Exelon Generation
4300 Winfield Road
Warrenville, IL 60555

www.exeloncorp.com

Exelon Nuclear

RS-11-137

10 CFR 50.90

August 25, 2011

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Braidwood Station, Units 1 and 2
Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456 and STN 50-457

Byron Station, Units 1 and 2
Facility Operating License Nos. NPF-37 and NPF-66
NRC Docket Nos. STN 50-454 and STN 50-455

Subject: Supplemental Information Supporting Request for License Amendment Regarding Measurement Uncertainty Recapture Power Uprate

References:

1. Letter from Craig Lambert (Exelon Generation Company, LLC) to U. S. NRC, "Request for License Amendment Regarding Measurement Uncertainty Recapture Power Uprate," dated June 23, 2011

2. Letter from N. J. DiFrancesco (U. S. NRC) to M. J. Pacilio (Exelon Generation Company, LLC), "Braidwood Station, Unit Nos. 1 and 2 and Byron Station, Unit Nos. 1 and 2 – Supplemental Information Needed for Acceptance of Licensing Action Regarding Measurement Uncertainty Recapture Power Uprate (TAC Nos. ME6587, ME6588, ME6589, and ME6590)," dated August 22, 2011

In Reference 1, Exelon Generation Company, LLC (EGC) requested an amendment to Facility Operating License Nos. NPF-72, NPF-77, NPF-37 and NPF-66 for Braidwood Station, Units 1 and 2, and Byron Station, Units 1 and 2, respectively. Specifically, the proposed changes revise the Operating License and Technical Specifications to implement an increase in rated thermal power of approximately 1.63%. In Reference 2, the NRC requested supplemental information to support review of the proposed changes. In response to this request, EGC is providing the attached information.

EGC has reviewed the information supporting a finding of no significant hazards consideration and the environmental consideration provided to the NRC in Reference 1. The additional information provided in this submittal does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration. In addition, the

A001
NRR

additional information provided in this submittal does not affect the bases for concluding that neither an environmental impact statement nor an environmental assessment needs to be prepared in connection with the proposed amendment.

In response to the NRC's request to provide certain information in electronic format, included with this submittal are two CDs in Attachments 6 and 7 as noted below, for submission to the Public Document Room. A second copy of these CDs is being sent to the NRC Project Manager, NRR – Braidwood and Byron Stations, for NRC Staff use.

There are no regulatory commitments contained in this letter.

Should you have any questions concerning this letter, please contact Mr. Joseph A. Bauer at (630) 657-3376.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 25th day of August 2011.

Respectfully,

Kevin F. Borton
Manager, Licensing - Power Uprate

Attachments:

Attachment 1: Response to Request for Supplemental Information

Attachment 2: Calculation No. BYR04-050, BRW-04-0044-M, Minor Rev. 1B, Appendix BB-5: "Byron PAVAN Input and Output"

Attachment 3: Calculation No. BYR04-050, BRW-04-0044-M, Minor Rev. 1B, Appendix BB-7: Braidwood PAVAN Input and Output

Attachment 4: Calculation No. BYR04-050, BRW-04-0044-M, Minor Rev. 1B, Appendix BB-1: Byron Joint Frequency Distribution

Attachment 5: Calculation No. BYR04-050, BRW-04-0044-M, Minor Rev. 1B, Appendix BB-2: Braidwood Joint Frequency Distribution

Attachment 6: CD, "Byron and Braidwood Stations, Metrological Data Files," August 25, 2011

Attachment 7: CD, "Byron and Braidwood Stations, PAVAN Input Files," August 25, 2011

cc: NRC Regional Administrator, Region III (Attachments 1 – 5)
NRC Senior Resident Inspector – Braidwood Station (Attachments 1 – 5)
NRC Senior Resident Inspector – Byron Station (Attachments 1 – 5)
Illinois Emergency Management Agency – Division of Nuclear Safety (Attachments 1 – 5)

ATTACHMENT 1
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

NRC Request 1

In Attachment 5 of the EGC submittal, Page III-152, Section III.17.2.1: Main Steam Line Break Dose Evaluation, states:

> *"The atmospheric dispersion factors (X/Q) values have been updated and incorporated into the dose analysis as per the current commitment to the NRC."*

- *Provide a list of the updated atmospheric dispersion factors (X/Q values) for the Main Steam Line Break (MSLB) or provide a reference if they are included in a previously docketed submittal.*
- *Identify the limiting X/Q values selected from the list that were used in the updated dose analysis that resulted in the limiting dose for the MSLB.*

The commitment to the NRC states that X/Q values are to be updated for finer wind speed categories.

- *Provide any updated data files, descriptions of updated assumptions, and all inputs used to calculate the updated X/Q values for the MSLB.*
- *For large data files, provide the data in electronic format suitable for use with computer codes.*
- *For data files, assumptions, and inputs that are unchanged, cite references to the docketed items.*

Response

Background

A re-evaluation of the offsite atmospheric dispersion factor (X/Q) values was performed to support the MUR Power Uprate License Amendment Request (LAR) in accordance with a commitment made to the NRC in response to a Request for Additional Information for the Alternate Source Term (AST) LAR (Reference 1). In accordance with this commitment, the X/Q calculation was revised to reevaluate the offsite X/Q values, as related to the use of the PAVAN computer model based on finer wind speed categories provided in the latest appropriate regulatory guidance. This guidance is provided in NRC Regulatory Guide 1.23, "Meteorological Monitoring Programs for Nuclear Power Plants;" Revision 1, March 2007. The use of finer wind speed categories was the only change made in the re-evaluation of the offsite X/Qs.

Control room X/Q values are unchanged and remain consistent with the values noted in the NRC's Safety Evaluation for the issuance of the AST Amendment (Reference 2), Table 1, "Byron Units 1 & 2 and Braidwood Units 1 & 2 Control Room Atmospheric Dispersion Factors."

NRC Request:

> *Provide a list of the updated atmospheric dispersion factors (X/Q values) for the Main Steam Line Break (MSLB) or provide a reference if they are included in a previously docketed submittal.*

Response:

The maximum bounding updated X/Q values as calculated by PAVAN using the requirements of RG 1.23 Revision 1 are shown in Table 1. All X/Q values calculated by the PAVAN computer program are provided in Attachments 2 and 3, for Byron and Braidwood Stations, respectively.

Table 1 Dispersion Factors

Release Path		Recommend X/Q (sec/m^3)					
Model	**Release Point**	**Receptor/ Intake**	**0-2 hour**	**0-8 hour**	**8-24 hour**	**1-4 day**	**4-30 day**
PAVAN	Outer Containment Wall	EAB	6.18 E-04 (SE)	3.08 E-04 (SE)	2.17 E-04 (SE)	1.02 E-04 (SE)	3.44 E-05 (SE)
PAVAN	Midpoint between two reactors	LPZ	1.10 E-04 (W)	5.13 E-05 (W)	3.51 E-05 (W)	1.53 E-05 (W)	4.68 E-06 (W)

NRC Request:

Identify the limiting X/Q values selected from the list that were used in the updated dose analysis that resulted in the limiting dose for the MSLB.

Response:

The Main Steam Line Break (MSLB) analysis used the following bounding set of X/Qs for the Exclusion Area Boundary (EAB) and the Low Population Zone (LPZ):

EAB:

X/Q = 6.18E-04 sec/m^3 (0-2 hours)

LPZ:

X/Q = 1.10E-04 sec/m^3 (0-2 hours) (2-hr limiting LPZ X/Q)
X/Q = 5.13E-05 sec/m^3 (2-8 hours) (8-hr limiting LPZ X/Q)
X/Q = 3.51E-05 sec/m^3 (8-24 hours) (16-hr limiting LPZ X/Q)
X/Q = 1.53E-05 sec/m^3 (24-96 hours) (72-hr limiting LPZ X/Q)
X/Q = 4.68E-06 sec/m^3 (96-720 hours) (624-hr limiting LPZ X/Q)

NRC Request:

The commitment to the NRC states that X/Q values are to be updated for finer wind speed categories.

- *Provide any updated data files, descriptions of updated assumptions, and all inputs used to calculate the updated X/Q values for the MSLB.*
- *For large data files, provide the data in electronic format suitable for use with computer codes.*
- *For data files, assumptions, and inputs that are unchanged, cite references to the docketed items.*

Response:

Design Inputs for Generation of the Limiting Updated X/Q Values Used for the MSLB Updated Dose Analysis

The 1994-1998 Byron and Braidwood Stations meteorological tower databases were utilized for the recalculation and are identical to those previously used in the original Byron and Braidwood Stations AST LAR (Reference 3). The data was provided on a CD in Attachment 8 to

Reference 3. This original application was supplemented, without changes to any of this data, by letters dated November 28, 2005 (Reference 4), December 9, 2005 (References 5 and 6), January 27, 2006 (Reference 7), February 13, 2006 (Reference 1), March 17, 2006 (Reference 8) and July 14, 2006 (Reference 9).

This meteorological data is provided on a CD accompanying this submittal as Attachment 6.

Design Input (PAVAN)
PAVAN Modeling Analysis of EAB and LPZ X/Q

As presented in Table 4.1.2-1, "PAVAN Modeling Options," of the original AST LAR (Reference 3), the PAVAN model contains certain model options for executing the program. The same modeling options shown in Table 4.1.2-1 of Reference 3 were applied for the re-analysis of the offsite X/Q values.

Source/Receptor Scenarios and Configurations

Consistent with the original AST LAR (Reference 3), at each station, the outer containment wall and the midpoint between the two reactors are the assumed release points for the EAB and LPZ, respectively.

PAVAN Meteorological Data

Consistent with the original AST LAR (Reference 3), Byron Station and Braidwood Station meteorological data from the five-year period, 1994-1998, were used in the PAVAN analysis. The format of PAVAN meteorological input for the updated X/Q results consists of a joint wind direction (based on sixteen 22.5 degree sectors), wind speed (11 finer wind speed intervals), and stability class (7 classes) occurrence frequency distribution. Each such meteorological joint frequency distribution for input to PAVAN was prepared as in the original AST LAR (Reference 3).

The updated X/Q results utilized 11 wind speed categories as defined in Regulatory Guide 1.23, Revision 1 with the first category identified as "calm." For both stations, the minimum non-calm wind speed was fixed at to 0.8 mph. (In Section 2.3.6.2, "Meteorological Data," of the Byron and Braidwood UFSAR's, 'calm' wind speeds were assigned a value of 0.4 mph, which is one-half of the wind measurement threshold value). A midpoint was assumed between each of the Regulatory Guide 1.23, Revision 1 wind speed categories (Nos. 2-11) to be inclusive of all monitored wind speeds. Table 2 below contains the refined Regulatory Guide 1.23, Revision 1 wind speed categories.

