

From: <eddie.grant@exeloncorp.com>
To: <nvg@nrc.gov>
Date: 10/11/04 11:26AM
Subject: RE: Response to RAI Letter No. 4

Nannette Gilles

Attached is your copy of the response to RAI letter No. 4 that was mailed Friday.

Thanks,

Exelon
Early Site Permit Project
Eddie R. Grant
610.765.5001 voice
610.765.5755 fax
850.598.9801 cell

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owf4_po.OWFN_DO
NVG (Nanette Gilles)

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owf4_po.OWFN_DO

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Exelon Nuclear
200 Exelon Way
KSA3-N
Kennett Square, PA 19348

Telephone 610.765.5610
Fax 610.765.5755
www.exeloncorp.com

52.17

October 8, 2004

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Subject: Response to Request for Additional Information (RAI) Letter No. 4 –
Exelon Early Site Permit (ESP) Application for the Clinton ESP Site
(TAC No. MC1122)

Re: Letter, U.S. Nuclear Regulatory Commission (N. V. Gilles) to Exelon
Generation Company, LLC, (M. Kray), dated July 26, 2004, Request for
Additional Information Letter No. 4 – Exelon Early Site Permit
Application for the Clinton ESP Site (TAC No. MC1122)

Enclosed, as requested in the referenced letter, are responses to the requests for additional information (RAIs) associated with the meteorology portion of the Exelon Generation Company, LLC (EGC) ESP application.

Please contact Eddie Grant of my staff at 610-765-5001 if you have any questions regarding this submittal.

Sincerely yours,



Marilyn C. Kray
Vice President, Project Development

TPM/ERG

U.S. Nuclear Regulatory Commission

October 8, 2004

Page 2 of 3

cc: U.S. NRC Regional Office (w/ enclosures)
Ms. Nanette V. Gilles (w/ enclosures)

Enclosure: Response to RAI 2.3.1-1 through 2.3.1-10 (and associated attachments)
Response to RAI 2.3.2-1 through 2.3.2-6
Response to RAI 2.3.3-2 through 2.3.3-4
Response to RAI 2.3.4-1 through 2.3.4-2 (and associated attachments)

Attachments: RAI 2.3.1-9 Attachment (Grazulis 1993) Tornado Speed Figures
RAI 2.3.4-2 Attachment (PAVAN IN-OUT)

AFFIDAVIT OF MARILYN C. KRAY

State of Pennsylvania

County of Chester

The foregoing document was acknowledged before me, in and for the County and State aforesaid, by Marilyn C. Kray, who is Vice President, Project Development, of Exelon Generation Company, LLC. She has affirmed before me that she is duly authorized to execute and file the foregoing document on behalf of Exelon Generation Company, LLC, and that the statements in the document are true to the best of her knowledge and belief.

Acknowledged and affirmed before me this 8th day of October, 2004.

My commission expires 10-6-07.



Notary Public

COMMONWEALTH OF PENNSYLVANIA

Notarial Seal

Vivia V. Gallimore, Notary Public
Kennett Square Boro, Chester County
My Commission Expires Oct. 6, 2007

Member, Pennsylvania Association Of Notaries

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.1-1

SSAR Table 2.3-3 shows the number of tornadoes reported for DeWitt and the immediately adjacent surrounding counties for the period of record 1950 through 2002. Subsequent to the period of record reported in SSAR Table 2.3-3, there were 63 tornadoes reported in Central Illinois in 2003, 23 of which occurred in DeWitt and its surrounding counties. These 63 tornadoes rank 2003 second on the list for the most tornadoes in a year for central Illinois since 1950. Please update the tornado statistics provided in SSAR Section 2.3.1.2.2 and Tables 2.3-2 and 2.3-3 to include data from 2003.

EGC RAI ID: R8-1

EGC RESPONSE:

Updated information on the tornado statistics presented in SSAR Section 2.3.1.2.2 and SSAR Tables 2.3-2 and 2.3-3 have been obtained from NOAA National Climatic Data Center (NCDC) web site referenced in the SSAR (i.e., <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll/wwevent~storms>) through the period ending 12/31/2003. The updated information is noted in revised SSAR Tables 2.3-2 and 2.3-3 (shown in **bold italics**) below. The updated information will be provided in a revision to the SSAR, and the text of SSAR Section 2.3.1.2.2 will be revised to reflect the information in the tables. The statistics on tornado occurrence in Illinois are provided in response to the request; however, it should be noted that no analyses or evaluations have been based on these tornado statistics. As indicated in the EGC ESP SSAR, Section 2.3.1.2.2, the tornado site characteristics are based on other sources.

TABLE 2.3-2 (REVISED)

Summary of Illinois Tornado Occurrences

Tornado Intensity (Fujita Tornado Scale)	Number of Reported Occurrences January 1, 1950 - December 31, 2003
≥ F0	1716 - Revised to 1793
> F1	1016 - Revised to 1079
≥ F2	509 - Revised to 530
≥ F3	164 - Revised to 171
≥ F4	43 - Revised to 45
F5	3 - Unchanged

Source: NOAA, 2004 (**Same reference as previously cited in SSAR (NOAA, 2002b), but period of record specified through end of 2003**) Notes: F0: 40-72 mph F1: 73 - 112 mph F2: 113 - 157 mph F3: 158 - 206 mph F4: 207 - 260 mph F5: 261 - 318 mph

TABLE 2.3-3 (REVISED)

Reported Tornado Occurrences in DeWitt and Surrounding Counties

County	No. of Reported Tornadoes (1950 - 2003)
DeWitt	11 - <i>Revised to 18</i>
Piatt	19 - <i>Revised to 20</i>
Macon	41 - <i>Revised to 42</i>
Logan	33 - <i>Revised to 44</i>
McLean	84 - <i>Revised to 88</i>

Source: NOAA, 2004 (*Same reference as previously cited in SSAR (NOAA, 2002b), but period of record specified through end of 2003*)

ASSOCIATED EGC ESP APPLICATION REVISIONS:

Revise SSAR, Chapter 2, Section 2.3.1.2.2, from:

During the period 1950 to 2002, the average number of tornadoes per year that have occurred in Illinois is 30 (NOAA, 2002a). For this same period of record, Illinois tornado statistics based on storm intensity are summarized in Table 2.3-2 (NOAA, 2002b).

To read:

During the period 1950 to 2003, the average number of tornadoes per year that have occurred in Illinois is 33, based on the Illinois tornado statistics as summarized in Table 2.3-2 (NOAA, 2004).

Revise SSAR, Chapter 2, Section 2.3 References to delete the Reference (NOAA, 2002a).

Revise SSAR, Chapter 2, Section 2.3 References from:

National Oceanic and Atmospheric Administration (NOAA). National Climatic Data Center. "Storm Damage Reports in Illinois." Available at:
<http://www4.ncdc.noaa.gov/cgiwin/wwcgi.dll?wwEvent~Storms>. 2002b.

To read:

National Oceanic and Atmospheric Administration (NOAA). National Climatic Data Center. "Storm Damage Reports in Illinois." Available at:
<http://www4.ncdc.noaa.gov/cgiwin/wwcgi.dll?wwEvent~Storms>. 2004.

Revise SSAR, Chapter 2, Table 2.3-2 to read:

TABLE 2.3-2

Summary of Illinois Tornado Occurrences

Tornado Intensity (Fujita Tornado Scale)	Number of Reported Occurrences January 1, 1950 - December 31, 2003
≥ F0	1793
> F1	1079
≥ F2	530
≥ F3	171
≥ F4	45
F5	3

Source: NOAA, 2004

Notes: F0: 40-72 mph F1: 73 - 112 mph F2: 113 - 157 mph F3: 158 - 206 mph F4: 207 - 260 mph
F5: 261 - 318 mph

Revise SSAR, Chapter 2, Table 2.3-3 to read:

TABLE 2.3-3

Reported Tornado Occurrences in DeWitt and Surrounding Counties

County	No. of Reported Tornadoes (1950 - 2003)
DeWitt	18
Piatt	20
Macon	42
Logan	44
McLean	88

Source: NOAA, 2004

ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.1-2

Please provide a 3-second gust wind speed that represents a 100-year return period for the Clinton early site permit (ESP) site. This site characteristic value potentially represents a typical design parameter input for new reactor designs. Because the National Weather Service has phased out the measurement of fastest-mile wind speeds, Structural Engineering Institute/American Society of Civil Engineers (SEI/ASCE) 7-02 has redefined the basic wind as the peak (3-second) gust, a value which is now recorded and archived at most National Weather Service Stations.

EGC RAI ID: R8-2

EGC RESPONSE:

The requested SEI/ASCE 3-second gust wind speed that represents a 100-year return period for the Clinton ESP site is 96 mph. This value was obtained from ASCE 7-98 "Minimum Design Loads for Buildings and Other Structures" (ASCE, 2000). Specifically, this design information was obtained from Figure 6-1 "Basic Wind Speed" from that reference. The wind speed obtained from Figure 6-1 for the Clinton ESP site area is 90 mph and is representative of the nominal design 50-year return 3-second gust at 10 meters above the ground. A correction of this value is provided in Table C6-3 "Conversion Factors for Other Mean Recurrence Intervals". The conversion factor for a 100-year return period is 1.07, resulting in a nominal design 3-second gust wind speed of 96 mph.

However, the site characteristic wind speed, often referred to as the "fastest mile" or "peak gust" is provided (see response to RAI 2.3.1-3) based on historical meteorological records. The 3-second gust wind speed, a design parameter will be determined at the COL stage based on the applicable design standard at that time, compared to the site characteristic requirements, and accounted for in the facility design.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

None

ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.1-3

SSAR Table 2.3-1 reports a peak gust wind speed of 69 miles per hour (mph) as well as a fastest-mile wind speed of 75 mph for both Peoria and Springfield. Given the response characteristics of the instrumentation used, the peak gust measurement is associated with an averaging time of approximately 3 seconds whereas the fastest-mile wind speed measurement of 75 mph is associated with an averaging time of approximately 48 seconds. Typically, extreme wind values are expected to increase as the averaging time decreases; for example, the fastest 3-second-average wind speed would be expected to be higher than the fastest 48-second-average wind speed which would be expected to be higher than the fastest 5-minute-average wind speed. Consequently, please explain the apparent abnormality in SSAR Table 2.3-1 where the reported peak gust wind speeds are lower than the reported fastest-mile wind speeds.

EGC RAI ID: R8-3

EGC RESPONSE:

As indicated in the RAI, the magnitude of the "peak gust" wind speed should be higher than the magnitude of the "fastest mile" wind speed. The "fastest mile" of wind is the average wind speed obtained during the passage of one mile of wind. However, at a typical meteorological observing station, the wind speed has been (historically) reported only once each hour of the day, and that manual observation is based on an approximate 2-minute period. The "fastest mile of wind" is typically reported as the highest of the hourly average wind speed observations reported over the course of the day. In meteorological data records, when peak gust observations are not available, or when observations of peak gusts have not specifically been made, fastest mile observations are often substituted. In reviewing the climatological information that has been published for the Peoria and Springfield, Illinois observing stations, there are some inconsistencies in the published data, specifically with regard to fastest mile and peak gust information. Peak gust information published by the National Climatic Data Center of the National Oceanic and Atmospheric Administration (NOAA, 1998 - available at: <http://nndc.noaa.gov/http://ols.nndc.noaa.gov/plolstore/plsql/olstore.prodspecific/prodnum=C00518-PUB-A0001>) indicates that Peoria and Springfield have recorded peak gusts of 75 and 71 miles per hour, respectively, during the period 1930 - 1996. The information presented in SSAR Table 2.3-1, obtained from the same source at an earlier date, indicates that the fastest mile of wind observations at both of these stations was 75 miles per hour and the peak gusts were only 69 mph. Given the inconsistent nature of the historical observations at these stations, the EGC ESP evaluations conservatively assume that the fastest mile and peak gust are equivalent and, where two different values are provided, the larger of the two is used. SSAR Table 2.3-1 will be modified to combine the references to "Peak Gust" and "Fastest Mile" information to read "Fastest Mile/Peak Gust." It is also noted that the "peak gust" referred to herein (obtained from historical records) differs from the "3-second gust" information requested to in RAI 2.3.1-2. Although the 3-second gust wind speed is now recorded electronically at some observing stations, it is not available from older historical records.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

Revise SSAR, Chapter 2, Section 2.3.1, Table 2.3-1, from:

Fastest mile:

Speed (mph)	75 (July 1953)	75 (June 1957)
Direction	Northwest	Southwest

Peak gust

Speed (mph)	69 (April 1989)	69 (August 1987)
Direction	North	West

To read:

Fastest Mile/Peak Gust:

Speed (mph)	75 (July 1953)	75 (June 1957)
Direction	Northwest	Southwest

ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.1-4

There are inconsistencies reported in the SSAR for the maximum monthly and maximum 24-hour snowfall value for Springfield. Section 2.3.1.2.3 states that the maximum monthly snowfall in the Springfield area is 24.4 inches whereas Table 2.3-1 reports a monthly maximum snowfall value of 22.7 inches. Likewise, Section 2.3.1.2.3 reports a maximum recorded 24-hour snowfall of 15.0 inches whereas Table 2.3-1 reports a 24-hour snowfall value of 10.9 inches. In addition, the Illinois State Climatologist Office's web site, <http://www.sws.uiuc.edu/atmos/statecli/summary/118179.htm>, reports a third value for the 1-day maximum snowfall: 17.0 inches (December 12, 1972) for the period of record 1908 through 2001. Please affirm the appropriate maximum monthly and maximum 24-hour snowfall values for Springfield.

EGC RAI ID: R8-4

EGC RESPONSE:

In response to NRC RAI 2.3.1-4, a review of the information in SSAR Section 2.3.1.2.3 and SSAR Table 2.3-1 has confirmed the inconsistencies noted for maximum monthly and maximum 24-hour snowfall for Springfield, IL, and these inconsistencies have been corrected. Review of the published climatological information for Peoria and Springfield indicates that there are some inconsistencies in the published data. Given these inconsistencies, the EGC ESP evaluations will conservatively assume the highest value identified. As such, the snowfall information in SSAR Table 2.3-1 will be revised to read as follows:

Snowfall (in)	Peoria	Springfield
Annual average	25.1	23.9
Monthly maximum	26.5 (February 1900)	24.4 (February 1900)
Maximum 24-hour	18.0 (February, 1900)	15.0 (February 1900)

Additionally, the text for SSAR Section 2.3.1.2.3 will also be revised to reflect these new values as shown in the revised text provided with the response to RAI 2.3.1-6. The reference for this information can be obtained from NOAA's Central Regional Headquarters website at www.crh.noaa.gov/ilx/snopmon.htm (Peoria monthly maximum) and www.crh.noaa.gov/ilx/clipia.htm (Peoria maximum 24-hour) and at www.crh.noaa.gov/ilx/snosmon.htm (Springfield monthly maximum) and www.crh.noaa.gov/ilx/clispi.htm (Springfield maximum 24-hour).

ASSOCIATED EGC ESP APPLICATION REVISIONS:

Revise SSAR, Chapter 2, Table 2.3-1, snowfall line items, from:

Snowfall (in)		
Annual average	25.1	23.9
Monthly maximum	24.7 (January 1979)	22.7 (December 1973)
Maximum 24-hour	12.2 (January 1979)	10.9 (December 1973)

To read:

Snowfall (in)

Annual average	25.1	23.9
Monthly maximum	26.5 (February 1900)	24.4 (February 1900)
Maximum 24-hour	18.0 (February 1900)	15.0 (February 1900)

Also add the following source information to the bottom of the table:

NOAA, 2004a and NOAA, 2004b

Revise SSAR, Chapter 2, Section 2.3 References to add the following two new references:

National Oceanic and Atmospheric Administration (NOAA). National Weather Service. "Peoria Climate Records and Normals." Available at:
<http://www.crh.noaa.gov/http://www.crh.noaa.gov/ilx/clipia.htm>. Accessed June 2004a.

National Oceanic and Atmospheric Administration (NOAA). National Weather Service. "Springfield Climate Records and Normals." Available at:
<http://www.crh.noaa.gov/http://www.crh.noaa.gov/ilx/clipia.htmhttp://www.crh.noaa.gov/ilx/clispi.htm>. Accessed June 2004b.

ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.1-5

SSAR Section 2.3.1.2.3 defines an appropriate 100-year return period snowpack for the Clinton ESP site as 22 psf, based on the ASCE Standard 7-98, "Minimum Design Loads for Buildings and Other Structures." However, ASCE 7-98 Figure 7-1 shows a ground snow load of 20 performance shaping factor (psf) for the Clinton ESP site which, by definition, has a 2 percent annual probability of being exceeded or a 50-year mean recurrence interval. According to ASCE 7-98 Section C7.3.3, the ratio of the 100-year to 50-year mean recurrence interval values is typically 1.22, which means that the 50-year return period snowpack value of 20 psf corresponds to a 100-year return period snowpack value of 24 psf. Consequently, please justify the 100-year return period snowpack value of 22 psf presented in the Clinton ESP SSAR.

EGC RAI ID: R8-5

EGC RESPONSE:

A review of ASCE 7-98 (ASCE, 2000) indicates that the 100-year ground snowpack loading should be 24.4 psf. This is based on the information in Figure 7-1 and Section C7.3.3 from ASCE 7-98, which indicates that the 50-year recurrence ground snow load is 20 psf for the Clinton ESP site, and that the ratio of 100-year to 50-year recurrence intervals is 1.22, resulting in a loading of 24.4 psf. The text of SSAR Section 2.3.1.2.3 will be revised to reflect this change.

This change is reflected in the associated EGC ESP application revisions identified with RAI 2.3.1-6.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

See revisions identified with RAI 2.3.1-6.

ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.1-6

The 79 psf value presented in SSAR Section 2.3.1.2.3 as the 48-hour winter Probable Maximum Precipitation (PMP) for the Clinton ESP site is based on the winter PMP data cited in the Clinton Power Station (CPS) updated safety analysis report (USAR) Section 2.3.1.2.3. The CPS USAR winter PMP value (15.2 inches of precipitable water) was derived from Hydrometeorological Report (HMR) No. 33 published in 1956 by the United States Weather Bureau. HMR No. 33 has been superseded and updated with the issuance of HMR No. 53 in 1980. Please update the 48-hour winter PMP presented in the SSAR with data from HMR No. 53.

EGC RAI ID: R8-6

EGC RESPONSE:

The 48-hour winter Probable Maximum Precipitation (PMP) for the Clinton ESP site as presented in SSAR Section 2.3.1.2.3 was based on the 48-hour winter PMP provided in the CPS USAR (15.2 inches of precipitable water). This value was originally derived from Hydrometeorological Report (HMR) No. 33 as published in 1956 by the U.S. Weather Bureau. Since HMR No. 33 has since been superseded by more recent publications (i.e., HMR No. 51 and HMR No. 53), we have updated this estimate using information available from those publications. A review of HMR No. 53 and HMR No. 51 indicates that the 48-hour winter PMP for the 296 mi² drainage area surrounding the ESP site should be approximately 16.6 inches of equivalent water. The text of SSAR Section 2.3.1.2.3 will be revised to reflect this change.

The revised text also incorporates changes associated with RAI 2.3.1-5 and RAI 2.3.1-10.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

Revise SSAR, Chapter 2, Section 2.3.1.2.3 (last two paragraphs), from:

Section 2.3.1.2 of Regulatory Guide 1.70 (USNRC, 1978) suggests that applicants provide site vicinity estimates of the weight of the 100 year return period snowpack and the weight of the 48 hour Probable Maximum Winter Precipitation (PMP) for use in estimating the weight of snow and ice on the roofs of safety-related structures. The 100 year return period snowpack, as obtained from the American Society of Civil Engineers (ASCE) building code requirements (ASCE, 2000), is 22 pounds per square foot (psf), which corresponds to approximately 22 in of snowpack. The 48 hour winter PMP for the EGC ESP Site area as previously estimated in the CPS USAR is 79 psf, which corresponds to 152 inches of fresh snow, or 15.2 inches of equivalent water.

The combined 100 year return snowpack and the estimated winter PMP is 101 psf, which is an extremely conservative and highly unlikely snow/ice roof loading for a structure in Illinois. A more realistic, and still conservative, snow load site characteristic for the EGC ESP Site is established based on the snow and ice loads from historical winter maximum precipitation events in conjunction with a 100 year recurrence interval antecedent snow pack. The weight of the accumulation of winter precipitation from a single storm is 13 psf. This is based on the assumption that the worst-case storm event would be consistent with the maximum monthly snowfall observed in the

Springfield/Peoria area over the past 100 years. The maximum-recorded monthly snowfall in the area is 24.7 inches (Peoria, January, 1979) and 24.4 inches (Springfield, February 1900). This translates to the equivalent of about 2.5 inches of precipitable water and is assumed to be representative of a worst-case storm event during the winter months. Thus, a conservative estimate of the accumulated weight of snow and ice on the roof of each safety-related structure after a worst-case winter storm event is established as the site characteristic of 35 psf (22 psf + 13 psf).

To read:

Section 2.3.1.2 of Regulatory Guide 1.70 (USNRC, 1978) suggests that applicants provide site vicinity estimates of the weight of the 100 year return period snowpack and the weight of the 48 hour Probable Maximum Winter Precipitation (PMP) for use in estimating the weight of snow and ice on the roofs of safety-related structures. The 100 year return period snowpack, as obtained from the American Society of Civil Engineers (ASCE) building code requirements (ASCE, 2000), is 24.4 pounds per square foot (psf), which corresponds to approximately 24 in of snowpack. The 48 hour winter PMP for the EGC ESP Site area is 86 psf, which corresponds to approximately 16.6 inches of equivalent water, or 166 inches of fresh snow.

The combined 100 year return snowpack and the estimated winter PMP is 110.4 psf, which is an extremely conservative and highly unlikely snow/ice roof loading for a structure in Illinois. A more realistic, and still conservative, snow load site characteristic for the EGC ESP Site is established based on the snow and ice loads from historical winter maximum precipitation events in conjunction with a 100 year recurrence interval antecedent snow pack. The weight of the accumulation of winter precipitation from a single storm is 15.6 psf. This is based on the assumption that the worst-case storm event would be consistent with the maximum monthly snowfall observed in the area over the past 100 years. The maximum-recorded monthly snowfall in the area is 26.5 inches (Peoria, February, 1900), 24.4 inches (Springfield, February 1900), and 30.5 inches (Decatur, March 1906). The maximum of 30.5 inches translates to the equivalent of about 3 inches of equivalent water and is assumed to be representative of a worst-case storm event during the winter months. Thus, a conservative estimate of the accumulated weight of snow and ice on the roof of each safety-related structure after a worst-case winter storm event is established as the site characteristic of 40.0 psf (24.4 psf + 15.6 psf).

Revise SSAR Chapter 1, Table 1.4-1, item 1.2.2, from:

1.2.2	Snow Load	Note 1	35 psf	SSAR/ER
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To read:

1.2.2	Snow Load	Note 1	40 psf	SSAR/ER
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ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.1-7

Please provide the meteorological data to be used to evaluate the performance of a mechanical draft cooling tower ultimate heat sink with respect to: (1) maximum evaporation and drift loss; and (2) minimum water cooling. The period of record examined should be identified, and the bases and procedures used for selection of the critical meteorological data should be provided and justified. Section C.1 of Regulatory Guide (RG) 1.27, "Ultimate Heat Sink for Nuclear Power Plants," describes methods and approaches acceptable to the staff to ensure that a 30-day cooling supply is available and that design basis temperatures of safety-related equipment are not exceeded.

EGC RAI ID: R8-7

EGC RESPONSE:

The ultimate heat sink meteorological conditions to be used in the evaluation of the performance of a mechanical draft cooling tower ultimate heat sink (if one is needed) will include the following considerations:

Maximum Evaporation - The heat transfer in the cooling tower is mainly through evaporation. The amount of evaporation listed in the SSAR, Chapter 1, Table 1.4-1, is based on the maximum system heat load, and the amount of water that will need to be evaporated in order to dissipate that heat load. Since this calculation is not based on site meteorological conditions, it therefore results in a highly conservative value for the amount of evaporative cooling that will be necessary. The final design of the cooling tower will necessarily account for the bounding meteorological conditions (i.e., site characteristic values that will include maximum ambient wet bulb temperatures), which are discussed in SSAR Section 2.3.1.2.4, "Ultimate Heat Sink Design Parameters," and in the response to NRC RAI 2.3.1-8. The bounding meteorological conditions discussed in SSAR Section 2.3.1.2.4 were obtained from Springfield and Peoria, IL for the period 1961 to 1990. Site characteristic values for ambient dry and wet bulb temperatures will be included in Table 1.4-1 as described in the response to NRC RAI 2.3.1-8. The bases and procedures used to develop the bounding meteorological conditions for the ultimate heat sink are consistent with the requirements of Regulatory Guide 1.27. It is noted that the actual evaporation rate will not exceed the evaporation rate shown in Table 1.4-1 for any time period, including the worst 30-day period discussed in Regulatory Guide 1.27. A discussion of the 30-day supply of cooling water (assuming maximum evaporative cooling) is provided in SSAR Section 2.4.11.5, "Plant Requirements."

Maximum Drift Loss - Drift is the term used to describe the water lost from the cooling water due to water droplets being caught in the airflow through the tower and carried out with the exhaust air stream. Since both the cooling tower fill and the drift elimination sections of the tower act to remove moisture from the air stream, the drift in a modern cooling tower is typically very low, i.e., on the order of 0.1% or less. Since the airflow through the tower is mechanically induced by the cooling tower fans and the fill and drift eliminator designs are part of the cooling tower design, the amount of drift from the cooling tower system will be almost entirely controlled by the cooling tower design and not by meteorological conditions.

Minimum Water Cooling - During cold weather operation the cooling tower or possibly individual cells in the tower, may be bypassed to limit the minimum cold-water

temperature in accordance with the tower manufacturer's operational guidance. Under such conditions the tower may temporarily operate with no cooling effect.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

None

ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.1-8

Please provide the ambient air temperature and humidity site characteristic values specified below. The bases for these values should also be provided. These site characteristic values represent typical design parameter information for a range of reactor designs.

- a) Maximum ambient dry bulb temperatures (along with the concurrent wet bulb temperatures) that:
 - i) will be exceeded no more than 2.0 percent of the time annually.
 - ii) will be exceeded no more than 0.4 percent of the time annually.
 - iii) represents a 100-year return period.
- b) Minimum ambient dry bulb temperature that:
 - i) will be exceeded no more than 1.0 percent of the time annually.
 - ii) will be exceeded no more than 0.4 percent of the time annually.
 - iii) represents a 100-year return period.
- c) Maximum ambient wet bulb temperature that:
 - i) will be exceeded no more than 0.4 percent of the time annually.
 - ii) represents a 100-year return period.

EGC RAI ID: R8-8

EGC RESPONSE:

The requested specific ambient air temperature and humidity site characteristics values (as obtained from National Weather Service records for Peoria, Springfield, and Decatur, Illinois) are provided below:

- a) The maximum ambient dry bulb temperature (along with the concurrent wet bulb temperature) that:
 - i) will be exceeded no more than 2.0 percent of the time annually is 88°F (74°F concurrent wet bulb) (NCDC, 2000).
 - ii) will be exceeded no more than 0.4 percent of the time annually is 94°F (77°F concurrent wet bulb) (NCDC, 2000).
 - iii) represents a 100-year return period is 117°F (NCDC, 2004). The 100-year return period maximum temperature is not readily available in published documents. It may be possible to calculate a 100-year return maximum temperature using statistical methods and long-term data records; however, given that the temperature provided above was obtained from a period of record that exceeds 100 years (i.e., 1896 to 2000) it is therefore proposed as a 100-year return temperature. The coincident wet bulb temperature for the 100-year return period is not readily available; however, the 100-year return period non-coincident wet bulb temperature is 86°F (see below), which establishes an upper limit for this site characteristic.

- b) The minimum ambient dry bulb temperature that:
- i) will be exceeded no more than 1.0 percent of the time annually is 0°F (NCDC, 2000).
 - ii) will be exceeded no more than 0.4 percent of the time annually is -6°F (NCDC, 2000).
 - iii) represents a 100-year return period is -36°F (NCDC, 2004). The 100-year return period minimum temperature is not readily available in published documents. It may be possible to calculate a 100-year return minimum temperature using statistical methods and long-term data records; however, given that the temperature provided above was obtained from a period of record that exceeds 100 years (i.e., 1896 to 2000) it is therefore proposed as a 100-year return temperature.
- c) The maximum ambient wet bulb temperature that:
- i) will be exceeded no more than 0.4 percent of the time annually is 80°F (NCDC, 2000).
 - ii) represents a 100-year return period is estimated to be approximately 86°F. The 100-year return period minimum temperature is not readily available in published documents. A review of the information from the National Climatic Data Center (2000) indicates that the median of extreme high wet bulb temperatures for both Peoria and Springfield is 81°F and 82°F for Decatur. The 2.0% occurrence wet bulb temperatures is 76°F for Peoria, Springfield, and Decatur (NCDC, 2000). Using the difference between the median extreme high of 81°F and the 2% occurrence level of 76°F as an indicator of the deviation from the mean, an estimate of the extreme high wet bulb temperature is 86°F (i.e., 81°F + 5°F).

The information requested and provided above is only partially consistent with the design parameters expected to be required for safety-related design and operation. Typical parameters are as follows:

- Maximum ambient dry bulb temperature (0% exceedance): 117°F (NCDC, 2004)
- Maximum ambient dry bulb temperature (1% exceedance): 91°F (NCDC, 2000)
- Minimum ambient dry bulb temperature (0% exceedance): -36°F (NCDC, 2004)
- Minimum ambient dry bulb temperature (1% exceedance): 0°F (NCDC, 2000)
- Maximum ambient wet bulb temperature (0% exceedance): 86°F (NCDC, 2000)
- Maximum ambient wet bulb temperature (1% exceedance): 78°F (NCDC, 2000)

Table 1.4-1, "Plant Parameters Envelope (PPE) EGC ESP Facility," will be revised to include the temperature and humidity site characteristic values consistent with the design parameters expected to be required for safety-related design and operation. Table 1.4-9, "Plant Parameters Definitions," will be revised to include the definitions for each of these site characteristics.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

Revise SSAR, Chapter 2, Section 2.3.1.2.4, from:

The maximum wet bulb temperature recorded was 84.7°F and will produce a cold ESW water temperature of 94.7°F with a 10 degree approach in the cooling tower. This cold water temperature is less than the 95°F value given in Table 1.4-1, Section 3.2.1.

To read:

The maximum wet bulb temperature recorded was 86°F and will produce a cold ESW water temperature of 95°F with a 9 degree approach in the cooling tower. This cold water temperature is equal to the 95°F value given in Table 1.4-1, Section 3.2.1.

Revise SSAR, Chapter 2, to add new Section 2.3.1.2.6:

2.3.1.2.6 Ambient Air Temperatures

Site characteristic values for ambient temperature, specifically maximum and minimum dry bulb temperatures and maximum wet bulb temperatures that may be used for the design and operating basis of the EGS ESP Facility are provided below.

The maximum ambient dry bulb temperature (along with the concurrent wet bulb temperature) that:

- i) will be exceeded no more than 2.0% of the time annually is 88°F (74°F concurrent wet bulb) (NCDC, 2000).
- ii) will be exceeded no more than 0.4% of the time annually is 94°F (77°F concurrent wet bulb) (NCDC, 2000).
- iii) represents a 100-year return period is 117°F (NCDC, 2004). The 100-year return period maximum temperature is not readily available in published documents. It may be possible to calculate a 100-year return maximum temperature using statistical methods and long-term data records; however, given that the temperature provided above was obtained from a period of record that exceeds 100 years (i.e., 1896 to 2000) it is therefore proposed as a 100-year return temperature. The coincident wet bulb temperature for the 100-year return period is not readily available; however, the 100-year return period non-coincident wet bulb temperature is 86°F (see below), which establishes an upper limit for this site characteristic.

The minimum ambient dry bulb temperature that:

- i) will be exceeded no more than 1.0% of the time annually is 0°F (NCDC, 2000).
- ii) will be exceeded no more than 0.4% of the time annually is -6°F (NCDC, 2000).
- iii) represents a 100-year return period is -36°F (NCDC, 2004). The 100-year return period minimum temperature is not readily available in published documents. It may be possible to calculate a 100-year return minimum temperature using statistical methods and long-term data records; however, given that the temperature provided above was obtained from a period of record that exceeds 100 years (i.e., 1896 to 2000) it is therefore proposed as a 100-year return temperature.

The maximum ambient wet bulb temperature that:

- i) will be exceeded no more than 0.4% of the time annually is 80°F (NCDC, 2000).
- ii) represents a 100-year return period is estimated to approximately 86°F. The 100-year return period minimum temperature is not readily available in published documents. A review of the information from the National Climatic Data Center (2000) indicates that the median of extreme high wet bulb temperatures for Peoria and Springfield is 81°F, and 82°F for Decatur. The 2.0% occurrence wet bulb temperatures is 76°F for Peoria, Springfield, and Decatur (NCDC, 2000). Using the difference between the median extreme high of 81°F and the 2% occurrence level of 76°F as an indicator of the deviation from the mean, an estimate of the extreme high wet bulb temperature is 86°F (i.e., 81°F + 5°F).

In addition to the above information, temperature and humidity site characteristic values that will likely need to be considered for safety-related design and operation are as follows:

- Maximum ambient dry bulb temperature (0% exceedance): 117°F (NCDC, 2004)
- Maximum ambient dry bulb temperature (1% exceedance): 91°F (NCDC, 2000)
- Minimum ambient dry bulb temperature (0% exceedance): -36°F (NCDC, 2004)
- Minimum ambient dry bulb temperature (1% exceedance): 0°F (NCDC, 2000)
- Maximum ambient wet bulb temperature (0% exceedance): 86°F (NCDC, 2000)
- Maximum ambient wet bulb temperature (1% exceedance): 78°F (NCDC, 2000)

Revise SSAR, Chapter 2, Section 2.3 References, to add the following new references:

National Climatic Data Center (NCDC). Engineering Weather Data. 2000 Interactive Edition CD-ROM, developed by the Air Force Combat Climatological Center as Engineering Weather Data, Products Version 1.0. Climate Services Division. Available at: www.ncdc.noaa.gov. 2000.

National Climatic Data Center (NCDC). Temperature extreme data for Peoria and Springfield, Illinois obtained from NCDC web site at: www.ncdc.noaa.gov/oa/climate/severeweather/temperatures.html. Accessed 2004.

