0.046434	0.076616	0.088224	0.074294	0.0580423	0.87097
	7	0.004643388	0.002322	0.002322	0	0	0.01393	0.01393	0.002322	0.044112	0.048756	0.037147	0.030182	0.051077	0.071973	0.020895	0.0185736	0.362184
4 (D)	2	0.055720654	0.04179	0.060364	0.085903	0.060364	0.058042	0.065007	0.034825	0.046434	0.065007	0.060364	0.044112	0.069651	0.078938	0.062686	0.0812593	0.970468
	3	0.271638187	0.283247	0.415583	0.689543	0.311107	0.2461	0.248421	0.264673	0.28789	0.290212	0.311107	0.30182	0.352897	0.327359	0.376114	0.3505758	5.328288
	4	0.612927192	0.485234	0.800984	1.420877	0.865992	0.499164	0.431835	0.58971	0.566493	0.492199	0.499164	0.53399	1.005293	0.951895	0.791698	0.6640045	11.21146
	5	0.70115156	0.729012	0.777767	0.615249	0.796341	0.508451	0.371471	0.657039	0.794019	0.550241	0.638466	0.571137	1.458024	1.516066	1.047084	0.8776003	12.60912
	6	0.320393759	0.392366	0.297177	0.055721	0.373793	0.338967	0.250743	0.348254	0.650074	0.492199	0.308785	0.276282	0.991363	0.865992	0.475947	0.3970097	6.835067
	7	0.088224368	0.234491	0.160197	0.004643	0.111441	0.095189	0.125371	0.241456	0.373793	0.366828	0.278603	0.266995	0.640788	0.468982	0.157875	0.1903789	3.805256
5 (E)	2	0.023216939	0.032504	0.02786	0.062686	0.055721	0.039469	0.039469	0.039469	0.030182	0.030182	0.034825	0.048756	0.032504	0.018574	0.020895	0.0069651	0.543276
	3	0.125371471	0.132337	0.262351	0.543276	0.278603	0.181092	0.211274	0.255386	0.192701	0.176449	0.215918	0.213596	0.218239	0.17877	0.183414	0.1346582	3.503436
	4	0.348254086	0.45273	0.58971	0.710438	0.682578	0.496842	0.675613	0.675613	0.522381	0.499164	0.41094	0.520059	0.550241	0.445765	0.543276	0.3598626	8.48347
	5	0.561849926	0.53399	0.480591	0.174127	0.645431	0.722047	0.677935	0.914747	1.061014	1.184064	0.905461	0.508451	0.817236	0.854383	0.731334	0.71276	11.48542
	6	0.167161961	0.139302	0.051077	0.009287	0.102155	0.215918	0.157875	0.327359	0.930999	0.752229	0.4388	0.183414	0.297177	0.28789	0.16484	0.1787704	4.404253
	7	0.016251857	0.009287	0.011608	0.004643	0.01393	0.055721	0.065007	0.162519	0.462017	0.329681	0.148588	0.051077	0.067329	0.037147	0.034825	0.0278603	1.497493
6 (F)	2	0.027860327	0.009287	0.032504	0.034825	0.016252	0.023217	0.025539	0.039469	0.034825	0.039469	0.037147	0.032504	0.030182	0.020895	0.020895	0.0278603	0.45273
	3	0.060364042	0.067329	0.097511	0.134658	0.111441	0.099833	0.116085	0.139302	0.130015	0.132337	0.081259	0.127693	0.16484	0.106798	0.095189	0.0673291	1.731984
	4	0.222882615	0.174127	0.130015	0.083581	0.12305	0.162519	0.311107	0.308785	0.195022	0.148588	0.255386	0.408618	0.417905	0.188057	0.206631	0.1393016	3.475576
	5	0.301820208	0.27396	0.078938	0.004643	0.076616	0.234491	0.385401	0.269316	0.222883	0.343611	0.626857	0.489877	0.232169	0.199666	0.248421	0.2693165	4.257987
	6	0.085902675	0.034825	0.016252	0	0.004643	0.067329	0.046434	0.032504	0.099833	0.167162	0.183414	0.071973	0.023217	0.085903	0.018574	0.0510773	0.989042
	7	0.002321694	0	0	0	0	0	0	0.002322	0.009287	0.011608	0.004643	0.004643	0.004643	0	0	0.0023217	0.04179
7 (G)	2	0.004643388	0.018574	0.020895	0.018574	0.002322	0.009287	0.006965	0.009287	0.016252	0.009287	0.004643	0.006965	0.002322	0.016252	0.009287	0.0116085	0.167162
	3	0.006965082	0.016252	0.046434	0.048756	0.009287	0.009287	0.020895	0.018574	0.044112	0.02786	0.046434	0.032504	0.02786	0.044112	0.020895	0.0325037	0.45273
	4	0.083580981	0.065007	0.032504	0.006965	0.009287	0.02786	0.04179	0.048756	0.055721	0.04179	0.055721	0.067329	0.118406	0.058042	0.039469	0.0371471	0.789376
	5	0.083580981	0.085903	0.01393	0	0.002322	0.009287	0.058042	0.076616	0.023217	0.055721	0.067329	0.132337	0.092868	0.030182	0.069651	0.060364	0.681348
	6	0.025538633	0.002322	0	0	0	0.018574	0.011608	0.01393	0.004643	0.02786	0.044112	0.01393	0.004643	0.009287	0.002322	0.0232169	0.201987
	7	0	0	0	0	0	0	0	0	0	0.004643	0	0	0	0	0	0	0.004643

Notes:

(1) Wind Speed Categories defined as follows:

Category	Wind Speed (mph)
2	>=0.93 to <3.5
3	>=3.5 to <7.5
4	>=7.5 to <12.5
5	>=12.5 to <18.5
6	>=18.5 to <24
7	>=24

ARCON96 Input and Output

Unit 2 MSIV to Control Room Intake

5

C:\TRACI\~1\PEACHB~1\BYRON\DRS95R1A.MET

C:\TRACI\~1\PEACHB~1\BYRON\DRS96R1A.MET

C:\TRACI\~1\PEACHB~1\BYRON\DRS97R1A.MET

C:\TRACI\~1\PEACHB~1\BYRON\DRS98R1A.MET

C:\TRACI\~1\PEACHB~1\BYRON\DRS99R1A.MET

10.67

45.72

2

1

0.00

1680.00

0.00

0.00

0.00

268 90

67.10

11.30

0.00

1DRS.log

1DRS.cfd

.2

0.50

4.30

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

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	1.	0.	0.	0.	1.738E-03	0.	0.	0.	0.	0.	0.
1.585E-03	71.	25.	4.	0.	1.585E-03	0.	0.	0.	0.	0.	0.
1.445E-03	188.	144.	72.	8.	1.445E-03	0.	0.	0.	0.	0.	0.
1.318E-03	1945.	1460.	1000.	488.	1.318E-03	0.	0.	0.	0.	0.	0.
1.202E-03	3474.	2891.	2153.	1361.	1.202E-03	25.	0.	0.	0.	0.	0.
1.096E-03	5418.	4522.	3482.	2422.	1.096E-03	419.	0.	0.	0.	0.	0.
1.000E-03	6455.	5481.	4536.	3421.	1.000E-03	1266.	0.	0.	0.	0.	0.
9.120E-04	7295.	6277.	5443.	4379.	9.120E-04	2254.	43.	0.	0.	0.	0.
8.318E-04	8094.	6887.	6318.	5313.	8.318E-04	3208.	298.	0.	0.	0.	0.
7.586E-04	8717.	7484.	7039.	6309.	7.586E-04	4220.	1018.	0.	0.	0.	0.
6.918E-04	9231.	8168.	7804.	7249.	6.918E-04	5228.	1862.	8.	0.	0.	0.
6.310E-04	9647.	8808.	8513.	8173.	6.310E-04	6276.	2872.	63.	0.	0.	0.
5.754E-04	9979.	9542.	9299.	9045.	5.754E-04	7250.	3968.	184.	0.	0.	0.
5.248E-04	10204.	10161.	9952.	9861.	5.248E-04	8227.	4971.	343.	27.	0.	0.
4.786E-04	10511.	10707.	10585.	10697.	4.786E-04	9247.	6101.	669.	79.	0.	0.
4.365E-04	10879.	11283.	11118.	11468.	4.365E-04	10117.	7182.	1249.	222.	9.	0.
3.981E-04	11097.	11841.	11545.	12136.	3.981E-04	10988.	8260.	1939.	707.	98.	0.
3.631E-04	11316.	12308.	12018.	12743.	3.631E-04	11789.	9337.	2937.	1355.	241.	0.
3.311E-04	11529.	12753.	12769.	13397.	3.311E-04	12534.	10501.	4303.	2409.	401.	0.
3.020E-04	11738.	13174.	13342.	14025.	3.020E-04	13202.	11618.	5774.	3717.	1037.	557.
2.754E-04	11932.	13456.	13960.	14633.	2.754E-04	13880.	12689.	7343.	5424.	2528.	1357.
2.512E-04	12066.	13633.	14416.	15181.	2.512E-04	14489.	13745.	9375.	7470.	4673.	2875.
2.291E-04	12139.	13890.	14869.	15597.	2.291E-04	15141.	14778.	11501.	9798.	7662.	5514.
2.089E-04	12215.	14077.	15277.	15956.	2.089E-04	15731.	15752.	13790.	12411.	10543.	8068.
1.905E-04	12270.	14152.	15718.	16368.	1.905E-04	16335.	16649.	16092.	14973.	14081.	10826.
1.738E-04	12309.	14236.	16058.	16821.	1.738E-04	16903.	17513.	18263.	17597.	17330.	14234.
1.585E-04	12332.	14302.	16317.	17380.	1.585E-04	17443.	18321.	20174.	19883.	20133.	18677.
1.445E-04	12348.	14334.	16610.	17943.	1.445E-04	17888.	19124.	22167.	22259.	22843.	23179.
1.318E-04	12351.	14355.	16751.	18364.	1.318E-04	18329.	19837.	23888.	24468.	25573.	26842.
1.202E-04	12353.	14384.	16948.	18719.	1.202E-04	18793.	20525.	25656.	26901.	27886.	30117.
1.096E-04	12353.	14395.	17125.	19086.	1.096E-04	19369.	21240.	27420.	28881.	29861.	32725.
1.000E-04	12353.	14406.	17148.	19516.	1.000E-04	19828.	21965.	28635.	30493.	32452.	35059.
9.120E-05	12353.	14411.	17189.	19875.	9.120E-05	20327.	22649.	29805.	32273.	34825.	37457.

8.318E-05 12353. 14412. 17236. 20149.	8.318E-05 20681. 23279. 30882. 33726. 36545. 39602.
7.586E-05 12353. 14415. 17260. 20498.	7.586E-05 21001. 23836. 31746. 35034. 38320. 40859.
6.918E-05 12353. 14415. 17275. 20649.	6.918E-05 21363. 24395. 32886. 36108. 39465. 41646.
6.310E-05 12353. 14415. 17292. 20772.	6.310E-05 21896. 24938. 33656. 36917. 40698. 42145.
5.754E-05 12353. 14415. 17305. 20985.	5.754E-05 22228. 25406. 34629. 37522. 41398. 42359.
5.248E-05 12353. 14415. 17316. 21142.	5.248E-05 22625. 25890. 35116. 38213. 41772. 42445.
4.786E-05 12353. 14415. 17327. 21164.	4.786E-05 22902. 26378. 35632. 38788. 42124. 42476.
4.365E-05 12353. 14415. 17330. 21205.	4.365E-05 23128. 26702. 36282. 39303. 42422. 42476.
3.981E-05 12353. 14415. 17332. 21239.	3.981E-05 23395. 27056. 36715. 39983. 42580. 42476.
3.631E-05 12353. 14415. 17334. 21245.	3.631E-05 23677. 27368. 37145. 40420. 42661. 42476.
3.311E-05 12353. 14415. 17334. 21267.	3.311E-05 23781. 27826. 37494. 40629. 42714. 42476.
3.020E-05 12353. 14415. 17334. 21279.	3.020E-05 23905. 28247. 38094. 40771. 42766. 42476.
2.754E-05 12353. 14415. 17334. 21290.	2.754E-05 23997. 28615. 38474. 41037. 42813. 42476.
2.512E-05 12353. 14415. 17334. 21305.	2.512E-05 24072. 28923. 38731. 41161. 42879. 42476.
2.291E-05 12353. 14415. 17334. 21310.	2.291E-05 24155. 29109. 38977. 41305. 42892. 42476.
2.089E-05 12353. 14415. 17334. 21311.	2.089E-05 24233. 29345. 39241. 41447. 42933. 42476.
1.905E-05 12353. 14415. 17334. 21313.	1.905E-05 24244. 29616. 39442. 41538. 42934. 42476.
1.738E-05 12353. 14415. 17334. 21313.	1.738E-05 24266. 29785. 39658. 41708. 42939. 42476.
1.585E-05 12353. 14415. 17334. 21313.	1.585E-05 24285. 29957. 39838. 41900. 42942. 42476.
1.445E-05 12353. 14415. 17334. 21313.	1.445E-05 24294. 30159. 40079. 41940. 42950. 42476.
1.318E-05 12353. 14415. 17334. 21313.	1.318E-05 24299. 30216. 40251. 41975. 42971. 42476.
1.202E-05 12353. 14415. 17334. 21313.	1.202E-05 24307. 30357. 40411. 42023. 42972. 42476.
1.096E-05 12353. 14415. 17334. 21313.	1.096E-05 24309. 30432. 40446. 42052. 42972. 42476.
1.000E-05 12353. 14415. 17334. 21313.	1.000E-05 24311. 30529. 40617. 42077. 42973. 42476.
9.120E-06 12353. 14415. 17334. 21313.	9.120E-06 24319. 30537. 40698. 42150. 42974. 42476.
8.318E-06 12353. 14415. 17334. 21313.	8.318E-06 24319. 30551. 40855. 42254. 42975. 42476.
7.586E-06 12353. 14415. 17334. 21313.	7.586E-06 24321. 30577. 41007. 42337. 42975. 42476.
6.918E-06 12353. 14415. 17334. 21313.	6.918E-06 24321. 30577. 41054. 42366. 42975. 42476.
6.310E-06 12353. 14415. 17334. 21313.	6.310E-06 24321. 30588. 41088. 42420. 42976. 42476.
5.754E-06 12353. 14415. 17334. 21313.	5.754E-06 24321. 30590. 41251. 42423. 42977. 42476.
5.248E-06 12353. 14415. 17334. 21313.	5.248E-06 24321. 30592. 41332. 42459. 42977. 42476.
4.786E-06 12353. 14415. 17334. 21313.	4.786E-06 24321. 30600. 41467. 42487. 42977. 42476.
4.365E-06 12353. 14415. 17334. 21313.	4.365E-06 24321. 30600. 41508. 42495. 42977. 42476.
3.981E-06 12353. 14415. 17334. 21313.	3.981E-06 24321. 30600. 41590. 42503. 42977. 42476.
3.631E-06 12353. 14415. 17334. 21313.	3.631E-06 24321. 30601. 41717. 42503. 43037. 42476.
3.311E-06 12353. 14415. 17334. 21313.	3.311E-06 24321. 30601. 41722. 42559. 43037. 42476.
3.020E-06 12353. 14415. 17334. 21313.	3.020E-06 24321. 30601. 41728. 42560. 43037. 42476.
2.754E-06 12353. 14415. 17334. 21313.	2.754E-06 24321. 30601. 41752. 42649. 43037. 42476.
2.512E-06 12353. 14415. 17334. 21313.	2.512E-06 24321. 30601. 41809. 42677. 43037. 42476.
2.291E-06 12353. 14415. 17334. 21313.	2.291E-06 24321. 30601. 41811. 42677. 43037. 42476.
2.089E-06 12353. 14415. 17334. 21313.	2.089E-06 24321. 30601. 41813. 42748. 43037. 42476.
1.905E-06 12353. 14415. 17334. 21313.	1.905E-06 24321. 30601. 41829. 42748. 43037. 42476.
1.738E-06 12353. 14415. 17334. 21313.	1.738E-06 24321. 30601. 41829. 42748. 43037. 42476.
1.585E-06 12353. 14415. 17334. 21313.	1.585E-06 24321. 30601. 41829. 42749. 43037. 42476.
1.445E-06 12353. 14415. 17334. 21313.	1.445E-06 24321. 30601. 41829. 42793. 43037. 42476.
1.318E-06 12353. 14415. 17334. 21313.	1.318E-06 24321. 30601. 41829. 42793. 43037. 42476.
1.202E-06 12353. 14415. 17334. 21313.	1.202E-06 24321. 30601. 41830. 42793. 43037. 42476.
1.096E-06 12353. 14415. 17334. 21313.	1.096E-06 24321. 30601. 41830. 42793. 43037. 42476.
1.000E-06 12353. 14415. 17334. 21313.	1.000E-06 24321. 30601. 41830. 42793. 43037. 42476.
Belw. Lim. 0. 0. 0. 0. Belw. Lim. 0. 0. 0. 1. 0. 0.	

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 9/14/2004 at 11:56:36

***** ARCON INPUT *****

Number of Meteorological Data Files = 5

Meteorological Data File Names

C:\TRACI~1\PEACHB~1\BYRON\DRS95R1A.MET
C:\TRACI~1\PEACHB~1\BYRON\DRS96R1A.MET
C:\TRACI~1\PEACHB~1\BYRON\DRS97R1A.MET
C:\TRACI~1\PEACHB~1\BYRON\DRS98R1A.MET
C:\TRACI~1\PEACHB~1\BYRON\DRS99R1A.MET

Height of lower wind instrument (m) = 10.7

Height of upper wind instrument (m) = 45.7

Wind speeds entered as miles per hour

Ground-level release

Release height (m) = .0

Building Area (m^2) = 1680.0

Effluent vertical velocity (m/s) = .00

Vent or stack flow (m^3/s) = .00

Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 268

Wind direction sector width (deg) = 90

Wind direction window (deg) = 223 - 313

Distance to intake (m) = 67.1

Intake height (m) = 11.3
Terrain elevation difference (m) = .0

Output file names

1DRS.log
1DRS.cfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20
Sector averaging constant = 4.3

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 = 43824
Hours of missing data = 189
Hours direction in window = 12309
Hours elevated plume w/ dir. in window = 0
Hours of calm winds = 44
Hours direction not in window or calm = 31282

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER.	1	2	4	8	12	24	96	168	360	720
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
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
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	12353.	14415.	17334.	21313.	24321.	30601.	41830.	42793.	43037.	42476.
BELOW RANGE	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
ZERO	31282.	29206.	26259.	22224.	19207.	12869.	1440.	345.	0.	0.
TOTAL X/Qs	43635.	43621.	43593.	43537.	43528.	43470.	43270.	43139.	43037.	42476.
% NON ZERO	28.31	33.05	39.76	48.95	55.87	70.40	96.67	99.20	100.00	100.00

95th PERCENTILE X/Q VALUES

1.30E-03 1.26E-03 1.20E-03 1.12E-03 9.19E-04 6.73E-04 3.90E-04 3.39E-04 2.82E-04 2.63E-04

95% X/Q for standard averaging intervals

0 to 2 hours 1.30E-03
2 to 8 hours 1.06E-03
8 to 24 hours 4.49E-04
1 to 4 days 2.96E-04
4 to 30 days 2.44E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	1.74E-03	1.25E-04
SECTOR-AVERAGE	1.02E-03	7.28E-05

NORMAL PROGRAM COMPLETION

Unit 3 MSIV to Control Room Intake

5
C:\TRACI~1\PEACHB~1\BYRON\DRS95R1A.MET
C:\TRACI~1\PEACHB~1\BYRON\DRS96R1A.MET
C:\TRACI~1\PEACHB~1\BYRON\DRS97R1A.MET
C:\TRACI~1\PEACHB~1\BYRON\DRS98R1A.MET
C:\TRACI~1\PEACHB~1\BYRON\DRS99R1A.MET

10.67

45.72

2

1

0.00

1613.00

0.00

0.00

0.00

0.00

269 90

118.90

11.30

0.00

2DRS.log

2DRS.cfd

.2

0.50

4.30

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

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-04	0.	0.	0.	0.	9.120E-04	0.	0.	0.	0.	0.	0.
8.318E-04	0.	0.	0.	0.	8.318E-04	0.	0.	0.	0.	0.	0.
7.586E-04	0.	0.	0.	0.	7.586E-04	0.	0.	0.	0.	0.	0.
6.918E-04	0.	0.	0.	0.	6.918E-04	0.	0.	0.	0.	0.	0.
6.310E-04	0.	0.	0.	0.	6.310E-04	0.	0.	0.	0.	0.	0.
5.754E-04	2.	2.	0.	0.	5.754E-04	0.	0.	0.	0.	0.	0.
5.248E-04	127.	72.	20.	0.	5.248E-04	0.	0.	0.	0.	0.	0.
4.786E-04	1282.	860.	479.	150.	4.786E-04	0.	0.	0.	0.	0.	0.
4.365E-04	2531.	2197.	1560.	900.	4.365E-04	0.	0.	0.	0.	0.	0.
3.981E-04	4888.	4057.	3045.	2017.	3.981E-04	170.	0.	0.	0.	0.	0.
3.631E-04	6262.	5159.	4135.	3018.	3.631E-04	815.	0.	0.	0.	0.	0.
3.311E-04	7182.	6147.	5161.	4040.	3.311E-04	1810.	13.	0.	0.	0.	0.
3.020E-04	8055.	6842.	6078.	5023.	3.020E-04	2826.	142.	0.	0.	0.	0.
2.754E-04	8844.	7426.	6910.	6060.	2.754E-04	3873.	716.	0.	0.	0.	0.
2.512E-04	9348.	7981.	7589.	7043.	2.512E-04	4921.	1494.	0.	0.	0.	0.
2.291E-04	9721.	8698.	8365.	7995.	2.291E-04	5990.	2458.	24.	0.	0.	0.
2.089E-04	10064.	9327.	9146.	8891.	2.089E-04	6977.	3617.	129.	0.	0.	0.
1.905E-04	10296.	10049.	9899.	9710.	1.905E-04	7994.	4648.	276.	5.	0.	0.
1.738E-04	10553.	10641.	10541.	10513.	1.738E-04	9020.	5764.	526.	65.	0.	0.
1.585E-04	10848.	11286.	11133.	11274.	1.585E-04	9926.	6858.	981.	174.	0.	0.
1.445E-04	11089.	11916.	11619.	12028.	1.445E-04	10796.	7936.	1659.	431.	65.	0.
1.318E-04	11317.	12474.	12093.	12695.	1.318E-04	11607.	9063.	2522.	1062.	184.	0.
1.202E-04	11537.	12955.	12677.	13315.	1.202E-04	12320.	10238.	3792.	2040.	293.	0.
1.096E-04	11750.	13317.	13274.	13966.	1.096E-04	13101.	11390.	5285.	3333.	642.	183.
1.000E-04	11956.	13586.	13929.	14619.	1.000E-04	13789.	12464.	6814.	4722.	1796.	1005.
9.120E-05	12082.	13767.	14400.	15186.	9.120E-05	14442.	13502.	8777.	6779.	3605.	2130.
8.318E-05	12153.	13973.	14892.	15638.	8.318E-05	15049.	14538.	10851.	9077.	6568.	4463.
7.586E-05	12229.	14087.	15360.	16024.	7.586E-05	15711.	15547.	13227.	11689.	9638.	7090.
6.918E-05	12283.	14160.	15816.	16443.	6.918E-05	16330.	16475.	15512.	14438.	13089.	10084.
6.310E-05	12322.	14244.	16208.	16811.	6.310E-05	16908.	17382.	17758.	16961.	16504.	13149.
5.754E-05	12343.	14317.	16534.	17429.	5.754E-05	17467.	18205.	19668.	19190.	19619.	17570.
5.248E-05	12360.	14347.	16763.	17882.	5.248E-05	17950.	18985.	21664.	21663.	22226.	22246.
4.786E-05	12364.	14371.	16936.	18365.	4.786E-05	18406.	19816.	23484.	23828.	25067.	26423.
4.365E-05	12366.	14396.	17059.	18733.	4.365E-05	18844.	20516.	25325.	26307.	27432.	29581.
3.981E-05	12366.	14408.	17127.	19160.	3.981E-05	19364.	21259.	27013.	28420.	29601.	32282.
3.631E-05	12366.	14417.	17154.	19588.	3.631E-05	19862.	21961.	28428.	30371.	32148.	34529.
3.311E-05	12366.	14425.	17188.	19996.	3.311E-05	20346.	22646.	29658.	31827.	34491.	37024.
3.020E-05	12366.	14426.	17234.	20430.	3.020E-05	20702.	23303.	30863.	33330.	36306.	39401.
2.754E-05	12366.	14429.	17266.	20673.	2.754E-05	21105.	23887.	31752.	34826.	38161.	40724.
2.512E-05	12366.	14430.	17281.	20809.	2.512E-05	21421.	24481.	32700.	35949.	39360.	41557.
2.291E-05	12366.	14430.	17304.	20979.	2.291E-05	21965.	24969.	33805.	36800.	40641.	42064.
2.089E-05	12366.	14430.	17314.	21111.	2.089E-05	22352.	25456.	34587.	37432.	41322.	42289.
1.905E-05	12366.	14430.	17327.	21152.	1.905E-05	22760.	25910.	35003.	38207.	41770.	42440.
1.738E-05	12366.	14430.	17338.	21170.	1.738E-05	23002.	26351.	35634.	38881.	42048.	42476.
1.585E-05	12366.	14430.	17342.	21209.	1.585E-05	23278.	26718.	36168.	39380.	42348.	42476.
1.445E-05	12366.	14430.	17343.	21243.	1.445E-05	23525.	27055.	36668.	39942.	42585.	42476.
1.318E-05	12366.	14430.	17346.	21258.	1.318E-05	23712.	27358.	37185.	40384.	42668.	42476.
1.202E-05	12366.	14430.	17346.	21277.	1.202E-05	23866.	27702.	37536.	40607.	42720.	42476.
1.096E-05	12366.	14430.	17346.	21297.	1.096E-05	23986.	28275.	38011.	40757.	42769.	42476.
1.000E-05	12366.	14430.	17346.	21308.	1.000E-05	24085.	28696.	38378.	40988.	42797.	42476.
9.120E-06	12366.	14430.	17346.	21323.	9.120E-06	24163.	28940.	38689.	41126.	42861.	42476.

8.318E-06 12366. 14430. 17346. 21330.	8.318E-06 24208. 29159. 39015. 41286. 42891. 42476.
7.586E-06 12366. 14430. 17346. 21331.	7.586E-06 24250. 29389. 39326. 41415. 42933. 42476.
6.918E-06 12366. 14430. 17346. 21334.	6.918E-06 24264. 29644. 39501. 41509. 42935. 42476.
6.310E-06 12366. 14430. 17346. 21334.	6.310E-06 24284. 29833. 39752. 41724. 42937. 42476.
5.754E-06 12366. 14430. 17346. 21334.	5.754E-06 24304. 30118. 39932. 41840. 42948. 42476.
5.248E-06 12366. 14430. 17346. 21334.	5.248E-06 24313. 30281. 40093. 41954. 42968. 42476.
4.786E-06 12366. 14430. 17346. 21334.	4.786E-06 24321. 30397. 40302. 41991. 42971. 42476.
4.365E-06 12366. 14430. 17346. 21334.	4.365E-06 24326. 30444. 40478. 42033. 42972. 42476.
3.981E-06 12366. 14430. 17346. 21334.	3.981E-06 24328. 30510. 40546. 42055. 42973. 42476.
3.631E-06 12366. 14430. 17346. 21334.	3.631E-06 24334. 30537. 40661. 42088. 42974. 42476.
3.311E-06 12366. 14430. 17346. 21334.	3.311E-06 24338. 30541. 40799. 42201. 42974. 42476.
3.020E-06 12366. 14430. 17346. 21334.	3.020E-06 24339. 30560. 40891. 42256. 42975. 42476.
2.754E-06 12366. 14430. 17346. 21334.	2.754E-06 24341. 30584. 41043. 42387. 42976. 42476.
2.512E-06 12366. 14430. 17346. 21334.	2.512E-06 24342. 30586. 41209. 42462. 42976. 42476.
2.291E-06 12366. 14430. 17346. 21334.	2.291E-06 24342. 30597. 41257. 42496. 42977. 42476.
2.089E-06 12366. 14430. 17346. 21334.	2.089E-06 24342. 30600. 41332. 42509. 42977. 42476.
1.905E-06 12366. 14430. 17346. 21334.	1.905E-06 24342. 30601. 41419. 42540. 42977. 42476.
1.738E-06 12366. 14430. 17346. 21334.	1.738E-06 24342. 30609. 41488. 42561. 43037. 42476.
1.585E-06 12366. 14430. 17346. 21334.	1.585E-06 24342. 30609. 41588. 42575. 43037. 42476.
1.445E-06 12366. 14430. 17346. 21334.	1.445E-06 24342. 30609. 41771. 42610. 43037. 42476.
1.318E-06 12366. 14430. 17346. 21334.	1.318E-06 24342. 30611. 41813. 42610. 43037. 42476.
1.202E-06 12366. 14430. 17346. 21334.	1.202E-06 24342. 30611. 41821. 42631. 43037. 42476.
1.096E-06 12366. 14430. 17346. 21334.	1.096E-06 24342. 30611. 41838. 42632. 43037. 42476.
1.000E-06 12366. 14430. 17346. 21334.	1.000E-06 24342. 30611. 41862. 42675. 43037. 42476.
9.120E-07 12366. 14430. 17346. 21334.	9.120E-07 24342. 30611. 41901. 42677. 43037. 42476.
8.318E-07 12366. 14430. 17346. 21334.	8.318E-07 24342. 30611. 41902. 42868. 43037. 42476.
7.586E-07 12366. 14430. 17346. 21334.	7.586E-07 24342. 30611. 41909. 42868. 43037. 42476.
6.918E-07 12366. 14430. 17346. 21334.	6.918E-07 24342. 30611. 41925. 42869. 43037. 42476.
6.310E-07 12366. 14430. 17346. 21334.	6.310E-07 24342. 30611. 41925. 42873. 43037. 42476.
5.754E-07 12366. 14430. 17346. 21334.	5.754E-07 24342. 30611. 41925. 42874. 43037. 42476.
5.248E-07 12366. 14430. 17346. 21334.	5.248E-07 24342. 30611. 41925. 42913. 43037. 42476.
4.786E-07 12366. 14430. 17346. 21334.	4.786E-07 24342. 30611. 41925. 42913. 43037. 42476.
4.365E-07 12366. 14430. 17346. 21334.	4.365E-07 24342. 30611. 41926. 42913. 43037. 42476.
3.981E-07 12366. 14430. 17346. 21334.	3.981E-07 24342. 30611. 41926. 42913. 43037. 42476.
3.631E-07 12366. 14430. 17346. 21334.	3.631E-07 24342. 30611. 41926. 42913. 43037. 42476.
3.311E-07 12366. 14430. 17346. 21334.	3.311E-07 24342. 30611. 41926. 42913. 43037. 42476.
3.020E-07 12366. 14430. 17346. 21334.	3.020E-07 24342. 30611. 41926. 42913. 43037. 42476.
2.754E-07 12366. 14430. 17346. 21334.	2.754E-07 24342. 30611. 41926. 42913. 43037. 42476.
2.512E-07 12366. 14430. 17346. 21334.	2.512E-07 24342. 30611. 41926. 42914. 43037. 42476.
2.291E-07 12366. 14430. 17346. 21334.	2.291E-07 24342. 30611. 41926. 42914. 43037. 42476.
2.089E-07 12366. 14430. 17346. 21334.	2.089E-07 24342. 30611. 41926. 42914. 43037. 42476.
1.905E-07 12366. 14430. 17346. 21334.	1.905E-07 24342. 30611. 41926. 42914. 43037. 42476.
1.738E-07 12366. 14430. 17346. 21334.	1.738E-07 24342. 30611. 41926. 42914. 43037. 42476.
1.585E-07 12366. 14430. 17346. 21334.	1.585E-07 24342. 30611. 41926. 42914. 43037. 42476.
1.445E-07 12366. 14430. 17346. 21334.	1.445E-07 24342. 30611. 41926. 42914. 43037. 42476.
1.318E-07 12366. 14430. 17346. 21334.	1.318E-07 24342. 30611. 41926. 42914. 43037. 42476.
1.202E-07 12366. 14430. 17346. 21334.	1.202E-07 24342. 30611. 41926. 42914. 43037. 42476.
1.096E-07 12366. 14430. 17346. 21334.	1.096E-07 24342. 30611. 41926. 42914. 43037. 42476.
1.000E-07 12366. 14430. 17346. 21334.	1.000E-07 24342. 30611. 41926. 42914. 43037. 42476.
Belw. Lim. 0. 0. 0. 0. Belw. Lim. 0. 0. 0. 0. 0. 0.	

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 9/14/2004 at 11:57:07

***** ARCON INPUT *****

Number of Meteorological Data Files = 5
Meteorological Data File Names
C:\TRACI\~1\PEACHB~1\BYRON\DRS95R1A.MET
C:\TRACI\~1\PEACHB~1\BYRON\DRS96R1A.MET
C:\TRACI\~1\PEACHB~1\BYRON\DRS97R1A.MET
C:\TRACI\~1\PEACHB~1\BYRON\DRS98R1A.MET
C:\TRACI\~1\PEACHB~1\BYRON\DRS99R1A.MET

Height of lower wind instrument (m) = 10.7
Height of upper wind instrument (m) = 45.7
Wind speeds entered as miles per hour

Ground-level release
Release height (m) = .0
Building Area (m²) = 1613.0
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 269
Wind direction sector width (deg) = 90
Wind direction window (deg) = 224 - 314
Distance to intake (m) = 118.9

Intake height (m) = 11.3
 Terrain elevation difference (m) = .0

Output file names

2DRS.log

2DRS.cfd

Minimum Wind Speed (m/s) = .5
 Surface roughness length (m) = .20
 Sector averaging constant = 4.3

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 = 43824
 Hours of missing data = 189
 Hours direction in window = 12322
 Hours elevated plume w/ dir. in window = 0
 Hours of calm winds = 44
 Hours direction not in window or calm = 31269

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
LOW LIM.	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	12366.	14430.	17346.	21334.	24342.	30611.	41926.	42914.	43037.	42476.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	31269.	29191.	26247.	22203.	19186.	12859.	1344.	225.	0.	0.
TOTAL X/Qs	43635.	43621.	43593.	43537.	43528.	43470.	43270.	43139.	43037.	42476.
% NON ZERO	28.34	33.08	39.79	49.00	55.92	70.42	96.89	99.48	100.00	100.00

95th PERCENTILE X/Q VALUES

4.48E-04 4.37E-04 4.20E-04 3.93E-04 3.21E-04 2.36E-04 1.37E-04 1.19E-04 9.83E-05 9.12E-05

95% X/Q for standard averaging intervals

0 to 2 hours 4.48E-04
 2 to 8 hours 3.74E-04
 8 to 24 hours 1.57E-04
 1 to 4 days 1.04E-04
 4 to 30 days 8.42E-05

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	5.99E-04	4.55E-05
SECTOR-AVERAGE	3.49E-04	2.65E-05

NORMAL PROGRAM COMPLETION

Station Chimney to Control Room Intake (No Stack Downwash)

5
C:\TRACI~1\PEACHB~1\BYRON\DRS95R1B.MET
C:\TRACI~1\PEACHB~1\BYRON\DRS96R1B.MET
C:\TRACI~1\PEACHB~1\BYRON\DRS97R1B.MET
C:\TRACI~1\PEACHB~1\BYRON\DRS98R1B.MET
C:\TRACI~1\PEACHB~1\BYRON\DRS99R1B.MET

10.67
91.44
2
3
94.60
6457.10
0.00
0.00
0.00
48 90
80.80
11.30
0.00
3DRS.log
3DRS.cfd
.2
0.50
4.30
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

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-15	2.	0.	0.	0.	9.120E-15	0.	0.	0.	0.	0.	0.
8.318E-15	11.	0.	0.	0.	8.318E-15	0.	0.	0.	0.	0.	0.
7.586E-15	16.	5.	1.	0.	7.586E-15	0.	0.	0.	0.	0.	0.
6.918E-15	32.	10.	3.	0.	6.918E-15	0.	0.	0.	0.	0.	0.
6.310E-15	45.	19.	5.	0.	6.310E-15	0.	0.	0.	0.	0.	0.
5.754E-15	74.	33.	9.	0.	5.754E-15	0.	0.	0.	0.	0.	0.
5.248E-15	94.	48.	24.	2.	5.248E-15	0.	0.	0.	0.	0.	0.
4.786E-15	124.	67.	38.	3.	4.786E-15	0.	0.	0.	0.	0.	0.
4.365E-15	156.	93.	53.	5.	4.365E-15	0.	0.	0.	0.	0.	0.
3.981E-15	192.	122.	78.	12.	3.981E-15	0.	0.	0.	0.	0.	0.
3.631E-15	240.	175.	109.	30.	3.631E-15	2.	0.	0.	0.	0.	0.
3.311E-15	282.	217.	143.	46.	3.311E-15	3.	0.	0.	0.	0.	0.
3.020E-15	318.	259.	174.	74.	3.020E-15	6.	0.	0.	0.	0.	0.
2.754E-15	374.	311.	214.	103.	2.754E-15	13.	0.	0.	0.	0.	0.
2.512E-15	422.	370.	266.	159.	2.512E-15	33.	0.	0.	0.	0.	0.
2.291E-15	463.	429.	307.	207.	2.291E-15	52.	0.	0.	0.	0.	0.
2.089E-15	506.	482.	370.	252.	2.089E-15	87.	0.	0.	0.	0.	0.
1.905E-15	544.	537.	452.	309.	1.905E-15	115.	0.	0.	0.	0.	0.
1.738E-15	574.	585.	514.	382.	1.738E-15	181.	2.	0.	0.	0.	0.
1.585E-15	589.	617.	580.	443.	1.585E-15	243.	4.	0.	0.	0.	0.
1.445E-15	594.	653.	644.	503.	1.445E-15	310.	8.	0.	0.	0.	0.
1.318E-15	600.	685.	700.	572.	1.318E-15	382.	19.	0.	0.	0.	0.
1.202E-15	601.	705.	750.	647.	1.202E-15	462.	44.	0.	0.	0.	0.
1.096E-15	602.	740.	813.	753.	1.096E-15	547.	64.	0.	0.	0.	0.
1.000E-15	602.	761.	855.	843.	1.000E-15	619.	113.	0.	0.	0.	0.
9.120E-16	602.	779.	904.	966.	9.120E-16	706.	169.	0.	0.	0.	0.
8.318E-16	602.	793.	943.	1022.	8.318E-16	780.	246.	0.	0.	0.	0.
7.586E-16	602.	800.	965.	1115.	7.586E-16	866.	340.	0.	0.	0.	0.
6.918E-16	602.	802.	1005.	1211.	6.918E-16	1031.	484.	0.	0.	0.	0.
6.310E-16	602.	805.	1036.	1298.	6.310E-16	1154.	598.	0.	0.	0.	0.
5.754E-16	602.	807.	1070.	1381.	5.754E-16	1238.	766.	1.	0.	0.	0.
5.248E-16	602.	807.	1102.	1446.	5.248E-16	1352.	930.	6.	0.	0.	0.
4.786E-16	602.	807.	1128.	1499.	4.786E-16	1466.	1115.	10.	0.	0.	0.
4.365E-16	602.	807.	1147.	1557.	4.365E-16	1576.	1296.	54.	0.	0.	0.
3.981E-16	602.	807.	1157.	1589.	3.981E-16	1697.	1463.	91.	0.	0.	0.
3.631E-16	602.	807.	1162.	1621.	3.631E-16	1786.	1673.	175.	6.	0.	0.
3.311E-16	602.	807.	1164.	1665.	3.311E-16	1869.	1848.	353.	14.	0.	0.
3.020E-16	602.	807.	1167.	1696.	3.020E-16	1941.	2052.	511.	52.	0.	0.
2.754E-16	602.	807.	1168.	1745.	2.754E-16	2032.	2188.	658.	99.	0.	0.
2.512E-16	602.	807.	1168.	1802.	2.512E-16	2082.	2390.	848.	270.	7.	0.
2.291E-16	602.	807.	1168.	1828.	2.291E-16	2152.	2548.	1130.	316.	56.	0.
2.089E-16	602.	807.	1168.	1855.	2.089E-16	2219.	2839.	1363.	663.	108.	0.
1.905E-16	602.	807.	1168.	1860.	1.905E-16	2267.	3022.	1750.	985.	234.	0.
1.738E-16	602.	807.	1168.	1864.	1.738E-16	2341.	3240.	2254.	1449.	388.	0.
1.585E-16	602.	807.	1168.	1867.	1.585E-16	2394.	3312.	2483.	1752.	517.	6.
1.445E-16	602.	807.	1168.	1869.	1.445E-16	2433.	3538.	2800.	2166.	768.	150.
1.318E-16	602.	807.	1168.	1869.	1.318E-16	2464.	3611.	3345.	2644.	1003.	263.
1.202E-16	602.	807.	1168.	1869.	1.202E-16	2478.	3744.	4075.	3192.	1631.	763.
1.096E-16	602.	807.	1168.	1869.	1.096E-16	2505.	3906.	4487.	3960.	2270.	1436.
1.000E-16	602.	807.	1168.	1869.	1.000E-16	2534.	3994.	5276.	4630.	3339.	1617.
9.120E-17	602.	807.	1168.	1869.	9.120E-17	2557.	4055.	5712.	5054.	3765.	2663.