Table 2 Defined Wind Speed Category Ranges for PAVAN Modeling

Category No.	Regulatory Guide 1.23 Rev 1 Speed Interval (m/s)	PAVAN- Assumed Speed Interval (m/s)	PAVAN Assumed Speed Interval (mph)
1 (calm)	<0.5	< 0.36	< 0.80
2	0.5-1.0	≥ 0.36 - <1.05	≥ 0.80 - <2.35
3	1.1-1.5	≥ 1.05 - <1.55	≥ 2.35 - <3.47
4	1.6-2.0	≥ 1.55 - <2.05	≥ 3.47 - <4.56
5	2.1-3.0	≥ 2.05 - <3.05	≥ 4.56 - <6.82
6	3.1-4.0	≥ 3.05 - <4.05	≥ 6.82 - <9.06
7	4.1-5.0	≥ 4.05 - <5.05	≥ 9.06 - <11.30
8	5.1-6.0	≥ 5.05 - <6.05	≥ 11.30 - <13.53
9	6.1-8.0	≥ 6.05 - <8.05	≥ 13.53 - <18.01
10	8.1-10.0	≥ 8.05 - <10.0	≥ 18.01 - <22.40
11	>10.0	≥10.0	≥22.40

Attachments 4 and 5 contain the lower and upper level wind direction, wind speed (categorized as defined in Table 2 above), and stability class joint occurrence frequency distribution tables, based on the five-year lower level meteorological databases, as used for the PAVAN modeling analysis for Byron Station and Braidwood Station, respectively. (This data is provided in two formats, the number of observations and the percent occurrence frequency). Attachments 2 and 3 contain the updated PAVAN inputs and outputs for Byron and Braidwood Stations, respectively, resulting in the X/Qs of Table 1 above.

Additionally, for the updated X/Q values, the PAVAN input electronic data files utilized are provided on a CD accompanying this submittal as Attachment 7.

NRC Request 2

In attachment 5a of the EGC submittal, Page IV-8, Table IV-1a: Summary of Comparison of AST Parameters Used in Steam Generator Tube Rupture Dose Analysis, states:

> *"All offsite X/Q values were updated for finer wind speed categories per RG 1.23 Revision 1. This was also a commitment per RS-06-01."*

With regard to the updated atmospheric dispersion factors (X/Q values) for the steam generator tube rupture:

- *Provide any updated data files, descriptions of updated assumptions, and all inputs used to calculate the updated X/Q values.*
- *For large data files, provide the data in electronic format suitable for use with computer codes.*
- *For data files, assumptions, and inputs that are unchanged, cite references to the docketed items.*

Response

Offsite X/Q values used in the Steam Generator Tube Rupture Analysis (SGTR) are the same as those used in the MSLB analysis as described in the response to NRC Request 1 above. Descriptions of updated assumptions for the X/Qs for SGTR are the same as those for the MSLB X/Qs as described in the response to NRC Request 1 above. Also as indicated in the response to Request 1 above, the updated joint occurrence frequency distribution tables and PAVAN inputs and outputs resulting in the X/Q values shown in Table 1 in response to NRC Request 1 above, are provided in Attachments 2 through 5. Consistent with the original AST LAR (Reference 3), Byron Station and Braidwood Station meteorological data from the five-year period, 1994-1998, were used in the PAVAN analysis.

The SGTR analysis used the same bounding set of X/Qs as in the MSLB analysis as described in the response to NRC Request 1 above, which are as follows:

EAB:

X/Q = 6.18E-04 sec/m^3 (0-2 hours)

LPZ:

X/Q = 1.10E-04 sec/m^3 (0-2 hours) (2-hr limiting LPZ X/Q)
X/Q = 5.13E-05 sec/m^3 (2-8 hours) (8-hr limiting LPZ X/Q)
X/Q = 3.51E-05 sec/m^3 (8-24 hours) (16-hr limiting LPZ X/Q)
X/Q = 1.53E-05 sec/m^3 (24-96 hours) (72-hr limiting LPZ X/Q)
X/Q = 4.68E-06 sec/m^3 (96-720 hours) (624-hr limiting LPZ X/Q)

Additionally, for the updated X/Q values discussed above, the PAVAN input electronic data files utilized are provided on a CD accompanying this submittal as Attachment 7.

NRC Request 3

The NRC staff has become aware through the inspection program of a current nonconformance from the current licensing and design basis for the high-energy line break analysis provided in part for review of the MUR power uprate license amendment request. In general, a licensee's corrective action program addresses deviations and nonconformances with most elements of the licensing bases. NRC staff involvement in most of these situations is through the inspection, assessment, and enforcement programs. Provided the licensee is able to correct the problem and restore compliance, nonconformance from the licensing bases are not addressed by a licensing-related process. However, in order to have confidence that the related licensing and design basis information provided in your amendment request will not change and lengthen the review process, the NRC staff requires additional information.

- *Discuss your plans for resolving the nonconformance. In particular, address the impact of resolution on the accuracy of the information provided to the NRC staff in your submittal.*

Response

The turbine building high energy line break (TB HELB) analysis calculations, that supported the Measurement Uncertainty (MUR) Power Uprate LAR, used thermodynamic assumptions that enveloped both current licensed thermal power (CLTP) and MUR operating conditions. The turbine building HELB analysis assumes the most limiting high energy pipe breaks in a given area and uses mitigation (i.e., damper closure) as the coping strategy, as such, there are no high energy line break elimination evaluations in the analyses of record (AOR) for the piping in

the turbine building. No new HELB locations were identified as a result of MUR power uprate in the piping portions in the auxiliary building including the steam tunnel.

On July 6, 2011, subsequent to the submittal of the LAR, discrepancies unrelated to power level (i.e., non-conservative damper closure times) were identified in the TB HELB calculations for those breaks that could potentially affect identified auxiliary building room locations. These discrepancies were evaluated in recent Byron Station and Braidwood Station Operability Evaluations. The Operability Evaluations used the most limiting thermodynamic properties of either the CLTP or the MUR operating conditions and therefore bound the MUR operating conditions. The Operability Evaluations concluded that there is reasonable assurance that the HELB design basis requirements of protecting Class 1E and safety-related equipment in the identified rooms are maintained.

Exelon intends to maintain the design basis for the turbine building HELB and return the plant to a condition that does not require the subject Operability Evaluations. These restoration activities are being tracked in the Byron and Braidwood Stations Corrective Action Program.

Based on the above information, the conclusions stated in the MUR Power Uprate LAR HELB analyses remain valid (i.e., the qualification of Class 1E electrical equipment in the identified auxiliary building rooms are not adversely impacted by a TB HELB).

NRC Request 4

The EGC submittal, Section V.1.D, Grid Stability, for Byron Station, states the following:

> *"Power flow simulations were performed using 2012 transmission grid models for four system load conditions. The assessment concluded that with one exception, the lowest post-contingency voltage for Byron Station is 349.1 kV, which remains above the minimum required switchyard voltage of 339.8 kV. The scenario that analyzes a unit trip with the other unit in shutdown condition and with a system load level equal to 75% of the 50/50 load forecast results in a post-contingency voltage of 331.9 kV, which is lower than the minimum required voltage of 339.8 kV. This low post contingency voltage for this scenario is an existing (pre MUR) condition and is not related to the MUR Power Uprate. PJM [Pennsylvania-New Jersey-Maryland Interconnection] real-time state estimator continuously monitors and predict grid voltages under various contingencies (e.g., unit trips). If the state estimator predicts an inadequate voltage at Byron's switchyard, the station is notified and abnormal procedure is entered."*

- *According to 10 CFR Appendix A, general design criteria (GDC) 17, both offsite and onsite power must have sufficient capacity and capability. Confirm how GDC 17 requirements are met in the above-discussed contingency.*
- *Justify the acceptability of using the methodology of a Transmission Operator (PJM state estimator) notifying the licensee of any inadequate voltage prediction and then entering the abnormal procedure. The offsite power must be capable to cope with any simultaneous (N-1 grid) contingency and postulated design basis accident. Discuss your plans for resolving the above issue for pre and post MUR conditions.*

Response

Background

On February 1, 2006, the NRC issued NRC Generic Letter (GL) 2006-02, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power." Exelon responded to the GL in a

letter from K. R. Jury (EGC) to the NRC, "EGC/AmerGen 60-Day Response to NRC Generic Letter 2006-02, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power," dated April 3, 2006; as supplemented by a January 31, 2007 letter from K. R. Jury (EGC) to the NRC, "EGC/AmerGen Response to the Request for Additional Information Regarding Resolution of NRC Generic Letter 2006-02, 'Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power.'"

The GL requested information in four major areas, one specifically addressing use of protocols between the nuclear power plant (NPP) and the transmission system operator.

In EGC's response to GL 2006-02, a detailed discussion of these protocols was provided and is consistent with the discussion below. In summary, EGC's response to the GL concluded that all Exelon Stations were in compliance with GDC 17. The Byron Station power grid voltage analysis performed in support of the MUR Power Uprate LAR did not change this conclusion.

GDC 17 Compliance and Transmission Operator Protocol (Summary)

Exelon concludes, based on the evaluation of the Byron Station power grid voltage analysis, that the offsite power source has adequate capacity and capability to meet the requirements of GDC 17. Key information supporting this conclusion is presented below.

1. There are sufficient existing transmission system assets (capacitor banks) to maintain the lowest post contingency voltage at or above the Byron Station limit of 339.8 kV for the postulated scenario that analyzes a unit trip with the other unit in shutdown condition and with a system load level equal to 75% of the 50/50 load forecast. ComEd can remotely add these assets as necessary to maintain voltage. Standard operating protocol directs PJM and ComEd to implement all available non-cost options, (e.g., adding capacitor banks, raising the VAR output of other generating units in the area, and utilizing the local tap changers (LTCs) in the area), to mitigate the potential low voltage condition and maintain the required voltage.
2. In addition, there are other existing generating assets (off-cost generation) available to the Transmission Operator that can be placed in service to maintain the lowest post contingency voltage above the Byron Station limit. Exelon will authorize off-cost generation, if necessary, to maintain voltage above the Byron Station limit.
3. PJM (Transmission Operator) and ComEd (Transmission Owner) continuously monitor post-contingency voltages for Byron Station. The normal PJM operating protocol is for ComEd to notify Byron Station when the State Estimator program predicts post contingency switchyard voltage will fall below the Byron Station minimum required voltage. This operating protocol is controlled by PJM Operating Manuals and Byron Station procedures.