Revise SSAR, Chapter 1, Table 1.4-1, to include the following new line items:

2.1	Ambient Air Temperatures			
2.1.1	Normal Shutdown Max Ambient Temp (1% exceedance)	Note 1	91°F	SSAR
2.1.2	Normal Shutdown Max Wet Bulb Temp (1% exceedance)	Note 1	78°F	SSAR
2.1.3	Normal Shutdown Min Ambient Temp (1% exceedance)	Note 1	0°F	SSAR
2.1.4	Rx Thermal Power Max Ambient Temp (0% exceedance)	Note 1	117°F	SSAR
2.1.5	Rx Thermal Power Max Wet Bulb Temp (0% exceedance)	Note 1	86°F	SSAR

2.1.6	Rx Thermal Power Min Ambient Temp (0% exceedance)	Note 1	-36°F	SSAR
3.1	Ambient Air Requirements			
3.1.1	Maximum Ambient Temperature (0% exceedance)	Note 1	117°F	SSAR
3.1.2	Maximum Wet Bulb Temperature (0% exceedance)	Note 1	86°F	SSAR
3.1.3	Minimum Ambient Temperature (0% exceedance)	Note 1	-36°F	SSAR
4.	Containment Heat Removal System (Post-Accident)			
4.1	Ambient Air Requirements			
4.1.1	Maximum Ambient Air Temperature (0% exceedance)	Note 1	117°F	SSAR
4.1.2	Minimum Ambient Air Temperature (0% exceedance)	Note 1	-36°F	SSAR
14.	Heating, Ventilating, and Air Conditioning System			
14.1	Ambient Air Requirements			
14.1.1	Non-safety HVAC Max Ambient Temperature (1% exceedance)	Note 1	91°F	SSAR
14.1.2	Non-safety HVAC Min Ambient Temperature (1% exceedance)	Note 1	0°F	SSAR
14.1.3	Safety HVAC Max Ambient Temperature (0% exceedance)	Note 1	117°F	SSAR
14.1.4	Safety HVAC Min Ambient (0% exceedance)	Note 1	-36°F	SSAR

Revise SSAR, Chapter 1, Table 1.4-9, to include the following new line items:

2.1	Ambient Air Temperatures			
2.1.1	Normal Shutdown Max Ambient Temp (1% exceedance)	°F	Assumption used for the maximum ambient temperature that will be exceeded no more than 1% of the time, to design plant systems capable of effecting normal shutdown under the assumed temperature condition	Minimum
2.1.2	Normal Shutdown Max Wet Bulb Temp (1% exceedance)	°F	Assumption used for the maximum wet bulb temperature that will be exceeded no more than 1% of the time - used in design of plant systems that must be capable of effecting normal shutdown under the assumed temperature condition	Minimum

2.1.3	Normal Shutdown Min Ambient (1% exceedance)	°F	Assumption used for the minimum ambient temperature that will be exceeded no more than 1% of the time to design plant systems that must be capable of effecting normal shutdown under the assumed temperature condition	Maximum
2.1.4	Rx Thermal Power Max Ambient Temp (0% exceedance)	°F	Assumption used for the maximum ambient temperature that will never be exceeded - used in the design of plant systems that must be capable of supporting full power operation under the assumed temperature condition	Minimum
2.1.5	Rx Thermal Power Max Wet Bulb Temp (0% exceedance)	°F	Assumption used for the maximum wet bulb temperature that will never be exceeded - used in the design of plant systems that must be capable of supporting full power operation under the assumed temperature condition	Minimum
2.1.6	Rx Thermal Power Min Ambient Temp (0% exceedance)	°F	Assumption used for the minimum ambient temperature that will never be exceeded - used in the design of plant systems that must be capable of supporting full power operation under the assumed temperature condition	Maximum
3.1	Ambient Air Requirements			
3.1.1	Maximum Ambient Temperature (0% Exceedance)	°F	Assumption used for the maximum ambient temperature in designing the UHS system to provide heat rejection for 30 days under the assumed temperature condition	Minimum
3.1.2	Maximum Ambient Wet Bulb Temperature (0% Exceedance)	°F	Assumption used for the maximum wet bulb temperature in designing the UHS system to provide heat rejection for 30 days under the assumed temperature condition	Minimum
3.1.3	Minimum Ambient Temperature (0% Exceedance)	°F	Assumption used for the minimum ambient temperature in designing the UHS system to provide heat rejection for 30 days under the assumed temperature condition	Maximum
4.	Containment Heat Removal System (Post-Accident)			
4.1	Ambient Air Requirements			
4.1.1	Maximum Ambient Air Temperature (0% Exceedance)	°F	Assumed maximum ambient temperature used in designing the containment heat removal system	Minimum
4.1.2	Minimum Ambient Temperature (0% Exceedance)	°F	Assumed minimum ambient temperature used in designing the containment heat removal system	Maximum

14.	Heating, Ventilating and Air Conditioning Systems			
14.1	Ambient Air Requirements			
14.1.1	Non-safety HVAC Max Ambient Temp (1% exceedance)	°F	Assumption used for the maximum ambient temperature that will be exceeded no more than 1% of the time, to design the non-safety HVAC systems	Minimum
14.1.2	Non-safety HVAC Min Ambient Temp (1% exceedance)	°F	Assumption used for the minimum ambient temperature that will be exceeded no more than 1% of the time, to design the non-safety HVAC systems	Maximum
14.1.3	Safety HVAC Max Ambient Temp (0% exceedance)	°F	Assumption used for the maximum ambient temperature that will never be exceeded, to design the safety-related HVAC systems	Minimum
14.1.4	Safety HVAC Min Ambient Temp (0% exceedance)	°F	Assumption used for the minimum ambient temperature that will never be exceeded, to design the safety-related HVAC systems	Maximum

ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.1-9

SSAR Section 2.3.1.2.2 states that the Clinton ESP site characteristic maximum tornado wind speed is 300 mph, based on SECY-93-087. The subject of the applicable section of SECY-93-087 is design-basis tornado for design of advanced light-water reactors (ALWRs). The staff does not agree that acceptance of a given design-basis tornado wind speed for design of ALWRs means that this speed is acceptable for all sites that might be the subject of an ESP. Site parameters are postulated for a design certification [10 CFR 52.47(a)(iii)] and are not required to bound every site on which an applicant might seek to construct a nuclear power plant of certified design.

SECY 93-087 states: "The staff expects that use of these criteria will not preclude siting the ALWR plant designs on most sites in the United States. However, should an actual site hazard exceed the design envelope in a certain area, the combined license (COL) applicant would have the option of performing a site specific analysis to verify that the design is still acceptable for that site."

The documented basis for the tornado-related conclusions in SECY-93-087 is NUREG/CR-4661, which shows 10^{-7} /yr tornado wind speeds above 300 mph in some parts of the United States. A letter dated March 25, 1988, from the NRC to the ALWR Utility Steering Committee, Subject: ALWR Design Basis Tornado, provided the staff's interim position on design basis tornado wind speed on a site-specific basis. This letter also cited design-basis tornado wind speeds higher than 300 mph in some parts of the United States, including the Clinton ESP site.

ESP applicants are not required to use either RG 1.76 or the staff's interim position on design basis tornado wind speed, although they may do so since both are staff-accepted approaches. ESP applicants may use any design-basis tornado wind speeds that are appropriately justified. However, the staff does not believe that citing SECY-93-087 (or any document related to design certification) is adequate justification for use of 300 mph. In particular, Figure 30 of NUREG/CR-4461 shows a 10^{-7} probability of occurrence of wind speed of 327 mph for the Clinton ESP site. Please provide a safety justification for choosing 300 mph as the site characteristic maximum tornado wind speed for the Clinton ESP site.

EGC RAI ID: R8-9

EGC RESPONSE:

Additional justification for a site-specific 300 mph tornado wind speed site characteristic is provided in a 1993 published analysis of tornadoes (Grazulis, 1993) from 1680 through 1991 conducted by *The Tornado Project* headed by Thomas P. Grazulis. This analysis indicates that the maximum wind speed expected at a probability of $10E-6$ (i.e., once in 1,000,000 years) at the Clinton site will be between 200 and 220 mph (Figure 23.4 in Grazulis, 1993). This analysis also indicates the maximum wind speed expected at a probability of $10E-7$ (once in 10,000,000 years) at the Clinton site will be between 250 and 300 mph (Figure 23.5 in Grazulis, 1993). Thus, this data indicates a Clinton site characteristic of 300 mph or less even using the requested 10^{-7} recurrence interval. A copy of the referenced Figures is provided as an attachment to this response. This information and reference will be incorporated into the SSAR in a future revision.

Further, the tornado wind speed site characteristic of 300 mph was not proposed only on the basis of SECY-93-0087, but also on its subsequent use and documentation as the Commission approved "Staff position." This SECY paper and its Commission approval are more recent than the RAI identified interim staff position paper of March 25, 1988, which is based on NUREG/CR-4461 (1986). While Figure 30 of NUREG/CR-4461 does show a 10^{-7} probability of occurrence of a wind speed of 327 mph for the Clinton ESP site, this 10^{-7} recurrence interval was subsequently removed as a criterion for the design basis tornado and a maximum of 300 mph was adopted for the DBT. This removal of the 10^{-7} recurrence interval criterion was confirmed in the Staff review of the EPRI ALWR Utility Requirements Document as documented in NUREG-1242, Vol. 3, Part 1, dated August 1994. Thus, the March 25, 1988 tornado wind speed position was, as stated, an interim position that has since been superseded. The ESP site characteristics are based on the more recent documents.

The staff has previously utilized the SECY-93-0087 basis for approval of the ALWR design certification as documented in NUREG-1503 (1994):

"On the basis of updated tornado data and the analysis in NUREG/CR-4461, the staff concluded that it is acceptable to reduce the DBT wind speeds to 322 km/hr (200 mi/hr) for the United States west of the Rocky Mountains and to 483 km/hr (300 mi/hr) for the United States east of the Rocky Mountains. In SECY-93-087, the staff gives its position on the tornado design basis. The Commission in its staff requirements memorandum of July 21, 1993, approved the staff-recommended position that a maximum tornado wind speed of 483 km/hr (300 mi/hr) be used for the DBT for advanced light water reactors."

Additionally, the design basis and site characteristic must, by necessity, be determined in the same manner since there can be no site-specific measurement of tornado wind speed. Further, for Combined License applications, the design characteristics must be confirmed to fall within the site characteristics identified in the ESP. Thus, it is important that the values have the same basis. Therefore, since the design certifications have not been based on a 10^{-7} recurrence interval, the 10^{-7} recurrence interval should not be an ESP acceptability criterion as implied by the RAI.

In NUREG-1512 (1998), the staff was even more definitive of its position that a 300 mph tornado represents a "worst location" anywhere within the contiguous United States:

"On the basis of updated tornado data and the analysis in NUREG/CR-4461, the staff concluded that it is acceptable to reduce the DBT wind speed to 483 km/hr (300 mph). In SECY-93-087, the staff gives its position on the DBT. The Commission, in its staff requirements memorandum of July 21, 1993, approved the staff recommended position that a maximum tornado wind speed of 483 km/hr (300 mph) be used for the DBT for advanced light-water reactors. Therefore, the staff finds the DBT wind speed specified by Westinghouse to be acceptable. In the DSER, the staff requested that Westinghouse include in the SSAR the probability of occurrence of a tornado that exceeds the DBT. This was identified as DSER Open Item 2.3.2.1-1. Subsequent to issuance of the DSER, Westinghouse stated in Section 3.3.2.1 of the SSAR that the probability of wind speeds greater than the design basis tornado is between $1E-06$ and $1E-07$ per year for an AP600 at a "worst location" anywhere within the contiguous United States and specifies in the same section the maximum wind speed for DBT as 300 mph.

The staff finds this acceptable, and therefore, DSER Open Item 2.3.2.1-1, to specify the probability of occurrence of a tornado that exceeds the DBT, is closed."

NUREG-1512 is also definitive on what was meant by the "actual site hazard" referred to in SECY-93-0087. This "actual site hazard" was not intended to be a site-specific evaluation of the tornado wind speed, but rather a consideration of other possible structural requirements from external impact hazards, such as general aviation or nearby explosions. This NUREG-1512 language is consistent with the discussion in SECY-93-0087.

Thus, the 300 mph tornado wind speed site characteristic is supported by data and recent analysis, and by precedent of NRC approvals for the "worst location" anywhere within the contiguous United States.

New Reference

Grazulis, Thomas P. Significant Tornadoes: 1680-1991, A Chronology and Analysis of Events, by Thomas P. Grazulis. Published by: The Tornado Project, Environmental Films, St. Johnsbury, VT. 1993.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

Revise SSAR, Chapter 2, Section 2.3.1.2.2, from:

These parameters are believed to be relatively consistent with expected conditions associated with potential worst-case tornadoes, namely the F4/F5 class of tornadoes.

To read:

These parameters are believed to be relatively consistent with expected conditions associated with potential worst-case tornadoes, namely the F4/F5 class of tornadoes. In addition, a site-specific 300-mph tornado wind speed site characteristic is consistent with a 1993 published analysis of tornadoes (Grazulis, 1993b) from 1680 through 1991 conducted by The Tornado Project headed by Thomas P. Grazulis. This analysis indicates that the maximum wind speed expected at a probability of $10E-6$ (i.e., once in 1,000,000 years) at the Clinton site to be between 200 and 220 mph (Figure 23.4 in Grazulis, 1993b). This analysis also indicates the maximum wind speed expected at a probability of $10E-7$ (once in 10,000,000 years) at the Clinton site to be between 250 and 300 mph (Figure 23.5 in Grazulis, 1993b). Thus, this data indicates a Clinton site characteristic of 300 mph or less even using a 10^{-7} recurrence interval.

Revise SSAR, Chapter 2, Section 2.3.1.2.2 (page 2.3-4) from:

Additionally, research conducted by Grazulis (1993) concluded that the...

To read:

Additionally, research conducted by Grazulis (1993a) concluded that the...

Revise SSAR, Chapter 2, Section 2.3 References to add the following new reference:

Grazulis, Thomas P. Significant Tornadoes: 1680-1991, A Chronology and Analysis of Events. Published by: The Tornado Project, Environmental Films, St. Johnsbury, VT. 1993b.

Revise SSAR , Chapter 2, Section 2.3 References existing (Grazulis, 1993) reference to (Grazulis, 1993a).

ATTACHMENTS:

RAI 2.3.1-9 Attachment (Grazulis 1993) Tornado Speed Figures

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.1-10

The site characteristic snow load being proposed is based, in part, on a maximum-recorded monthly snowfall in the Clinton ESP site area of 24.7 inches at Peoria, IL in January 1979. However, a higher maximum-recorded monthly snowfall, 30.5 inches, was recorded at Decatur, IL in March 1906 (Reference: Illinois State Climatologist Office website <http://www.sws.uiuc.edu/atmos/statecli/Summary/112193.htm>). Please revise the proposed site characteristic snow load using the higher maximum-recorded monthly snowfall recorded at Decatur.

EGC RAI ID: R8-10

EGC RESPONSE:

The maximum recorded monthly snowfall of 30.5 inches recorded at Decatur, IL in March of 1906 has been accounted for in the site characteristic snow load. The accumulated weight of snow and ice on the roof of safety related structures is conservatively estimated to be 40.0 psf, based on the maximum monthly snowfall of 30.5 inches at Decatur. The text of Section 2.3.1.2.3 "Heavy Snow and Severe Glaze Storms" will be revised to reflect this change, as described in the responses to RAI 2.3.1-5 and RAI 2.3.1-6.

This change is reflected in the associated EGC ESP application revisions identified with NRC RAI 2.3.1-6.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

See revisions identified with NRC RAI 2.3.1-6.

ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.2-1

SSAR Sections 2.3.2.1.2 and 2.3.2.1.3 present temperature and humidity information from the onsite meteorological monitoring system for the period of record 1972-1977 and state that these data are believed to be representative of the site area. These data were collected prior to the installation of Clinton Lake and operation of the Clinton Power Station once-through cooling system. Please provide justification that these data remain representative of the Clinton ESP site, given that the site is now adjacent to a heated lake. Have any onsite data been analyzed since Clinton Power Station began operation to support this assumption?

EGC RAI ID: R8-11

EGC RESPONSE:

The discussion in SSAR Sections 2.3.2.1.2 and 2.3.2.1.3 was included to provide site-specific information for the ESP site. Qualitative comparisons of the 1972 - 1977 and the 2000 - 2002 data sets were made and discussed in the SSAR and it was concluded that the two data sets were comparable, given the kinds of variations that would be expected for the two periods of record. While it is recognized that a heated lake could have an impact on measurements made nearby, it is noted that the meteorological tower is located approximately ½ mile from the nearest shoreline (i.e., Clinton Lake is located to the south southeast). Furthermore, the closest shoreline is over 4 miles downstream from the location of the CPS thermal plume discharge (refer to SSAR Figure 2.3-17). Given these relatively large distances, it is expected that boundary layer heating effects attributable to elevated water temperatures in the lake are expected to be minimal, if even measurable, at the location of the meteorological tower. Other than the comparisons of the two data sets that was discussed in the SSAR, no additional analyses of the onsite meteorological data has been performed that could effectively isolate the potential impacts of the lake on the meteorological data.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

None

ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.2-2

SSAR Section 2.3.2.1.3.4 states that the average yearly precipitation for the Clinton ESP site is 25.47 inches, based on onsite data reported for the 1972-1977 period of record. The SSAR remarks that these data are believed to be representative of the site area and have been previously shown to be consistent with regional observations from Peoria and Springfield, Illinois when compared to long-term periods of record at those locations. However, SSAR Table 2.3-1 reports annual average precipitation totals of 34.89 inches and 33.78 inches for Peoria and Springfield, respectively. Likewise, the 1971-2000 normal annual precipitation reported for the Clinton cooperative weather station (located approximately 7 miles from the Clinton ESP site) is 39.86 inches. Please explain why the 1972-1977 onsite precipitation totals are only approximately 75 percent of the long-term precipitation totals reported for Peoria and Springfield.

EGC RAI ID: R8-12

EGC RESPONSE:

A likely dominant contributor for the difference in the site-specific annual average rainfall measurement of 25.2 inches as reported in SSAR Section 2.3.2.1.3 and SSAR Table 2.3-1, and the historical annual average rainfall measurements in Peoria and Springfield, IL (34.89 and 33.78 inches respectively) is the difference in the periods of record from which the data are obtained. The Peoria and Springfield precipitation averages are based on a 30-year period of record from 1951 - 1980, whereas the onsite annual average rainfall is based on a much shorter 5-year period of record from 1972 - 1977. It is apparent that the longer the period of record the higher the probability that extreme events will be recorded. This can be further demonstrated by comparing the maximum monthly precipitation totals. The Peoria and Springfield maximum recorded monthly rainfall totals during the 30-year period are 13.09 and 10.76 inches respectively, which compares with the maximum recorded monthly rainfall at the EGC ESP site of only 3.44 inches during the 1972 - 1977 period of record.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

None

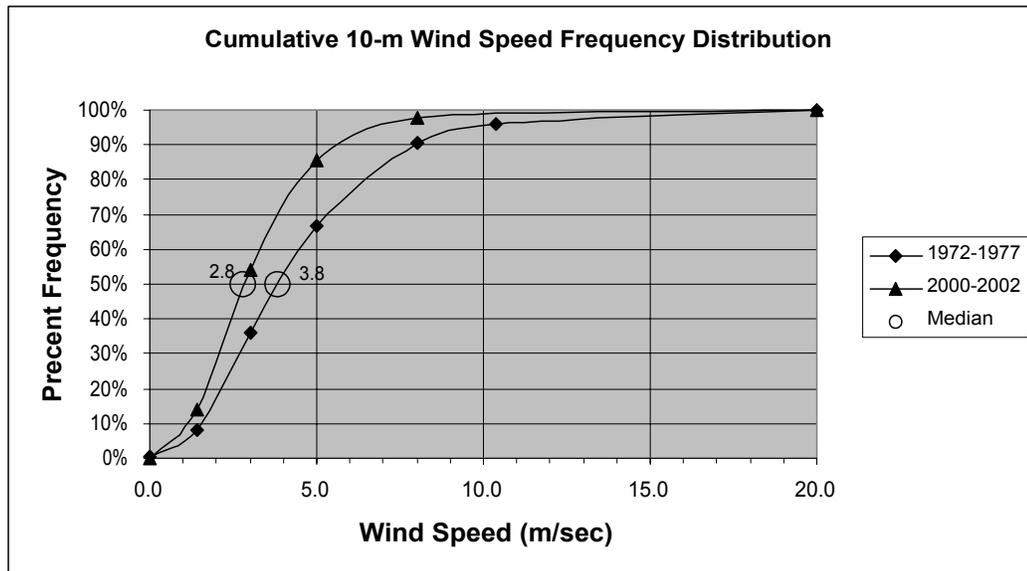
ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.2-3

The onsite 10-m wind speed frequency distributions presented in SSAR Table 2.3-8 show a general shift towards lower wind speeds in the more recent data. In particular, a plot of cumulative wind speed frequency distribution shows a median (50 percent) wind speed value of 2.8 m/sec for the 2000-2002 period of record as compared to a median wind speed value of 3.8 m/sec for the 1972-1977 period of record. Please explain what might have caused these differences in reported wind speed frequency distributions between these two periods of record.



EGC RAI ID: R8-13

EGC RESPONSE:

A likely dominant contributor to the difference between the wind speed frequency distributions for the two periods of record is the difference in the duration of the data sets. Because the 2000 - 2002 period of record is only 32 months (as opposed to 60 months for the 1972 - 1977 period of record), it is susceptible to a much higher degree of variability when looking at an average over the entire period of record. Among the many possible factors related to periodic fluctuations in climatology, this is the likely dominant contributor to the differences noted.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

None

ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.2-4

The onsite (60m-10m delta-temperature) stability class frequency distributions presented in SSAR Table 2.3-37 show a high occurrence of unstable (stability class A, B, and C) conditions for 2000-2002 period of record as compared to 1972-1977 period of record (25.7 percent of the time versus 13.3 percent of the time, respectively). Please explain what might have caused these differences in reported stability class frequency distributions between these two periods of record.

EGC RAI ID: R8-14

EGC RESPONSE:

Table 2.7-37 of the SSAR summarizes the distribution of stability for the two data periods used in the EGC ESP application and, as noted, there are some differences. However, the differences are not significant and the data is therefore acceptable for use. The primary differences are an increase in very unstable (A) hours and a corresponding decrease in neutral (D) and very stable (G) hours in the 2000 - 2002 data period. The likely dominant contributing factor for the difference between the wind stability distributions for the two periods of record is the difference in the duration of the data sets. Because the 2000 - 2002 period of record is only 32 months (as opposed to 60 months for the 1972 - 1977 period of record), it is susceptible to a much higher degree of variability when looking at an average over the entire period of record. Among there are many possible factors related to periodic fluctuations in climatology, this is the likely dominant contributor for the differences noted. The more recent data was used to develop the short-term atmospheric dispersion (χ/Q) results presented in the SSAR obtained using the PAVAN model. This data resulted in similar (although slightly higher and slightly more conservative) results than were presented in the CPS USAR, based on the original data.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

None

ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.2-5

Please identify the air quality characteristics of the site that would be design and operating bases for a nuclear plant or plants that might be constructed on the ESP site.

EGC RAI ID: R8-15

EGC RESPONSE:

The following discussion identifies the air quality characteristics of the EGC ESP site, which will be incorporated into SSAR Section 2.3.1.2.5, "Inversions and High Air Pollution Potential."

The EGC ESP Site is located in DeWitt County, Illinois. Based on USEPA's current designation, DeWitt County is in attainment of the national ambient air quality standards (NAAQS) (U.S. Environmental Protection Agency, 2004). To determine whether a county is in attainment of the NAAQS, the Illinois Environmental Protection Agency (IEPA) operates a network of ambient air quality monitoring stations throughout the state. DeWitt County is located in the EPA-defined Air Quality Control Region (AQCR) 66 (i.e., the East Central Illinois Interstate AQCR). There are three monitoring sites in AQCR 66, in which there are four air monitoring stations (two in Champaign County and two in McLean County, located to the east and north of DeWitt County). There are also monitoring sites located to the west-southwest and northwest near Springfield and Peoria, respectively. These monitoring stations have consistently demonstrated that the area in the central part of Illinois is in attainment of the NAAQS for the criteria pollutants (i.e., ozone, PM_{2.5}, SO₂, PM₁₀, and CO). While there are some areas in Illinois that do not comply with the NAAQS, these areas (the Chicago and St. Louis areas) are not proximal to the EGC ESP site. There are no air emission sources known to be in the general vicinity that would indicate that the regional air quality would be different than has been characterized by the existing monitoring network. The air quality characteristics of the site that would be the design and operating bases for the plant that may be constructed would therefore be: "Attainment for all Pollutants."

Prior to construction, the EGC facility will be required to obtain a permit from IEPA to construct equipment that cause air emissions. The application for these permits will require a demonstration of compliance with applicable regulations, as well as a demonstration that the ambient air quality standards will not be threatened or exceeded as a result of the operation of the facility.

Detailed information from the statewide ambient air quality monitoring network is provided in the Illinois Annual Air Quality Report, which is published annually by IEPA. Information used in this assessment was obtained from the reports for 2001 - 2003 (IEPA, 2001, 2002, 2003).

New References:

Illinois Environmental Protection Agency (IEPA). Illinois Annual Air Quality Report. 89 pages. Bureau of Air. Springfield IL. Available electronically at <http://www.epa.state.il.us/air/air-quality-report/index.html>. September 2003.

Illinois Environmental Protection Agency (IEPA). Illinois Annual Air Quality Report. 89 pages. Bureau of Air. Springfield IL. Available electronically at <http://www.epa.state.il.us/air/air-quality-report/index.html>. August 2002.

Illinois Environmental Protection Agency (IEPA). Illinois Annual Air Quality Report. 92 pages. Bureau of Air. Springfield IL. Available electronically at <http://www.epa.state.il.us/air/air-quality-report/index.html>. May 2001.

U.S. Environmental Protection Agency (USEPA). Currently Designated Nonattainment Areas. Available at www.epa.gov/oar/oaqps/greenbk/ancl.htm. 2004.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

Revise SSAR, Chapter 2, Section 2.3.1.2.5 to include the following new text at the end of the existing text:

The EGC ESP Site is located in DeWitt County, Illinois. Based on USEPA's current designation, DeWitt County is in attainment of the national ambient air quality standards (NAAQS) (USEPA, 2004). To determine whether a county is in attainment of the NAAQS, the Illinois Environmental Protection Agency (IEPA) operates a network of ambient air quality monitoring stations throughout the state. DeWitt County is located in the EPA-defined Air Quality Control Region (AQCR) 66 (i.e., the East Central Illinois Interstate AQCR). There are three monitoring sites in AQCR 66, in which there are four air monitoring stations (two in Champaign County and two in McLean County, located to the east and north of DeWitt County. There are also monitoring sites located to the west-southwest and northwest near Springfield and Peoria, respectively. These monitoring stations have consistently demonstrated that the area in the central part of Illinois is in attainment of the NAAQS for the criteria pollutants (i.e., ozone, PM_{2.5}, SO₂, PM₁₀, and CO). While there are some areas in Illinois that do not comply with the NAAQS, these areas (the Chicago and St. Louis areas) are not proximal to the EGC ESP site. There are no significant air emission sources known to be in the general vicinity that would indicate that the regional air quality would be different than has been characterized by the existing monitoring network. The air quality characteristics of the site that would be the design and operating bases for the plant that may be constructed would therefore be: "Attainment for all Pollutants."

Prior to construction, the EGC facility will be required to obtain a permit from IEPA to construct air emissions equipment. The application for these permits will require a demonstration of compliance with applicable regulations, as well as a demonstration that the ambient air quality standards will not be threatened or exceeded as a result of the operation of the facility.

Detailed information from the statewide ambient air quality monitoring network is provided in the Illinois Annual Air Quality Report, which is published annually by IEPA. Information used in this assessment was obtained from the reports for 2001 - 2003 (IEPA, 2001, 2002, 2003).

Revise SSAR, Chapter 2, Section 2.3 References, to include the following new references:

Illinois Environmental Protection Agency (IEPA). Illinois Annual Air Quality Report. 89 pages. Bureau of Air. Springfield IL. Available electronically at <http://www.epa.state.il.us/air/air-quality-report/index.html>. September 2003.

Illinois Environmental Protection Agency (IEPA). Illinois Annual Air Quality Report. 89 pages. Bureau of Air. Springfield IL. Available electronically at <http://www.epa.state.il.us/air/air-quality-report/index.html>. August 2002.

Illinois Environmental Protection Agency (IEPA). Illinois Annual Air Quality Report. 92 pages. Bureau of Air. Springfield IL. Available electronically at <http://www.epa.state.il.us/air/air-quality-report/index.html>. May 2001.

U.S. Environmental Protection Agency (USEPA). Currently Designated Nonattainment Areas. Available at www.epa.gov/oar/oaqps/greenbk/ancl.htm. 2004.

ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.2-6

An hourly wet bulb temperature should never exceed the coincident dry bulb temperature. Consequently, please explain why nearly all of the CPS wet bulb temperature values presented in SSAR Table 2.3-13 exceed the corresponding (dry bulb) temperature values presented in SSAR Table 2.3-9.

EGC RAI ID: R8-16

EGC RESPONSE:

EGC acknowledges that the "Wet Bulb Temperatures" in SSAR Section 2.3.2.1.3.2, Table 2.3-13 are inconsistent with what one would expect when comparing them with the dry bulb temperatures in Table 2.3-9. However, site characteristic temperature and humidity information for the EGC ESP site is provided elsewhere in the SSAR in Tables 2.3-9 through 2.3-12 and 2.3-14 through 2.3-16, as well as in Table 1.4-1, "Plant Parameters Envelope (PPE) EGC ESP Facility." In the event that long-term hourly wet bulb or humidity data is required to evaluate cooling tower performance and/or other considerations at the COL stage, regional information from Peoria and/or Springfield, IL, is readily available. Since the information in Table 2.3-13 was not used, it will be deleted from the SSAR.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

Revise SSAR, Chapter 2, to delete the entire contents of Section 2.3.2.1.3.2, Wet Bulb, and replace with:

"Information Deleted"

Revise SSAR, Chapter 2, to delete the entire contents of Table 2.3-13 and replace with.

"Information Deleted"

ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.3-2

SSAR Section 2.3.3 states that the onsite meteorological monitoring system is compliant with applicable requirements of Revision 0 (February 1972) to RG 1.23, "Onsite Meteorological Programs," except for exceptions identified in the CPS USAR. However, USAR Section 1.8 states that the CPS meteorological monitoring system meets the requirements of American Nuclear Society (ANS) 2.5-1984 with several exceptions. Please clarify the Clinton ESP meteorological monitoring program commitments to regulatory guidance documents and identify any exceptions to these documents.

EGC RAI ID: R8-17

EGC RESPONSE:

The EGC ESP meteorological monitoring system commitments are revised to be consistent with those of Clinton Power Station. The existing meteorological monitoring system at CPS is described in the CPS USAR, Revision 10, Section 2.3.3, "Onsite Meteorological Measurements Program." With regard to the onsite meteorological monitoring program at CPS, Section 1.8, page 1.8-28 of the CPS USAR states the following:

"Project Position - Meets the requirements of ANS 2.5-1984 proposed as Regulatory Guide 1.23, Revision 1, with the following exceptions:

- (1) accuracy of dewpoint temperature;
- (2) precipitation is not recorded on the digital portion of the data acquisition system;
- (3) digital accuracies."

The meteorological monitoring at the EGC ESP site relies on the monitoring system utilized by CPS and the EGC ESP application has utilized the meteorological monitoring data obtained from the CPS monitoring station. Thus, the EGC ESP commitments are revised to be consistent with the CPS USAR.

Chapter 1, Table 1.5-1 and Chapter 2, Sections 2.3.2.1.3.6, 2.3.3, and 2.3.4.2 of the SSAR will be revised to provide clarification of the ESP meteorological monitoring commitments.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

Revise SSAR, Chapter 1, Table 1.5-1, first two columns of second row, from:

1.23 On-site Meteorological Programs (Safety Guide 23)"

To read:

1.23 On-site Meteorological Programs (ANS 2.5-1984 proposed as Regulatory Guide 1.23, Revision 1)

Revise SSAR, Chapter 1, Table 1.5-1, item C.8 portion of the second row, from:

C.8: Conforms with RG 1.23, with some minor exceptions (as noted in the CPS USAR) that have previously been approved by NRC.

To read:

C.8: "Conforms with ANS 2.5-1984 proposed as Regulatory Guide 1.23, Revision 1, with the following exceptions:

- 1) accuracy of dewpoint temperature;
- 2) precipitation is not recorded on the digital portion of the data acquisition system;
- 3) digital accuracies.

Revise SSAR, Chapter 2, Section 2.3.2.1.3.6, second sentence of the first paragraph, from:

These probabilities, or frequencies, have been generated from on-site data using the vertical temperature gradient and the variability of the horizontal wind to estimate atmospheric stability in accordance with Regulatory Guide 1.23.

To read:

These probabilities, or frequencies, have been generated from on-site data using the vertical temperature gradient and the variability of the horizontal wind to estimate atmospheric stability in accordance with ANS 2.5-1984 proposed as Regulatory Guide 1.23, Revision 1.

Revise SSAR, Chapter 2, Section 2.3.3, last two sentences of the third paragraph, from:

The meteorological monitoring system has been demonstrated throughout this period to be compliant with applicable requirements of Regulatory Guide 1.23, (USNRC, 1972). It is noted that the CPS USAR identifies various NRC authorized exceptions for this instrumentation.

To read:

Since it began operation, the meteorological monitoring system at CPS has been demonstrated to be compliant with NRC requirements. It is noted that the CPS meteorological monitoring system currently meets the requirements of ANS 2.5-1984 proposed as Regulatory Guide 1.23, Revision 1, with the following exceptions:

- 1) accuracy of dewpoint temperature;
- 2) precipitation is not recorded on the digital portion of the data acquisition system;
- 3) digital accuracies.

Revise SSAR, Chapter 2, Section 2.3.4.2, 6th sentence of the first paragraph, from:

The Pasquill stability class was determined from the measured vertical temperature difference and the variation of horizontal wind direction, according to Regulatory Guide 1.23 (USNRC, 1972).

To read:

The Pasquill stability class was determined from the measured vertical temperature difference and the variation of horizontal wind direction, according to ANS 2.5-1984 proposed as Regulatory Guide 1.23, Revision 1.

ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.3-3

SSAR Section 2.3.3 states that the existing Clinton Power Station onsite meteorological monitoring program will also be used as an operational system once the Clinton ESP facility becomes operational. The options being considered for the Clinton ESP facility normal heat sink include either 60-foot tall mechanical draft cooling towers or 550-foot tall natural draft cooling towers. Please describe the potential location of these cooling towers vis-a-vis the existing meteorological tower and the potential influence of these cooling towers on meteorological measurements.

EGC RAI ID: R8-18

EGC RESPONSE:

The present location of the CPS meteorological monitoring tower is approximately 2000 feet from the center of the area that has been proposed for the EGC ESP normal heat sink cooling towers (see SSAR Figure 1.2-4). Inasmuch as neither the type of cooling tower (i.e., mechanical vs. natural draft), nor the specific location of said cooling towers in this area has been finalized, it is not possible to quantify the precise distance between these structures and the meteorological monitoring tower. Given this large distance, we do not expect there to be any adverse impacts on the meteorological measurements attributable to the presence of any structures at the proposed EGC ESP facility. Section 2.3.3, "On-site Meteorological Measurements Program," will be revised to reflect this consideration.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

Revise SSAR, Chapter 2, Section 2.3.3, second paragraph, from:

The CPS meteorological monitoring tower is located approximately 3,200 ft south-southeast of the CPS containment structure, and approximately 1,800 ft south-southeast of the center of the EGC ESP Facility (see Figure 2.3-18). Based on its proximity to the ESP site, the meteorological parameters that are monitored by the CPS monitoring station are representative of the EGC ESP Site and are therefore appropriate for use in characterizing local meteorological conditions for use in this report. This monitoring system will also be used as an operational system once the EGC ESP Facility becomes operational. Local meteorological monitoring results and summaries of the parameters monitored by the on-site system are contained in this section. During the 5 year period of record that was reported in the CPS Construction and Operating ERs and the USAR, the meteorological system monitored the following parameters (also summarized in Table 6.1-5 of the CPS Construction Phase ER) (CPS, 1973):

To read:

The CPS meteorological monitoring tower is located approximately 3,200 ft south-southeast of the CPS containment structure, approximately 1,800 ft south-southeast of the center of the EGC ESP Facility (see Figure 2.3-18), and approximately 2000 ft southeast of the center of the area proposed for the location of the EGC ESP normal heat sink (see Figures 1.2-2 and 1.2-4). Given these large distances, no adverse

impacts on the meteorological measurements are expected to occur as a result of the presence of any structures at the EGC ESP facility site. Based on its proximity to the ESP site, the meteorological parameters that are monitored by the CPS monitoring station are considered to be representative of the EGC ESP Site and are therefore appropriate for use in characterizing local meteorological conditions for use in this report. This monitoring system will also be used as an operational system once the EGC ESP Facility becomes operational. Local meteorological monitoring results and summaries of the parameters monitored by the on-site system are contained in this section. During the 5 year period of record that was reported in the CPS Construction and Operating ERs and the USAR, the meteorological system monitored the following parameters (also summarized in Table 6.1-5 of the CPS Construction Phase ER) (CPS, 1973):

ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.3-4

Please explain why only 32 months of recent onsite data (January 2000-August 2002) have been used to generate the climatic data summaries and atmospheric dispersion analyses presented in the SSAR. Potential bias in these data exists due to the under representation of autumn and early winter months.

EGC RAI ID: R8-19

EGC RESPONSE:

The recent 32-month period of record used to characterize current site-specific meteorological conditions and to assess the impacts of short-term accidental releases and long-term routine releases was obtained from the onsite meteorological monitoring system at CPS. Data from this period were processed and formatted electronically using CPS's Midas© suite of software. This period of record was selected because CPS changed meteorological software vendors in late 1998 and the data for 1999 are available only on strip charts. The data from the period 1/1/00 to 8/31/02 represented the most recent continuous data record available that was obtained and processed using a consistent methodology. Given that these data were used with the intent of supplementing the original data used for this site in the 1970's, the period of record of 2 yrs and 8 months was sufficient for its intended use in the ER and the SSAR. While there is potential for a seasonal bias in the 32-month period of record data, a variety of comparisons with the original data and analyses for short-term radiological releases were made in SSAR Section 2.3.4.4 "X/Q Estimates for Short-Term Diffusion Calculations" in order to identify any such differences. It was concluded that, while there were differences in the data characteristics (as expected), those differences did not result in any undue biases in the results. More specifically, the short- and long-term radiological release analysis results obtained using the 32-month period of record were comparable with the analyses performed using the 5-year period of record from the 1970's.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

None

ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.4-1

Please explain in more detail how the 50 percent exclusion area boundary (EAB) and low-population zone (LPZ) atmospheric dispersion factors (χ/Q values) were determined. In particular, please explain the apparent discrepancy in the SSAR where Section 2.3.4.3 states that these values represent direction independent (i.e., overall site) values whereas Table 2.3-52 states that these are maximum sector values.