8.318E-17	602.	807.	1168.	1869.	8.318E-17	2567.	4160.	5991.	5497.	5046.	3338.
7.586E-17	602.	807.	1168.	1869.	7.586E-17	2569.	4183.	6449.	6369.	5663.	4341.
6.918E-17	602.	807.	1168.	1869.	6.918E-17	2573.	4227.	6836.	7214.	6904.	5750.
6.310E-17	602.	807.	1168.	1869.	6.310E-17	2576.	4270.	7198.	7847.	8184.	7292.
5.754E-17	602.	807.	1168.	1869.	5.754E-17	2576.	4311.	7712.	8582.	8728.	8354.
5.248E-17	602.	807.	1168.	1869.	5.248E-17	2576.	4356.	8539.	9137.	9473.	9888.
4.786E-17	602.	807.	1168.	1869.	4.786E-17	2576.	4457.	9153.	9393.	10291.	10535.
4.365E-17	602.	807.	1168.	1869.	4.365E-17	2576.	4510.	9883.	10006.	10663.	12511.
3.981E-17	602.	807.	1168.	1869.	3.981E-17	2576.	4528.	10039.	10390.	11988.	13689.
3.631E-17	602.	807.	1168.	1869.	3.631E-17	2576.	4531.	10512.	11081.	13137.	14472.
3.311E-17	602.	807.	1168.	1869.	3.311E-17	2576.	4532.	10867.	11902.	13870.	15454.
3.020E-17	602.	807.	1168.	1869.	3.020E-17	2576.	4533.	11315.	12881.	14339.	16649.
2.754E-17	602.	807.	1168.	1869.	2.754E-17	2576.	4533.	11729.	13703.	15483.	17617.
2.512E-17	602.	807.	1168.	1869.	2.512E-17	2576.	4533.	12005.	14713.	16796.	18212.
2.291E-17	602.	807.	1168.	1869.	2.291E-17	2576.	4533.	12208.	14978.	16935.	19071.
2.089E-17	602.	807.	1168.	1869.	2.089E-17	2576.	4533.	12404.	15428.	18087.	20120.
1.905E-17	602.	807.	1168.	1869.	1.905E-17	2576.	4533.	12418.	15942.	18578.	21006.
1.738E-17	602.	807.	1168.	1869.	1.738E-17	2576.	4533.	12427.	16484.	19160.	22051.
1.585E-17	602.	807.	1168.	1869.	1.585E-17	2576.	4533.	12480.	17000.	20287.	22808.
1.445E-17	602.	807.	1168.	1869.	1.445E-17	2576.	4533.	12561.	17469.	20868.	23530.
1.318E-17	602.	807.	1168.	1869.	1.318E-17	2576.	4533.	12675.	17772.	22581.	23993.
1.202E-17	602.	807.	1168.	1869.	1.202E-17	2576.	4533.	13001.	17952.	22873.	24677.
1.096E-17	602.	807.	1168.	1869.	1.096E-17	2576.	4533.	13113.	18025.	23480.	24936.
1.000E-17	602.	807.	1168.	1869.	1.000E-17	2576.	4533.	13134.	18028.	23543.	25905.
9.120E-18	602.	807.	1168.	1869.	9.120E-18	2576.	4533.	13137.	18080.	23848.	26148.
8.318E-18	602.	807.	1168.	1869.	8.318E-18	2576.	4533.	13138.	18225.	24278.	26623.
7.586E-18	602.	807.	1168.	1869.	7.586E-18	2576.	4533.	13138.	18320.	24732.	27151.
6.918E-18	602.	807.	1168.	1869.	6.918E-18	2576.	4533.	13138.	18638.	25337.	28777.
6.310E-18	602.	807.	1168.	1869.	6.310E-18	2576.	4533.	13138.	18709.	25758.	29187.
5.754E-18	602.	807.	1168.	1869.	5.754E-18	2576.	4533.	13138.	18732.	25924.	29700.
5.248E-18	602.	807.	1168.	1869.	5.248E-18	2576.	4533.	13138.	18733.	25925.	29826.
4.786E-18	602.	807.	1168.	1869.	4.786E-18	2576.	4533.	13138.	18734.	25926.	30061.
4.365E-18	602.	807.	1168.	1869.	4.365E-18	2576.	4533.	13138.	18734.	25972.	30086.
3.981E-18	602.	807.	1168.	1869.	3.981E-18	2576.	4533.	13138.	18734.	25972.	30110.
3.631E-18	602.	807.	1168.	1869.	3.631E-18	2576.	4533.	13138.	18734.	26214.	30326.
3.311E-18	602.	807.	1168.	1869.	3.311E-18	2576.	4533.	13138.	18734.	26517.	30326.
3.020E-18	602.	807.	1168.	1869.	3.020E-18	2576.	4533.	13138.	18734.	26517.	30654.
2.754E-18	602.	807.	1168.	1869.	2.754E-18	2576.	4533.	13138.	18734.	26540.	30654.
2.512E-18	602.	807.	1168.	1869.	2.512E-18	2576.	4533.	13138.	18734.	26540.	30654.
2.291E-18	602.	807.	1168.	1869.	2.291E-18	2576.	4533.	13138.	18734.	26540.	30679.
2.089E-18	602.	807.	1168.	1869.	2.089E-18	2576.	4533.	13138.	18734.	26541.	30679.
1.905E-18	602.	807.	1168.	1869.	1.905E-18	2576.	4533.	13138.	18734.	26541.	30920.
1.738E-18	602.	807.	1168.	1869.	1.738E-18	2576.	4533.	13138.	18734.	26541.	30921.
1.585E-18	602.	807.	1168.	1869.	1.585E-18	2576.	4533.	13138.	18734.	26541.	30921.
1.445E-18	602.	807.	1168.	1869.	1.445E-18	2576.	4533.	13138.	18734.	26541.	30944.
1.318E-18	602.	807.	1168.	1869.	1.318E-18	2576.	4533.	13138.	18734.	26541.	30944.
1.202E-18	602.	807.	1168.	1869.	1.202E-18	2576.	4533.	13138.	18734.	26541.	30944.
1.096E-18	602.	807.	1168.	1869.	1.096E-18	2576.	4533.	13138.	18734.	26541.	30944.
1.000E-18	602.	807.	1168.	1869.	1.000E-18	2576.	4533.	13138.	18734.	26541.	30944.
Belw. Lim.	0.	0.	0.	0.	Belw. Lim.	0.	0.	0.	0.	0.	0.

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: jyl1@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 9/20/2004 at 11:14:07

***** ARCON INPUT *****

Number of Meteorological Data Files = 5
Meteorological Data File Names
C:\TRACI\~1\PEACHB~1\BYRON\DRS95R1B.MET
C:\TRACI\~1\PEACHB~1\BYRON\DRS96R1B.MET
C:\TRACI\~1\PEACHB~1\BYRON\DRS97R1B.MET
C:\TRACI\~1\PEACHB~1\BYRON\DRS98R1B.MET
C:\TRACI\~1\PEACHB~1\BYRON\DRS99R1B.MET

Height of lower wind instrument (m) = 10.7
Height of upper wind instrument (m) = 91.4
Wind speeds entered as miles per hour

Elevated release
Release height (m) = 94.6
Building Area (m²) = 6457.1
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 048
Wind direction sector width (deg) = 90
Wind direction window (deg) = 003 - 093
Distance to intake (m) = 80.8

Intake height (m) = 11.3
 Terrain elevation difference (m) = .0

Output file names

3DRS.log

3DRS.cfd

Minimum Wind Speed (m/s) = .5
 Surface roughness length (m) = .20
 Sector averaging constant = 4.3

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 = 43824
 Hours of missing data = 248
 Hours direction in window = 9317
 Hours elevated plume w/ dir. in window = 838
 Hours of calm winds = 5
 Hours direction not in window or calm = 34254

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AV. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-14	1.00E-14	1.00E-14	1.00E-14	1.00E-14	1.00E-14	1.00E-14	1.00E-14	1.00E-14	1.00E-14
LOW LIM.	1.00E-18	1.00E-18	1.00E-18	1.00E-18	1.00E-18	1.00E-18	1.00E-18	1.00E-18	1.00E-18	1.00E-18
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	602.	807.	1168.	1869.	2576.	4533.	13138.	18734.	26541.	30944.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	42974.	42749.	42348.	41567.	40849.	38763.	29687.	24255.	16200.	11491.
TOTAL X/Qs	43576.	43556.	43516.	43436.	43425.	43296.	42825.	42989.	42741.	42435.
% NON ZERO	1.38	1.85	2.68	4.30	5.93	10.47	30.68	43.58	62.10	72.92

95th PERCENTILE X/Q VALUES

1.00E-18 1.00E-18 1.00E-18 1.00E-18 2.23E-16 2.80E-16 1.78E-16 1.45E-16 1.12E-16 9.58E-17

95% X/Q for standard averaging intervals

0 to 2 hours 1.00E-18
 2 to 8 hours 1.00E-18
 8 to 24 hours 4.19E-16
 1 to 4 days 1.43E-16
 4 to 30 days 8.32E-17

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	9.58E-15	1.08E-43
SECTOR-AVERAGE	5.58E-15	6.31E-44

NORMAL PROGRAM COMPLETION

Station Chimney to Control Room Intake (Including Stack Downwash)

5

C:\TRAC\NDRESDE~1\DRS95R1B.MET

C:\TRAC\NDRESDE~1\DRS96R1B.MET

C:\TRAC\NDRESDE~1\DRS97R1B.MET

C:\TRAC\NDRESDE~1\DRS98R1B.MET

C:\TRAC\NDRESDE~1\DRS99R1B.MET

10.67

91.44

2

3

94.60

6457.10

0.21

1.89

1.86

48 90

80.80

11.30

0.00

3DRST1.log

3DRST1.cfd

.2

0.50

4.30

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

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	2.	0.	0.	0.	3.020E-12	0.	0.	0.	0.	0.	0.
2.754E-12	16.	4.	0.	0.	2.754E-12	0.	0.	0.	0.	0.	0.
2.512E-12	38.	16.	4.	0.	2.512E-12	0.	0.	0.	0.	0.	0.
2.291E-12	76.	36.	9.	0.	2.291E-12	0.	0.	0.	0.	0.	0.
2.089E-12	104.	58.	23.	2.	2.089E-12	0.	0.	0.	0.	0.	0.
1.905E-12	156.	83.	41.	3.	1.905E-12	0.	0.	0.	0.	0.	0.
1.738E-12	204.	119.	71.	7.	1.738E-12	0.	0.	0.	0.	0.	0.
1.585E-12	261.	158.	100.	18.	1.585E-12	0.	0.	0.	0.	0.	0.
1.445E-12	312.	208.	128.	31.	1.445E-12	0.	0.	0.	0.	0.	0.
1.318E-12	370.	272.	175.	62.	1.318E-12	3.	0.	0.	0.	0.	0.
1.202E-12	427.	339.	236.	98.	1.202E-12	10.	0.	0.	0.	0.	0.
1.096E-12	477.	394.	289.	131.	1.096E-12	21.	0.	0.	0.	0.	0.
1.000E-12	525.	455.	330.	201.	1.000E-12	34.	0.	0.	0.	0.	0.
9.120E-13	558.	529.	403.	265.	9.120E-13	63.	0.	0.	0.	0.	0.
8.318E-13	582.	579.	456.	342.	8.318E-13	104.	0.	0.	0.	0.	0.
7.586E-13	594.	611.	505.	387.	7.586E-13	155.	0.	0.	0.	0.	0.
6.918E-13	598.	653.	590.	456.	6.918E-13	220.	2.	0.	0.	0.	0.
6.310E-13	601.	687.	651.	524.	6.310E-13	308.	4.	0.	0.	0.	0.
5.754E-13	602.	717.	713.	621.	5.754E-13	409.	13.	0.	0.	0.	0.
5.248E-13	602.	747.	761.	683.	5.248E-13	480.	27.	0.	0.	0.	0.
4.786E-13	602.	772.	827.	774.	4.786E-13	556.	50.	0.	0.	0.	0.
4.365E-13	602.	790.	881.	862.	4.365E-13	642.	96.	0.	0.	0.	0.
3.981E-13	602.	796.	932.	919.	3.981E-13	722.	148.	0.	0.	0.	0.
3.631E-13	602.	801.	961.	1015.	3.631E-13	828.	218.	0.	0.	0.	0.
3.311E-13	602.	805.	1009.	1147.	3.311E-13	918.	332.	0.	0.	0.	0.
3.020E-13	602.	807.	1041.	1245.	3.020E-13	1042.	461.	0.	0.	0.	0.
2.754E-13	602.	807.	1077.	1290.	2.754E-13	1140.	627.	0.	0.	0.	0.
2.512E-13	602.	807.	1117.	1387.	2.512E-13	1221.	784.	3.	0.	0.	0.
2.291E-13	602.	807.	1136.	1472.	2.291E-13	1373.	957.	9.	0.	0.	0.
2.089E-13	602.	807.	1154.	1535.	2.089E-13	1500.	1141.	43.	0.	0.	0.
1.905E-13	602.	807.	1162.	1583.	1.905E-13	1590.	1373.	50.	0.	0.	0.
1.738E-13	602.	807.	1163.	1620.	1.738E-13	1684.	1545.	90.	0.	0.	0.
1.585E-13	602.	807.	1167.	1679.	1.585E-13	1789.	1741.	171.	1.	0.	0.
1.445E-13	602.	807.	1168.	1712.	1.445E-13	1897.	1892.	333.	15.	0.	0.
1.318E-13	602.	807.	1168.	1756.	1.318E-13	1987.	2014.	498.	53.	0.	0.
1.202E-13	602.	807.	1168.	1817.	1.202E-13	2052.	2205.	601.	205.	0.	0.
1.096E-13	602.	807.	1168.	1852.	1.096E-13	2127.	2480.	838.	264.	0.	0.
1.000E-13	602.	807.	1168.	1858.	1.000E-13	2178.	2651.	1050.	319.	62.	0.
9.120E-14	602.	807.	1168.	1863.	9.120E-14	2269.	2857.	1260.	609.	212.	0.
8.318E-14	602.	807.	1168.	1867.	8.318E-14	2345.	3005.	1796.	1034.	236.	0.
7.586E-14	602.	807.	1168.	1869.	7.586E-14	2404.	3135.	2110.	1452.	404.	0.
6.918E-14	602.	807.	1168.	1869.	6.918E-14	2430.	3314.	2482.	1637.	514.	0.
6.310E-14	602.	807.	1168.	1869.	6.310E-14	2464.	3536.	2857.	2149.	718.	20.
5.754E-14	602.	807.	1168.	1869.	5.754E-14	2480.	3707.	3487.	2561.	1014.	286.
5.248E-14	602.	807.	1168.	1869.	5.248E-14	2513.	3793.	4076.	3035.	1664.	856.

4.786E-14	602.	807.	1168.	1869.	4.786E-14	2544.	3958.	4955.	4002.	2379.	1459.
4.365E-14	602.	807.	1168.	1869.	4.365E-14	2563.	4059.	5458.	4545.	3218.	2022.
3.981E-14	602.	807.	1168.	1869.	3.981E-14	2569.	4126.	5692.	5110.	4020.	2821.
3.631E-14	602.	807.	1168.	1869.	3.631E-14	2573.	4198.	5988.	5799.	4847.	3357.
3.311E-14	602.	807.	1168.	1869.	3.311E-14	2576.	4226.	6470.	6582.	5572.	4181.
3.020E-14	602.	807.	1168.	1869.	3.020E-14	2576.	4284.	6842.	7003.	6850.	5590.
2.754E-14	602.	807.	1168.	1869.	2.754E-14	2576.	4330.	7407.	8271.	8030.	7273.
2.512E-14	602.	807.	1168.	1869.	2.512E-14	2576.	4407.	8038.	8743.	8786.	8176.
2.291E-14	602.	807.	1168.	1869.	2.291E-14	2576.	4493.	8705.	9091.	9612.	9760.
2.089E-14	602.	807.	1168.	1869.	2.089E-14	2576.	4526.	9108.	9477.	10014.	10771.
1.905E-14	602.	807.	1168.	1869.	1.905E-14	2576.	4528.	9434.	10115.	11150.	12081.
1.738E-14	602.	807.	1168.	1869.	1.738E-14	2576.	4532.	9749.	10636.	12043.	13431.
1.585E-14	602.	807.	1168.	1869.	1.585E-14	2576.	4533.	10702.	11432.	13211.	14171.
1.445E-14	602.	807.	1168.	1869.	1.445E-14	2576.	4533.	11100.	12078.	13720.	15339.
1.318E-14	602.	807.	1168.	1869.	1.318E-14	2576.	4533.	11304.	13222.	15216.	16808.
1.202E-14	602.	807.	1168.	1869.	1.202E-14	2576.	4533.	11835.	13852.	15723.	17813.
1.096E-14	602.	807.	1168.	1869.	1.096E-14	2576.	4533.	12119.	14294.	16414.	18460.
1.000E-14	602.	807.	1168.	1869.	1.000E-14	2576.	4533.	12325.	14591.	17010.	19744.
9.120E-15	602.	807.	1168.	1869.	9.120E-15	2576.	4533.	12419.	15709.	17712.	20761.
8.318E-15	602.	807.	1168.	1869.	8.318E-15	2576.	4533.	12447.	16047.	18586.	21948.
7.586E-15	602.	807.	1168.	1869.	7.586E-15	2576.	4533.	12480.	16192.	19793.	22732.
6.918E-15	602.	807.	1168.	1869.	6.918E-15	2576.	4533.	12594.	16937.	20232.	23109.
6.310E-15	602.	807.	1168.	1869.	6.310E-15	2576.	4533.	12783.	17603.	21901.	23148.
5.754E-15	602.	807.	1168.	1869.	5.754E-15	2576.	4533.	13090.	17943.	22859.	24114.
5.248E-15	602.	807.	1168.	1869.	5.248E-15	2576.	4533.	13134.	18026.	23132.	24787.
4.786E-15	602.	807.	1168.	1869.	4.786E-15	2576.	4533.	13134.	18048.	23228.	25437.
4.365E-15	602.	807.	1168.	1869.	4.365E-15	2576.	4533.	13138.	18080.	23653.	25815.
3.981E-15	602.	807.	1168.	1869.	3.981E-15	2576.	4533.	13138.	18244.	23938.	26379.
3.631E-15	602.	807.	1168.	1869.	3.631E-15	2576.	4533.	13138.	18499.	23949.	27006.
3.311E-15	602.	807.	1168.	1869.	3.311E-15	2576.	4533.	13138.	18662.	24794.	28052.
3.020E-15	602.	807.	1168.	1869.	3.020E-15	2576.	4533.	13138.	18732.	25338.	29187.
2.754E-15	602.	807.	1168.	1869.	2.754E-15	2576.	4533.	13138.	18732.	25762.	29425.
2.512E-15	602.	807.	1168.	1869.	2.512E-15	2576.	4533.	13138.	18733.	25925.	29680.
2.291E-15	602.	807.	1168.	1869.	2.291E-15	2576.	4533.	13138.	18734.	25926.	29807.
2.089E-15	602.	807.	1168.	1869.	2.089E-15	2576.	4533.	13138.	18734.	25972.	30084.
1.905E-15	602.	807.	1168.	1869.	1.905E-15	2576.	4533.	13138.	18734.	25972.	30087.
1.738E-15	602.	807.	1168.	1869.	1.738E-15	2576.	4533.	13138.	18734.	26284.	30113.
1.585E-15	602.	807.	1168.	1869.	1.585E-15	2576.	4533.	13138.	18734.	26517.	30326.
1.445E-15	602.	807.	1168.	1869.	1.445E-15	2576.	4533.	13138.	18734.	26540.	30654.
1.318E-15	602.	807.	1168.	1869.	1.318E-15	2576.	4533.	13138.	18734.	26540.	30654.
1.202E-15	602.	807.	1168.	1869.	1.202E-15	2576.	4533.	13138.	18734.	26540.	30654.
1.096E-15	602.	807.	1168.	1869.	1.096E-15	2576.	4533.	13138.	18734.	26541.	30679.
1.000E-15	602.	807.	1168.	1869.	1.000E-15	2576.	4533.	13138.	18734.	26541.	30679.
Belw. Lim.	0.	0.	0.	0.	Belw. Lim.	0.	0.	0.	0.	0.	265.

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 8/1/2005 at 13:46:54

***** ARCON INPUT *****

Number of Meteorological Data Files = 5

Meteorological Data File Names

C:\TRAC\NRESDE~1\DRS95R1B.MET

C:\TRAC\NRESDE~1\DRS96R1B.MET

C:\TRAC\NRESDE~1\DRS97R1B.MET

C:\TRAC\NRESDE~1\DRS98R1B.MET

C:\TRAC\NRESDE~1\DRS99R1B.MET

Height of lower wind instrument (m) = 10.7

Height of upper wind instrument (m) = 91.4

Wind speeds entered as miles per hour

Elevated release

Release height (m) = 94.6

Building Area (m²) = 6457.1

Effluent vertical velocity (m/s) = .21

Vent or stack flow (m³/s) = 1.89

Vent or stack radius (m) = 1.86

Direction .. intake to source (deg) = 048

Wind direction sector width (deg) = 90

Wind direction window (deg) = 003 - 093

Distance to intake (m) = 80.8

Intake height (m) = 11.3

Terrain elevation difference (m) = .0

Output file names

3DRST1.log

3DRST1.cfd

Minimum Wind Speed (m/s) = .5
 Surface roughness length (m) = .20
 Sector averaging constant = 4.3

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 = 43824
 Hours of missing data = 248
 Hours direction in window = 9317
 Hours elevated plume w/ dir. in window = 838
 Hours of calm winds = 5
 Hours direction not in window or calm = 34254

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER.	1	2	4	8	12	24	96	168	360	720
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
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
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	602.	807.	1168.	1869.	2576.	4533.	13138.	18734.	26541.	30679.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	265.
ZERO	42974.	42749.	42348.	41567.	40849.	38763.	29687.	24255.	16200.	11491.
TOTAL X/Qs	43576.	43556.	43516.	43436.	43425.	43296.	42825.	42989.	42741.	42435.
% NON ZERO	1.38	1.85	2.68	4.30	5.93	10.47	30.68	43.58	62.10	72.92

95th PERCENTILE X/Q VALUES

1.00E-15 1.00E-15 1.00E-15 1.00E-15 1.01E-13 1.23E-13 7.53E-14 6.31E-14 4.94E-14 4.32E-14

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 1.84E-13
 1 to 4 days 5.95E-14
 4 to 30 days 3.82E-14

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	3.10E-12	4.32E-34
SECTOR-AVERAGE	1.81E-12	2.52E-34

NORMAL PROGRAM COMPLETION

Reactor Building Vent Exhaust Stack to Control Room Intake

5
 C:\TRACI~1\PEACHB~1\BYRON\DRS95R1A.MET
 C:\TRACI~1\PEACHB~1\BYRON\DRS96R1A.MET
 C:\TRACI~1\PEACHB~1\BYRON\DRS97R1A.MET
 C:\TRACI~1\PEACHB~1\BYRON\DRS98R1A.MET
 C:\TRACI~1\PEACHB~1\BYRON\DRS99R1A.MET
 -10.67
 45.72
 2
 1
 48.60
 1745.80
 0.00
 0.00
 0.00
 273 90
 95.50
 11.30
 0.00
 4DRS.log
 4DRS.cfd
 .2
 0.50
 4.30
 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

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-04	0.	0.	0.	0.	9.120E-04	0.	0.	0.	0.	0.	0.
8.318E-04	0.	0.	0.	0.	8.318E-04	0.	0.	0.	0.	0.	0.
7.586E-04	343.	293.	154.	47.	7.586E-04	0.	0.	0.	0.	0.	0.
6.918E-04	1229.	964.	664.	314.	6.918E-04	0.	0.	0.	0.	0.	0.
6.310E-04	2453.	1959.	1348.	764.	6.310E-04	48.	0.	0.	0.	0.	0.
5.754E-04	3504.	3048.	2277.	1386.	5.754E-04	241.	0.	0.	0.	0.	0.
5.248E-04	5128.	4249.	3285.	2257.	5.248E-04	588.	0.	0.	0.	0.	0.
4.786E-04	6174.	5102.	4217.	3163.	4.786E-04	1176.	10.	0.	0.	0.	0.
4.365E-04	6868.	5804.	5096.	4107.	4.365E-04	1980.	55.	0.	0.	0.	0.
3.981E-04	7548.	6445.	5949.	5091.	3.981E-04	2959.	219.	0.	0.	0.	0.
3.631E-04	8162.	7188.	6801.	6076.	3.631E-04	3974.	646.	0.	0.	0.	0.
3.311E-04	8633.	7799.	7575.	7097.	3.311E-04	4993.	1465.	0.	0.	0.	0.
3.020E-04	8996.	8687.	8466.	8096.	3.020E-04	6090.	2486.	0.	0.	0.	0.
2.754E-04	9429.	9480.	9237.	8967.	2.754E-04	7154.	3687.	18.	0.	0.	0.
2.512E-04	9715.	10196.	9930.	9885.	2.512E-04	8189.	4911.	182.	0.	0.	0.
2.291E-04	10066.	10692.	10485.	10715.	2.291E-04	9248.	6144.	539.	0.	0.	0.
2.089E-04	10362.	11135.	10973.	11481.	2.089E-04	10211.	7322.	959.	39.	0.	0.
1.905E-04	10650.	11607.	11470.	12185.	1.905E-04	11095.	8511.	1521.	379.	0.	0.
1.738E-04	10981.	12070.	12081.	12848.	1.738E-04	11948.	9768.	2488.	988.	0.	0.
1.585E-04	11199.	12363.	12718.	13521.	1.585E-04	12698.	10830.	3751.	1816.	112.	0.
1.445E-04	11436.	12656.	13322.	14136.	1.445E-04	13457.	11908.	5675.	3013.	590.	26.
1.318E-04	11630.	12910.	13959.	14800.	1.318E-04	14125.	12958.	7423.	4847.	1386.	142.
1.202E-04	11838.	13175.	14487.	15250.	1.202E-04	14756.	13974.	9319.	7057.	3118.	1187.
1.096E-04	12042.	13469.	14871.	15699.	1.096E-04	15336.	14957.	11361.	9454.	5864.	2959.
1.000E-04	12228.	13691.	15209.	16032.	1.000E-04	15933.	15883.	13498.	12528.	9922.	6371.
9.120E-05	12389.	13877.	15545.	16514.	9.120E-05	16549.	16791.	15763.	15255.	13470.	9966.
8.318E-05	12508.	14006.	15809.	16810.	8.318E-05	17050.	17678.	18213.	17698.	17291.	14653.
7.586E-05	12586.	14112.	15979.	17405.	7.586E-05	17445.	18492.	20672.	20309.	20730.	19288.
6.918E-05	12635.	14191.	16141.	17892.	6.918E-05	17873.	19300.	22867.	22627.	23745.	24738.
6.310E-05	12696.	14270.	16244.	18336.	6.310E-05	18274.	19980.	24796.	24870.	26279.	28710.
5.754E-05	12748.	14354.	16466.	18677.	5.754E-05	18762.	20666.	26354.	26919.	29034.	31611.
5.248E-05	12784.	14402.	16590.	18909.	5.248E-05	19230.	21372.	27635.	29031.	31865.	34598.
4.786E-05	12804.	14438.	16668.	19182.	4.786E-05	19614.	22027.	28760.	31029.	34137.	36681.
4.365E-05	12822.	14465.	16723.	19385.	4.365E-05	20054.	22625.	30054.	32842.	35777.	38729.
3.981E-05	12837.	14486.	16774.	19563.	3.981E-05	20406.	23158.	31019.	34571.	37979.	40614.
3.631E-05	12842.	14505.	16831.	19680.	3.631E-05	20652.	23644.	32051.	35685.	39303.	41432.
3.311E-05	12846.	14514.	16856.	19769.	3.311E-05	20961.	24120.	32783.	36461.	40134.	42041.
3.020E-05	12848.	14519.	16880.	19919.	3.020E-05	21287.	24648.	33662.	37174.	40637.	42218.
2.754E-05	12848.	14522.	16904.	20121.	2.754E-05	21570.	25020.	34357.	37857.	41258.	42415.
2.512E-05	12848.	14523.	16927.	20187.	2.512E-05	21805.	25429.	35214.	38584.	41820.	42467.
2.291E-05	12848.	14526.	16950.	20245.	2.291E-05	22033.	25845.	35930.	39050.	42166.	42476.
2.089E-05	12848.	14527.	16960.	20283.	2.089E-05	22153.	26192.	36594.	39581.	42397.	42476.
1.905E-05	12848.	14527.	16974.	20323.	1.905E-05	22415.	26561.	37090.	39967.	42535.	42476.
1.738E-05	12848.	14527.	16979.	20350.	1.738E-05	22596.	26878.	37537.	40379.	42632.	42476.
1.585E-05	12848.	14529.	16986.	20384.	1.585E-05	22708.	27151.	37953.	40543.	42680.	42476.
1.445E-05	12848.	14529.	16992.	20402.	1.445E-05	22788.	27607.	38303.	40839.	42747.	42476.
1.318E-05	12848.	14529.	16996.	20423.	1.318E-05	22864.	27840.	38592.	41069.	42766.	42476.
1.202E-05	12848.	14529.	16996.	20439.	1.202E-05	22903.	28057.	38976.	41295.	42812.	42476.
1.096E-05	12848.	14529.	17000.	20457.	1.096E-05	23020.	28240.	39172.	41433.	42877.	42476.
1.000E-05	12848.	14529.	17000.	20466.	1.000E-05	23076.	28406.	39370.	41603.	42915.	42476.
9.120E-06	12848.	14529.	17000.	20482.	9.120E-06	23112.	28617.	39574.	41747.	42927.	42476.

8.318E-06 12848. 14529. 17001. 20493.	8.318E-06 23141. 28793. 39760. 41812. 42931. 42476.
7.586E-06 12848. 14529. 17002. 20503.	7.586E-06 23179. 28906. 39893. 41881. 42933. 42476.
6.918E-06 12848. 14529. 17002. 20506.	6.918E-06 23205. 28971. 40142. 42023. 42935. 42476.
6.310E-06 12848. 14529. 17002. 20507.	6.310E-06 23226. 29011. 40282. 42070. 42936. 42476.
5.754E-06 12848. 14529. 17002. 20509.	5.754E-06 23238. 29130. 40400. 42123. 42937. 42476.
5.248E-06 12848. 14529. 17002. 20510.	5.248E-06 23254. 29236. 40506. 42141. 42938. 42476.
4.786E-06 12848. 14529. 17002. 20510.	4.786E-06 23264. 29267. 40691. 42182. 42947. 42476.
4.365E-06 12848. 14529. 17002. 20510.	4.365E-06 23268. 29314. 40782. 42200. 42949. 42476.
3.981E-06 12848. 14529. 17002. 20512.	3.981E-06 23271. 29349. 40862. 42255. 42969. 42476.
3.631E-06 12848. 14529. 17002. 20512.	3.631E-06 23276. 29366. 41041. 42256. 42974. 42476.
3.311E-06 12848. 14529. 17002. 20512.	3.311E-06 23277. 29368. 41082. 42271. 42980. 42476.
3.020E-06 12848. 14529. 17002. 20512.	3.020E-06 23284. 29379. 41100. 42352. 42980. 42476.
2.754E-06 12848. 14529. 17002. 20512.	2.754E-06 23289. 29395. 41115. 42437. 42981. 42476.
2.512E-06 12848. 14529. 17002. 20512.	2.512E-06 23290. 29403. 41150. 42453. 42981. 42476.
2.291E-06 12848. 14529. 17002. 20512.	2.291E-06 23290. 29405. 41218. 42482. 42981. 42476.
2.089E-06 12848. 14529. 17002. 20512.	2.089E-06 23293. 29412. 41326. 42485. 42982. 42476.
1.905E-06 12848. 14529. 17002. 20512.	1.905E-06 23293. 29414. 41336. 42485. 42982. 42476.
1.738E-06 12848. 14529. 17002. 20512.	1.738E-06 23293. 29416. 41340. 42488. 42982. 42476.
1.585E-06 12848. 14529. 17002. 20512.	1.585E-06 23294. 29433. 41342. 42490. 42982. 42476.
1.445E-06 12848. 14529. 17002. 20512.	1.445E-06 23295. 29440. 41370. 42491. 43037. 42476.
1.318E-06 12848. 14529. 17002. 20512.	1.318E-06 23295. 29442. 41372. 42495. 43037. 42476.
1.202E-06 12848. 14529. 17002. 20512.	1.202E-06 23295. 29442. 41381. 42521. 43037. 42476.
1.096E-06 12848. 14529. 17002. 20512.	1.096E-06 23295. 29444. 41420. 42529. 43037. 42476.
1.000E-06 12848. 14529. 17002. 20512.	1.000E-06 23295. 29445. 41425. 42530. 43037. 42476.
9.120E-07 12848. 14529. 17002. 20512.	9.120E-07 23295. 29445. 41426. 42532. 43037. 42476.
8.318E-07 12848. 14529. 17002. 20512.	8.318E-07 23295. 29445. 41426. 42547. 43037. 42476.
7.586E-07 12848. 14529. 17002. 20512.	7.586E-07 23295. 29446. 41427. 42547. 43037. 42476.
6.918E-07 12848. 14529. 17002. 20512.	6.918E-07 23295. 29446. 41431. 42548. 43037. 42476.
6.310E-07 12848. 14529. 17002. 20512.	6.310E-07 23295. 29446. 41431. 42586. 43037. 42476.
5.754E-07 12848. 14529. 17002. 20512.	5.754E-07 23295. 29446. 41431. 42587. 43037. 42476.
5.248E-07 12848. 14529. 17002. 20512.	5.248E-07 23295. 29446. 41431. 42588. 43037. 42476.
4.786E-07 12848. 14529. 17002. 20512.	4.786E-07 23295. 29446. 41431. 42588. 43037. 42476.
4.365E-07 12848. 14529. 17002. 20512.	4.365E-07 23295. 29446. 41432. 42588. 43037. 42476.
3.981E-07 12848. 14529. 17002. 20512.	3.981E-07 23295. 29446. 41471. 42588. 43037. 42476.
3.631E-07 12848. 14529. 17002. 20512.	3.631E-07 23295. 29446. 41471. 42588. 43037. 42476.
3.311E-07 12848. 14529. 17002. 20512.	3.311E-07 23295. 29446. 41471. 42588. 43037. 42476.
3.020E-07 12848. 14529. 17002. 20512.	3.020E-07 23295. 29446. 41471. 42588. 43037. 42476.
2.754E-07 12848. 14529. 17002. 20512.	2.754E-07 23295. 29446. 41471. 42588. 43037. 42476.
2.512E-07 12848. 14529. 17002. 20512.	2.512E-07 23295. 29446. 41471. 42589. 43037. 42476.
2.291E-07 12848. 14529. 17002. 20512.	2.291E-07 23295. 29446. 41471. 42589. 43037. 42476.
2.089E-07 12848. 14529. 17002. 20512.	2.089E-07 23295. 29446. 41471. 42589. 43037. 42476.
1.905E-07 12848. 14529. 17002. 20512.	1.905E-07 23295. 29446. 41471. 42589. 43037. 42476.
1.738E-07 12848. 14529. 17002. 20512.	1.738E-07 23295. 29446. 41471. 42589. 43037. 42476.
1.585E-07 12848. 14529. 17002. 20512.	1.585E-07 23295. 29446. 41471. 42589. 43037. 42476.
1.445E-07 12848. 14529. 17002. 20512.	1.445E-07 23295. 29446. 41471. 42589. 43037. 42476.
1.318E-07 12848. 14529. 17002. 20512.	1.318E-07 23295. 29446. 41471. 42589. 43037. 42476.
1.202E-07 12848. 14529. 17002. 20512.	1.202E-07 23295. 29446. 41471. 42589. 43037. 42476.
1.096E-07 12848. 14529. 17002. 20512.	1.096E-07 23295. 29446. 41471. 42589. 43037. 42476.
1.000E-07 12848. 14529. 17002. 20512.	1.000E-07 23295. 29446. 41471. 42589. 43037. 42476.
Belw. Lim. 0. 0. 0. 0. Belw. Lim. 0. 0. 0. 0. 0. 0.	