GDC 17 Compliance and Transmission Operator Protocol (Additional Detail)

Exelon reviewed the "2012 Power Grid Voltage Analysis for Byron Generating Station with MUR Power Uprate" (See Attachment 10b of the LAR) prepared by ComEd Transmission Planning and concluded that the offsite power source has adequate capacity and capability an therefore meets the requirements of GDC 17. In the 2012 Power Grid Voltage Analysis performed for Byron Station other generating assets could be online or offline depending on economics, therefore certain generating assets were conservatively modeled as offline in the grid voltage analysis. In addition, there are transmission system assets (e.g., capacitor banks) available that are conservatively not credited in the grid voltage analysis. These transmission assets can be switched on remotely and are sufficient to maintain the lowest post contingency voltage above

the Byron Station limit for the above scenario. Appendix C, "Exelon Nuclear Offsite AC Sources Periodic Grid System Study Requirements" (Exelon's Procedure WC-AA-8003, Attachment 6), of the grid voltage analysis (Attachment 10b of the MUR Power Uprate LAR) which is used to perform the periodic grid system studies, allows crediting normally expected system adjustments, including remote switching operations, such as through Supervisory Control and Data Acquisition (SCADA), (i.e., switching operations that do not require dispatching crews to facilities).

This potential low voltage condition is an existing (pre-MUR) condition and is not related to the MUR power uprate. This possible scenario is acceptable because there are sufficient transmission assets and other generating assets in the area available to maintain voltage above the Byron Station limit. ComEd is expected to add capacitor banks as needed to maintain the lowest post contingency voltage above the Byron Station limit. In addition, Appendix B, "Byron Sensitivity Study Summary," in the grid voltage analysis (Attachment 10b of the MUR Power Uprate LAR) shows that post contingency voltage in the switchyard will remain above the 339.8 kV minimum value if some of these other generator assets are in service.

PJM and ComEd continuously monitor post-contingency voltages for nuclear power plants. PJM Manual 3, Transmission Operations," Revision 38, Section 5, "Index and Operating Procedures for PJM RTO Operation," pages 116 through 118, discusses the Day-Ahead actions and Real-Time Operator actions for nuclear facilities. PJM performs day-ahead studies to identify reliability issues for the transmission system. As part of those studies, PJM will predict potential low voltage conditions at Byron Station and will inform Exelon. ComEd will add capacitors as needed to maintain the lowest post contingency voltage above the Byron Station limit and, if necessary, Exelon will authorize PJM to place other generating assets in the area online (off-cost generation) to resolve the potential low voltage conditions.

In addition, PJM and ComEd are monitoring post-contingency voltages real time and, if the State Estimator predicts a voltage below the minimum required on the contingency of a unit trip, actions will be proactively taken to maintain the voltage above the Byron Station limit and, if necessary, off-cost generation may be utilized to assure adequate switchyard voltage. PJM Manual 39, "Nuclear Plant Interface Coordination," Revision 3, Section 2.4, "Notification and Mitigation Protocols for NPRI Voltage Limits," discusses the notification and mitigation protocols for nuclear plant voltage limits. Byron Station enters Abnormal Operating Procedure 0BOA ELEC-1, "Degraded Swyd Voltage," when notified that the State Estimator shows actual or predicted voltage is below the minimum required voltage. 0BOA ELEC-1 directs the Byron Station Operator to perform evaluations based on actual Non-ESF 4 kV bus loading to determine if the predicted post Byron Station unit trip voltage or actual voltage reported by the State Estimator is adequate. If the Byron Station Operator determines that the predicted or actual voltage is inadequate, the appropriate limiting condition for operation (LCO) associated with Technical Specification 3.8.1, "AC Sources Operating," would be entered.

Based on the above information, there are sufficient existing transmission assets (capacitors) available to maintain Byron Station's post contingency voltage above the 339.8 kV minimum value and, if necessary, contingency actions are in place to utilize off-cost generation. Therefore, Exelon concludes that the offsite power source has adequate capacity and capability to meet the requirements of GDC 17.

ATTACHMENT 1
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

References:

1. Letter from Joseph A. Bauer (EGC) to NRC, "Response to NRC Request for Additional Information with Respect to Request for License Amendment Related to Application of Alternative Radiological Source Term," dated February 13, 2006
2. Letter from R. F. Kuntz (NRC) to C. M. Crane (EGC), dated September 8, 2006 "Byron Station. Units Nos. 1 and 2 and Braidwood Station, Units Nos. 1 and 2 – Issuance of Amendments Re: Alternate Source Term (TAC Nos. MC6221, MC6222, MC6223, MC6224"
3. Letter from K. R. Jury (EGC) to NRC, "Request for License Amendment Related to Application of Alternate Source Term," dated February 15, 2005
4. Letter from Joseph A. Bauer (EGC) to NRC, "Response to NRC Request for Additional Information With Respect to Request for License Amendment Related to Application of Alternative Radiological Source Term," dated November 28, 2005
5. Letter from Joseph A. Bauer (EGC) to NRC, "Additional Information Related to Application of Alternative Radiological Source Term - Atmospheric Dispersion Coefficients," dated December 9, 2005
6. Letter from Joseph A. Bauer (EGC) to NRC, "Additional Information Related to Application of Alternative Radiological Source Term - Dose Calculations," dated December 9, 2005
7. Letter from Patrick R. Simpson (EGC) to NRC, "Response to NRC Request for Additional Information With Respect to Request for License Amendment Related to Application of Alternative Radiological Source Term," dated January 27, 2006
8. Letter from Joseph A. Bauer (EGC) to NRC," Partial Withdrawal of Changes Related to Request for License Amendment Related to Application of Alternative Source Term," dated March 17, 2006
9. Letter from Joseph A. Bauer (EGC) to NRC Response to NRC Request for Additional Information With Respect to Request for License Amendment Related to Application of Alternative Radiological Source Term," dated July 14, 2006

ATTACHMENT 2

Braidwood and Byron Stations
Measurement Uncertainty Recapture Technical Evaluation

Response to NRC Acceptance Review Questions

Calculation No. BYR04-050, BRW-04-0044-M, Minor Rev. 1B, Appendix BB-5: "Byron PAVAN Input and Output"

Byron PAVAN Input and Output

```
   1  1111
Byron                                    Ground Release
9.1 meters            76.2-9.1 meters

Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
   11    0
2917. 60.7 10.0  9.1
    0    0    0    4    7    5   11
   1.   2.   0.   2.   2.   0.   0.   0.   0.   1.   0.   0.   0.   0.   1.   1.
   0.   0.   0.   0.   0.   3.   3.   1.   1.   3.   2.   6.   1.   1.   2.   0.
   2.   2.   1.   2.   3.   2.   2.   1.   0.   1.   5.   4.   4.   3.   3.   1.
  16.   9.  10.   7.  14.   8.   4.  15.   7.  11.  19.  10.  10.  16.   8.  13.
  39.  21.  11.   9.  25.  14.   7.  21.   8.  12.  20.   9.  14.  30.  28.  18.
  19.  21.   7.  12.  18.   9.  10.  21.  17.  19.  28.  23.  18.  32.  49.  18.
  10.  18.   5.   8.   1.   4.   9.  10.   9.  20.  19.  15.  27.  19.  45.  20.
  14.   7.   3.  16.   2.   6.   7.  25.  32.  33.  29.  25.  26.  46.  34.  14.
   0.   2.   0.   6.   0.   0.   0.   5.  10.  13.   7.   3.  10.   4.   2.   1.
   0.   0.   0.   0.   0.   0.   0.   1.   2.   4.   2.   1.   1.   0.   0.   0.
   0.   2.   0.   2.   2.   0.   0.   1.   0.   0.   0.   0.   0.   1.   1.   0.
   3.   3.   0.   1.   3.   3.   2.   1.   2.   1.   0.   1.   1.   1.   2.   4.
   5.   5.   1.   0.   3.   5.   3.   1.   0.   3.   2.   5.   4.   1.   3.   5.
  19.   8.   5.   9.  14.  16.   9.  12.   9.  13.  22.   6.  11.   7.  18.  16.
  22.  20.   8.   7.  21.  12.  22.  12.  20.  23.  29.  13.  16.  20.  34.  16.
  39.  20.   9.   4.  15.  13.  15.  20.  12.  21.  31.  25.  28.  27.  42.  22.
  13.  16.   3.   5.   4.   7.  10.   9.  14.  27.  22.  13.  21.  32.  27.  16.
  10.   3.   8.  14.   2.   1.   4.  13.  17.  24.  14.  10.  19.  26.  23.   9.
   2.   1.   0.   4.   0.   1.   5.   6.   5.   6.   4.   6.  10.   9.   3.   1.
   3.   0.   0.   0.   0.   0.   0.   1.   3.   2.   3.   2.   0.   2.   0.   0.
   2.   1.   0.   0.   1.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.
   2.   1.   1.   1.   4.   2.   2.   1.   2.   2.  10.   2.   3.   3.   4.   4.
   6.  14.   9.   4.  10.   9.  13.   7.   8.   7.   6.   8.   5.   5.   4.  10.
  21.  10.  13.  12.  49.  25.  33.  12.  23.  41.  36.  19.  25.  29.  44.  25.
  36.  26.  16.   9.  29.  14.  20.  26.  41.  36.  45.  22.  40.  40.  58.  35.
  35.  17.  13.  17.  11.  12.  23.  31.  33.  38.  48.  33.  27.  45.  47.  34.
  18.  12.  10.   7.   5.   2.  10.  25.  22.  28.  28.  13.  27.  41.  44.  16.
  12.   9.   4.  10.   2.   3.   5.   8.  28.  30.  19.  23.  33.  43.  33.  14.
   2.   2.   2.   1.   0.   2.   5.   2.   7.   7.   4.   7.  10.  17.   5.   0.
   2.   0.   0.   0.   0.   0.   0.   5.   0.   3.   4.   4.   3.   2.   0.   1.
  18.  25.  16.  17.  22.  13.  18.   6.  10.  16.  21.  29.  26.  32.  26.  15.
  32.  40.  52.  45.  59.  49.  38.  34.  33.  33.  49.  50.  46.  64.  58.  65.
 109.  85.  72.  53. 107.  79.  47.  48.  64.  68.  74.  75.  82. 107.  98.  95.
 271. 186. 165. 158. 294. 162. 164. 184. 227. 225. 264. 212. 241. 312. 364. 303.
 327. 175. 136. 188. 223. 120. 159. 225. 255. 205. 242. 221. 285. 359. 388. 287.
 372. 211. 141. 272. 171. 115. 152. 227. 215. 190. 243. 227. 328. 371. 299. 272.
 220. 133. 121. 191.  71.  62.  77. 164. 196. 156. 164. 154. 253. 314. 205. 127.
 197. 185. 217. 232.  35.  79.  84. 202. 188. 221. 153. 191. 403. 318. 142. 103.
  40.  36.  85.  37.   1.  30.  27.  56.  58.  76.  39.  81. 142. 136.  22.  17.
```

```
  16.   4.  16.   0.   0.   7.   1.  21.   2.  14.  27.  44.  98.  32.   0.   0.
  30.  27.  30.  27.  37.  20.  27.  27.  28.  35.  43.  44.  62.  65.  73.  44.
  50.  34.  31.  43.  94.  47.  44.  42.  60.  71.  95.  75. 104. 103. 105.  57.
  45.  50.  30.  43. 154.  81.  50.  55.  90.  90. 123. 108.  98. 116. 185.  87.
 152. 122.  86. 128. 329. 171. 201. 221. 257. 208. 216. 180. 251. 218. 192. 199.
 120.  87.  91. 137. 149. 109. 169. 245. 242. 172. 174. 147. 189. 128. 130.  99.
  46.  28.  51. 110.  40.  71. 113. 190. 219. 159. 132. 103. 154.  65.  44.  30.
  14.  10.  37.  62.  16.  35.  51. 134. 138. 148.  54.  31.  51.  20.  11.   9.
   6.   4.   8.  36.   7.  39.  24. 105. 143. 142.  44.  21.  38.   8.   3.   5.
   0.   0.   0.   1.   0.  16.  10.  17.  20.  49.   6.   2.   8.   1.   0.   0.
   0.   0.   0.   0.   0.   6.   1.   6.   1.   1.   0.   0.   0.   4.   0.   0.
  24.  21.  18.   9.  15.  14.  10.  21.  21.  30.  46.  54.  70.  89.  95.  39.
  31.  12.   7.  11.  54.  34.  30.  42.  66.  73.  66.  69. 113.  78. 126.  64.
  20.  19.   9.  13. 102.  63.  44.  53.  96. 102.  51.  50.  63.  25.  66.  64.
  39.  32.  14.  26. 116. 160. 212. 275. 234.  86.  43.  16.  37.  18.  15.  42.
  15.   6.   4.  22.  22.  97. 107. 200. 116.  38.   3.   6.   3.   1.   0.   0.
   1.   1.   0.   8.   1.  20.  20. 100.  41.   4.   2.   2.   2.   0.   0.   0.
   0.   0.   0.   0.   0.   2.   1.  12.  12.   1.   0.   1.   0.   0.   0.   0.
   0.   0.   0.   1.   0.   0.   0.   4.   1.   0.   0.   0.   0.   0.   0.   0.
   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.
   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.
  25.   9.   8.  15.  17.  10.  11.  15.  25.  43.  50.  52.  73.  94. 110.  68.
   7.   3.   2.   8.  29.  30.  14.  35.  54.  42.  27.  30.  39.  23.  78.  48.
   5.   1.   1.   3.  35.  28.  17.  19.  69.  34.   6.   4.   9.   6.  13.  10.
   9.   1.   0.   2.  30.  54.  62.  60.  83.   7.   1.   2.   2.   1.   0.   0.
   1.   0.   0.   3.   6.  31.  30.  32.  18.   0.   0.   0.   0.   0.   0.   0.
   0.   0.   0.   2.   0.   3.   5.  14.   3.   0.   0.   0.   0.   0.   0.   0.
   0.   0.   0.   0.   1.   0.   0.   1.   0.   0.   0.   0.   0.   0.   0.   0.
   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.
   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.
   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.
 101. 0.80 2.35 3.47 4.56 6.82 9.0611.3013.5318.0122.40 55.0
 445. 445. 445. 445. 445. 445. 445. 445. 445. 445. 445. 445. 445. 445. 445. 445.
4828.4828.4828.4828.4828.4828.4828.4828.4828.4828.4828.4828.4828.4828.4828.4828.
   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.
   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PRINTOUT OF INPUT CARDS