EGC RAI ID: R8-20

EGC RESPONSE:

The 50 percent exclusion area boundary (EAB) and low-population zone (LPZ) atmospheric dispersion factors (χ/Q values) were determined from the PAVAN output and by logarithmic interpolation. The 0 to 2 hour 50% values at the EAB and LPZ without building wake ($3.559\text{E-}05 \text{ sec/m}^3$ and $5.095\text{E-}06 \text{ sec/m}^3$) are provided directly on the PAVAN output. The remaining values for the longer time periods for the LPZ are determined using the 0 to 2 hour 50% LPZ value and the LPZ average annual value of $4.72\text{E-}07 \text{ sec/m}^3$ from the PAVAN output by logarithmic interpolation at the intermediate time periods of 8 hours, 16 hours, 72 hours and 624 hours. The values are shown on the following data taken from Table 2.3-52:

50% Probability EGC ESP Site χ/Q Values @ LPZ		
Time Period	χ/Q (sec/m^3)	Source
0 - 2 HR	5.10E-06	PAVAN Model
0 - 8 HR	3.40E-06	Interpolation
8 - 24 HR	2.85E-06	Interpolation
1 - 4 DAYS	1.85E-06	Interpolation
4 - 30 DAYS	1.00E-06	Interpolation
Annual Average	4.72E-07	PAVAN Model

Section 2.3.4.3 correctly states that these values represent direction independent (i.e., overall site) values. Table 2.3-52 is incorrect in indicating that these are maximum sector values, and will be revised to remove "Maximum Sector" from the table heading.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

Revise SSAR, Chapter 2, Section 2.3.4.4, to add a new paragraph at the end of Subsection 2.3.4.4 as follows:

The 50 percent EAB and LPZ χ/Q values are determined from the PAVAN output and by logarithmic interpolation. The 0 to 2 hour 50% values at the EAB and LPZ without building wake ($3.56\text{E-}05 \text{ sec/m}^3$ and $5.10\text{E-}06 \text{ sec/m}^3$) are provided directly on the PAVAN output. The remaining values for the longer time periods for the LPZ are determined using the 0 to 2 hour 50% LPZ value and the LPZ average annual value of $4.72\text{E-}07 \text{ sec/m}^3$ from the PAVAN output by logarithmic interpolation at the intermediate

time periods of 8 hours, 16 hours, 72 hours and 624 hours. The values are shown on Table 2.3-52.

Revise SSAR, Chapter 2, Table 2.3-52, heading text from:
(Maximum Sector, 50% Probability Value, (sec/m³))

To read:
(50% Probability Value, (sec/m³))

Revise SSAR, Chapter 2, Table 2.3-52, EAB χ/Q value from:
3.6E-05

To read:
3.56E-05

ATTACHMENTS:

None

NRC Letter Dated: 07/26/2004

NRC RAI No. 2.3.4-2

Because potential release points could be located anywhere within the plant envelope area being proposed for the Clinton ESP site, please recalculate the EAB and LPZ χ/Q values using the shortest distances between the ESP plant envelope boundaries and the 1,025-m EAB radius and 4,018-m LPZ radius for each downwind sector. Also provide a copy of the resulting PAVAN input and output files used to generate the accident CHI/Q values that are being proposed as site characteristic values.

EGC RAI ID: R8-21

EGC RESPONSE:

EGC has selected the center of the proposed area for locating ESP Site Power Block Structures as the basis for computing the ESP site χ/Q values to the proposed EAB and LPZ distances. It is recognized that depending upon the ultimate site development (size, number and type of reactor plant selected) the major potential release point(s) could be somewhat displaced from this center point; however, it is not expected to be positioned on the envelope boundary and the resultant changes in χ/Q values are not expected to be significantly different from the values presented. The comparison presented in SSAR Section 2.3.4 with the Clinton Power Station χ/Q values (with an EAB distance of 975 meters as opposed to the ESP EAB of 1025 meters) demonstrates that the proposed ESP site χ/Q values are reasonably conservative. As requested, a copy of the PAVAN input and output files is provided as an attachment to this RAI response.

The minimum distance to the proposed EAB from any point on the envelope of the Power Block Structure area was selected and maintained at 0.5 miles (805 meters). This is the largest EAB distance specified by the alternative reactor vendors as part of their PPE submittal. The LPZ distance was selected at a distance of 2.5 miles, which is consistent with the Clinton Power Station LPZ, and as discussed in the Emergency Planning section of the EGC ESP Application, will provide a reasonable probability that appropriate protective measures could be maintained in the event of an accident.

ASSOCIATED EGC ESP APPLICATION REVISIONS:

None

ATTACHMENTS:

RAI 2.3.4-2 Attachment (PAVAN IN-OUT)

RAI ATTACHMENT

RAI 2.3.1-9 Attachment (Grazulis 1993) Tornado Speed Figures

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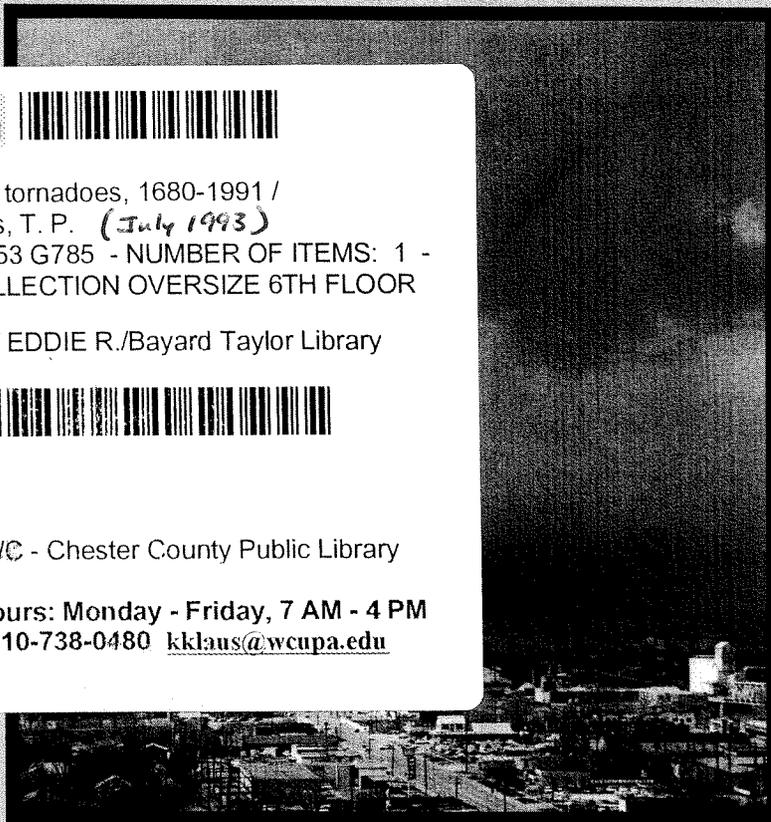
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SIGNIFICANT TORNADOES

1680-1991

**By
Thomas P.
Grazulis**



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Significant Tornadoes, 1680-1991

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Environmental Films
P.O. Box 302
St. Johnsbury, VT 05819*

COVER PHOTOGRAPHS: The upper photograph, by Chet Sutherland, is of the April 3, 1964, tornado on the north edge of Wichita Falls, Texas, near Sheppard Air Force Base. The lower photograph, by Leon Hooten, is of the April 10, 1979, tornado as it was ripping apart a residential area in the southern part of Wichita Falls, Texas.

SPINE: This classic photograph was taken by Ira Blackstock on June 2, 1929 near Hardtner, Kansas. It was used frequently in textbooks for the next 40 years. Visible from the south for 30 miles, the tornado was nearly stationary at a few locations. People at Alva, Oklahoma, 17 miles to the south, dispatched ambulances to Hardtner expecting to find the town destroyed.

TABLE OF CONTENTS:

Acknowledgments	iv	13. Oddities and Myths	133
List of Figures	v	Coincidence	134
List of Tables	xiii	Myths	137
Preface	xv	Safety..Some Additional Myths	138
1. Introduction	1	Safety in Schools	139
2. Counting and Defining Tornadoes	3	14. Fujita Tornado Intensity Scale	141
Documentation Periods	6	Wind	145
Definitions	6	The Golden Age of the 1970's	146
3. Tornado Statistics	14	15. The Project	147
Who's #1	16	Fujita Scale Problems	147
Path Width and Path Length	23	Operational F-Scale Standards	148
Time of Day and Time of Year	23	Rules of Thumb	150
4. Outbreaks	34	Damage Examples	151
5. Tornado Forms and Types		16. F0/F1 Tornadoes	174
The Supercell Thunderstorm	41	17. Documenting with Newspapers	182
Supercell and Tornado Formation	46	18. Unlisted or "Missing" Tornadoes	187
Rotation of the Mesocyclone	52	19. Differences of Opinion	191
Non-supercell Tornadoes	53	Death Totals	191
Tornado Families	54	Significant Tornadoes	194
The Tornado Life Cycle	59	20. Early Documentation Periods	195
Direction of Travel	65	21. Trends	196
Multiple Vortices	65	22. Distribution of Signif. Tornadoes	204
6. Other Natural Vortices	70	Path Maps	204
Waterspouts	70	Tornadoes and Population Density	208
Dust devils	76	Fort Worth and Dallas	216
Firewhirls	77	23. Risk to Property	218
7. Tornado Forecasting	79	Comparison with Fujita/UC Maps	219
Conditions and Parameters	82	24. Path Maps and Tabular Listings	223
Lifted Index	84	Appendices	460
Upper Air Winds / Jet Stream	85	1.) F0/F1 Killer Tornadoes	460
8. Tornado Risk	88	2.) F4/F5 Tornadoes	462
Risk to Life	88	3.) Killer Tornadoes 1880-1991	478
Risk to Property	89	4.) Killer Tornadoes 1680-1879	518
Risk of a Tornado Encounter	90	5.) Tornadoes with 9 or more Deaths	521
Exact Number of Tornadoes	93	6.) Pre-1880 Tornadoes	527
9. Wind Speeds	97	References for Text Sections	535
Photogrammetry	98	Narrative Descriptions	
Wind Speed Estimates from Damage	102	Introduction	538
Wind Speed and Pressure	104	List of Figures	541
Suction Vortex Patterns	108	Tornado Deaths 1800-1991	549
10. Downbursts	110	Tornado Descriptions 1680-1991	552
Downbursts and Other Mysteries	113	1990-1991 Significant Tornadoes	1319
11. Hurricane-spawned Tornadoes	124	Index	1325
12. Other Countries	128		

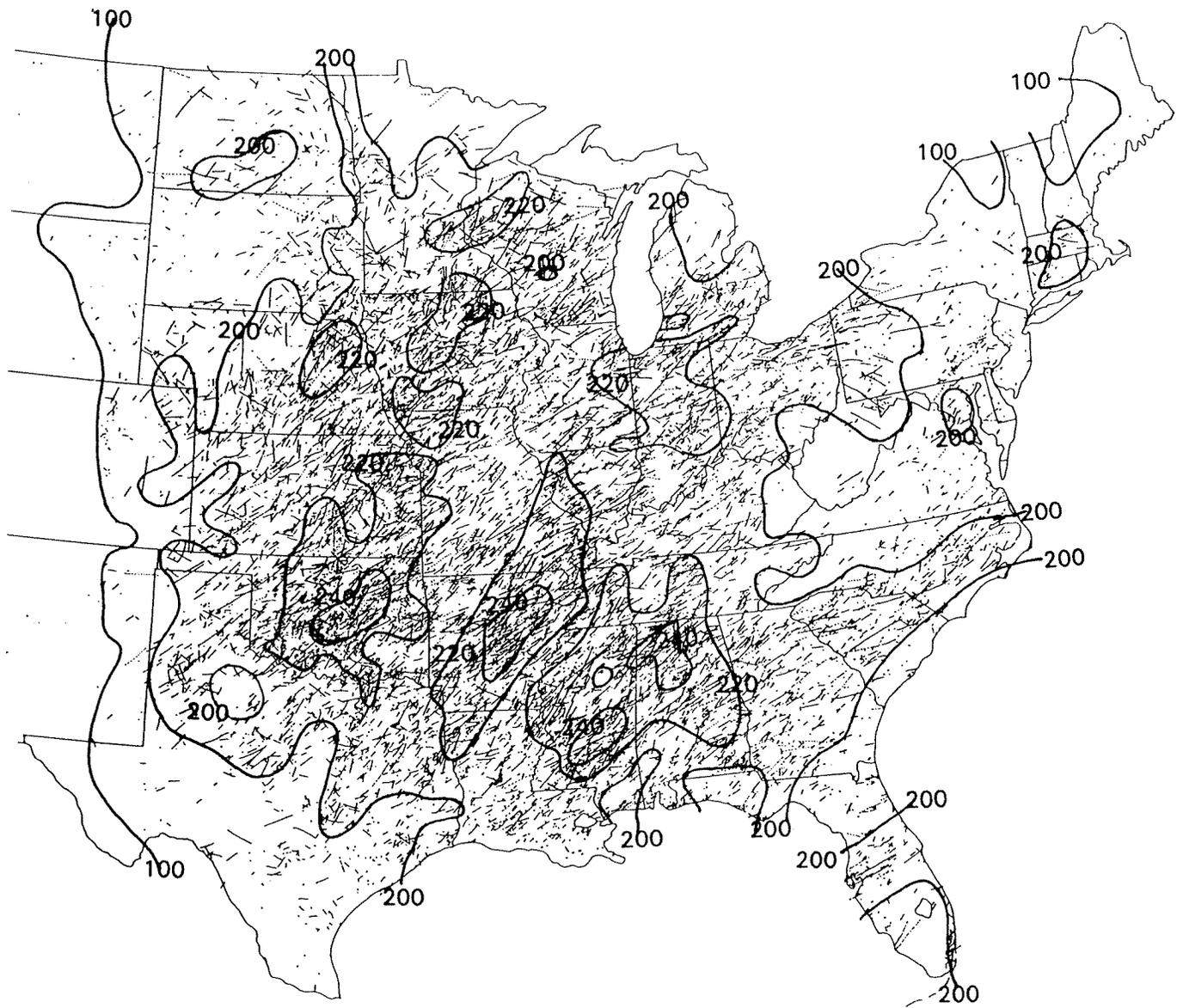


Figure 23.4 The maximum wind speed expected at a probability level of 10^{-6} (once in 1,000,000 years). The isopleths for wind speed are after Fujita (1987), determined using UC data 1916-1985. The base map is of Project significant tornadoes, 1916-1989.

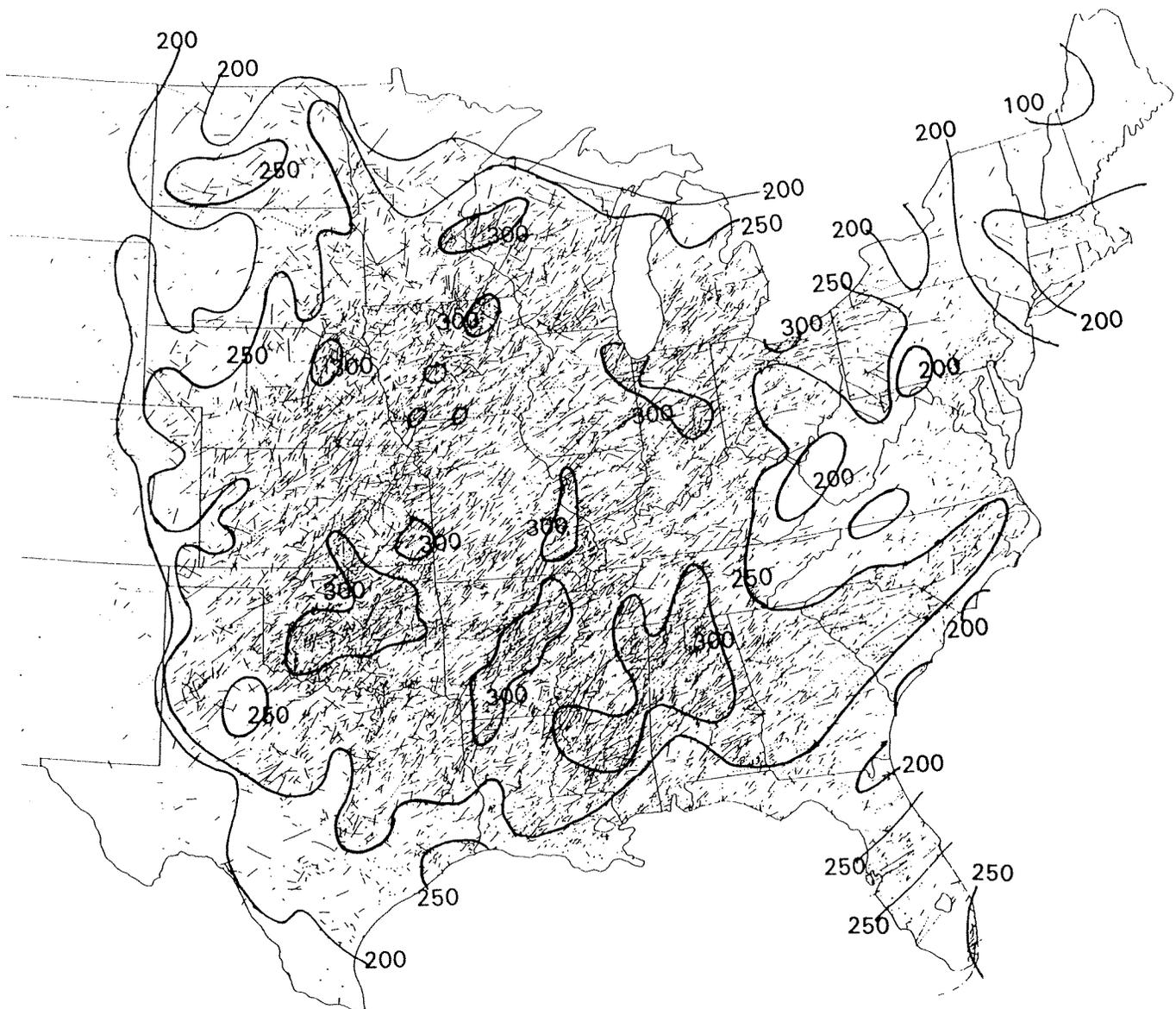


Figure 23.5 The maximum wind speed expected at a probability level of 10^{-7} (once in 10,000,000 years). The isopleths for wind speed are after Fujita (1987), determined using UC data 1916-1985. The base map is of Project significant tornadoes, 1916-1989.

RAI ATTACHMENT

RAI 2.3.4-2 Attachment (PAVAN IN-OUT)

Exelon ESP Site

PAVAN INPUT/OUTPUT FILES

OPRINTOUT OF INPUT CARDS

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1 01000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000
2 Exelon ESP Site      1/1/00-8/31/02      GROUND-LEVEL RELEASE
3 Sensor Height 10.0 METERS 10 - 60 METERS
4 Data Source Clinton Power Station Met Data System
5 No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
6   6 21430      0
7   .500 2069.000   76.100   10.000   10.000
8   .000 .000 .000 .000 .000 .000 .000 .000
9   2.000 .000 3.000 6.000 3.000 9.000 12.000 19.000 6.000 4.000 7.000 6.000 3.000 1.000 3.000 1.000
9  15.000 6.000 59.000 56.000 62.000 82.000 89.000 94.000128.000 83.000 95.000 38.000 36.000 40.000 40.000 17.000
9  34.000 28.000 90.000 25.000 22.000 12.000 42.000 32.000130.000129.000113.000 64.000 84.000 77.000 85.000 35.000
9  16.000 12.000 22.000 3.000 3.000 .000 9.000 25.000 67.000 58.000 56.000 38.000 73.000 79.000 51.000 19.000
9   1.000 .000 1.000 .000 .000 .000 1.000 2.000 8.000 1.000 2.000 4.000 18.000 20.000 9.000 5.000
9   .000 .000 .000 .000 .000 .000 .000 1.000 .000 .000 .000 2.000 3.000 .000 .000 .000
9   2.000 .000 4.000 5.000 6.000 12.000 14.000 7.000 12.000 8.000 9.000 7.000 3.000 4.000 2.000 .000
9  23.000 17.000 43.000 28.000 18.000 16.000 38.000 36.000 52.000 49.000 48.000 30.000 37.000 38.000 36.000 14.000
9  23.000 29.000 28.000 14.000 6.000 1.000 12.000 33.000 43.000 55.000 75.000 55.000 51.000 55.000 57.000 21.000
9  12.000 5.000 10.000 1.000 2.000 1.000 2.000 17.000 28.000 41.000 17.000 22.000 25.000 23.000 16.000 6.000
9   1.000 1.000 .000 .000 .000 .000 .000 2.000 7.000 2.000 2.000 3.000 8.000 7.000 2.000 3.000
9   .000 .000 .000 .000 .000 .000 .000 .000 1.000 .000 .000 1.000 4.000 .000 .000 .000
9   2.000 2.000 8.000 5.000 5.000 9.000 6.000 9.000 8.000 5.000 10.000 6.000 2.000 7.000 8.000 3.000
9  21.000 16.000 49.000 34.000 17.000 20.000 34.000 30.000 34.000 24.000 33.000 22.000 30.000 38.000 36.000 35.000
9  30.000 35.000 27.000 15.000 5.000 8.000 19.000 32.000 57.000 44.000 51.000 41.000 49.000 49.000 36.000 25.000
9  15.000 16.000 16.000 .000 1.000 .000 7.000 10.000 21.000 20.000 16.000 23.000 29.000 51.000 28.000 11.000
9   .000 8.000 5.000 .000 .000 .000 .000 1.000 8.000 4.000 2.000 13.000 5.000 12.000 6.000 1.000
9   .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 1.000 1.000 1.000 .000 .000
9  20.000 23.000 32.000 39.000 54.000 71.000 36.000 41.000 22.000 32.000 38.000 20.000 32.000 29.000 26.000 21.000
9 124.000131.000198.000152.000145.000177.000202.000227.000170.000169.000143.000 96.000152.000137.000154.000121.000
9 166.000186.000206.000 74.000 35.000 57.000128.000237.000347.000319.000156.000156.000262.000296.000244.000157.000
9  51.000 53.000 60.000 4.000 1.000 2.000 25.000 64.000176.000177.000 50.000 70.000187.000195.000113.000 36.000
9   1.000 9.000 8.000 .000 .000 .000 .000 3.000 44.000 24.000 9.000 24.000 38.000 35.000 10.000 4.000
9   .000 1.000 .000 .000 .000 .000 .000 .000 .000 .000 1.000 1.000 6.000 .000 .000 .000
9  15.000 35.000 67.000 69.000 82.000104.000 88.000 69.000 62.000 68.000 53.000 53.000 39.000 30.000 30.000 23.000
9  65.000 82.000184.000137.000131.000147.000204.000338.000383.000300.000185.000153.000147.000151.000112.000 91.000
9  22.000 29.000 25.000 17.000 10.000 12.000 57.000148.000311.000305.000125.000 83.000107.000 89.000 31.000 45.000
9   .000 4.000 1.000 .000 .000 .000 5.000 14.000 99.000 61.000 26.000 17.000 32.000 7.000 10.000 13.000
9   .000 .000 .000 .000 .000 .000 .000 2.000 18.000 6.000 .000 1.000 1.000 2.000 2.000 .000
9   .000 3.000 3.000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000
9  19.000 43.000 78.000 46.000 52.000 51.000 50.000 49.000 45.000 59.000 44.000 49.000 45.000 38.000 32.000 14.000
9  27.000 73.000114.000 61.000 29.000 16.000 79.000 88.000 88.000106.000 88.000 73.000 72.000 49.000 71.000 23.000
9   1.000 7.000 8.000 16.000 11.000 1.000 3.000 10.000 23.000 20.000 17.000 30.000 5.000 12.000 11.000 6.000
9   1.000 .000 .000 1.000 .000 .000 .000 .000 .000 .000 4.000 13.000 2.000 .000 1.000 4.000
9   .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 3.000 .000 .000 .000 .000
9   4.000 1.000 3.000 .000 .000 .000 .000 .000 1.000 .000 .000 .000 .000 .000 .000 .000
9  14.000 52.000 88.000 35.000 35.000 31.000 25.000 21.000 20.000 23.000 28.000 39.000 38.000 46.000 41.000 15.000
9   7.000 50.000 70.000 13.000 15.000 2.000 14.000 13.000 19.000 13.000 22.000 24.000 14.000 22.000 51.000 7.000
9   .000 1.000 1.000 5.000 4.000 .000 .000 .000 .000 .000 4.000 3.000 .000 .000 5.000 2.000
9   1.000 .000 .000 2.000 4.000 .000 .000 .000 .000 .000 4.000 4.000 .000 .000 .000 .000
9   .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 1.000 .000 .000 .000 .000
9   3.000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000
10  101. 3.000 7.000 12.000 18.000 24.000 30.000 .000 .000 .000 .000 .000 .000 .000 .000

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11 1025. 1025. 1025. 1025. 1025. 1025. 1025. 1025. 1025. 1025. 1025. 1025. 1025. 1025. 1025. 1025.
 11 4018. 4018. 4018. 4018. 4018. 4018. 4018. 4018. 4018. 4018. 4018. 4018. 4018. 4018. 4018. 4018.
 1USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION ATMOSPHERIC STABILITY CLASS A

WIND SPEED (M/S)		ATMOSPHERIC STABILITY CLASS A																
TOWER RELEASE		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.34	1.34	.009	.000	.014	.028	.014	.042	.056	.089	.028	.019	.033	.028	.014	.005	.014	.005	.397
3.13	3.13	.070	.028	.275	.261	.289	.383	.415	.439	.597	.387	.443	.177	.168	.187	.187	.079	4.386
5.36	5.36	.159	.131	.420	.117	.103	.056	.196	.149	.607	.602	.527	.299	.392	.359	.397	.163	4.676
8.05	8.05	.075	.056	.103	.014	.014	.000	.042	.117	.313	.271	.261	.177	.341	.369	.238	.089	2.478
10.73	10.73	.005	.000	.005	.000	.000	.000	.005	.009	.037	.005	.009	.019	.084	.093	.042	.023	.336
13.41	13.41	.000	.000	.000	.000	.000	.000	.000	.005	.000	.000	.000	.009	.014	.000	.000	.000	.028
TOTAL		.32	.21	.82	.42	.42	.48	.71	.81	1.58	1.28	1.27	.71	1.01	1.01	.88	.36	12.30

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION ATMOSPHERIC STABILITY CLASS B

WIND SPEED (M/S)		ATMOSPHERIC STABILITY CLASS B																
TOWER RELEASE		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.34	1.34	.009	.000	.019	.023	.028	.056	.065	.033	.056	.037	.042	.033	.014	.019	.009	.000	.443
3.13	3.13	.107	.079	.201	.131	.084	.075	.177	.168	.243	.229	.224	.140	.173	.177	.168	.065	2.441
5.36	5.36	.107	.135	.131	.065	.028	.005	.056	.154	.201	.257	.350	.257	.238	.257	.266	.098	2.604
8.05	8.05	.056	.023	.047	.005	.009	.005	.009	.079	.131	.191	.079	.103	.117	.107	.075	.028	1.064
10.73	10.73	.005	.005	.000	.000	.000	.000	.000	.009	.033	.009	.009	.014	.037	.033	.009	.014	.177
13.41	13.41	.000	.000	.000	.000	.000	.000	.000	.000	.005	.000	.000	.005	.019	.000	.000	.000	.028
TOTAL		.28	.24	.40	.22	.15	.14	.31	.44	.67	.72	.70	.55	.60	.59	.53	.21	6.76

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION ATMOSPHERIC STABILITY CLASS C

WIND SPEED (M/S)		ATMOSPHERIC STABILITY CLASS C																
TOWER RELEASE		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.34	1.34	.009	.009	.037	.023	.023	.042	.028	.042	.037	.023	.047	.028	.009	.033	.037	.014	.443
3.13	3.13	.098	.075	.229	.159	.079	.093	.159	.140	.159	.112	.154	.103	.140	.177	.168	.163	2.207
5.36	5.36	.140	.163	.126	.070	.023	.037	.089	.149	.266	.205	.238	.191	.229	.229	.168	.117	2.441
8.05	8.05	.070	.075	.075	.000	.005	.000	.033	.047	.098	.093	.075	.107	.135	.238	.131	.051	1.232
10.73	10.73	.000	.037	.023	.000	.000	.000	.000	.005	.037	.019	.009	.061	.023	.056	.028	.005	.303
13.41	13.41	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.005	.005	.000	.000	.000	.014
TOTAL		.32	.36	.49	.25	.13	.17	.31	.38	.60	.45	.52	.49	.54	.74	.53	.35	6.64

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION ATMOSPHERIC STABILITY CLASS D

WIND SPEED (M/S)		ATMOSPHERIC STABILITY CLASS D																
TOWER RELEASE		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.34	1.34	.093	.107	.149	.182	.252	.331	.168	.191	.103	.149	.177	.093	.149	.135	.121	.098	2.501
3.13	3.13	.579	.611	.924	.709	.677	.826	.943	1.059	.793	.789	.667	.448	.709	.639	.719	.565	11.657
5.36	5.36	.775	.868	.961	.345	.163	.266	.597	1.106	1.619	1.489	.728	.728	1.223	1.381	1.139	.733	14.120
8.05	8.05	.238	.247	.280	.019	.005	.009	.117	.299	.821	.826	.233	.327	.873	.910	.527	.168	5.898
10.73	10.73	.005	.042	.037	.000	.000	.000	.000	.014	.205	.112	.042	.112	.177	.163	.047	.019	.975
13.41	13.41	.000	.005	.000	.000	.000	.000	.000	.000	.000	.000	.005	.005	.028	.000	.000	.000	.042
TOTAL		1.69	1.88	2.35	1.26	1.10	1.43	1.82	2.67	3.54	3.36	1.85	1.71	3.16	3.23	2.55	1.58	35.19

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION ATMOSPHERIC STABILITY CLASS E

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.34 1.34	.070	.163	.313	.322	.383	.485	.411	.322	.289	.317	.247	.247	.182	.140	.140	.107	4.139
3.13 3.13	.303	.383	.859	.639	.611	.686	.952	1.577	1.787	1.400	.863	.714	.686	.705	.523	.425	13.112
5.36 5.36	.103	.135	.117	.079	.047	.056	.266	.691	1.451	1.423	.583	.387	.499	.415	.145	.210	6.608
8.05 8.05	.000	.019	.005	.000	.000	.000	.023	.065	.462	.285	.121	.079	.149	.033	.047	.061	1.349
10.73 10.73	.000	.000	.000	.000	.000	.000	.000	.009	.084	.028	.000	.005	.005	.009	.009	.000	.149
13.41 13.41	.000	.014	.014	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.028
TOTAL	.48	.71	1.31	1.04	1.04	1.23	1.65	2.66	4.07	3.45	1.82	1.43	1.52	1.30	.86	.80	25.38

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS F

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.34 1.34	.089	.201	.364	.215	.243	.238	.233	.229	.210	.275	.205	.229	.210	.177	.149	.065	3.332
3.13 3.13	.126	.341	.532	.285	.135	.075	.369	.411	.411	.495	.411	.341	.336	.229	.331	.107	4.932
5.36 5.36	.005	.033	.037	.075	.051	.005	.014	.047	.107	.093	.079	.140	.023	.056	.051	.028	.845
8.05 8.05	.005	.000	.000	.005	.000	.000	.000	.000	.000	.000	.019	.061	.009	.000	.005	.019	.121
10.73 10.73	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.014	.000	.000	.000	.000	.014
13.41 13.41	.019	.005	.014	.000	.000	.000	.000	.000	.005	.000	.000	.000	.000	.000	.000	.000	.042
TOTAL	.24	.58	.95	.58	.43	.32	.62	.69	.73	.86	.71	.78	.58	.46	.54	.22	9.29

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION

ATMOSPHERIC STABILITY CLASS G

WIND SPEED (M/S)

TOWER RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.34 1.34	.065	.243	.411	.163	.163	.145	.117	.098	.093	.107	.131	.182	.177	.215	.191	.070	2.571
3.13 3.13	.033	.233	.327	.061	.070	.009	.065	.061	.089	.061	.103	.112	.065	.103	.238	.033	1.661
5.36 5.36	.000	.005	.005	.023	.019	.000	.000	.000	.000	.000	.019	.014	.000	.000	.023	.009	.117
8.05 8.05	.005	.000	.000	.009	.019	.000	.000	.000	.000	.000	.019	.019	.000	.000	.000	.000	.070
10.73 10.73	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.005	.000	.000	.000	.000	.005
13.41 13.41	.014	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.014
TOTAL	.12	.48	.74	.26	.27	.15	.18	.16	.18	.17	.27	.33	.24	.32	.45	.11	4.44

OWIND MEASURED AT 10.0 METERS.

WIND SPEED CORRECTED TO THE RELEASE HEIGHT OF 10.0 METERS.

OVERALL WIND DIRECTION FREQUENCY

WIND DIRECTION:	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
FREQUENCY:	3.4	4.5	7.1	4.0	3.5	3.9	5.6	7.8	11.4	10.3	7.2	6.0	7.7	7.7	6.3	3.6

OVERALL WIND SPEED FREQUENCY AS MEASURED ON THE TOWER:

MAX.WIND SPEED (M/S):	1.341	3.129	5.364	8.047	10.729	13.411
WIND SPEED FREQUENCY:	13.83	40.40	31.41	12.21	1.96	.20

OBUILDING AND RELEASE CHARACTERISTICS:

RELEASE HEIGHT: 10.00 METERS
 MIXING VOLUME COEFFICIENT: .50

BUILDING CROSS-SECTIONAL AREA: 2069.00 SQUARE METERS

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

DOWNWIND SECTOR	S	SSW	SW	WSW	W	WNW	NW	NNW	N	NNE	NE	ENE	E	ESE	SE	SSE
BOUNDARY 1	1025.	1025.	1025.	1025.	1025.	1025.	1025.	1025.	1025.	1025.	1025.	1025.	1025.	1025.	1025.	1025.
BOUNDARY 2	4018.	4018.	4018.	4018.	4018.	4018.	4018.	4018.	4018.	4018.	4018.	4018.	4018.	4018.	4018.	4018.

THE CONVERSION FACTOR APPLIED TO THE WIND SPEED CLASSES IS .447

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD: 1/1/00-8/31/02

WIND SENSORS HEIGHT: Sensor Height 10.0 M

TYPE OF RELEASE: GROUND-LEVEL RELEASE

DELTA-T HEIGHTS: ETTERS 10 - 60 METERS

SOURCE OF DATA: Data Source Clinton Power Station Met Data System

COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145
OWINDSPEEDS ADJUSTED TO 10.0 METERS.
0PERCENT OF THE TIME A GIVEN WINDSPEED IS LOWER:

OWINDSPEED (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
1.34	13.83
3.13	54.22
5.36	85.63
8.05	97.84
10.73	99.80
13.41	100.00

0
0 ERROR IN NORMAL TRANSFORMATION FOR A(6)= 100.00000

0LOG-NORMAL INTERPOLATION PERCENTILES
OWINDSPEED CUMULATIVE FREQUENCY

(METER/SEC)	(PERCENT)
.56	1.00
.76	3.00
.90	5.00
1.17	10.00
1.39	15.00
1.60	20.00
1.80	25.00
2.00	30.00
2.21	35.00
2.43	40.00
2.66	45.00
2.90	50.00
3.16	55.00
3.40	60.00
3.66	65.00
3.96	70.00
4.31	75.00
4.73	80.00
5.40	85.00
5.88	90.00

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
SOURCE OF DATA: Data Source Clinton Power Station Met Data System
COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0SITE EXCLUSION BOUNDARY CALCULATIONS:

0 S SECTOR BOUNDARY DISTANCE = 1025.0 METERS
0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

0	1.946E-04	1.659E-04	1.295E-04	9.346E-05	7.665E-05	6.899E-05	6.832E-05	5.340E-05	4.925E-05	4.555E-05
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	1.897	2.846	5.420	9.079	11.111	11.247	11.382	14.092	22.900	23.035
	.06533	.09799	.18665	.31265	.38264	.38731	.39197	.48530	.78861	.79328
0	4.140E-05	3.902E-05	3.313E-05	2.929E-05	2.733E-05	2.120E-05	1.427E-05	1.420E-05	1.413E-05	1.060E-05
	23.442	26.423	26.694	43.496	44.038	66.531	66.802	69.648	76.558	76.694
	.80728	.90994	.91927	1.49790	1.51657	2.29118	2.30051	2.39851	2.63649	2.64116
0	8.282E-06	6.115E-06	5.521E-06	3.567E-06	2.604E-06	2.378E-06	1.783E-06	1.116E-06	6.510E-07	4.340E-07
	80.759	83.875	85.908	89.024	89.295	90.921	91.057	93.089	97.696	99.864
	2.78115	2.88847	2.95847	3.06580	3.07513	3.13112	3.13579	3.20579	3.36444	3.43910
0	3.255E-07									
	100.000									
	3.44377									

0 X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)
0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .186
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .312
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= .788
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.289
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 2.634
BACK EXTRAPOLATION FOR 1 PERCENTILE.