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 9/14/2004 at 11:57:50

***** ARCON INPUT *****

Number of Meteorological Data Files = 5
Meteorological Data File Names
C:\TRACI~1\PEACHB~1\BYRON\DRS95R1A.MET
C:\TRACI~1\PEACHB~1\BYRON\DRS96R1A.MET
C:\TRACI~1\PEACHB~1\BYRON\DRS97R1A.MET
C:\TRACI~1\PEACHB~1\BYRON\DRS98R1A.MET
C:\TRACI~1\PEACHB~1\BYRON\DRS99R1A.MET

Height of lower wind instrument (m) = 10.7
Height of upper wind instrument (m) = 45.7
Wind speeds entered as miles per hour

Ground-level release
Release height (m) = 48.6
Building Area (m²) = 1745.8
Effluent vertical velocity (m/s) = .00
Vent or stack flow (m³/s) = .00
Vent or stack radius (m) = .00

Direction .. intake to source (deg) = 273
Wind direction sector width (deg) = 90
Wind direction window (deg) = 228 - 318
Distance to intake (m) = 95.5

Intake height (m) = 11.3
Terrain elevation difference (m) = .0

Output file names

4DRS.log
4DRS.cfd

Minimum Wind Speed (m/s) = .5
Surface roughness length (m) = .20
Sector averaging constant = 4.3

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 = 43824
Hours of missing data = 189
Hours direction in window = 12800
Hours elevated plume w/ dir. in window = 0
Hours of calm winds = 48
Hours direction not in window or calm = 30787

DISTRIBUTION SUMMARY DATA BY AVERAGING INTERVAL

AVER. PER.	1	2	4	8	12	24	96	168	360	720
UPPER LIM.	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03
LOW LIM.	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
ABOVE RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN RANGE	12848.	14529.	17002.	20512.	23295.	29446.	41471.	42589.	43037.	42476.
BELOW RANGE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ZERO	30787.	29092.	26591.	23025.	20233.	14024.	1799.	550.	0.	0.
TOTAL X/Qs	43635.	43621.	43593.	43537.	43528.	43470.	43270.	43139.	43037.	42476.
% NON ZERO	29.44	33.31	39.00	47.11	53.52	67.74	95.84	98.73	100.00	100.00

95th PERCENTILE X/Q VALUES

6.44E-04 6.20E-04 5.81E-04 5.29E-04 4.29E-04 3.11E-04 1.79E-04 1.55E-04 1.27E-04 1.15E-04

95% X/Q for standard averaging intervals

0 to 2 hours 6.44E-04
2 to 8 hours 4.91E-04
8 to 24 hours 2.02E-04
1 to 4 days 1.36E-04
4 to 30 days 1.05E-04

HOURLY VALUE RANGE

	MAX X/Q	MIN X/Q
CENTERLINE	8.02E-04	3.19E-05
SECTOR-AVERAGE	4.67E-04	1.86E-05

NORMAL PROGRAM COMPLETION

PAVAN Input and Output

(Output has been shortened to include only the input cards and X/Q summary)

Unit 2 and 3 MSIV to EAB and LPZ

1 1111
Dresden
10.7 meters 10.7-45.7 meters Ground Release

Dresden, Ground Release, EAB and LPZ, Units 2 and 3 MSIV, Revision 1 met data

```

7
0
1545. 43.1 10.0 10.7
0 0 0 0 1 1 2
10. 20. 15. 20. 11. 10. 8. 3. 8. 8. 6. 6. 5. 9. 6. 12.
171. 163. 239. 231. 119. 194. 200. 90. 79. 78. 82. 148. 90. 99. 140. 176.
106. 96. 176. 49. 93. 113. 108. 60. 72. 111. 116. 168. 106. 247. 266. 180.
10. 4. 18. 3. 14. 19. 14. 31. 37. 104. 86. 52. 71. 128. 98. 58.
1. 0. 1. 0. 1. 7. 2. 1. 16. 21. 22. 6. 19. 21. 0. 0.
0. 0. 0. 0. 0. 0. 0. 0. 6. 8. 0. 1. 0. 0. 0. 0.
7. 3. 7. 3. 5. 3. 4. 7. 1. 3. 4. 6. 2. 2. 5. 4.
35. 23. 30. 35. 26. 32. 33. 21. 20. 17. 17. 39. 40. 43. 45. 36.
20. 8. 24. 11. 14. 19. 22. 24. 39. 25. 30. 49. 44. 60. 49. 24.
1. 0. 2. 2. 2. 4. 3. 10. 23. 29. 14. 23. 21. 24. 14. 13.
0. 0. 0. 0. 0. 0. 3. 0. 6. 8. 9. 2. 3. 4. 0. 0.
0. 0. 0. 0. 0. 0. 0. 0. 1. 3. 1. 2. 0. 0. 0. 0.
10. 8. 5. 4. 10. 4. 6. 2. 6. 4. 4. 5. 3. 2. 7. 13.
33. 34. 28. 32. 20. 39. 26. 24. 22. 24. 30. 46. 38. 50. 46. 42.
10. 16. 29. 8. 20. 22. 24. 40. 33. 28. 36. 55. 63. 69. 43. 21.
1. 2. 5. 0. 6. 6. 13. 16. 34. 33. 25. 15. 33. 23. 23. 10.
0. 0. 2. 0. 0. 1. 2. 1. 2. 14. 5. 1. 14. 4. 0. 0.
0. 0. 0. 0. 0. 0. 0. 0. 1. 5. 0. 1. 1. 0. 0. 0.
69. 84. 55. 51. 48. 47. 39. 24. 53. 37. 44. 26. 33. 58. 71. 76.
262. 203. 318. 424. 339. 237. 139. 163. 173. 164. 195. 178. 336. 325. 311. 310.
149. 144. 250. 179. 312. 213. 148. 237. 250. 202. 199. 227. 560. 565. 402. 271.
34. 33. 66. 10. 42. 80. 86. 159. 226. 181. 128. 117. 315. 292. 106. 85.
2. 0. 3. 0. 1. 6. 12. 16. 50. 60. 42. 40. 101. 27. 3. 10.
0. 0. 0. 0. 0. 0. 0. 5. 10. 16. 25. 24. 17. 0. 0. 0.
205. 212. 161. 146. 155. 154. 108. 115. 144. 112. 93. 80. 121. 131. 204. 192.
296. 376. 546. 566. 755. 765. 330. 513. 459. 402. 292. 184. 592. 560. 543. 505.
137. 143. 206. 139. 241. 297. 192. 456. 578. 430. 336. 167. 490. 391. 251. 223.
16. 28. 66. 3. 40. 84. 104. 206. 362. 260. 115. 60. 174. 90. 58. 73.
1. 0. 0. 0. 3. 5. 12. 45. 113. 56. 25. 3. 8. 3. 2. 1.
0. 0. 0. 0. 0. 0. 2. 14. 14. 5. 12. 3. 2. 0. 0. 0.
159. 110. 81. 80. 140. 139. 125. 134. 162. 178. 168. 116. 127. 149. 175. 221.
54. 54. 65. 7. 95. 460. 179. 135. 196. 299. 288. 107. 133. 174. 129. 155.
2. 1. 2. 6. 7. 14. 18. 16. 50. 29. 57. 28. 3. 2. 5. 1.
0. 0. 0. 0. 8. 1. 0. 1. 3. 0. 1. 1. 4. 0. 0. 0.
0. 0. 0. 0. 2. 1. 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.
63. 35. 23. 28. 56. 75. 54. 48. 76. 102. 125. 71. 69. 80. 185. 153.
2. 5. 1. 1. 28. 159. 20. 7. 17. 90. 236. 32. 8. 7. 37. 53.
0. 0. 0. 0. 4. 0. 1. 0. 1. 1. 10. 0. 0. 0. 0. 0.
0. 0. 0. 0. 0. 0. 0. 1. 0. 0. 0. 1. 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.

```

101. 0.93 3.50 7.50 12.5 18.5 24.0 55.0
 800. 800. 800. 800. 800. 800. 800. 800. 800. 800. 800. 800. 800. 800. 800. 800.
 8000.8000.8000.8000.8000.8000.8000.8000.8000.8000.8000.8000.8000.8000.8000.8000.
 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.

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.7-45.7 meters

SOURCE OF DATA:

COMMENTS: Dresden, Ground Release, EAB and LPZ, Units 2 and 3 MSIV, Revision 1 met data

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

| 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 IN SECTOR | | DOWNWIND
SECTOR |
|--------------------------------------|------|---|-----------|------------|----------|-----------|---|-------|--------------------|
| | | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | | |
| | | | | | | | | | |
| S | 800. | 1.50E-04 | 7.44E-05 | 5.25E-05 | 2.46E-05 | 8.27E-06 | 2.18E-06 | 8.2 | S |
| SSW | 800. | 1.26E-04 | 6.33E-05 | 4.49E-05 | 2.13E-05 | 7.33E-06 | 1.98E-06 | 255.2 | SSW |
| SW | 800. | 1.16E-04 | 5.96E-05 | 4.26E-05 | 2.06E-05 | 7.29E-06 | 2.04E-06 | 3.0 | SW |
| WSW | 800. | 1.15E-04 | 5.85E-05 | 4.18E-05 | 2.01E-05 | 7.00E-06 | 1.93E-06 | 3.6 | WSW |
| W | 800. | 1.52E-04 | 7.79E-05 | 5.58E-05 | 2.70E-05 | 9.54E-06 | 2.67E-06 | 10.3 | W |
| WNW | 800. | 2.27E-04 | 1.13E-04 | 8.00E-05 | 3.77E-05 | 1.28E-05 | 3.40E-06 | 28.0 | WNW |
| NW | 800. | 1.56E-04 | 7.55E-05 | 5.26E-05 | 2.40E-05 | 7.77E-06 | 1.96E-06 | 9.1 | NW |
| NNW | 800. | 1.46E-04 | 7.33E-05 | 5.20E-05 | 2.47E-05 | 8.49E-06 | 2.30E-06 | 6.9 | NNW |
| N | 800. | 1.67E-04 | 8.53E-05 | 6.10E-05 | 2.95E-05 | 1.04E-05 | 2.88E-06 | 11.6 | N |
| NNE | 800. | 2.12E-04 | 1.05E-04 | 7.35E-05 | 3.42E-05 | 1.14E-05 | 2.97E-06 | 23.6 | NNE |
| NE | 800. | 2.51E-04 | 1.21E-04 | 8.43E-05 | 3.83E-05 | 1.24E-05 | 3.10E-06 | 43.7 | NE |
| ENE | 800. | 1.56E-04 | 7.46E-05 | 5.16E-05 | 2.31E-05 | 7.32E-06 | 1.79E-06 | 12.7 | ENE |
| E | 800. | 1.52E-04 | 7.85E-05 | 5.65E-05 | 2.76E-05 | 9.91E-06 | 2.83E-06 | 9.6 | E |
| ESE | 800. | 1.62E-04 | 8.34E-05 | 5.99E-05 | 2.92E-05 | 1.04E-05 | 2.93E-06 | 10.9 | ESE |
| SE | 800. | 2.24E-04 | 1.13E-04 | 7.98E-05 | 3.78E-05 | 1.29E-05 | 3.47E-06 | 28.1 | SE |
| SSE | 800. | 2.17E-04 | 1.09E-04 | 7.73E-05 | 3.67E-05 | 1.26E-05 | 3.38E-06 | 25.8 | SSE |
| MAX X/Q | | 2.51E-04 | | | | | | | |
| | | | | | | | TOTAL HOURS AROUND SITE: | 490.4 | |
| SRP 2.3.4 | 800. | 4.26E-04 | 1.92E-04 | 1.29E-04 | 5.45E-05 | 1.58E-05 | 3.47E-06 | | |
| SITE LIMIT | | 2.14E-04 | 1.08E-04 | 7.69E-05 | 3.67E-05 | 1.27E-05 | 3.47E-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.

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.7-45.7 meters

SOURCE OF DATA:

COMMENTS: Dresden, Ground Release, EAB and LPZ, Units 2 and 3 MSIV, Revision 1 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

HOURS PER YEAR MAX

0-2 HR X/Q IS

EXCEEDED

| DOWNWIND DISTANCE
SECTOR (METERS) | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | IN SECTOR | DOWNWIND
SECTOR |
|--------------------------------------|-----------|-----------|------------|----------|--------------------------|----------------|-----------|--------------------|
| S 8000. | 1.52E-05 | 6.37E-06 | 4.12E-06 | 1.61E-06 | 4.14E-07 | 7.89E-08 | 16.6 | S |
| SSW 8000. | 1.14E-05 | 4.89E-06 | 3.21E-06 | 1.29E-06 | 3.48E-07 | 7.00E-08 | 329.1 | SSW |
| SW 8000. | 9.54E-06 | 4.23E-06 | 2.82E-06 | 1.17E-06 | 3.29E-07 | 6.98E-08 | 6.4 | SW |
| WSW 8000. | 9.57E-06 | 4.20E-06 | 2.78E-06 | 1.14E-06 | 3.15E-07 | 6.55E-08 | 7.5 | WSW |
| W 8000. | 1.52E-05 | 6.57E-06 | 4.32E-06 | 1.74E-06 | 4.72E-07 | 9.56E-08 | 15.2 | W |
| WNW 8000. | 1.96E-05 | 8.52E-06 | 5.62E-06 | 2.28E-06 | 6.25E-07 | 1.28E-07 | 21.7 | WNW |
| NW 8000. | 1.39E-05 | 5.82E-06 | 3.77E-06 | 1.47E-06 | 3.81E-07 | 7.28E-08 | 14.4 | NW |
| NNW 8000. | 1.34E-05 | 5.78E-06 | 3.80E-06 | 1.53E-06 | 4.14E-07 | 8.36E-08 | 13.0 | NNW |
| N 8000. | 1.65E-05 | 7.16E-06 | 4.72E-06 | 1.91E-06 | 5.20E-07 | 1.06E-07 | 19.8 | N |
| NNE 8000. | 2.03E-05 | 8.59E-06 | 5.60E-06 | 2.21E-06 | 5.80E-07 | 1.13E-07 | 27.1 | NNE |
| NE 8000. | 2.39E-05 | 9.96E-06 | 6.43E-06 | 2.49E-06 | 6.37E-07 | 1.20E-07 | 35.2 | NE |
| ENE 8000. | 1.50E-05 | 6.11E-06 | 3.90E-06 | 1.47E-06 | 3.64E-07 | 6.58E-08 | 18.2 | ENE |
| E 8000. | 1.42E-05 | 6.25E-06 | 4.15E-06 | 1.70E-06 | 4.74E-07 | 9.92E-08 | 17.5 | E |
| ESE 8000. | 1.58E-05 | 6.89E-06 | 4.55E-06 | 1.85E-06 | 5.06E-07 | 1.04E-07 | 20.3 | ESE |
| SE 8000. | 2.63E-05 | 1.09E-05 | 7.02E-06 | 2.70E-06 | 6.86E-07 | 1.28E-07 | 43.7 | SE |
| SSE 8000. | 2.41E-05 | 1.01E-05 | 6.54E-06 | 2.55E-06 | 6.60E-07 | 1.26E-07 | 38.3 | SSE |
| MAX X/Q | 2.63E-05 | | | | TOTAL HOURS AROUND SITE: | | | 644.0 |
| SRP 2.3.4 8000. | 3.26E-05 | 1.30E-05 | 8.25E-06 | 3.06E-06 | 7.34E-07 | 1.28E-07 | | |
| SITE LIMIT | 2.24E-05 | 9.55E-06 | 6.23E-06 | 2.47E-06 | 6.53E-07 | 1.28E-07 | | |

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.

[illegible]

Copyright (c) 1990 Ergo Computing, Inc. for Lahey

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/09/04

PRINTOUT OF INPUT CARDS

```

1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2      Dresden
Elevated Release
3      91.4 meters      10.7-91.4 meters
4
5      Dresden, Elevated Release, EAB and LPZ, Station Chimney, Revision 1 met data      6      7 43072      0
7      0.500 1545.000 43.100 94.600 91.400
8      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      1.000 0.000 0.000 1.000 0.000 2.000 1.000 0.000 2.000 0.000 0.000 0.000 2.000 1.000 0.000 2.000 1.000
9      15.000 24.000 44.000 54.000 40.000 65.000 45.000 22.000 17.000 25.000 25.000 24.000 13.000 9.000 10.000 10.000
9      57.000 85.000 63.000 61.000 34.000 47.000 86.000 32.000 23.000 38.000 25.000 39.000 23.000 28.000 37.000 39.000
9      36.000 69.000 46.000 9.000 28.000 19.000 13.000 9.000 6.000 37.000 33.000 34.000 12.000 57.000 60.000 64.000
9      4.000 13.000 9.000 0.000 8.000 5.000 0.000 2.000 2.000 12.000 17.000 4.000 6.000 29.000 27.000 12.000
9      3.000 1.000 2.000 0.000 3.000 3.000 1.000 0.000 4.000 9.000 8.000 9.000 8.000 21.000 5.000 3.000
9      1.000 1.000 1.000 2.000 5.000 2.000 1.000 3.000 4.000 1.000 6.000 3.000 1.000 1.000 3.000 1.000
9      22.000 21.000 27.000 54.000 36.000 52.000 61.000 19.000 20.000 30.000 24.000 51.000 29.000 14.000 26.000 18.000
9      45.000 34.000 42.000 44.000 34.000 31.000 53.000 43.000 40.000 38.000 35.000 69.000 31.000 64.000 56.000 51.000
9      35.000 31.000 38.000 6.000 15.000 13.000 14.000 18.000 36.000 48.000 37.000 65.000 43.000 88.000 84.000 43.000
9      5.000 7.000 10.000 1.000 3.000 6.000 1.000 8.000 17.000 36.000 27.000 14.000 17.000 35.000 21.000 21.000
9      4.000 2.000 2.000 0.000 3.000 1.000 0.000 1.000 10.000 21.000 11.000 7.000 17.000 26.000 6.000 1.000
9      3.000 5.000 5.000 6.000 1.000 5.000 5.000 2.000 6.000 5.000 4.000 2.000 2.000 6.000 1.000 2.000
9      38.000 32.000 35.000 38.000 41.000 49.000 67.000 34.000 31.000 32.000 37.000 64.000 40.000 43.000 33.000 38.000
9      44.000 36.000 34.000 41.000 33.000 45.000 38.000 61.000 53.000 50.000 57.000 79.000 74.000 97.000 74.000 58.000
9      40.000 30.000 35.000 11.000 15.000 10.000 20.000 28.000 51.000 54.000 50.000 61.000 62.000 85.000 76.000 49.000
9      8.000 2.000 6.000 1.000 5.000 8.000 6.000 10.000 21.000 42.000 32.000 20.000 33.000 38.000 32.000 25.000
9      2.000 1.000 1.000 0.000 0.000 6.000 6.000 1.000 19.000 21.000 16.000 13.000 22.000 31.000 9.000 8.000
9      24.000 18.000 26.000 37.000 26.000 25.000 28.000 15.000 20.000 28.000 26.000 19.000 30.000 34.000 27.000 35.000
9      117.000122.000179.000297.000134.000106.000107.000114.000124.000125.000134.000130.000152.000141.000162.000151.000
9      264.000209.000345.000612.000373.000215.000186.000254.000244.000212.000215.000230.000433.000410.000341.000286.000
9      302.000314.000335.000265.000343.000219.000160.000283.000342.000237.000275.000246.000628.000653.000451.000378.000
9      138.000169.000128.000 24.000161.000146.000108.000150.000280.000212.000133.000119.000427.000373.000205.000171.000
9      38.000101.000 69.000 2.000 48.000 41.000 54.000104.000161.000158.000120.000115.000276.000202.000 68.000 82.000
9      10.000 14.000 12.000 27.000 24.000 17.000 17.000 17.000 13.000 13.000 15.000 21.000 14.000 8.000 9.000 3.000
9      54.000 57.000113.000234.000120.000 78.000 91.000110.000 83.000 76.000 93.000 92.000 94.000 77.000 79.000 58.000
9      150.000195.000254.000306.000294.000214.000291.000291.000225.000215.000177.000224.000237.000192.000234.000155.000
9      242.000230.000207.000 75.000278.000311.000292.000394.00057.000510.000390.000219.000352.000368.000315.000307.000
9      72.000 60.000 22.000 4.000 44.000 93.000 68.000141.000401.000324.000189.000 79.000128.000124.000 71.000 77.000
9      7.000 4.000 5.000 2.000 6.000 24.000 28.000 70.000199.000142.000 64.000 22.000 29.000 16.000 15.000 12.000
9      12.000 4.000 14.000 15.000 7.000 10.000 11.000 17.000 15.000 17.000 16.000 14.000 13.000 9.000 9.000 12.000
9      26.000 29.000 42.000 58.000 48.000 43.000 50.000 60.000 56.000 57.000 35.000 55.000 71.000 46.000 41.000 29.000
9      96.000 75.000 56.000 36.000 53.000 70.000134.000133.000 84.000 64.000110.000176.000180.000 81.000 89.000 60.000
9      130.000118.000 34.000 2.000 33.000101.000166.000116.000 96.000148.000270.000211.000100.000 86.000107.000116.000
9      37.000 15.000 7.000 0.000 2.000 29.000 20.000 14.000 43.000 72.000 79.000 31.000 10.000 37.000 8.000 22.000
9      1.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 4.000 5.000 2.000 2.000 0.000 0.000 0.000 1.000
9      2.000 8.000 9.000 8.000 1.000 4.000 3.000 4.000 7.000 4.000 2.000 3.000 1.000 7.000 4.000 5.000
9      3.000 7.000 20.000 21.000 4.000 4.000 9.000 8.000 19.000 12.000 20.000 14.000 12.000 19.000 9.000 14.000
9      36.000 28.000 14.000 3.000 4.000 12.000 18.000 21.000 24.000 18.000 24.000 29.000 51.000 25.000 17.000 16.000
9      36.000 37.000 6.000 0.000 1.000 4.000 25.000 33.000 10.000 24.000 29.000 57.000 40.000 13.000 30.000 26.000
9      11.000 1.000 0.000 0.000 0.000 8.000 5.000 6.000 2.000 12.000 19.000 6.000 2.000 4.000 1.000 10.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 0.000 0.000 0.000 0.000 0.000
7.500 12.500 18.500 24.000 55.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 10      101. 0.930 3.500
800. 800. 800. 800. 800. 800. 800. 800. 800. 800.

```


USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/09/04

PLANT NAME: Dresden
 DATA PERIOD:
 TYPE OF RELEASE: Elevated Release
 SOURCE OF DATA:
 COMMENTS: Dresden, Elevated Release, EAB and LPZ, Station Chimney, Revision 1 met data
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
 WIND SENSORS HEIGHT: 91.4 meters
 DELTA-T HEIGHTS: 10.7-91.4 meters

| 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 IN SECTOR | | DOWNWIND
SECTOR |
|--------------------------------------|------|---|-----------|------------|----------|--------------------------|---|-------|--------------------|
| | | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | | |
| | | | | | | | | | |
| S | 800. | 2.93E-06 | 1.31E-06 | 8.71E-07 | 3.62E-07 | 1.03E-07 | 2.20E-08 | 24.7 | S |
| SSW | 800. | 2.82E-06 | 1.27E-06 | 8.51E-07 | 3.58E-07 | 1.03E-07 | 2.26E-08 | 22.0 | SSW |
| SW | 800. | 3.12E-06 | 1.40E-06 | 9.43E-07 | 3.97E-07 | 1.15E-07 | 2.52E-08 | 27.3 | SW |
| WSW | 800. | 3.78E-06 | 1.68E-06 | 1.12E-06 | 4.62E-07 | 1.30E-07 | 2.77E-08 | 43.7 | WSW |
| W | 800. | 3.13E-06 | 1.39E-06 | 9.23E-07 | 3.82E-07 | 1.08E-07 | 2.29E-08 | 29.7 | W |
| WNW | 800. | 3.28E-06 | 1.50E-06 | 1.01E-06 | 4.30E-07 | 1.26E-07 | 2.82E-08 | 34.6 | WNW |
| NW | 800. | 3.69E-06 | 1.69E-06 | 1.14E-06 | 4.86E-07 | 1.43E-07 | 3.21E-08 | 42.2 | NW |
| NNW | 800. | 2.97E-06 | 1.30E-06 | 8.61E-07 | 3.52E-07 | 9.73E-08 | 2.02E-08 | 23.5 | NNW |
| N | 800. | 2.94E-06 | 1.31E-06 | 8.77E-07 | 3.66E-07 | 1.04E-07 | 2.24E-08 | 24.0 | N |
| NNE | 800. | 3.03E-06 | 1.38E-06 | 9.34E-07 | 3.99E-07 | 1.18E-07 | 2.64E-08 | 27.0 | NNE |
| NE | 800. | 3.07E-06 | 1.39E-06 | 9.36E-07 | 3.96E-07 | 1.15E-07 | 2.55E-08 | 27.3 | NE |
| ENE | 800. | 3.55E-06 | 1.66E-06 | 1.13E-06 | 4.96E-07 | 1.52E-07 | 3.55E-08 | 38.2 | ENE |
| E | 800. | 3.19E-06 | 1.42E-06 | 9.48E-07 | 3.95E-07 | 1.12E-07 | 2.41E-08 | 29.1 | E |
| ESE | 800. | 3.23E-06 | 1.51E-06 | 1.03E-06 | 4.51E-07 | 1.38E-07 | 3.22E-08 | 29.0 | ESE |
| SE | 800. | 3.18E-06 | 1.47E-06 | 1.00E-06 | 4.33E-07 | 1.30E-07 | 3.00E-08 | 27.9 | SE |
| SSE | 800. | 3.11E-06 | 1.39E-06 | 9.29E-07 | 3.88E-07 | 1.11E-07 | 2.39E-08 | 27.1 | SSE |
| MAX X/Q | | 3.78E-06 | | | | TOTAL HOURS AROUND SITE: | | 477.3 | |
| SRP 2.3.4 | 800. | 4.01E-06 | 1.84E-06 | 1.24E-06 | 5.32E-07 | 1.57E-07 | 3.55E-08 | | |
| SITE LIMIT | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.55E-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 | | X/Q |
|------------------------------|----------|----------|
| SECTOR | (METERS) | |
| S | 800. | 6.98E-05 |
| SSW | 800. | 6.98E-05 |
| SW | 800. | 6.98E-05 |
| WSW | 800. | 6.98E-05 |
| W | 800. | 6.98E-05 |
| WNW | 800. | 6.99E-05 |
| NW | 800. | 7.04E-05 |
| NNW | 800. | 7.07E-05 |
| N | 800. | 6.98E-05 |
| NNE | 800. | 6.98E-05 |
| NE | 800. | 6.98E-05 |
| ENE | 800. | 6.98E-05 |
| E | 800. | 6.98E-05 |
| ESE | 800. | 6.98E-05 |
| SE | 800. | 6.98E-05 |
| SSE | 800. | 6.98E-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.

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/09/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, EAB and LPZ, Station Chimney, Revision 1 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

HOURS PER YEAR MAX
0-2 HR X/Q IS

| DOWNWIND
SECTOR | DISTANCE
(METERS) | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | EXCEEDED
IN SECTOR | DOWNWIND
SECTOR |
|--------------------|----------------------|-----------|-----------|------------|----------|--------------------------|----------------|-----------------------|--------------------|
| S | 8000. | 1.22E-06 | 5.68E-07 | 3.88E-07 | 1.70E-07 | 5.16E-08 | 1.21E-08 | 18.4 | S |
| SSW | 8000. | 1.22E-06 | 5.67E-07 | 3.87E-07 | 1.69E-07 | 5.15E-08 | 1.20E-08 | 17.8 | SSW |
| SW | 8000. | 1.40E-06 | 6.64E-07 | 4.56E-07 | 2.02E-07 | 6.28E-08 | 1.50E-08 | 23.8 | SW |
| WSW | 8000. | 1.74E-06 | 8.35E-07 | 5.78E-07 | 2.60E-07 | 8.25E-08 | 2.03E-08 | 43.7 | WSW |
| W | 8000. | 1.45E-06 | 6.87E-07 | 4.73E-07 | 2.10E-07 | 6.56E-08 | 1.58E-08 | 27.7 | W |
| WNW | 8000. | 1.31E-06 | 6.11E-07 | 4.16E-07 | 1.81E-07 | 5.50E-08 | 1.28E-08 | 22.2 | WNW |
| NW | 8000. | 1.40E-06 | 6.48E-07 | 4.41E-07 | 1.92E-07 | 5.78E-08 | 1.34E-08 | 25.1 | NW |
| NNW | 8000. | 1.40E-06 | 6.63E-07 | 4.57E-07 | 2.03E-07 | 6.35E-08 | 1.53E-08 | 24.4 | NNW |
| N | 8000. | 1.31E-06 | 6.38E-07 | 4.44E-07 | 2.03E-07 | 6.58E-08 | 1.66E-08 | 20.2 | N |
| NNE | 8000. | 1.37E-06 | 6.55E-07 | 4.53E-07 | 2.03E-07 | 6.44E-08 | 1.58E-08 | 23.5 | NNE |
| NE | 8000. | 1.33E-06 | 6.31E-07 | 4.35E-07 | 1.94E-07 | 6.07E-08 | 1.47E-08 | 22.4 | NE |
| ENE | 8000. | 1.34E-06 | 6.31E-07 | 4.33E-07 | 1.91E-07 | 5.87E-08 | 1.39E-08 | 23.3 | ENE |
| E | 8000. | 1.42E-06 | 7.02E-07 | 4.93E-07 | 2.30E-07 | 7.67E-08 | 2.00E-08 | 25.5 | E |
| ESE | 8000. | 1.38E-06 | 6.79E-07 | 4.76E-07 | 2.20E-07 | 7.27E-08 | 1.88E-08 | 24.0 | ESE |
| SE | 8000. | 1.33E-06 | 6.39E-07 | 4.44E-07 | 2.01E-07 | 6.44E-08 | 1.60E-08 | 21.2 | SE |
| SSE | 8000. | 1.29E-06 | 6.10E-07 | 4.19E-07 | 1.86E-07 | 5.80E-08 | 1.39E-08 | 20.8 | SSE |
| MAX X/Q | | 1.74E-06 | | | | TOTAL HOURS AROUND SITE: | | 384.1 | |
| SRP 2.3.4 | 8000. | 1.78E-06 | 8.50E-07 | 5.87E-07 | 2.63E-07 | 8.31E-08 | 2.03E-08 | | |
| SITE LIMIT | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.03E-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 | 8000. | 8.72E-06 |
| SSW | 8000. | 8.72E-06 |
| SW | 8000. | 8.72E-06 |
| WSW | 8000. | 8.72E-06 |
| W | 8000. | 8.73E-06 |
| WNW | 8000. | 8.74E-06 |
| NW | 8000. | 8.79E-06 |
| NNW | 8000. | 8.84E-06 |
| N | 8000. | 8.73E-06 |
| NNE | 8000. | 8.73E-06 |
| NE | 8000. | 8.72E-06 |
| ENE | 8000. | 8.72E-06 |
| E | 8000. | 8.72E-06 |
| ESE | 8000. | 8.72E-06 |
| SE | 8000. | 8.72E-06 |
| SSE | 8000. | 8.72E-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.

[illegible]

[illegible]

Copyright (c) 1990 Ergo Computing, Inc. for Lahey

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 07/28/05

PRINTOUT OF INPUT CARDS

```

1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2      Dresden
Elevated Release
3      91.4 meters      10.7-91.4 meters
4
5      Dresden, Elevated Release, EAB and LPZ, Station Chimney, Revision 1 met data      6      7 43072      1
7      0.500 1545.000 43.100 94.600 91.400
8      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      1.000 0.000 0.000 1.000 0.000 2.000 1.000 0.000 2.000 0.000 0.000 2.000 1.000 0.000 2.000 1.000
9      15.000 24.000 44.000 54.000 40.000 65.000 45.000 22.000 17.000 25.000 25.000 24.000 13.000 9.000 10.000 10.000
9      57.000 85.000 63.000 61.000 34.000 47.000 86.000 32.000 23.000 38.000 25.000 39.000 23.000 28.000 37.000 39.000
9      36.000 69.000 46.000 9.000 28.000 19.000 13.000 9.000 6.000 37.000 33.000 34.000 12.000 57.000 60.000 64.000
9      4.000 13.000 9.000 0.000 8.000 5.000 0.000 2.000 2.000 12.000 17.000 4.000 6.000 29.000 27.000 12.000
9      3.000 1.000 2.000 0.000 3.000 3.000 1.000 0.000 4.000 9.000 8.000 9.000 8.000 21.000 5.000 3.000
9      1.000 1.000 1.000 2.000 5.000 2.000 1.000 3.000 4.000 1.000 6.000 3.000 1.000 1.000 3.000 1.000
9      22.000 21.000 27.000 54.000 36.000 52.000 61.000 19.000 20.000 30.000 24.000 51.000 29.000 14.000 26.000 18.000
9      45.000 34.000 42.000 44.000 34.000 31.000 53.000 43.000 40.000 38.000 35.000 69.000 31.000 64.000 56.000 51.000
9      35.000 31.000 38.000 6.000 15.000 13.000 14.000 18.000 36.000 48.000 37.000 65.000 43.000 88.000 84.000 43.000
9      5.000 7.000 10.000 1.000 3.000 6.000 1.000 8.000 17.000 36.000 27.000 14.000 17.000 35.000 21.000 21.000
9      4.000 2.000 2.000 0.000 3.000 1.000 0.000 1.000 10.000 21.000 11.000 7.000 17.000 26.000 6.000 1.000
9      3.000 5.000 5.000 6.000 1.000 5.000 5.000 2.000 6.000 5.000 4.000 2.000 2.000 6.000 1.000 2.000
9      38.000 32.000 35.000 38.000 41.000 49.000 67.000 34.000 31.000 32.000 37.000 64.000 40.000 43.000 33.000 38.000
9      44.000 36.000 34.000 41.000 33.000 45.000 38.000 61.000 53.000 50.000 57.000 79.000 74.000 97.000 74.000 58.000
9      40.000 30.000 35.000 11.000 15.000 10.000 20.000 28.000 51.000 54.000 50.000 61.000 62.000 85.000 76.000 49.000
9      8.000 2.000 6.000 1.000 5.000 8.000 6.000 10.000 21.000 42.000 32.000 20.000 33.000 38.000 32.000 25.000
9      2.000 1.000 1.000 0.000 0.000 6.000 6.000 1.000 19.000 21.000 16.000 13.000 22.000 31.000 9.000 8.000
9      24.000 18.000 26.000 37.000 26.000 25.000 28.000 15.000 20.000 28.000 26.000 19.000 30.000 34.000 27.000 35.000
9      117.000122.000179.000297.000134.000106.000107.000114.000124.000125.000134.000130.000152.000141.000162.000151.000
9      264.000209.000345.000612.000373.000215.000186.000254.000244.000212.000215.000230.000433.000410.000341.000286.000
9      302.000314.000335.000265.000343.000219.000160.000283.000342.000237.000275.000246.000628.000653.000451.000378.000
9      138.000169.000128.000 24.000161.000146.000108.000150.000280.000212.000133.000119.000427.000373.000205.000171.000
9      38.000101.000 69.000 2.000 48.000 41.000 54.000104.000161.000158.000120.000115.000276.000202.000 68.000 82.000
9      10.000 14.000 12.000 27.000 24.000 17.000 17.000 17.000 13.000 13.000 15.000 21.000 14.000 8.000 9.000 3.000
9      54.000 57.000113.000234.000120.000 78.000 91.000110.000 83.000 76.000 93.000 92.000 94.000 77.000 79.000 58.000
9      150.000195.000254.000306.000294.000214.000291.000225.000215.000177.000224.000237.000192.000234.000155.000
9      242.000230.000207.000 75.000278.000311.000292.000394.000457.000510.000390.000219.000352.000368.000315.000307.000
9      72.000 60.000 22.000 4.000 44.000 93.000 68.000141.000401.000324.000189.000 79.000128.000124.000 71.000 77.000
9      7.000 4.000 5.000 2.000 6.000 24.000 28.000 70.000199.000142.000 64.000 22.000 29.000 16.000 15.000 12.000
9      12.000 4.000 14.000 15.000 7.000 10.000 11.000 17.000 15.000 17.000 16.000 14.000 13.000 9.000 9.000 12.000
9      26.000 29.000 42.000 58.000 48.000 43.000 50.000 60.000 56.000 57.000 35.000 55.000 71.000 46.000 41.000 29.000
9      96.000 75.000 56.000 36.000 53.000 70.000134.000133.000 84.000 64.000110.000176.000180.000 81.000 89.000 60.000
9      130.000118.000 34.000 2.000 33.000101.000166.000116.000 96.000148.000270.000211.000100.000 86.000107.000116.000
9      37.000 15.000 7.000 0.000 2.000 29.000 20.000 14.000 43.000 72.000 79.000 31.000 10.000 37.000 8.000 22.000
9      1.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 4.000 5.000 2.000 2.000 2.000 0.000 0.000 1.000
9      2.000 8.000 9.000 8.000 1.000 4.000 3.000 4.000 7.000 4.000 2.000 3.000 1.000 7.000 4.000 5.000
9      3.000 7.000 20.000 21.000 4.000 4.000 9.000 8.000 19.000 12.000 20.000 14.000 12.000 19.000 9.000 14.000
9      36.000 28.000 14.000 3.000 4.000 12.000 18.000 21.000 24.000 18.000 24.000 29.000 51.000 25.000 17.000 16.000
9      36.000 37.000 6.000 0.000 1.000 4.000 25.000 33.000 10.000 24.000 29.000 57.000 40.000 13.000 30.000 26.000
9      11.000 1.000 0.000 0.000 0.000 8.000 5.000 6.000 2.000 12.000 19.000 6.000 2.000 4.000 1.000 10.000

```

| | | | |
|----------------------------|------------|--------------|--------------------|
| CALCULATION NO. DRE04-0030 | REV. NO. 1 | ATTACHMENT I | PAGE NO. 17 of 108 |
|----------------------------|------------|--------------|--------------------|

| | | | | | | | | | | | | | | | | | | | | | |
|-------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 9 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 2.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 10 | 101. | 0.930 | 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 | 0.000 | 11 | 800. | 800. | 800. | 800. | 800. | 800. | 800. | 800. |
| 800. | 800. | 800. | 800. | 800. | 800. | 800. | 11 | -1. | 8000. | 8000. | 8000. | 8000. | 8000. | 8000. | 8000. | 8000. | 8000. | 8000. | 8000. | 8000. | 8000. |
| 8000. | 8000. | 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 | 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 | 800. | 800. |
| 800. | 800. | 800. | 800. | 800. | 1300. | 1300. | 1300. | 1300. | 1300. | 800. | 800. | 800. | | | | | | | | | |
| 14 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 31. | 31. | 31. | 31. | 31. | 0. | 0. | 0. | | | | |

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 07/28/05

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, EAB and LPZ, Station Chimney, Revision 1 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

HOURS PER YEAR MAX

0-2 HR X/Q IS

EXCEEDED

| DOWNWIND DISTANCE | | INVERTING TIME | | | | | | 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 | 800. | 2.93E-06 | 1.31E-06 | 8.71E-07 | 3.62E-07 | 1.03E-07 | 2.20E-08 | 3.5 | S |
| SSW | 800. | 2.82E-06 | 1.27E-06 | 8.51E-07 | 3.58E-07 | 1.03E-07 | 2.26E-08 | 217.5 | SSW |
| SW | 800. | 3.12E-06 | 1.40E-06 | 9.43E-07 | 3.97E-07 | 1.15E-07 | 2.52E-08 | 4.5 | SW |
| WSW | 800. | 3.78E-06 | 1.68E-06 | 1.12E-06 | 4.62E-07 | 1.30E-07 | 2.77E-08 | 7.0 | WSW |
| W | 800. | 3.12E-06 | 1.39E-06 | 9.22E-07 | 3.82E-07 | 1.08E-07 | 2.29E-08 | 6.0 | W |
| WNW | 800. | 3.27E-06 | 1.49E-06 | 1.00E-06 | 4.28E-07 | 1.26E-07 | 2.81E-08 | 6.0 | WNW |
| NW | 800. | 3.62E-06 | 1.66E-06 | 1.12E-06 | 4.78E-07 | 1.41E-07 | 3.17E-08 | 6.0 | NW |
| NNW | 800. | 2.88E-06 | 1.26E-06 | 8.36E-07 | 3.42E-07 | 9.45E-08 | 1.96E-08 | 3.7 | NNW |
| N | 800. | 6.19E-06 | 2.69E-06 | 1.77E-06 | 7.17E-07 | 1.96E-07 | 3.99E-08 | 35.5 | N |
| NNE | 800. | 6.39E-06 | 2.81E-06 | 1.86E-06 | 7.61E-07 | 2.11E-07 | 4.39E-08 | 38.5 | NNE |
| NE | 800. | 6.51E-06 | 2.84E-06 | 1.87E-06 | 7.61E-07 | 2.09E-07 | 4.29E-08 | 40.3 | NE |
| ENE | 800. | 6.74E-06 | 3.06E-06 | 2.06E-06 | 8.75E-07 | 2.56E-07 | 5.67E-08 | 43.7 | ENE |
| E | 800. | 6.65E-06 | 2.94E-06 | 1.95E-06 | 8.03E-07 | 2.25E-07 | 4.73E-08 | 42.3 | E |
| ESE | 800. | 3.23E-06 | 1.51E-06 | 1.03E-06 | 4.51E-07 | 1.38E-07 | 3.22E-08 | 4.7 | ESE |
| SE | 800. | 3.18E-06 | 1.47E-06 | 1.00E-06 | 4.33E-07 | 1.30E-07 | 3.00E-08 | 4.5 | SE |
| SSE | 800. | 3.11E-06 | 1.39E-06 | 9.29E-07 | 3.88E-07 | 1.11E-07 | 2.39E-08 | 3.3 | SSE |
| MAX X/Q | | 6.74E-06 | | | | TOTAL HOURS AROUND SITE: | | 467.0 | |
| | | | | | | | | | |
| SRP 2.3.4 | 800. | 8.00E-06 | 3.53E-06 | 2.35E-06 | 9.65E-07 | 2.70E-07 | 5.67E-08 | | |
| SITE LIMIT | | 5.16E-06 | 2.45E-06 | 1.69E-06 | 7.51E-07 | 2.35E-07 | 5.67E-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 | 800. | 6.98E-05 |
| SSW | 800. | 6.98E-05 |
| SW | 800. | 6.98E-05 |
| WSW | 800. | 6.98E-05 |
| W | 800. | 6.98E-05 |
| WNW | 800. | 6.98E-05 |
| NW | 800. | 6.98E-05 |
| NNW | 800. | 6.98E-05 |
| N | 800. | 8.74E-05 |
| NNE | 800. | 8.74E-05 |
| NE | 800. | 8.74E-05 |
| ENE | 800. | 8.74E-05 |
| E | 800. | 8.74E-05 |
| ESE | 800. | 6.98E-05 |
| SE | 800. | 6.98E-05 |
| SSE | 800. | 6.98E-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.