```
  1     00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000   2     Byron
Ground Release
  3     9.1 meters            76.2-9.1 meters
  4
  5     Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T                    6         11 43655     0
  7          0.500  2917.000    60.700    10.000     9.100
  8        0.000  0.000  0.000  4.000  7.000  5.000 11.000
  9        1.000  2.000  0.000  2.000  2.000  0.000  0.000  0.000  0.000  1.000  0.000  0.000  0.000  0.000  1.000  1.000
  9        0.000  0.000  0.000  0.000  0.000  3.000  3.000  1.000  1.000  3.000  2.000  6.000  1.000  1.000  2.000  0.000
  9        2.000  2.000  1.000  2.000  3.000  2.000  2.000  1.000  0.000  1.000  5.000  4.000  4.000  3.000  3.000  1.000
  9       16.000  9.000 10.000  7.000 14.000  8.000  4.000 15.000  7.000 11.000 19.000 10.000 10.000 16.000  8.000 13.000
  9       39.000 21.000 11.000  9.000 25.000 14.000  7.000 21.000  8.000 12.000 20.000  9.000 14.000 30.000 28.000 18.000
  9       19.000 21.000  7.000 12.000 18.000  9.000 10.000 21.000 17.000 19.000 28.000 23.000 18.000 32.000 49.000 18.000
  9       10.000 18.000  5.000  8.000  1.000  4.000  9.000 10.000  9.000 20.000 19.000 15.000 27.000 19.000 45.000 20.000
  9       14.000  7.000  3.000 16.000  2.000  6.000  7.000 25.000 32.000 33.000 29.000 25.000 26.000 46.000 34.000 14.000
  9        0.000  2.000  0.000  6.000  0.000  0.000  0.000  5.000 10.000 13.000  7.000  3.000 10.000  4.000  2.000  1.000
  9        0.000  0.000  0.000  0.000  0.000  0.000  0.000  1.000  2.000  4.000  2.000  1.000  1.000  0.000  0.000  0.000
  9        0.000  2.000  0.000  2.000  2.000  0.000  0.000  1.000  0.000  0.000  0.000  0.000  0.000  1.000  1.000  0.000
  9        3.000  3.000  0.000  1.000  3.000  3.000  2.000  1.000  2.000  1.000  0.000  1.000  1.000  1.000  2.000  4.000
  9        5.000  5.000  1.000  0.000  3.000  5.000  3.000  1.000  0.000  3.000  2.000  5.000  4.000  1.000  3.000  5.000
  9       19.000  8.000  5.000  9.000 14.000 16.000  9.000 12.000  9.000 13.000 22.000  6.000 11.000  7.000 18.000 16.000
  9       22.000 20.000  8.000  7.000 21.000 12.000 22.000 12.000 20.000 23.000 29.000 13.000 16.000 20.000 34.000 16.000
  9       39.000 20.000  9.000  4.000 15.000 13.000 15.000 20.000 12.000 21.000 31.000 25.000 28.000 27.000 42.000 22.000
  9       13.000 16.000  3.000  5.000  4.000  7.000 10.000  9.000 14.000 27.000 22.000 13.000 21.000 32.000 27.000 16.000
  9       10.000  3.000  8.000 14.000  2.000  1.000  4.000 13.000 17.000 24.000 14.000 10.000 19.000 26.000 23.000  9.000
  9        2.000  1.000  0.000  4.000  0.000  1.000  5.000  6.000  5.000  6.000  4.000  6.000 10.000  9.000  3.000  1.000
  9        3.000  0.000  0.000  0.000  0.000  0.000  0.000  1.000  3.000  2.000  3.000  2.000  0.000  2.000  0.000  0.000
  9        2.000  1.000  0.000  0.000  1.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  1.000
  9        2.000  1.000  1.000  1.000  4.000  2.000  2.000  1.000  2.000  2.000 10.000  2.000  3.000  3.000  4.000  4.000
  9        6.000 14.000  9.000  4.000 10.000  9.000 13.000  7.000  8.000  7.000  6.000  8.000  5.000  5.000  4.000 10.000
  9       21.000 10.000 13.000 12.000 49.000 25.000 33.000 12.000 23.000 41.000 36.000 19.000 25.000 29.000 44.000 25.000
  9       36.000 26.000 16.000  9.000 29.000 14.000 20.000 26.000 41.000 36.000 45.000 22.000 40.000 40.000 58.000 35.000
  9       35.000 17.000 13.000 17.000 11.000 12.000 23.000 31.000 33.000 38.000 48.000 33.000 27.000 45.000 47.000 34.000
  9       18.000 12.000 10.000  7.000  5.000  2.000 10.000 25.000 22.000 28.000 28.000 13.000 27.000 41.000 44.000 16.000
  9       12.000  9.000  4.000 10.000  2.000  3.000  5.000  8.000 28.000 30.000 19.000 23.000 33.000 43.000 33.000 14.000
  9        2.000  2.000  2.000  1.000  0.000  2.000  5.000  2.000  7.000  7.000  4.000  7.000 10.000 17.000  5.000  0.000
  9        2.000  0.000  0.000  0.000  0.000  0.000  0.000  5.000  0.000  3.000  4.000  4.000  3.000  2.000  0.000  1.000
  9       18.000 25.000 16.000 17.000 22.000 13.000 18.000  6.000 10.000 16.000 21.000 29.000 26.000 32.000 26.000 15.000
  9       32.000 40.000 52.000 45.000 59.000 49.000 38.000 34.000 33.000 33.000 49.000 50.000 46.000 64.000 58.000 65.000
  9      109.000 85.000 72.000 53.000107.000 79.000 47.000 48.000 64.000 68.000 74.000 75.000 82.000107.000 98.000 95.000
  9      271.000186.000165.000158.000294.000162.000164.000184.000227.000225.000264.000212.000241.000312.000364.000303.000
  9      327.000175.000136.000188.000223.000120.000159.000225.000255.000205.000242.000221.000285.000359.000388.000287.000
  9      372.000211.000141.000272.000171.000115.000152.000227.000215.000190.000243.000227.000328.000371.000299.000272.000
```