	2.455E-04	.034	1.000
	1.636E-04	.103	3.000
	1.338E-04	.172	5.000
	8.767E-05	.344	10.000
	6.655E-05	.517	15.000
	5.432E-05	.689	20.000
	4.615E-05	.861	25.000
	4.023E-05	1.033	30.000
	3.574E-05	1.205	35.000
	3.218E-05	1.378	40.000
	2.930E-05	1.550	45.000
	2.690E-05	1.722	50.000
	2.487E-05	1.894	55.000
	2.313E-05	2.066	60.000
	2.162E-05	2.238	65.000
	1.832E-05	2.411	70.000
	1.500E-05	2.583	75.000
0	6.807E-05	0.5	14.52

0ANNUAL AVERAGE = 7.59E-07
1USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
SOURCE OF DATA: Data Source Clinton Power Station Met Data System
COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145
0SITE EXCLUSION BOUNDARY CALCULATIONS:
0 SSW SECTOR BOUNDARY DISTANCE = 1025.0 METERS
0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

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

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

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

0	1.946E-04	1.659E-04	1.295E-04	1.035E-04	9.346E-05	7.665E-05	6.832E-05	5.340E-05	4.925E-05	3.902E-05
	5.428	10.647	15.136	15.240	22.860	26.514	27.244	29.645	38.205	41.232
	.24265	.47597	.67662	.68129	1.02193	1.18525	1.21792	1.32524	1.70789	1.84321
0	3.313E-05	2.929E-05	2.733E-05	2.601E-05	2.120E-05	1.561E-05	1.420E-05	1.413E-05	1.060E-05	8.478E-06
	41.441	55.115	55.219	55.637	75.052	75.365	77.035	82.568	83.507	83.612
	1.85254	2.46384	2.46850	2.48717	3.35511	3.36911	3.44377	3.69109	3.73308	3.73775
0	8.282E-06	6.115E-06	5.521E-06	4.141E-06	3.567E-06	2.378E-06	1.783E-06	1.116E-06	6.510E-07	4.340E-07
	87.265	89.040	90.710	91.545	94.572	95.094	95.198	95.825	98.747	100.000
	3.90107	3.98040	4.05506	4.09239	4.22772	4.25105	4.25572	4.28371	4.41437	4.47037

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .676
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.021
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 1.706
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 3.352
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 3.688
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 3.898
BACK EXTRAPOLATION FOR 1 PERCENTILE.
BACK EXTRAPOLATION FOR 3 PERCENTILE.
BACK EXTRAPOLATION FOR 5 PERCENTILE.

2.789E-04	.045	1.000
2.221E-04	.134	3.000
1.983E-04	.224	5.000
1.685E-04	.447	10.000
1.304E-04	.671	15.000
1.041E-04	.894	20.000
8.385E-05	1.118	25.000
6.696E-05	1.341	30.000
5.512E-05	1.565	35.000
4.663E-05	1.788	40.000
4.047E-05	2.012	45.000
3.558E-05	2.235	50.000
3.161E-05	2.459	55.000
2.832E-05	2.682	60.000
2.557E-05	2.906	65.000
2.322E-05	3.129	70.000
2.122E-05	3.353	75.000
1.617E-05	3.576	80.000
1.068E-05	3.800	85.000
0 1.604E-04	0.5	11.18

0ANNUAL AVERAGE = 1.53E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

OSITE EXCLUSION BOUNDARY CALCULATIONS:

0 SW SECTOR BOUNDARY DISTANCE = 1025.0 METERS
 0 LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

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

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

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

0	1.946E-04	1.659E-04	1.295E-04	1.035E-04	9.346E-05	7.665E-05	6.832E-05	5.340E-05	4.925E-05	3.902E-05
	5.824	10.457	15.619	15.685	23.230	27.664	28.193	30.311	42.488	44.143
	.41064	.73728	1.10126	1.10593	1.63789	1.95054	1.98787	2.13719	2.99580	3.11246
0	3.313E-05	2.929E-05	2.733E-05	2.601E-05	2.120E-05	1.561E-05	1.427E-05	1.420E-05	1.413E-05	1.060E-05
	44.672	57.776	57.975	58.041	71.674	71.873	72.138	75.381	79.351	79.881
	3.14979	4.07373	4.08773	4.09239	5.05366	5.06766	5.08633	5.31498	5.59496	5.63229
0	8.282E-06	6.115E-06	5.521E-06	4.141E-06	3.567E-06	2.604E-06	2.378E-06	1.116E-06	6.510E-07	4.340E-07
	81.668	84.514	85.572	85.903	87.756	87.955	88.617	92.522	98.478	99.934
	5.75828	5.95894	6.03360	6.05693	6.18759	6.20159	6.24825	6.52356	6.94354	7.04620
0	3.255E-07									
	100.000									
	7.05086									

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.100
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.636
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.993
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 5.050
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 5.591
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 6.030
 BACK EXTRAPOLATION FOR 1 PERCENTILE.
 BACK EXTRAPOLATION FOR 3 PERCENTILE.
 BACK EXTRAPOLATION FOR 5 PERCENTILE.

2.986E-04	.071	1.000
2.305E-04	.212	3.000
2.025E-04	.353	5.000
1.680E-04	.705	10.000
1.329E-04	1.058	15.000
1.059E-04	1.410	20.000
8.673E-05	1.763	25.000
7.177E-05	2.115	30.000
6.091E-05	2.468	35.000
5.266E-05	2.820	40.000
4.507E-05	3.173	45.000

3.821E-05	3.525	50.000
3.282E-05	3.878	55.000
2.850E-05	4.231	60.000
2.497E-05	4.583	65.000
2.206E-05	4.936	70.000
1.771E-05	5.288	75.000
1.278E-05	5.641	80.000
6.006E-06	5.993	85.000
0 1.847E-04	0.5	7.09

0ANNUAL AVERAGE = 2.53E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0SITE EXCLUSION BOUNDARY CALCULATIONS:

0 WSW SECTOR BOUNDARY DISTANCE = 1025.0 METERS
 0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

0	1.946E-04	1.659E-04	1.295E-04	1.035E-04	9.346E-05	7.665E-05	6.899E-05	6.832E-05	5.340E-05	4.925E-05
	4.056	5.562	10.892	11.472	18.540	26.535	26.767	28.621	33.140	49.015
	.16332	.22399	.43864	.46197	.74662	1.06860	1.07793	1.15259	1.33458	1.97387
0	4.555E-05	3.902E-05	3.313E-05	2.929E-05	2.120E-05	1.427E-05	1.420E-05	1.413E-05	8.282E-06	6.115E-06
	49.131	51.101	51.680	69.293	77.868	78.447	82.387	82.851	84.589	87.833
	1.97853	2.05786	2.08119	2.79048	3.13579	3.15912	3.31778	3.33644	3.40644	3.53710
0	3.567E-06	2.604E-06	2.378E-06	1.116E-06	6.510E-07	4.340E-07				
	89.455	90.151	90.267	96.756	99.652	100.000				
	3.60243	3.63042	3.63509	3.89641	4.01307	4.02706				

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .438
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.067
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.972
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.788
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 3.133
 BACK EXTRAPOLATION FOR 1 PERCENTILE.
 BACK EXTRAPOLATION FOR 3 PERCENTILE.

3.273E-04	.040	1.000
2.188E-04	.121	3.000
1.791E-04	.201	5.000
1.344E-04	.403	10.000

1.079E-04	.604	15.000	
9.109E-05	.805	20.000	
7.953E-05	1.007	25.000	
7.037E-05	1.208	30.000	
6.308E-05	1.409	35.000	
5.726E-05	1.611	40.000	
5.250E-05	1.812	45.000	
4.784E-05	2.014	50.000	
4.156E-05	2.215	55.000	
3.648E-05	2.416	60.000	
3.231E-05	2.618	65.000	
2.848E-05	2.819	70.000	
2.354E-05	3.020	75.000	
0	1.203E-04	0.5	12.42

0ANNUAL AVERAGE = 1.49E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0SITE EXCLUSION BOUNDARY CALCULATIONS:

0 W SECTOR BOUNDARY DISTANCE = 1025.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	1.946E-04	1.659E-04	1.295E-04	1.035E-04	9.346E-05	7.665E-05	6.899E-05	6.832E-05	5.340E-05	4.925E-05
	4.617	6.596	13.456	13.984	17.810	28.628	29.156	30.607	37.731	55.013
	.16332	.23332	.47597	.49463	.62996	1.01260	1.03126	1.08259	1.33458	1.94587
0	3.902E-05	3.313E-05	2.929E-05	2.120E-05	1.427E-05	1.420E-05	1.413E-05	8.282E-06	6.115E-06	5.521E-06
	56.332	56.992	76.121	80.739	81.530	83.773	83.905	84.565	86.939	87.071
	1.99253	2.01587	2.69249	2.85581	2.88381	2.96314	2.96780	2.99113	3.07513	3.07979
0	3.567E-06	2.604E-06	2.378E-06	1.116E-06	6.510E-07	4.340E-07				
	87.863	88.259	88.522	96.702	99.604	100.000				
	3.10779	3.12179	3.13112	3.42044	3.52310	3.53710				

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .475
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.944
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.690
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.853
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 2.965
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

BACK EXTRAPOLATION FOR 3 PERCENTILE.

3.273E-04	.035	1.000
2.268E-04	.106	3.000
1.891E-04	.177	5.000
1.456E-04	.354	10.000
1.209E-04	.531	15.000
1.003E-04	.707	20.000
8.645E-05	.884	25.000
7.630E-05	1.061	30.000
6.850E-05	1.238	35.000
6.228E-05	1.415	40.000
5.718E-05	1.592	45.000
5.290E-05	1.769	50.000
4.926E-05	1.945	55.000
4.298E-05	2.122	60.000
3.784E-05	2.299	65.000
3.358E-05	2.476	70.000
3.001E-05	2.653	75.000
2.230E-05	2.830	80.000
0 1.255E-04	0.5	14.14

0ANNUAL AVERAGE = 1.51E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0SITE EXCLUSION BOUNDARY CALCULATIONS:

0 WNW SECTOR BOUNDARY DISTANCE = 1025.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	1.946E-04	1.659E-04	1.295E-04	9.346E-05	7.665E-05	6.832E-05	5.340E-05	4.925E-05	3.902E-05	3.313E-05
	3.686	3.924	9.988	11.891	24.257	24.376	32.818	50.297	51.724	52.794
	.14466	.15399	.39197	.46664	.95194	.95660	1.28791	1.97387	2.02986	2.07186
0	2.929E-05	2.120E-05	1.427E-05	1.420E-05	1.413E-05	8.282E-06	6.115E-06	3.567E-06	2.604E-06	2.378E-06
	73.841	80.618	82.045	84.423	84.661	85.612	87.515	87.634	88.704	88.823
	2.89781	3.16379	3.21979	3.31311	3.32245	3.35978	3.43444	3.43910	3.48110	3.48577
0	1.116E-06	6.510E-07								
	98.573	100.000								
	3.86841	3.92440								

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .392
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.972
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.895
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 3.161
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 3.319
 BACK EXTRAPOLATION FOR 1 PERCENTILE.
 BACK EXTRAPOLATION FOR 3 PERCENTILE.

3.153E-04	.039	1.000
2.107E-04	.118	3.000
1.725E-04	.196	5.000
1.294E-04	.392	10.000
1.033E-04	.589	15.000
8.753E-05	.785	20.000
7.665E-05	.981	25.000
6.857E-05	1.177	30.000
6.228E-05	1.374	35.000
5.720E-05	1.570	40.000
5.300E-05	1.766	45.000
4.944E-05	1.962	50.000
4.376E-05	2.158	55.000
3.894E-05	2.355	60.000
3.493E-05	2.551	65.000
3.155E-05	2.747	70.000
2.767E-05	2.943	75.000
2.181E-05	3.140	80.000
0 1.133E-04	0.5	12.74

0 ANNUAL AVERAGE = 1.61E-06

1 USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0 SITE EXCLUSION BOUNDARY CALCULATIONS:

0 NW SECTOR BOUNDARY DISTANCE = 1025.0 METERS

0 LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

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

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

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

0 1.946E-04	1.659E-04	1.295E-04	9.346E-05	7.665E-05	6.832E-05	5.340E-05	4.925E-05	3.902E-05	3.313E-05
2.082	3.247	7.410	13.988	21.316	21.565	24.563	41.549	46.295	46.794
.11666	.18199	.41531	.78395	1.19459	1.20859	1.37657	2.32851	2.59449	2.62249
0 2.929E-05	2.601E-05	2.120E-05	1.427E-05	1.420E-05	1.413E-05	8.282E-06	6.115E-06	5.521E-06	3.567E-06
63.614	64.030	74.688	75.853	78.684	80.766	82.348	85.512	86.095	87.094
3.56510	3.58843	4.18572	4.25105	4.40971	4.52636	4.61503	4.79235	4.82501	4.88101
0 2.604E-06	2.378E-06	1.116E-06	6.510E-07	4.340E-07	3.255E-07				
88.093	88.260	95.670	99.167	99.917	100.000				
4.93700	4.94634	5.36164	5.55763	5.59963	5.60429				

0 X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE

ORDERED X/Q-FREQUENCY VALUES, AND AS
 PLOTTED ON A LOG-NORMAL GRAPH.)
 0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .415
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.193
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.326
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 3.562
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 4.182
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 4.523
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 4.789
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

2.414E-04	.056	1.000
1.739E-04	.168	3.000
1.477E-04	.280	5.000
1.123E-04	.560	10.000
9.194E-05	.841	15.000
7.927E-05	1.121	20.000
6.923E-05	1.401	25.000
6.144E-05	1.681	30.000
5.541E-05	1.962	35.000
5.057E-05	2.242	40.000
4.481E-05	2.522	45.000
3.947E-05	2.802	50.000
3.513E-05	3.082	55.000
3.153E-05	3.363	60.000
2.806E-05	3.643	65.000
2.418E-05	3.923	70.000
2.075E-05	4.203	75.000
1.485E-05	4.483	80.000
6.681E-06	4.764	85.000
0	1.187E-04	0.5
		8.92

0ANNUAL AVERAGE = 1.71E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0SITE EXCLUSION BOUNDARY CALCULATIONS:

0 NNW SECTOR BOUNDARY DISTANCE = 1025.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	1.946E-04	1.659E-04	1.295E-04	9.346E-05	7.665E-05	6.832E-05	5.340E-05	4.925E-05	3.902E-05	3.313E-05
	1.254	2.031	4.958	10.215	14.337	14.934	17.384	37.575	46.416	46.953
	.09799	.15866	.38731	.79795	1.11993	1.16659	1.35791	2.93514	3.62576	3.66776

0	2.929E-05	2.601E-05	2.120E-05	1.951E-05	1.427E-05	1.420E-05	1.413E-05	1.060E-05	8.282E-06	6.115E-06
	60.514	61.350	75.508	75.627	76.045	77.838	81.661	81.840	83.752	85.902
	4.72702	4.79235	5.89827	5.90761	5.94027	6.08026	6.37891	6.39291	6.54223	6.71022
0	5.521E-06	4.141E-06	3.567E-06	2.604E-06	2.378E-06	1.783E-06	1.116E-06	6.510E-07	4.340E-07	3.255E-07
	86.499	86.559	88.530	89.665	90.681	90.800	96.416	98.327	99.821	99.940
	6.75688	6.76155	6.91554	7.00420	7.08353	7.09286	7.53150	7.68082	7.79748	7.80681
0	2.604E-07									
	100.000									
	7.81148									

0 X/Q PERCENTILES
 (BASED ON THE UPPER ENVELOPE OF THE
 ORDERED X/Q-FREQUENCY VALUES, AND AS
 PLOTTED ON A LOG-NORMAL GRAPH.)
 0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 2.932
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 4.723
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 5.894
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 6.375
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 7.528
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

2.072E-04	.078	1.000
1.512E-04	.234	3.000
1.291E-04	.391	5.000
9.528E-05	.781	10.000
7.884E-05	1.172	15.000
6.850E-05	1.562	20.000
6.117E-05	1.953	25.000
5.561E-05	2.343	30.000
5.120E-05	2.734	35.000
4.612E-05	3.125	40.000
4.067E-05	3.515	45.000
3.626E-05	3.906	50.000
3.263E-05	4.296	55.000
2.957E-05	4.687	60.000
2.643E-05	5.077	65.000
2.372E-05	5.468	70.000
2.141E-05	5.859	75.000
1.573E-05	6.249	80.000
7.726E-06	6.640	85.000
3.235E-06	7.030	90.000
0 1.161E-04	0.5	6.40

0ANNUAL AVERAGE = 1.93E-06
 1USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145
 0SITE EXCLUSION BOUNDARY CALCULATIONS:
 0 N SECTOR BOUNDARY DISTANCE = 1025.0 METERS

OLATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

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

0	1.946E-04	1.659E-04	1.295E-04	9.346E-05	7.665E-05	6.832E-05	5.340E-05	4.925E-05	3.902E-05	3.313E-05
	.820	1.600	3.445	7.055	9.598	10.541	11.444	27.153	39.910	40.238
	.09333	.18199	.39197	.80261	1.09193	1.19925	1.30191	3.08913	4.54036	4.57769
0	2.929E-05	2.733E-05	2.601E-05	2.120E-05	1.951E-05	1.427E-05	1.420E-05	1.413E-05	1.060E-05	8.282E-06
	47.211	47.252	51.313	65.546	66.284	66.776	68.171	75.390	77.194	79.532
	5.37097	5.37564	5.83761	7.45684	7.54083	7.59683	7.75548	8.57676	8.78208	9.04806
0	6.115E-06	5.521E-06	4.141E-06	3.567E-06	2.604E-06	2.378E-06	1.783E-06	1.427E-06	1.116E-06	6.510E-07
	81.665	82.527	82.855	84.619	84.865	86.013	86.300	86.341	91.591	96.924
	9.29071	9.38871	9.42604	9.62669	9.65469	9.78535	9.81801	9.82268	10.41997	11.02660
0	4.340E-07	3.255E-07								
	99.672	100.000								
	11.33924	11.37657								

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 3.086
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 4.537
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 7.453
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 8.573
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 9.045

	1.858E-04	.114	1.000
	1.356E-04	.341	3.000
	1.108E-04	.569	5.000
	8.127E-05	1.138	10.000
	6.691E-05	1.706	15.000
	5.788E-05	2.275	20.000
	5.149E-05	2.844	25.000
	4.644E-05	3.413	30.000
	4.232E-05	3.982	35.000
	3.892E-05	4.551	40.000
	3.386E-05	5.119	45.000
	2.981E-05	5.688	50.000
	2.650E-05	6.257	55.000
	2.375E-05	6.826	60.000
	2.143E-05	7.395	65.000
	1.755E-05	7.964	70.000
	1.435E-05	8.532	75.000
0	1.170E-04	0.5	4.39

0ANNUAL AVERAGE = 2.10E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site
 DATA PERIOD: 1/1/00-8/31/02

METEOROLOGICAL INSTRUMENTATION
 WIND SENSORS HEIGHT: Sensor Height 10.0 M

TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS

SOURCE OF DATA: Data Source Clinton Power Station Met Data System

COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS

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

OSITE EXCLUSION BOUNDARY CALCULATIONS:

0 NNE SECTOR BOUNDARY DISTANCE = 1025.0 METERS

OLATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	1.946E-04	1.659E-04	1.295E-04	9.346E-05	7.665E-05	6.832E-05	5.340E-05	4.925E-05	3.902E-05	3.313E-05
	1.041	1.630	4.301	9.099	12.177	13.083	14.531	28.112	41.919	42.146
	.10733	.16799	.44330	.93794	1.25525	1.34858	1.49790	2.89781	4.32104	4.34438
0	2.929E-05	2.601E-05	2.120E-05	1.951E-05	1.427E-05	1.420E-05	1.413E-05	1.060E-05	8.282E-06	6.115E-06
	49.796	52.558	66.999	67.270	67.632	68.719	76.732	77.818	79.810	82.028
	5.13299	5.41764	6.90621	6.93420	6.97153	7.08353	7.90947	8.02146	8.22678	8.45543
0	5.521E-06	4.141E-06	3.567E-06	2.604E-06	2.378E-06	1.783E-06	1.116E-06	6.510E-07	4.340E-07	3.255E-07
	82.933	83.115	85.604	85.785	87.641	87.732	91.489	97.329	99.955	100.000
	8.54876	8.56743	8.82408	8.84274	9.03406	9.04340	9.43070	10.03266	10.30331	10.30798

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .937
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 4.318
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 6.902
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 7.906
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 8.545
BACK EXTRAPOLATION FOR 1 PERCENTILE.

1.967E-04	.103	1.000
1.444E-04	.309	3.000
1.216E-04	.515	5.000
8.903E-05	1.031	10.000
7.177E-05	1.546	15.000
6.112E-05	2.062	20.000
5.370E-05	2.577	25.000
4.814E-05	3.092	30.000
4.377E-05	3.608	35.000
4.021E-05	4.123	40.000
3.571E-05	4.639	45.000
3.124E-05	5.154	50.000
2.760E-05	5.669	55.000
2.460E-05	6.185	60.000
2.209E-05	6.700	65.000
1.862E-05	7.216	70.000
1.514E-05	7.731	75.000
8.553E-06	8.246	80.000
0 1.231E-04	0.5	4.85

0ANNUAL AVERAGE = 2.12E-06
1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
SOURCE OF DATA: Data Source Clinton Power Station Met Data System
COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0SITE EXCLUSION BOUNDARY CALCULATIONS:

0 NE SECTOR BOUNDARY DISTANCE = 1025.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	1.946E-04	1.659E-04	1.295E-04	1.035E-04	9.346E-05	7.665E-05	6.899E-05	6.832E-05	5.340E-05	4.925E-05
	1.826	3.262	6.132	6.393	12.133	15.590	15.851	16.960	19.439	31.507
	.13066	.23332	.43864	.45730	.86794	1.11526	1.13392	1.21325	1.39057	2.25385
0	4.555E-05	3.902E-05	3.313E-05	2.929E-05	2.601E-05	2.120E-05	1.427E-05	1.420E-05	1.413E-05	1.060E-05
	31.768	39.922	40.574	49.902	51.598	61.774	62.361	64.514	67.776	68.363
	2.27252	2.85581	2.90247	3.56976	3.69109	4.41904	4.46104	4.61503	4.84834	4.89034
0	8.478E-06	8.282E-06	6.115E-06	5.521E-06	4.141E-06	3.567E-06	2.604E-06	2.378E-06	1.783E-06	1.116E-06
	68.428	71.755	74.886	75.930	76.060	80.952	81.409	82.518	82.648	88.845
	4.89501	5.13299	5.35698	5.43164	5.44097	5.79095	5.82361	5.90294	5.91227	6.35558
0	6.510E-07	4.340E-07	3.255E-07							
	96.217	99.870	100.000							
	6.88288	7.14419	7.15352							

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .438
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= .867
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.252
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 2.853
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 3.567
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 4.416
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (9)= 4.845
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (10)= 5.787
BACK EXTRAPOLATION FOR 1 PERCENTILE.

2.278E-04	.072	1.000
1.699E-04	.215	3.000
1.406E-04	.358	5.000
1.028E-04	.715	10.000
8.163E-05	1.073	15.000
6.753E-05	1.431	20.000
5.799E-05	1.788	25.000
5.101E-05	2.146	30.000

4.446E-05	2.504	35.000
3.892E-05	2.861	40.000
3.350E-05	3.219	45.000
2.920E-05	3.577	50.000
2.532E-05	3.934	55.000
2.217E-05	4.292	60.000
1.698E-05	4.650	65.000
1.104E-05	5.007	70.000
6.487E-06	5.365	75.000
3.916E-06	5.723	80.000
0 1.219E-04	0.5	6.99

0ANNUAL AVERAGE = 1.66E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0SITE EXCLUSION BOUNDARY CALCULATIONS:

0 ENE SECTOR BOUNDARY DISTANCE = 1025.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	1.946E-04	1.659E-04	1.295E-04	1.035E-04	9.346E-05	7.665E-05	6.899E-05	6.832E-05	5.340E-05	5.175E-05
	3.026	4.888	8.689	8.922	14.585	18.697	19.007	21.334	22.886	22.964
	.18199	.29398	.52263	.53663	.87727	1.12459	1.14326	1.28325	1.37657	1.38124
0	4.925E-05	4.555E-05	3.902E-05	3.416E-05	3.313E-05	2.929E-05	2.601E-05	2.120E-05	1.951E-05	1.427E-05
	34.833	35.842	42.281	42.514	42.979	50.427	51.746	63.848	63.926	64.469
	2.09519	2.15586	2.54316	2.55716	2.58516	3.03313	3.11246	3.84041	3.84508	3.87774
0	1.420E-05	1.413E-05	1.060E-05	8.478E-06	8.282E-06	6.115E-06	5.521E-06	4.141E-06	3.567E-06	3.313E-06
	66.175	71.606	73.468	73.545	76.726	79.054	80.838	81.846	86.113	86.191
	3.98040	4.30705	4.41904	4.42370	4.61503	4.75502	4.86234	4.92301	5.17966	5.18432
0	2.604E-06	2.378E-06	1.783E-06	1.427E-06	1.116E-06	6.510E-07	4.340E-07	3.255E-07	2.604E-07	
	86.656	88.363	88.596	88.673	91.621	96.587	99.535	99.845	100.000	
	5.21232	5.31498	5.32898	5.33365	5.51097	5.80961	5.98693	6.00560	6.01493	

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (2)=	.294
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (3)=	.522
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (4)=	.876
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (5)=	2.093
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (6)=	2.541
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (7)=	3.837

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(8)= 4.304
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(9)= 5.176
 BACK EXTRAPOLATION FOR 1 PERCENTILE.
 BACK EXTRAPOLATION FOR 3 PERCENTILE.

2.743E-04	.060	1.000
1.951E-04	.180	3.000
1.643E-04	.301	5.000
1.188E-04	.601	10.000
9.166E-05	.902	15.000
7.473E-05	1.203	20.000
6.344E-05	1.504	25.000
5.528E-05	1.804	30.000
4.897E-05	2.105	35.000
4.174E-05	2.406	40.000
3.568E-05	2.707	45.000
3.060E-05	3.007	50.000
2.657E-05	3.308	55.000
2.331E-05	3.609	60.000
1.991E-05	3.910	65.000
1.532E-05	4.210	70.000
1.005E-05	4.511	75.000
6.217E-06	4.812	80.000
3.937E-06	5.113	85.000
0 1.321E-04	0.5	8.31

0 ANNUAL AVERAGE = 1.59E-06

LUSNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

OSITE EXCLUSION BOUNDARY CALCULATIONS:

0 E SECTOR BOUNDARY DISTANCE = 1025.0 METERS

OLATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

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

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

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

0	1.946E-04	1.659E-04	1.295E-04	9.346E-05	7.665E-05	6.832E-05	5.340E-05	4.925E-05	4.555E-05	3.902E-05
	2.317	3.171	5.915	10.305	12.683	12.988	14.939	23.902	24.024	30.549
	.17732	.24265	.45264	.78861	.97060	.99393	1.14326	1.82921	1.83854	2.33784
0	3.313E-05	2.929E-05	2.601E-05	2.120E-05	1.951E-05	1.427E-05	1.420E-05	1.413E-05	1.060E-05	8.478E-06
	30.671	39.939	41.890	57.866	57.927	58.110	59.939	71.341	73.659	74.024
	2.34718	3.05646	3.20579	4.42837	4.43304	4.44704	4.58703	5.45964	5.63696	5.66495
0	8.282E-06	6.115E-06	5.521E-06	4.141E-06	3.567E-06	3.313E-06	2.604E-06	2.378E-06	1.783E-06	1.427E-06
	77.012	79.268	81.037	81.341	84.451	84.512	84.695	86.220	86.707	86.951
	5.89361	6.06626	6.20159	6.22492	6.46290	6.46757	6.48157	6.59823	6.63556	6.65422
0	1.116E-06	6.510E-07	4.340E-07	3.255E-07	2.604E-07					
	89.146	94.268	98.720	99.817	100.000					
	6.82221	7.21418	7.55483	7.63882	7.65282					
0										

X/Q PERCENTILES

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

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .452
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .788
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.827
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 4.425
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 5.456
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 5.890
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

2.725E-04	.077	1.000
1.746E-04	.230	3.000
1.397E-04	.383	5.000
9.518E-05	.765	10.000
7.085E-05	1.148	15.000
5.676E-05	1.531	20.000
4.732E-05	1.913	25.000
4.012E-05	2.296	30.000
3.476E-05	2.678	35.000
3.061E-05	3.061	40.000
2.730E-05	3.444	45.000
2.459E-05	3.826	50.000
2.233E-05	4.209	55.000
1.978E-05	4.592	60.000
1.696E-05	4.974	65.000
1.467E-05	5.357	70.000
9.974E-06	5.740	75.000
0 1.223E-04	0.5	6.53

0ANNUAL AVERAGE = 1.64E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

OSITE EXCLUSION BOUNDARY CALCULATIONS:

0 ESE SECTOR BOUNDARY DISTANCE = 1025.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	1.946E-04	1.659E-04	1.295E-04	9.346E-05	7.665E-05	6.832E-05	5.340E-05	4.925E-05	3.902E-05	3.313E-05
	2.805	4.146	6.463	9.451	11.280	12.012	13.780	22.988	28.415	28.841
	.21465	.31731	.49463	.72329	.86328	.91927	1.05460	1.75922	2.17452	2.20719
0	2.929E-05	2.601E-05	2.120E-05	1.951E-05	1.427E-05	1.420E-05	1.413E-05	1.060E-05	8.282E-06	6.115E-06
	37.195	37.622	55.671	55.793	56.037	58.354	70.244	72.378	75.366	77.683

	2.84648	2.87914	4.26038	4.26972	4.28838	4.46570	5.37564	5.53896	5.76762	5.94494
0	5.521E-06	4.141E-06	3.567E-06	3.313E-06	2.604E-06	2.378E-06	1.783E-06	1.116E-06	6.510E-07	4.340E-07
	80.793	81.524	84.878	84.939	85.000	86.402	86.829	89.268	93.963	98.780
	6.18292	6.23892	6.49557	6.50023	6.50490	6.61223	6.64489	6.83154	7.19085	7.55949
0	3.255E-07									
	100.000									
	7.65282									

0 X/Q PERCENTILES
 (BASED ON THE UPPER ENVELOPE OF THE
 ORDERED X/Q-FREQUENCY VALUES, AND AS
 PLOTTED ON A LOG-NORMAL GRAPH.)
 0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .317
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .494
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.757
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 4.257
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 5.372
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 6.179
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

	2.888E-04	.077	1.000
	1.894E-04	.230	3.000
	1.497E-04	.383	5.000
	9.447E-05	.765	10.000
	6.940E-05	1.148	15.000
	5.520E-05	1.531	20.000
	4.570E-05	1.913	25.000
	3.870E-05	2.296	30.000
	3.350E-05	2.678	35.000
	2.948E-05	3.061	40.000
	2.627E-05	3.444	45.000
	2.365E-05	3.826	50.000
	2.146E-05	4.209	55.000
	1.864E-05	4.592	60.000
	1.621E-05	4.974	65.000
	1.422E-05	5.357	70.000
	9.132E-06	5.740	75.000
	5.905E-06	6.122	80.000
0	1.285E-04	0.5	6.53

0ANNUAL AVERAGE = 1.63E-06
 1USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145
 0SITE EXCLUSION BOUNDARY CALCULATIONS:
 0 SE SECTOR BOUNDARY DISTANCE = 1025.0 METERS
 0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1
 OBELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

0	1.946E-04	1.659E-04	1.295E-04	1.035E-04	9.346E-05	7.665E-05	6.832E-05	5.340E-05	4.925E-05	4.555E-05
	3.017	6.770	9.124	9.492	14.717	16.924	17.734	19.647	27.888	27.962
	.19132	.42930	.57863	.60196	.93327	1.07326	1.12459	1.24592	1.76855	1.77321
0	3.902E-05	3.313E-05	2.929E-05	2.601E-05	2.120E-05	1.951E-05	1.427E-05	1.420E-05	1.413E-05	1.060E-05
	30.243	30.831	42.163	42.899	60.854	61.001	61.148	63.797	72.112	72.848
	1.91787	1.95520	2.67382	2.72048	3.85908	3.86841	3.87774	4.04573	4.57303	4.61969
0	8.282E-06	6.115E-06	5.521E-06	4.141E-06	3.567E-06	2.604E-06	2.378E-06	1.783E-06	1.116E-06	6.510E-07
	75.497	78.146	80.206	80.648	84.842	85.063	86.240	86.387	89.330	95.585
	4.78768	4.95567	5.08633	5.11433	5.38031	5.39431	5.46897	5.47830	5.66496	6.06160
0	4.340E-07	3.255E-07								
	99.338	100.000								
	6.29958	6.34158								

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

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3) = .932
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4) = 1.767
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5) = 3.856
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6) = 4.569
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7) = 5.377
 BACK EXTRAPOLATION FOR 1 PERCENTILE.
 BACK EXTRAPOLATION FOR 3 PERCENTILE.

	2.377E-04	.063	1.000
	1.948E-04	.190	3.000
	1.764E-04	.317	5.000
	1.252E-04	.634	10.000
	9.176E-05	.951	15.000
	6.920E-05	1.268	20.000
	5.518E-05	1.585	25.000
	4.571E-05	1.902	30.000
	3.895E-05	2.220	35.000
	3.380E-05	2.537	40.000
	2.975E-05	2.854	45.000
	2.649E-05	3.171	50.000
	2.380E-05	3.488	55.000
	2.154E-05	3.805	60.000
	1.814E-05	4.122	65.000
	1.518E-05	4.439	70.000
	1.017E-05	4.756	75.000
	5.898E-06	5.073	80.000
0	1.488E-04	0.5	7.88

0ANNUAL AVERAGE = 1.53E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site
 DATA PERIOD: 1/1/00-8/31/02

METEOROLOGICAL INSTRUMENTATION
 WIND SENSORS HEIGHT: Sensor Height 10.0 M

TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS

SOURCE OF DATA: Data Source Clinton Power Station Met Data System

COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS

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

OSITE EXCLUSION BOUNDARY CALCULATIONS:

0 SSE SECTOR BOUNDARY DISTANCE = 1025.0 METERS

OLATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	1.946E-04	1.659E-04	1.295E-04	1.035E-04	9.346E-05	7.665E-05	6.832E-05	5.340E-05	4.925E-05	4.555E-05
	1.928	2.828	4.627	4.884	7.841	10.797	11.568	14.267	25.964	26.478
	.07000	.10266	.16799	.17732	.28465	.39197	.41997	.51797	.94260	.96127
0	3.902E-05	3.313E-05	2.929E-05	2.601E-05	2.120E-05	1.420E-05	1.413E-05	1.060E-05	8.282E-06	6.115E-06
	32.262	32.648	48.201	49.871	70.051	74.550	79.177	79.692	82.905	84.704
	1.17126	1.18525	1.74988	1.81055	2.54316	2.70649	2.87448	2.89314	3.00980	3.07513
0	5.521E-06	4.141E-06	3.567E-06	2.604E-06	2.378E-06	1.783E-06	1.116E-06	6.510E-07	4.340E-07	3.255E-07
	86.118	86.247	88.946	89.075	89.846	90.231	92.416	96.915	99.357	100.000
	3.12646	3.13112	3.22912	3.23378	3.26178	3.27578	3.35511	3.51843	3.60709	3.63042

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .103
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .941
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.541
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.872
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 3.124
BACK EXTRAPOLATION FOR 1 PERCENTILE.