1 1111
Dresden
91.4 meters

Elevated Release

Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data

[illegible]

1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.

Copyright (c) 1990 Ergo Computing, Inc. for Lahey

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/13/04

PRINTOUT OF INPUT CARDS

```

1 00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2 Dresden
Elevated Release
3 91.4 meters 10.7-91.4 meters
4
5 Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data 6 7 43072 0
7 0.500 1545.000 43.100 83.300 91.400
8 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9 1.000 0.000 0.000 1.000 0.000 2.000 1.000 0.000 2.000 0.000 0.000 2.000 1.000 0.000 2.000 1.000
9 15.000 24.000 44.000 54.000 40.000 65.000 45.000 22.000 17.000 25.000 25.000 24.000 13.000 9.000 10.000 10.000
9 57.000 85.000 63.000 61.000 34.000 47.000 86.000 32.000 23.000 38.000 25.000 39.000 23.000 28.000 37.000 39.000
9 36.000 69.000 46.000 9.000 28.000 19.000 13.000 9.000 6.000 37.000 33.000 34.000 12.000 57.000 60.000 64.000
9 4.000 13.000 9.000 0.000 8.000 5.000 0.000 2.000 2.000 12.000 17.000 4.000 6.000 29.000 27.000 12.000
9 3.000 1.000 2.000 0.000 3.000 3.000 1.000 0.000 4.000 9.000 8.000 9.000 8.000 21.000 5.000 3.000
9 1.000 1.000 1.000 2.000 5.000 2.000 1.000 3.000 4.000 1.000 6.000 3.000 1.000 1.000 3.000 1.000
9 22.000 21.000 27.000 54.000 36.000 52.000 61.000 19.000 20.000 30.000 24.000 51.000 29.000 14.000 26.000 18.000
9 45.000 34.000 42.000 44.000 34.000 31.000 53.000 43.000 40.000 38.000 35.000 69.000 31.000 64.000 56.000 51.000
9 35.000 31.000 38.000 6.000 15.000 13.000 14.000 18.000 36.000 48.000 37.000 65.000 43.000 88.000 84.000 43.000
9 5.000 7.000 10.000 1.000 3.000 6.000 1.000 8.000 17.000 36.000 27.000 14.000 17.000 35.000 21.000 21.000
9 4.000 2.000 2.000 0.000 3.000 1.000 0.000 1.000 10.000 21.000 11.000 7.000 17.000 26.000 6.000 1.000
9 3.000 5.000 5.000 6.000 1.000 5.000 5.000 2.000 6.000 5.000 4.000 2.000 2.000 6.000 1.000 2.000
9 38.000 32.000 35.000 38.000 41.000 49.000 67.000 34.000 31.000 32.000 37.000 64.000 40.000 43.000 33.000 38.000
9 44.000 36.000 34.000 41.000 33.000 45.000 38.000 61.000 53.000 50.000 57.000 79.000 74.000 97.000 74.000 58.000
9 40.000 30.000 35.000 11.000 15.000 10.000 20.000 28.000 51.000 54.000 50.000 61.000 62.000 85.000 76.000 49.000
9 8.000 2.000 6.000 1.000 5.000 8.000 6.000 10.000 21.000 42.000 32.000 20.000 33.000 38.000 32.000 25.000
9 2.000 1.000 1.000 0.000 0.000 6.000 6.000 1.000 19.000 21.000 16.000 13.000 22.000 31.000 9.000 8.000
9 24.000 18.000 26.000 37.000 26.000 25.000 28.000 15.000 20.000 28.000 26.000 19.000 30.000 34.000 27.000 35.000
9 117.000122.000179.000297.000134.000106.000107.000114.000124.000125.000134.000130.000152.000141.000162.000151.000
9 264.000209.000345.000612.000373.000215.000186.000254.000244.000212.000215.000230.000433.000410.000341.000286.000
9 302.000314.000335.000265.000343.000219.000160.000283.000342.000237.000275.000246.000628.000653.000451.000378.000
9 138.000169.000128.000 24.000161.000146.000108.000150.000280.000212.000133.000119.000427.000373.000205.000171.000
9 38.000101.000 69.000 2.000 48.000 41.000 54.000104.000161.000158.000120.000115.000276.000202.000 68.000 82.000
9 10.000 14.000 12.000 27.000 24.000 17.000 17.000 17.000 13.000 13.000 15.000 21.000 14.000 8.000 9.000 3.000
9 54.000 57.000113.000234.000120.000 78.000 91.000110.000 83.000 76.000 93.000 92.000 94.000 77.000 79.000 58.000
9 150.000195.000254.000306.000294.000214.000291.000291.000225.000215.000177.000224.000237.000192.000234.000155.000
9 242.000230.000207.000 75.000278.000311.000292.000394.000457.000510.000390.000219.000352.000368.000315.000307.000
9 72.000 60.000 22.000 4.000 44.000 93.000 68.000141.000401.000324.000189.000 79.000128.000124.000 71.000 77.000
9 7.000 4.000 5.000 2.000 6.000 24.000 28.000 70.000199.000142.000 64.000 22.000 29.000 16.000 15.000 12.000
9 12.000 4.000 14.000 15.000 7.000 10.000 11.000 17.000 15.000 17.000 16.000 14.000 13.000 9.000 9.000 12.000
9 26.000 29.000 42.000 58.000 48.000 43.000 50.000 60.000 56.000 57.000 35.000 55.000 71.000 46.000 41.000 29.000
9 96.000 75.000 56.000 36.000 53.000 70.000134.000133.000 84.000 64.000110.000176.000180.000 81.000 89.000 60.000
9 130.000118.000 34.000 2.000 33.000101.000166.000116.000 96.000148.000270.000211.000100.000 86.000107.000116.000
9 37.000 15.000 7.000 0.000 2.000 29.000 20.000 14.000 43.000 72.000 79.000 31.000 10.000 37.000 8.000 22.000
9 1.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 4.000 5.000 2.000 2.000 2.000 0.000 0.000 1.000
9 2.000 8.000 9.000 8.000 1.000 4.000 3.000 4.000 7.000 4.000 2.000 3.000 1.000 7.000 4.000 5.000
9 3.000 7.000 20.000 21.000 4.000 4.000 9.000 8.000 19.000 12.000 20.000 14.000 12.000 19.000 9.000 14.000
9 36.000 28.000 14.000 3.000 4.000 12.000 18.000 21.000 24.000 18.000 24.000 29.000 51.000 25.000 17.000 16.000
9 36.000 37.000 6.000 0.000 1.000 4.000 25.000 33.000 10.000 24.000 29.000 57.000 40.000 13.000 30.000 26.000
9 11.000 1.000 0.000 0.000 0.000 8.000 5.000 6.000 2.000 12.000 19.000 6.000 2.000 4.000 1.000 10.000
9 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 0.000 0.000 0.000 0.000 0.000 10
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 81. 81. 81. 81. 81. 81. 81. 81. 81. 81.

```

101. 0.930 3.500

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/13/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 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

HOURS PER YEAR MAX
0-2 HR X/Q IS

| DOWNWIND DISTANCE
SECTOR (METERS) | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | EXCEEDED
IN SECTOR | DOWNWIND
SECTOR |
|--------------------------------------|-----------|-----------|------------|----------|-----------|--------------------------|-----------------------|--------------------|
| S 81. | 4.70E-06 | 5.92E-08 | 6.64E-09 | 5.77E-11 | 6.34E-14 | 1.52E-17 | 21.1 | S |
| SSW 81. | 5.02E-06 | 6.73E-08 | 7.80E-09 | 7.25E-11 | 8.79E-14 | 2.38E-17 | 23.3 | SSW |
| SW 81. | 5.27E-06 | 7.00E-08 | 8.07E-09 | 7.42E-11 | 8.86E-14 | 2.35E-17 | 30.2 | SW |
| WSW 81. | 6.19E-06 | 7.95E-08 | 9.01E-09 | 7.99E-11 | 9.03E-14 | 2.24E-17 | 43.7 | WSW |
| W 81. | 5.16E-06 | 6.55E-08 | 7.39E-09 | 6.48E-11 | 7.21E-14 | 1.76E-17 | 30.5 | W |
| WNW 81. | 5.88E-06 | 7.90E-08 | 9.16E-09 | 8.54E-11 | 1.04E-13 | 2.81E-17 | 40.1 | WNW |
| NW 81. | 6.15E-06 | 8.64E-08 | 1.02E-08 | 1.00E-10 | 1.30E-13 | 3.85E-17 | 43.0 | NW |
| NNW 81. | 4.57E-06 | 6.15E-08 | 7.13E-09 | 6.66E-11 | 8.10E-14 | 2.20E-17 | 20.9 | NNW |
| N 81. | 4.45E-06 | 5.23E-08 | 5.67E-09 | 4.57E-11 | 4.50E-14 | 9.45E-18 | 20.5 | N |
| NNE 81. | 4.87E-06 | 6.14E-08 | 6.89E-09 | 6.00E-11 | 6.60E-14 | 1.58E-17 | 25.8 | NNE |
| NE 81. | 4.82E-06 | 5.93E-08 | 6.57E-09 | 5.56E-11 | 5.89E-14 | 1.35E-17 | 24.8 | NE |
| ENE 81. | 5.41E-06 | 6.68E-08 | 7.43E-09 | 6.32E-11 | 6.75E-14 | 1.56E-17 | 31.3 | ENE |
| E 81. | 4.73E-06 | 5.40E-08 | 5.77E-09 | 4.51E-11 | 4.25E-14 | 8.44E-18 | 22.8 | E |
| ESE 81. | 4.81E-06 | 5.90E-08 | 6.54E-09 | 5.52E-11 | 5.82E-14 | 1.33E-17 | 20.9 | ESE |
| SE 81. | 4.86E-06 | 6.10E-08 | 6.84E-09 | 5.93E-11 | 6.49E-14 | 1.55E-17 | 22.1 | SE |
| SSE 81. | 4.77E-06 | 5.95E-08 | 6.64E-09 | 5.70E-11 | 6.17E-14 | 1.45E-17 | 21.3 | SSE |
| MAX X/Q | 6.19E-06 | | | | | TOTAL HOURS AROUND SITE: | 442.6 | |
| SRP 2.3.4 81. | 6.35E-06 | 8.88E-08 | 1.05E-08 | 1.02E-10 | 1.32E-13 | 3.85E-17 | | |
| SITE LIMIT | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.85E-17 | | |

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 81. | 6.27E-04 |
| SSW 81. | 6.27E-04 |
| SW 81. | 6.27E-04 |
| WSW 81. | 6.27E-04 |
| W 81. | 6.27E-04 |
| WNW 81. | 6.28E-04 |
| NW 81. | 6.33E-04 |
| NNW 81. | 6.36E-04 |
| N 81. | 6.27E-04 |
| NNE 81. | 6.27E-04 |
| NE 81. | 6.27E-04 |
| ENE 81. | 6.27E-04 |
| E 81. | 6.27E-04 |
| ESE 81. | 6.27E-04 |
| SE 81. | 6.27E-04 |
| SSE 81. | 6.27E-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.

[illegible]

Copyright (c) 1990 Ergo Computing, Inc. for Lahey

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/13/04

PRINTOUT OF INPUT CARDS

```

1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2      Dresden
Elevated Release
3      91.4 meters      10.7-91.4 meters
4
5      Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data      6      7 43072      0
7      0.500 1545.000 43.100 83.300 91.400
8      0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      1.000 0.000 0.000 1.000 0.000 2.000 1.000 0.000 2.000 0.000 0.000 2.000 1.000 0.000 2.000 1.000
9      15.000 24.000 44.000 54.000 40.000 65.000 45.000 22.000 17.000 25.000 25.000 24.000 13.000 9.000 10.000 10.000
9      57.000 85.000 63.000 61.000 34.000 47.000 86.000 32.000 23.000 38.000 25.000 39.000 23.000 28.000 37.000 39.000
9      36.000 69.000 46.000 9.000 28.000 19.000 13.000 9.000 6.000 37.000 33.000 34.000 12.000 57.000 60.000 64.000
9      4.000 13.000 9.000 0.000 8.000 5.000 0.000 2.000 2.000 12.000 17.000 4.000 6.000 29.000 27.000 12.000
9      3.000 1.000 2.000 0.000 3.000 3.000 1.000 0.000 4.000 9.000 8.000 9.000 8.000 21.000 5.000 3.000
9      1.000 1.000 1.000 2.000 5.000 2.000 1.000 3.000 4.000 1.000 6.000 3.000 1.000 1.000 3.000 1.000
9      22.000 21.000 27.000 54.000 36.000 52.000 61.000 19.000 20.000 30.000 24.000 51.000 29.000 14.000 26.000 18.000
9      45.000 34.000 42.000 44.000 34.000 31.000 53.000 43.000 40.000 38.000 35.000 69.000 31.000 64.000 56.000 51.000
9      35.000 31.000 38.000 6.000 15.000 13.000 14.000 18.000 36.000 48.000 37.000 65.000 43.000 88.000 84.000 43.000
9      5.000 7.000 10.000 1.000 3.000 6.000 1.000 8.000 17.000 36.000 27.000 14.000 17.000 35.000 21.000 21.000
9      4.000 2.000 2.000 0.000 3.000 1.000 0.000 1.000 10.000 21.000 11.000 7.000 17.000 26.000 6.000 1.000
9      3.000 5.000 5.000 6.000 1.000 5.000 5.000 2.000 6.000 5.000 4.000 2.000 2.000 6.000 1.000 2.000
9      38.000 32.000 35.000 38.000 41.000 49.000 67.000 34.000 31.000 32.000 37.000 64.000 40.000 43.000 33.000 38.000
9      44.000 36.000 34.000 41.000 33.000 45.000 38.000 61.000 53.000 50.000 57.000 79.000 74.000 97.000 74.000 58.000
9      40.000 30.000 35.000 11.000 15.000 10.000 20.000 28.000 51.000 54.000 50.000 61.000 62.000 85.000 76.000 49.000
9      8.000 2.000 6.000 1.000 5.000 8.000 6.000 10.000 21.000 42.000 32.000 20.000 33.000 38.000 32.000 25.000
9      2.000 1.000 1.000 0.000 0.000 6.000 6.000 1.000 19.000 21.000 16.000 13.000 22.000 31.000 9.000 8.000
9      24.000 18.000 26.000 37.000 26.000 25.000 28.000 15.000 20.000 28.000 26.000 19.000 30.000 34.000 27.000 35.000
9      117.000122.000179.000297.000134.000106.000107.000114.000124.000125.000134.000130.000152.000141.000162.000151.000
9      264.000209.000345.000612.000373.000215.000186.000254.000244.000212.000215.000230.000433.000410.000341.000286.000
9      302.000314.000335.000265.000343.000219.000160.000283.000342.000237.000275.000246.000628.000653.000451.000378.000
9      138.000169.000128.000 24.000161.000146.000108.000150.000280.000212.000133.000119.000427.000373.000205.000171.000
9      38.000101.000 69.000 2.000 48.000 41.000 54.000104.000161.000158.000120.000115.000276.000202.000 68.000 82.000
9      10.000 14.000 12.000 27.000 24.000 17.000 17.000 13.000 13.000 15.000 21.000 14.000 8.000 9.000 3.000
9      54.000 57.000113.000234.000120.000 78.000 91.000110.000 83.000 76.000 93.000 92.000 94.000 77.000 79.000 58.000
9      150.000195.000254.000306.000294.000214.000291.000291.000225.000215.000177.000224.000237.000192.000234.000155.000
9      242.000230.000207.000 75.000278.000311.000292.000394.000457.000510.000390.000219.000352.000368.000315.000307.000
9      72.000 60.000 22.000 4.000 44.000 93.000 68.000141.000401.000324.000189.000 79.000128.000124.000 71.000 77.000
9      7.000 4.000 5.000 2.000 6.000 24.000 28.000 70.000199.000142.000 64.000 22.000 29.000 16.000 15.000 12.000
9      12.000 4.000 14.000 15.000 7.000 10.000 11.000 17.000 15.000 17.000 16.000 14.000 13.000 9.000 9.000 12.000
9      26.000 29.000 42.000 58.000 48.000 43.000 50.000 60.000 56.000 57.000 35.000 55.000 71.000 46.000 41.000 29.000
9      96.000 75.000 56.000 36.000 53.000 70.000134.000133.000 84.000 64.000110.000176.000180.000 81.000 89.000 60.000
9      130.000118.000 34.000 2.000 33.000101.000166.000116.000 96.000148.000270.000211.000100.000 86.000107.000116.000
9      37.000 15.000 7.000 0.000 2.000 29.000 20.000 14.000 43.000 72.000 79.000 31.000 10.000 37.000 8.000 22.000
9      1.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 4.000 5.000 2.000 2.000 0.000 0.000 0.000 1.000
9      2.000 8.000 9.000 8.000 1.000 4.000 3.000 4.000 7.000 4.000 2.000 3.000 1.000 7.000 4.000 5.000
9      3.000 7.000 20.000 21.000 4.000 4.000 9.000 8.000 19.000 12.000 20.000 14.000 12.000 19.000 9.000 14.000
9      36.000 28.000 14.000 3.000 4.000 12.000 18.000 21.000 24.000 18.000 24.000 29.000 51.000 25.000 17.000 16.000
9      36.000 37.000 6.000 0.000 1.000 4.000 25.000 33.000 10.000 24.000 29.000 57.000 40.000 13.000 30.000 26.000
9      11.000 1.000 0.000 0.000 0.000 8.000 5.000 6.000 2.000 12.000 19.000 6.000 2.000 4.000 1.000 10.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 0.000 0.000 0.000 0.000 0.000
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      75. 75. 75. 75. 75. 101. 0.930 3.500
75. 75. 75. 75.

```


USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/13/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 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

HOURS PER YEAR MAX

0-2 HR X/Q IS

EXCEEDED

DOWNWIND

| DOWNWIND
SECTOR | DISTANCE
(METERS) | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | IN SECTOR | DOWNWIND
SECTOR |
|--------------------|----------------------|-----------|-----------|------------|----------|--------------------------|----------------|-----------|--------------------|
| S | 75. | 4.70E-06 | 3.18E-08 | 2.62E-09 | 1.16E-11 | 4.85E-15 | 3.56E-19 | 21.1 | S |
| SSW | 75. | 5.02E-06 | 3.62E-08 | 3.07E-09 | 1.46E-11 | 6.73E-15 | 5.58E-19 | 23.3 | SSW |
| SW | 75. | 5.27E-06 | 3.76E-08 | 3.18E-09 | 1.49E-11 | 6.78E-15 | 5.51E-19 | 30.2 | SW |
| WSW | 75. | 6.19E-06 | 4.27E-08 | 3.55E-09 | 1.61E-11 | 6.91E-15 | 5.27E-19 | 43.7 | WSW |
| W | 75. | 5.16E-06 | 3.53E-08 | 2.92E-09 | 1.31E-11 | 5.54E-15 | 4.14E-19 | 30.5 | W |
| WNW | 75. | 5.88E-06 | 4.26E-08 | 3.63E-09 | 1.73E-11 | 8.03E-15 | 6.71E-19 | 40.1 | WNW |
| NW | 75. | 6.15E-06 | 4.70E-08 | 4.11E-09 | 2.08E-11 | 1.05E-14 | 9.71E-19 | 43.0 | NW |
| NNW | 75. | 4.57E-06 | 3.37E-08 | 2.89E-09 | 1.41E-11 | 6.71E-15 | 5.80E-19 | 20.9 | NNW |
| N | 75. | 4.45E-06 | 2.81E-08 | 2.24E-09 | 9.21E-12 | 3.46E-15 | 2.23E-19 | 20.5 | N |
| NNE | 75. | 4.87E-06 | 3.30E-08 | 2.72E-09 | 1.21E-11 | 5.07E-15 | 3.74E-19 | 25.8 | NNE |
| NE | 75. | 4.82E-06 | 3.19E-08 | 2.59E-09 | 1.12E-11 | 4.50E-15 | 3.16E-19 | 24.8 | NE |
| ENE | 75. | 5.41E-06 | 3.59E-08 | 2.93E-09 | 1.27E-11 | 5.16E-15 | 3.66E-19 | 31.3 | ENE |
| E | 75. | 4.73E-06 | 2.90E-08 | 2.28E-09 | 9.06E-12 | 3.25E-15 | 1.98E-19 | 22.8 | E |
| ESE | 75. | 4.81E-06 | 3.17E-08 | 2.58E-09 | 1.11E-11 | 4.45E-15 | 3.11E-19 | 20.9 | ESE |
| SE | 75. | 4.86E-06 | 3.28E-08 | 2.70E-09 | 1.19E-11 | 4.97E-15 | 3.63E-19 | 22.1 | SE |
| SSE | 75. | 4.77E-06 | 3.20E-08 | 2.62E-09 | 1.15E-11 | 4.72E-15 | 3.40E-19 | 21.3 | SSE |
| MAX X/Q | | 6.19E-06 | | | | TOTAL HOURS AROUND SITE: | | 442.6 | |
| SRP 2.3.4 | 75. | 6.35E-06 | 4.83E-08 | 4.21E-09 | 2.12E-11 | 1.06E-14 | 9.71E-19 | | |
| SITE LIMIT | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.71E-19 | | |

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 | 75. | 6.72E-04 |
| SSW | 75. | 6.72E-04 |
| SW | 75. | 6.72E-04 |
| WSW | 75. | 6.72E-04 |
| W | 75. | 6.72E-04 |
| WNW | 75. | 6.73E-04 |
| NW | 75. | 6.78E-04 |
| NNW | 75. | 6.82E-04 |
| N | 75. | 6.72E-04 |
| NNE | 75. | 6.72E-04 |
| NE | 75. | 6.72E-04 |
| ENE | 75. | 6.72E-04 |
| E | 75. | 6.72E-04 |
| ESE | 75. | 6.72E-04 |
| SE | 75. | 6.72E-04 |
| SSE | 75. | 6.72E-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.

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/13/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data

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

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)

| DOWNWIND DISTANCE
SECTOR (METERS) | | VERSUS
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 | 100. | 4.70E-06 | 2.15E-07 | 4.60E-08 | 1.62E-09 | 1.32E-11 | 3.71E-14 | 21.1 | S |
| SSW | 100. | 5.02E-06 | 2.44E-07 | 5.40E-08 | 2.03E-09 | 1.84E-11 | 5.80E-14 | 23.3 | SSW |
| SW | 100. | 5.27E-06 | 2.54E-07 | 5.58E-08 | 2.08E-09 | 1.85E-11 | 5.73E-14 | 30.2 | SW |
| WSW | 100. | 6.19E-06 | 2.89E-07 | 6.23E-08 | 2.24E-09 | 1.89E-11 | 5.48E-14 | 43.7 | WSW |
| W | 100. | 5.16E-06 | 2.38E-07 | 5.10E-08 | 1.81E-09 | 1.50E-11 | 4.25E-14 | 30.5 | W |
| WNW | 100. | 5.88E-06 | 2.85E-07 | 6.28E-08 | 2.36E-09 | 2.11E-11 | 6.61E-14 | 40.1 | WNW |
| NW | 100. | 6.15E-06 | 3.06E-07 | 6.82E-08 | 2.63E-09 | 2.45E-11 | 8.05E-14 | 43.0 | NW |
| NNW | 100. | 4.57E-06 | 2.14E-07 | 4.65E-08 | 1.68E-09 | 1.43E-11 | 4.21E-14 | 20.9 | NNW |
| N | 100. | 4.45E-06 | 1.89E-07 | 3.91E-08 | 1.27E-09 | 9.33E-12 | 2.28E-14 | 20.5 | N |
| NNE | 100. | 4.87E-06 | 2.22E-07 | 4.76E-08 | 1.67E-09 | 1.37E-11 | 3.82E-14 | 25.8 | NNE |
| NE | 100. | 4.82E-06 | 2.15E-07 | 4.55E-08 | 1.56E-09 | 1.23E-11 | 3.29E-14 | 24.8 | NE |
| ENE | 100. | 5.41E-06 | 2.43E-07 | 5.14E-08 | 1.77E-09 | 1.41E-11 | 3.81E-14 | 31.3 | ENE |
| E | 100. | 4.73E-06 | 1.96E-07 | 3.99E-08 | 1.26E-09 | 8.88E-12 | 2.06E-14 | 22.8 | E |
| ESE | 100. | 4.81E-06 | 2.14E-07 | 4.52E-08 | 1.55E-09 | 1.22E-11 | 3.24E-14 | 20.9 | ESE |
| SE | 100. | 4.86E-06 | 2.22E-07 | 4.74E-08 | 1.66E-09 | 1.36E-11 | 3.78E-14 | 22.1 | SE |
| SSE | 100. | 4.77E-06 | 2.16E-07 | 4.60E-08 | 1.60E-09 | 1.29E-11 | 3.54E-14 | 21.3 | SSE |
| MAX X/Q | | 6.19E-06 | | | | TOTAL HOURS AROUND SITE: | | 442.6 | |
| SRP 2.3.4 | 100. | 6.35E-06 | 3.14E-07 | 6.99E-08 | 2.68E-09 | 2.48E-11 | 8.05E-14 | | |
| SITE LIMIT | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.05E-14 | | |

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 | 100. | 5.18E-04 |
| SSW | 100. | 5.18E-04 |
| SW | 100. | 5.18E-04 |
| WSW | 100. | 5.18E-04 |
| W | 100. | 5.18E-04 |
| WNW | 100. | 5.19E-04 |
| NW | 100. | 5.23E-04 |
| NNW | 100. | 5.26E-04 |
| N | 100. | 5.19E-04 |
| NNE | 100. | 5.19E-04 |
| NE | 100. | 5.18E-04 |
| ENE | 100. | 5.18E-04 |
| E | 100. | 5.18E-04 |
| ESE | 100. | 5.18E-04 |
| SE | 100. | 5.18E-04 |
| SSE | 100. | 5.18E-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.

[illegible]

| | | | |
|----------------------------|------------|--------------|--------------------|
| CALCULATION NO. DRE04-0030 | REV. NO. 1 | ATTACHMENT I | PAGE NO. 34 of 108 |
|----------------------------|------------|--------------|--------------------|

200. 200. 200. 200. 200. 200. 200. 200. 200. 200. 200. 200. 200. 200. 200. 200.
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.

Copyright (c) 1990 Ergo Computing, Inc. for Lahey

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/13/04

PRINTOUT OF INPUT CARDS

```

1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2      Dresden
Elevated Release
3      91.4 meters      10.7-91.4 meters
4
5      Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data      6      7 43072      0
7      0.500 1545.000 43.100 83.300 91.400
8      0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      1.000 0.000 0.000 1.000 0.000 2.000 1.000 0.000 2.000 0.000 0.000 2.000 1.000 0.000 2.000 1.000
9      15.000 24.000 44.000 54.000 40.000 65.000 45.000 22.000 17.000 25.000 25.000 24.000 13.000 9.000 10.000 10.000
9      57.000 85.000 63.000 61.000 34.000 47.000 86.000 32.000 23.000 38.000 25.000 39.000 23.000 28.000 37.000 39.000
9      36.000 69.000 46.000 9.000 28.000 19.000 13.000 9.000 6.000 37.000 33.000 34.000 12.000 57.000 60.000 64.000
9      4.000 13.000 9.000 0.000 8.000 5.000 0.000 2.000 2.000 12.000 17.000 4.000 6.000 29.000 27.000 12.000
9      3.000 1.000 2.000 0.000 3.000 3.000 1.000 0.000 4.000 9.000 8.000 9.000 8.000 21.000 5.000 3.000
9      1.000 1.000 1.000 2.000 5.000 2.000 1.000 3.000 4.000 1.000 6.000 3.000 1.000 1.000 3.000 1.000
9      22.000 21.000 27.000 54.000 36.000 52.000 61.000 19.000 20.000 30.000 24.000 51.000 29.000 14.000 26.000 18.000
9      45.000 34.000 42.000 44.000 34.000 31.000 53.000 43.000 40.000 38.000 35.000 69.000 31.000 64.000 56.000 51.000
9      35.000 31.000 38.000 6.000 15.000 13.000 14.000 18.000 36.000 48.000 37.000 65.000 43.000 88.000 84.000 43.000
9      5.000 7.000 10.000 1.000 3.000 6.000 1.000 8.000 17.000 36.000 27.000 14.000 17.000 35.000 21.000 21.000
9      4.000 2.000 2.000 0.000 3.000 1.000 0.000 1.000 10.000 21.000 11.000 7.000 17.000 26.000 6.000 1.000
9      3.000 5.000 5.000 6.000 1.000 5.000 5.000 2.000 6.000 5.000 4.000 2.000 2.000 6.000 1.000 2.000
9      38.000 32.000 35.000 38.000 41.000 49.000 67.000 34.000 31.000 32.000 37.000 64.000 40.000 43.000 33.000 38.000
9      44.000 36.000 34.000 41.000 33.000 45.000 38.000 61.000 53.000 50.000 57.000 79.000 74.000 97.000 74.000 58.000
9      40.000 30.000 35.000 11.000 15.000 10.000 20.000 28.000 51.000 54.000 50.000 61.000 62.000 85.000 76.000 49.000
9      8.000 2.000 6.000 1.000 5.000 8.000 6.000 10.000 21.000 42.000 32.000 20.000 33.000 38.000 32.000 25.000
9      2.000 1.000 1.000 0.000 0.000 6.000 6.000 1.000 19.000 21.000 16.000 13.000 22.000 31.000 9.000 8.000
9      24.000 18.000 26.000 37.000 26.000 25.000 28.000 15.000 20.000 28.000 26.000 19.000 30.000 34.000 27.000 35.000
9      117.000122.000179.000297.000134.000106.000107.000114.000124.000125.000134.000130.000152.000141.000162.000151.000
9      264.000209.000345.000612.000373.0000215.000186.000254.000244.000212.000215.000230.000433.000410.000341.000286.000
9      302.000314.000335.000265.000343.000219.000160.000283.000342.000237.000275.000246.000628.000653.000451.000378.000
9      138.000169.000128.000 24.000161.000146.000108.000150.000280.000212.000133.000119.000427.000373.000205.000171.000
9      38.000101.000 69.000 2.000 48.000 41.000 54.000104.000161.000158.000120.000115.000276.000202.000 68.000 82.000
9      10.000 14.000 12.000 27.000 24.000 17.000 17.000 17.000 13.000 13.000 15.000 21.000 14.000 8.000 9.000 3.000
9      54.000 57.000113.000234.000120.000 78.000 91.000110.000 83.000 76.000 93.000 92.000 94.000 77.000 79.000 58.000
9      150.000195.000254.000306.000294.000214.000291.000291.000225.000215.000177.000224.000237.000192.000234.000155.000
9      242.000230.000207.000 75.000278.000311.000292.000394.000457.000510.000390.000219.000352.000368.000315.000307.000
9      72.000 60.000 22.000 4.000 44.000 93.000 68.000141.000401.000324.000189.000 79.000128.000124.000 71.000 77.000
9      7.000 4.000 5.000 2.000 6.000 24.000 28.000 70.000199.000142.000 64.000 22.000 29.000 16.000 15.000 12.000
9      12.000 4.000 14.000 15.000 7.000 10.000 11.000 17.000 15.000 17.000 16.000 14.000 13.000 9.000 9.000 12.000
9      26.000 29.000 42.000 58.000 48.000 43.000 50.000 60.000 56.000 57.000 35.000 55.000 71.000 46.000 41.000 29.000
9      96.000 75.000 56.000 36.000 53.000 70.000134.000133.000 84.000 64.000110.000176.000180.000 81.000 89.000 60.000
9      130.000118.000 34.000 2.000 33.000101.000166.000116.000 96.000148.000270.000211.000100.000 86.000107.000116.000
9      37.000 15.000 7.000 0.000 2.000 29.000 20.000 14.000 43.000 72.000 79.000 31.000 10.000 37.000 8.000 22.000
9      1.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 4.000 5.000 2.000 2.000 0.000 0.000 0.000 1.000
9      2.000 8.000 9.000 8.000 1.000 4.000 3.000 4.000 7.000 4.000 2.000 3.000 1.000 7.000 4.000 5.000
9      3.000 7.000 20.000 21.000 4.000 4.000 9.000 8.000 19.000 12.000 20.000 14.000 12.000 19.000 9.000 14.000
9      36.000 28.000 14.000 3.000 4.000 12.000 18.000 21.000 24.000 18.000 24.000 29.000 51.000 25.000 17.000 16.000
9      36.000 37.000 6.000 0.000 1.000 4.000 25.000 33.000 10.000 24.000 29.000 57.000 40.000 13.000 30.000 26.000
9      11.000 1.000 0.000 0.000 0.000 8.000 5.000 6.000 2.000 12.000 19.000 6.000 2.000 4.000 1.000 10.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 0.000 0.000 0.000 0.000 10
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      150. 150. 150. 150. 150. 150. 150. 150. 150.

```


USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/13/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 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

HOURS PER YEAR MAX
0-2 HR X/Q IS

| DOWNWIND DISTANCE
SECTOR (METERS) | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | EXCEEDED
IN SECTOR | DOWNWIND
SECTOR |
|--------------------------------------|-----------|-----------|------------|----------|--------------------------|----------------|-----------------------|--------------------|
| S 150. | 4.70E-06 | 7.81E-07 | 3.19E-07 | 4.55E-08 | 2.79E-09 | 9.13E-11 | 21.1 | S |
| SSW 150. | 5.02E-06 | 8.89E-07 | 3.74E-07 | 5.72E-08 | 3.86E-09 | 1.43E-10 | 23.3 | SSW |
| SW 150. | 5.27E-06 | 9.24E-07 | 3.87E-07 | 5.86E-08 | 3.89E-09 | 1.41E-10 | 30.2 | SW |
| WSW 150. | 6.19E-06 | 1.05E-06 | 4.32E-07 | 6.30E-08 | 3.97E-09 | 1.35E-10 | 43.7 | WSW |
| W 150. | 5.16E-06 | 8.63E-07 | 3.53E-07 | 5.08E-08 | 3.14E-09 | 1.04E-10 | 30.5 | W |
| WNW 150. | 5.88E-06 | 1.03E-06 | 4.32E-07 | 6.52E-08 | 4.33E-09 | 1.57E-10 | 40.1 | WNW |
| NW 150. | 6.15E-06 | 1.08E-06 | 4.55E-07 | 6.91E-08 | 4.62E-09 | 1.69E-10 | 43.0 | NW |
| NNW 150. | 4.57E-06 | 7.48E-07 | 3.03E-07 | 4.25E-08 | 2.54E-09 | 8.06E-11 | 20.9 | NNW |
| N 150. | 4.45E-06 | 6.88E-07 | 2.70E-07 | 3.57E-08 | 1.95E-09 | 5.56E-11 | 20.5 | N |
| NNE 150. | 4.87E-06 | 8.08E-07 | 3.29E-07 | 4.68E-08 | 2.85E-09 | 9.30E-11 | 25.8 | NNE |
| NE 150. | 4.82E-06 | 7.83E-07 | 3.15E-07 | 4.39E-08 | 2.59E-09 | 8.11E-11 | 24.8 | NE |
| ENE 150. | 5.41E-06 | 8.83E-07 | 3.57E-07 | 5.00E-08 | 2.97E-09 | 9.40E-11 | 31.3 | ENE |
| E 150. | 4.73E-06 | 7.13E-07 | 2.77E-07 | 3.56E-08 | 1.87E-09 | 5.09E-11 | 22.8 | E |
| ESE 150. | 4.81E-06 | 7.80E-07 | 3.14E-07 | 4.36E-08 | 2.56E-09 | 7.99E-11 | 20.9 | ESE |
| SE 150. | 4.86E-06 | 8.06E-07 | 3.29E-07 | 4.68E-08 | 2.86E-09 | 9.32E-11 | 22.1 | SE |
| SSE 150. | 4.77E-06 | 7.86E-07 | 3.19E-07 | 4.50E-08 | 2.71E-09 | 8.72E-11 | 21.3 | SSE |
| MAX X/Q | 6.19E-06 | | | | TOTAL HOURS AROUND SITE: | | | 442.6 |
| SRP 2.3.4 150. | 6.35E-06 | 1.11E-06 | 4.66E-07 | 7.04E-08 | 4.67E-09 | 1.69E-10 | | |
| SITE LIMIT | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.69E-10 | | |

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 150. | 3.59E-04 |
| SSW 150. | 3.59E-04 |
| SW 150. | 3.59E-04 |
| WSW 150. | 3.59E-04 |
| W 150. | 3.59E-04 |
| WNW 150. | 3.60E-04 |
| NW 150. | 3.63E-04 |
| NNW 150. | 3.65E-04 |
| N 150. | 3.60E-04 |
| NNE 150. | 3.60E-04 |
| NE 150. | 3.59E-04 |
| ENE 150. | 3.59E-04 |
| E 150. | 3.59E-04 |
| ESE 150. | 3.59E-04 |
| SE 150. | 3.59E-04 |
| SSE 150. | 3.59E-04 |

| | | | |
|----------------------------|------------|--------------|--------------------|
| CALCULATION NO. DRE04-0030 | REV. NO. 1 | ATTACHMENT I | PAGE NO. 38 of 108 |
|----------------------------|------------|--------------|--------------------|

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.