```
  9     220.000133.000121.000191.000 71.000 62.000 77.000164.000196.000156.000164.000154.000253.000314.000205.000127.000
  9     197.000185.000217.000232.000 35.000 79.000 84.000202.000188.000221.000153.000191.000403.000318.000142.000103.000
  9      40.000 36.000 85.000 37.000  1.000 30.000 27.000 56.000 58.000 76.000 39.000 81.000142.000136.000 22.000 17.000
  9      16.000  4.000 16.000  0.000  0.000  7.000  1.000 21.000  2.000 14.000 27.000 44.000 98.000 32.000  0.000  0.000
  9      30.000 27.000 30.000 27.000 37.000 20.000 27.000 27.000 28.000 35.000 43.000 44.000 62.000 65.000 73.000 44.000
  9      50.000 34.000 31.000 43.000 94.000 47.000 44.000 42.000 60.000 71.000 95.000 75.000104.000103.000105.000 57.000
  9      45.000 50.000 30.000 43.000154.000 81.000 50.000 55.000 90.000 90.000123.000108.000 98.000116.000185.000 87.000
  9     152.000122.000 86.000128.000329.000171.000201.000221.000257.000208.000216.000180.000251.000218.000192.000199.000
  9     120.000 87.000 91.000137.000149.000109.000169.000245.000242.000172.000174.000147.000189.000128.000130.000 99.000
  9      46.000 28.000 51.000110.000 40.000 71.000113.000190.000219.000159.000132.000103.000154.000 65.000 44.000 30.000
  9      14.000 10.000 37.000 62.000 16.000 35.000 51.000134.000138.000148.000 54.000 31.000 51.000 20.000 11.000  9.000
  9       6.000  4.000  8.000 36.000  7.000 39.000 24.000105.000143.000142.000 44.000 21.000 38.000  8.000  3.000  5.000
  9       0.000  0.000  0.000  1.000  0.000 16.000 10.000 17.000 20.000 49.000  6.000  2.000  8.000  1.000  0.000  0.000
  9       0.000  0.000  0.000  0.000  0.000  6.000  1.000  6.000  1.000  1.000  0.000  0.000  0.000  4.000  0.000  0.000
  9      24.000 21.000 18.000  9.000 15.000 14.000 10.000 21.000 21.000 30.000 46.000 54.000 70.000 89.000 95.000 39.000
  9      31.000 12.000  7.000 11.000 54.000 34.000 30.000 42.000 66.000 73.000 66.000 69.000113.000 78.000126.000 64.000
  9      20.000 19.000  9.000 13.000102.000 63.000 44.000 53.000 96.000102.000 51.000 50.000 63.000 25.000 66.000 64.000
  9      39.000 32.000 14.000 26.000116.000160.000212.000275.000234.000 86.000 43.000 16.000 37.000 18.000 15.000 42.000
  9      15.000  6.000  4.000 22.000 22.000 97.000107.000200.000116.000 38.000  3.000  6.000  3.000  1.000  0.000  0.000
  9       1.000  1.000  0.000  8.000  1.000 20.000 20.000100.000 41.000  4.000  2.000  2.000  2.000  0.000  0.000  0.000
  9       0.000  0.000  0.000  0.000  0.000  2.000  1.000 12.000 12.000  1.000  0.000  1.000  0.000  0.000  0.000  0.000
  9       0.000  0.000  0.000  1.000  0.000  0.000  0.000  4.000  1.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000
  9       0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000
  9       0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000
  9      25.000  9.000  8.000 15.000 17.000 10.000 11.000 15.000 25.000 43.000 50.000 52.000 73.000 94.000110.000 68.000
  9       7.000  3.000  2.000  8.000 29.000 30.000 14.000 35.000 54.000 42.000 27.000 30.000 39.000 23.000 78.000 48.000
  9       5.000  1.000  1.000  3.000 35.000 28.000 17.000 19.000 69.000 34.000  6.000  4.000  9.000  6.000 13.000 10.000
  9       9.000  1.000  0.000  2.000 30.000 54.000 62.000 60.000 83.000  7.000  1.000  2.000  2.000  1.000  0.000  0.000
  9       1.000  0.000  0.000  3.000  6.000 31.000 30.000 32.000 18.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000
  9       0.000  0.000  0.000  2.000  0.000  3.000  5.000 14.000  3.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000
  9       0.000  0.000  0.000  0.000  1.000  0.000  0.000  1.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000
  9       0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000
  9       0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000
  9       0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  10        101.
0.800  2.350  3.470  4.560  6.820  9.060 11.300 13.530 18.010 22.400 55.000  0.000  0.000  0.000  11        445.   445.   445.   445.
445.   445.   445.   445.   445.   445.   445.   445.   445.   445.   445.   445.  11        4828.  4828.  4828.  4828.  4828.  4828.
4828.  4828.  4828.  4828.  4828.  4828.  4828.  4828.  4828.  4828.  12         1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0
1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0
  12         1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION ATMOSPHERIC STABILITY CLASS A
WIND SPEED (M/S)

TOWER	RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.36	0.37	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.05	1.08	0.002	0.005	0.000	0.005	0.005	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.002	0.002	0.023
1.55	1.59	0.000	0.000	0.000	0.000	0.000	0.007	0.007	0.002	0.002	0.007	0.005	0.014	0.002	0.002	0.005	0.000	0.053
2.04	2.09	0.005	0.005	0.002	0.005	0.007	0.005	0.005	0.002	0.000	0.002	0.011	0.009	0.009	0.007	0.007	0.002	0.082
3.05	3.12	0.037	0.021	0.023	0.016	0.032	0.018	0.009	0.034	0.016	0.025	0.044	0.023	0.023	0.037	0.018	0.030	0.405
4.05	4.15	0.089	0.048	0.025	0.021	0.057	0.032	0.016	0.048	0.018	0.027	0.046	0.021	0.032	0.069	0.064	0.041	0.655
5.05	5.17	0.044	0.048	0.016	0.027	0.041	0.021	0.023	0.048	0.039	0.044	0.064	0.053	0.041	0.073	0.112	0.041	0.735
6.05	6.19	0.023	0.041	0.011	0.018	0.002	0.009	0.021	0.023	0.021	0.046	0.044	0.034	0.062	0.044	0.103	0.046	0.547
8.05	8.24	0.032	0.016	0.007	0.037	0.005	0.014	0.016	0.057	0.073	0.076	0.066	0.057	0.060	0.105	0.078	0.032	0.731
10.01	10.25	0.000	0.005	0.000	0.014	0.000	0.000	0.000	0.011	0.023	0.030	0.016	0.007	0.023	0.009	0.005	0.002	0.144
24.59	25.17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.005	0.009	0.005	0.002	0.002	0.000	0.000	0.000	0.025
TOTAL		0.23	0.19	0.08	0.14	0.15	0.11	0.10	0.23	0.20	0.27	0.30	0.22	0.25	0.35	0.39	0.20	3.40

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION ATMOSPHERIC STABILITY CLASS B
WIND SPEED (M/S)

TOWER	RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.36	0.37	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.05	1.08	0.000	0.005	0.000	0.005	0.005	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.000	0.021
1.55	1.59	0.007	0.007	0.000	0.002	0.007	0.007	0.005	0.002	0.005	0.002	0.000	0.002	0.002	0.002	0.005	0.009	0.064
2.04	2.09	0.011	0.011	0.002	0.000	0.007	0.011	0.007	0.002	0.000	0.007	0.005	0.011	0.009	0.002	0.007	0.011	0.105
3.05	3.12	0.044	0.018	0.011	0.021	0.032	0.037	0.021	0.027	0.021	0.030	0.050	0.014	0.025	0.016	0.041	0.037	0.444
4.05	4.15	0.050	0.046	0.018	0.016	0.048	0.027	0.050	0.027	0.046	0.053	0.066	0.030	0.037	0.046	0.078	0.037	0.676
5.05	5.17	0.089	0.046	0.021	0.009	0.034	0.030	0.034	0.046	0.027	0.048	0.071	0.057	0.064	0.062	0.096	0.050	0.786
6.05	6.19	0.030	0.037	0.007	0.011	0.009	0.016	0.023	0.021	0.032	0.062	0.050	0.030	0.048	0.073	0.062	0.037	0.547
8.05	8.24	0.023	0.007	0.018	0.032	0.005	0.002	0.009	0.030	0.039	0.055	0.032	0.023	0.044	0.060	0.053	0.021	0.451
10.01	10.25	0.005	0.002	0.000	0.009	0.000	0.002	0.011	0.014	0.011	0.014	0.009	0.014	0.023	0.021	0.007	0.002	0.144
24.59	25.17	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.007	0.005	0.007	0.005	0.000	0.005	0.000	0.000	0.037
TOTAL		0.27	0.18	0.08	0.11	0.15	0.13	0.16	0.17	0.19	0.27	0.29	0.19	0.25	0.29	0.35	0.20	3.28

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION ATMOSPHERIC STABILITY CLASS C
WIND SPEED (M/S)

TOWER	RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.36	0.37	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.05	1.08	0.005	0.002	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.011
1.55	1.59	0.005	0.002	0.002	0.002	0.009	0.005	0.005	0.002	0.005	0.005	0.023	0.005	0.007	0.007	0.009	0.009	0.101
2.04	2.09	0.014	0.032	0.021	0.009	0.023	0.021	0.030	0.016	0.018	0.016	0.014	0.018	0.011	0.011	0.009	0.023	0.286
3.05	3.12	0.048	0.023	0.030	0.027	0.112	0.057	0.076	0.027	0.053	0.094	0.082	0.044	0.057	0.066	0.101	0.057	0.955

4.05	4.15	0.082	0.060	0.037	0.021	0.066	0.032	0.046	0.060	0.094	0.082	0.103	0.050	0.092	0.092	0.133	0.080	1.129
5.05	5.17	0.080	0.039	0.030	0.039	0.025	0.027	0.053	0.071	0.076	0.087	0.110	0.076	0.062	0.103	0.108	0.078	1.063
6.05	6.19	0.041	0.027	0.023	0.016	0.011	0.005	0.023	0.057	0.050	0.064	0.064	0.030	0.062	0.094	0.101	0.037	0.706
8.05	8.24	0.027	0.021	0.009	0.023	0.005	0.007	0.011	0.018	0.064	0.069	0.044	0.053	0.076	0.098	0.076	0.032	0.632
10.01	10.25	0.005	0.005	0.005	0.002	0.000	0.005	0.011	0.005	0.016	0.016	0.009	0.016	0.023	0.039	0.011	0.000	0.167
24.59	25.17	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.000	0.007	0.009	0.009	0.007	0.005	0.000	0.002	0.055
TOTAL		0.31	0.21	0.16	0.14	0.25	0.16	0.25	0.27	0.38	0.44	0.46	0.30	0.40	0.52	0.55	0.32	5.11

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

WIND SPEED (M/S)

TOWER	RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.36	0.37	0.001	0.001	0.000	0.001	0.001	0.000	0.001	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.009
1.05	1.08	0.041	0.057	0.037	0.039	0.050	0.030	0.041	0.014	0.023	0.037	0.048	0.066	0.060	0.073	0.060	0.034	0.710
1.55	1.59	0.073	0.092	0.119	0.103	0.135	0.112	0.087	0.078	0.076	0.076	0.112	0.115	0.105	0.147	0.133	0.149	1.711
2.04	2.09	0.250	0.195	0.165	0.121	0.245	0.181	0.108	0.110	0.147	0.156	0.170	0.172	0.188	0.245	0.224	0.218	2.893
3.05	3.12	0.621	0.426	0.378	0.362	0.673	0.371	0.376	0.421	0.520	0.515	0.605	0.486	0.552	0.715	0.834	0.694	8.549
4.05	4.15	0.749	0.401	0.312	0.431	0.511	0.275	0.364	0.515	0.584	0.470	0.554	0.506	0.653	0.822	0.889	0.657	8.693
5.05	5.17	0.852	0.483	0.323	0.623	0.392	0.263	0.348	0.520	0.492	0.435	0.557	0.520	0.751	0.850	0.685	0.623	8.718
6.05	6.19	0.504	0.305	0.277	0.438	0.163	0.142	0.176	0.376	0.449	0.357	0.376	0.353	0.580	0.719	0.470	0.291	5.974
8.05	8.24	0.451	0.424	0.497	0.531	0.080	0.181	0.192	0.463	0.431	0.506	0.350	0.438	0.923	0.728	0.325	0.236	6.758
10.01	10.25	0.092	0.082	0.195	0.085	0.002	0.069	0.062	0.128	0.133	0.174	0.089	0.186	0.325	0.312	0.050	0.039	2.023
24.59	25.17	0.037	0.009	0.037	0.000	0.000	0.016	0.002	0.048	0.005	0.032	0.062	0.101	0.224	0.073	0.000	0.000	0.646
TOTAL		3.67	2.47	2.34	2.73	2.25	1.64	1.76	2.67	2.86	2.76	2.92	2.94	4.36	4.69	3.67	2.94	46.68