2.530E-04	.036	1.000
1.611E-04	.109	3.000
1.244E-04	.182	5.000
8.591E-05	.363	10.000
6.832E-05	.545	15.000
5.770E-05	.726	20.000
5.041E-05	.908	25.000
4.387E-05	1.089	30.000
3.868E-05	1.271	35.000
3.462E-05	1.452	40.000
3.133E-05	1.634	45.000
2.861E-05	1.815	50.000
2.633E-05	1.997	55.000
2.438E-05	2.178	60.000
2.269E-05	2.360	65.000
2.121E-05	2.541	70.000
1.693E-05	2.723	75.000
1.260E-05	2.904	80.000
6.396E-06	3.086	85.000

0 7.175E-05 0.5 13.77
 0ANNUAL AVERAGE = 8.09E-07
 IUSNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

OSITE EXCLUSION BOUNDARY CALCULATIONS:

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.
 MINIMUM BOUNDARY DISTANCE = 1025.0 METERS.
 BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

0	4.140E-04	2.733E-04	1.774E-04	1.561E-04	1.171E-04	1.035E-04	8.478E-05	6.899E-05	6.832E-05	6.689E-05
	2.571	5.903	7.564	11.703	16.636	16.752	19.253	19.323	20.168	33.280
	2.57116	5.90294	7.56416	11.70322	16.63556	16.75222	19.25338	19.32338	20.16799	33.28045
0	5.175E-05	4.555E-05	4.140E-05	3.902E-05	3.634E-05	3.416E-05	3.313E-05	2.733E-05	2.601E-05	2.120E-05
	33.285	33.406	33.420	40.028	51.685	51.699	52.142	52.184	53.532	67.653
	33.28511	33.40644	33.42044	40.02800	51.68456	51.69855	52.14186	52.18385	53.53243	67.65282
0	1.951E-05	1.561E-05	1.427E-05	1.420E-05	1.413E-05	1.060E-05	8.478E-06	8.282E-06	6.115E-06	5.521E-06
	67.802	67.830	68.273	70.481	76.379	77.354	77.396	79.837	82.277	83.509
	67.80214	67.83014	68.27345	70.48064	76.37891	77.35417	77.39617	79.83668	82.27719	83.50911
0	4.141E-06	3.567E-06	3.313E-06	2.604E-06	2.378E-06	1.783E-06	1.427E-06	1.116E-06	6.510E-07	4.340E-07
	83.812	86.416	86.430	86.827	87.891	88.068	88.096	92.482	97.158	99.636
	83.81242	86.41624	86.43024	86.82688	87.89081	88.06813	88.09613	92.48251	97.15819	99.63602
0	3.255E-07	2.604E-07								
	99.972	100.000								
	99.97200	100.00000								

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

6.226E-04	1.000	1.000
3.850E-04	3.000	3.000
2.985E-04	5.000	5.000
1.925E-04	10.000	10.000
1.419E-04	15.000	15.000
1.113E-04	20.000	20.000
9.043E-05	25.000	25.000
7.502E-05	30.000	30.000
6.297E-05	35.000	35.000
5.313E-05	40.000	40.000
4.508E-05	45.000	45.000
3.836E-05	50.000	50.000
3.262E-05	55.000	55.000

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(2)= 5.899
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

4.712E-05	35.000	35.000
4.157E-05	40.000	40.000
3.684E-05	45.000	45.000
3.271E-05	50.000	50.000
2.904E-05	55.000	55.000
2.574E-05	60.000	60.000
2.271E-05	65.000	65.000
1.912E-05	70.000	70.000
1.513E-05	75.000	75.000
1.192E-05	80.000	80.000
9.111E-06	85.000	85.000
6.496E-06	90.000	90.000
0 1.550E-04	5.0	5.00

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0

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

DOWNWIND DISTANCE SECTOR (METERS)	HOURS PER YEAR MAX						EXCEEDED IN SECTOR	DOWNWIND SECTOR
	0-2 HOURS	0-8 HOURS	8-24 HOURS	1-4 DAYS	4-30 DAYS	ANNUAL AVERAGE		
S 1025.	6.81E-05	3.24E-05	2.23E-05	9.97E-06	3.13E-06	7.59E-07	6.6	S
SSW 1025.	1.60E-04	7.43E-05	5.06E-05	2.19E-05	6.62E-06	1.53E-06	26.6	SSW
SW 1025.	1.85E-04	9.09E-05	6.37E-05	2.95E-05	9.79E-06	2.53E-06	43.7	SW
WSW 1025.	1.20E-04	5.82E-05	4.05E-05	1.84E-05	5.95E-06	1.49E-06	16.3	WSW
W 1025.	1.26E-04	6.05E-05	4.20E-05	1.90E-05	6.09E-06	1.51E-06	16.5	W
WNW 1025.	1.13E-04	5.61E-05	3.95E-05	1.84E-05	6.16E-06	1.61E-06	14.5	WNW
NW 1025.	1.19E-04	5.88E-05	4.14E-05	1.94E-05	6.50E-06	1.71E-06	12.1	NW
NNW 1025.	1.16E-04	5.90E-05	4.21E-05	2.02E-05	7.03E-06	1.93E-06	10.3	NNW
N 1025.	1.17E-04	6.02E-05	4.32E-05	2.10E-05	7.46E-06	2.10E-06	10.2	N
NNE 1025.	1.23E-04	6.29E-05	4.49E-05	2.17E-05	7.61E-06	2.12E-06	11.4	NNE
NE 1025.	1.22E-04	5.99E-05	4.20E-05	1.95E-05	6.44E-06	1.66E-06	13.9	NE
ENE 1025.	1.32E-04	6.36E-05	4.42E-05	2.00E-05	6.41E-06	1.59E-06	18.7	ENE
E 1025.	1.22E-04	6.00E-05	4.20E-05	1.94E-05	6.39E-06	1.64E-06	17.6	E
ESE 1025.	1.29E-04	6.24E-05	4.35E-05	1.99E-05	6.44E-06	1.63E-06	21.4	ESE
SE 1025.	1.49E-04	6.98E-05	4.78E-05	2.10E-05	6.46E-06	1.53E-06	22.0	SE
SSE 1025.	7.18E-05	3.42E-05	2.36E-05	1.06E-05	3.32E-06	8.09E-07	7.0	SSE
MAX X/Q	1.85E-04					TOTAL HOURS AROUND SITE:	268.9	
SRP 2.3.4 1025.	2.99E-04	1.36E-04	9.15E-05	3.89E-05	1.14E-05	2.53E-06		
SITE LIMIT	1.55E-04	7.85E-05	5.59E-05	2.67E-05	9.26E-06	2.53E-06		

00.5 PERCENT X/Q TO AN INDIVIDUAL IS LIMITING.
 0**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.

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M

TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS

SOURCE OF DATA: Data Source Clinton Power Station Met Data System

COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS

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

LOW POPULATION ZONE CALCULATIONS:

0 S SECTOR BOUNDARY DISTANCE = 4018.0 METERS

OLATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	6.126E-05	3.945E-05	3.386E-05	1.901E-05	1.866E-05	1.703E-05	1.332E-05	1.120E-05	9.307E-06	8.877E-06
	1.897	2.846	5.420	9.079	9.214	11.247	11.382	11.789	14.499	14.634
	.06533	.09799	.18665	.31265	.31731	.38731	.39197	.40597	.49930	.50397
0	8.812E-06	6.030E-06	5.326E-06	4.398E-06	2.901E-06	2.821E-06	1.882E-06	1.412E-06	1.243E-06	9.577E-07
	23.442	26.423	26.965	43.767	44.038	66.531	73.442	73.577	76.423	76.694
	.80728	.90994	.92860	1.50723	1.51657	2.29118	2.52916	2.53383	2.63182	2.64116
0	7.253E-07	4.835E-07	4.104E-07	3.607E-07	2.394E-07	1.596E-07	1.546E-07	1.197E-07	9.017E-08	6.012E-08
	80.759	82.791	85.908	86.179	89.295	90.921	92.954	93.089	97.696	99.864
	2.78115	2.85114	2.95847	2.96780	3.07513	3.13112	3.20112	3.20579	3.36444	3.43910
0	4.509E-08									
	100.000									
	3.44377									

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .186
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .806
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.289
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.527
BACK EXTRAPOLATION FOR 1 PERCENTILE.

8.590E-05	.034	1.000
4.759E-05	.103	3.000
3.551E-05	.172	5.000
1.977E-05	.344	10.000
1.359E-05	.517	15.000
1.031E-05	.689	20.000
8.251E-06	.861	25.000
6.828E-06	1.033	30.000
5.798E-06	1.205	35.000
5.018E-06	1.378	40.000
4.408E-06	1.550	45.000
3.918E-06	1.722	50.000
3.517E-06	1.894	55.000
3.182E-06	2.066	60.000
2.899E-06	2.238	65.000
2.293E-06	2.411	70.000
0 1.401E-05	0.5	14.52

0ANNUAL AVERAGE = 1.02E-07
1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
SOURCE OF DATA: Data Source Clinton Power Station Met Data System
COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

0 SSW SECTOR BOUNDARY DISTANCE = 4018.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	6.126E-05	3.945E-05	3.386E-05	2.799E-05	1.901E-05	1.703E-05	1.332E-05	9.307E-06	8.812E-06	6.030E-06
	5.428	10.647	15.136	15.240	22.860	26.514	27.244	29.645	38.205	41.232
	.24265	.47597	.67662	.68129	1.02193	1.18525	1.21792	1.32524	1.70789	1.84321
0	5.326E-06	4.398E-06	4.020E-06	2.901E-06	2.821E-06	2.412E-06	1.882E-06	1.412E-06	1.243E-06	1.129E-06
	41.336	55.010	55.428	55.637	75.052	75.365	80.898	81.837	83.507	83.612
	1.84788	2.45917	2.47783	2.48717	3.35511	3.36911	3.61643	3.65842	3.73308	3.73775
0	7.253E-07	4.835E-07	4.104E-07	3.627E-07	2.394E-07	1.596E-07	1.546E-07	1.197E-07	9.017E-08	6.012E-08
	87.265	88.935	90.710	91.545	94.572	95.094	95.720	95.825	98.747	100.000
	3.90107	3.97573	4.05506	4.09239	4.22772	4.25105	4.27905	4.28371	4.41437	4.47037

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .676
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.184
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 3.352
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 3.613
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 3.898
BACK EXTRAPOLATION FOR 1 PERCENTILE.
BACK EXTRAPOLATION FOR 3 PERCENTILE.
BACK EXTRAPOLATION FOR 5 PERCENTILE.

1.451E-04	.045	1.000
8.406E-05	.134	3.000
6.407E-05	.224	5.000
4.337E-05	.447	10.000
3.405E-05	.671	15.000
2.420E-05	.894	20.000
1.834E-05	1.118	25.000
1.395E-05	1.341	30.000
1.083E-05	1.565	35.000
8.652E-06	1.788	40.000
7.074E-06	2.012	45.000
5.890E-06	2.235	50.000

4.977E-06	2.459	55.000
4.258E-06	2.682	60.000
3.682E-06	2.906	65.000
3.212E-06	3.129	70.000
2.824E-06	3.353	75.000
2.000E-06	3.576	80.000
1.011E-06	3.800	85.000
0 4.061E-05	0.5	11.18

0ANNUAL AVERAGE = 2.04E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

0 SW SECTOR BOUNDARY DISTANCE = 4018.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	6.126E-05	3.945E-05	3.386E-05	2.799E-05	1.901E-05	1.703E-05	1.332E-05	9.307E-06	8.812E-06	6.030E-06
	5.824	10.457	15.619	15.685	23.230	27.664	28.193	30.311	42.488	44.143
	.41064	.73728	1.10126	1.10593	1.63789	1.95054	1.98787	2.13719	2.99580	3.11246
0	5.326E-06	4.398E-06	4.020E-06	2.901E-06	2.821E-06	2.412E-06	1.882E-06	1.412E-06	1.243E-06	9.577E-07
	44.341	57.445	57.512	58.041	71.674	71.873	75.844	76.373	79.616	79.881
	3.12646	4.05040	4.05506	4.09239	5.05366	5.06766	5.34764	5.38497	5.61363	5.63229
0	7.253E-07	4.835E-07	4.104E-07	3.627E-07	3.607E-07	2.394E-07	1.596E-07	1.546E-07	9.017E-08	6.012E-08
	81.668	82.727	85.572	85.903	86.102	87.955	88.617	92.522	98.478	99.934
	5.75828	5.83294	6.03360	6.05693	6.07093	6.20159	6.24825	6.52357	6.94354	7.04620
0	4.509E-08									
	100.000									
	7.05086									

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= 1.100
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.948
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.993
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 5.050
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 5.344
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 5.610
 BACK EXTRAPOLATION FOR 1 PERCENTILE.
 BACK EXTRAPOLATION FOR 3 PERCENTILE.
 BACK EXTRAPOLATION FOR 5 PERCENTILE.

1.540E-04	.071	1.000
8.820E-05	.212	3.000
6.676E-05	.353	5.000
4.465E-05	.705	10.000
3.475E-05	1.058	15.000
2.532E-05	1.410	20.000
1.931E-05	1.763	25.000
1.509E-05	2.115	30.000
1.193E-05	2.468	35.000
9.695E-06	2.820	40.000
7.817E-06	3.173	45.000
6.254E-06	3.525	50.000
5.092E-06	3.878	55.000
4.208E-06	4.231	60.000
3.520E-06	4.583	65.000
2.977E-06	4.936	70.000
2.040E-06	5.288	75.000
0 5.471E-05	0.5	7.09

0ANNUAL AVERAGE = 3.40E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

0 WSW SECTOR BOUNDARY DISTANCE = 4018.0 METERS
 0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

0	6.126E-05	3.945E-05	3.386E-05	2.799E-05	1.901E-05	1.866E-05	1.703E-05	1.332E-05	9.307E-06	8.877E-06
	4.056	5.562	10.892	11.472	18.540	18.772	26.767	28.621	33.140	33.256
	.16332	.22399	.43864	.46197	.74662	.75595	1.07793	1.15259	1.33458	1.33924
0	8.812E-06	6.030E-06	4.398E-06	2.901E-06	2.821E-06	1.882E-06	1.243E-06	9.577E-07	7.253E-07	4.104E-07
	49.131	51.101	68.714	69.293	77.868	78.331	82.271	82.851	84.589	87.833
	1.97853	2.05786	2.76715	2.79048	3.13579	3.15446	3.31311	3.33644	3.40644	3.53710
0	3.607E-07	2.394E-07	1.596E-07	1.546E-07	9.017E-08	6.012E-08				
	88.528	90.151	90.267	96.756	99.652	100.000				
	3.56510	3.63042	3.63509	3.89641	4.01307	4.02707				

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(2)= .438
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(3)= 1.077

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.976
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.764
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 3.133
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 3.893
 BACK EXTRAPOLATION FOR 1 PERCENTILE.
 BACK EXTRAPOLATION FOR 3 PERCENTILE.

1.306E-04	.040	1.000
7.263E-05	.121	3.000
5.428E-05	.201	5.000
3.573E-05	.403	10.000
2.673E-05	.604	15.000
2.145E-05	.805	20.000
1.799E-05	1.007	25.000
1.511E-05	1.208	30.000
1.282E-05	1.409	35.000
1.108E-05	1.611	40.000
9.727E-06	1.812	45.000
8.506E-06	2.014	50.000
7.004E-06	2.215	55.000
5.851E-06	2.416	60.000
4.947E-06	2.618	65.000
4.120E-06	2.819	70.000
3.226E-06	3.020	75.000
1.977E-06	3.222	80.000
8.857E-07	3.423	85.000
4.121E-07	3.624	90.000
0 3.077E-05	0.5	12.42

0ANNUAL AVERAGE = 2.07E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

0 W SECTOR BOUNDARY DISTANCE = 4018.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0 6.126E-05	3.945E-05	3.386E-05	2.799E-05	1.901E-05	1.866E-05	1.703E-05	1.332E-05	9.307E-06	8.812E-06
4.617	6.596	13.456	13.984	17.810	18.338	29.156	30.607	37.731	55.013
.16332	.23332	.47597	.49463	.62996	.64862	1.03126	1.08259	1.33458	1.94587
0 6.030E-06	4.398E-06	2.901E-06	2.821E-06	1.882E-06	1.243E-06	9.577E-07	7.253E-07	4.835E-07	4.104E-07
56.332	75.462	76.121	80.739	80.871	83.113	83.905	84.565	84.697	87.071
1.99253	2.66916	2.69249	2.85581	2.86048	2.93980	2.96780	2.99113	2.99580	3.07979
0 3.607E-07	2.394E-07	1.596E-07	1.546E-07	9.017E-08	6.012E-08				
87.467	88.259	88.522	96.702	99.604	100.000				
3.09379	3.12179	3.13112	3.42044	3.52310	3.53710				

0 X/Q PERCENTILES

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

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .475
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.030
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.944
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.667
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 2.853
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 3.417
 BACK EXTRAPOLATION FOR 1 PERCENTILE.
 BACK EXTRAPOLATION FOR 3 PERCENTILE.

1.306E-04	.035	1.000
7.655E-05	.106	3.000
5.873E-05	.177	5.000
4.017E-05	.354	10.000
3.086E-05	.531	15.000
2.399E-05	.707	20.000
1.962E-05	.884	25.000
1.655E-05	1.061	30.000
1.417E-05	1.238	35.000
1.235E-05	1.415	40.000
1.092E-05	1.592	45.000
9.768E-06	1.769	50.000
8.815E-06	1.945	55.000
7.306E-06	2.122	60.000
6.133E-06	2.299	65.000
5.204E-06	2.476	70.000
4.459E-06	2.653	75.000
2.997E-06	2.830	80.000
1.244E-06	3.007	85.000
4.966E-07	3.183	90.000
0 3.247E-05	0.5	14.14

0ANNUAL AVERAGE = 2.11E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

0 WNW SECTOR BOUNDARY DISTANCE = 4018.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0 6.126E-05 3.945E-05 3.386E-05 1.901E-05 1.703E-05 1.332E-05 9.307E-06 8.812E-06 6.030E-06 4.398E-06

	3.686	3.924	9.988	11.891	24.257	24.376	32.818	50.297	51.724	72.771
	.14466	.15399	.39197	.46664	.95194	.95660	1.28791	1.97387	2.02986	2.85581
0	2.901E-06	2.821E-06	1.882E-06	1.243E-06	9.577E-07	7.253E-07	4.104E-07	3.607E-07	2.394E-07	1.596E-07
	73.841	80.618	80.856	83.234	84.661	85.612	87.515	88.585	88.704	88.823
	2.89781	3.16379	3.17312	3.26645	3.32244	3.35978	3.43444	3.47643	3.48110	3.48577
0	1.546E-07	9.017E-08								
	98.573	100.000								
	3.86841	3.92440								

0 X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)
0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .392
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .951
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.972
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.853
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 3.161
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 3.865
BACK EXTRAPOLATION FOR 1 PERCENTILE.
BACK EXTRAPOLATION FOR 3 PERCENTILE.

	1.237E-04	.039	1.000
	6.878E-05	.118	3.000
	5.140E-05	.196	5.000
	3.383E-05	.392	10.000
	2.492E-05	.589	15.000
	1.989E-05	.785	20.000
	1.659E-05	.981	25.000
	1.415E-05	1.177	30.000
	1.233E-05	1.374	35.000
	1.092E-05	1.570	40.000
	9.787E-06	1.766	45.000
	8.862E-06	1.962	50.000
	7.476E-06	2.158	55.000
	6.355E-06	2.355	60.000
	5.463E-06	2.551	65.000
	4.740E-06	2.747	70.000
	3.861E-06	2.943	75.000
	2.917E-06	3.140	80.000
	1.327E-06	3.336	85.000
	5.828E-07	3.532	90.000
0	2.823E-05	0.5	12.74

0ANNUAL AVERAGE = 2.27E-07
1USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
SOURCE OF DATA: Data Source Clinton Power Station Met Data System
COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145
0LOW POPULATION ZONE CALCULATIONS:

0 NW SECTOR BOUNDARY DISTANCE = 4018.0 METERS
 0 LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

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

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

0	6.126E-05	3.945E-05	3.386E-05	1.901E-05	1.703E-05	1.332E-05	9.307E-06	8.812E-06	6.030E-06	4.398E-06
	2.082	3.247	7.410	13.988	21.316	21.565	24.563	41.549	46.295	63.114
	.11666	.18199	.41531	.78395	1.19459	1.20859	1.37657	2.32851	2.59449	3.53710
0	4.020E-06	2.901E-06	2.821E-06	1.882E-06	1.243E-06	9.577E-07	7.253E-07	4.835E-07	4.104E-07	3.607E-07
	63.530	64.030	74.688	76.769	79.600	80.766	82.348	82.931	86.095	87.094
	3.56043	3.58843	4.18572	4.30238	4.46104	4.52636	4.61503	4.64769	4.82501	4.88101
0	2.394E-07	1.596E-07	1.546E-07	9.017E-08	6.012E-08	4.509E-08				
	88.093	88.260	95.670	99.167	99.917	100.000				
	4.93700	4.94634	5.36164	5.55763	5.59963	5.60429				

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .415
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.193
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.326
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 3.534
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 4.182
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 4.457
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 5.358
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

	8.381E-05	.056	1.000
	5.202E-05	.168	3.000
	4.101E-05	.280	5.000
	2.810E-05	.560	10.000
	2.161E-05	.841	15.000
	1.779E-05	1.121	20.000
	1.463E-05	1.401	25.000
	1.225E-05	1.681	30.000
	1.050E-05	1.962	35.000
	9.165E-06	2.242	40.000
	7.746E-06	2.522	45.000
	6.517E-06	2.802	50.000
	5.559E-06	3.082	55.000
	4.796E-06	3.363	60.000
	4.073E-06	3.643	65.000
	3.352E-06	3.923	70.000
	2.674E-06	4.203	75.000
	1.176E-06	4.483	80.000
	5.960E-07	4.764	85.000
	3.117E-07	5.044	90.000
0	3.019E-05	0.5	8.92

0 ANNUAL AVERAGE = 2.41E-07

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
SOURCE OF DATA: Data Source Clinton Power Station Met Data System
COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

0 NNW SECTOR BOUNDARY DISTANCE = 4018.0 METERS
OLATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1
0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

Table with 11 columns of numerical data representing CHI/Q values and frequencies. Values range from 6.126E-05 to 7.81148.

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

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .387
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 2.932
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 4.681
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 5.904
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 6.202
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 6.846
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 7.518
BACK EXTRAPOLATION FOR 1 PERCENTILE.

Table with 3 columns of numerical data. Values range from 6.710E-05 to 8.057E-06.

6.788E-06	3.515	45.000
5.804E-06	3.906	50.000
5.025E-06	4.296	55.000
4.394E-06	4.687	60.000
3.779E-06	5.077	65.000
3.279E-06	5.468	70.000
2.867E-06	5.859	75.000
1.679E-06	6.249	80.000
6.105E-07	6.640	85.000
2.857E-07	7.030	90.000
0 2.910E-05	0.5	6.40

0ANNUAL AVERAGE = 2.75E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

0 N SECTOR BOUNDARY DISTANCE = 4018.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	6.126E-05	3.945E-05	3.386E-05	1.901E-05	1.703E-05	1.332E-05	9.307E-06	8.812E-06	6.030E-06	5.326E-06
	.820	1.600	3.445	7.055	9.598	10.541	11.444	27.153	39.910	39.951
	.09333	.18199	.39197	.80261	1.09193	1.19925	1.30191	3.08913	4.54036	4.54503
0	4.398E-06	4.020E-06	3.015E-06	2.901E-06	2.821E-06	1.882E-06	1.412E-06	1.243E-06	9.577E-07	7.253E-07
	46.924	50.984	51.723	52.051	66.284	73.503	75.308	76.702	77.194	79.532
	5.33831	5.80028	5.88427	5.92161	7.54083	8.36211	8.56743	8.72608	8.78208	9.04806
0	4.835E-07	4.104E-07	3.627E-07	3.607E-07	2.394E-07	1.596E-07	1.546E-07	1.197E-07	9.577E-08	9.017E-08
	80.394	82.527	82.855	83.101	84.865	86.013	91.263	91.550	91.591	96.924
	9.14606	9.38871	9.42604	9.45404	9.65469	9.78535	10.38264	10.41531	10.41997	11.02660
0	6.012E-08	4.509E-08								
	99.672	100.000								
	11.33924	11.37657								

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (2)=	.392
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (3)=	3.086
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (4)=	4.537
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (5)=	7.537
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (6)=	8.358
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (7)=	8.723

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(8)= 11.024

5.670E-05	.114	1.000
3.599E-05	.341	3.000
2.724E-05	.569	5.000
1.770E-05	1.138	10.000
1.350E-05	1.706	15.000
1.103E-05	2.275	20.000
9.375E-06	2.844	25.000
8.008E-06	3.413	30.000
6.883E-06	3.982	35.000
6.010E-06	4.551	40.000
5.075E-06	5.119	45.000
4.346E-06	5.688	50.000
3.767E-06	6.257	55.000
3.296E-06	6.826	60.000
2.909E-06	7.395	65.000
2.281E-06	7.964	70.000
1.548E-06	8.532	75.000
7.848E-07	9.101	80.000
4.010E-07	9.670	85.000
2.108E-07	10.239	90.000
0	2.940E-05	0.5
		4.39

0 ANNUAL AVERAGE = 3.00E-07

1 USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
SOURCE OF DATA: Data Source Clinton Power Station Met Data System
COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0 LOW POPULATION ZONE CALCULATIONS:

0 NNE SECTOR BOUNDARY DISTANCE = 4018.0 METERS

0 LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

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

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

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

0	6.126E-05	3.945E-05	3.386E-05	1.901E-05	1.703E-05	1.332E-05	9.307E-06	8.812E-06	6.030E-06	4.398E-06
	1.041	1.630	4.301	9.099	12.177	13.083	14.531	28.112	41.919	49.570
	.10733	.16799	.44330	.93794	1.25525	1.34858	1.49790	2.89781	4.32104	5.10966
0	4.020E-06	3.015E-06	2.901E-06	2.821E-06	1.882E-06	1.412E-06	1.243E-06	9.577E-07	7.253E-07	4.835E-07
	52.331	52.603	52.829	67.270	75.283	76.369	77.456	77.818	79.810	80.715
	5.39431	5.42231	5.44564	6.93420	7.76015	7.87214	7.98413	8.02146	8.22678	8.32011
0	4.104E-07	3.627E-07	3.607E-07	2.394E-07	1.596E-07	1.546E-07	1.197E-07	9.017E-08	6.012E-08	4.509E-08
	82.933	83.115	83.296	85.785	87.641	91.399	91.489	97.329	99.955	100.000
	8.54876	8.56743	8.58609	8.84274	9.03406	9.42137	9.43070	10.03266	10.30331	10.30798

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .443
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.254
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.895
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 4.318
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 6.930
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 7.756
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 7.980
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (9)= 10.030
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

6.223E-05	.103	1.000
3.967E-05	.309	3.000
3.081E-05	.515	5.000
1.953E-05	1.031	10.000
1.456E-05	1.546	15.000
1.164E-05	2.062	20.000
9.716E-06	2.577	25.000
8.300E-06	3.092	30.000
7.181E-06	3.608	35.000
6.313E-06	4.123	40.000
5.406E-06	4.639	45.000
4.583E-06	5.154	50.000
3.934E-06	5.669	55.000
3.414E-06	6.185	60.000
2.988E-06	6.700	65.000
2.448E-06	7.216	70.000
1.908E-06	7.731	75.000
8.656E-07	8.246	80.000
4.354E-07	8.762	85.000
2.256E-07	9.277	90.000
0 3.141E-05	0.5	4.85

0 ANNUAL AVERAGE = 3.01E-07

1 USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

0 NE SECTOR BOUNDARY DISTANCE = 4018.0 METERS

0 LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

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

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

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

0 6.126E-05	3.945E-05	3.386E-05	2.799E-05	1.901E-05	1.866E-05	1.703E-05	1.332E-05	9.307E-06	8.877E-06	
	1.826	3.262	6.132	6.393	12.133	12.394	15.851	16.960	19.439	19.700
	.13066	.23332	.43864	.45730	.86794	.88661	1.13392	1.21325	1.39057	1.40924
0 8.812E-06	6.030E-06	4.398E-06	4.020E-06	2.901E-06	2.821E-06	1.882E-06	1.412E-06	1.243E-06	1.129E-06	
	31.768	39.922	49.250	50.946	51.598	61.774	65.036	65.623	67.776	67.841

	2.27252	2.85581	3.52310	3.64442	3.69109	4.41904	4.65236	4.69435	4.84834	4.85301
0	9.577E-07	7.253E-07	4.835E-07	4.104E-07	3.627E-07	3.607E-07	2.394E-07	1.596E-07	1.546E-07	1.197E-07
	68.428	71.755	72.798	75.930	76.060	76.517	81.409	82.518	88.715	88.845
	4.89501	5.13299	5.20765	5.43164	5.44097	5.47364	5.82361	5.90294	6.34624	6.35558
0	9.017E-08	6.012E-08	4.509E-08							
	96.217	99.870	100.000							
	6.88288	7.14419	7.15352							

0 X/Q PERCENTILES
 (BASED ON THE UPPER ENVELOPE OF THE
 ORDERED X/Q-FREQUENCY VALUES, AND AS
 PLOTTED ON A LOG-NORMAL GRAPH.)
 0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .438
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.133
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.270
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 3.520
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 4.416
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 4.649
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 6.879
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

	8.039E-05	.072	1.000
	4.844E-05	.215	3.000
	3.761E-05	.358	5.000
	2.400E-05	.715	10.000
	1.776E-05	1.073	15.000
	1.376E-05	1.431	20.000
	1.114E-05	1.788	25.000
	9.328E-06	2.146	30.000
	7.590E-06	2.504	35.000
	6.155E-06	2.861	40.000
	5.096E-06	3.219	45.000
	4.272E-06	3.577	50.000
	3.550E-06	3.934	55.000
	2.990E-06	4.292	60.000
	1.891E-06	4.650	65.000
	1.084E-06	5.007	70.000
	6.412E-07	5.365	75.000
	3.897E-07	5.723	80.000
	2.425E-07	6.080	85.000
	1.542E-07	6.438	90.000
0	3.094E-05	0.5	6.99

0ANNUAL AVERAGE = 2.29E-07
 1USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145
 0LOW POPULATION ZONE CALCULATIONS:
 0 ENE SECTOR BOUNDARY DISTANCE = 4018.0 METERS

OLATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

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

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

0	6.126E-05	3.945E-05	3.386E-05	2.799E-05	1.901E-05	1.866E-05	1.703E-05	1.400E-05	1.332E-05	9.307E-06
	3.026	4.888	8.689	8.922	14.585	14.895	19.007	19.085	21.412	22.964
	.18199	.29398	.52263	.53663	.87727	.89594	1.14326	1.14792	1.28791	1.38124
0	8.877E-06	8.812E-06	6.658E-06	6.030E-06	4.398E-06	4.020E-06	3.015E-06	2.901E-06	2.821E-06	1.882E-06
	23.972	35.842	36.074	42.514	49.961	51.280	51.358	51.823	63.926	69.356
	1.44190	2.15586	2.16985	2.55716	3.00513	3.08446	3.08913	3.11713	3.84508	4.17172
0	1.412E-06	1.243E-06	1.129E-06	9.577E-07	7.253E-07	4.835E-07	4.104E-07	3.627E-07	3.607E-07	2.901E-07
	71.218	72.925	73.002	73.545	76.726	78.510	80.838	81.846	82.312	82.389
	4.28371	4.38637	4.39104	4.42370	4.61503	4.72235	4.86234	4.92301	4.95100	4.95567
0	2.394E-07	1.596E-07	1.546E-07	1.197E-07	9.577E-08	9.017E-08	6.012E-08	4.509E-08	3.607E-08	
	86.656	88.363	91.311	91.544	91.621	96.587	99.535	99.845	100.000	
	5.21232	5.31498	5.49230	5.50630	5.51097	5.80961	5.98693	6.00560	6.01493	

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .522
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.142
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.154
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 3.842
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 4.168
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 4.383
 BACK EXTRAPOLATION FOR 1 PERCENTILE.
 BACK EXTRAPOLATION FOR 3 PERCENTILE.

	1.076E-04	.060	1.000
	6.154E-05	.180	3.000
	4.655E-05	.301	5.000
	3.007E-05	.601	10.000
	2.111E-05	.902	15.000
	1.618E-05	1.203	20.000
	1.290E-05	1.504	25.000
	1.067E-05	1.804	30.000
	9.043E-06	2.105	35.000
	7.159E-06	2.406	40.000
	5.705E-06	2.707	45.000
	4.639E-06	3.007	50.000
	3.834E-06	3.308	55.000
	3.213E-06	3.609	60.000
	2.598E-06	3.910	65.000
	1.745E-06	4.210	70.000
0	3.476E-05	0.5	8.31

0ANNUAL AVERAGE = 2.19E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

0 E SECTOR BOUNDARY DISTANCE = 4018.0 METERS
 0 LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

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

0	6.126E-05	3.945E-05	3.386E-05	1.901E-05	1.703E-05	1.332E-05	9.307E-06	8.877E-06	8.812E-06	6.030E-06
	2.317	3.171	5.915	10.305	12.683	12.988	14.939	15.061	24.024	30.549
	.17732	.24265	.45264	.78861	.97060	.99393	1.14326	1.15259	1.83854	2.33784
0	4.398E-06	4.020E-06	3.015E-06	2.901E-06	2.821E-06	1.882E-06	1.412E-06	1.243E-06	1.129E-06	9.577E-07
	39.817	41.768	41.829	41.951	57.927	69.329	71.646	73.476	73.841	74.024
	3.04713	3.19645	3.20112	3.21045	4.43304	5.30565	5.48297	5.62296	5.65096	5.66496
0	7.253E-07	4.835E-07	4.104E-07	3.627E-07	3.607E-07	2.901E-07	2.394E-07	1.596E-07	1.546E-07	1.197E-07
	77.012	78.780	81.037	81.341	81.524	81.585	84.695	86.220	88.415	88.902
	5.89361	6.02893	6.20159	6.22492	6.23892	6.24358	6.48157	6.59823	6.76622	6.80355
0	9.577E-08	9.017E-08	6.012E-08	4.509E-08	3.607E-08					
	89.146	94.268	98.720	99.817	100.000					
	6.82221	7.21419	7.55483	7.63882	7.65282					

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .452
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .969
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.837
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 4.430
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 5.302
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 5.619
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 7.551
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

1.000E-04	.077	1.000
5.230E-05	.230	3.000
3.782E-05	.383	5.000
2.123E-05	.765	10.000
1.440E-05	1.148	15.000
1.071E-05	1.531	20.000
8.399E-06	1.913	25.000
6.713E-06	2.296	30.000
5.527E-06	2.678	35.000
4.651E-06	3.061	40.000
3.982E-06	3.444	45.000
3.455E-06	3.826	50.000

3.031E-06	4.209	55.000
2.609E-06	4.592	60.000
2.180E-06	4.974	65.000
1.758E-06	5.357	70.000
1.014E-06	5.740	75.000
5.302E-07	6.122	80.000
2.861E-07	6.505	85.000
1.586E-07	6.888	90.000
0 3.106E-05	0.5	6.53

0ANNUAL AVERAGE = 2.24E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

0 ESE SECTOR BOUNDARY DISTANCE = 4018.0 METERS
 0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

0	6.126E-05	3.945E-05	3.386E-05	1.901E-05	1.703E-05	1.332E-05	9.307E-06	8.812E-06	6.030E-06	4.398E-06
	2.805	4.146	6.463	9.451	11.280	12.012	13.780	22.988	28.415	36.768
	.21465	.31731	.49463	.72329	.86328	.91927	1.05460	1.75922	2.17452	2.81381
0	4.020E-06	3.015E-06	2.901E-06	2.821E-06	1.882E-06	1.412E-06	1.243E-06	9.577E-07	7.253E-07	4.835E-07
	37.195	37.317	37.744	55.793	67.683	69.817	72.134	72.378	75.366	78.476
	2.84648	2.85581	2.88847	4.26972	5.17965	5.34298	5.52030	5.53896	5.76762	6.00560
0	4.104E-07	3.627E-07	3.607E-07	2.901E-07	2.394E-07	1.596E-07	1.546E-07	1.197E-07	9.017E-08	6.012E-08
	80.793	81.524	81.585	81.646	85.000	86.402	88.841	89.268	93.963	98.780
	6.18292	6.23892	6.24358	6.24825	6.50490	6.61223	6.79888	6.83154	7.19085	7.55949
0	4.509E-08									
	100.000									
	7.65282									

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .494
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.757
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 4.266
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 5.176
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 5.517
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 7.556
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

1.199E-04 .077 1.000

5.850E-05	.230	3.000
4.085E-05	.383	5.000
2.182E-05	.765	10.000
1.421E-05	1.148	15.000
1.033E-05	1.531	20.000
7.966E-06	1.913	25.000
6.368E-06	2.296	30.000
5.243E-06	2.678	35.000
4.413E-06	3.061	40.000
3.778E-06	3.444	45.000
3.279E-06	3.826	50.000
2.877E-06	4.209	55.000
2.427E-06	4.592	60.000
2.051E-06	4.974	65.000
1.513E-06	5.357	70.000
8.639E-07	5.740	75.000
4.694E-07	6.122	80.000
2.626E-07	6.505	85.000
1.508E-07	6.888	90.000
0 3.351E-05	0.5	6.53

0 ANNUAL AVERAGE = 2.18E-07

1 USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0 LOW POPULATION ZONE CALCULATIONS:

0 SE SECTOR BOUNDARY DISTANCE = 4018.0 METERS

0 LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

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

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

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

0	6.126E-05	3.945E-05	3.386E-05	2.799E-05	1.901E-05	1.703E-05	1.332E-05	9.307E-06	8.877E-06	8.812E-06
	3.017	6.770	9.124	9.492	14.717	16.924	17.734	19.647	19.720	27.962
	.19132	.42930	.57863	.60196	.93327	1.07326	1.12459	1.24592	1.25058	1.77322
0	6.030E-06	4.398E-06	4.020E-06	3.015E-06	2.901E-06	2.821E-06	1.882E-06	1.412E-06	1.243E-06	9.577E-07
	30.243	41.575	42.311	42.458	43.046	61.001	69.316	70.051	72.701	72.848
	1.91787	2.63649	2.68315	2.69249	2.72982	3.86841	4.39571	4.44237	4.61036	4.61969
0	7.253E-07	4.835E-07	4.104E-07	3.627E-07	3.607E-07	2.394E-07	1.596E-07	1.546E-07	1.197E-07	9.017E-08
	75.497	77.557	80.206	80.648	80.868	85.063	86.240	89.183	89.330	95.585
	4.78768	4.91834	5.08633	5.11433	5.12832	5.39431	5.46897	5.65562	5.66496	6.06160
0	6.012E-08	4.509E-08								
	99.338	100.000								
	6.29958	6.34158								

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .578
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.072
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.771
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 3.865
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 4.392
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 4.607
 BACK EXTRAPOLATION FOR 1 PERCENTILE.
 BACK EXTRAPOLATION FOR 3 PERCENTILE.