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/13/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data

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

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)

| DOWNWIND DISTANCE
SECTOR (METERS) | | VERSUS
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 | 200. | 4.70E-06 | 1.40E-06 | 7.68E-07 | 2.07E-07 | 3.16E-08 | 3.16E-09 | 21.1 | | S |
| SSW | 200. | 5.02E-06 | 1.59E-06 | 8.99E-07 | 2.59E-07 | 4.35E-08 | 4.91E-09 | 23.3 | | SSW |
| SW | 200. | 5.27E-06 | 1.66E-06 | 9.31E-07 | 2.66E-07 | 4.40E-08 | 4.86E-09 | 30.2 | | SW |
| WSW | 200. | 6.19E-06 | 1.89E-06 | 1.04E-06 | 2.86E-07 | 4.49E-08 | 4.66E-09 | 43.7 | | WSW |
| W | 200. | 5.16E-06 | 1.55E-06 | 8.50E-07 | 2.30E-07 | 3.54E-08 | 3.58E-09 | 30.5 | | W |
| WNW | 200. | 5.88E-06 | 1.85E-06 | 1.03E-06 | 2.94E-07 | 4.83E-08 | 5.30E-09 | 40.1 | | WNW |
| NW | 200. | 6.15E-06 | 1.92E-06 | 1.07E-06 | 3.04E-07 | 4.96E-08 | 5.41E-09 | 43.0 | | NW |
| NNW | 200. | 4.57E-06 | 1.32E-06 | 7.08E-07 | 1.84E-07 | 2.65E-08 | 2.49E-09 | 20.9 | | NNW |
| N | 200. | 4.45E-06 | 1.24E-06 | 6.53E-07 | 1.63E-07 | 2.22E-08 | 1.94E-09 | 20.5 | | N |
| NNE | 200. | 4.87E-06 | 1.45E-06 | 7.92E-07 | 2.13E-07 | 3.23E-08 | 3.21E-09 | 25.8 | | NNE |
| NE | 200. | 4.82E-06 | 1.41E-06 | 7.61E-07 | 2.00E-07 | 2.95E-08 | 2.83E-09 | 24.8 | | NE |
| ENE | 200. | 5.41E-06 | 1.59E-06 | 8.62E-07 | 2.29E-07 | 3.40E-08 | 3.30E-09 | 31.3 | | ENE |
| E | 200. | 4.73E-06 | 1.29E-06 | 6.70E-07 | 1.63E-07 | 2.14E-08 | 1.79E-09 | 22.8 | | E |
| ESE | 200. | 4.81E-06 | 1.40E-06 | 7.58E-07 | 1.99E-07 | 2.92E-08 | 2.80E-09 | 20.9 | | ESE |
| SE | 200. | 4.86E-06 | 1.45E-06 | 7.93E-07 | 2.14E-07 | 3.25E-08 | 3.25E-09 | 22.1 | | SE |
| SSE | 200. | 4.77E-06 | 1.41E-06 | 7.68E-07 | 2.05E-07 | 3.08E-08 | 3.02E-09 | 21.3 | | SSE |
| MAX X/Q | | 6.19E-06 | | | | TOTAL HOURS AROUND SITE: | | 442.6 | | |
| SRP 2.3.4 | 200. | 6.35E-06 | 1.97E-06 | 1.10E-06 | 3.10E-07 | 5.01E-08 | 5.41E-09 | | | |
| SITE LIMIT | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.41E-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 | 200. | 2.77E-04 |
| SSW | 200. | 2.77E-04 |
| SW | 200. | 2.77E-04 |
| WSW | 200. | 2.77E-04 |
| W | 200. | 2.77E-04 |
| WNW | 200. | 2.78E-04 |
| NW | 200. | 2.80E-04 |
| NNW | 200. | 2.81E-04 |
| N | 200. | 2.77E-04 |
| NNE | 200. | 2.77E-04 |
| NE | 200. | 2.77E-04 |
| ENE | 200. | 2.77E-04 |
| E | 200. | 2.77E-04 |
| ESE | 200. | 2.77E-04 |
| SE | 200. | 2.77E-04 |
| SSE | 200. | 2.77E-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.

[illegible]

600. 600. 600. 600. 600. 600. 600. 600. 600. 600. 600. 600. 600. 600. 600. 600.
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.

Copyright (c) 1990 Ergo Computing, Inc. for Lahey

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/13/04

PRINTOUT OF INPUT CARDS

```
1 00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2 Dresden
Elevated Release
3 91.4 meters 10.7-91.4 meters
4
5 Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data 6 7 43072 0
7 0.500 1545.000 43.100 83.300 91.400
8 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9 1.000 0.000 0.000 1.000 0.000 2.000 1.000 0.000 2.000 0.000 0.000 2.000 1.000 0.000 2.000 1.000
9 15.000 24.000 44.000 54.000 40.000 65.000 45.000 22.000 17.000 25.000 25.000 24.000 13.000 9.000 10.000 10.000
9 57.000 85.000 63.000 61.000 34.000 47.000 86.000 32.000 23.000 38.000 25.000 39.000 23.000 28.000 37.000 39.000
9 36.000 69.000 46.000 9.000 28.000 19.000 13.000 9.000 6.000 37.000 33.000 34.000 12.000 57.000 60.000 64.000
9 4.000 13.000 9.000 0.000 8.000 5.000 0.000 2.000 2.000 12.000 17.000 4.000 6.000 29.000 27.000 12.000
9 3.000 1.000 2.000 0.000 3.000 3.000 1.000 0.000 4.000 9.000 8.000 9.000 8.000 21.000 5.000 3.000
9 1.000 1.000 1.000 2.000 5.000 2.000 1.000 3.000 4.000 1.000 6.000 3.000 1.000 1.000 3.000 1.000
9 22.000 21.000 27.000 54.000 36.000 52.000 61.000 19.000 20.000 30.000 24.000 51.000 29.000 14.000 26.000 18.000
9 45.000 34.000 42.000 44.000 34.000 31.000 53.000 43.000 40.000 38.000 35.000 69.000 31.000 64.000 56.000 51.000
9 35.000 31.000 38.000 6.000 15.000 13.000 14.000 18.000 36.000 48.000 37.000 65.000 43.000 88.000 84.000 43.000
9 5.000 7.000 10.000 1.000 3.000 6.000 1.000 8.000 17.000 36.000 27.000 14.000 17.000 35.000 21.000 21.000
9 4.000 2.000 2.000 0.000 3.000 1.000 0.000 1.000 10.000 21.000 11.000 7.000 17.000 26.000 6.000 1.000
9 3.000 5.000 5.000 6.000 1.000 5.000 5.000 2.000 6.000 5.000 4.000 2.000 2.000 6.000 1.000 2.000
9 38.000 32.000 35.000 38.000 41.000 49.000 67.000 34.000 31.000 32.000 37.000 64.000 40.000 43.000 33.000 38.000
9 44.000 36.000 34.000 41.000 33.000 45.000 38.000 61.000 53.000 50.000 57.000 79.000 74.000 97.000 74.000 58.000
9 40.000 30.000 35.000 11.000 15.000 10.000 20.000 28.000 51.000 54.000 50.000 61.000 62.000 85.000 76.000 49.000
9 8.000 2.000 6.000 1.000 5.000 8.000 6.000 10.000 21.000 42.000 32.000 20.000 33.000 38.000 32.000 25.000
9 2.000 1.000 1.000 0.000 0.000 6.000 6.000 1.000 19.000 21.000 16.000 13.000 22.000 31.000 9.000 8.000
9 24.000 18.000 26.000 37.000 26.000 25.000 28.000 15.000 20.000 28.000 26.000 19.000 30.000 34.000 27.000 35.000
9 117.000122.000179.000297.000134.000106.000107.000114.000124.000125.000134.000130.000152.000141.000162.000151.000
9 264.000209.000345.000612.000373.000215.000186.000254.000244.000212.000215.000230.000433.000410.000341.000286.000
9 302.000314.000335.000265.000343.000219.000160.000283.000342.000237.000275.000246.000628.000653.000451.000378.000
9 138.000169.000128.000 24.000161.000146.000108.000150.000280.000212.000133.000119.000427.000373.000205.000171.000
9 38.000101.000 69.000 2.000 48.000 41.000 54.000104.000161.000158.000120.000115.000276.000202.000 68.000 82.000
9 10.000 14.000 12.000 27.000 24.000 17.000 17.000 17.000 13.000 13.000 15.000 21.000 14.000 8.000 9.000 3.000
9 54.000 57.000113.000234.000120.000 78.000 91.000110.000 83.000 76.000 93.000 92.000 94.000 77.000 79.000 58.000
9 150.000195.000254.000306.000294.000214.000291.000291.000225.000215.000177.000224.000237.000192.000234.000155.000
9 242.000230.000207.000 75.000278.000311.000292.000394.000457.000510.000390.000219.000352.000368.000315.000307.000
9 72.000 60.000 22.000 4.000 44.000 93.000 68.000141.000401.000324.000189.000 79.000128.000124.000 71.000 77.000
9 7.000 4.000 5.000 2.000 6.000 24.000 28.000 70.000199.000142.000 64.000 22.000 29.000 16.000 15.000 12.000
9 12.000 4.000 14.000 15.000 7.000 10.000 11.000 17.000 15.000 17.000 16.000 14.000 13.000 9.000 9.000 12.000
9 26.000 29.000 42.000 58.000 48.000 43.000 50.000 60.000 56.000 57.000 35.000 55.000 71.000 46.000 41.000 29.000
9 96.000 75.000 56.000 36.000 53.000 70.000134.000133.000 84.000 64.000110.000176.000180.000 81.000 89.000 60.000
9 130.000118.000 34.000 2.000 33.000101.000166.000116.000 96.000148.000270.000211.000100.000 86.000107.000116.000
9 37.000 15.000 7.000 0.000 2.000 29.000 20.000 14.000 43.000 72.000 79.000 31.000 10.000 37.000 8.000 22.000
9 1.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 4.000 5.000 2.000 2.000 2.000 0.000 0.000 1.000
9 2.000 8.000 9.000 8.000 1.000 4.000 3.000 4.000 7.000 4.000 2.000 3.000 1.000 7.000 4.000 5.000
9 3.000 7.000 20.000 21.000 4.000 4.000 9.000 8.000 19.000 12.000 20.000 14.000 12.000 19.000 9.000 14.000
9 36.000 28.000 14.000 3.000 4.000 12.000 18.000 21.000 24.000 18.000 24.000 29.000 51.000 25.000 17.000 16.000
9 36.000 37.000 6.000 0.000 1.000 4.000 25.000 33.000 10.000 24.000 29.000 57.000 40.000 13.000 30.000 26.000
9 11.000 1.000 0.000 0.000 0.000 8.000 5.000 6.000 2.000 12.000 19.000 6.000 2.000 4.000 1.000 10.000
9 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 0.000 0.000 0.000 0.000 0.000 10
7.500 12.500 18.500 24.000 55.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 11 400. 400. 400. 400. 400. 101. 0.930 3.500
400. 400. 400. 400.
```


USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/13/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 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

HOURS PER YEAR MAX

0-2 HR X/Q IS

EXCEEDED

| DOWNWIND
SECTOR | DISTANCE
(METERS) | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | IN SECTOR | DOWNWIND
SECTOR |
|--------------------|----------------------|-----------|-----------|------------|----------|--------------------------|----------------|-----------|--------------------|
| S | 400. | 4.70E-06 | 2.07E-06 | 1.37E-06 | 5.65E-07 | 1.58E-07 | 3.31E-08 | 21.1 | S |
| SSW | 400. | 5.02E-06 | 2.30E-06 | 1.55E-06 | 6.66E-07 | 1.97E-07 | 4.45E-08 | 23.3 | SSW |
| SW | 400. | 5.27E-06 | 2.41E-06 | 1.63E-06 | 6.95E-07 | 2.05E-07 | 4.61E-08 | 30.2 | SW |
| WSW | 400. | 6.19E-06 | 2.76E-06 | 1.85E-06 | 7.69E-07 | 2.19E-07 | 4.70E-08 | 43.7 | WSW |
| W | 400. | 5.16E-06 | 2.28E-06 | 1.52E-06 | 6.27E-07 | 1.76E-07 | 3.72E-08 | 30.5 | W |
| WNW | 400. | 5.88E-06 | 2.68E-06 | 1.81E-06 | 7.70E-07 | 2.26E-07 | 5.06E-08 | 40.1 | WNW |
| NW | 400. | 6.15E-06 | 2.80E-06 | 1.89E-06 | 8.03E-07 | 2.36E-07 | 5.25E-08 | 43.0 | NW |
| NNW | 400. | 4.57E-06 | 1.95E-06 | 1.27E-06 | 5.04E-07 | 1.33E-07 | 2.62E-08 | 20.9 | NNW |
| N | 400. | 4.45E-06 | 1.89E-06 | 1.23E-06 | 4.88E-07 | 1.29E-07 | 2.53E-08 | 20.5 | N |
| NNE | 400. | 4.87E-06 | 2.17E-06 | 1.44E-06 | 6.00E-07 | 1.70E-07 | 3.63E-08 | 25.8 | NNE |
| NE | 400. | 4.82E-06 | 2.12E-06 | 1.40E-06 | 5.74E-07 | 1.59E-07 | 3.32E-08 | 24.8 | NE |
| ENE | 400. | 5.41E-06 | 2.43E-06 | 1.63E-06 | 6.87E-07 | 1.98E-07 | 4.33E-08 | 31.3 | ENE |
| E | 400. | 4.73E-06 | 1.98E-06 | 1.28E-06 | 4.99E-07 | 1.29E-07 | 2.45E-08 | 22.8 | E |
| ESE | 400. | 4.81E-06 | 2.14E-06 | 1.43E-06 | 5.93E-07 | 1.68E-07 | 3.59E-08 | 20.9 | ESE |
| SE | 400. | 4.86E-06 | 2.19E-06 | 1.47E-06 | 6.20E-07 | 1.79E-07 | 3.93E-08 | 22.1 | SE |
| SSE | 400. | 4.77E-06 | 2.10E-06 | 1.39E-06 | 5.70E-07 | 1.58E-07 | 3.31E-08 | 21.3 | SSE |
| MAX X/Q | | 6.19E-06 | | | | TOTAL HOURS AROUND SITE: | | 442.6 | |
| SRP 2.3.4 | 400. | 6.35E-06 | 2.87E-06 | 1.93E-06 | 8.18E-07 | 2.38E-07 | 5.25E-08 | | |
| SITE LIMIT | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.25E-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 | 400. | 1.48E-04 |
| SSW | 400. | 1.48E-04 |
| SW | 400. | 1.48E-04 |
| WSW | 400. | 1.48E-04 |
| W | 400. | 1.48E-04 |
| WNW | 400. | 1.49E-04 |
| NW | 400. | 1.50E-04 |
| NNW | 400. | 1.50E-04 |
| N | 400. | 1.48E-04 |
| NNE | 400. | 1.48E-04 |
| NE | 400. | 1.48E-04 |
| ENE | 400. | 1.48E-04 |
| E | 400. | 1.48E-04 |
| ESE | 400. | 1.48E-04 |
| SE | 400. | 1.48E-04 |
| SSE | 400. | 1.48E-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.

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/13/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 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

HOURS PER YEAR MAX
0-2 HR X/Q IS

| DOWNWIND DISTANCE | | AVERAGING TIME | | | | | | 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 | 600. | 4.19E-06 | 1.87E-06 | 1.25E-06 | 5.19E-07 | 1.48E-07 | 3.17E-08 | 23.7 | S |
| SSW | 600. | 4.09E-06 | 1.86E-06 | 1.26E-06 | 5.35E-07 | 1.57E-07 | 3.51E-08 | 21.9 | SSW |
| SW | 600. | 4.53E-06 | 2.06E-06 | 1.39E-06 | 5.89E-07 | 1.72E-07 | 3.83E-08 | 27.3 | SW |
| WSW | 600. | 5.41E-06 | 2.41E-06 | 1.61E-06 | 6.73E-07 | 1.92E-07 | 4.13E-08 | 43.7 | WSW |
| W | 600. | 4.62E-06 | 2.05E-06 | 1.37E-06 | 5.66E-07 | 1.59E-07 | 3.39E-08 | 31.3 | W |
| WNW | 600. | 4.89E-06 | 2.23E-06 | 1.51E-06 | 6.46E-07 | 1.91E-07 | 4.29E-08 | 35.7 | WNW |
| NW | 600. | 5.35E-06 | 2.45E-06 | 1.66E-06 | 7.13E-07 | 2.12E-07 | 4.79E-08 | 43.0 | NW |
| NNW | 600. | 4.31E-06 | 1.88E-06 | 1.24E-06 | 5.02E-07 | 1.37E-07 | 2.81E-08 | 24.3 | NNW |
| N | 600. | 4.22E-06 | 1.86E-06 | 1.24E-06 | 5.11E-07 | 1.43E-07 | 3.02E-08 | 23.4 | N |
| NNE | 600. | 4.38E-06 | 1.99E-06 | 1.34E-06 | 5.72E-07 | 1.68E-07 | 3.74E-08 | 26.7 | NNE |
| NE | 600. | 4.42E-06 | 1.99E-06 | 1.34E-06 | 5.63E-07 | 1.63E-07 | 3.56E-08 | 26.8 | NE |
| ENE | 600. | 5.08E-06 | 2.36E-06 | 1.61E-06 | 7.02E-07 | 2.13E-07 | 4.95E-08 | 38.1 | ENE |
| E | 600. | 4.52E-06 | 1.99E-06 | 1.32E-06 | 5.41E-07 | 1.50E-07 | 3.14E-08 | 28.1 | E |
| ESE | 600. | 4.53E-06 | 2.10E-06 | 1.43E-06 | 6.19E-07 | 1.87E-07 | 4.31E-08 | 26.6 | ESE |
| SE | 600. | 4.52E-06 | 2.09E-06 | 1.42E-06 | 6.13E-07 | 1.84E-07 | 4.21E-08 | 27.2 | SE |
| SSE | 600. | 4.39E-06 | 1.96E-06 | 1.31E-06 | 5.48E-07 | 1.56E-07 | 3.36E-08 | 25.6 | SSE |
| MAX X/Q | | 5.41E-06 | | | | TOTAL HOURS AROUND SITE: | | | 473.5 |
| | | | | | | | | | |
| SRP 2.3.4 | 600. | 5.68E-06 | 2.59E-06 | 1.75E-06 | 7.48E-07 | 2.21E-07 | 4.95E-08 | | |
| SITE LIMIT | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.95E-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 | 600. | 1.03E-04 |
| SSW | 600. | 1.03E-04 |
| SW | 600. | 1.03E-04 |
| WSW | 600. | 1.03E-04 |
| W | 600. | 1.03E-04 |
| WNW | 600. | 1.03E-04 |
| NW | 600. | 1.04E-04 |
| NNW | 600. | 1.04E-04 |
| N | 600. | 1.03E-04 |
| NNE | 600. | 1.03E-04 |
| NE | 600. | 1.03E-04 |
| ENE | 600. | 1.03E-04 |
| E | 600. | 1.03E-04 |
| ESE | 600. | 1.03E-04 |
| SE | 600. | 1.03E-04 |
| SSE | 600. | 1.03E-04 |

| | | | |
|----------------------------|------------|--------------|--------------------|
| CALCULATION NO. DRE04-0030 | REV. NO. 1 | ATTACHMENT I | PAGE NO. 48 of 108 |
|----------------------------|------------|--------------|--------------------|

****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.

1 1111
Dresden Elevated Release
91.4 meters 10.7-91.4 meters

[illegible]

Copyright (c) 1990 Ergo Computing, Inc. for Lahey

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/13/04

PRINTOUT OF INPUT CARDS

```

1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2      Dresden
Elevated Release
3      91.4 meters      10.7-91.4 meters
4
5      Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data      6      7 43072      0
7      0.500 1545.000 43.100 83.300 91.400
8      0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      1.000 0.000 0.000 1.000 0.000 2.000 1.000 0.000 2.000 0.000 0.000 2.000 1.000 0.000 2.000 1.000
9      15.000 24.000 44.000 54.000 40.000 65.000 45.000 22.000 17.000 25.000 25.000 24.000 13.000 9.000 10.000 10.000
9      57.000 85.000 63.000 61.000 34.000 47.000 86.000 32.000 23.000 38.000 25.000 39.000 23.000 28.000 37.000 39.000
9      36.000 69.000 46.000 9.000 28.000 19.000 13.000 9.000 6.000 37.000 33.000 34.000 12.000 57.000 60.000 64.000
9      4.000 13.000 9.000 0.000 8.000 5.000 0.000 2.000 2.000 12.000 17.000 4.000 6.000 29.000 27.000 12.000
9      3.000 1.000 2.000 0.000 3.000 3.000 1.000 0.000 4.000 9.000 8.000 9.000 8.000 21.000 5.000 3.000
9      1.000 1.000 1.000 2.000 5.000 2.000 1.000 3.000 4.000 1.000 6.000 3.000 1.000 1.000 3.000 1.000
9      22.000 21.000 27.000 54.000 36.000 52.000 61.000 19.000 20.000 30.000 24.000 51.000 29.000 14.000 26.000 18.000
9      45.000 34.000 42.000 44.000 34.000 31.000 53.000 43.000 40.000 38.000 35.000 69.000 31.000 64.000 56.000 51.000
9      35.000 31.000 38.000 6.000 15.000 13.000 14.000 18.000 36.000 48.000 37.000 65.000 43.000 88.000 84.000 43.000
9      5.000 7.000 10.000 1.000 3.000 6.000 1.000 8.000 17.000 36.000 27.000 14.000 17.000 35.000 21.000 21.000
9      4.000 2.000 2.000 0.000 3.000 1.000 0.000 1.000 10.000 21.000 11.000 7.000 17.000 26.000 6.000 1.000
9      3.000 5.000 5.000 6.000 1.000 5.000 5.000 2.000 6.000 5.000 4.000 2.000 2.000 6.000 1.000 2.000
9      38.000 32.000 35.000 38.000 41.000 49.000 67.000 34.000 31.000 32.000 37.000 64.000 40.000 43.000 33.000 38.000
9      44.000 36.000 34.000 41.000 33.000 45.000 38.000 61.000 53.000 50.000 57.000 79.000 74.000 97.000 74.000 58.000
9      40.000 30.000 35.000 11.000 15.000 10.000 20.000 28.000 51.000 54.000 50.000 61.000 62.000 85.000 76.000 49.000
9      8.000 2.000 6.000 1.000 5.000 8.000 6.000 10.000 21.000 42.000 32.000 20.000 33.000 38.000 32.000 25.000
9      2.000 1.000 1.000 0.000 0.000 6.000 6.000 1.000 19.000 21.000 16.000 13.000 22.000 31.000 9.000 8.000
9      24.000 18.000 26.000 37.000 26.000 25.000 28.000 15.000 20.000 28.000 26.000 19.000 30.000 34.000 27.000 35.000
9      117.000122.000179.000297.000134.000106.000107.000114.000124.000125.000134.000130.000152.000141.000162.000151.000
9      264.000209.000345.000612.000373.000215.000186.000254.000244.000212.000215.000230.000433.000410.000341.000286.000
9      302.000314.000335.000265.000343.000219.000160.000283.000342.000237.000275.000246.000628.000653.000451.000378.000
9      138.000169.000128.000 24.000161.000146.000108.000150.000280.000212.000133.000119.000427.000373.000205.000171.000
9      38.000101.000 69.000 2.000 48.000 41.000 54.000104.000161.000158.000120.000115.000276.000202.000 68.000 82.000
9      10.000 14.000 12.000 27.000 24.000 17.000 17.000 17.000 13.000 13.000 15.000 21.000 14.000 8.000 9.000 3.000
9      54.000 57.000113.000234.000120.000 78.000 91.000110.000 83.000 76.000 93.000 92.000 94.000 77.000 79.000 58.000
9      150.000195.000254.000306.000294.000214.000291.000291.000225.000215.000177.000224.000237.000192.000234.000155.000
9      242.000230.000207.000 75.000278.000311.000292.000394.000457.000510.000390.000219.000352.000368.000315.000307.000
9      72.000 60.000 22.000 4.000 44.000 93.000 68.000141.000401.000324.000189.000 79.000128.000124.000 71.000 77.000
9      7.000 4.000 5.000 2.000 6.000 24.000 28.000 70.000199.000142.000 64.000 22.000 29.000 16.000 15.000 12.000
9      12.000 4.000 14.000 15.000 7.000 10.000 11.000 17.000 15.000 17.000 16.000 14.000 13.000 9.000 9.000 12.000
9      26.000 29.000 42.000 58.000 48.000 43.000 50.000 60.000 56.000 57.000 35.000 55.000 71.000 46.000 41.000 29.000
9      96.000 75.000 56.000 36.000 53.000 70.000134.000133.000 84.000 64.000110.000176.000180.000 81.000 89.000 60.000
9      130.000118.000 34.000 2.000 33.000101.000166.000116.000 96.000148.000270.000211.000100.000 86.000107.000116.000
9      37.000 15.000 7.000 0.000 2.000 29.000 20.000 14.000 43.000 72.000 79.000 31.000 10.000 37.000 8.000 22.000
9      1.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 4.000 5.000 2.000 2.000 2.000 0.000 0.000 1.000
9      2.000 8.000 9.000 8.000 1.000 4.000 3.000 4.000 7.000 4.000 2.000 3.000 1.000 7.000 4.000 5.000
9      3.000 7.000 20.000 21.000 4.000 4.000 9.000 8.000 19.000 12.000 20.000 14.000 12.000 19.000 9.000 14.000
9      36.000 28.000 14.000 3.000 4.000 12.000 18.000 21.000 24.000 18.000 24.000 29.000 51.000 25.000 17.000 16.000
9      36.000 37.000 6.000 0.000 1.000 4.000 25.000 33.000 10.000 24.000 29.000 57.000 40.000 13.000 30.000 26.000
9      11.000 1.000 0.000 0.000 0.000 8.000 5.000 6.000 2.000 12.000 19.000 6.000 2.000 4.000 1.000 10.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 0.000 0.000 0.000 0.000 0.000 0.000
7.500 12.500 18.500 24.000 55.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 10      101. 0.930 3.500
800. 800. 800. 800. 800. 800. 800. 800. 800. 800.

```


USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/13/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 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

HOURS PER YEAR MAX
0-2 HR X/Q IS

| DOWNWIND DISTANCE
SECTOR (METERS) | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | EXCEEDED
IN SECTOR | DOWNWIND
SECTOR |
|--------------------------------------|-----------|-----------|------------|----------|--------------------------|----------------|-----------------------|--------------------|
| S 800. | 4.12E-06 | 1.83E-06 | 1.22E-06 | 5.04E-07 | 1.42E-07 | 3.01E-08 | 25.0 | S |
| SSW 800. | 3.99E-06 | 1.78E-06 | 1.19E-06 | 4.94E-07 | 1.40E-07 | 3.01E-08 | 23.2 | SSW |
| SW 800. | 4.37E-06 | 1.96E-06 | 1.31E-06 | 5.48E-07 | 1.57E-07 | 3.39E-08 | 27.6 | SW |
| WSW 800. | 5.19E-06 | 2.30E-06 | 1.53E-06 | 6.35E-07 | 1.79E-07 | 3.81E-08 | 42.5 | WSW |
| W 800. | 4.56E-06 | 2.00E-06 | 1.32E-06 | 5.41E-07 | 1.50E-07 | 3.11E-08 | 33.0 | W |
| WNW 800. | 4.67E-06 | 2.10E-06 | 1.41E-06 | 5.90E-07 | 1.70E-07 | 3.69E-08 | 36.1 | WNW |
| NW 800. | 5.25E-06 | 2.36E-06 | 1.59E-06 | 6.68E-07 | 1.93E-07 | 4.21E-08 | 43.7 | NW |
| NNW 800. | 4.23E-06 | 1.85E-06 | 1.22E-06 | 4.98E-07 | 1.37E-07 | 2.84E-08 | 25.8 | NNW |
| N 800. | 4.14E-06 | 1.85E-06 | 1.24E-06 | 5.15E-07 | 1.47E-07 | 3.16E-08 | 24.5 | N |
| NNE 800. | 4.27E-06 | 1.94E-06 | 1.30E-06 | 5.54E-07 | 1.62E-07 | 3.59E-08 | 27.6 | NNE |
| NE 800. | 4.34E-06 | 1.95E-06 | 1.31E-06 | 5.52E-07 | 1.59E-07 | 3.49E-08 | 28.4 | NE |
| ENE 800. | 5.02E-06 | 2.32E-06 | 1.58E-06 | 6.85E-07 | 2.06E-07 | 4.75E-08 | 39.8 | ENE |
| E 800. | 4.48E-06 | 2.01E-06 | 1.35E-06 | 5.67E-07 | 1.63E-07 | 3.56E-08 | 29.8 | E |
| ESE 800. | 4.49E-06 | 2.11E-06 | 1.44E-06 | 6.33E-07 | 1.95E-07 | 4.59E-08 | 28.3 | ESE |
| SE 800. | 4.41E-06 | 2.04E-06 | 1.38E-06 | 5.98E-07 | 1.79E-07 | 4.11E-08 | 26.6 | SE |
| SSE 800. | 4.31E-06 | 1.93E-06 | 1.29E-06 | 5.40E-07 | 1.54E-07 | 3.33E-08 | 26.0 | SSE |
| MAX X/Q | 5.25E-06 | | | | | | | |
| | | | | | TOTAL HOURS AROUND SITE: | | 487.9 | |
| SRP 2.3.4 800. | 5.66E-06 | 2.57E-06 | 1.73E-06 | 7.34E-07 | 2.14E-07 | 4.75E-08 | | |
| SITE LIMIT | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.75E-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 800. | 7.92E-05 |
| SSW 800. | 7.92E-05 |
| SW 800. | 7.92E-05 |
| WSW 800. | 7.92E-05 |
| W 800. | 7.93E-05 |
| WNW 800. | 7.94E-05 |
| NW 800. | 8.00E-05 |
| NNW 800. | 8.04E-05 |
| N 800. | 7.93E-05 |
| NNE 800. | 7.93E-05 |
| NE 800. | 7.92E-05 |
| ENE 800. | 7.92E-05 |
| E 800. | 7.92E-05 |
| ESE 800. | 7.92E-05 |
| SE 800. | 7.92E-05 |
| SSE 800. | 7.92E-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.

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/13/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 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

HOURS PER YEAR MAX
0-2 HR X/Q IS

| DOWNWIND
SECTOR | DISTANCE
(METERS) | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | EXCEEDED
IN SECTOR | DOWNWIND
SECTOR |
|--------------------|----------------------|-----------|-----------|------------|----------|--------------------------|----------------|-----------------------|--------------------|
| S | 1000. | 3.81E-06 | 1.72E-06 | 1.16E-06 | 4.88E-07 | 1.42E-07 | 3.12E-08 | 26.1 | S |
| SSW | 1000. | 3.74E-06 | 1.68E-06 | 1.13E-06 | 4.75E-07 | 1.37E-07 | 2.99E-08 | 24.5 | SSW |
| SW | 1000. | 4.08E-06 | 1.86E-06 | 1.25E-06 | 5.34E-07 | 1.57E-07 | 3.50E-08 | 29.3 | SW |
| WSW | 1000. | 4.70E-06 | 2.15E-06 | 1.45E-06 | 6.22E-07 | 1.84E-07 | 4.14E-08 | 43.7 | WSW |
| W | 1000. | 4.11E-06 | 1.85E-06 | 1.24E-06 | 5.21E-07 | 1.50E-07 | 3.27E-08 | 32.2 | W |
| WNW | 1000. | 4.13E-06 | 1.88E-06 | 1.26E-06 | 5.38E-07 | 1.57E-07 | 3.50E-08 | 32.6 | WNW |
| NW | 1000. | 4.42E-06 | 2.02E-06 | 1.37E-06 | 5.88E-07 | 1.74E-07 | 3.93E-08 | 38.6 | NW |
| NNW | 1000. | 3.94E-06 | 1.76E-06 | 1.18E-06 | 4.93E-07 | 1.41E-07 | 3.05E-08 | 27.9 | NNW |
| N | 1000. | 3.87E-06 | 1.77E-06 | 1.20E-06 | 5.12E-07 | 1.52E-07 | 3.41E-08 | 26.4 | N |
| NNE | 1000. | 3.95E-06 | 1.82E-06 | 1.23E-06 | 5.32E-07 | 1.59E-07 | 3.63E-08 | 28.0 | NNE |
| NE | 1000. | 4.06E-06 | 1.86E-06 | 1.25E-06 | 5.36E-07 | 1.58E-07 | 3.56E-08 | 30.4 | NE |
| ENE | 1000. | 4.42E-06 | 2.07E-06 | 1.42E-06 | 6.26E-07 | 1.93E-07 | 4.57E-08 | 37.4 | ENE |
| E | 1000. | 4.19E-06 | 1.96E-06 | 1.34E-06 | 5.87E-07 | 1.79E-07 | 4.21E-08 | 31.9 | E |
| ESE | 1000. | 4.23E-06 | 2.03E-06 | 1.41E-06 | 6.37E-07 | 2.03E-07 | 5.03E-08 | 33.0 | ESE |
| SE | 1000. | 4.11E-06 | 1.93E-06 | 1.33E-06 | 5.84E-07 | 1.80E-07 | 4.27E-08 | 29.4 | SE |
| SSE | 1000. | 4.05E-06 | 1.85E-06 | 1.25E-06 | 5.36E-07 | 1.59E-07 | 3.57E-08 | 29.6 | SSE |
| MAX X/Q | | 4.70E-06 | | | | TOTAL HOURS AROUND SITE: | | 500.8 | |
| SRP 2.3.4 | 1000. | 5.10E-06 | 2.38E-06 | 1.62E-06 | 7.09E-07 | 2.16E-07 | 5.03E-08 | | |
| SITE LIMIT | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.03E-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 | 1000. | 6.48E-05 |
| SSW | 1000. | 6.48E-05 |
| SW | 1000. | 6.48E-05 |
| WSW | 1000. | 6.48E-05 |
| W | 1000. | 6.48E-05 |
| WNW | 1000. | 6.49E-05 |
| NW | 1000. | 6.54E-05 |
| NNW | 1000. | 6.58E-05 |
| N | 1000. | 6.48E-05 |
| NNE | 1000. | 6.48E-05 |
| NE | 1000. | 6.48E-05 |
| ENE | 1000. | 6.48E-05 |
| E | 1000. | 6.48E-05 |
| ESE | 1000. | 6.48E-05 |
| SE | 1000. | 6.48E-05 |
| SSE | 1000. | 6.48E-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. DRE04-0030 | REV. NO. 1 | ATTACHMENT I | PAGE NO. 58 of 108 |
|----------------------------|------------|--------------|--------------------|

2000.2000.2000.2000.2000.2000.2000.2000.2000.2000.2000.2000.2000.2000.2000.2000.
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.

Copyright (c) 1990 Ergo Computing, Inc. for Lahey

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/13/04

PRINTOUT OF INPUT CARDS

```

1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2'   Dresden
Elevated Release
3      91.4 meters           10.7-91.4 meters
4
5      Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data      6           7 43072      0
7      0.500 1545.000    43.100    83.300    91.400
8      0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      1.000 0.000 0.000 1.000 0.000 2.000 1.000 0.000 2.000 0.000 0.000 2.000 1.000 0.000 2.000 1.000
9      15.000 24.000 44.000 54.000 40.000 65.000 45.000 22.000 17.000 25.000 25.000 24.000 13.000 9.000 10.000 10.000
9      57.000 85.000 63.000 61.000 34.000 47.000 86.000 32.000 23.000 38.000 25.000 39.000 23.000 28.000 37.000 39.000
9      36.000 69.000 46.000 9.000 28.000 19.000 13.000 9.000 6.000 37.000 33.000 34.000 12.000 57.000 60.000 64.000
9      4.000 13.000 9.000 0.000 8.000 5.000 0.000 2.000 2.000 12.000 17.000 4.000 6.000 29.000 27.000 12.000
9      3.000 1.000 2.000 0.000 3.000 3.000 1.000 0.000 4.000 9.000 8.000 9.000 8.000 21.000 5.000 3.000
9      1.000 1.000 1.000 2.000 5.000 2.000 1.000 3.000 4.000 1.000 6.000 3.000 1.000 1.000 3.000 1.000
9      22.000 21.000 27.000 54.000 36.000 52.000 61.000 19.000 20.000 30.000 24.000 51.000 29.000 14.000 26.000 18.000
9      45.000 34.000 42.000 44.000 34.000 31.000 53.000 43.000 40.000 38.000 35.000 69.000 31.000 64.000 56.000 51.000
9      35.000 31.000 38.000 6.000 15.000 13.000 14.000 18.000 36.000 48.000 37.000 65.000 43.000 88.000 84.000 43.000
9      5.000 7.000 10.000 1.000 3.000 6.000 1.000 8.000 17.000 36.000 27.000 14.000 17.000 35.000 21.000 21.000
9      4.000 2.000 2.000 0.000 3.000 1.000 0.000 1.000 10.000 21.000 11.000 7.000 17.000 26.000 6.000 1.000
9      3.000 5.000 5.000 6.000 1.000 5.000 5.000 2.000 6.000 5.000 4.000 2.000 2.000 6.000 1.000 2.000
9      38.000 32.000 35.000 38.000 41.000 49.000 67.000 34.000 31.000 32.000 37.000 64.000 40.000 43.000 33.000 38.000
9      44.000 36.000 34.000 41.000 33.000 45.000 38.000 61.000 53.000 50.000 57.000 79.000 74.000 97.000 74.000 58.000
9      40.000 30.000 35.000 11.000 15.000 10.000 20.000 28.000 51.000 54.000 50.000 61.000 62.000 85.000 76.000 49.000
9      8.000 2.000 6.000 1.000 5.000 8.000 6.000 10.000 21.000 42.000 32.000 20.000 33.000 38.000 32.000 25.000
9      2.000 1.000 1.000 0.000 0.000 6.000 6.000 1.000 19.000 21.000 16.000 13.000 22.000 31.000 9.000 8.000
9      24.000 18.000 26.000 37.000 26.000 25.000 28.000 15.000 20.000 28.000 26.000 19.000 30.000 34.000 27.000 35.000
9      117.000122.000179.000297.000134.000106.000107.000114.000124.000125.000134.000130.000152.000141.000162.000151.000
9      264.000209.000345.000612.000373.000215.000186.000254.000244.000212.000215.000230.000433.000410.000341.000286.000
9      302.000314.000335.000265.000343.000219.000160.000283.000342.000237.000275.000246.000628.000653.000451.000378.000
9      138.000169.000128.000 24.000161.000146.000108.000150.000280.000212.000133.000119.000427.000373.000205.000171.000
9      38.000101.000 69.000 2.000 48.000 41.000 54.000104.000161.000158.000120.000115.000276.000202.000 68.000 82.000
9      10.000 14.000 12.000 27.000 24.000 17.000 17.000 17.000 13.000 13.000 15.000 21.000 14.000 8.000 9.000 3.000
9      54.000 57.000113.000234.000120.000 78.000 91.000110.000 83.000 76.000 93.000 92.000 94.000 77.000 79.000 58.000
9      150.000195.000254.000306.000294.000214.000291.000291.000225.000215.000177.000224.000237.000192.000234.000155.000
9      242.000230.000207.000 75.000278.000311.000292.000394.000457.000510.000390.000219.000352.000368.000315.000307.000
9      72.000 60.000 22.000 4.000 44.000 93.000 68.000141.000401.000324.000189.000 79.000128.000124.000 71.000 77.000
9      7.000 4.000 5.000 2.000 6.000 24.000 28.000 70.000199.000142.000 64.000 22.000 29.000 16.000 15.000 12.000
9      12.000 4.000 14.000 15.000 7.000 10.000 11.000 17.000 15.000 17.000 16.000 14.000 13.000 9.000 9.000 12.000
9      26.000 29.000 42.000 58.000 48.000 43.000 50.000 60.000 56.000 57.000 35.000 55.000 71.000 46.000 41.000 29.000
9      96.000 75.000 56.000 36.000 53.000 70.000134.000133.000 84.000 64.000110.000176.000180.000 81.000 89.000 60.000
9      130.000118.000 34.000 2.000 33.000101.000166.000116.000 96.000148.000270.000211.000100.000 86.000107.000116.000
9      37.000 15.000 7.000 0.000 2.000 29.000 20.000 14.000 43.000 72.000 79.000 31.000 10.000 37.000 8.000 22.000
9      1.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 4.000 5.000 2.000 2.000 2.000 0.000 0.000 1.000
9      2.000 8.000 9.000 8.000 1.000 4.000 3.000 4.000 7.000 4.000 2.000 3.000 1.000 7.000 4.000 5.000
9      3.000 7.000 20.000 21.000 4.000 4.000 9.000 8.000 19.000 12.000 20.000 14.000 12.000 19.000 9.000 14.000
9      36.000 28.000 14.000 3.000 4.000 12.000 18.000 21.000 24.000 18.000 24.000 29.000 51.000 25.000 17.000 16.000
9      36.000 37.000 6.000 0.000 1.000 4.000 25.000 33.000 10.000 24.000 29.000 57.000 40.000 13.000 30.000 26.000
9      11.000 1.000 0.000 0.000 0.000 8.000 5.000 6.000 2.000 12.000 19.000 6.000 2.000 4.000 1.000 10.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 0.000 0.000 0.000 0.000 10
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      1500. 1500. 1500. 1500. 1500. 1500. 1500. 1500.