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
0.36	0.37	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.001	0.016
1.05	1.10	0.069	0.062	0.069	0.062	0.085	0.046	0.062	0.062	0.064	0.080	0.098	0.101	0.142	0.149	0.167	0.101	1.418
1.55	1.63	0.115	0.078	0.071	0.098	0.215	0.108	0.101	0.096	0.137	0.163	0.218	0.172	0.238	0.236	0.241	0.131	2.417
2.04	2.14	0.103	0.115	0.069	0.098	0.353	0.186	0.115	0.126	0.206	0.206	0.282	0.247	0.224	0.266	0.424	0.199	3.218
3.05	3.20	0.348	0.279	0.197	0.293	0.754	0.392	0.460	0.506	0.589	0.476	0.495	0.412	0.575	0.499	0.440	0.456	7.172
4.05	4.25	0.275	0.199	0.208	0.314	0.341	0.250	0.387	0.561	0.554	0.394	0.399	0.337	0.433	0.293	0.298	0.227	5.470
5.05	5.30	0.105	0.064	0.117	0.252	0.092	0.163	0.259	0.435	0.502	0.364	0.302	0.236	0.353	0.149	0.101	0.069	3.562
6.05	6.34	0.032	0.023	0.085	0.142	0.037	0.080	0.117	0.307	0.316	0.339	0.124	0.071	0.117	0.046	0.025	0.021	1.881
8.05	8.44	0.014	0.009	0.018	0.082	0.016	0.089	0.055	0.241	0.328	0.325	0.101	0.048	0.087	0.018	0.007	0.011	1.450
10.01	10.50	0.000	0.000	0.000	0.002	0.000	0.037	0.023	0.039	0.046	0.112	0.014	0.005	0.018	0.002	0.000	0.000	0.298
24.59	25.77	0.000	0.000	0.000	0.000	0.000	0.014	0.002	0.014	0.002	0.002	0.000	0.000	0.000	0.009	0.000	0.000	0.044
TOTAL		1.06	0.83	0.83	1.35	1.89	1.36	1.58	2.39	2.74	2.46	2.03	1.63	2.19	1.67	1.70	1.22	26.95

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
0.36	0.37	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.002	0.002	0.001	0.011
1.05	1.10	0.055	0.048	0.041	0.021	0.034	0.032	0.023	0.048	0.048	0.069	0.105	0.124	0.160	0.204	0.218	0.089	1.319
1.55	1.63	0.071	0.027	0.016	0.025	0.124	0.078	0.069	0.096	0.151	0.167	0.151	0.158	0.259	0.179	0.289	0.147	2.007
2.04	2.14	0.046	0.044	0.021	0.030	0.234	0.144	0.101	0.121	0.220	0.234	0.117	0.115	0.144	0.057	0.151	0.147	1.924
3.05	3.20	0.089	0.073	0.032	0.060	0.266	0.367	0.486	0.630	0.536	0.197	0.098	0.037	0.085	0.041	0.034	0.096	3.127

4.05	4.25	0.034	0.014	0.009	0.050	0.050	0.222	0.245	0.458	0.266	0.087	0.007	0.014	0.007	0.002	0.000	0.000	1.466
5.05	5.30	0.002	0.002	0.000	0.018	0.002	0.046	0.046	0.229	0.094	0.009	0.005	0.005	0.005	0.000	0.000	0.000	0.463
6.05	6.34	0.000	0.000	0.000	0.000	0.000	0.005	0.002	0.027	0.027	0.002	0.000	0.002	0.000	0.000	0.000	0.000	0.066
8.05	8.44	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.009	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014
10.01	10.50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24.59	25.77	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL		0.30	0.21	0.12	0.21	0.71	0.89	0.97	1.62	1.35	0.77	0.48	0.45	0.66	0.49	0.69	0.48	10.40

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
0.36	0.37	0.001	0.000	0.000	0.001	0.001	0.000	0.000	0.001	0.001	0.002	0.002	0.002	0.003	0.004	0.004	0.003	0.025
1.05	1.10	0.057	0.021	0.018	0.034	0.039	0.023	0.025	0.034	0.057	0.098	0.115	0.119	0.167	0.215	0.252	0.156	1.432
1.55	1.63	0.016	0.007	0.005	0.018	0.066	0.069	0.032	0.080	0.124	0.096	0.062	0.069	0.089	0.053	0.179	0.110	1.074
2.04	2.14	0.011	0.002	0.002	0.007	0.080	0.064	0.039	0.044	0.158	0.078	0.014	0.009	0.021	0.014	0.030	0.023	0.596
3.05	3.20	0.021	0.002	0.000	0.005	0.069	0.124	0.142	0.137	0.190	0.016	0.002	0.005	0.005	0.002	0.000	0.000	0.719
4.05	4.25	0.002	0.000	0.000	0.007	0.014	0.071	0.069	0.073	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.277
5.05	5.30	0.000	0.000	0.000	0.005	0.000	0.007	0.011	0.032	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.062
6.05	6.34	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005
8.05	8.44	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10.01	10.50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24.59	25.77	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL		0.11	0.03	0.03	0.08	0.27	0.36	0.32	0.40	0.58	0.29	0.19	0.20	0.28	0.29	0.46	0.29	4.19

WIND MEASURED AT 9.1 METERS.
WIND SPEED CORRECTED TO THE RELEASE HEIGHT OF 10.0 METERS.

OVERALL WIND DIRECTION FREQUENCY

WIND DIRECTION:	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
FREQUENCY:	5.9	4.1	3.6	4.7	5.7	4.7	5.1	7.8	8.3	7.3	6.7	5.9	8.4	8.3	7.8	5.6

OVERALL WIND SPEED FREQUENCY AS MEASURED ON THE TOWER:

MAX.WIND SPEED (M/S):	0.358	1.051	1.551	2.039	3.049	4.050	5.052	6.048	8.051	10.014	24.587
WIND SPEED FREQUENCY:	0.06	4.93	7.43	9.11	21.37	18.37	15.39	9.73	10.04	2.78	0.81

BUILDING AND RELEASE CHARACTERISTICS:
RELEASE HEIGHT: 10.00 METERS
MIXING VOLUME COEFFICIENT: 0.50
BUILDING CROSS-SECTIONAL AREA: 2917.00 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	445.	445.	445.	445.	445.	445.	445.	445.	445.	445.	445.	445.	445.	445.	445.	445.
BOUNDARY 2	4828.	4828.	4828.	4828.	4828.	4828.	4828.	4828.	4828.	4828.	4828.	4828.	4828.	4828.	4828.	4828.

THE CONVERSION FACTOR APPLIED TO THE WIND SPEED CLASSES IS 0.447

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

WINDSPEEDS ADJUSTED TO 10.0 METERS.

PERCENT OF THE TIME A GIVEN WINDSPEED IS LOWER:

WINDSPEED (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.37	0.01
0.37	0.06
1.08	0.83
1.10	5.00
1.59	6.92
1.63	12.42
2.09	15.79
2.14	21.53
3.12	31.88
3.20	42.90
4.15	54.05
4.25	61.27
5.17	72.57
5.30	76.66
6.19	84.43
6.34	86.38
8.24	94.95
8.44	96.42
10.25	98.90
10.50	99.19
25.17	99.96
25.77	100.00

WINDSPEED (INTERPOLATED) (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.37	0.06
1.10	5.00
1.62	12.42
2.12	21.53
3.16	42.90
4.19	61.27
5.20	76.66
6.22	86.38
8.27	96.42
10.28	99.19

25.21	100.00

LOG-NORMAL INTERPOLATION PERCENTILES

WINDSPEED (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.69	1.00
0.94	3.00
1.10	5.00
1.46	10.00
1.76	15.00
2.04	20.00
2.28	25.00
2.52	30.00
2.76	35.00
3.01	40.00
3.26	45.00
3.52	50.00
3.80	55.00
4.10	60.00
4.40	65.00
4.71	70.00
5.07	75.00
5.50	80.00
6.17	85.00
6.70	90.00

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.1	0.04	445.	0.	0.	90.2	100.5	90.2	3.267E-05	3.108E-05	3.108E-05
A	2.1	0.08	445.	0.	0.	90.2	100.5	90.2	1.684E-05	1.602E-05	1.602E-05
A	3.1	0.62	445.	0.	0.	90.2	100.5	90.2	1.126E-05	1.071E-05	1.071E-05
A	4.1	1.50	445.	0.	0.	90.2	100.5	90.2	8.474E-06	8.061E-06	8.061E-06
A	5.2	0.73	445.	0.	0.	90.2	100.5	90.2	6.794E-06	6.463E-06	6.463E-06
A	6.2	0.39	445.	0.	0.	90.2	100.5	90.2	5.675E-06	5.398E-06	5.398E-06
A	8.2	0.54	445.	0.	0.	90.2	100.5	90.2	4.263E-06	4.055E-06	4.055E-06
B	1.6	0.12	445.	0.	0.	67.8	45.5	67.8	6.501E-05	5.650E-05	5.650E-05
B	2.1	0.19	445.	0.	0.	67.8	45.5	67.8	4.947E-05	4.299E-05	4.299E-05
B	3.1	0.73	445.	0.	0.	67.8	45.5	67.8	3.308E-05	2.875E-05	2.875E-05
B	4.1	0.85	445.	0.	0.	67.8	45.5	67.8	2.490E-05	2.164E-05	2.164E-05
B	5.2	1.50	445.	0.	0.	67.8	45.5	67.8	1.996E-05	1.735E-05	1.735E-05
B	6.2	0.50	445.	0.	0.	67.8	45.5	67.8	1.667E-05	1.449E-05	1.449E-05
B	8.2	0.39	445.	0.	0.	67.8	45.5	67.8	1.252E-05	1.089E-05	1.089E-05
B	10.3	0.08	445.	0.	0.	67.8	45.5	67.8	1.007E-05	8.752E-06	8.752E-06
B	25.2	0.12	445.	0.	0.	67.8	45.5	67.8	4.101E-06	3.565E-06	3.565E-06
C	1.1	0.08	445.	0.	0.	51.5	29.2	51.5	1.967E-04	1.503E-04	1.503E-04
C	1.6	0.08	445.	0.	0.	51.5	29.2	51.5	1.332E-04	1.018E-04	1.018E-04
C	2.1	0.23	445.	0.	0.	51.5	29.2	51.5	1.014E-04	7.746E-05	7.746E-05
C	3.1	0.81	445.	0.	0.	51.5	29.2	51.5	6.778E-05	5.179E-05	5.179E-05
C	4.1	1.39	445.	0.	0.	51.5	29.2	51.5	5.102E-05	3.899E-05	3.899E-05
C	5.2	1.35	445.	0.	0.	51.5	29.2	51.5	4.091E-05	3.126E-05	3.126E-05
C	6.2	0.69	445.	0.	0.	51.5	29.2	51.5	3.416E-05	2.611E-05	2.611E-05
C	8.2	0.46	445.	0.	0.	51.5	29.2	51.5	2.567E-05	1.961E-05	1.961E-05
C	10.3	0.08	445.	0.	0.	51.5	29.2	51.5	2.064E-05	1.577E-05	1.577E-05
C	25.2	0.08	445.	0.	0.	51.5	29.2	51.5	8.404E-06	6.422E-06	6.422E-06
D	0.4	0.01	445.	0.	0.	36.3	16.8	72.5	7.150E-04	8.108E-04	7.150E-04
D	1.1	0.69	445.	0.	0.	36.3	16.8	72.5	2.434E-04	2.760E-04	2.434E-04
D	1.6	1.23	445.	0.	0.	36.3	16.8	72.5	1.648E-04	1.869E-04	1.648E-04
D	2.1	4.20	445.	0.	0.	36.3	16.8	70.6	1.289E-04	1.422E-04	1.289E-04
D	3.1	10.44	445.	0.	0.	36.3	16.8	54.7	1.111E-04	9.511E-05	9.511E-05
D	4.1	12.60	445.	0.	0.	36.3	16.8	45.8	1.000E-04	7.160E-05	7.160E-05
D	5.2	14.33	445.	0.	0.	36.3	16.8	39.8	9.219E-05	5.740E-05	5.740E-05
D	6.2	8.47	445.	0.	0.	36.3	16.8	36.3	8.456E-05	4.794E-05	4.794E-05