1.045E-04	.063	1.000
6.143E-05	.190	3.000
4.712E-05	.317	5.000
3.068E-05	.634	10.000
1.955E-05	.951	15.000
1.375E-05	1.268	20.000
1.025E-05	1.585	25.000
7.997E-06	1.902	30.000
6.442E-06	2.220	35.000
5.319E-06	2.537	40.000
4.477E-06	2.854	45.000
3.825E-06	3.171	50.000
3.310E-06	3.488	55.000
2.894E-06	3.805	60.000
2.310E-06	4.122	65.000
1.729E-06	4.439	70.000
0 3.676E-05	0.5	7.88

0ANNUAL AVERAGE = 2.03E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

0 SSE SECTOR BOUNDARY DISTANCE = 4018.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0 6.126E-05	3.945E-05	3.386E-05	2.799E-05	1.901E-05	1.703E-05	1.332E-05	9.307E-06	8.877E-06	8.812E-06
1.928	2.828	4.627	4.884	7.841	10.797	11.568	14.267	14.781	26.478
.07000	.10266	.16799	.17732	.28465	.39197	.41997	.51797	.53663	.96127
0 6.030E-06	4.398E-06	4.020E-06	2.901E-06	2.821E-06	1.882E-06	1.412E-06	1.243E-06	7.253E-07	4.835E-07
32.262	47.815	49.486	49.871	70.051	74.679	75.193	79.692	82.905	84.319
1.17126	1.73588	1.79655	1.81055	2.54316	2.71115	2.72982	2.89314	3.00980	3.06113
0 4.104E-07	3.627E-07	3.607E-07	2.394E-07	1.596E-07	1.546E-07	1.197E-07	9.017E-08	6.012E-08	4.509E-08
86.118	86.247	86.375	89.075	89.846	92.031	92.416	96.915	99.357	100.000
3.12646	3.13112	3.13579	3.23378	3.26178	3.34111	3.35511	3.51843	3.60709	3.63042

0 X/Q PERCENTILES
 (BASED ON THE UPPER ENVELOPE OF THE
 ORDERED X/Q-FREQUENCY VALUES, AND AS
 PLOTTED ON A LOG-NORMAL GRAPH.)
 0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .168
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .960
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.541
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.890
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 3.515
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

9.308E-05	.036	1.000
4.566E-05	.109	3.000
3.205E-05	.182	5.000
1.926E-05	.363	10.000
1.405E-05	.545	15.000
1.114E-05	.726	20.000
9.251E-06	.908	25.000
7.678E-06	1.089	30.000
6.457E-06	1.271	35.000
5.541E-06	1.452	40.000
4.830E-06	1.634	45.000
4.263E-06	1.815	50.000
3.802E-06	1.997	55.000
3.419E-06	2.178	60.000
3.097E-06	2.360	65.000
2.823E-06	2.541	70.000
1.832E-06	2.723	75.000
1.182E-06	2.904	80.000
5.288E-07	3.086	85.000
2.459E-07	3.267	90.000
0 1.503E-05	0.5	13.77

0ANNUAL AVERAGE = 1.11E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

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

MINIMUM BOUNDARY DISTANCE = 4018.0 METERS.

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0 1.120E-04	5.326E-05	4.799E-05	2.799E-05	2.412E-05	2.283E-05	1.866E-05	1.400E-05	1.332E-05	1.129E-05	
	2.571	5.903	7.564	7.681	11.820	16.752	16.822	16.827	17.671	20.173
	2.57116	5.90294	7.56416	7.68082	11.81988	16.75222	16.82221	16.82688	17.67149	20.17266
0 1.120E-05	1.034E-05	8.877E-06	6.658E-06	6.030E-06	5.326E-06	4.841E-06	4.020E-06	3.015E-06	2.901E-06	

	20.187	33.299	33.420	33.434	40.042	40.084	51.741	53.089	53.238	53.682
	20.18666	33.29911	33.42044	33.43444	40.04200	40.08400	51.74055	53.08913	53.23845	53.68176
0	2.824E-06	2.412E-06	1.882E-06	1.412E-06	1.243E-06	1.129E-06	9.577E-07	7.253E-07	4.835E-07	4.104E-07
	67.802	67.830	73.728	74.704	76.911	76.953	77.396	79.837	81.069	83.509
	67.80214	67.83014	73.72842	74.70368	76.91087	76.95287	77.39617	79.83668	81.06860	83.50911
0	3.627E-07	3.607E-07	2.901E-07	2.394E-07	1.596E-07	1.546E-07	1.197E-07	9.577E-08	9.017E-08	6.012E-08
	83.812	84.209	84.223	86.827	87.891	92.277	92.454	92.482	97.158	99.636
	83.81242	84.20906	84.22306	86.82689	87.89082	92.27719	92.45451	92.48251	97.15820	99.63603
0	4.509E-08	3.607E-08								
	99.972	100.000								
	99.97201	100.00000								

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

0 ERROR IN NORMAL TRANSFORMATION FOR A(42)= 100.00000
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(2)= 16.754
BACK EXTRAPOLATION FOR 1 PERCENTILE.

	2.063E-04	1.000	1.000
	1.005E-04	3.000	3.000
	6.862E-05	5.000	5.000
	3.814E-05	10.000	10.000
	2.566E-05	15.000	15.000
	1.903E-05	20.000	20.000
	1.484E-05	25.000	25.000
	1.187E-05	30.000	30.000
	9.663E-06	35.000	35.000
	7.977E-06	40.000	40.000
	6.628E-06	45.000	45.000
	5.524E-06	50.000	50.000
	4.604E-06	55.000	55.000
	3.825E-06	60.000	60.000
	3.157E-06	65.000	65.000
	2.440E-06	70.000	70.000
	1.786E-06	75.000	75.000
	1.431E-06	80.000	80.000
	1.105E-06	85.000	85.000
	7.986E-07	90.000	90.000
0	6.862E-05	5.0	5.00

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
SOURCE OF DATA: Data Source Clinton Power Station Met Data System
COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

0FIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT ALLOWED: C= .5 A= 2069. D= 76.1

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	6.126E-05	3.945E-05	3.386E-05	2.799E-05	1.901E-05	1.866E-05	1.703E-05	1.400E-05	1.332E-05	1.120E-05
	2.571	4.232	7.564	7.681	12.613	12.683	16.822	16.827	17.671	17.685
	2.57116	4.23238	7.56416	7.68082	12.61316	12.68315	16.82221	16.82688	17.67149	17.68549
0	9.307E-06	8.877E-06	8.812E-06	6.658E-06	6.030E-06	5.326E-06	4.398E-06	4.020E-06	3.015E-06	2.901E-06
	20.187	20.308	33.420	33.434	40.042	40.084	51.741	53.089	53.238	53.682
	20.18665	20.30798	33.42044	33.43444	40.04200	40.08400	51.74055	53.08913	53.23846	53.68177
0	2.821E-06	2.412E-06	1.882E-06	1.412E-06	1.243E-06	1.129E-06	9.577E-07	7.253E-07	4.835E-07	4.104E-07
	67.802	67.830	73.728	74.704	76.911	76.953	77.396	79.837	81.069	83.509
	67.80217	67.83017	73.72845	74.70374	76.91093	76.95293	77.39625	79.83676	81.06867	83.50919
0	3.627E-07	3.607E-07	2.901E-07	2.394E-07	1.596E-07	1.546E-07	1.197E-07	9.577E-08	9.017E-08	6.012E-08
	83.812	84.209	84.223	86.827	87.891	92.277	92.455	92.483	97.158	99.636
	83.81251	84.20917	84.22318	86.82702	87.89096	92.27734	92.45465	92.48266	97.15835	99.63619
0	4.509E-08	3.607E-08								
	99.972	100.000								
	99.97218	100.00020								

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

0 ERROR IN NORMAL TRANSFORMATION FOR A(42)= 100.00020
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(2)= 7.560
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(3)= 16.824
BACK EXTRAPOLATION FOR 1 PERCENTILE.

	9.485E-05	1.000	1.000
	5.668E-05	3.000	3.000
	4.316E-05	5.000	5.000
	2.710E-05	10.000	10.000
	1.899E-05	15.000	15.000
	1.469E-05	20.000	20.000
	1.195E-05	25.000	25.000
	9.923E-06	30.000	30.000
	8.340E-06	35.000	35.000
	7.043E-06	40.000	40.000
	5.982E-06	45.000	45.000
	5.095E-06	50.000	50.000
	4.339E-06	55.000	55.000
	3.685E-06	60.000	60.000
	3.112E-06	65.000	65.000
	2.438E-06	70.000	70.000
	1.786E-06	75.000	75.000
	1.431E-06	80.000	80.000
	1.106E-06	85.000	85.000
	7.990E-07	90.000	90.000
0	4.316E-05	5.0	5.00

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site

DATA PERIOD: 1/1/00-8/31/02

TYPE OF RELEASE: GROUND-LEVEL RELEASE

METEOROLOGICAL INSTRUMENTATION

WIND SENSORS HEIGHT: Sensor Height 10.0 M

DELTA-T HEIGHTS: ETERS 10 - 60 METERS

SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145
 0 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 4018.	1.40E-05	6.21E-06	4.14E-06	1.71E-06	4.82E-07	1.02E-07	7.0	S	
SSW 4018.	4.06E-05	1.69E-05	1.09E-05	4.23E-06	1.08E-06	2.04E-07	26.0	SSW	
SW 4018.	5.47E-05	2.36E-05	1.55E-05	6.24E-06	1.68E-06	3.40E-07	43.7	SW	
WSW 4018.	3.08E-05	1.35E-05	8.90E-06	3.63E-06	1.00E-06	2.07E-07	17.4	WSW	
W 4018.	3.25E-05	1.41E-05	9.32E-06	3.78E-06	1.03E-06	2.11E-07	17.7	W	
WNW 4018.	2.82E-05	1.27E-05	8.54E-06	3.60E-06	1.04E-06	2.27E-07	15.4	WNW	
NW 4018.	3.02E-05	1.36E-05	9.11E-06	3.83E-06	1.10E-06	2.41E-07	13.2	NW	
NNW 4018.	2.91E-05	1.35E-05	9.16E-06	3.97E-06	1.20E-06	2.75E-07	11.3	NNW	
N 4018.	2.94E-05	1.38E-05	9.43E-06	4.14E-06	1.27E-06	3.00E-07	10.9	N	
NNE 4018.	3.14E-05	1.46E-05	9.92E-06	4.31E-06	1.30E-06	3.01E-07	12.5	NNE	
NE 4018.	3.09E-05	1.37E-05	9.17E-06	3.80E-06	1.08E-06	2.29E-07	14.6	NE	
ENE 4018.	3.48E-05	1.50E-05	9.89E-06	3.98E-06	1.08E-06	2.19E-07	19.6	ENE	
E 4018.	3.11E-05	1.37E-05	9.14E-06	3.78E-06	1.06E-06	2.24E-07	18.7	E	
ESE 4018.	3.35E-05	1.46E-05	9.61E-06	3.89E-06	1.06E-06	2.18E-07	22.1	ESE	
SE 4018.	3.68E-05	1.56E-05	1.01E-05	3.98E-06	1.04E-06	2.03E-07	20.9	SE	
SSE 4018.	1.50E-05	6.67E-06	4.45E-06	1.84E-06	5.20E-07	1.11E-07	7.3	SSE	
MAX X/Q	5.47E-05				TOTAL HOURS AROUND SITE:		278.3		
SRP 2.3.4 4018.	6.86E-05	2.85E-05	1.84E-05	7.10E-06	1.81E-06	3.40E-07			
SITE LIMIT	4.32E-05	1.94E-05	1.30E-05	5.44E-06	1.56E-06	3.40E-07			

00.5 PERCENT X/Q TO AN INDIVIDUAL IS LIMITING.

0**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.

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

OSITE EXCLUSION BOUNDARY CALCULATIONS:

0 S SECTOR BOUNDARY DISTANCE = 1025.0 METERS

OLATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

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

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

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

0	1.946E-04	1.659E-04	1.621E-04	1.295E-04	9.813E-05	9.725E-05	9.346E-05	7.665E-05	7.336E-05	5.340E-05
	1.897	2.846	2.981	5.556	5.691	6.098	9.756	11.789	11.924	14.634
	.06533	.09799	.10266	.19132	.19599	.20999	.33598	.40597	.41064	.50397
0	4.925E-05	4.549E-05	4.401E-05	3.472E-05	2.929E-05	2.269E-05	1.601E-05	1.488E-05	1.456E-05	1.201E-05
	23.442	26.423	26.965	27.236	44.038	66.531	73.442	76.287	76.558	76.694

	.80728	.90994	.92860	.93794	1.51657	2.29118	2.52916	2.62716	2.63649	2.64116
0	8.681E-06	6.238E-06	5.787E-06	3.639E-06	2.613E-06	2.426E-06	1.819E-06	1.120E-06	6.533E-07	4.356E-07
	80.759	83.875	85.908	89.024	89.295	90.921	91.057	93.089	97.696	99.864
	2.78115	2.88847	2.95847	3.06580	3.07513	3.13112	3.13579	3.20579	3.36444	3.43910
0	3.267E-07									
	100.000									
	3.44377									

0 X/Q PERCENTILES
 (BASED ON THE UPPER ENVELOPE OF THE
 ORDERED X/Q-FREQUENCY VALUES, AND AS
 PLOTTED ON A LOG-NORMAL GRAPH.)
 0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .191
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .336
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.289
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.625
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

	2.441E-04	.034	1.000
	1.643E-04	.103	3.000
	1.350E-04	.172	5.000
	9.195E-05	.344	10.000
	6.997E-05	.517	15.000
	5.722E-05	.689	20.000
	4.871E-05	.861	25.000
	4.257E-05	1.033	30.000
	3.790E-05	1.205	35.000
	3.420E-05	1.378	40.000
	3.118E-05	1.550	45.000
	2.868E-05	1.722	50.000
	2.655E-05	1.894	55.000
	2.473E-05	2.066	60.000
	2.314E-05	2.238	65.000
	1.942E-05	2.411	70.000
	1.569E-05	2.583	75.000
0	7.156E-05	0.5	14.52

0ANNUAL AVERAGE = 1.18E-06
 1USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0SITE EXCLUSION BOUNDARY CALCULATIONS:
 0 SSW SECTOR BOUNDARY DISTANCE = 1025.0 METERS
 0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

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

0	2.096E-04	1.946E-04	1.659E-04	1.295E-04	9.813E-05	9.346E-05	7.665E-05	5.340E-05	4.925E-05	4.549E-05
	.104	5.532	10.752	15.240	15.971	23.591	27.244	29.645	38.205	41.232
	.00467	.24732	.48063	.68129	.71395	1.05460	1.21792	1.32524	1.70789	1.84321
0	4.401E-05	3.472E-05	3.320E-05	2.929E-05	2.269E-05	1.992E-05	1.601E-05	1.488E-05	1.201E-05	9.609E-06
	41.336	41.545	41.962	55.637	75.052	75.365	80.898	82.568	83.507	83.612
	1.84788	1.85721	1.87587	2.48717	3.35511	3.36911	3.61643	3.69109	3.73308	3.73775
0	8.681E-06	6.238E-06	5.787E-06	4.340E-06	3.639E-06	2.426E-06	1.819E-06	1.120E-06	6.533E-07	4.356E-07
	87.265	89.040	90.710	91.545	94.572	95.094	95.198	95.825	98.747	100.000
	3.90107	3.98040	4.05506	4.09239	4.22772	4.25105	4.25572	4.28371	4.41437	4.47037

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4) = .680
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5) = 1.053
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6) = 3.352
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7) = 3.688
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8) = 3.898

2.014E-04	.045	1.000
1.971E-04	.134	3.000
1.950E-04	.224	5.000
1.689E-04	.447	10.000
1.310E-04	.671	15.000
1.059E-04	.894	20.000
8.754E-05	1.118	25.000
7.102E-05	1.341	30.000
5.926E-05	1.565	35.000
5.050E-05	1.788	40.000
4.374E-05	2.012	45.000
3.838E-05	2.235	50.000
3.403E-05	2.459	55.000
3.045E-05	2.682	60.000
2.745E-05	2.906	65.000
2.490E-05	3.129	70.000
2.272E-05	3.353	75.000
1.713E-05	3.576	80.000
1.122E-05	3.800	85.000
0 1.614E-04	0.5	11.18

0ANNUAL AVERAGE = 2.51E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD: 1/1/00-8/31/02

WIND SENSORS HEIGHT: Sensor Height 10.0 M

TYPE OF RELEASE: GROUND-LEVEL RELEASE

DELTA-T HEIGHTS: ETERS 10 - 60 METERS

SOURCE OF DATA: Data Source Clinton Power Station Met Data System

COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS

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

0SITE EXCLUSION BOUNDARY CALCULATIONS:

0 SW SECTOR BOUNDARY DISTANCE = 1025.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

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

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

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

0	2.096E-04	1.946E-04	1.659E-04	1.295E-04	9.813E-05	9.346E-05	7.665E-05	5.340E-05	4.925E-05	4.549E-05
	.066	5.890	10.523	15.685	16.214	23.759	28.193	30.311	42.488	44.143
	.00467	.41531	.74195	1.10593	1.14326	1.67522	1.98787	2.13719	2.99580	3.11246
0	4.401E-05	3.472E-05	3.320E-05	2.929E-05	2.269E-05	1.992E-05	1.601E-05	1.488E-05	1.456E-05	1.201E-05
	44.341	44.871	44.937	58.041	71.674	71.873	75.844	79.087	79.351	79.881
	3.12646	3.16379	3.16846	4.09239	5.05366	5.06766	5.34764	5.57629	5.59496	5.63229
0	8.681E-06	6.238E-06	5.787E-06	4.340E-06	3.639E-06	2.613E-06	2.426E-06	1.120E-06	6.533E-07	4.356E-07
	81.668	84.514	85.572	85.903	87.756	87.955	88.617	92.522	98.478	99.934
	5.75828	5.95894	6.03360	6.05693	6.18759	6.20159	6.24825	6.52357	6.94354	7.04620
0	3.267E-07									
	100.000									
	7.05086									

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (4) =	1.105
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (5) =	1.673
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (6) =	2.993
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (7) =	5.050
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (8) =	5.572
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (9) =	5.591

2.010E-04	.071	1.000
1.971E-04	.212	3.000
1.952E-04	.353	5.000
1.683E-04	.705	10.000
1.332E-04	1.058	15.000
1.072E-04	1.410	20.000
8.856E-05	1.763	25.000
7.278E-05	2.115	30.000
6.139E-05	2.468	35.000
5.279E-05	2.820	40.000
4.539E-05	3.173	45.000
3.900E-05	3.525	50.000
3.392E-05	3.878	55.000
2.979E-05	4.231	60.000
2.639E-05	4.583	65.000
2.354E-05	4.936	70.000
1.870E-05	5.288	75.000
0	1.851E-04	0.5
		7.09

0ANNUAL AVERAGE = 4.17E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site
DATA PERIOD: 1/1/00-8/31/02

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: Sensor Height 10.0 M

TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS

SOURCE OF DATA: Data Source Clinton Power Station Met Data System

COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS

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

OSITE EXCLUSION BOUNDARY CALCULATIONS:

0 WSW SECTOR BOUNDARY DISTANCE = 1025.0 METERS

OLATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	2.096E-04	1.946E-04	1.659E-04	1.621E-04	1.295E-04	9.813E-05	9.346E-05	7.665E-05	7.336E-05	5.340E-05
	.579	4.635	6.141	6.373	11.703	13.557	20.626	28.621	28.737	33.256
	.02333	.18665	.24732	.25665	.47130	.54596	.83061	1.15259	1.15726	1.33924
0	4.925E-05	4.549E-05	3.472E-05	2.929E-05	2.269E-05	1.601E-05	1.488E-05	1.456E-05	8.681E-06	6.238E-06
	49.131	51.101	51.680	69.293	77.868	78.331	82.271	82.851	84.589	87.833
	1.97853	2.05786	2.08119	2.79048	3.13579	3.15446	3.31311	3.33644	3.40644	3.53710
0	3.639E-06	2.613E-06	2.426E-06	1.120E-06	6.533E-07	4.356E-07				
	89.455	90.151	90.267	96.756	99.652	100.000				
	3.60243	3.63042	3.63509	3.89641	4.01307	4.02706				

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .471
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.151
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 1.976
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 2.788
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 3.133

2.058E-04	.040	1.000
1.978E-04	.121	3.000
1.885E-04	.201	5.000
1.392E-04	.403	10.000
1.126E-04	.604	15.000
9.523E-05	.805	20.000
8.329E-05	1.007	25.000
7.385E-05	1.208	30.000
6.526E-05	1.409	35.000
5.851E-05	1.611	40.000
5.305E-05	1.812	45.000
4.799E-05	2.014	50.000
4.166E-05	2.215	55.000
3.654E-05	2.416	60.000
3.233E-05	2.618	65.000
2.865E-05	2.819	70.000
2.465E-05	3.020	75.000
0 1.253E-04	0.5	12.42

0ANNUAL AVERAGE = 2.43E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

OSITE EXCLUSION BOUNDARY CALCULATIONS:
 0 W SECTOR BOUNDARY DISTANCE = 1025.0 METERS
 0 LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

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

0	2.096E-04	1.946E-04	1.659E-04	1.621E-04	1.295E-04	9.813E-05	9.346E-05	7.665E-05	5.340E-05	4.925E-05
	.528	5.145	7.124	7.652	14.512	15.963	19.789	30.607	37.731	55.013
	.01867	.18199	.25198	.27065	.51330	.56463	.69995	1.08259	1.33458	1.94587
0	4.549E-05	3.472E-05	2.929E-05	2.269E-05	1.601E-05	1.488E-05	1.456E-05	8.681E-06	6.238E-06	5.787E-06
	56.332	56.992	76.121	80.739	80.871	83.113	83.905	84.565	86.939	87.071
	1.99253	2.01587	2.69249	2.85581	2.86048	2.93980	2.96780	2.99113	3.07513	3.07979
0	3.639E-06	2.613E-06	2.426E-06	1.120E-06	6.533E-07	4.356E-07				
	87.863	88.259	88.522	96.702	99.604	100.000				
	3.10779	3.12179	3.13112	3.42044	3.52310	3.53710				

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

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .513
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.944
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.690
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 2.853
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 2.965

2.055E-04	.035	1.000
1.983E-04	.106	3.000
1.948E-04	.177	5.000
1.506E-04	.354	10.000
1.267E-04	.531	15.000
1.041E-04	.707	20.000
8.901E-05	.884	25.000
7.806E-05	1.061	30.000
6.969E-05	1.238	35.000
6.304E-05	1.415	40.000
5.762E-05	1.592	45.000
5.310E-05	1.769	50.000
4.926E-05	1.945	55.000
4.298E-05	2.122	60.000
3.784E-05	2.299	65.000
3.358E-05	2.476	70.000
3.001E-05	2.653	75.000

2.362E-05 2.830 80.000
0 1.309E-04 0.5 14.14

0ANNUAL AVERAGE = 2.47E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD: 1/1/00-8/31/02

WIND SENSORS HEIGHT: Sensor Height 10.0 M

TYPE OF RELEASE: GROUND-LEVEL RELEASE

DELTA-T HEIGHTS: ETERS 10 - 60 METERS

SOURCE OF DATA: Data Source Clinton Power Station Met Data System

COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS

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

0SITE EXCLUSION BOUNDARY CALCULATIONS:

0 WNW SECTOR BOUNDARY DISTANCE = 1025.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	1.946E-04	1.659E-04	1.295E-04	9.813E-05	9.346E-05	7.665E-05	5.340E-05	4.925E-05	4.549E-05	3.472E-05
	3.686	3.924	9.988	10.107	12.010	24.376	32.818	50.297	51.724	52.794
	.14466	.15399	.39197	.39664	.47130	.95660	1.28791	1.97387	2.02986	2.07186
0	2.929E-05	2.269E-05	1.601E-05	1.488E-05	1.456E-05	8.681E-06	6.238E-06	3.639E-06	2.613E-06	2.426E-06
	73.841	80.618	80.856	83.234	84.661	85.612	87.515	87.634	88.704	88.823
	2.89781	3.16379	3.17312	3.26645	3.32245	3.35978	3.43444	3.43910	3.48110	3.48577
0	1.120E-06	6.533E-07								
	98.573	100.000								
	3.86841	3.92440								

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .392
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.972
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.895
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 3.161
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 3.319
BACK EXTRAPOLATION FOR 1 PERCENTILE.
BACK EXTRAPOLATION FOR 3 PERCENTILE.

3.153E-04	.039	1.000
2.107E-04	.118	3.000
1.725E-04	.196	5.000
1.294E-04	.392	10.000
1.033E-04	.589	15.000
8.753E-05	.785	20.000
7.665E-05	.981	25.000
6.857E-05	1.177	30.000
6.228E-05	1.374	35.000
5.720E-05	1.570	40.000
5.300E-05	1.766	45.000

4.944E-05	1.962	50.000
4.376E-05	2.158	55.000
3.894E-05	2.355	60.000
3.493E-05	2.551	65.000
3.155E-05	2.747	70.000
2.800E-05	2.943	75.000
2.321E-05	3.140	80.000
0 1.133E-04	0.5	12.74

0ANNUAL AVERAGE = 2.60E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0SITE EXCLUSION BOUNDARY CALCULATIONS:

0 NW SECTOR BOUNDARY DISTANCE = 1025.0 METERS
 0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.

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

0	1.946E-04	1.659E-04	1.295E-04	9.813E-05	9.346E-05	7.665E-05	5.340E-05	4.925E-05	4.549E-05	3.472E-05
	2.082	3.247	7.410	7.660	14.238	21.565	24.563	41.549	46.295	46.794
	.11666	.18199	.41531	.42930	.79795	1.20859	1.37657	2.32851	2.59449	2.62249
0	3.320E-05	2.929E-05	2.269E-05	1.601E-05	1.488E-05	1.456E-05	8.681E-06	6.238E-06	5.787E-06	3.639E-06
	47.211	64.030	74.688	76.769	79.600	80.766	82.348	85.512	86.095	87.094
	2.64582	3.58843	4.18572	4.30238	4.46104	4.52636	4.61503	4.79235	4.82501	4.88101
0	2.613E-06	2.426E-06	1.120E-06	6.533E-07	4.356E-07	3.267E-07				
	88.093	88.260	95.670	99.167	99.917	100.000				
	4.93700	4.94634	5.36164	5.55763	5.59963	5.60429				

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (2)=	.415
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (3)=	1.207
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (4)=	2.326
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (5)=	2.592
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (6)=	3.585
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (7)=	4.182
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (8)=	4.523
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (9)=	4.821
BACK EXTRAPOLATION FOR 1 PERCENTILE.		

2.414E-04	.056	1.000
1.739E-04	.168	3.000
1.477E-04	.280	5.000

1.125E-04	.560	10.000
9.230E-05	.841	15.000
7.972E-05	1.121	20.000
6.963E-05	1.401	25.000
6.167E-05	1.681	30.000
5.552E-05	1.962	35.000
5.059E-05	2.242	40.000
4.645E-05	2.522	45.000
4.107E-05	2.802	50.000
3.611E-05	3.082	55.000
3.206E-05	3.363	60.000
2.858E-05	3.643	65.000
2.529E-05	3.923	70.000
2.217E-05	4.203	75.000
1.537E-05	4.483	80.000
6.968E-06	4.764	85.000
0 1.188E-04	0.5	8.92

0ANNUAL AVERAGE = 2.76E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD: 1/1/00-8/31/02

WIND SENSORS HEIGHT: Sensor Height 10.0 M

TYPE OF RELEASE: GROUND-LEVEL RELEASE

DELTA-T HEIGHTS: ETTERS 10 - 60 METERS

SOURCE OF DATA: Data Source Clinton Power Station Met Data System

COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS

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

0SITE EXCLUSION BOUNDARY CALCULATIONS:

0 NNW SECTOR BOUNDARY DISTANCE = 1025.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	1.946E-04	1.659E-04	1.295E-04	9.813E-05	9.346E-05	7.665E-05	5.340E-05	4.925E-05	4.549E-05	3.472E-05
	1.254	2.031	4.958	5.556	10.812	14.934	17.384	37.575	46.416	46.953
	.09799	.15866	.38731	.43397	.84461	1.16659	1.35791	2.93514	3.62576	3.66776
0	3.320E-05	2.929E-05	2.490E-05	2.269E-05	1.601E-05	1.488E-05	1.456E-05	1.201E-05	8.681E-06	6.238E-06
	47.790	61.350	61.470	75.627	79.450	81.243	81.661	81.840	83.751	85.902
	3.73308	4.79235	4.80168	5.90761	6.20625	6.34624	6.37891	6.39291	6.54223	6.71022
0	5.787E-06	4.340E-06	3.639E-06	2.613E-06	2.426E-06	1.819E-06	1.120E-06	6.533E-07	4.356E-07	3.267E-07
	86.499	86.559	88.530	89.665	90.681	90.800	96.416	98.327	99.821	99.940
	6.75688	6.76155	6.91554	7.00420	7.08353	7.09286	7.53150	7.68082	7.79748	7.80681
0	2.613E-07									
	100.000									
	7.81148									

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .844
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 3.623
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 5.904
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 6.375
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 7.528
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

2.072E-04	.078	1.000
1.512E-04	.234	3.000
1.291E-04	.391	5.000
9.670E-05	.781	10.000
8.052E-05	1.172	15.000
7.026E-05	1.562	20.000
6.296E-05	1.953	25.000
5.741E-05	2.343	30.000
5.298E-05	2.734	35.000
4.934E-05	3.125	40.000
4.628E-05	3.515	45.000
4.109E-05	3.906	50.000
3.599E-05	4.296	55.000
3.182E-05	4.687	60.000
2.836E-05	5.077	65.000
2.545E-05	5.468	70.000
2.298E-05	5.859	75.000
1.641E-05	6.249	80.000
7.909E-06	6.640	85.000
3.282E-06	7.030	90.000
0 1.168E-04	0.5	6.40

0ANNUAL AVERAGE = 3.11E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

OSITE EXCLUSION BOUNDARY CALCULATIONS:

0 N SECTOR BOUNDARY DISTANCE = 1025.0 METERS
 0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

0	1.946E-04	1.659E-04	1.295E-04	9.813E-05	9.346E-05	7.665E-05	5.340E-05	4.925E-05	4.549E-05	4.401E-05
	.820	1.600	3.445	4.389	7.998	10.541	11.444	27.153	39.910	39.951
	.09333	.18199	.39197	.49930	.90994	1.19925	1.30191	3.08913	4.54036	4.54503
0	3.472E-05	3.320E-05	2.929E-05	2.490E-05	2.269E-05	1.601E-05	1.488E-05	1.456E-05	1.201E-05	8.681E-06
	40.279	44.340	51.313	52.051	66.284	73.503	74.897	75.390	77.194	79.532
	4.58236	5.04433	5.83761	5.92160	7.54083	8.36211	8.52076	8.57676	8.78208	9.04806
0	6.238E-06	5.787E-06	4.340E-06	3.639E-06	2.613E-06	2.426E-06	1.819E-06	1.456E-06	1.120E-06	6.533E-07
	81.665	82.527	82.855	84.619	84.865	86.013	86.300	86.341	91.591	96.924
	9.29071	9.38871	9.42604	9.62669	9.65469	9.78535	9.81801	9.82268	10.41997	11.02660
0	4.356E-07	3.267E-07								

99.672 100.000
 11.33924 11.37657
 0 X/Q PERCENTILES
 (BASED ON THE UPPER ENVELOPE OF THE
 ORDERED X/Q-FREQUENCY VALUES, AND AS
 PLOTTED ON A LOG-NORMAL GRAPH.)
 0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4) = 4.537
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5) = 7.537
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6) = 8.358
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7) = 8.573
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8) = 8.779

1.858E-04	.114	1.000
1.356E-04	.341	3.000
1.128E-04	.569	5.000
8.576E-05	1.138	10.000
7.221E-05	1.706	15.000
6.352E-05	2.275	20.000
5.728E-05	2.844	25.000
5.248E-05	3.413	30.000
4.863E-05	3.982	35.000
4.536E-05	4.551	40.000
3.885E-05	5.119	45.000
3.371E-05	5.688	50.000
2.957E-05	6.257	55.000
2.618E-05	6.826	60.000
2.335E-05	7.395	65.000
1.890E-05	7.964	70.000
1.484E-05	8.532	75.000
0 1.184E-04	0.5	4.39

0ANNUAL AVERAGE = 3.38E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0SITE EXCLUSION BOUNDARY CALCULATIONS:

0 NNE SECTOR BOUNDARY DISTANCE = 1025.0 METERS
 0 LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

0 1.946E-04	1.659E-04	1.295E-04	9.813E-05	9.346E-05	7.665E-05	5.340E-05	4.925E-05	4.549E-05	3.472E-05	
	1.041	1.630	4.301	5.206	10.005	13.083	14.531	28.112	41.919	42.146
	.10733	.16799	.44330	.53663	1.03126	1.34858	1.49790	2.89781	4.32104	4.34438
0 3.320E-05	2.929E-05	2.490E-05	2.269E-05	1.601E-05	1.488E-05	1.456E-05	1.201E-05	8.681E-06	6.238E-06	

	44.907	52.558	52.829	67.270	75.283	76.369	76.732	77.818	79.810	82.028
	4.62902	5.41764	5.44564	6.93420	7.76015	7.87214	7.90947	8.02146	8.22678	8.45544
0	5.787E-06	4.340E-06	3.639E-06	2.613E-06	2.426E-06	1.819E-06	1.120E-06	6.533E-07	4.356E-07	3.267E-07
	82.933	83.115	85.604	85.785	87.641	87.732	91.489	97.329	99.955	100.000
	8.54876	8.56743	8.82408	8.84274	9.03406	9.04340	9.43070	10.03266	10.30331	10.30798

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.030
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 4.318
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 6.930
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 7.756
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 7.906
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 8.545
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

	1.967E-04	.103	1.000
	1.444E-04	.309	3.000
	1.225E-04	.515	5.000
	9.348E-05	1.031	10.000
	7.744E-05	1.546	15.000
	6.731E-05	2.062	20.000
	6.012E-05	2.577	25.000
	5.464E-05	3.092	30.000
	5.029E-05	3.608	35.000
	4.671E-05	4.123	40.000
	4.116E-05	4.639	45.000
	3.539E-05	5.154	50.000
	3.078E-05	5.669	55.000
	2.703E-05	6.185	60.000
	2.393E-05	6.700	65.000
	2.008E-05	7.216	70.000
	1.620E-05	7.731	75.000
	8.892E-06	8.246	80.000
0	1.239E-04	0.5	4.85

0ANNUAL AVERAGE = 3.42E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0SITE EXCLUSION BOUNDARY CALCULATIONS:

0 NE SECTOR BOUNDARY DISTANCE = 1025.0 METERS
 0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	2.096E-04	1.946E-04	1.659E-04	1.621E-04	1.295E-04	9.813E-05	9.346E-05	7.665E-05	7.336E-05	5.340E-05
	.261	2.087	3.523	3.783	6.654	7.763	13.503	16.960	17.221	19.700
	.01867	.14932	.25198	.27065	.47597	.55530	.96594	1.21325	1.23192	1.40924
0	4.925E-05	4.549E-05	3.472E-05	3.320E-05	2.929E-05	2.269E-05	1.601E-05	1.488E-05	1.456E-05	1.201E-05
	31.768	39.922	40.574	42.270	51.598	61.774	65.036	67.189	67.776	68.363
	2.27252	2.85581	2.90247	3.02380	3.69109	4.41904	4.65236	4.80635	4.84834	4.89034
0	9.609E-06	8.681E-06	6.238E-06	5.787E-06	4.340E-06	3.639E-06	2.613E-06	2.426E-06	1.819E-06	1.120E-06
	68.428	71.755	74.886	75.930	76.060	80.952	81.409	82.518	82.648	88.845
	4.89501	5.13299	5.35698	5.43164	5.44097	5.79095	5.82361	5.90294	5.91227	6.35558
0	6.533E-07	4.356E-07	3.267E-07							
	96.217	99.870	100.000							
	6.88288	7.14419	7.15352							

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (4) =	.270
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (5) =	.475
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (6) =	.965
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (7) =	2.853
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (8) =	4.416
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (9) =	4.845
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (10) =	5.787

2.000E-04	.072	1.000
1.744E-04	.215	3.000
1.453E-04	.358	5.000
1.077E-04	.715	10.000
8.757E-05	1.073	15.000
7.293E-05	1.431	20.000
6.296E-05	1.788	25.000
5.563E-05	2.146	30.000
4.996E-05	2.504	35.000
4.535E-05	2.861	40.000
3.779E-05	3.219	45.000
3.200E-05	3.577	50.000
2.746E-05	3.934	55.000
2.381E-05	4.292	60.000
1.780E-05	4.650	65.000
1.136E-05	5.007	70.000
6.645E-06	5.365	75.000
3.997E-06	5.723	80.000
0 1.267E-04	0.5	6.99

0ANNUAL AVERAGE = 2.67E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD: 1/1/00-8/31/02

WIND SENSORS HEIGHT: Sensor Height 10.0 M

TYPE OF RELEASE: GROUND-LEVEL RELEASE

DELTA-T HEIGHTS: ETERS 10 - 60 METERS

SOURCE OF DATA: Data Source Clinton Power Station Met Data System

COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

OSITE EXCLUSION BOUNDARY CALCULATIONS:
 0 ENE SECTOR BOUNDARY DISTANCE = 1025.0 METERS
 OLATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

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

0	2.096E-04	1.946E-04	1.659E-04	1.621E-04	1.295E-04	1.216E-04	9.813E-05	9.346E-05	7.665E-05	7.336E-05
	.233	3.258	5.120	5.431	9.232	9.310	11.637	17.300	21.412	22.420
	.01400	.19599	.30798	.32664	.55530	.55996	.69995	1.04060	1.28791	1.34858
0	5.502E-05	5.340E-05	4.925E-05	4.549E-05	3.472E-05	3.320E-05	2.929E-05	2.490E-05	2.269E-05	1.601E-05
	22.653	24.205	36.074	42.514	42.979	44.298	51.746	51.823	63.926	69.356
	1.36258	1.45590	2.16986	2.55716	2.58516	2.66449	3.11246	3.11713	3.84508	4.17172
0	1.488E-05	1.456E-05	1.201E-05	9.609E-06	8.681E-06	6.238E-06	5.787E-06	4.340E-06	3.639E-06	3.472E-06
	71.063	71.606	73.468	73.545	76.726	79.054	80.838	81.846	86.113	86.191
	4.27438	4.30705	4.41904	4.42371	4.61503	4.75502	4.86234	4.92301	5.17966	5.18432
0	2.613E-06	2.426E-06	1.819E-06	1.456E-06	1.120E-06	6.533E-07	4.356E-07	3.267E-07	2.613E-07	
	86.656	88.363	88.596	88.673	91.621	96.587	99.535	99.845	100.000	
	5.21232	5.31498	5.32898	5.33365	5.51097	5.80961	5.98694	6.00560	6.01493	

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

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .308
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= .326
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= .555
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 1.039
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 2.555
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 3.842
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (9)= 4.304
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (10)= 5.176

2.015E-04	.060	1.000
1.951E-04	.180	3.000
1.673E-04	.301	5.000
1.244E-04	.601	10.000
1.009E-04	.902	15.000
8.372E-05	1.203	20.000
7.038E-05	1.504	25.000
6.082E-05	1.804	30.000
5.359E-05	2.105	35.000
4.792E-05	2.406	40.000
4.141E-05	2.707	45.000
3.470E-05	3.007	50.000
2.950E-05	3.308	55.000
2.537E-05	3.609	60.000
2.127E-05	3.910	65.000
1.592E-05	4.210	70.000

1.033E-05	4.511	75.000
6.367E-06	4.812	80.000
4.019E-06	5.113	85.000
0 1.355E-04	0.5	8.31

0ANNUAL AVERAGE = 2.61E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0SITE EXCLUSION BOUNDARY CALCULATIONS:

0 E SECTOR BOUNDARY DISTANCE = 1025.0 METERS
 0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

0	1.946E-04	1.659E-04	1.295E-04	9.813E-05	9.346E-05	7.665E-05	7.336E-05	5.340E-05	4.925E-05	4.549E-05
	2.317	3.171	5.915	6.220	10.610	12.988	13.110	15.061	24.024	30.549
	.17732	.24265	.45264	.47597	.81195	.99393	1.00327	1.15259	1.83854	2.33784
0	3.472E-05	3.320E-05	2.929E-05	2.490E-05	2.269E-05	1.601E-05	1.488E-05	1.456E-05	1.201E-05	9.609E-06
	30.671	32.622	41.890	41.951	57.927	69.329	71.159	71.341	73.659	74.024
	2.34718	2.49650	3.20579	3.21045	4.43304	5.30565	5.44564	5.45964	5.63696	5.66496
0	8.681E-06	6.238E-06	5.787E-06	4.340E-06	3.639E-06	3.472E-06	2.613E-06	2.426E-06	1.819E-06	1.456E-06
	77.012	79.268	81.037	81.341	84.451	84.512	84.695	86.220	86.707	86.951
	5.89361	6.06626	6.20159	6.22492	6.46290	6.46757	6.48157	6.59823	6.63556	6.65422
0	1.120E-06	6.533E-07	4.356E-07	3.267E-07	2.613E-07					
	89.146	94.268	98.720	99.817	100.000					
	6.82221	7.21419	7.55483	7.63882	7.65282					

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (2)=	.452
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (3)=	.811
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (4)=	2.335
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (5)=	4.430
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (6)=	5.302
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (7)=	5.442
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (8)=	5.633
HANDCHECK GRAPH:	SLOPE LT -1.0 FOR LOW PERCENTAGES.	XSAVE (9)=	5.890

BACK EXTRAPOLATION FOR 1 PERCENTILE.

2.725E-04	.077	1.000
1.746E-04	.230	3.000
1.397E-04	.383	5.000
9.670E-05	.765	10.000

7.467E-05	1.148	15.000
6.148E-05	1.531	20.000
5.259E-05	1.913	25.000
4.610E-05	2.296	30.000
3.949E-05	2.678	35.000
3.426E-05	3.061	40.000
3.014E-05	3.444	45.000
2.682E-05	3.826	50.000
2.408E-05	4.209	55.000
2.122E-05	4.592	60.000
1.817E-05	4.974	65.000
1.559E-05	5.357	70.000
1.053E-05	5.740	75.000
0 1.227E-04	0.5	6.53

0ANNUAL AVERAGE = 2.63E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0SITE EXCLUSION BOUNDARY CALCULATIONS:

0 ESE SECTOR BOUNDARY DISTANCE = 1025.0 METERS
 0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

0	1.946E-04	1.659E-04	1.295E-04	9.813E-05	9.346E-05	7.665E-05	5.340E-05	4.925E-05	4.549E-05	3.472E-05
	2.805	4.146	6.463	7.195	10.183	12.012	13.780	22.988	28.415	28.841
	.21465	.31731	.49463	.55063	.77928	.91927	1.05460	1.75922	2.17452	2.20719
0	3.320E-05	2.929E-05	2.490E-05	2.269E-05	1.601E-05	1.488E-05	1.456E-05	1.201E-05	8.681E-06	6.238E-06
	29.268	37.622	37.744	55.793	67.683	70.000	70.244	72.378	75.366	77.683
	2.23985	2.87914	2.88847	4.26971	5.17965	5.35698	5.37564	5.53896	5.76762	5.94494
0	5.787E-06	4.340E-06	3.639E-06	3.472E-06	2.613E-06	2.426E-06	1.819E-06	1.120E-06	6.533E-07	4.356E-07
	80.793	81.524	84.878	84.939	85.000	86.402	86.829	89.268	93.963	98.780
	6.18292	6.23892	6.49557	6.50023	6.50490	6.61222	6.64489	6.83154	7.19085	7.55949
0	3.267E-07									
	100.000									
	7.65282									

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2) = .317
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3) = .494
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4) = 2.172

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 4.266
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 5.176
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 5.353
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 5.372
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

2.888E-04	.077	1.000
1.894E-04	.230	3.000
1.497E-04	.383	5.000
9.707E-05	.765	10.000
7.324E-05	1.148	15.000
5.942E-05	1.531	20.000
5.023E-05	1.913	25.000
4.314E-05	2.296	30.000
3.701E-05	2.678	35.000
3.230E-05	3.061	40.000
2.858E-05	3.444	45.000
2.555E-05	3.826	50.000
2.305E-05	4.209	55.000
1.993E-05	4.592	60.000
1.725E-05	4.974	65.000
1.488E-05	5.357	70.000
0 1.286E-04	0.5	6.53

0 ANNUAL AVERAGE = 2.59E-06

1 USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0 SITE EXCLUSION BOUNDARY CALCULATIONS:

0 SE SECTOR BOUNDARY DISTANCE = 1025.0 METERS
 0 LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

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

0 2.096E-04	1.946E-04	1.659E-04	1.295E-04	9.813E-05	9.346E-05	7.665E-05	7.336E-05	5.340E-05	4.925E-05
.368	3.385	7.138	9.492	10.302	15.526	17.734	17.807	19.720	27.962
.02333	.21465	.45264	.60196	.65329	.98460	1.12459	1.12926	1.25058	1.77322
0 4.549E-05	3.472E-05	3.320E-05	2.929E-05	2.490E-05	2.269E-05	1.601E-05	1.488E-05	1.456E-05	1.201E-05
30.243	30.831	31.567	42.899	43.046	61.001	69.316	71.965	72.112	72.848
1.91787	1.95520	2.00187	2.72048	2.72982	3.86841	4.39571	4.56370	4.57303	4.61969
0 8.681E-06	6.238E-06	5.787E-06	4.340E-06	3.639E-06	2.613E-06	2.426E-06	1.819E-06	1.120E-06	6.533E-07
75.497	78.146	80.206	80.648	84.842	85.063	86.240	86.387	89.330	95.585
4.78768	4.95567	5.08633	5.11433	5.38031	5.39431	5.46897	5.47830	5.66496	6.06160
0 4.356E-07	3.267E-07								
99.338	100.000								
6.29958	6.34158								

0 X/Q PERCENTILES

(BASED ON THE UPPER ENVELOPE OF THE
 ORDERED X/Q-FREQUENCY VALUES, AND AS

PLOTTED ON A LOG-NORMAL GRAPH.)
 0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= .983
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 1.916
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 3.865
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 4.560
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 5.377

2.030E-04	.063	1.000
1.955E-04	.190	3.000
1.793E-04	.317	5.000
1.302E-04	.634	10.000
9.598E-05	.951	15.000
7.165E-05	1.268	20.000
5.626E-05	1.585	25.000
4.591E-05	1.902	30.000
3.962E-05	2.220	35.000
3.481E-05	2.537	40.000
3.099E-05	2.854	45.000
2.787E-05	3.171	50.000
2.528E-05	3.488	55.000
2.309E-05	3.805	60.000
1.933E-05	4.122	65.000
1.599E-05	4.439	70.000
1.050E-05	4.756	75.000
6.049E-06	5.073	80.000
0 1.546E-04	0.5	7.88

0ANNUAL AVERAGE = 2.44E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0SITE EXCLUSION BOUNDARY CALCULATIONS:

0 SSE SECTOR BOUNDARY DISTANCE = 1025.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0 2.096E-04	1.946E-04	1.659E-04	1.295E-04	9.813E-05	9.346E-05	7.665E-05	7.336E-05	5.340E-05	4.925E-05
.257	2.185	3.085	4.884	5.656	8.612	11.568	12.082	14.781	26.478
.00933	.07933	.11199	.17732	.20532	.31265	.41997	.43864	.53663	.96127
0 4.549E-05	3.472E-05	3.320E-05	2.929E-05	2.269E-05	1.601E-05	1.488E-05	1.201E-05	8.681E-06	6.238E-06
32.262	32.648	34.319	49.871	70.051	74.679	79.177	79.692	82.905	84.704
1.17126	1.18525	1.24592	1.81055	2.54316	2.71115	2.87448	2.89314	3.00980	3.07513
0 5.787E-06	4.340E-06	3.639E-06	2.613E-06	2.426E-06	1.819E-06	1.120E-06	6.533E-07	4.356E-07	3.267E-07
86.118	86.247	88.946	89.075	89.846	90.231	92.416	96.915	99.357	100.000

3.12646 3.13112 3.22912 3.23378 3.26178 3.27578 3.35511 3.51843 3.60709 3.63042
 0 X/Q PERCENTILES
 (BASED ON THE UPPER ENVELOPE OF THE
 ORDERED X/Q-FREQUENCY VALUES, AND AS
 PLOTTED ON A LOG-NORMAL GRAPH.)
 0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .112
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.170
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.541
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 2.872
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 3.124

2.002E-04	.036	1.000
1.681E-04	.109	3.000
1.302E-04	.182	5.000
9.025E-05	.363	10.000
7.193E-05	.545	15.000
6.086E-05	.726	20.000
5.324E-05	.908	25.000
4.760E-05	1.089	30.000
4.244E-05	1.271	35.000
3.780E-05	1.452	40.000
3.408E-05	1.634	45.000
3.101E-05	1.815	50.000
2.844E-05	1.997	55.000
2.625E-05	2.178	60.000
2.436E-05	2.360	65.000
2.271E-05	2.541	70.000
1.796E-05	2.723	75.000
1.326E-05	2.904	80.000
6.709E-06	3.086	85.000
0 7.552E-05	0.5	13.77

0 ANNUAL AVERAGE = 1.27E-06

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

OSITE EXCLUSION BOUNDARY CALCULATIONS:

DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.
 MINIMUM BOUNDARY DISTANCE = 1025.0 METERS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

0	9.725E-04	4.401E-04	4.168E-04	2.431E-04	1.992E-04	1.886E-04	1.621E-04	1.216E-04	1.100E-04	9.725E-05
	2.571	5.903	7.564	7.681	11.820	16.752	16.822	16.827	17.671	17.685
	2.57116	5.90294	7.56416	7.68082	11.81988	16.75222	16.82221	16.82688	17.67149	17.68549
0	9.609E-05	8.537E-05	7.336E-05	5.502E-05	4.980E-05	4.401E-05	4.118E-05	3.472E-05	3.320E-05	2.490E-05
	20.187	33.299	33.420	33.434	40.042	40.084	51.741	52.184	53.532	53.682

	20.18666	33.29911	33.42044	33.43444	40.04200	40.08400	51.74055	52.18386	53.53243	53.68176
0	2.402E-05	1.992E-05	1.601E-05	1.488E-05	1.456E-05	1.201E-05	9.609E-06	8.681E-06	6.238E-06	5.787E-06
	67.802	67.830	73.728	75.936	76.379	77.354	77.396	79.837	82.277	83.509
	67.80214	67.83014	73.72842	75.93560	76.37891	77.35417	77.39617	79.83668	82.27719	83.50911
0	4.340E-06	3.639E-06	3.472E-06	2.613E-06	2.426E-06	1.819E-06	1.456E-06	1.120E-06	6.533E-07	4.356E-07
	83.812	86.416	86.430	86.827	87.891	88.068	88.096	92.482	97.158	99.636
	83.81242	86.41624	86.43024	86.82688	87.89081	88.06813	88.09613	92.48251	97.15819	99.63602
0	3.267E-07	2.613E-07								
	99.972	100.000								
	99.97200	100.00000								

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2) = 7.560
BACK EXTRAPOLATION FOR 1 PERCENTILE.

1.817E-03	1.000	1.000
8.704E-04	3.000	3.000
5.895E-04	5.000	5.000
3.270E-04	10.000	10.000
2.220E-04	15.000	15.000
1.632E-04	20.000	20.000
1.253E-04	25.000	25.000
9.884E-05	30.000	30.000
7.993E-05	35.000	35.000
6.628E-05	40.000	40.000
5.530E-05	45.000	45.000
4.628E-05	50.000	50.000
3.873E-05	55.000	55.000
3.231E-05	60.000	60.000
2.679E-05	65.000	65.000
2.127E-05	70.000	70.000
1.586E-05	75.000	75.000
1.227E-05	80.000	80.000
9.354E-06	85.000	85.000
6.652E-06	90.000	90.000
0 5.895E-04	5.0	5.00

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

OSITE EXCLUSION BOUNDARY CALCULATIONS:

OFIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT IS NOT INCLUDED.

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

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

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

0	2.096E-04	1.946E-04	1.659E-04	1.621E-04	1.295E-04	1.216E-04	9.813E-05	9.725E-05	9.346E-05	7.665E-05
	.117	2.688	4.349	4.419	7.751	7.755	8.600	8.614	13.546	17.685
	.11666	2.68782	4.34904	4.41904	7.75082	7.75548	8.60009	8.61409	13.54643	17.68548
0	7.336E-05	5.502E-05	5.340E-05	4.925E-05	4.549E-05	4.401E-05	3.472E-05	3.320E-05	2.929E-05	2.490E-05
	17.807	17.821	20.322	33.434	40.042	40.084	40.527	41.876	53.532	53.682
	17.80681	17.82081	20.32198	33.43444	40.04200	40.08399	40.52730	41.87588	53.53243	53.68176
0	2.269E-05	1.992E-05	1.601E-05	1.488E-05	1.456E-05	1.201E-05	9.609E-06	8.681E-06	6.238E-06	5.787E-06
	67.802	67.830	73.728	75.936	76.379	77.354	77.396	79.837	82.277	83.509
	67.80216	67.83016	73.72845	75.93564	76.37895	77.35423	77.39624	79.83675	82.27727	83.50918
0	4.340E-06	3.639E-06	3.472E-06	2.613E-06	2.426E-06	1.819E-06	1.456E-06	1.120E-06	6.533E-07	4.356E-07
	83.812	86.416	86.430	86.827	87.891	88.068	88.096	92.483	97.158	99.636
	83.81250	86.41634	86.43035	86.82701	87.89095	88.06827	88.09628	92.48265	97.15834	99.63618
0	3.267E-07	2.613E-07								
	99.972	100.000								
	99.97218	100.00020								

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

0 ERROR IN NORMAL TRANSFORMATION FOR A(42)= 100.00020

1.998E-04	1.000	1.000
1.879E-04	3.000	3.000
1.567E-04	5.000	5.000
1.130E-04	10.000	10.000
8.901E-05	15.000	15.000
7.364E-05	20.000	20.000
6.259E-05	25.000	25.000
5.409E-05	30.000	30.000
4.831E-05	35.000	35.000
4.551E-05	40.000	40.000
4.022E-05	45.000	45.000
3.559E-05	50.000	50.000
3.150E-05	55.000	55.000
2.782E-05	60.000	60.000
2.446E-05	65.000	65.000
2.038E-05	70.000	70.000
1.571E-05	75.000	75.000
1.227E-05	80.000	80.000
9.357E-06	85.000	85.000
6.656E-06	90.000	90.000
0 1.567E-04	5.0	5.00

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD: 1/1/00-8/31/02

WIND SENSORS HEIGHT: Sensor Height 10.0 M

TYPE OF RELEASE: GROUND-LEVEL RELEASE

DELTA-T HEIGHTS: ETERS 10 - 60 METERS

SOURCE OF DATA: Data Source Clinton Power Station Met Data System

COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS

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

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

HOURS PER YEAR MAX

100.000
3.44377

0 X/Q PERCENTILES
(BASED ON THE UPPER ENVELOPE OF THE
ORDERED X/Q-FREQUENCY VALUES, AND AS
PLOTTED ON A LOG-NORMAL GRAPH.)
0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .186
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .806
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.289
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.527
BACK EXTRAPOLATION FOR 1 PERCENTILE.

8.590E-05	.034	1.000
4.759E-05	.103	3.000
3.551E-05	.172	5.000
1.977E-05	.344	10.000
1.359E-05	.517	15.000
1.031E-05	.689	20.000
8.251E-06	.861	25.000
6.828E-06	1.033	30.000
5.798E-06	1.205	35.000
5.018E-06	1.378	40.000
4.408E-06	1.550	45.000
3.918E-06	1.722	50.000
3.517E-06	1.894	55.000
3.182E-06	2.066	60.000
2.899E-06	2.238	65.000
2.311E-06	2.411	70.000
0 1.401E-05	0.5	14.52

0ANNUAL AVERAGE = 1.29E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
SOURCE OF DATA: Data Source Clinton Power Station Met Data System
COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

0 SSW SECTOR BOUNDARY DISTANCE = 4018.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	6.126E-05	3.945E-05	3.386E-05	3.166E-05	1.901E-05	1.703E-05	1.389E-05	9.307E-06	8.812E-06	6.071E-06
	5.428	10.647	15.136	15.240	22.860	26.514	27.244	29.645	38.205	41.232
	.24265	.47597	.67662	.68129	1.02193	1.18525	1.21792	1.32524	1.70789	1.84321
0	5.751E-06	4.398E-06	4.159E-06	2.913E-06	2.821E-06	2.495E-06	1.912E-06	1.434E-06	1.248E-06	1.147E-06
	41.336	55.010	55.428	55.637	75.052	75.365	80.898	81.837	83.507	83.612

	1.84788	2.45917	2.47783	2.48717	3.35511	3.36911	3.61643	3.65842	3.73308	3.73775
0	7.282E-07	4.855E-07	4.110E-07	3.641E-07	2.397E-07	1.598E-07	1.547E-07	1.199E-07	9.022E-08	6.015E-08
	87.265	88.935	90.710	91.545	94.572	95.094	95.720	95.825	98.747	100.000
	3.90107	3.97573	4.05506	4.09239	4.22772	4.25105	4.27905	4.28371	4.41437	4.47037

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .676
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.184
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 3.352
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 3.613
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 3.898
 BACK EXTRAPOLATION FOR 1 PERCENTILE.
 BACK EXTRAPOLATION FOR 3 PERCENTILE.
 BACK EXTRAPOLATION FOR 5 PERCENTILE.

	1.451E-04	.045	1.000
	8.406E-05	.134	3.000
	6.407E-05	.224	5.000
	4.337E-05	.447	10.000
	3.405E-05	.671	15.000
	2.420E-05	.894	20.000
	1.834E-05	1.118	25.000
	1.395E-05	1.341	30.000
	1.083E-05	1.565	35.000
	8.652E-06	1.788	40.000
	7.074E-06	2.012	45.000
	5.890E-06	2.235	50.000
	4.977E-06	2.459	55.000
	4.258E-06	2.682	60.000
	3.682E-06	2.906	65.000
	3.212E-06	3.129	70.000
	2.824E-06	3.353	75.000
	2.027E-06	3.576	80.000
	1.020E-06	3.800	85.000
0	4.061E-05	0.5	11.18

0ANNUAL AVERAGE = 2.84E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

0 SW SECTOR BOUNDARY DISTANCE = 4018.0 METERS
 0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

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

0	6.126E-05	3.945E-05	3.386E-05	3.166E-05	1.901E-05	1.703E-05	1.389E-05	9.307E-06	8.812E-06	6.071E-06
	5.824	10.457	15.619	15.685	23.230	27.664	28.193	30.311	42.488	44.143
	.41064	.73728	1.10126	1.10593	1.63789	1.95054	1.98787	2.13719	2.99580	3.11246
0	5.751E-06	4.398E-06	4.159E-06	2.913E-06	2.821E-06	2.495E-06	1.912E-06	1.434E-06	1.248E-06	9.590E-07
	44.341	57.445	57.512	58.041	71.674	71.873	75.844	76.373	79.616	79.881
	3.12646	4.05040	4.05506	4.09239	5.05366	5.06766	5.34764	5.38497	5.61363	5.63229
0	7.282E-07	4.855E-07	4.110E-07	3.641E-07	3.609E-07	2.397E-07	1.598E-07	1.547E-07	9.022E-08	6.015E-08
	81.668	82.727	85.572	85.903	86.102	87.955	88.617	92.522	98.478	99.934
	5.75828	5.83294	6.03360	6.05693	6.07093	6.20159	6.24825	6.52357	6.94354	7.04620
0	4.511E-08									
	100.000									
	7.05086									

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= 1.100
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.948
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.993
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 5.050
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 5.344
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 5.610
 BACK EXTRAPOLATION FOR 1 PERCENTILE.
 BACK EXTRAPOLATION FOR 3 PERCENTILE.
 BACK EXTRAPOLATION FOR 5 PERCENTILE.

	1.540E-04	.071	1.000
	8.820E-05	.212	3.000
	6.676E-05	.353	5.000
	4.465E-05	.705	10.000
	3.475E-05	1.058	15.000
	2.532E-05	1.410	20.000
	1.931E-05	1.763	25.000
	1.509E-05	2.115	30.000
	1.193E-05	2.468	35.000
	9.695E-06	2.820	40.000
	7.817E-06	3.173	45.000
	6.254E-06	3.525	50.000
	5.092E-06	3.878	55.000
	4.208E-06	4.231	60.000
	3.520E-06	4.583	65.000
	2.977E-06	4.936	70.000
	2.066E-06	5.288	75.000
0	5.471E-05	0.5	7.09

0ANNUAL AVERAGE = 4.72E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site
 DATA PERIOD: 1/1/00-8/31/02

METEOROLOGICAL INSTRUMENTATION
 WIND SENSORS HEIGHT: Sensor Height 10.0 M

TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:
 0 WSW SECTOR BOUNDARY DISTANCE = 4018.0 METERS
 OLATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

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

0	6.126E-05	3.945E-05	3.386E-05	3.166E-05	2.209E-05	1.901E-05	1.703E-05	1.389E-05	9.586E-06	9.307E-06
	4.056	5.562	10.892	11.472	11.703	18.772	26.767	28.621	28.737	33.256
	.16332	.22399	.43864	.46197	.47130	.75595	1.07793	1.15259	1.15726	1.33924
0	8.812E-06	6.071E-06	4.398E-06	2.913E-06	2.821E-06	1.912E-06	1.248E-06	9.590E-07	7.282E-07	4.110E-07
	49.131	51.101	68.714	69.293	77.868	78.331	82.271	82.851	84.589	87.833
	1.97853	2.05786	2.76715	2.79048	3.13579	3.15446	3.31311	3.33644	3.40644	3.53710
0	3.609E-07	2.397E-07	1.598E-07	1.547E-07	9.022E-08	6.015E-08				
	88.528	90.151	90.267	96.756	99.652	100.000				
	3.56510	3.63042	3.63509	3.89641	4.01307	4.02706				

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

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .438
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.077
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.976
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.764
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 3.133
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 3.893
 BACK EXTRAPOLATION FOR 1 PERCENTILE.
 BACK EXTRAPOLATION FOR 3 PERCENTILE.

1.306E-04	.040	1.000
7.263E-05	.121	3.000
5.428E-05	.201	5.000
3.573E-05	.403	10.000
2.673E-05	.604	15.000
2.145E-05	.805	20.000
1.799E-05	1.007	25.000
1.511E-05	1.208	30.000
1.282E-05	1.409	35.000
1.108E-05	1.611	40.000
9.727E-06	1.812	45.000
8.506E-06	2.014	50.000
7.004E-06	2.215	55.000
5.851E-06	2.416	60.000
4.947E-06	2.618	65.000
4.120E-06	2.819	70.000
3.226E-06	3.020	75.000

1.978E-06	3.222	80.000
8.859E-07	3.423	85.000
4.122E-07	3.624	90.000
0 3.077E-05	0.5	12.42

0ANNUAL AVERAGE = 2.71E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

0 W SECTOR BOUNDARY DISTANCE = 4018.0 METERS
 0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

0	6.126E-05	3.945E-05	3.386E-05	3.166E-05	2.209E-05	1.901E-05	1.703E-05	1.389E-05	9.307E-06	8.812E-06
	4.617	6.596	13.456	13.984	14.512	18.338	29.156	30.607	37.731	55.013
	.16332	.23332	.47597	.49463	.51330	.64862	1.03126	1.08259	1.33458	1.94587
0	6.071E-06	4.398E-06	2.913E-06	2.821E-06	1.912E-06	1.248E-06	9.590E-07	7.282E-07	4.855E-07	4.110E-07
	56.332	75.462	76.121	80.739	80.871	83.113	83.905	84.565	84.697	87.071
	1.99253	2.66916	2.69249	2.85581	2.86048	2.93980	2.96780	2.99113	2.99580	3.07979
0	3.609E-07	2.397E-07	1.598E-07	1.547E-07	9.022E-08	6.015E-08				
	87.467	88.259	88.522	96.702	99.604	100.000				
	3.09379	3.12179	3.13112	3.42044	3.52310	3.53710				

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .475
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.030
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.944
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.667
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 2.853
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 3.417
 BACK EXTRAPOLATION FOR 1 PERCENTILE.
 BACK EXTRAPOLATION FOR 3 PERCENTILE.

1.306E-04	.035	1.000
7.655E-05	.106	3.000
5.873E-05	.177	5.000
4.017E-05	.354	10.000
3.086E-05	.531	15.000
2.399E-05	.707	20.000
1.962E-05	.884	25.000
1.655E-05	1.061	30.000

1.417E-05	1.238	35.000
1.235E-05	1.415	40.000
1.092E-05	1.592	45.000
9.768E-06	1.769	50.000
8.815E-06	1.945	55.000
7.306E-06	2.122	60.000
6.133E-06	2.299	65.000
5.204E-06	2.476	70.000
4.459E-06	2.653	75.000
2.997E-06	2.830	80.000
1.244E-06	3.007	85.000
4.967E-07	3.183	90.000
0	3.247E-05	0.5
		14.14

0ANNUAL AVERAGE = 2.76E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

0 WNW SECTOR BOUNDARY DISTANCE = 4018.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	6.126E-05	3.945E-05	3.386E-05	1.901E-05	1.703E-05	1.389E-05	9.307E-06	8.812E-06	6.071E-06	4.398E-06
	3.686	3.924	9.988	11.891	24.257	24.376	32.818	50.297	51.724	72.771
	.14466	.15399	.39197	.46664	.95194	.95660	1.28791	1.97387	2.02986	2.85581
0	2.913E-06	2.821E-06	1.912E-06	1.248E-06	9.590E-07	7.282E-07	4.110E-07	3.609E-07	2.397E-07	1.598E-07
	73.841	80.618	80.856	83.234	84.661	85.612	87.515	88.585	88.704	88.823
	2.89781	3.16379	3.17312	3.26645	3.32244	3.35978	3.43444	3.47643	3.48110	3.48577
0	1.547E-07	9.022E-08								
	98.573	100.000								
	3.86841	3.92440								

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .392
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .951
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.972
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.853
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 3.161
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 3.865
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

BACK EXTRAPOLATION FOR 3 PERCENTILE.

1.237E-04	.039	1.000
6.878E-05	.118	3.000
5.140E-05	.196	5.000
3.383E-05	.392	10.000
2.492E-05	.589	15.000
1.989E-05	.785	20.000
1.659E-05	.981	25.000
1.415E-05	1.177	30.000
1.233E-05	1.374	35.000
1.092E-05	1.570	40.000
9.787E-06	1.766	45.000
8.862E-06	1.962	50.000
7.476E-06	2.158	55.000
6.355E-06	2.355	60.000
5.463E-06	2.551	65.000
4.740E-06	2.747	70.000
3.861E-06	2.943	75.000
2.917E-06	3.140	80.000
1.327E-06	3.336	85.000
5.830E-07	3.532	90.000
0	2.823E-05	0.5
		12.74

0 ANNUAL AVERAGE = 2.87E-07

1 USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0 LOW POPULATION ZONE CALCULATIONS:

0 NW SECTOR BOUNDARY DISTANCE = 4018.0 METERS
 0 LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

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

0	6.126E-05	3.945E-05	3.386E-05	1.901E-05	1.703E-05	1.389E-05	9.307E-06	8.812E-06	6.071E-06	4.398E-06
	2.082	3.247	7.410	13.988	21.316	21.565	24.563	41.549	46.295	63.114
	.11666	.18199	.41531	.78395	1.19459	1.20859	1.37657	2.32851	2.59449	3.53710
0	4.159E-06	2.913E-06	2.821E-06	1.912E-06	1.248E-06	9.590E-07	7.282E-07	4.855E-07	4.110E-07	3.609E-07
	63.530	64.030	74.688	76.769	79.600	80.766	82.348	82.931	86.095	87.094
	3.56043	3.58843	4.18572	4.30238	4.46104	4.52636	4.61503	4.64769	4.82501	4.88101
0	2.397E-07	1.598E-07	1.547E-07	9.022E-08	6.015E-08	4.511E-08				
	88.093	88.260	95.670	99.167	99.917	100.000				
	4.93700	4.94634	5.36164	5.55763	5.59963	5.60429				

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS

SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .415
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.193
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.326
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 3.534
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 4.182
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 4.457
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 5.358
BACK EXTRAPOLATION FOR 1 PERCENTILE.

8.381E-05	.056	1.000
5.202E-05	.168	3.000
4.101E-05	.280	5.000
2.810E-05	.560	10.000
2.161E-05	.841	15.000
1.779E-05	1.121	20.000
1.463E-05	1.401	25.000
1.225E-05	1.681	30.000
1.050E-05	1.962	35.000
9.165E-06	2.242	40.000
7.746E-06	2.522	45.000
6.517E-06	2.802	50.000
5.559E-06	3.082	55.000
4.796E-06	3.363	60.000
4.073E-06	3.643	65.000
3.352E-06	3.923	70.000
2.675E-06	4.203	75.000
1.181E-06	4.483	80.000
5.977E-07	4.764	85.000
3.122E-07	5.044	90.000
0 3.019E-05	0.5	8.92

0ANNUAL AVERAGE = 3.04E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
SOURCE OF DATA: Data Source Clinton Power Station Met Data System
COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

0 NNW SECTOR BOUNDARY DISTANCE = 4018.0 METERS
0 LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT IS NOT INCLUDED.