```

101. 0.930 3.500

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/13/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 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

HOURS PER YEAR MAX

0-2 HR X/Q IS

EXCEEDED

DOWNWIND

| DOWNWIND DISTANCE
SECTOR (METERS) | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | IN SECTOR | SECTOR |
|--------------------------------------|-----------|-----------|------------|----------|-----------|--------------------------|-----------|--------|
| S 1500. | 3.36E-06 | 1.58E-06 | 1.09E-06 | 4.80E-07 | 1.49E-07 | 3.54E-08 | 22.2 | S |
| SSW 1500. | 3.33E-06 | 1.56E-06 | 1.07E-06 | 4.68E-07 | 1.43E-07 | 3.37E-08 | 21.2 | SSW |
| SW 1500. | 3.78E-06 | 1.79E-06 | 1.24E-06 | 5.51E-07 | 1.73E-07 | 4.17E-08 | 28.6 | SW |
| WSW 1500. | 4.45E-06 | 2.14E-06 | 1.49E-06 | 6.73E-07 | 2.16E-07 | 5.36E-08 | 43.7 | WSW |
| W 1500. | 3.66E-06 | 1.74E-06 | 1.20E-06 | 5.33E-07 | 1.67E-07 | 4.03E-08 | 26.0 | W |
| WNW 1500. | 3.46E-06 | 1.63E-06 | 1.11E-06 | 4.92E-07 | 1.52E-07 | 3.60E-08 | 24.2 | WNW |
| NW 1500. | 3.68E-06 | 1.73E-06 | 1.19E-06 | 5.22E-07 | 1.61E-07 | 3.82E-08 | 28.0 | NW |
| NNW 1500. | 3.46E-06 | 1.63E-06 | 1.12E-06 | 4.97E-07 | 1.54E-07 | 3.70E-08 | 21.5 | NNW |
| N 1500. | 3.40E-06 | 1.64E-06 | 1.14E-06 | 5.16E-07 | 1.66E-07 | 4.12E-08 | 22.5 | N |
| NNE 1500. | 3.45E-06 | 1.65E-06 | 1.14E-06 | 5.16E-07 | 1.64E-07 | 4.04E-08 | 24.7 | NNE |
| NE 1500. | 3.57E-06 | 1.69E-06 | 1.17E-06 | 5.19E-07 | 1.63E-07 | 3.93E-08 | 25.4 | NE |
| ENE 1500. | 3.65E-06 | 1.76E-06 | 1.22E-06 | 5.53E-07 | 1.77E-07 | 4.41E-08 | 24.3 | ENE |
| E 1500. | 3.84E-06 | 1.91E-06 | 1.34E-06 | 6.28E-07 | 2.11E-07 | 5.56E-08 | 29.7 | E |
| ESE 1500. | 3.93E-06 | 1.97E-06 | 1.39E-06 | 6.55E-07 | 2.22E-07 | 5.93E-08 | 32.5 | ESE |
| SE 1500. | 3.64E-06 | 1.78E-06 | 1.25E-06 | 5.75E-07 | 1.89E-07 | 4.84E-08 | 26.0 | SE |
| SSE 1500. | 3.63E-06 | 1.74E-06 | 1.20E-06 | 5.41E-07 | 1.72E-07 | 4.22E-08 | 27.6 | SSE |
| MAX X/Q | 4.45E-06 | | | | | TOTAL HOURS AROUND SITE: | 428.0 | |
| SRP 2.3.4 1500. | 4.76E-06 | 2.31E-06 | 1.60E-06 | 7.31E-07 | 2.36E-07 | 5.93E-08 | | |
| SITE LIMIT | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.93E-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 1500. | 4.49E-05 |
| SSW 1500. | 4.49E-05 |
| SW 1500. | 4.49E-05 |
| WSW 1500. | 4.49E-05 |
| W 1500. | 4.49E-05 |
| WNW 1500. | 4.50E-05 |
| NW 1500. | 4.53E-05 |
| NNW 1500. | 4.56E-05 |
| N 1500. | 4.49E-05 |
| NNE 1500. | 4.49E-05 |
| NE 1500. | 4.49E-05 |
| ENE 1500. | 4.49E-05 |
| E 1500. | 4.49E-05 |
| ESE 1500. | 4.49E-05 |
| SE 1500. | 4.49E-05 |
| SSE 1500. | 4.49E-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.

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/13/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 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

HOURS PER YEAR MAX

0-2 HR X/Q IS

EXCEEDED

DOWNWIND

| DOWNWIND DISTANCE
SECTOR (METERS) | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | IN SECTOR | DOWNWIND
SECTOR |
|--------------------------------------|-----------|-----------|------------|----------|-----------|--------------------------|-----------|--------------------|
| S 2000. | 3.18E-06 | 1.52E-06 | 1.05E-06 | 4.71E-07 | 1.49E-07 | 3.65E-08 | 21.7 | S |
| SSW 2000. | 3.09E-06 | 1.47E-06 | 1.02E-06 | 4.57E-07 | 1.45E-07 | 3.54E-08 | 19.3 | SSW |
| SW 2000. | 3.56E-06 | 1.73E-06 | 1.20E-06 | 5.47E-07 | 1.77E-07 | 4.44E-08 | 27.2 | SW |
| WSW 2000. | 4.27E-06 | 2.10E-06 | 1.47E-06 | 6.83E-07 | 2.27E-07 | 5.87E-08 | 43.7 | WSW |
| W 2000. | 3.55E-06 | 1.72E-06 | 1.20E-06 | 5.44E-07 | 1.75E-07 | 4.40E-08 | 27.1 | W |
| WNW 2000. | 3.18E-06 | 1.52E-06 | 1.05E-06 | 4.73E-07 | 1.50E-07 | 3.68E-08 | 22.1 | WNW |
| NW 2000. | 3.35E-06 | 1.60E-06 | 1.10E-06 | 4.95E-07 | 1.56E-07 | 3.81E-08 | 25.2 | NW |
| NNW 2000. | 3.23E-06 | 1.57E-06 | 1.09E-06 | 4.95E-07 | 1.60E-07 | 4.01E-08 | 20.3 | NNW |
| N 2000. | 3.16E-06 | 1.56E-06 | 1.10E-06 | 5.11E-07 | 1.70E-07 | 4.45E-08 | 20.5 | N |
| NNE 2000. | 3.21E-06 | 1.57E-06 | 1.10E-06 | 5.06E-07 | 1.66E-07 | 4.25E-08 | 23.2 | NNE |
| NE 2000. | 3.27E-06 | 1.58E-06 | 1.10E-06 | 5.01E-07 | 1.62E-07 | 4.07E-08 | 23.2 | NE |
| ENE 2000. | 3.36E-06 | 1.63E-06 | 1.14E-06 | 5.20E-07 | 1.69E-07 | 4.26E-08 | 22.5 | ENE |
| E 2000. | 3.68E-06 | 1.86E-06 | 1.32E-06 | 6.32E-07 | 2.18E-07 | 5.95E-08 | 30.0 | E |
| ESE 2000. | 3.69E-06 | 1.87E-06 | 1.33E-06 | 6.38E-07 | 2.21E-07 | 6.07E-08 | 30.7 | ESE |
| SE 2000. | 3.47E-06 | 1.72E-06 | 1.21E-06 | 5.65E-07 | 1.89E-07 | 4.97E-08 | 26.1 | SE |
| SSE 2000. | 3.47E-06 | 1.68E-06 | 1.17E-06 | 5.34E-07 | 1.73E-07 | 4.36E-08 | 27.7 | SSE |
| MAX X/Q | 4.27E-06 | | | | | TOTAL HOURS AROUND SITE: | 410.6 | |
| SRP 2.3.4 2000. | 4.51E-06 | 2.21E-06 | 1.55E-06 | 7.15E-07 | 2.36E-07 | 6.07E-08 | | |
| SITE LIMIT | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.07E-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 2000. | 3.46E-05 |
| SSW 2000. | 3.46E-05 |
| SW 2000. | 3.46E-05 |
| WSW 2000. | 3.46E-05 |
| W 2000. | 3.47E-05 |
| WNW 2000. | 3.47E-05 |
| NW 2000. | 3.50E-05 |
| NNW 2000. | 3.52E-05 |
| N 2000. | 3.47E-05 |
| NNE 2000. | 3.47E-05 |
| NE 2000. | 3.46E-05 |
| ENE 2000. | 3.46E-05 |
| E 2000. | 3.46E-05 |
| ESE 2000. | 3.46E-05 |
| SE 2000. | 3.46E-05 |
| SSE 2000. | 3.46E-05 |

| | | | |
|----------------------------|------------|--------------|--------------------|
| CALCULATION NO. DRE04-0030 | REV. NO. 1 | ATTACHMENT I | PAGE NO. 64 of 108 |
|----------------------------|------------|--------------|--------------------|

****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.

[illegible]

350. 350. 350. 350. 350. 350. 350. 350. 350. 350. 350. 350. 350. 350. 350. 350.
 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.

Copyright (c) 1990 Ergo Computing, Inc. for Lahey

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PRINTOUT OF INPUT CARDS

```

1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2      Dresden
Elevated Release
3      91.4 meters          10.7-91.4 meters
4
5      Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data      6          7 43072      0
7      0.500 1545.000      43.100      83.300      91.400
8      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      1.000 0.000 0.000 1.000 0.000 2.000 1.000 0.000 2.000 0.000 0.000 2.000 1.000 0.000 2.000 1.000
9      15.000 24.000 44.000 54.000 40.000 65.000 45.000 22.000 17.000 25.000 25.000 24.000 13.000 9.000 10.000 10.000
9      57.000 85.000 63.000 61.000 34.000 47.000 86.000 32.000 23.000 38.000 25.000 39.000 23.000 28.000 37.000 39.000
9      36.000 69.000 46.000 9.000 28.000 19.000 13.000 9.000 6.000 37.000 33.000 34.000 12.000 57.000 60.000 64.000
9      4.000 13.000 9.000 0.000 8.000 5.000 0.000 2.000 2.000 12.000 17.000 4.000 6.000 29.000 27.000 12.000
9      3.000 1.000 2.000 0.000 3.000 3.000 1.000 0.000 4.000 9.000 8.000 9.000 8.000 21.000 5.000 3.000
9      1.000 1.000 1.000 2.000 5.000 2.000 1.000 3.000 4.000 1.000 6.000 3.000 1.000 1.000 3.000 1.000
9      22.000 21.000 27.000 54.000 36.000 52.000 61.000 19.000 20.000 30.000 24.000 51.000 29.000 14.000 26.000 18.000
9      45.000 34.000 42.000 44.000 34.000 31.000 53.000 43.000 40.000 38.000 35.000 69.000 31.000 64.000 56.000 51.000
9      35.000 31.000 38.000 6.000 15.000 13.000 14.000 18.000 36.000 48.000 37.000 65.000 43.000 88.000 84.000 43.000
9      5.000 7.000 10.000 1.000 3.000 6.000 1.000 8.000 17.000 36.000 27.000 14.000 17.000 35.000 21.000 21.000
9      4.000 2.000 2.000 0.000 3.000 1.000 0.000 1.000 10.000 21.000 11.000 7.000 17.000 26.000 6.000 1.000
9      3.000 5.000 5.000 6.000 1.000 5.000 5.000 2.000 6.000 5.000 4.000 2.000 2.000 6.000 1.000 2.000
9      38.000 32.000 35.000 38.000 41.000 49.000 67.000 34.000 31.000 32.000 37.000 64.000 40.000 43.000 33.000 38.000
9      44.000 36.000 34.000 41.000 33.000 45.000 38.000 61.000 53.000 50.000 57.000 79.000 74.000 97.000 74.000 58.000
9      40.000 30.000 35.000 11.000 15.000 10.000 20.000 28.000 51.000 54.000 50.000 61.000 62.000 85.000 76.000 49.000
9      8.000 2.000 6.000 1.000 5.000 8.000 6.000 10.000 21.000 42.000 32.000 20.000 33.000 38.000 32.000 25.000
9      2.000 1.000 1.000 0.000 0.000 6.000 6.000 1.000 19.000 21.000 16.000 13.000 22.000 31.000 9.000 8.000
9      24.000 18.000 26.000 37.000 26.000 25.000 28.000 15.000 20.000 28.000 26.000 19.000 30.000 34.000 27.000 35.000
9      117.000122.000179.000297.000134.000106.000107.000114.000124.000125.000134.000130.000152.000141.000162.000151.000
9      264.000209.000345.000612.000373.000215.000186.000254.000244.000212.000215.000230.000433.000410.000341.000286.000
9      302.000314.000335.000265.000343.000219.000160.000283.000342.000237.000275.000246.000628.000653.000451.000378.000
9      138.000169.000128.000 24.000161.000146.000108.000150.000280.000212.000133.000119.000427.000373.000205.000171.000
9      38.000101.000 69.000 2.000 48.000 41.000 54.000104.000161.000158.000120.000115.000276.000202.000 68.000 82.000
9      10.000 14.000 12.000 27.000 24.000 17.000 17.000 13.000 13.000 15.000 21.000 14.000 8.000 9.000 3.000
9      54.000 57.000113.000234.000120.000 78.000 91.000110.000 83.000 76.000 93.000 92.000 94.000 77.000 79.000 58.000
9      150.000195.000254.000306.000294.000214.000291.000291.000225.000215.000177.000224.000237.000192.000234.000155.000
9      242.000230.000207.000 75.000278.000311.000292.000394.000457.000510.000390.000219.000352.000368.000315.000307.000
9      72.000 60.000 22.000 4.000 44.000 93.000 68.000141.000401.000324.000189.000 79.000128.000124.000 71.000 77.000
9      7.000 4.000 5.000 2.000 6.000 24.000 28.000 70.000199.000142.000 64.000 22.000 29.000 16.000 15.000 12.000
9      12.000 4.000 14.000 15.000 7.000 10.000 11.000 17.000 15.000 17.000 16.000 14.000 13.000 9.000 9.000 12.000
9      26.000 29.000 42.000 58.000 48.000 43.000 50.000 60.000 56.000 57.000 35.000 55.000 71.000 46.000 41.000 29.000
9      96.000 75.000 56.000 36.000 53.000 70.000134.000133.000 84.000 64.000110.000176.000180.000 81.000 89.000 60.000
9      130.000118.000 34.000 2.000 33.000101.000166.000116.000 96.000148.000270.000211.000100.000 86.000107.000116.000
9      37.000 15.000 7.000 0.000 2.000 29.000 20.000 14.000 43.000 72.000 79.000 31.000 10.000 37.000 8.000 22.000
9      1.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 4.000 5.000 2.000 2.000 2.000 0.000 0.000 1.000
9      2.000 8.000 9.000 8.000 1.000 4.000 3.000 4.000 7.000 4.000 2.000 3.000 1.000 7.000 4.000 5.000
9      3.000 7.000 20.000 21.000 4.000 4.000 9.000 8.000 19.000 12.000 20.000 14.000 12.000 19.000 9.000 14.000
9      36.000 28.000 14.000 3.000 4.000 12.000 18.000 21.000 24.000 18.000 24.000 29.000 51.000 25.000 17.000 16.000
9      36.000 37.000 6.000 0.000 1.000 4.000 25.000 33.000 10.000 24.000 29.000 57.000 40.000 13.000 30.000 26.000
9      11.000 1.000 0.000 0.000 0.000 8.000 5.000 6.000 2.000 12.000 19.000 6.000 2.000 4.000 1.000 10.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 0.000 0.000 0.000 0.000 10
7.500 12.500 18.500 24.000 55.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 11      300. 300. 300. 300. 300. 300. 300. 300. 300. 300.

```


USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data

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

| 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 IN SECTOR | | DOWNWIND
SECTOR |
|--------------------------------------|------|---|-----------|------------|----------|--------------------------|----------------|---|--|--------------------|
| | | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | | | |
| S | 300. | 4.70E-06 | 1.97E-06 | 1.28E-06 | 5.00E-07 | 1.30E-07 | 2.49E-08 | 21.1 | | S |
| SSW | 300. | 5.02E-06 | 2.23E-06 | 1.48E-06 | 6.14E-07 | 1.73E-07 | 3.68E-08 | 23.3 | | SSW |
| SW | 300. | 5.27E-06 | 2.32E-06 | 1.54E-06 | 6.33E-07 | 1.77E-07 | 3.71E-08 | 30.2 | | SW |
| WSW | 300. | 6.19E-06 | 2.65E-06 | 1.73E-06 | 6.89E-07 | 1.83E-07 | 3.63E-08 | 43.7 | | WSW |
| W | 300. | 5.16E-06 | 2.18E-06 | 1.42E-06 | 5.57E-07 | 1.45E-07 | 2.82E-08 | 30.5 | | W |
| WNW | 300. | 5.88E-06 | 2.58E-06 | 1.71E-06 | 6.98E-07 | 1.93E-07 | 4.02E-08 | 40.1 | | WNW |
| NW | 300. | 6.15E-06 | 2.68E-06 | 1.77E-06 | 7.17E-07 | 1.97E-07 | 4.03E-08 | 43.0 | | NW |
| NNW | 300. | 4.57E-06 | 1.84E-06 | 1.17E-06 | 4.36E-07 | 1.06E-07 | 1.88E-08 | 20.9 | | NNW |
| N | 300. | 4.45E-06 | 1.76E-06 | 1.11E-06 | 4.07E-07 | 9.64E-08 | 1.65E-08 | 20.5 | | N |
| NNE | 300. | 4.87E-06 | 2.05E-06 | 1.33E-06 | 5.20E-07 | 1.35E-07 | 2.60E-08 | 25.8 | | NNE |
| NE | 300. | 4.82E-06 | 1.99E-06 | 1.28E-06 | 4.93E-07 | 1.25E-07 | 2.32E-08 | 24.8 | | NE |
| ENE | 300. | 5.41E-06 | 2.27E-06 | 1.47E-06 | 5.73E-07 | 1.48E-07 | 2.84E-08 | 31.3 | | ENE |
| E | 300. | 4.73E-06 | 1.84E-06 | 1.15E-06 | 4.11E-07 | 9.42E-08 | 1.56E-08 | 22.8 | | E |
| ESE | 300. | 4.81E-06 | 2.00E-06 | 1.29E-06 | 4.96E-07 | 1.26E-07 | 2.37E-08 | 20.9 | | ESE |
| SE | 300. | 4.86E-06 | 2.06E-06 | 1.34E-06 | 5.29E-07 | 1.39E-07 | 2.71E-08 | 22.1 | | SE |
| SSE | 300. | 4.77E-06 | 1.99E-06 | 1.29E-06 | 4.98E-07 | 1.28E-07 | 2.42E-08 | 21.3 | | SSE |
| MAX X/Q | | 6.19E-06 | | | | TOTAL HOURS AROUND SITE: | | 442.6 | | |
| SRP 2.3.4 | 300. | 6.35E-06 | 2.75E-06 | 1.81E-06 | 7.31E-07 | 1.99E-07 | 4.03E-08 | | | |
| SITE LIMIT | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.03E-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 | 300. | 1.92E-04 |
| SSW | 300. | 1.92E-04 |
| SW | 300. | 1.92E-04 |
| WSW | 300. | 1.92E-04 |
| W | 300. | 1.92E-04 |
| WNW | 300. | 1.93E-04 |
| NW | 300. | 1.94E-04 |
| NNW | 300. | 1.95E-04 |
| N | 300. | 1.92E-04 |
| NNE | 300. | 1.92E-04 |
| NE | 300. | 1.92E-04 |
| ENE | 300. | 1.92E-04 |
| E | 300. | 1.92E-04 |
| ESE | 300. | 1.92E-04 |
| SE | 300. | 1.92E-04 |
| SSE | 300. | 1.92E-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.

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 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

HOURS PER YEAR MAX

0-2 HR X/Q IS

EXCEEDED

DOWNWIND

| DOWNWIND DISTANCE
SECTOR (METERS) | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | IN SECTOR | SECTOR |
|--------------------------------------|-----------|-----------|------------|----------|--------------------------|----------------|-----------|--------|
| S 350. | 4.92E-06 | 2.13E-06 | 1.40E-06 | 5.64E-07 | 1.53E-07 | 3.09E-08 | 21.3 | S |
| SSW 350. | 5.31E-06 | 2.40E-06 | 1.61E-06 | 6.83E-07 | 1.98E-07 | 4.38E-08 | 24.6 | SSW |
| SW 350. | 5.48E-06 | 2.48E-06 | 1.66E-06 | 7.02E-07 | 2.03E-07 | 4.47E-08 | 29.6 | SW |
| WSW 350. | 6.22E-06 | 2.75E-06 | 1.83E-06 | 7.54E-07 | 2.12E-07 | 4.46E-08 | 41.6 | WSW |
| W 350. | 5.39E-06 | 2.34E-06 | 1.55E-06 | 6.26E-07 | 1.71E-07 | 3.50E-08 | 30.0 | W |
| WNW 350. | 6.12E-06 | 2.75E-06 | 1.85E-06 | 7.75E-07 | 2.23E-07 | 4.87E-08 | 40.3 | WNW |
| NW 350. | 6.37E-06 | 2.85E-06 | 1.91E-06 | 7.99E-07 | 2.29E-07 | 4.96E-08 | 43.7 | NW |
| NNW 350. | 4.70E-06 | 1.96E-06 | 1.27E-06 | 4.91E-07 | 1.26E-07 | 2.38E-08 | 20.2 | NNW |
| N 350. | 4.49E-06 | 1.86E-06 | 1.20E-06 | 4.62E-07 | 1.17E-07 | 2.20E-08 | 19.4 | N |
| NNE 350. | 4.95E-06 | 2.16E-06 | 1.43E-06 | 5.82E-07 | 1.60E-07 | 3.31E-08 | 24.8 | NNE |
| NE 350. | 4.85E-06 | 2.09E-06 | 1.37E-06 | 5.51E-07 | 1.48E-07 | 2.99E-08 | 23.5 | NE |
| ENE 350. | 5.60E-06 | 2.45E-06 | 1.62E-06 | 6.61E-07 | 1.82E-07 | 3.77E-08 | 30.1 | ENE |
| E 350. | 4.77E-06 | 1.94E-06 | 1.24E-06 | 4.69E-07 | 1.16E-07 | 2.10E-08 | 21.5 | E |
| ESE 350. | 4.82E-06 | 2.10E-06 | 1.38E-06 | 5.60E-07 | 1.53E-07 | 3.13E-08 | 19.3 | ESE |
| SE 350. | 4.87E-06 | 2.15E-06 | 1.43E-06 | 5.92E-07 | 1.66E-07 | 3.51E-08 | 20.5 | SE |
| SSE 350. | 4.79E-06 | 2.07E-06 | 1.37E-06 | 5.51E-07 | 1.50E-07 | 3.04E-08 | 19.8 | SSE |
| MAX X/Q | 6.37E-06 | | | | TOTAL HOURS AROUND SITE: | | 430.0 | |
| SRP 2.3.4 350. | 6.42E-06 | 2.87E-06 | 1.92E-06 | 8.03E-07 | 2.29E-07 | 4.96E-08 | | |
| SITE LIMIT | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.96E-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 350. | 1.67E-04 |
| SSW 350. | 1.67E-04 |
| SW 350. | 1.67E-04 |
| WSW 350. | 1.67E-04 |
| W 350. | 1.67E-04 |
| WNW 350. | 1.68E-04 |
| NW 350. | 1.69E-04 |
| NNW 350. | 1.70E-04 |
| N 350. | 1.67E-04 |
| NNE 350. | 1.67E-04 |
| NE 350. | 1.67E-04 |
| ENE 350. | 1.67E-04 |
| E 350. | 1.67E-04 |
| ESE 350. | 1.67E-04 |
| SE 350. | 1.67E-04 |
| SSE 350. | 1.67E-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.

| | | | | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | |
| 1. | 0. | 0. | 1. | 0. | 2. | 1. | 0. | 2. | 0. | 0. | 2. | 1. | 0. | 2. | 1. |
| 15. | 24. | 44. | 54. | 40. | 65. | 45. | 22. | 17. | 25. | 25. | 24. | 13. | 9. | 10. | 10. |
| 57. | 85. | 63. | 61. | 34. | 47. | 86. | 32. | 23. | 38. | 25. | 39. | 23. | 28. | 37. | 39. |
| 36. | 69. | 46. | 9. | 28. | 19. | 13. | 9. | 6. | 37. | 33. | 34. | 12. | 57. | 60. | 64. |
| 4. | 13. | 9. | 0. | 8. | 5. | 0. | 2. | 2. | 12. | 17. | 4. | 6. | 29. | 27. | 12. |
| 3. | 1. | 2. | 0. | 3. | 3. | 1. | 0. | 4. | 9. | 8. | 9. | 8. | 21. | 5. | 3. |
| 1. | 1. | 1. | 2. | 5. | 2. | 1. | 3. | 4. | 1. | 6. | 3. | 1. | 1. | 3. | 1. |
| 22. | 21. | 27. | 54. | 36. | 52. | 61. | 19. | 20. | 30. | 24. | 51. | 29. | 14. | 26. | 18. |
| 45. | 34. | 42. | 44. | 34. | 31. | 53. | 43. | 40. | 38. | 35. | 69. | 31. | 64. | 56. | 51. |
| 35. | 31. | 38. | 6. | 15. | 13. | 14. | 18. | 36. | 48. | 37. | 65. | 43. | 88. | 84. | 43. |
| 5. | 7. | 10. | 1. | 3. | 6. | 1. | 8. | 17. | 36. | 27. | 14. | 17. | 35. | 21. | 21. |
| 4. | 2. | 2. | 0. | 3. | 1. | 0. | 1. | 10. | 21. | 11. | 7. | 17. | 26. | 6. | 1. |
| 3. | 5. | 5. | 6. | 1. | 5. | 5. | 2. | 6. | 5. | 4. | 2. | 2. | 6. | 1. | 2. |
| 38. | 32. | 35. | 38. | 41. | 49. | 67. | 34. | 31. | 32. | 37. | 64. | 40. | 43. | 33. | 38. |
| 44. | 36. | 34. | 41. | 33. | 45. | 38. | 61. | 53. | 50. | 57. | 79. | 74. | 97. | 74. | 58. |
| 40. | 30. | 35. | 11. | 15. | 10. | 20. | 28. | 51. | 54. | 50. | 61. | 62. | 85. | 76. | 49. |
| 8. | 2. | 6. | 1. | 5. | 8. | 6. | 10. | 21. | 42. | 32. | 20. | 33. | 38. | 32. | 25. |
| 2. | 1. | 1. | 0. | 0. | 6. | 6. | 1. | 19. | 21. | 16. | 13. | 22. | 31. | 9. | 8. |
| 24. | 18. | 26. | 37. | 26. | 25. | 28. | 15. | 20. | 28. | 26. | 19. | 30. | 34. | 27. | 35. |
| 117. | 122. | 179. | 297. | 134. | 106. | 107. | 114. | 124. | 125. | 134. | 130. | 152. | 141. | 162. | 151. |
| 264. | 209. | 345. | 612. | 373. | 215. | 186. | 254. | 244. | 212. | 215. | 230. | 433. | 410. | 341. | 286. |
| 302. | 314. | 335. | 265. | 343. | 219. | 160. | 283. | 342. | 237. | 275. | 246. | 628. | 653. | 451. | 378. |
| 138. | 169. | 128. | 24. | 161. | 146. | 108. | 150. | 280. | 212. | 133. | 119. | 427. | 373. | 205. | 171. |
| 38. | 101. | 69. | 2. | 48. | 41. | 54. | 104. | 161. | 158. | 120. | 115. | 276. | 202. | 68. | 82. |
| 10. | 14. | 12. | 27. | 24. | 17. | 17. | 17. | 13. | 13. | 15. | 21. | 14. | 8. | 9. | 3. |
| 54. | 57. | 113. | 234. | 120. | 78. | 91. | 110. | 83. | 76. | 93. | 92. | 94. | 77. | 79. | 58. |
| 150. | 195. | 254. | 306. | 294. | 214. | 291. | 291. | 225. | 215. | 177. | 224. | 237. | 192. | 234. | 155. |
| 242. | 230. | 207. | 75. | 278. | 311. | 292. | 394. | 457. | 510. | 390. | 219. | 352. | 368. | 315. | 307. |
| 72. | 60. | 22. | 4. | 44. | 93. | 68. | 141. | 401. | 324. | 189. | 79. | 128. | 124. | 71. | 77. |
| 7. | 4. | 5. | 2. | 6. | 24. | 28. | 70. | 199. | 142. | 64. | 22. | 29. | 16. | 15. | 12. |
| 12. | 4. | 14. | 15. | 7. | 10. | 11. | 17. | 15. | 17. | 16. | 14. | 13. | 9. | 9. | 12. |
| 26. | 29. | 42. | 58. | 48. | 43. | 50. | 60. | 56. | 57. | 35. | 55. | 71. | 46. | 41. | 29. |
| 96. | 75. | 56. | 36. | 53. | 70. | 134. | 133. | 84. | 64. | 110. | 176. | 180. | 81. | 89. | 60. |
| 130. | 118. | 34. | 2. | 33. | 101. | 166. | 116. | 96. | 148. | 270. | 211. | 100. | 86. | 107. | 116. |
| 37. | 15. | 7. | 0. | 2. | 29. | 20. | 14. | 43. | 72 | | | | | | |

1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.

Copyright (c) 1990 Ergo Computing, Inc. for Lahey

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PRINTOUT OF INPUT CARDS

```

1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2      Dresden
Elevated Release
3      91.4 meters          10.7-91.4 meters
4
5      Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data      6          7 43072      0
7      0.500 1545.000      43.100      83.300      91.400
8      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      1.000 0.000 0.000 1.000 0.000 2.000 1.000 0.000 2.000 0.000 0.000 2.000 1.000 0.000 2.000 1.000
9      15.000 24.000 44.000 54.000 40.000 65.000 45.000 22.000 17.000 25.000 25.000 24.000 13.000 9.000 10.000 10.000
9      57.000 85.000 63.000 61.000 34.000 47.000 86.000 32.000 23.000 38.000 25.000 39.000 23.000 28.000 37.000 39.000
9      36.000 69.000 46.000 9.000 28.000 19.000 13.000 9.000 6.000 37.000 33.000 34.000 12.000 57.000 60.000 64.000
9      4.000 13.000 9.000 0.000 8.000 5.000 0.000 2.000 2.000 12.000 17.000 4.000 6.000 29.000 27.000 12.000
9      3.000 1.000 2.000 0.000 3.000 3.000 1.000 0.000 4.000 9.000 8.000 9.000 8.000 21.000 5.000 3.000
9      1.000 1.000 1.000 2.000 5.000 2.000 1.000 3.000 4.000 1.000 6.000 3.000 1.000 1.000 3.000 1.000
9      22.000 21.000 27.000 54.000 36.000 52.000 61.000 19.000 20.000 30.000 24.000 51.000 29.000 14.000 26.000 18.000
9      45.000 34.000 42.000 44.000 34.000 31.000 53.000 43.000 40.000 38.000 35.000 69.000 31.000 64.000 56.000 51.000
9      35.000 31.000 38.000 6.000 15.000 13.000 14.000 18.000 36.000 48.000 37.000 65.000 43.000 88.000 84.000 43.000
9      5.000 7.000 10.000 1.000 3.000 6.000 1.000 8.000 17.000 36.000 27.000 14.000 17.000 35.000 21.000 21.000
9      4.000 2.000 2.000 0.000 3.000 1.000 0.000 1.000 10.000 21.000 11.000 7.000 17.000 26.000 6.000 1.000
9      3.000 5.000 5.000 6.000 1.000 5.000 5.000 2.000 6.000 5.000 4.000 2.000 2.000 6.000 1.000 2.000
9      38.000 32.000 35.000 38.000 41.000 49.000 67.000 34.000 31.000 32.000 37.000 64.000 40.000 43.000 33.000 38.000
9      44.000 36.000 34.000 41.000 33.000 45.000 38.000 61.000 53.000 50.000 57.000 79.000 74.000 97.000 74.000 58.000
9      40.000 30.000 35.000 11.000 15.000 10.000 20.000 28.000 51.000 54.000 50.000 61.000 62.000 85.000 76.000 49.000
9      8.000 2.000 6.000 1.000 5.000 8.000 6.000 10.000 21.000 42.000 32.000 20.000 33.000 38.000 32.000 25.000
9      2.000 1.000 1.000 0.000 0.000 6.000 6.000 1.000 19.000 21.000 16.000 13.000 22.000 31.000 9.000 8.000
9      24.000 18.000 26.000 37.000 26.000 25.000 28.000 15.000 20.000 28.000 26.000 19.000 30.000 34.000 27.000 35.000
9      117.000122.000179.000297.000134.000106.000107.000114.000124.000125.000134.000130.000152.000141.000162.000151.000
9      264.000209.000345.000612.000373.000215.000186.000254.000244.000212.000215.000230.000433.000410.000341.000286.000
9      302.000314.000335.000265.000343.000219.000160.000283.000342.000237.000275.000246.000628.000653.000451.000378.000
9      138.000169.000128.000 24.000161.000146.000108.000150.000280.000212.000133.000119.000427.000373.000205.000171.000
9      38.000101.000 69.000 2.000 48.000 41.000 54.000104.000161.000158.000120.000115.000276.000202.000 68.000 82.000
9      10.000 14.000 12.000 27.000 24.000 17.000 17.000 17.000 13.000 13.000 15.000 21.000 14.000 8.000 9.000 3.000
9      54.000 57.000113.000234.000120.000 78.000 91.000110.000 83.000 76.000 93.000 92.000 94.000 77.000 79.000 58.000
9      150.000195.000254.000306.000294.000214.000291.000291.000225.000215.000177.000224.000237.000192.000234.000155.000
9      242.000230.000207.000 75.000278.000311.000292.000394.000457.000510.000390.000219.000352.000368.000315.000307.000
9      72.000 60.000 22.000 4.000 44.000 93.000 68.000141.000401.000324.000189.000 79.000128.000124.000 71.000 77.000
9      7.000 4.000 5.000 2.000 6.000 24.000 28.000 70.000199.000142.000 64.000 22.000 29.000 16.000 15.000 12.000
9      12.000 4.000 14.000 15.000 7.000 10.000 11.000 17.000 15.000 17.000 16.000 14.000 13.000 9.000 9.000 12.000
9      26.000 29.000 42.000 58.000 48.000 43.000 50.000 60.000 56.000 57.000 35.000 55.000 71.000 46.000 41.000 29.000
9      96.000 75.000 56.000 36.000 53.000 70.000134.000133.000 84.000 64.000110.000176.000180.000 81.000 89.000 60.000
9      130.000118.000 34.000 2.000 33.000101.000166.000116.000 96.000148.000270.000211.000100.000 86.000107.000116.000
9      37.000 15.000 7.000 0.000 2.000 29.000 20.000 14.000 43.000 72.000 79.000 31.000 10.000 37.000 8.000 22.000
9      1.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 4.000 5.000 2.000 2.000 2.000 0.000 0.000 1.000
9      2.000 8.000 9.000 8.000 1.000 4.000 3.000 4.000 7.000 4.000 2.000 3.000 1.000 7.000 4.000 5.000
9      3.000 7.000 20.000 21.000 4.000 4.000 9.000 8.000 19.000 12.000 20.000 14.000 12.000 19.000 9.000 14.000
9      36.000 28.000 14.000 3.000 4.000 12.000 18.000 21.000 24.000 18.000 24.000 29.000 51.000 25.000 17.000 16.000
9      36.000 37.000 6.000 0.000 1.000 4.000 25.000 33.000 10.000 24.000 29.000 57.000 40.000 13.000 30.000 26.000
9      11.000 1.000 0.000 0.000 0.000 8.000 5.000 6.000 2.000 12.000 19.000 6.000 2.000 4.000 1.000 10.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 0.000 0.000 0.000 0.000 10
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      375. 375. 375. 375. 375. 375. 375. 375. 375.