D	8.2	7.59	445.	0.	0.	36.3	16.8	36.3	6.352E-05	3.602E-05	3.602E-05
D	10.3	1.54	445.	0.	0.	36.3	16.8	36.3	5.107E-05	2.896E-05	2.896E-05
D	25.2	0.62	445.	0.	0.	36.3	16.8	36.3	2.080E-05	1.179E-05	1.179E-05
E	0.4	0.01	445.	0.	0.	25.8	11.9	77.3	9.242E-04	1.102E-03	9.242E-04
E	1.1	1.16	445.	0.	0.	25.8	11.9	77.3	3.146E-04	3.751E-04	3.146E-04
E	1.6	1.93	445.	0.	0.	25.8	11.9	77.3	2.131E-04	2.541E-04	2.131E-04
E	2.1	1.73	445.	0.	0.	25.8	11.9	72.4	1.732E-04	1.933E-04	1.732E-04
E	3.2	5.85	445.	0.	0.	25.8	11.9	48.4	1.732E-04	1.293E-04	1.293E-04
E	4.2	4.62	445.	0.	0.	25.8	11.9	36.4	1.732E-04	9.731E-05	9.731E-05
E	5.3	1.77	445.	0.	0.	25.8	11.9	29.2	1.732E-04	7.802E-05	7.802E-05
E	6.3	0.54	445.	0.	0.	25.8	11.9	25.8	1.639E-04	6.516E-05	6.516E-05
E	8.4	0.23	445.	0.	0.	25.8	11.9	25.8	1.232E-04	4.895E-05	4.895E-05
F	0.4	0.01	445.	0.	0.	17.8	7.5	71.2	1.593E-03	2.123E-03	1.593E-03
F	1.1	0.92	445.	0.	0.	17.8	7.5	71.2	5.422E-04	7.229E-04	5.422E-04
F	1.6	1.19	445.	0.	0.	17.8	7.5	71.2	3.672E-04	4.896E-04	3.672E-04
F	2.1	0.77	445.	0.	0.	17.8	7.5	65.5	3.038E-04	3.725E-04	3.038E-04
F	3.2	1.50	445.	0.	0.	17.8	7.5	39.4	3.376E-04	2.491E-04	2.491E-04
F	4.2	0.58	445.	0.	0.	17.8	7.5	27.5	3.636E-04	1.875E-04	1.875E-04
F	5.3	0.04	445.	0.	0.	17.8	7.5	20.8	3.853E-04	1.503E-04	1.503E-04
G	0.4	0.02	445.	0.	0.	12.3	4.7	73.7	2.440E-03	4.879E-03	2.440E-03
G	1.1	0.96	445.	0.	0.	12.3	4.7	73.7	8.306E-04	1.661E-03	8.306E-04
G	1.6	0.27	445.	0.	0.	12.3	4.7	73.7	5.625E-04	1.125E-03	5.625E-04
G	2.1	0.19	445.	0.	0.	12.3	4.7	66.1	4.769E-04	8.560E-04	4.769E-04
G	3.2	0.35	445.	0.	0.	12.3	4.7	34.3	6.148E-04	5.724E-04	5.724E-04
G	4.2	0.04	445.	0.	0.	12.3	4.7	21.6	7.354E-04	4.308E-04	4.308E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

SITE EXCLUSION BOUNDARY CALCULATIONS:

S SECTOR BOUNDARY DISTANCE = 445.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.440E-03	1.593E-03	9.242E-04	8.306E-04	7.150E-04	5.724E-04	5.625E-04	5.422E-04	4.769E-04	4.308E-04
0.017	0.025	0.038	1.001	1.010	1.357	1.626	2.551	2.743	2.782
0.00101	0.00149	0.00226	0.05953	0.06006	0.08068	0.09671	0.15169	0.16314	0.16543
3.672E-04	3.146E-04	3.038E-04	2.491E-04	2.434E-04	2.131E-04	1.875E-04	1.732E-04	1.648E-04	1.503E-04
3.976	5.131	5.902	7.404	8.097	10.023	10.601	12.334	13.567	13.605
0.23644	0.30517	0.35098	0.44032	0.48155	0.59608	0.63044	0.73352	0.80683	0.80912
1.503E-04	1.293E-04	1.289E-04	1.018E-04	9.731E-05	9.511E-05	7.802E-05	7.746E-05	7.160E-05	6.516E-05
13.682	19.537	23.735	23.812	28.434	38.873	40.644	40.876	53.471	54.010
0.81370	1.16188	1.41157	1.41615	1.69103	2.31181	2.41718	2.43092	3.17998	3.21205
5.740E-05	5.650E-05	5.179E-05	4.895E-05	4.794E-05	4.299E-05	3.899E-05	3.602E-05	3.126E-05	3.108E-05
68.339	68.454	69.263	69.494	77.968	78.161	79.547	87.135	88.483	88.522
4.06419	4.07106	4.11916	4.13291	4.63686	4.64831	4.73078	5.18204	5.26222	5.26451
2.896E-05	2.875E-05	2.611E-05	2.164E-05	1.961E-05	1.735E-05	1.602E-05	1.577E-05	1.449E-05	1.179E-05
90.062	90.794	91.488	92.335	92.797	94.299	94.376	94.453	94.954	95.570
5.35613	5.39966	5.44089	5.49128	5.51877	5.60811	5.61269	5.61727	5.64705	5.68370
1.089E-05	1.071E-05	8.752E-06	8.061E-06	6.463E-06	6.422E-06	5.398E-06	4.055E-06	3.565E-06	
95.956	96.572	96.649	98.151	98.883	98.960	99.345	99.884	100.000	
5.70661	5.74326	5.74784	5.83718	5.88070	5.88528	5.90819	5.94026	5.94713	

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

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

                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.059
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.152
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.595
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.410
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.309
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.061
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.633

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
  1  1      -6.01579 -10.51189  -1.05466
  1  2      -7.09335 -12.08837  -1.54102
  1  3      -7.51984 -13.67660  -2.07675
  1  4      -8.45385 -12.40116  -1.56959
  1  5      -8.95670 -12.27601  -1.51256
  1  6      -9.26047 -13.28736  -2.01984
  1  7      -9.76542 -14.81674  -2.89694
  1  8      -9.94552     NUMXQ(K)=  8
    8.309E-04              0.059              1.000
    4.885E-04              0.178              3.000
    3.480E-04              0.297              5.000
    2.134E-04              0.595             10.000
    1.696E-04              0.892             15.000
    1.430E-04              1.189             20.000
    1.249E-04              1.487             25.000
    1.119E-04              1.784             30.000
    1.017E-04              2.081             35.000
    9.281E-05              2.379             40.000
    8.382E-05              2.676             45.000
    7.638E-05              2.974             50.000
    7.013E-05              3.271             55.000
    6.478E-05              3.568             60.000
    6.016E-05              3.866             65.000
    5.557E-05              4.163             70.000
    5.058E-05              4.460             75.000