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

0	6.126E-05	3.945E-05	3.386E-05	1.901E-05	1.703E-05	1.389E-05	9.307E-06	8.812E-06	6.071E-06	4.398E-06
	1.254	2.031	4.958	10.215	14.337	14.934	17.384	37.575	46.416	59.976
	.09799	.15866	.38731	.79795	1.11993	1.16659	1.35791	2.93514	3.62576	4.68502
0	4.159E-06	3.119E-06	2.913E-06	2.821E-06	1.912E-06	1.434E-06	1.248E-06	9.590E-07	7.282E-07	4.855E-07
	60.812	60.932	61.470	75.627	79.450	79.630	81.422	81.840	83.751	84.349
	4.75035	4.75968	4.80168	5.90761	6.20625	6.22025	6.36024	6.39291	6.54223	6.58889

0	4.110E-07	3.641E-07	3.609E-07	2.397E-07	1.598E-07	1.547E-07	1.199E-07	9.022E-08	6.015E-08	4.511E-08
	86.499	86.559	87.694	89.665	90.681	96.296	96.416	98.327	99.821	99.940
	6.75688	6.76155	6.85021	7.00420	7.08353	7.52217	7.53150	7.68082	7.79748	7.80681
0	3.609E-08									
	100.000									
	7.81148									

0 X/Q PERCENTILES
 (BASED ON THE UPPER ENVELOPE OF THE
 ORDERED X/Q-FREQUENCY VALUES, AND AS
 PLOTTED ON A LOG-NORMAL GRAPH.)
 0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
 CHI/Q WITH RESPECT TO WHEN THE WIND BLOWS
 SEC/CUBIC METER THE TOTAL TIME INTO THIS SECTOR ONLY

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .387
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 2.932
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 4.681
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 5.904
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 6.202
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 6.846
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 7.518
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

	6.710E-05	.078	1.000
	4.243E-05	.234	3.000
	3.370E-05	.391	5.000
	2.208E-05	.781	10.000
	1.697E-05	1.172	15.000
	1.395E-05	1.562	20.000
	1.192E-05	1.953	25.000
	1.044E-05	2.343	30.000
	9.301E-06	2.734	35.000
	8.057E-06	3.125	40.000
	6.788E-06	3.515	45.000
	5.804E-06	3.906	50.000
	5.025E-06	4.296	55.000
	4.394E-06	4.687	60.000
	3.779E-06	5.077	65.000
	3.279E-06	5.468	70.000
	2.867E-06	5.859	75.000
	1.704E-06	6.249	80.000
	6.138E-07	6.640	85.000
	2.858E-07	7.030	90.000
0	2.910E-05	0.5	6.40

0 ANNUAL AVERAGE = 3.41E-07
 1 USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145
 0 LOW POPULATION ZONE CALCULATIONS:
 0 N SECTOR BOUNDARY DISTANCE = 4018.0 METERS
 0 LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

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

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

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

0	6.126E-05	3.945E-05	3.386E-05	1.901E-05	1.703E-05	1.389E-05	9.307E-06	8.812E-06	6.071E-06	5.751E-06
	.820	1.600	3.445	7.055	9.598	10.541	11.444	27.153	39.910	39.951
	.09333	.18199	.39197	.80261	1.09193	1.19925	1.30191	3.08913	4.54036	4.54503
0	4.398E-06	4.159E-06	3.119E-06	2.913E-06	2.821E-06	1.912E-06	1.434E-06	1.248E-06	9.590E-07	7.282E-07
	46.924	50.984	51.723	52.051	66.284	73.503	75.308	76.702	77.194	79.532
	5.33831	5.80028	5.88427	5.92161	7.54083	8.36211	8.56743	8.72608	8.78208	9.04806
0	4.855E-07	4.110E-07	3.641E-07	3.609E-07	2.397E-07	1.598E-07	1.547E-07	1.199E-07	9.590E-08	9.022E-08
	80.394	82.527	82.855	83.101	84.865	86.013	91.263	91.550	91.591	96.924
	9.14606	9.38871	9.42604	9.45404	9.65469	9.78535	10.38264	10.41531	10.41997	11.02660
0	6.015E-08	4.511E-08								
	99.672	100.000								
	11.33924	11.37657								

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .392
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 3.086
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 4.537
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 7.537
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 8.358
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 8.723
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 11.024

5.670E-05	.114	1.000
3.599E-05	.341	3.000
2.724E-05	.569	5.000
1.770E-05	1.138	10.000
1.350E-05	1.706	15.000
1.103E-05	2.275	20.000
9.375E-06	2.844	25.000
8.022E-06	3.413	30.000
6.914E-06	3.982	35.000
6.051E-06	4.551	40.000
5.101E-06	5.119	45.000
4.363E-06	5.688	50.000
3.776E-06	6.257	55.000
3.301E-06	6.826	60.000
2.910E-06	7.395	65.000
2.300E-06	7.964	70.000
1.564E-06	8.532	75.000
7.875E-07	9.101	80.000
4.020E-07	9.670	85.000
2.111E-07	10.239	90.000
0	2.940E-05	0.5
		4.39

0ANNUAL AVERAGE = 3.70E-07

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:
 0 NNE SECTOR BOUNDARY DISTANCE = 4018.0 METERS
 0 LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

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

0	6.126E-05	3.945E-05	3.386E-05	1.901E-05	1.703E-05	1.389E-05	9.307E-06	8.812E-06	6.071E-06	4.398E-06
	1.041	1.630	4.301	9.099	12.177	13.083	14.531	28.112	41.919	49.570
	.10733	.16799	.44330	.93794	1.25525	1.34858	1.49790	2.89781	4.32104	5.10966
0	4.159E-06	3.119E-06	2.913E-06	2.821E-06	1.912E-06	1.434E-06	1.248E-06	9.590E-07	7.282E-07	4.855E-07
	52.331	52.603	52.829	67.270	75.283	76.369	77.456	77.818	79.810	80.715
	5.39431	5.42231	5.44564	6.93420	7.76015	7.87214	7.98413	8.02146	8.22678	8.32011
0	4.110E-07	3.641E-07	3.609E-07	2.397E-07	1.598E-07	1.547E-07	1.199E-07	9.022E-08	6.015E-08	4.511E-08
	82.933	83.115	83.296	85.785	87.641	91.399	91.489	97.329	99.955	100.000
	8.54876	8.56743	8.58609	8.84274	9.03406	9.42137	9.43070	10.03266	10.30331	10.30798

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

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .443
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.254
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.895
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 4.318
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 6.930
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 7.756
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 7.980
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (9)= 10.030
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

6.223E-05	.103	1.000
3.967E-05	.309	3.000
3.081E-05	.515	5.000
1.953E-05	1.031	10.000
1.456E-05	1.546	15.000
1.164E-05	2.062	20.000
9.716E-06	2.577	25.000
8.309E-06	3.092	30.000
7.207E-06	3.608	35.000
6.351E-06	4.123	40.000
5.437E-06	4.639	45.000
4.603E-06	5.154	50.000

3.946E-06	5.669	55.000
3.419E-06	6.185	60.000
2.990E-06	6.700	65.000
2.461E-06	7.216	70.000
1.938E-06	7.731	75.000
8.687E-07	8.246	80.000
4.366E-07	8.762	85.000
2.260E-07	9.277	90.000
0 3.141E-05	0.5	4.85

0ANNUAL AVERAGE = 3.76E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

0 NE SECTOR BOUNDARY DISTANCE = 4018.0 METERS
 0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.
 THE TOP NUMBER IS THE CHI/Q. THE MIDDLE NUMBER IS THE FREQUENCY NORMALIZED TO THIS SECTOR.
 THE THIRD NUMBER IS THE FREQUENCY WITH RESPECT TO ALL TIME.

0	6.126E-05	3.945E-05	3.386E-05	3.166E-05	2.209E-05	1.901E-05	1.703E-05	1.389E-05	9.586E-06	9.307E-06
	1.826	3.262	6.132	6.393	6.654	12.394	15.851	16.960	17.221	19.700
	.13066	.23332	.43864	.45730	.47597	.88661	1.13392	1.21325	1.23192	1.40924
0	8.812E-06	6.071E-06	4.398E-06	4.159E-06	2.913E-06	2.821E-06	1.912E-06	1.434E-06	1.248E-06	1.147E-06
	31.768	39.922	49.250	50.946	51.598	61.774	65.036	65.623	67.776	67.841
	2.27252	2.85581	3.52310	3.64442	3.69109	4.41904	4.65236	4.69435	4.84834	4.85301
0	9.590E-07	7.282E-07	4.855E-07	4.110E-07	3.641E-07	3.609E-07	2.397E-07	1.598E-07	1.547E-07	1.199E-07
	68.428	71.755	72.798	75.930	76.060	76.517	81.409	82.518	88.715	88.845
	4.89501	5.13299	5.20765	5.43164	5.44097	5.47364	5.82361	5.90294	6.34624	6.35558
0	9.022E-08	6.015E-08	4.511E-08							
	96.217	99.870	100.000							
	6.88287	7.14419	7.15352							

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .438
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.133
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.270
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 3.641
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 4.416
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 4.649
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 6.879
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

8.039E-05	.072	1.000
4.844E-05	.215	3.000
3.761E-05	.358	5.000
2.400E-05	.715	10.000
1.776E-05	1.073	15.000
1.376E-05	1.431	20.000
1.114E-05	1.788	25.000
9.328E-06	2.146	30.000
7.590E-06	2.504	35.000
6.155E-06	2.861	40.000
5.096E-06	3.219	45.000
4.290E-06	3.577	50.000
3.570E-06	3.934	55.000
2.994E-06	4.292	60.000
1.920E-06	4.650	65.000
1.098E-06	5.007	70.000
6.479E-07	5.365	75.000
3.927E-07	5.723	80.000
2.439E-07	6.080	85.000
1.547E-07	6.438	90.000
0 3.094E-05	0.5	6.99

0ANNUAL AVERAGE = 2.95E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD: 1/1/00-8/31/02

WIND SENSORS HEIGHT: Sensor Height 10.0 M

TYPE OF RELEASE: GROUND-LEVEL RELEASE

DELTA-T HEIGHTS: ETERS 10 - 60 METERS

SOURCE OF DATA: Data Source Clinton Power Station Met Data System

COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS

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

0LOW POPULATION ZONE CALCULATIONS:

0 ENE SECTOR BOUNDARY DISTANCE = 4018.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	6.126E-05	3.945E-05	3.386E-05	3.166E-05	2.209E-05	1.901E-05	1.703E-05	1.657E-05	1.389E-05	9.586E-06
	3.026	4.888	8.689	8.922	9.232	14.895	19.007	19.085	21.412	22.420
	.18199	.29398	.52263	.53663	.55530	.89594	1.14326	1.14792	1.28791	1.34858
0	9.307E-06	8.812E-06	7.189E-06	6.071E-06	4.398E-06	4.159E-06	3.119E-06	2.913E-06	2.821E-06	1.912E-06
	23.972	35.842	36.074	42.514	49.961	51.280	51.358	51.823	63.926	69.356
	1.44190	2.15586	2.16985	2.55716	3.00513	3.08446	3.08913	3.11713	3.84508	4.17172
0	1.434E-06	1.248E-06	1.147E-06	9.590E-07	7.282E-07	4.855E-07	4.110E-07	3.641E-07	3.609E-07	2.913E-07
	71.218	72.925	73.002	73.545	76.726	78.510	80.838	81.846	82.312	82.389
	4.28371	4.38637	4.39104	4.42370	4.61503	4.72235	4.86234	4.92301	4.95100	4.95567
0	2.397E-07	1.598E-07	1.547E-07	1.199E-07	9.590E-08	9.022E-08	6.015E-08	4.511E-08	3.609E-08	
	86.656	88.363	91.311	91.544	91.621	96.587	99.535	99.845	100.000	
	5.21232	5.31498	5.49230	5.50630	5.51097	5.80961	5.98693	6.00560	6.01493	

0 X/Q PERCENTILES

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

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .522
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.142
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.154
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 3.842
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 4.168
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 4.383
 BACK EXTRAPOLATION FOR 1 PERCENTILE.
 BACK EXTRAPOLATION FOR 3 PERCENTILE.

1.076E-04	.060	1.000
6.154E-05	.180	3.000
4.655E-05	.301	5.000
3.007E-05	.601	10.000
2.111E-05	.902	15.000
1.618E-05	1.203	20.000
1.290E-05	1.504	25.000
1.067E-05	1.804	30.000
9.043E-06	2.105	35.000
7.159E-06	2.406	40.000
5.705E-06	2.707	45.000
4.639E-06	3.007	50.000
3.834E-06	3.308	55.000
3.213E-06	3.609	60.000
2.606E-06	3.910	65.000
1.768E-06	4.210	70.000
0 3.476E-05	0.5	8.31

0ANNUAL AVERAGE = 2.91E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

0 E SECTOR BOUNDARY DISTANCE = 4018.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0 6.126E-05	3.945E-05	3.386E-05	1.901E-05	1.703E-05	1.389E-05	9.586E-06	9.307E-06	8.812E-06	6.071E-06
2.317	3.171	5.915	10.305	12.683	12.988	13.110	15.061	24.024	30.549
.17732	.24265	.45264	.78861	.97060	.99393	1.00327	1.15259	1.83854	2.33784
0 4.398E-06	4.159E-06	3.119E-06	2.913E-06	2.821E-06	1.912E-06	1.434E-06	1.248E-06	1.147E-06	9.590E-07
39.817	41.768	41.829	41.951	57.927	69.329	71.646	73.476	73.841	74.024
3.04713	3.19645	3.20112	3.21045	4.43304	5.30565	5.48297	5.62296	5.65096	5.66496
0 7.282E-07	4.855E-07	4.110E-07	3.641E-07	3.609E-07	2.913E-07	2.397E-07	1.598E-07	1.547E-07	1.199E-07
77.012	78.780	81.037	81.341	81.524	81.585	84.695	86.220	88.415	88.902

	5.89361	6.02893	6.20159	6.22492	6.23892	6.24358	6.48157	6.59823	6.76622	6.80355
0	9.590E-08	9.022E-08	6.015E-08	4.511E-08	3.609E-08					
	89.146	94.268	98.720	99.817	100.000					
	6.82221	7.21419	7.55483	7.63882	7.65282					

0 X/Q PERCENTILES

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

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .452
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .969
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.837
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 4.430
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 5.302
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 5.619
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (8)= 7.551
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

	1.000E-04	.077	1.000
	5.230E-05	.230	3.000
	3.782E-05	.383	5.000
	2.123E-05	.765	10.000
	1.440E-05	1.148	15.000
	1.071E-05	1.531	20.000
	8.399E-06	1.913	25.000
	6.713E-06	2.296	30.000
	5.527E-06	2.678	35.000
	4.651E-06	3.061	40.000
	3.982E-06	3.444	45.000
	3.455E-06	3.826	50.000
	3.031E-06	4.209	55.000
	2.617E-06	4.592	60.000
	2.202E-06	4.974	65.000
	1.783E-06	5.357	70.000
	1.017E-06	5.740	75.000
	5.318E-07	6.122	80.000
	2.867E-07	6.505	85.000
	1.589E-07	6.888	90.000
0	3.106E-05	0.5	6.53

0 ANNUAL AVERAGE = 2.91E-07

1 USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD: 1/1/00-8/31/02

WIND SENSORS HEIGHT: Sensor Height 10.0 M

TYPE OF RELEASE: GROUND-LEVEL RELEASE

DELTA-T HEIGHTS: ETERS 10 - 60 METERS

SOURCE OF DATA: Data Source Clinton Power Station Met Data System

COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS

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

0 LOW POPULATION ZONE CALCULATIONS:

0 ESE SECTOR BOUNDARY DISTANCE = 4018.0 METERS

0 LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

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

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

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

0	6.126E-05	3.945E-05	3.386E-05	1.901E-05	1.703E-05	1.389E-05	9.307E-06	8.812E-06	6.071E-06	4.398E-06
	2.805	4.146	6.463	9.451	11.280	12.012	13.780	22.988	28.415	36.768
	.21465	.31731	.49463	.72329	.86328	.91927	1.05460	1.75922	2.17452	2.81381
0	4.159E-06	3.119E-06	2.913E-06	2.821E-06	1.912E-06	1.434E-06	1.248E-06	9.590E-07	7.282E-07	4.855E-07
	37.195	37.317	37.744	55.793	67.683	69.817	72.134	72.378	75.366	78.476
	2.84648	2.85581	2.88847	4.26972	5.17965	5.34298	5.52030	5.53896	5.76762	6.00560
0	4.110E-07	3.641E-07	3.609E-07	2.913E-07	2.397E-07	1.598E-07	1.547E-07	1.199E-07	9.022E-08	6.015E-08
	80.793	81.524	81.585	81.646	85.000	86.402	88.841	89.268	93.963	98.780
	6.18292	6.23892	6.24358	6.24825	6.50490	6.61223	6.79888	6.83154	7.19085	7.55949
0	4.511E-08									
	100.000									
	7.65282									

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .494
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.757
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 4.266
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 5.176
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 5.517
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 7.556
BACK EXTRAPOLATION FOR 1 PERCENTILE.

1.199E-04	.077	1.000
5.850E-05	.230	3.000
4.085E-05	.383	5.000
2.182E-05	.765	10.000
1.421E-05	1.148	15.000
1.033E-05	1.531	20.000
7.966E-06	1.913	25.000
6.368E-06	2.296	30.000
5.243E-06	2.678	35.000
4.413E-06	3.061	40.000
3.778E-06	3.444	45.000
3.279E-06	3.826	50.000
2.877E-06	4.209	55.000
2.441E-06	4.592	60.000
2.077E-06	4.974	65.000
1.528E-06	5.357	70.000
8.670E-07	5.740	75.000
4.708E-07	6.122	80.000
2.632E-07	6.505	85.000
1.510E-07	6.888	90.000
0 3.351E-05	0.5	6.53

0ANNUAL AVERAGE = 2.87E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETTERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:
 0 SE SECTOR BOUNDARY DISTANCE = 4018.0 METERS
 OLATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
 AS A FUNCTION OF DOWNWIND DISTANCE.
 MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
 BUILDING WAKE CREDIT IS NOT INCLUDED.

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

0	6.126E-05	3.945E-05	3.386E-05	3.166E-05	1.901E-05	1.703E-05	1.389E-05	9.586E-06	9.307E-06	8.812E-06
	3.017	6.770	9.124	9.492	14.717	16.924	17.734	17.807	19.720	27.962
	.19132	.42930	.57863	.60196	.93327	1.07326	1.12459	1.12926	1.25058	1.77322
0	6.071E-06	4.398E-06	4.159E-06	3.119E-06	2.913E-06	2.821E-06	1.912E-06	1.434E-06	1.248E-06	9.590E-07
	30.243	41.575	42.311	42.458	43.046	61.001	69.316	70.051	72.701	72.848
	1.91787	2.63649	2.68315	2.69249	2.72982	3.86841	4.39571	4.44237	4.61036	4.61969
0	7.282E-07	4.855E-07	4.110E-07	3.641E-07	3.609E-07	2.397E-07	1.598E-07	1.547E-07	1.199E-07	9.022E-08
	75.497	77.557	80.206	80.648	80.868	85.063	86.240	89.183	89.330	95.585
	4.78768	4.91834	5.08633	5.11433	5.12832	5.39431	5.46897	5.65562	5.66496	6.06160
0	6.015E-08	4.511E-08								
	99.338	100.000								
	6.29958	6.34158								

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

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .578
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= 1.072
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 1.771
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 3.865
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 4.392
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (7)= 4.607
 BACK EXTRAPOLATION FOR 1 PERCENTILE.
 BACK EXTRAPOLATION FOR 3 PERCENTILE.

1.045E-04	.063	1.000
6.143E-05	.190	3.000
4.712E-05	.317	5.000
3.068E-05	.634	10.000
1.955E-05	.951	15.000
1.375E-05	1.268	20.000
1.025E-05	1.585	25.000
7.997E-06	1.902	30.000
6.442E-06	2.220	35.000
5.319E-06	2.537	40.000
4.477E-06	2.854	45.000
3.825E-06	3.171	50.000

3.310E-06	3.488	55.000
2.894E-06	3.805	60.000
2.328E-06	4.122	65.000
1.752E-06	4.439	70.000
0 3.676E-05	0.5	7.88

0ANNUAL AVERAGE = 2.73E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0LOW POPULATION ZONE CALCULATIONS:

0 SSE SECTOR BOUNDARY DISTANCE = 4018.0 METERS

0LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED

AS A FUNCTION OF DOWNWIND DISTANCE.

MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	6.126E-05	3.945E-05	3.386E-05	3.166E-05	1.901E-05	1.703E-05	1.389E-05	9.586E-06	9.307E-06	8.812E-06
	1.928	2.828	4.627	4.884	7.841	10.797	11.568	12.082	14.781	26.478
	.07000	.10266	.16799	.17732	.28465	.39197	.41997	.43864	.53663	.96127
0	6.071E-06	4.398E-06	4.159E-06	2.913E-06	2.821E-06	1.912E-06	1.434E-06	1.248E-06	7.282E-07	4.855E-07
	32.262	47.815	49.486	49.871	70.051	74.679	75.193	79.692	82.905	84.319
	1.17126	1.73588	1.79655	1.81055	2.54316	2.71115	2.72982	2.89314	3.00980	3.06113
0	4.110E-07	3.641E-07	3.609E-07	2.397E-07	1.598E-07	1.547E-07	1.199E-07	9.022E-08	6.015E-08	4.511E-08
	86.118	86.247	86.375	89.075	89.846	92.031	92.416	96.915	99.357	100.000
	3.12646	3.13112	3.13579	3.23378	3.26178	3.34111	3.35511	3.51843	3.60709	3.63042

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (2)= .168
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (3)= .960
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (4)= 2.541
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (5)= 2.708
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE (6)= 2.890
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

9.308E-05	.036	1.000
4.566E-05	.109	3.000
3.205E-05	.182	5.000
1.926E-05	.363	10.000
1.405E-05	.545	15.000
1.114E-05	.726	20.000
9.251E-06	.908	25.000
7.678E-06	1.089	30.000
6.457E-06	1.271	35.000

5.541E-06	1.452	40.000
4.830E-06	1.634	45.000
4.263E-06	1.815	50.000
3.802E-06	1.997	55.000
3.419E-06	2.178	60.000
3.097E-06	2.360	65.000
2.823E-06	2.541	70.000
1.860E-06	2.723	75.000
0 1.503E-05	0.5	13.77

0ANNUAL AVERAGE = 1.39E-07

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0

RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site

METEOROLOGICAL INSTRUMENTATION

DATA PERIOD: 1/1/00-8/31/02

WIND SENSORS HEIGHT: Sensor Height 10.0 M

TYPE OF RELEASE: GROUND-LEVEL RELEASE

DELTA-T HEIGHTS: ETTERS 10 - 60 METERS

SOURCE OF DATA: Data Source Clinton Power Station Met Data System

COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS

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

0LOW POPULATION ZONE CALCULATIONS:

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

MINIMUM BOUNDARY DISTANCE = 4018.0 METERS.

BUILDING WAKE CREDIT IS NOT INCLUDED.

0BELOW ARE PRINTED THE ORDERED VALUES OF CHI/Q AND THE FREQUENCY WITH WHICH THAT VALUE IS REACHED OR EXCEEDED.

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

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

0	1.326E-04	5.751E-05	5.681E-05	3.314E-05	2.495E-05	2.465E-05	2.209E-05	1.657E-05	1.438E-05	1.326E-05
	2.571	5.903	7.564	7.681	11.820	16.752	16.822	16.827	17.671	17.685
	2.57116	5.90294	7.56416	7.68082	11.81988	16.75222	16.82221	16.82688	17.67149	17.68549
0	1.147E-05	1.069E-05	9.586E-06	7.189E-06	6.238E-06	5.751E-06	4.918E-06	4.159E-06	3.119E-06	2.913E-06
	20.187	33.299	33.420	33.434	40.042	40.084	51.741	53.089	53.238	53.682
	20.18666	33.29911	33.42044	33.43444	40.04200	40.08400	51.74055	53.08913	53.23845	53.68176
0	2.869E-06	2.495E-06	1.912E-06	1.434E-06	1.248E-06	1.147E-06	9.590E-07	7.282E-07	4.855E-07	4.110E-07
	67.802	67.830	73.728	74.704	76.911	76.953	77.396	79.837	81.069	83.509
	67.80214	67.83014	73.72842	74.70368	76.91087	76.95287	77.39617	79.83668	81.06860	83.50911
0	3.641E-07	3.609E-07	2.913E-07	2.397E-07	1.598E-07	1.547E-07	1.199E-07	9.590E-08	9.022E-08	6.015E-08
	83.812	84.209	84.223	86.827	87.891	92.277	92.454	92.482	97.158	99.636
	83.81242	84.20906	84.22306	86.82689	87.89082	92.27719	92.45451	92.48251	97.15820	99.63603
0	4.511E-08	3.609E-08								
	99.972	100.000								
	99.97201	100.00000								

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

0

ERROR IN NORMAL TRANSFORMATION FOR A(42)= 100.00000

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(2)= 7.560

BACK EXTRAPOLATION FOR 1 PERCENTILE.

2.476E-04	1.000	1.000
1.186E-04	3.000	3.000
8.035E-05	5.000	5.000
4.401E-05	10.000	10.000

2.926E-05	15.000	15.000
2.116E-05	20.000	20.000
1.602E-05	25.000	25.000
1.248E-05	30.000	30.000
9.988E-06	35.000	35.000
8.223E-06	40.000	40.000
6.814E-06	45.000	45.000
5.665E-06	50.000	50.000
4.709E-06	55.000	55.000
3.902E-06	60.000	60.000
3.213E-06	65.000	65.000
2.479E-06	70.000	70.000
1.814E-06	75.000	75.000
1.452E-06	80.000	80.000
1.120E-06	85.000	85.000
8.084E-07	90.000	90.000
0 8.035E-05	5.0	5.00

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
SOURCE OF DATA: Data Source Clinton Power Station Met Data System
COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

OFIVE PERCENT OVERALL SITE LIMIT

BUILDING WAKE CREDIT IS NOT INCLUDED.

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

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

0	6.126E-05	3.945E-05	3.386E-05	3.166E-05	2.209E-05	1.901E-05	1.703E-05	1.657E-05	1.389E-05	1.326E-05
	2.571	4.232	7.564	7.681	7.751	12.683	16.822	16.827	17.671	17.685
	2.57116	4.23238	7.56416	7.68082	7.75082	12.68316	16.82221	16.82688	17.67149	17.68549
0	9.586E-06	9.307E-06	8.812E-06	7.189E-06	6.071E-06	5.751E-06	4.398E-06	4.159E-06	3.119E-06	2.913E-06
	17.807	20.308	33.420	33.434	40.042	40.084	51.741	53.089	53.238	53.682
	17.80682	20.30799	33.42044	33.43444	40.04200	40.08400	51.74056	53.08913	53.23846	53.68177
0	2.821E-06	2.495E-06	1.912E-06	1.434E-06	1.248E-06	1.147E-06	9.590E-07	7.282E-07	4.855E-07	4.110E-07
	67.802	67.830	73.728	74.704	76.911	76.953	77.396	79.837	81.069	83.509
	67.80218	67.83018	73.72846	74.70374	76.91093	76.95294	77.39626	79.83677	81.06868	83.50919
0	3.641E-07	3.609E-07	2.913E-07	2.397E-07	1.598E-07	1.547E-07	1.199E-07	9.590E-08	9.022E-08	6.015E-08
	83.812	84.209	84.223	86.827	87.891	92.277	92.455	92.483	97.158	99.636
	83.81252	84.20918	84.22318	86.82703	87.89097	92.27734	92.45466	92.48267	97.15836	99.63620
0	4.511E-08	3.609E-08								
	99.972	100.000								
	99.97219	100.00020								

0 X/Q PERCENTILES

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

0 PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

0 ERROR IN NORMAL TRANSFORMATION FOR A(42)= 100.00020

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(2)= 7.560
 HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(3)= 16.824
 BACK EXTRAPOLATION FOR 1 PERCENTILE.

9.485E-05	1.000	1.000
5.668E-05	3.000	3.000
4.316E-05	5.000	5.000
2.710E-05	10.000	10.000
1.899E-05	15.000	15.000
1.469E-05	20.000	20.000
1.195E-05	25.000	25.000
9.923E-06	30.000	30.000
8.340E-06	35.000	35.000
7.043E-06	40.000	40.000
5.982E-06	45.000	45.000
5.095E-06	50.000	50.000
4.339E-06	55.000	55.000
3.685E-06	60.000	60.000
3.112E-06	65.000	65.000
2.452E-06	70.000	70.000
1.814E-06	75.000	75.000
1.453E-06	80.000	80.000
1.121E-06	85.000	85.000
8.088E-07	90.000	90.000
0 4.316E-05	5.0	5.00

1USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 10/ 3/2002

/PLANT NAME: Exelon ESP Site METEOROLOGICAL INSTRUMENTATION
 DATA PERIOD: 1/1/00-8/31/02 WIND SENSORS HEIGHT: Sensor Height 10.0 M
 TYPE OF RELEASE: GROUND-LEVEL RELEASE DELTA-T HEIGHTS: ETERS 10 - 60 METERS
 SOURCE OF DATA: Data Source Clinton Power Station Met Data System
 COMMENTS: No SITE-SPECIFIC TERRAIN ADJUSTMENT FACTORS
 PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

0

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

DOWNWIND DISTANCE SECTOR (METERS)	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 4018.	1.40E-05	6.46E-06	4.38E-06	1.89E-06	5.66E-07	1.29E-07	7.0	S
SSW 4018.	4.06E-05	1.79E-05	1.19E-05	4.87E-06	1.36E-06	2.84E-07	26.0	SSW
SW 4018.	5.47E-05	2.49E-05	1.68E-05	7.18E-06	2.11E-06	4.72E-07	43.7	SW
WSW 4018.	3.08E-05	1.41E-05	9.52E-06	4.07E-06	1.20E-06	2.71E-07	17.4	WSW
W 4018.	3.25E-05	1.48E-05	9.95E-06	4.23E-06	1.24E-06	2.76E-07	17.7	W
WNW 4018.	2.82E-05	1.32E-05	9.05E-06	3.97E-06	1.22E-06	2.87E-07	15.4	WNW
NW 4018.	3.02E-05	1.41E-05	9.66E-06	4.23E-06	1.30E-06	3.04E-07	13.2	NW
NNW 4018.	2.91E-05	1.40E-05	9.66E-06	4.35E-06	1.39E-06	3.41E-07	11.3	NNW
N 4018.	2.94E-05	1.43E-05	9.94E-06	4.53E-06	1.47E-06	3.70E-07	10.9	N
NNE 4018.	3.14E-05	1.51E-05	1.05E-05	4.74E-06	1.52E-06	3.76E-07	12.5	NNE
NE 4018.	3.09E-05	1.43E-05	9.76E-06	4.23E-06	1.28E-06	2.95E-07	14.6	NE
ENE 4018.	3.48E-05	1.58E-05	1.06E-05	4.50E-06	1.31E-06	2.91E-07	19.6	ENE
E 4018.	3.11E-05	1.44E-05	9.75E-06	4.22E-06	1.27E-06	2.91E-07	18.7	E
ESE 4018.	3.35E-05	1.52E-05	1.03E-05	4.38E-06	1.28E-06	2.87E-07	22.1	ESE
SE 4018.	3.68E-05	1.63E-05	1.09E-05	4.52E-06	1.28E-06	2.73E-07	20.9	SE
SSE 4018.	1.50E-05	6.93E-06	4.71E-06	2.03E-06	6.08E-07	1.39E-07	7.3	SSE
MAX X/Q	5.47E-05					TOTAL HOURS AROUND SITE:	278.3	

SRP 2.3.4 4018.	8.04E-05	3.44E-05	2.25E-05	8.95E-06	2.38E-06	4.72E-07
SITE LIMIT	4.32E-05	2.05E-05	1.41E-05	6.27E-06	1.96E-06	4.72E-07

00.5 PERCENT X/Q TO AN INDIVIDUAL IS LIMITING.

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

PAVAN Model Input File (Per NUREG/CR-2858 November 1982
 Generated 9/23/02 By George Howroyd/CH2M HILL

0000 00000
 Exelon ESP Facility 1/1/00 - 8/31/02 Ground Level Release
 Wind Sensor Ht 10 m 10 - 60 meters
 Data Source: Clinton Power Station Meteorological Data System
 None
 6 0
 2069.76.1 10. 10.
 2. 2. 0. 0. 0. 3. 0.
 2.0 0.0 3.0 6.0 3.0 9.0 12.0 19.0 6.0 4.0 7.0 6.0 3.0 1.0 3.0 1.0
 15.0 6.0 59.0 56.0 62.0 82.0 89.0 94.0 128.0 83.0 95.0 38.0 36.0 40.0 40.0 17.0
 34.0 28.0 90.0 25.0 22.0 12.0 42.0 32.0 130.0 129.0 113.0 64.0 84.0 77.0 85.0 35.0
 16.0 12.0 22.0 3.0 3.0 0.0 9.0 25.0 67.0 58.0 56.0 38.0 73.0 79.0 51.0 19.0
 1.0 0.0 1.0 0.0 0.0 0.0 1.0 2.0 8.0 1.0 2.0 4.0 18.0 20.0 9.0 5.0
 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.0 0.0 0.0 0.0 2.0 3.0 0.0 0.0 0.0
 2.0 0.0 4.0 5.0 6.0 12.0 14.0 7.0 12.0 8.0 9.0 7.0 3.0 4.0 2.0 0.0
 23.0 17.0 43.0 28.0 18.0 16.0 38.0 36.0 52.0 49.0 48.0 30.0 37.0 38.0 36.0 14.0
 23.0 29.0 28.0 14.0 6.0 1.0 12.0 33.0 43.0 55.0 75.0 55.0 51.0 55.0 57.0 21.0
 12.0 5.0 10.0 1.0 2.0 1.0 2.0 17.0 28.0 41.0 17.0 22.0 25.0 23.0 16.0 6.0
 1.0 1.0 0.0 0.0 0.0 0.0 0.0 2.0 7.0 2.0 2.0 3.0 8.0 7.0 2.0 3.0
 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.0 0.0 0.0 1.0 4.0 0.0 0.0 0.0
 2.0 2.0 8.0 5.0 5.0 9.0 6.0 9.0 8.0 5.0 10.0 6.0 2.0 7.0 8.0 3.0
 21.0 16.0 49.0 34.0 17.0 20.0 34.0 30.0 34.0 24.0 33.0 22.0 30.0 38.0 36.0 35.0
 30.0 35.0 27.0 15.0 5.0 8.0 19.0 32.0 57.0 44.0 51.0 41.0 49.0 49.0 36.0 25.0
 15.0 16.0 16.0 0.0 1.0 0.0 7.0 10.0 21.0 20.0 16.0 23.0 29.0 51.0 28.0 11.0
 0.0 8.0 5.0 0.0 0.0 0.0 0.0 1.0 8.0 4.0 2.0 13.0 5.0 12.0 6.0 1.0
 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.0 1.0 1.0 0.0 0.0
 20.0 23.0 32.0 39.0 54.0 71.0 36.0 41.0 22.0 32.0 38.0 20.0 32.0 29.0 26.0 21.0
 124.0 131.0 198.0 152.0 145.0 177.0 202.0 227.0 170.0 169.0 143.0 96.0 152.0 137.0 154.0 121.0
 166.0 186.0 206.0 74.0 35.0 57.0 128.0 237.0 347.0 319.0 156.0 156.0 262.0 296.0 244.0 157.0

Card Type 1 - Control Parameters
 Card Type 2 - Name, Period of Record, Release Type
 Card Type 3 - Wind sensor and Delta T Elevations
 Card Type 4 - Data Source
 Card Type 5 - Default
 Card Type 6 - # of Wind speed categories, # of distances with terrain
 Card Type 7 - Bldg X-sect area (= CPS), Bldg Ht, Release Ht. (10 m default)
 Card Type 8 - Calm Wind Hours by Stability Category
 A Stability, 16 sectors, Speed Category 1 (1 - 3 mph)
 A Stability, 16 sectors, Speed Category 1 (4 - 7 mph)
 A Stability, 16 sectors, Speed Category 1 (8 - 12 mph)
 A Stability, 16 sectors, Speed Category 1 (13 - 18 mph)
 A Stability, 16 sectors, Speed Category 1 (19 - 24 mph)
 A Stability, 16 sectors, Speed Category 1 (> 24 mph)
 B Stability
 C Stability
 D Stability

51.0	53.0	60.0	4.0	1.0	2.0	25.0	64.0	176.0	177.0	50.0	70.0	187.0	195.0	113.0	36.0
1.0	9.0	8.0	0.0	0.0	0.0	0.0	3.0	44.0	24.0	9.0	24.0	38.0	35.0	10.0	4.0
0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	6.0	0.0	0.0	0.0
15.0	35.0	67.0	69.0	82.0	104.0	88.0	69.0	62.0	68.0	53.0	53.0	39.0	30.0	30.0	23.0
65.0	82.0	184.0	137.0	131.0	147.0	204.0	338.0	383.0	300.0	185.0	153.0	147.0	151.0	112.0	91.0
22.0	29.0	25.0	17.0	10.0	12.0	57.0	148.0	311.0	305.0	125.0	83.0	107.0	89.0	31.0	45.0
0.0	4.0	1.0	0.0	0.0	0.0	5.0	14.0	99.0	61.0	26.0	17.0	32.0	7.0	10.0	13.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	18.0	6.0	0.0	1.0	1.0	2.0	2.0	0.0
0.0	3.0	3.0	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
19.0	43.0	78.0	46.0	52.0	51.0	50.0	49.0	45.0	59.0	44.0	49.0	45.0	38.0	32.0	14.0
27.0	73.0	114.0	61.0	29.0	16.0	79.0	88.0	88.0	106.0	88.0	73.0	72.0	49.0	71.0	23.0
1.0	7.0	8.0	16.0	11.0	1.0	3.0	10.0	23.0	20.0	17.0	30.0	5.0	12.0	11.0	6.0
1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	13.0	2.0	0.0	1.0	4.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
4.0	1.0	3.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14.0	52.0	88.0	35.0	35.0	31.0	25.0	21.0	20.0	23.0	28.0	39.0	38.0	46.0	41.0	15.0
7.0	50.0	70.0	13.0	15.0	2.0	14.0	13.0	19.0	13.0	22.0	24.0	14.0	22.0	51.0	7.0
0.0	1.0	1.0	5.0	4.0	0.0	0.0	0.0	0.0	0.0	4.0	3.0	0.0	0.0	5.0	2.0
1.0	0.0	0.0	2.0	4.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	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	1.0	0.0	0.0	0.0	0.0
3.0	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.	3.0	7.0	12.0	18.0	24.0	30.0									
1025	1025	1025	1025	1025	1025	1025	1025	1025	1025	1025	1025	1025	1025	1025	1025
4018	4018	4018	4018	4018	4018	4018	4018	4018	4018	4018	4018	4018	4018	4018	4018

E Stability

F Stability

G Stability

Card Type 10 - Default factor, upper limit of wind speed categories
Card Type 11 - Distance to EAB, all sectors
Card Type 11 - Distance to LPZ, all sectors