```

| | | | |
|----------------------------|------------|--------------|--------------------|
| CALCULATION NO. DRE04-0030 | REV. NO. 1 | ATTACHMENT I | PAGE NO. 76 of 108 |
|----------------------------|------------|--------------|--------------------|

[illegible]

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 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 | | | | | | | | HOURS PER YEAR MAX
0-2 HR X/Q IS
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 | 375. | 4.87E-06 | 2.12E-06 | 1.40E-06 | 5.71E-07 | 1.57E-07 | 3.23E-08 | 21.3 | S |
| SSW | 375. | 5.23E-06 | 2.38E-06 | 1.61E-06 | 6.83E-07 | 2.00E-07 | 4.46E-08 | 24.1 | SSW |
| SW | 375. | 5.40E-06 | 2.45E-06 | 1.66E-06 | 7.04E-07 | 2.06E-07 | 4.59E-08 | 29.8 | SW |
| WSW | 375. | 6.20E-06 | 2.76E-06 | 1.84E-06 | 7.65E-07 | 2.17E-07 | 4.64E-08 | 42.2 | WSW |
| W | 375. | 5.31E-06 | 2.33E-06 | 1.54E-06 | 6.32E-07 | 1.75E-07 | 3.65E-08 | 30.1 | W |
| WNW | 375. | 6.05E-06 | 2.74E-06 | 1.84E-06 | 7.81E-07 | 2.27E-07 | 5.02E-08 | 40.4 | WNW |
| NW | 375. | 6.30E-06 | 2.85E-06 | 1.91E-06 | 8.09E-07 | 2.35E-07 | 5.16E-08 | 43.7 | NW |
| NNW | 375. | 4.64E-06 | 1.96E-06 | 1.27E-06 | 5.00E-07 | 1.31E-07 | 2.52E-08 | 20.1 | NNW |
| N | 375. | 4.47E-06 | 1.88E-06 | 1.22E-06 | 4.77E-07 | 1.24E-07 | 2.39E-08 | 19.6 | N |
| NNE | 375. | 4.89E-06 | 2.16E-06 | 1.44E-06 | 5.93E-07 | 1.66E-07 | 3.50E-08 | 24.9 | NNE |
| NE | 375. | 4.83E-06 | 2.11E-06 | 1.39E-06 | 5.65E-07 | 1.55E-07 | 3.18E-08 | 23.9 | NE |
| ENE | 375. | 5.51E-06 | 2.45E-06 | 1.63E-06 | 6.78E-07 | 1.92E-07 | 4.09E-08 | 30.3 | ENE |
| E | 375. | 4.74E-06 | 1.96E-06 | 1.26E-06 | 4.86E-07 | 1.23E-07 | 2.29E-08 | 21.9 | E |
| ESE | 375. | 4.82E-06 | 2.12E-06 | 1.41E-06 | 5.79E-07 | 1.61E-07 | 3.38E-08 | 19.9 | ESE |
| SE | 375. | 4.87E-06 | 2.18E-06 | 1.46E-06 | 6.09E-07 | 1.74E-07 | 3.76E-08 | 21.1 | SE |
| SSE | 375. | 4.78E-06 | 2.09E-06 | 1.38E-06 | 5.63E-07 | 1.55E-07 | 3.21E-08 | 20.3 | SSE |
| MAX X/Q | | 6.30E-06 | | | | | TOTAL HOURS AROUND SITE: | 433.7 | |
| SRP 2.3.4 | 375. | 6.37E-06 | 2.87E-06 | 1.93E-06 | 8.13E-07 | 2.35E-07 | 5.16E-08 | | |
| SITE LIMIT | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.16E-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 | 375. | 1.57E-04 |
| SSW | 375. | 1.57E-04 |
| SW | 375. | 1.57E-04 |
| WSW | 375. | 1.57E-04 |
| W | 375. | 1.57E-04 |
| WNW | 375. | 1.57E-04 |
| NW | 375. | 1.59E-04 |
| NNW | 375. | 1.59E-04 |
| N | 375. | 1.57E-04 |
| NNE | 375. | 1.57E-04 |
| NE | 375. | 1.57E-04 |
| ENE | 375. | 1.57E-04 |
| E | 375. | 1.57E-04 |
| ESE | 375. | 1.57E-04 |
| SE | 375. | 1.57E-04 |
| SSE | 375. | 1.57E-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.

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data

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

| 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 IN SECTOR | | DOWNWIND
SECTOR |
|--------------------------------------|------|---|-----------|------------|----------|--------------------------|---|-------|--------------------|
| | | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | | |
| | | | | | | | | | |
| S | 425. | 4.50E-06 | 2.00E-06 | 1.33E-06 | 5.53E-07 | 1.56E-07 | 3.34E-08 | 20.0 | S |
| SSW | 425. | 4.70E-06 | 2.17E-06 | 1.47E-06 | 6.36E-07 | 1.91E-07 | 4.36E-08 | 21.5 | SSW |
| SW | 425. | 5.17E-06 | 2.36E-06 | 1.60E-06 | 6.85E-07 | 2.03E-07 | 4.56E-08 | 29.6 | SW |
| WSW | 425. | 6.19E-06 | 2.76E-06 | 1.84E-06 | 7.69E-07 | 2.19E-07 | 4.70E-08 | 43.7 | WSW |
| W | 425. | 5.12E-06 | 2.27E-06 | 1.51E-06 | 6.26E-07 | 1.76E-07 | 3.74E-08 | 30.5 | W |
| WNW | 425. | 5.83E-06 | 2.66E-06 | 1.79E-06 | 7.65E-07 | 2.25E-07 | 5.02E-08 | 39.8 | WNW |
| NW | 425. | 6.04E-06 | 2.76E-06 | 1.87E-06 | 7.97E-07 | 2.35E-07 | 5.28E-08 | 41.6 | NW |
| NNW | 425. | 4.57E-06 | 1.96E-06 | 1.28E-06 | 5.09E-07 | 1.36E-07 | 2.69E-08 | 20.9 | NNW |
| N | 425. | 4.44E-06 | 1.90E-06 | 1.25E-06 | 4.98E-07 | 1.33E-07 | 2.65E-08 | 20.5 | N |
| NNE | 425. | 4.75E-06 | 2.13E-06 | 1.43E-06 | 5.98E-07 | 1.71E-07 | 3.71E-08 | 25.3 | NNE |
| NE | 425. | 4.72E-06 | 2.09E-06 | 1.39E-06 | 5.74E-07 | 1.61E-07 | 3.41E-08 | 24.4 | NE |
| ENE | 425. | 5.39E-06 | 2.44E-06 | 1.65E-06 | 6.98E-07 | 2.04E-07 | 4.52E-08 | 31.4 | ENE |
| E | 425. | 4.71E-06 | 1.99E-06 | 1.29E-06 | 5.09E-07 | 1.33E-07 | 2.59E-08 | 22.8 | E |
| ESE | 425. | 4.69E-06 | 2.11E-06 | 1.42E-06 | 5.95E-07 | 1.72E-07 | 3.75E-08 | 20.4 | ESE |
| SE | 425. | 4.72E-06 | 2.15E-06 | 1.45E-06 | 6.18E-07 | 1.81E-07 | 4.05E-08 | 21.5 | SE |
| SSE | 425. | 4.61E-06 | 2.04E-06 | 1.36E-06 | 5.63E-07 | 1.59E-07 | 3.37E-08 | 20.7 | SSE |
| MAX X/Q | | 6.19E-06 | | | | TOTAL HOURS AROUND SITE: | | 434.7 | |
| SRP 2.3.4 | 425. | 6.31E-06 | 2.86E-06 | 1.93E-06 | 8.17E-07 | 2.38E-07 | 5.28E-08 | | |
| SITE LIMIT | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.28E-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 | 425. | 1.40E-04 |
| SSW | 425. | 1.40E-04 |
| SW | 425. | 1.40E-04 |
| WSW | 425. | 1.40E-04 |
| W | 425. | 1.40E-04 |
| WNW | 425. | 1.41E-04 |
| NW | 425. | 1.42E-04 |
| NNW | 425. | 1.42E-04 |
| N | 425. | 1.40E-04 |
| NNE | 425. | 1.40E-04 |
| NE | 425. | 1.40E-04 |
| ENE | 425. | 1.40E-04 |
| E | 425. | 1.40E-04 |
| ESE | 425. | 1.40E-04 |
| SE | 425. | 1.40E-04 |
| SSE | 425. | 1.40E-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.

| 1 1111 | | | | Elevated Release | | | | | | | | | | | | | | | |
|---|------|-------|------|------------------|------|------|------|------|------|------|------|------|------|------|------|----|----|----|----|
| Dresden | | | | 91.4 meters | | | | | | | | | | | | | | | |
| 91.4 meters | | | | 20.7-91.4 meters | | | | | | | | | | | | | | | |
| Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data | | | | | | | | | | | | | | | | | | | |
| 7 | 0 | | | | | | | | | | | | | | | | | | |
| 1545. | 43.1 | 83.3 | 91.4 | | | | | | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1. | 0. | 0. | 1. | 0. | 2. | 1. | 0. | 2. | 0. | 0. | 2. | 1. | 0. | 2. | 1. | 0. | 2. | 1. | 0. |
| 15. | 24. | 44. | 54. | 40. | 65. | 45. | 22. | 17. | 25. | 25. | 24. | 13. | 9. | 10. | 10. | | | | |
| 57. | 85. | 63. | 61. | 34. | 47. | 86. | 32. | 23. | 38. | 25. | 39. | 23. | 28. | 37. | 39. | | | | |
| 36. | 69. | 46. | 9. | 28. | 19. | 13. | 9. | 6. | 37. | 33. | 34. | 12. | 57. | 60. | 64. | | | | |
| 4. | 13. | 9. | 0. | 8. | 5. | 0. | 2. | 2. | 12. | 17. | 4. | 6. | 29. | 27. | 12. | | | | |
| 3. | 1. | 2. | 0. | 3. | 3. | 1. | 0. | 4. | 9. | 8. | 9. | 8. | 21. | 5. | 3. | | | | |
| 1. | 1. | 1. | 2. | 5. | 2. | 1. | 3. | 4. | 1. | 6. | 3. | 1. | 1. | 3. | 1. | | | | |
| 22. | 21. | 27. | 54. | 36. | 52. | 61. | 19. | 20. | 30. | 24. | 51. | 29. | 14. | 26. | 18. | | | | |
| 45. | 34. | 42. | 44. | 34. | 31. | 53. | 43. | 40. | 38. | 35. | 69. | 31. | 64. | 56. | 51. | | | | |
| 35. | 31. | 38. | 6. | 15. | 13. | 14. | 18. | 36. | 48. | 37. | 65. | 43. | 88. | 84. | 43. | | | | |
| 5. | 7. | 10. | 1. | 3. | 6. | 1. | 8. | 17. | 36. | 27. | 14. | 17. | 35. | 21. | 21. | | | | |
| 4. | 2. | 2. | 0. | 3. | 1. | 0. | 1. | 10. | 21. | 11. | 7. | 17. | 26. | 6. | 1. | | | | |
| 3. | 5. | 5. | 6. | 1. | 5. | 5. | 2. | 6. | 5. | 4. | 2. | 2. | 6. | 1. | 2. | | | | |
| 38. | 32. | 35. | 38. | 41. | 49. | 67. | 34. | 31. | 32. | 37. | 64. | 40. | 43. | 33. | 38. | | | | |
| 44. | 36. | 34. | 41. | 33. | 45. | 38. | 61. | 53. | 50. | 57. | 79. | 74. | 97. | 74. | 58. | | | | |
| 40. | 30. | 35. | 11. | 15. | 10. | 20. | 28. | 51. | 54. | 50. | 61. | 62. | 85. | 76. | 49. | | | | |
| 8. | 2. | 6. | 1. | 5. | 8. | 6. | 10. | 21. | 42. | 32. | 20. | 33. | 38. | 32. | 25. | | | | |
| 2. | 1. | 1. | 0. | 0. | 6. | 6. | 1. | 19. | 21. | 16. | 13. | 22. | 31. | 9. | 8. | | | | |
| 24. | 18. | 26. | 37. | 26. | 25. | 28. | 15. | 20. | 28. | 26. | 19. | 30. | 34. | 27. | 35. | | | | |
| 117. | 122. | 179. | 297. | 134. | 106. | 107. | 114. | 124. | 125. | 134. | 130. | 152. | 141. | 162. | 151. | | | | |
| 264. | 209. | 345. | 612. | 373. | 215. | 186. | 254. | 244. | 212. | 215. | 230. | 433. | 410. | 341. | 286. | | | | |
| 302. | 314. | 335. | 265. | 343. | 219. | 160. | 283. | 342. | 237. | 275. | 246. | 628. | 653. | 451. | 378. | | | | |
| 138. | 169. | 128. | 24. | 161. | 146. | 108. | 150. | 280. | 212. | 133. | 119. | 427. | 373. | 205. | 171. | | | | |
| 38. | 101. | 69.</ | | | | | | | | | | | | | | | | | |

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.

Copyright (c) 1990 Ergo Computing, Inc. for Lahey

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PRINTOUT OF INPUT CARDS

```

1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2      Dresden
Elevated Release
3      91.4 meters      10.7-91.4 meters
4
5      Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data      6      7 43072      0
7      0.500 1545.000 43.100 83.300 91.400
8      0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      1.000 0.000 0.000 1.000 0.000 2.000 1.000 0.000 2.000 0.000 0.000 2.000 1.000 0.000 2.000 1.000
9      15.000 24.000 44.000 54.000 40.000 65.000 45.000 22.000 17.000 25.000 25.000 24.000 13.000 9.000 10.000 10.000
9      57.000 85.000 63.000 61.000 34.000 47.000 86.000 32.000 23.000 38.000 25.000 39.000 23.000 28.000 37.000 39.000
9      36.000 69.000 46.000 9.000 28.000 19.000 13.000 9.000 6.000 37.000 33.000 34.000 12.000 57.000 60.000 64.000
9      4.000 13.000 9.000 0.000 8.000 5.000 0.000 2.000 2.000 12.000 17.000 4.000 6.000 29.000 27.000 12.000
9      3.000 1.000 2.000 0.000 3.000 3.000 1.000 0.000 4.000 9.000 8.000 9.000 8.000 21.000 5.000 3.000
9      1.000 1.000 1.000 2.000 5.000 2.000 1.000 3.000 4.000 1.000 6.000 3.000 1.000 1.000 3.000 1.000
9      22.000 21.000 27.000 54.000 36.000 52.000 61.000 19.000 20.000 30.000 24.000 51.000 29.000 14.000 26.000 18.000
9      45.000 34.000 42.000 44.000 34.000 31.000 53.000 43.000 40.000 38.000 35.000 69.000 31.000 64.000 56.000 51.000
9      35.000 31.000 38.000 6.000 15.000 13.000 14.000 18.000 36.000 48.000 37.000 65.000 43.000 88.000 84.000 43.000
9      5.000 7.000 10.000 1.000 3.000 6.000 1.000 8.000 17.000 36.000 27.000 14.000 17.000 35.000 21.000 21.000
9      4.000 2.000 2.000 0.000 3.000 1.000 0.000 1.000 10.000 21.000 11.000 7.000 17.000 26.000 6.000 1.000
9      3.000 5.000 5.000 6.000 1.000 5.000 5.000 2.000 6.000 5.000 4.000 2.000 2.000 6.000 1.000 2.000
9      38.000 32.000 35.000 38.000 41.000 49.000 67.000 34.000 31.000 32.000 37.000 64.000 40.000 43.000 33.000 38.000
9      44.000 36.000 34.000 41.000 33.000 45.000 38.000 61.000 53.000 50.000 57.000 79.000 74.000 97.000 74.000 58.000
9      40.000 30.000 35.000 11.000 15.000 10.000 20.000 28.000 51.000 54.000 50.000 61.000 62.000 85.000 76.000 49.000
9      8.000 2.000 6.000 1.000 5.000 8.000 6.000 10.000 21.000 42.000 32.000 20.000 33.000 38.000 32.000 25.000
9      2.000 1.000 1.000 0.000 0.000 6.000 6.000 1.000 19.000 21.000 16.000 13.000 22.000 31.000 9.000 8.000
9      24.000 18.000 26.000 37.000 26.000 25.000 28.000 15.000 20.000 28.000 26.000 19.000 30.000 34.000 27.000 35.000
9      117.000122.000179.000297.000134.000106.000107.000114.000124.000125.000134.000130.000152.000141.000162.000151.000
9      264.000209.000345.000612.000373.000215.000186.000254.000244.000212.000215.000230.000433.000410.000341.000286.000
9      302.000314.000335.000265.000343.000219.000160.000283.000342.000237.000275.000246.000628.000653.000451.000378.000
9      138.000169.000128.000 24.000161.000146.000108.000150.000280.000212.000133.000119.000427.000373.000205.000171.000
9      38.000101.000 69.000 2.000 48.000 41.000 54.000104.000161.000158.000120.000115.000276.000202.000 68.000 82.000
9      10.000 14.000 12.000 27.000 24.000 17.000 17.000 17.000 13.000 13.000 15.000 21.000 14.000 8.000 9.000 3.000
9      54.000 57.000113.000234.000120.000 78.000 91.000110.000 83.000 76.000 93.000 92.000 94.000 77.000 79.000 58.000
9      150.000195.000254.000306.000294.000214.000291.000291.000225.000215.000177.000224.000237.000192.000234.000155.000
9      242.000230.000207.000 75.000278.000311.000292.000394.000457.000510.000390.000219.000352.000368.000315.000307.000
9      72.000 60.000 22.000 4.000 44.000 93.000 68.000141.000401.000324.000189.000 79.000128.000124.000 71.000 77.000
9      7.000 4.000 5.000 2.000 6.000 24.000 28.000 70.000199.000142.000 64.000 22.000 29.000 16.000 15.000 12.000
9      12.000 4.000 14.000 15.000 7.000 10.000 11.000 17.000 15.000 17.000 16.000 14.000 13.000 9.000 9.000 12.000
9      26.000 29.000 42.000 58.000 48.000 43.000 50.000 60.000 56.000 57.000 35.000 55.000 71.000 46.000 41.000 29.000
9      96.000 75.000 56.000 36.000 53.000 70.000134.000133.000 84.000 64.000110.000176.000180.000 81.000 89.000 60.000
9      130.000118.000 34.000 2.000 33.000101.000166.000116.000 96.000148.000270.000211.000100.000 86.000107.000116.000
9      37.000 15.000 7.000 0.000 2.000 29.000 20.000 14.000 43.000 72.000 79.000 31.000 10.000 37.000 8.000 22.000
9      1.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 4.000 5.000 2.000 2.000 2.000 0.000 0.000 1.000
9      2.000 8.000 9.000 8.000 1.000 4.000 3.000 4.000 7.000 4.000 2.000 3.000 1.000 7.000 4.000 5.000
9      3.000 7.000 20.000 21.000 4.000 4.000 9.000 8.000 19.000 12.000 20.000 14.000 12.000 19.000 9.000 14.000
9      36.000 28.000 14.000 3.000 4.000 12.000 18.000 21.000 24.000 18.000 24.000 29.000 51.000 25.000 17.000 16.000
9      36.000 37.000 6.000 0.000 1.000 4.000 25.000 33.000 10.000 24.000 29.000 57.000 40.000 13.000 30.000 26.000
9      11.000 1.000 0.000 0.000 0.000 8.000 5.000 6.000 2.000 12.000 19.000 6.000 2.000 4.000 1.000 10.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 0.000 0.000 0.000 0.000 0.000 10
7.500 12.500 18.500 24.000 55.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 11      450. 450. 450. 450. 450. 450. 450. 450. 450. 450.

```


USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 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

HOURS PER YEAR MAX
0-2 HR X/Q IS

| DOWNWIND DISTANCE
SECTOR (METERS) | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | EXCEEDED
IN SECTOR | DOWNWIND
SECTOR |
|--------------------------------------|-----------|-----------|------------|----------|--------------------------|----------------|-----------------------|--------------------|
| S 450. | 4.50E-06 | 2.00E-06 | 1.33E-06 | 5.53E-07 | 1.57E-07 | 3.34E-08 | 20.0 | S |
| SSW 450. | 4.58E-06 | 2.11E-06 | 1.43E-06 | 6.20E-07 | 1.86E-07 | 4.25E-08 | 20.9 | SSW |
| SW 450. | 5.17E-06 | 2.36E-06 | 1.59E-06 | 6.79E-07 | 2.00E-07 | 4.48E-08 | 29.6 | SW |
| WSW 450. | 6.19E-06 | 2.76E-06 | 1.84E-06 | 7.65E-07 | 2.17E-07 | 4.65E-08 | 43.7 | WSW |
| W 450. | 5.12E-06 | 2.27E-06 | 1.51E-06 | 6.24E-07 | 1.76E-07 | 3.73E-08 | 30.5 | W |
| WNW 450. | 5.83E-06 | 2.65E-06 | 1.79E-06 | 7.60E-07 | 2.22E-07 | 4.95E-08 | 39.8 | WNW |
| NW 450. | 6.04E-06 | 2.76E-06 | 1.86E-06 | 7.95E-07 | 2.34E-07 | 5.25E-08 | 41.6 | NW |
| NNW 450. | 4.57E-06 | 1.96E-06 | 1.28E-06 | 5.13E-07 | 1.37E-07 | 2.74E-08 | 20.9 | NNW |
| N 450. | 4.44E-06 | 1.92E-06 | 1.26E-06 | 5.05E-07 | 1.36E-07 | 2.74E-08 | 20.5 | N |
| NNE 450. | 4.75E-06 | 2.14E-06 | 1.43E-06 | 6.01E-07 | 1.73E-07 | 3.76E-08 | 25.3 | NNE |
| NE 450. | 4.72E-06 | 2.10E-06 | 1.40E-06 | 5.79E-07 | 1.63E-07 | 3.48E-08 | 24.4 | NE |
| ENE 450. | 5.39E-06 | 2.46E-06 | 1.66E-06 | 7.07E-07 | 2.08E-07 | 4.66E-08 | 31.4 | ENE |
| E 450. | 4.71E-06 | 2.01E-06 | 1.31E-06 | 5.19E-07 | 1.37E-07 | 2.70E-08 | 22.8 | E |
| ESE 450. | 4.69E-06 | 2.12E-06 | 1.43E-06 | 6.04E-07 | 1.76E-07 | 3.88E-08 | 20.4 | ESE |
| SE 450. | 4.73E-06 | 2.16E-06 | 1.46E-06 | 6.23E-07 | 1.84E-07 | 4.13E-08 | 21.5 | SE |
| SSE 450. | 4.61E-06 | 2.05E-06 | 1.36E-06 | 5.65E-07 | 1.60E-07 | 3.40E-08 | 20.7 | SSE |
| MAX X/Q | 6.19E-06 | | | | TOTAL HOURS AROUND SITE: | | 434.1 | |
| SRP 2.3.4 450. | 6.31E-06 | 2.86E-06 | 1.93E-06 | 8.15E-07 | 2.38E-07 | 5.25E-08 | | |
| SITE LIMIT | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.25E-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 450. | 1.33E-04 |
| SSW 450. | 1.33E-04 |
| SW 450. | 1.33E-04 |
| WSW 450. | 1.33E-04 |
| W 450. | 1.33E-04 |
| WNW 450. | 1.34E-04 |
| NW 450. | 1.34E-04 |
| NNW 450. | 1.35E-04 |
| N 450. | 1.33E-04 |
| NNE 450. | 1.33E-04 |
| NE 450. | 1.33E-04 |
| ENE 450. | 1.33E-04 |
| E 450. | 1.33E-04 |
| ESE 450. | 1.33E-04 |
| SE 450. | 1.33E-04 |
| SSE 450. | 1.33E-04 |

| | | | |
|----------------------------|------------|--------------|--------------------|
| CALCULATION NO. DRE04-0030 | REV. NO. 1 | ATTACHMENT I | PAGE NO. 86 of 108 |
|----------------------------|------------|--------------|--------------------|

..**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.

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 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

HOURS PER YEAR MAX
0-2 HR X/Q IS

| DOWNWIND DISTANCE
SECTOR (METERS) | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | EXCEEDED
IN SECTOR | DOWNWIND
SECTOR |
|--------------------------------------|-----------|-----------|------------|----------|-----------|--------------------------|-----------------------|--------------------|
| S 1800. | 3.35E-06 | 1.59E-06 | 1.09E-06 | 4.86E-07 | 1.52E-07 | 3.66E-08 | 22.2 | S |
| SSW 1800. | 3.34E-06 | 1.57E-06 | 1.08E-06 | 4.77E-07 | 1.48E-07 | 3.52E-08 | 21.2 | SSW |
| SW 1800. | 3.78E-06 | 1.81E-06 | 1.25E-06 | 5.64E-07 | 1.79E-07 | 4.40E-08 | 28.6 | SW |
| WSW 1800. | 4.45E-06 | 2.17E-06 | 1.51E-06 | 6.94E-07 | 2.27E-07 | 5.77E-08 | 43.7 | WSW |
| W 1800. | 3.62E-06 | 1.74E-06 | 1.21E-06 | 5.46E-07 | 1.74E-07 | 4.32E-08 | 25.5 | W |
| WNW 1800. | 3.45E-06 | 1.63E-06 | 1.12E-06 | 4.96E-07 | 1.54E-07 | 3.68E-08 | 24.2 | WNW |
| NW 1800. | 3.68E-06 | 1.73E-06 | 1.19E-06 | 5.24E-07 | 1.62E-07 | 3.84E-08 | 28.0 | NW |
| NNW 1800. | 3.45E-06 | 1.65E-06 | 1.14E-06 | 5.10E-07 | 1.61E-07 | 3.94E-08 | 21.5 | NNW |
| N 1800. | 3.40E-06 | 1.66E-06 | 1.16E-06 | 5.29E-07 | 1.73E-07 | 4.38E-08 | 22.5 | N |
| NNE 1800. | 3.44E-06 | 1.66E-06 | 1.15E-06 | 5.24E-07 | 1.69E-07 | 4.21E-08 | 24.6 | NNE |
| NE 1800. | 3.57E-06 | 1.70E-06 | 1.17E-06 | 5.26E-07 | 1.66E-07 | 4.05E-08 | 25.4 | NE |
| ENE 1800. | 3.65E-06 | 1.75E-06 | 1.22E-06 | 5.49E-07 | 1.75E-07 | 4.34E-08 | 24.3 | ENE |
| E 1800. | 3.81E-06 | 1.91E-06 | 1.35E-06 | 6.41E-07 | 2.19E-07 | 5.89E-08 | 29.2 | E |
| ESE 1800. | 3.92E-06 | 1.97E-06 | 1.40E-06 | 6.61E-07 | 2.26E-07 | 6.10E-08 | 32.2 | ESE |
| SE 1800. | 3.64E-06 | 1.79E-06 | 1.26E-06 | 5.82E-07 | 1.93E-07 | 4.98E-08 | 26.0 | SE |
| SSE 1800. | 3.63E-06 | 1.75E-06 | 1.21E-06 | 5.48E-07 | 1.76E-07 | 4.36E-08 | 27.6 | SSE |
| MAX X/Q | 4.45E-06 | | | | | TOTAL HOURS AROUND SITE: | 426.5 | |
| SRP 2.3.4 1800. | 4.71E-06 | 2.30E-06 | 1.60E-06 | 7.35E-07 | 2.40E-07 | 6.10E-08 | | |
| SITE LIMIT | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.10E-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 1800. | 3.81E-05 |
| SSW 1800. | 3.81E-05 |
| SW 1800. | 3.81E-05 |
| WSW 1800. | 3.81E-05 |
| W 1800. | 3.81E-05 |
| WNW 1800. | 3.82E-05 |
| NW 1800. | 3.85E-05 |
| NNW 1800. | 3.87E-05 |
| N 1800. | 3.81E-05 |
| NNE 1800. | 3.81E-05 |
| NE 1800. | 3.81E-05 |
| ENE 1800. | 3.81E-05 |
| E 1800. | 3.81E-05 |
| ESE 1800. | 3.81E-05 |
| SE 1800. | 3.81E-05 |
| SSE 1800. | 3.81E-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.

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.

Copyright (c) 1990 Ergo Computing, Inc. for Lahey

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PRINTOUT OF INPUT CARDS

```

1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2      Dresden
Elevated Release
3      91.4 meters      10.7-91.4 meters
4
5      Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data      6      7 43072      0
7      0.500 1545.000 43.100 83.300 91.400
8      0.000 0.000 0.000 0.000 0.000 0.000 0.000
9      1.000 0.000 0.000 1.000 0.000 2.000 1.000 0.000 2.000 0.000 0.000 2.000 1.000 0.000 2.000 1.000
9      15.000 24.000 44.000 54.000 40.000 65.000 45.000 22.000 17.000 25.000 25.000 24.000 13.000 9.000 10.000 10.000
9      57.000 85.000 63.000 61.000 34.000 47.000 86.000 32.000 23.000 38.000 25.000 39.000 23.000 28.000 37.000 39.000
9      36.000 69.000 46.000 9.000 28.000 19.000 13.000 9.000 6.000 37.000 33.000 34.000 12.000 57.000 60.000 64.000
9      4.000 13.000 9.000 0.000 8.000 5.000 0.000 2.000 2.000 12.000 17.000 4.000 6.000 29.000 27.000 12.000
9      3.000 1.000 2.000 0.000 3.000 3.000 1.000 0.000 4.000 9.000 8.000 9.000 8.000 21.000 5.000 3.000
9      1.000 1.000 1.000 2.000 5.000 2.000 1.000 3.000 4.000 1.000 6.000 3.000 1.000 1.000 3.000 1.000
9      22.000 21.000 27.000 54.000 36.000 52.000 61.000 19.000 20.000 30.000 24.000 51.000 29.000 14.000 26.000 18.000
9      45.000 34.000 42.000 44.000 34.000 31.000 53.000 43.000 40.000 38.000 35.000 69.000 31.000 64.000 56.000 51.000
9      35.000 31.000 38.000 6.000 15.000 13.000 14.000 18.000 36.000 48.000 37.000 65.000 43.000 88.000 84.000 43.000
9      5.000 7.000 10.000 1.000 3.000 6.000 1.000 8.000 17.000 36.000 27.000 14.000 17.000 35.000 21.000 21.000
9      4.000 2.000 2.000 0.000 3.000 1.000 0.000 1.000 10.000 21.000 11.000 7.000 17.000 26.000 6.000 1.000
9      3.000 5.000 5.000 6.000 1.000 5.000 0.000 2.000 6.000 5.000 4.000 2.000 6.000 1.000 2.000
9      38.000 32.000 35.000 38.000 41.000 49.000 67.000 34.000 31.000 32.000 37.000 64.000 40.000 43.000 33.000 38.000
9      44.000 36.000 34.000 41.000 33.000 45.000 38.000 61.000 53.000 50.000 57.000 79.000 74.000 97.000 74.000 58.000
9      40.000 30.000 35.000 11.000 15.000 10.000 20.000 28.000 51.000 54.000 50.000 61.000 62.000 85.000 76.000 49.000
9      8.000 2.000 6.000 1.000 5.000 8.000 6.000 10.000 21.000 42.000 32.000 20.000 33.000 38.000 32.000 25.000
9      2.000 1.000 1.000 0.000 0.000 6.000 6.000 1.000 19.000 21.000 16.000 13.000 22.000 31.000 9.000 8.000
9      24.000 18.000 26.000 37.000 26.000 25.000 28.000 15.000 20.000 28.000 26.000 19.000 30.000 34.000 27.000 35.000
9      117.000122.000179.000297.000134.000106.000107.000114.000124.000125.000134.000130.000152.000141.000162.000151.000
9      264.000209.000345.000612.000373.000215.000186.000254.000244.000212.000215.000230.000433.000410.000341.000286.000
9      302.000314.000335.000265.000343.000219.000160.000283.000342.000237.000275.000246.000628.000653.000451.000378.000
9      138.000169.000128.000 24.000161.000146.000108.000150.000280.000212.000133.000119.000427.000373.000205.000171.000
9      38.000101.000 69.000 2.000 48.000 41.000 54.000104.000161.000158.000120.000115.000276.000202.000 68.000 82.000
9      10.000 14.000 12.000 27.000 24.000 17.000 17.000 17.000 13.000 13.000 15.000 21.000 14.000 8.000 9.000 3.000
9      54.000 57.000113.000234.000120.000 78.000 91.000110.000 83.000 76.000 93.000 92.000 94.000 77.000 79.000 58.000
9      150.000195.000254.000306.000294.000214.000291.000291.000225.000215.000177.000224.000237.000192.000234.000155.000
9      242.000230.000207.000 75.000278.000311.000292.000394.000457.000510.000390.000219.000352.000368.000315.000307.000
9      72.000 60.000 22.000 4.000 44.000 93.000 68.000141.000401.000324.000189.000 79.000128.000124.000 71.000 77.000
9      7.000 4.000 5.000 2.000 6.000 24.000 28.000 70.000199.000142.000 64.000 22.000 29.000 16.000 15.000 12.000
9      12.000 4.000 14.000 15.000 7.000 10.000 11.000 17.000 15.000 17.000 16.000 14.000 13.000 9.000 9.000 12.000
9      26.000 29.000 42.000 58.000 48.000 43.000 50.000 60.000 56.000 57.000 35.000 55.000 71.000 46.000 41.000 29.000
9      96.000 75.000 56.000 36.000 53.000 70.000134.000133.000 84.000 64.000110.000176.000180.000 81.000 89.000 60.000
9      130.000118.000 34.000 2.000 33.000101.000166.000116.000 96.000148.000270.000211.000100.000 86.000107.000116.000
9      37.000 15.000 7.000 0.000 2.000 29.000 20.000 14.000 43.000 72.000 79.000 31.000 10.000 37.000 8.000 22.000
9      1.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 4.000 5.000 2.000 2.000 0.000 0.000 0.000 1.000
9      2.000 8.000 9.000 8.000 1.000 4.000 3.000 4.000 7.000 4.000 2.000 3.000 1.000 7.000 4.000 5.000
9      3.000 7.000 20.000 21.000 4.000 4.000 9.000 8.000 19.000 12.000 20.000 14.000 12.000 19.000 9.000 14.000
9      36.000 28.000 14.000 3.000 4.000 12.000 18.000 21.000 24.000 18.000 24.000 29.000 51.000 25.000 17.000 16.000
9      36.000 37.000 6.000 0.000 1.000 4.000 25.000 33.000 10.000 24.000 29.000 57.000 40.000 13.000 30.000 26.000
9      11.000 1.000 0.000 0.000 0.000 8.000 5.000 6.000 2.000 12.000 19.000 6.000 2.000 4.000 1.000 10.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 2.000 0.000 0.000 0.000 0.000 0.000 10
7.500 12.500 18.500 24.000 55.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 101. 0.930 3.500
1900. 1900. 1900. 1900. 1900. 1900. 1900. 1900. 1900. 1900.

```


USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data

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

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)

| DOWNWIND DISTANCE
SECTOR (METERS) | | VERSUS
AVERAGING TIME | | | | | HOURS PER YEAR MAX
0-2 HR X/Q IS | | DOWNWIND
SECTOR |
|--------------------------------------|-------|--------------------------|-----------|------------|----------|--------------------------|-------------------------------------|-----------------------|--------------------|
| | | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | EXCEEDED
IN SECTOR | |
| S | 1900. | 3.31E-06 | 1.57E-06 | 1.08E-06 | 4.83E-07 | 1.51E-07 | 3.66E-08 | 22.2 | S |
| SSW | 1900. | 3.29E-06 | 1.56E-06 | 1.07E-06 | 4.74E-07 | 1.47E-07 | 3.53E-08 | 21.2 | SSW |
| SW | 1900. | 3.73E-06 | 1.79E-06 | 1.24E-06 | 5.61E-07 | 1.79E-07 | 4.43E-08 | 28.6 | SW |
| WSW | 1900. | 4.39E-06 | 2.15E-06 | 1.50E-06 | 6.93E-07 | 2.28E-07 | 5.83E-08 | 43.7 | WSW |
| W | 1900. | 3.58E-06 | 1.73E-06 | 1.20E-06 | 5.44E-07 | 1.75E-07 | 4.37E-08 | 25.4 | W |
| WNW | 1900. | 3.39E-06 | 1.61E-06 | 1.11E-06 | 4.91E-07 | 1.53E-07 | 3.68E-08 | 23.9 | WNW |
| NW | 1900. | 3.56E-06 | 1.68E-06 | 1.16E-06 | 5.13E-07 | 1.60E-07 | 3.83E-08 | 26.6 | NW |
| NNW | 1900. | 3.30E-06 | 1.59E-06 | 1.10E-06 | 4.99E-07 | 1.60E-07 | 3.98E-08 | 19.5 | NNW |
| N | 1900. | 3.35E-06 | 1.64E-06 | 1.15E-06 | 5.27E-07 | 1.73E-07 | 4.42E-08 | 22.5 | N |
| NNE | 1900. | 3.39E-06 | 1.64E-06 | 1.14E-06 | 5.21E-07 | 1.69E-07 | 4.24E-08 | 24.5 | NNE |
| NE | 1900. | 3.52E-06 | 1.68E-06 | 1.16E-06 | 5.23E-07 | 1.66E-07 | 4.07E-08 | 25.4 | NE |
| ENE | 1900. | 3.61E-06 | 1.73E-06 | 1.20E-06 | 5.43E-07 | 1.74E-07 | 4.30E-08 | 24.3 | ENE |
| E | 1900. | 3.76E-06 | 1.89E-06 | 1.34E-06 | 6.38E-07 | 2.19E-07 | 5.93E-08 | 29.2 | E |
| ESE | 1900. | 3.87E-06 | 1.95E-06 | 1.38E-06 | 6.56E-07 | 2.25E-07 | 6.10E-08 | 32.2 | ESE |
| SE | 1900. | 3.60E-06 | 1.77E-06 | 1.25E-06 | 5.78E-07 | 1.92E-07 | 4.98E-08 | 26.0 | SE |
| SSE | 1900. | 3.58E-06 | 1.73E-06 | 1.20E-06 | 5.45E-07 | 1.75E-07 | 4.37E-08 | 27.6 | SSE |
| MAX X/Q | | 4.39E-06 | | | | TOTAL HOURS AROUND SITE: | | 422.8 | |
| SRP 2.3.4 | 1900. | 4.55E-06 | 2.23E-06 | 1.56E-06 | 7.20E-07 | 2.37E-07 | 6.10E-08 | | |
| SITE LIMIT | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.10E-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 | 1900. | 3.63E-05 |
| SSW | 1900. | 3.63E-05 |
| SW | 1900. | 3.63E-05 |
| WSW | 1900. | 3.63E-05 |
| W | 1900. | 3.63E-05 |
| WNW | 1900. | 3.64E-05 |
| NW | 1900. | 3.66E-05 |
| NNW | 1900. | 3.68E-05 |
| N | 1900. | 3.63E-05 |
| NNE | 1900. | 3.63E-05 |
| NE | 1900. | 3.63E-05 |
| ENE | 1900. | 3.63E-05 |
| E | 1900. | 3.63E-05 |
| ESE | 1900. | 3.63E-05 |
| SE | 1900. | 3.63E-05 |
| SSE | 1900. | 3.63E-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.

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data

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

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)

| DOWNWIND DISTANCE
SECTOR (METERS) | | VERSUS
AVERAGING TIME | | | | | HOURS PER YEAR MAX
0-2 HR X/Q IS | | DOWNWIND
SECTOR |
|--------------------------------------|-------|--------------------------|-----------|------------|----------|--------------------------|-------------------------------------|----------------|--------------------|
| | | | | | | | EXCEEDED
IN SECTOR | | |
| | | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | | ANNUAL AVERAGE | |
| S | 2200. | 3.21E-06 | 1.53E-06 | 1.05E-06 | 4.71E-07 | 1.48E-07 | 3.61E-08 | 21.7 | S |
| SSW | 2200. | 3.11E-06 | 1.48E-06 | 1.02E-06 | 4.57E-07 | 1.44E-07 | 3.51E-08 | 19.3 | SSW |
| SW | 2200. | 3.59E-06 | 1.74E-06 | 1.21E-06 | 5.49E-07 | 1.77E-07 | 4.42E-08 | 27.2 | SW |
| WSW | 2200. | 4.31E-06 | 2.12E-06 | 1.49E-06 | 6.87E-07 | 2.27E-07 | 5.87E-08 | 43.7 | WSW |
| W | 2200. | 3.59E-06 | 1.73E-06 | 1.20E-06 | 5.47E-07 | 1.76E-07 | 4.41E-08 | 27.1 | W |
| WNW | 2200. | 3.21E-06 | 1.53E-06 | 1.06E-06 | 4.73E-07 | 1.49E-07 | 3.64E-08 | 22.0 | WNW |
| NW | 2200. | 3.35E-06 | 1.60E-06 | 1.10E-06 | 4.92E-07 | 1.55E-07 | 3.76E-08 | 24.8 | NW |
| NNW | 2200. | 3.25E-06 | 1.57E-06 | 1.09E-06 | 4.98E-07 | 1.61E-07 | 4.03E-08 | 20.0 | NNW |
| N | 2200. | 3.18E-06 | 1.57E-06 | 1.10E-06 | 5.14E-07 | 1.71E-07 | 4.46E-08 | 20.3 | N |
| NNE | 2200. | 3.24E-06 | 1.58E-06 | 1.11E-06 | 5.08E-07 | 1.66E-07 | 4.25E-08 | 23.2 | NNE |
| NE | 2200. | 3.28E-06 | 1.59E-06 | 1.10E-06 | 5.01E-07 | 1.62E-07 | 4.04E-08 | 23.1 | NE |
| ENE | 2200. | 3.25E-06 | 1.58E-06 | 1.10E-06 | 5.05E-07 | 1.64E-07 | 4.15E-08 | 20.8 | ENE |
| E | 2200. | 3.72E-06 | 1.87E-06 | 1.33E-06 | 6.34E-07 | 2.18E-07 | 5.92E-08 | 30.0 | E |
| ESE | 2200. | 3.72E-06 | 1.88E-06 | 1.34E-06 | 6.36E-07 | 2.20E-07 | 5.98E-08 | 30.7 | ESE |
| SE | 2200. | 3.50E-06 | 1.73E-06 | 1.22E-06 | 5.65E-07 | 1.88E-07 | 4.90E-08 | 26.1 | SE |
| SSE | 2200. | 3.50E-06 | 1.69E-06 | 1.18E-06 | 5.34E-07 | 1.72E-07 | 4.30E-08 | 27.7 | SSE |
| MAX X/Q | | 4.31E-06 | | | | TOTAL HOURS AROUND SITE: | | 407.7 | |
| SRP 2.3.4 | 2200. | 4.53E-06 | 2.22E-06 | 1.55E-06 | 7.13E-07 | 2.34E-07 | 5.98E-08 | | |
| SITE LIMIT | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.98E-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 | 2200. | 3.18E-05 |
| SSW | 2200. | 3.18E-05 |
| SW | 2200. | 3.18E-05 |
| WSW | 2200. | 3.18E-05 |
| W | 2200. | 3.18E-05 |
| WNW | 2200. | 3.19E-05 |
| NW | 2200. | 3.21E-05 |
| NNW | 2200. | 3.23E-05 |
| N | 2200. | 3.18E-05 |
| NNE | 2200. | 3.18E-05 |
| NE | 2200. | 3.18E-05 |
| ENE | 2200. | 3.18E-05 |
| E | 2200. | 3.18E-05 |
| ESE | 2200. | 3.18E-05 |
| SE | 2200. | 3.18E-05 |
| SSE | 2200. | 3.18E-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. DRE04-0030 | REV. NO. 1 | ATTACHMENT I | PAGE NO. 98 of 108 |
|----------------------------|------------|--------------|--------------------|

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.

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 met data

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

RELATIVE CONCENTRATION (X/Q) VALUES (SEC/CUBIC METER)

| DOWNWIND DISTANCE
SECTOR (METERS) | | 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 | 2500. | 3.15E-06 | 1.50E-06 | 1.03E-06 | 4.60E-07 | 1.44E-07 | 3.49E-08 | 21.7 | S |
| SSW | 2500. | 3.06E-06 | 1.45E-06 | 1.00E-06 | 4.48E-07 | 1.41E-07 | 3.42E-08 | 19.3 | SSW |
| SW | 2500. | 3.53E-06 | 1.71E-06 | 1.18E-06 | 5.38E-07 | 1.73E-07 | 4.31E-08 | 27.2 | SW |
| WSW | 2500. | 4.24E-06 | 2.08E-06 | 1.46E-06 | 6.75E-07 | 2.23E-07 | 5.76E-08 | 43.7 | WSW |
| W | 2500. | 3.52E-06 | 1.70E-06 | 1.18E-06 | 5.38E-07 | 1.73E-07 | 4.34E-08 | 27.0 | W |
| WNW | 2500. | 3.14E-06 | 1.50E-06 | 1.03E-06 | 4.62E-07 | 1.46E-07 | 3.54E-08 | 22.0 | WNW |
| NW | 2500. | 3.25E-06 | 1.55E-06 | 1.07E-06 | 4.77E-07 | 1.50E-07 | 3.65E-08 | 24.2 | NW |
| NNW | 2500. | 3.17E-06 | 1.54E-06 | 1.07E-06 | 4.89E-07 | 1.58E-07 | 3.99E-08 | 19.6 | NNW |
| N | 2500. | 3.13E-06 | 1.54E-06 | 1.09E-06 | 5.06E-07 | 1.69E-07 | 4.40E-08 | 20.2 | N |
| NNE | 2500. | 3.18E-06 | 1.56E-06 | 1.09E-06 | 5.00E-07 | 1.64E-07 | 4.18E-08 | 23.1 | NNE |
| NE | 2500. | 3.22E-06 | 1.56E-06 | 1.08E-06 | 4.91E-07 | 1.58E-07 | 3.95E-08 | 23.0 | NE |
| ENE | 2500. | 3.19E-06 | 1.55E-06 | 1.08E-06 | 4.90E-07 | 1.58E-07 | 3.98E-08 | 20.8 | ENE |
| E | 2500. | 3.65E-06 | 1.84E-06 | 1.31E-06 | 6.20E-07 | 2.13E-07 | 5.77E-08 | 30.0 | E |
| ESE | 2500. | 3.65E-06 | 1.84E-06 | 1.31E-06 | 6.20E-07 | 2.13E-07 | 5.75E-08 | 30.7 | ESE |
| SE | 2500. | 3.44E-06 | 1.69E-06 | 1.19E-06 | 5.51E-07 | 1.83E-07 | 4.74E-08 | 26.1 | SE |
| SSE | 2500. | 3.44E-06 | 1.66E-06 | 1.15E-06 | 5.21E-07 | 1.67E-07 | 4.16E-08 | 27.7 | SSE |
| MAX X/Q | | 4.24E-06 | | | | TOTAL HOURS AROUND SITE: | | 406.3 | |
| SRP 2.3.4 | 2500. | 4.43E-06 | 2.16E-06 | 1.51E-06 | 6.93E-07 | 2.27E-07 | 5.77E-08 | | |
| SITE LIMIT | | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.77E-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 | 2500. | 2.83E-05 |
| SSW | 2500. | 2.83E-05 |
| SW | 2500. | 2.83E-05 |
| WSW | 2500. | 2.83E-05 |
| W | 2500. | 2.83E-05 |
| WNW | 2500. | 2.84E-05 |
| NW | 2500. | 2.86E-05 |
| NNW | 2500. | 2.87E-05 |
| N | 2500. | 2.83E-05 |
| NNE | 2500. | 2.83E-05 |
| NE | 2500. | 2.83E-05 |
| ENE | 2500. | 2.83E-05 |
| E | 2500. | 2.83E-05 |
| ESE | 2500. | 2.83E-05 |
| SE | 2500. | 2.83E-05 |
| SSE | 2500. | 2.83E-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.

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 91.4 meters

TYPE OF RELEASE: Elevated Release

DELTA-T HEIGHTS: 10.7-91.4 meters

SOURCE OF DATA:

COMMENTS: Dresden, Elevated Release, Control Room Intake, Station Chimney, Rev 1 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

HOURS PER YEAR MAX

0-2 HR X/Q IS

EXCEEDED

| DOWNWIND DISTANCE
SECTOR (METERS) | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | IN SECTOR | DOWNWIND
SECTOR |
|--------------------------------------|-----------|-----------|------------|----------|-----------|--------------------------|-----------|--------------------|
| S 3000. | 2.86E-06 | 1.36E-06 | 9.41E-07 | 4.21E-07 | 1.33E-07 | 3.24E-08 | 20.5 | S |
| SSW 3000. | 2.84E-06 | 1.35E-06 | 9.32E-07 | 4.17E-07 | 1.31E-07 | 3.19E-08 | 18.9 | SSW |
| SW 3000. | 3.29E-06 | 1.59E-06 | 1.10E-06 | 5.01E-07 | 1.61E-07 | 4.03E-08 | 26.7 | SW |
| WSW 3000. | 3.97E-06 | 1.95E-06 | 1.37E-06 | 6.33E-07 | 2.09E-07 | 5.41E-08 | 43.7 | WSW |
| W 3000. | 3.29E-06 | 1.59E-06 | 1.11E-06 | 5.05E-07 | 1.63E-07 | 4.10E-08 | 27.5 | W |
| WNW 3000. | 2.93E-06 | 1.40E-06 | 9.64E-07 | 4.31E-07 | 1.36E-07 | 3.32E-08 | 21.8 | WNW |
| NW 3000. | 3.12E-06 | 1.48E-06 | 1.02E-06 | 4.53E-07 | 1.42E-07 | 3.41E-08 | 24.9 | NW |
| NNW 3000. | 3.08E-06 | 1.49E-06 | 1.04E-06 | 4.71E-07 | 1.52E-07 | 3.81E-08 | 22.1 | NNW |
| N 3000. | 2.92E-06 | 1.45E-06 | 1.02E-06 | 4.76E-07 | 1.60E-07 | 4.19E-08 | 20.0 | N |
| NNE 3000. | 2.97E-06 | 1.45E-06 | 1.02E-06 | 4.69E-07 | 1.54E-07 | 3.96E-08 | 22.8 | NNE |
| NE 3000. | 3.06E-06 | 1.48E-06 | 1.02E-06 | 4.65E-07 | 1.49E-07 | 3.72E-08 | 23.4 | NE |
| ENE 3000. | 3.00E-06 | 1.45E-06 | 1.01E-06 | 4.57E-07 | 1.47E-07 | 3.67E-08 | 22.0 | ENE |
| E 3000. | 3.35E-06 | 1.69E-06 | 1.20E-06 | 5.73E-07 | 1.98E-07 | 5.37E-08 | 28.6 | E |
| ESE 3000. | 3.34E-06 | 1.68E-06 | 1.20E-06 | 5.68E-07 | 1.95E-07 | 5.27E-08 | 29.2 | ESE |
| SE 3000. | 3.15E-06 | 1.56E-06 | 1.09E-06 | 5.07E-07 | 1.68E-07 | 4.38E-08 | 24.9 | SE |
| SSE 3000. | 3.13E-06 | 1.51E-06 | 1.05E-06 | 4.77E-07 | 1.53E-07 | 3.83E-08 | 26.3 | SSE |
| MAX X/Q | 3.97E-06 | | | | | TOTAL HOURS AROUND SITE: | 403.2 | |
| SRP 2.3.4 3000. | 4.15E-06 | 2.02E-06 | 1.41E-06 | 6.49E-07 | 2.12E-07 | 5.41E-08 | | |
| SITE LIMIT | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.41E-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 3000. | 2.40E-05 |
| SSW 3000. | 2.40E-05 |
| SW 3000. | 2.40E-05 |
| WSW 3000. | 2.40E-05 |
| W 3000. | 2.40E-05 |
| WNW 3000. | 2.41E-05 |
| NW 3000. | 2.42E-05 |
| NNW 3000. | 2.44E-05 |
| N 3000. | 2.40E-05 |
| NNE 3000. | 2.40E-05 |
| NE 3000. | 2.40E-05 |
| ENE 3000. | 2.40E-05 |
| E 3000. | 2.40E-05 |
| ESE 3000. | 2.40E-05 |
| SE 3000. | 2.40E-05 |
| SSE 3000. | 2.40E-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.

Unit 2 and 3 Reactor Building Vent Exhaust Stack

1 1111

Dresden

Ground Release

10.7 meters

10.7-45.7 meters

DRS, Ground Release, EAB and LPZ, Unit 2&3 Vent Exhaust Stack, Rev 1 met data

7 0
1545. 43.1 10.0 10.7
0 0 0 0 1 1 2
10. 20. 15. 20. 11. 10. 8. 3. 8. 8. 6. 6. 5. 9. 6. 12.
171. 163. 239. 231. 119. 194. 200. 90. 79. 78. 82. 148. 90. 99. 140. 176.
106. 96. 176. 49. 93. 113. 108. 60. 72. 111. 116. 168. 106. 247. 266. 180.
10. 4. 18. 3. 14. 19. 14. 31. 37. 104. 86. 52. 71. 128. 98. 58.
1. 0. 1. 0. 1. 7. 2. 1. 16. 21. 22. 6. 19. 21. 0. 0.
0. 0. 0. 0. 0. 0. 0. 0. 6. 8. 0. 1. 0. 0. 0. 0.
7. 3. 7. 3. 5. 3. 4. 7. 1. 3. 4. 6. 2. 2. 5. 4.
35. 23. 30. 35. 26. 32. 33. 21. 20. 17. 17. 39. 40. 43. 45. 36.
20. 8. 24. 11. 14. 19. 22. 24. 39. 25. 30. 49. 44. 60. 49. 24.
1. 0. 2. 2. 2. 4. 3. 10. 23. 29. 14. 23. 21. 24. 14. 13.
0. 0. 0. 0. 0. 0. 3. 0. 6. 8. 9. 2. 3. 4. 0. 0.
0. 0. 0. 0. 0. 0. 0. 0. 1. 3. 1. 2. 0. 0. 0. 0.
10. 8. 5. 4. 10. 4. 6. 2. 6. 4. 4. 5. 3. 2. 7. 13.
33. 34. 28. 32. 20. 39. 26. 24. 22. 24. 30. 46. 38. 50. 46. 42.
10. 16. 29. 8. 20. 22. 24. 40. 33. 28. 36. 55. 63. 69. 43. 21.
1. 2. 5. 0. 6. 6. 13. 16. 34. 33. 25. 15. 33. 23. 23. 10.
0. 0. 2. 0. 0. 1. 2. 1. 2. 14. 5. 1. 14. 4. 0. 0.
0. 0. 0. 0. 0. 0. 0. 0. 1. 5. 0. 1. 1. 0. 0. 0.
69. 84. 55. 51. 48. 47. 39. 24. 53. 37. 44. 26. 33. 58. 71. 76.
262. 203. 318. 424. 339. 237. 139. 163. 173. 164. 195. 178. 336. 325. 311. 310.
149. 144. 250. 179. 312. 213. 148. 237. 250. 202. 199. 227. 560. 565. 402. 271.
34. 33. 66. 10. 42. 80. 86. 159. 226. 181. 128. 117. 315. 292. 106. 85.
2. 0. 3. 0. 1. 6. 12. 16. 50. 60. 42. 40. 101. 27. 3. 10.
0. 0. 0. 0. 0. 0. 0. 5. 10. 16. 25. 24. 17. 0. 0. 0.
205. 212. 161. 146. 155. 154. 108. 115. 144. 112. 93. 80. 121. 131. 204. 192.
296. 376. 546. 566. 755. 765. 330. 513. 459. 402. 292. 184. 592. 560. 543. 505.
137. 143. 206. 139. 241. 297. 192. 456. 578. 430. 336. 167. 490. 391. 251. 223.
16. 28. 66. 3. 40. 84. 104. 206. 362. 260. 115. 60. 174. 90. 58. 73.
1. 0. 0. 0. 3. 5. 12. 45. 113. 56. 25. 3. 8. 3. 2. 1.
0. 0. 0. 0. 0. 0. 2. 14. 14. 5. 12. 3. 2. 0. 0. 0.
159. 110. 81. 80. 140. 139. 125. 134. 162. 178. 168. 116. 127. 149. 175. 221.
54. 54. 65. 7. 95. 460. 179. 135. 196. 299. 288. 107. 133. 174. 129. 155.
2. 1. 2. 6. 7. 14. 18. 16. 50. 29. 57. 28. 3. 2. 5. 1.
0. 0. 0. 0. 8. 1. 0. 1. 3. 0. 1. 1. 4. 0. 0. 0.
0. 0. 0. 0. 2. 1. 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.
63. 35. 23. 28. 56. 75. 54. 48. 76. 102. 125. 71. 69. 80. 185. 153.
2. 5. 1. 1. 28. 159. 20. 7. 17. 90. 236. 32. 8. 7. 37. 53.
0. 0. 0. 0. 4. 0. 1. 0. 1. 1. 10. 0. 0. 0. 0. 0.
0. 0. 0. 0. 0. 0. 0. 1. 0. 0. 0. 1. 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.
101. 0.93 3.50 7.50 12.5 18.5 24.0 55.0
800. 800. 800. 800. 800. 800. 800. 800. 800. 800. 800. 800. 800. 800. 800.
8000. 8000. 8000. 8000. 8000. 8000. 8000. 8000. 8000. 8000. 8000. 8000. 8000. 8000. 8000.
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.

Copyright (c) 1990 Ergo Computing, Inc. for Lahey

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PRINTOUT OF INPUT CARDS

```

1      00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 2      Dresden
Ground Release
3      10.7 meters      .10.7-45.7 meters
4
5      DRS, Ground Release, EAB and LPZ, Unit 2&3 Vent Exhaust Stack, Rev 1 met data.      6      7 43511      0
7      0.500 1545.000      43.100      10.000      10.700
8      0.000 0.000 0.000 0.000 1.000 1.000 2.000
9      10.000 20.000 15.000 20.000 11.000 10.000 8.000 3.000 8.000 8.000 6.000 6.000 5.000 9.000 6.000 12.000
9      171.000163.000239.000231.000119.000194.000200.000 90.000 79.000 78.000 82.000148.000 90.000 99.000140.000176.000
9      106.000 96.000176.000 49.000 93.000113.000108.000 60.000 72.000111.000116.000168.000106.000247.000266.000180.000
9      10.000 4.000 18.000 3.000 14.000 19.000 14.000 31.000 37.000104.000 86.000 52.000 71.000128.000 98.000 58.000
9      1.000 0.000 1.000 0.000 1.000 7.000 2.000 1.000 16.000 21.000 22.000 6.000 19.000 21.000 0.000 0.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 6.000 8.000 0.000 1.000 0.000 0.000 0.000 0.000
9      7.000 3.000 7.000 3.000 5.000 3.000 4.000 7.000 1.000 3.000 4.000 6.000 2.000 2.000 5.000 4.000
9      35.000 23.000 30.000 35.000 26.000 32.000 33.000 21.000 20.000 17.000 17.000 39.000 40.000 43.000 45.000 36.000
9      20.000 8.000 24.000 11.000 14.000 19.000 22.000 24.000 39.000 25.000 30.000 49.000 44.000 60.000 49.000 24.000
9      1.000 0.000 2.000 2.000 2.000 4.000 3.000 10.000 23.000 29.000 14.000 23.000 21.000 24.000 14.000 13.000
9      0.000 0.000 0.000 0.000 0.000 0.000 3.000 0.000 6.000 8.000 9.000 2.000 3.000 4.000 0.000 0.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 3.000 1.000 2.000 0.000 0.000 0.000 0.000
9      10.000 8.000 5.000 4.000 10.000 4.000 6.000 2.000 6.000 4.000 4.000 5.000 3.000 2.000 7.000 13.000
9      33.000 34.000 28.000 32.000 20.000 39.000 26.000 24.000 22.000 24.000 30.000 46.000 38.000 50.000 46.000 42.000
9      10.000 16.000 29.000 8.000 20.000 22.000 24.000 40.000 33.000 28.000 36.000 55.000 63.000 69.000 43.000 21.000
9      1.000 2.000 5.000 0.000 6.000 6.000 13.000 16.000 34.000 33.000 25.000 15.000 33.000 23.000 23.000 10.000
9      0.000 0.000 2.000 0.000 0.000 1.000 2.000 1.000 2.000 14.000 5.000 1.000 14.000 4.000 0.000 0.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 5.000 0.000 1.000 1.000 0.000 0.000 0.000
9      69.000 84.000 55.000 51.000 48.000 47.000 39.000 24.000 53.000 37.000 44.000 26.000 33.000 58.000 71.000 76.000
9      262.000203.000318.000424.000339.000237.000139.000163.000173.000164.000195.000178.000336.000325.000311.000310.000
9      149.000144.000250.000179.000312.000213.000148.000237.000250.000202.000199.000227.000560.000565.000402.000271.000
9      34.000 33.000 66.000 10.000 42.000 80.000 86.000159.000226.000181.000128.000117.000315.000292.000106.000 85.000
9      2.000 0.000 3.000 0.000 1.000 6.000 12.000 16.000 50.000 60.000 42.000 40.000101.000 27.000 3.000 10.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 5.000 10.000 16.000 25.000 24.000 17.000 0.000 0.000 0.000
9      205.000212.000161.000146.000155.000154.000108.000115.000144.000112.000 93.000 80.000121.000131.000204.000192.000
9      296.000376.000546.000566.000755.000765.000330.000513.000459.000402.000292.000184.000592.000560.000543.000505.000
9      137.000143.000206.000139.000241.000297.000192.000456.000578.000430.000336.000167.000490.000391.000251.000223.000
9      16.000 28.000 66.000 3.000 40.000 84.000104.000206.000362.000260.000115.000 60.000174.000 90.000 58.000 73.000
9      1.000 0.000 0.000 0.000 3.000 5.000 12.000 45.000113.000 56.000 25.000 3.000 8.000 3.000 2.000 1.000
9      0.000 0.000 0.000 0.000 0.000 0.000 2.000 14.000 14.000 5.000 12.000 3.000 2.000 0.000 0.000 0.000
9      159.000110.000 81.000 80.000140.000139.000125.000134.000162.000178.000168.000116.000127.000149.000175.000221.000
9      54.000 54.000 65.000 7.000 95.000460.000179.000135.000196.000299.000288.000107.000133.000174.000129.000155.000
9      2.000 1.000 2.000 6.000 7.000 14.000 18.000 16.000 50.000 29.000 57.000 28.000 3.000 2.000 5.000 1.000
9      0.000 0.000 0.000 0.000 8.000 1.000 0.000 1.000 3.000 0.000 1.000 1.000 4.000 0.000 0.000 0.000
9      0.000 0.000 0.000 0.000 2.000 1.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 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 0.000 0.000 0.000
9      63.000 35.000 23.000 28.000 56.000 75.000 54.000 48.000 76.000102.000125.000 71.000 69.000 80.000185.000153.000
9      2.000 5.000 1.000 1.000 28.000159.000 20.000 7.000 17.000 90.000236.000 32.000 8.000 7.000 37.000 53.000
9      0.000 0.000 0.000 0.000 4.000 0.000 1.000 0.000 1.000 1.000 10.000 0.000 0.000 0.000 0.000 0.000
9      0.000 0.000 0.000 0.000 0.000 0.000 0.000 1.000 0.000 0.000 0.000 1.000 0.000 0.000 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 0.000 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 0.000 0.000 0.000
7.500 12.500 18.500 24.000 55.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 10      101. 0.930 3.500
800. 800. 800. 800. 800. 800. 800. 800. 800. 800. 800. 800. 800. 800.

```


USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.7-45.7 meters

SOURCE OF DATA:

COMMENTS: DRS, Ground Release, EAB and LPZ, Unit 2&3 Vent Exhaust Stack, Rev 1 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 | | HOURS PER YEAR MAX
0-2 HR X/Q IS 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 | 800. | 1.50E-04 | 7.44E-05 | 5.25E-05 | 2.46E-05 | 8.27E-06 | 2.18E-06 | 8.2 | S |
| SSW | 800. | 1.26E-04 | 6.33E-05 | 4.49E-05 | 2.13E-05 | 7.33E-06 | 1.98E-06 | 255.2 | SSW |
| SW | 800. | 1.16E-04 | 5.96E-05 | 4.26E-05 | 2.06E-05 | 7.29E-06 | 2.04E-06 | 3.0 | SW |
| WSW | 800. | 1.15E-04 | 5.85E-05 | 4.18E-05 | 2.01E-05 | 7.00E-06 | 1.93E-06 | 3.6 | WSW |
| W | 800. | 1.52E-04 | 7.79E-05 | 5.58E-05 | 2.70E-05 | 9.54E-06 | 2.67E-06 | 10.3 | W |
| WNW | 800. | 2.27E-04 | 1.13E-04 | 8.00E-05 | 3.77E-05 | 1.28E-05 | 3.40E-06 | 28.0 | WNW |
| NW | 800. | 1.56E-04 | 7.55E-05 | 5.26E-05 | 2.40E-05 | 7.77E-06 | 1.96E-06 | 9.1 | NW |
| NNW | 800. | 1.46E-04 | 7.33E-05 | 5.20E-05 | 2.47E-05 | 8.49E-06 | 2.30E-06 | 6.9 | NNW |
| N | 800. | 1.67E-04 | 8.53E-05 | 6.10E-05 | 2.95E-05 | 1.04E-05 | 2.88E-06 | 11.6 | N |
| NNE | 800. | 2.12E-04 | 1.05E-04 | 7.35E-05 | 3.42E-05 | 1.14E-05 | 2.97E-06 | 23.6 | NNE |
| NE | 800. | 2.51E-04 | 1.21E-04 | 8.43E-05 | 3.83E-05 | 1.24E-05 | 3.10E-06 | 43.7 | NE |
| ENE | 800. | 1.56E-04 | 7.46E-05 | 5.16E-05 | 2.31E-05 | 7.32E-06 | 1.79E-06 | 12.7 | ENE |
| E | 800. | 1.52E-04 | 7.85E-05 | 5.65E-05 | 2.76E-05 | 9.91E-06 | 2.83E-06 | 9.6 | E |
| ESE | 800. | 1.62E-04 | 8.34E-05 | 5.99E-05 | 2.92E-05 | 1.04E-05 | 2.93E-06 | 10.9 | ESE |
| SE | 800. | 2.24E-04 | 1.13E-04 | 7.98E-05 | 3.78E-05 | 1.29E-05 | 3.47E-06 | 28.1 | SE |
| SSE | 800. | 2.17E-04 | 1.09E-04 | 7.73E-05 | 3.67E-05 | 1.26E-05 | 3.38E-06 | 25.8 | SSE |
| MAX X/Q | | 2.51E-04 | | | | TOTAL HOURS AROUND SITE: | | 490.4 | |
| SRP 2.3.4 | 800. | 4.26E-04 | 1.92E-04 | 1.29E-04 | 5.45E-05 | 1.58E-05 | 3.47E-06 | | |
| SITE LIMIT | | 2.14E-04 | 1.08E-04 | 7.69E-05 | 3.67E-05 | 1.27E-05 | 3.47E-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.

USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 09/14/04

PLANT NAME: Dresden

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD:

WIND SENSORS HEIGHT: 10.7 meters

TYPE OF RELEASE: Ground Release

DELTA-T HEIGHTS: 10.7-45.7 meters

SOURCE OF DATA:

COMMENTS: DRS, Ground Release, EAB and LP2, Unit 2&3 Vent Exhaust Stack, Rev 1 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

HOURS PER YEAR MAX

0-2 HR X/Q IS

EXCEEDED

| DOWNWIND DISTANCE
SECTOR (METERS) | 0-2 HOURS | 0-8 HOURS | 8-24 HOURS | 1-4 DAYS | 4-30 DAYS | ANNUAL AVERAGE | IN SECTOR | DOWNWIND
SECTOR |
|--------------------------------------|-----------|-----------|------------|----------|-----------|--------------------------|-----------|--------------------|
| S 8000. | 1.52E-05 | 6.37E-06 | 4.12E-06 | 1.61E-06 | 4.14E-07 | 7.89E-08 | 16.6 | S |
| SSW 8000. | 1.14E-05 | 4.89E-06 | 3.21E-06 | 1.29E-06 | 3.48E-07 | 7.00E-08 | 329.1 | SSW |
| SW 8000. | 9.54E-06 | 4.23E-06 | 2.82E-06 | 1.17E-06 | 3.29E-07 | 6.98E-08 | 6.4 | SW |
| WSW 8000. | 9.57E-06 | 4.20E-06 | 2.78E-06 | 1.14E-06 | 3.15E-07 | 6.55E-08 | 7.5 | WSW |
| W 8000. | 1.52E-05 | 6.57E-06 | 4.32E-06 | 1.74E-06 | 4.72E-07 | 9.56E-08 | 15.2 | W |
| WNW 8000. | 1.96E-05 | 8.52E-06 | 5.62E-06 | 2.28E-06 | 6.25E-07 | 1.28E-07 | 21.7 | WNW |
| NW 8000. | 1.39E-05 | 5.82E-06 | 3.77E-06 | 1.47E-06 | 3.81E-07 | 7.28E-08 | 14.4 | NW |
| NNW 8000. | 1.34E-05 | 5.78E-06 | 3.80E-06 | 1.53E-06 | 4.14E-07 | 8.36E-08 | 13.0 | NNW |
| N 8000. | 1.65E-05 | 7.16E-06 | 4.72E-06 | 1.91E-06 | 5.20E-07 | 1.06E-07 | 19.8 | N |
| NNE 8000. | 2.03E-05 | 8.59E-06 | 5.60E-06 | 2.21E-06 | 5.80E-07 | 1.13E-07 | 27.1 | NNE |
| NE 8000. | 2.39E-05 | 9.96E-06 | 6.43E-06 | 2.49E-06 | 6.37E-07 | 1.20E-07 | 35.2 | NE |
| ENE 8000. | 1.50E-05 | 6.11E-06 | 3.90E-06 | 1.47E-06 | 3.64E-07 | 6.58E-08 | 18.2 | ENE |
| E 8000. | 1.42E-05 | 6.25E-06 | 4.15E-06 | 1.70E-06 | 4.74E-07 | 9.92E-08 | 17.5 | E |
| ESE 8000. | 1.58E-05 | 6.89E-06 | 4.55E-06 | 1.85E-06 | 5.06E-07 | 1.04E-07 | 20.3 | ESE |
| SE 8000. | 2.63E-05 | 1.09E-05 | 7.02E-06 | 2.70E-06 | 6.86E-07 | 1.28E-07 | 43.7 | SE |
| SSE 8000. | 2.41E-05 | 1.01E-05 | 6.54E-06 | 2.55E-06 | 6.60E-07 | 1.26E-07 | 38.3 | SSE |
| MAX X/Q | 2.63E-05 | | | | | TOTAL HOURS AROUND SITE: | 644.0 | |
| SRP 2.3.4 8000. | 3.26E-05 | 1.30E-05 | 8.25E-06 | 3.06E-06 | 7.34E-07 | 1.28E-07 | | |
| SITE LIMIT | 2.24E-05 | 9.55E-06 | 6.23E-06 | 2.47E-06 | 6.53E-07 | 1.28E-07 | | |

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.

Computer Disclosure SheetDiscipline NuclearClient: Exelon Corporation
Project: Dresden StationDate: August 2005
Job No. 27450-NCS0032.CN1Program(s) used
ARCON96Rev No.
1Rev. Date
5/1997

Calculation No.: DRE04-0030, Rev. 1

Status ☐ Prelim.
☒ Final
☐ VoidWGI Prequalification ☒ Yes
☐ No

Run No. 1

Description: ARCON96 X/Q analysis consistent with procedures in Regulatory Guide 1.194
for Control Room habitability assessments.

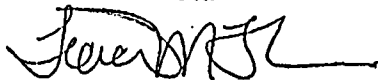
Analysis Description: ARCON96 calculations of X/Q are performed for ground and stack releases to the Control Room Intake. Centerline X/Q values, sector X/Q values and 95% max X/Q values are computed for 0-2 hours, 2-8 hours and 8-24 hours, 1-4 days, and 4-30 days.

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:

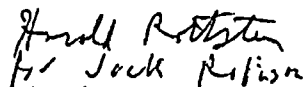
On:

Run by: T.Thomas



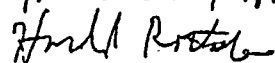
8/5/2005

Checked by: J. Robinson



8/5/05

Approved by: H. Rothstein



8/5/05

Remarks: WGI Form for Computer Software Control

Computer Disclosure SheetDiscipline NuclearClient:: Exelon Corporation
Project: Dresden StationDate: August 2005
Job No. 27450-NCS0032.CN1Program(s) used
PAVANRev No.
2Rev. Date
12/1997

Calculation No.: DRE04-0030, Rev. 1

Status ☐ Prelim.
☒ Final
☐ VoidWGI Prequalification ☒ Yes
☐ NoRun No. 1 Description: PAVAN X/Q analysis of the Control Room, EAB and LPZ consistent with Regulatory Guide 1.194 and
Regulatory Guide 1.145.Analysis Description: PAVAN calculations of X/Q are performed for the Control Room, EAB and outer LPZ distances. Maximum 0-2 hour, 0-8
hour, and 8-24 hour, 1-4 day and 4-30 day X/Q values are computed for each direction sector; and the 5th percentile overall site X/Q is also
calculated. The higher value is selected.The attached computer output has been reviewed, the input data checked,
And the results approved for release. Input criteria for this analysis were established.

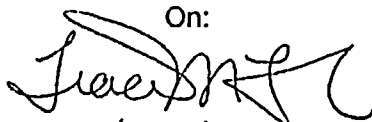
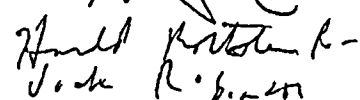
By:

On:

Run by: T.Thomas

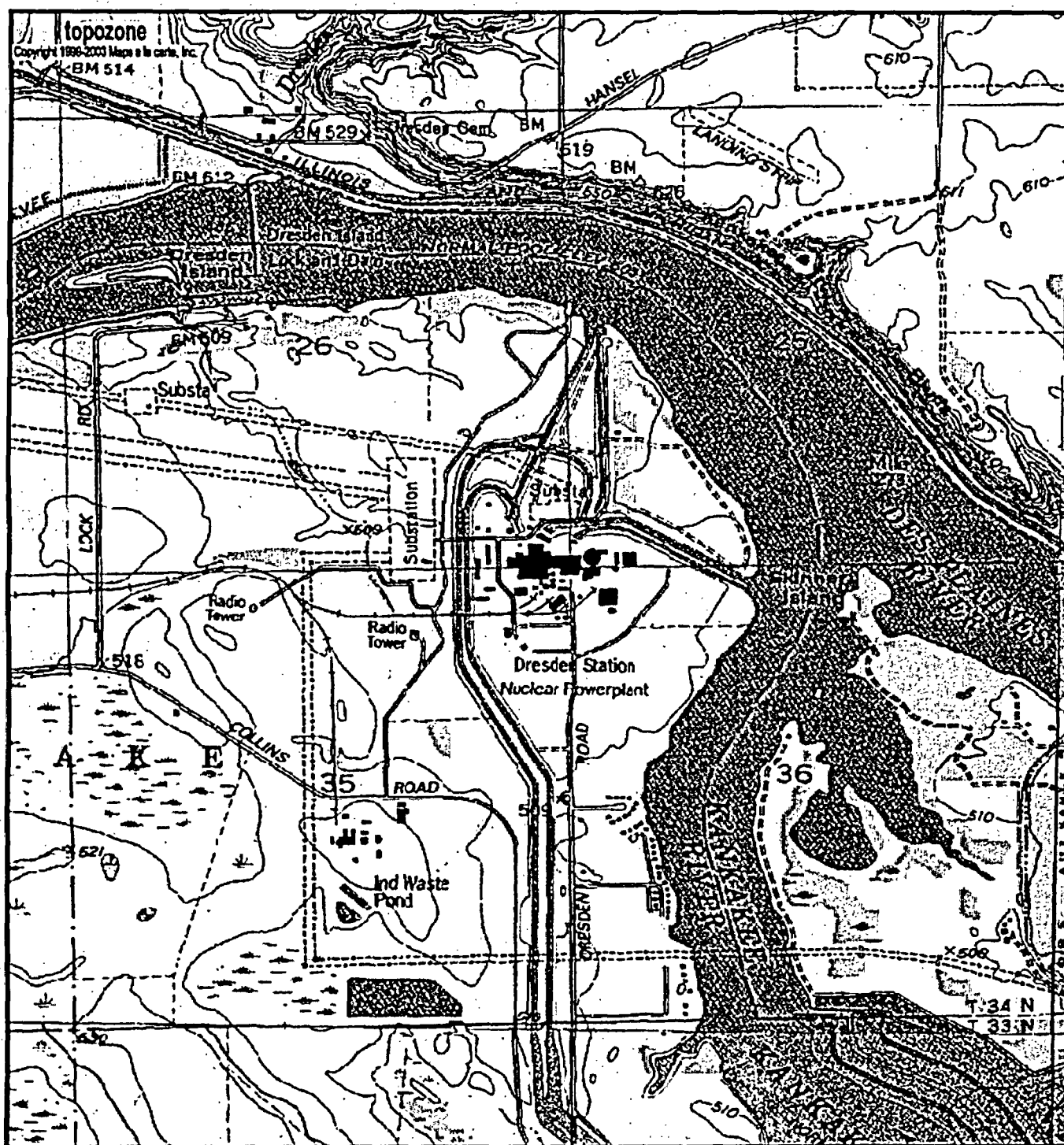
Checked by: J. Robinson

Approved by: H. Rothstein

8/5/2005
8/5/05
8/5/05

Remarks: WGI Form for Computer Software Control



| Distance from river (km) | Average water temperature (°C) |
|--------------------------|--------------------------------|
| 0.0 | 38 |
| 0.1 | 35 |
| 0.2 | 32 |
| 0.3 | 30 |
| 0.4 | 28 |
| 0.5 | 26 |
| 0.6 | 24 |
| 0.7 | 22 |
| 0.8 | 20 |
| 0.9 | 18 |
| 1.0 | 16 |
| 1.1 | 14 |
| 1.2 | 12 |
| 1.3 | 10 |
| 1.4 | 8 |
| 1.5 | 6 |

Map center is 41.3892°N, 88.2700°W (WGS84/NAD83)
Minooka quadrangle - Elevation 509.6 ft / 155.3 m (USGS NED)

Projection is UTM Zone 16 NAD83 Datum

M=-2.414
G=-0.84