    2.420E-04              0.5                8.41

ANNUAL AVERAGE =    4.18E-06

K=  1      FIVEXQ(K)= 2.420E-04      FIVEPR(K)= 8.407
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.1	0.11	445.	0.	0.	90.2	100.5	90.2	3.267E-05	3.108E-05	3.108E-05
A	2.1	0.11	445.	0.	0.	90.2	100.5	90.2	1.684E-05	1.602E-05	1.602E-05
A	3.1	0.50	445.	0.	0.	90.2	100.5	90.2	1.126E-05	1.071E-05	1.071E-05
A	4.1	1.17	445.	0.	0.	90.2	100.5	90.2	8.474E-06	8.061E-06	8.061E-06
A	5.2	1.17	445.	0.	0.	90.2	100.5	90.2	6.794E-06	6.463E-06	6.463E-06
A	6.2	1.00	445.	0.	0.	90.2	100.5	90.2	5.675E-06	5.398E-06	5.398E-06
A	8.2	0.39	445.	0.	0.	90.2	100.5	90.2	4.263E-06	4.055E-06	4.055E-06
A	10.3	0.11	445.	0.	0.	90.2	100.5	90.2	3.428E-06	3.260E-06	3.260E-06
B	1.1	0.11	445.	0.	0.	67.8	45.5	67.8	9.599E-05	8.343E-05	8.343E-05
B	1.6	0.17	445.	0.	0.	67.8	45.5	67.8	6.501E-05	5.650E-05	5.650E-05
B	2.1	0.28	445.	0.	0.	67.8	45.5	67.8	4.947E-05	4.299E-05	4.299E-05
B	3.1	0.44	445.	0.	0.	67.8	45.5	67.8	3.308E-05	2.875E-05	2.875E-05
B	4.1	1.11	445.	0.	0.	67.8	45.5	67.8	2.490E-05	2.164E-05	2.164E-05
B	5.2	1.11	445.	0.	0.	67.8	45.5	67.8	1.996E-05	1.735E-05	1.735E-05
B	6.2	0.89	445.	0.	0.	67.8	45.5	67.8	1.667E-05	1.449E-05	1.449E-05
B	8.2	0.17	445.	0.	0.	67.8	45.5	67.8	1.252E-05	1.089E-05	1.089E-05
B	10.3	0.06	445.	0.	0.	67.8	45.5	67.8	1.007E-05	8.752E-06	8.752E-06
C	1.1	0.06	445.	0.	0.	51.5	29.2	51.5	1.967E-04	1.503E-04	1.503E-04
C	1.6	0.06	445.	0.	0.	51.5	29.2	51.5	1.332E-04	1.018E-04	1.018E-04
C	2.1	0.78	445.	0.	0.	51.5	29.2	51.5	1.014E-04	7.746E-05	7.746E-05
C	3.1	0.56	445.	0.	0.	51.5	29.2	51.5	6.778E-05	5.179E-05	5.179E-05
C	4.1	1.44	445.	0.	0.	51.5	29.2	51.5	5.102E-05	3.899E-05	3.899E-05
C	5.2	0.94	445.	0.	0.	51.5	29.2	51.5	4.091E-05	3.126E-05	3.126E-05
C	6.2	0.67	445.	0.	0.	51.5	29.2	51.5	3.416E-05	2.611E-05	2.611E-05
C	8.2	0.50	445.	0.	0.	51.5	29.2	51.5	2.567E-05	1.961E-05	1.961E-05
C	10.3	0.11	445.	0.	0.	51.5	29.2	51.5	2.064E-05	1.577E-05	1.577E-05
D	0.4	0.02	445.	0.	0.	36.3	16.8	72.5	7.150E-04	8.108E-04	7.150E-04
D	1.1	1.39	445.	0.	0.	36.3	16.8	72.5	2.434E-04	2.760E-04	2.434E-04
D	1.6	2.22	445.	0.	0.	36.3	16.8	72.5	1.648E-04	1.869E-04	1.648E-04
D	2.1	4.72	445.	0.	0.	36.3	16.8	70.6	1.289E-04	1.422E-04	1.289E-04
D	3.1	10.33	445.	0.	0.	36.3	16.8	54.7	1.111E-04	9.511E-05	9.511E-05
D	4.1	9.72	445.	0.	0.	36.3	16.8	45.8	1.000E-04	7.160E-05	7.160E-05
D	5.2	11.72	445.	0.	0.	36.3	16.8	39.8	9.219E-05	5.740E-05	5.740E-05
D	6.2	7.39	445.	0.	0.	36.3	16.8	36.3	8.456E-05	4.794E-05	4.794E-05

D	8.2	10.28	445.	0.	0.	36.3	16.8	36.3	6.352E-05	3.602E-05	3.602E-05
D	10.3	2.00	445.	0.	0.	36.3	16.8	36.3	5.107E-05	2.896E-05	2.896E-05
D	25.2	0.22	445.	0.	0.	36.3	16.8	36.3	2.080E-05	1.179E-05	1.179E-05
E	0.4	0.02	445.	0.	0.	25.8	11.9	77.3	9.242E-04	1.102E-03	9.242E-04
E	1.1	1.50	445.	0.	0.	25.8	11.9	77.3	3.146E-04	3.751E-04	3.146E-04
E	1.6	1.89	445.	0.	0.	25.8	11.9	77.3	2.131E-04	2.541E-04	2.131E-04
E	2.1	2.78	445.	0.	0.	25.8	11.9	72.4	1.732E-04	1.933E-04	1.732E-04
E	3.2	6.78	445.	0.	0.	25.8	11.9	48.4	1.732E-04	1.293E-04	1.293E-04
E	4.2	4.83	445.	0.	0.	25.8	11.9	36.4	1.732E-04	9.731E-05	9.731E-05
E	5.3	1.56	445.	0.	0.	25.8	11.9	29.2	1.732E-04	7.802E-05	7.802E-05
E	6.3	0.56	445.	0.	0.	25.8	11.9	25.8	1.639E-04	6.516E-05	6.516E-05
E	8.4	0.22	445.	0.	0.	25.8	11.9	25.8	1.232E-04	4.895E-05	4.895E-05
F	0.4	0.01	445.	0.	0.	17.8	7.5	71.2	1.593E-03	2.123E-03	1.593E-03
F	1.1	1.17	445.	0.	0.	17.8	7.5	71.2	5.422E-04	7.229E-04	5.422E-04
F	1.6	0.67	445.	0.	0.	17.8	7.5	71.2	3.672E-04	4.896E-04	3.672E-04
F	2.1	1.06	445.	0.	0.	17.8	7.5	65.5	3.038E-04	3.725E-04	3.038E-04
F	3.2	1.78	445.	0.	0.	17.8	7.5	39.4	3.376E-04	2.491E-04	2.491E-04
F	4.2	0.33	445.	0.	0.	17.8	7.5	27.5	3.636E-04	1.875E-04	1.875E-04
F	5.3	0.06	445.	0.	0.	17.8	7.5	20.8	3.853E-04	1.503E-04	1.503E-04
G	0.4	0.01	445.	0.	0.	12.3	4.7	73.7	2.440E-03	4.879E-03	2.440E-03
G	1.1	0.50	445.	0.	0.	12.3	4.7	73.7	8.306E-04	1.661E-03	8.306E-04
G	1.6	0.17	445.	0.	0.	12.3	4.7	73.7	5.625E-04	1.125E-03	5.625E-04
G	2.1	0.06	445.	0.	0.	12.3	4.7	66.1	4.769E-04	8.560E-04	4.769E-04
G	3.2	0.06	445.	0.	0.	12.3	4.7	34.3	6.148E-04	5.724E-04	5.724E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SSW SECTOR BOUNDARY DISTANCE = 445.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.440E-03	1.593E-03	9.242E-04	8.306E-04	7.150E-04	5.724E-04	5.625E-04	5.422E-04	4.769E-04	3.672E-04
0.009	0.019	0.036	0.536	0.554	0.609	0.776	1.943	1.998	2.665
0.00036	0.00078	0.00148	0.02210	0.02283	0.02513	0.03200	0.08010	0.08239	0.10988
3.146E-04	3.038E-04	2.491E-04	2.434E-04	2.131E-04	1.875E-04	1.732E-04	1.648E-04	1.503E-04	1.503E-04
4.165	5.221	6.998	8.387	10.276	10.610	13.387	15.610	15.665	15.721
0.17173	0.21525	0.28855	0.34582	0.42371	0.43745	0.55198	0.64361	0.64590	0.64819
1.293E-04	1.289E-04	1.018E-04	9.731E-05	9.511E-05	8.343E-05	7.802E-05	7.746E-05	7.160E-05	6.516E-05
22.499	27.221	27.277	32.110	42.443	42.555	44.110	44.888	54.610	55.166
0.92766	1.12237	1.12466	1.32395	1.75001	1.75460	1.81873	1.85080	2.25167	2.27458
5.740E-05	5.650E-05	5.179E-05	4.895E-05	4.794E-05	4.299E-05	3.899E-05	3.602E-05	3.126E-05	3.108E-05
66.888	67.055	67.611	67.833	75.222	75.500	76.944	87.222	88.166	88.278
2.75792	2.76479	2.78770	2.79686	3.10152	3.11297	3.17253	3.59631	3.63525	3.63983
2.896E-05	2.875E-05	2.611E-05	2.164E-05	1.961E-05	1.735E-05	1.602E-05	1.577E-05	1.449E-05	1.179E-05
90.278	90.722	91.389	92.500	93.000	94.111	94.222	94.333	95.222	95.444
3.72230	3.74062	3.76811	3.81392	3.83454	3.88035	3.88494	3.88952	3.92617	3.93533
1.089E-05	1.071E-05	8.752E-06	8.061E-06	6.463E-06	5.398E-06	4.055E-06	3.260E-06		
95.611	96.111	96.167	97.333	98.500	99.500	99.889	100.000		
3.94220	3.96282	3.96511	4.01321	4.06132	4.10255	4.11859	4.12317		

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.022
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.080
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.345
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.121
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   1.748
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   2.755
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   3.099

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
  2  1      -6.01579 -10.98864  -1.10855
  2  2      -7.09335 -11.27876  -1.19111
  2  3      -7.51984 -13.07995  -1.76187
  2  4      -8.32075 -12.42971  -1.52115
  2  5      -8.95670 -12.93457  -1.74227
  2  6      -9.26047 -14.84290  -2.64721
  2  7      -9.76542 -16.46581  -3.49333
  2  8      -9.94552     NUMXQ(K)=  8
    6.790E-04              0.041              1.000
    4.320E-04              0.124              3.000
    3.271E-04              0.206              5.000
    2.225E-04              0.412             10.000
    1.797E-04              0.618             15.000
    1.535E-04              0.825             20.000
    1.353E-04              1.031             25.000
    1.208E-04              1.237             30.000
    1.088E-04              1.443             35.000
    9.916E-05              1.649             40.000
    8.931E-05              1.855             45.000
    7.962E-05              2.062             50.000
    7.165E-05              2.268             55.000
    6.498E-05              2.474             60.000
    5.932E-05              2.680             65.000
    5.356E-05              2.886             70.000
    4.816E-05              3.092             75.000

    2.013E-04              0.5               12.13

ANNUAL AVERAGE =   2.90E-06

K=  2     FIVEXQ(K)= 2.013E-04     FIVEPR(K)=12.127
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	2.1	0.06	445.	0.	0.	90.2	100.5	90.2	1.684E-05	1.602E-05	1.602E-05
A	3.1	0.63	445.	0.	0.	90.2	100.5	90.2	1.126E-05	1.071E-05	1.071E-05
A	4.1	0.69	445.	0.	0.	90.2	100.5	90.2	8.474E-06	8.061E-06	8.061E-06
A	5.2	0.44	445.	0.	0.	90.2	100.5	90.2	6.794E-06	6.463E-06	6.463E-06
A	6.2	0.31	445.	0.	0.	90.2	100.5	90.2	5.675E-06	5.398E-06	5.398E-06
A	8.2	0.19	445.	0.	0.	90.2	100.5	90.2	4.263E-06	4.055E-06	4.055E-06
B	2.1	0.06	445.	0.	0.	67.8	45.5	67.8	4.947E-05	4.299E-05	4.299E-05
B	3.1	0.31	445.	0.	0.	67.8	45.5	67.8	3.308E-05	2.875E-05	2.875E-05
B	4.1	0.50	445.	0.	0.	67.8	45.5	67.8	2.490E-05	2.164E-05	2.164E-05
B	5.2	0.57	445.	0.	0.	67.8	45.5	67.8	1.996E-05	1.735E-05	1.735E-05
B	6.2	0.19	445.	0.	0.	67.8	45.5	67.8	1.667E-05	1.449E-05	1.449E-05
B	8.2	0.50	445.	0.	0.	67.8	45.5	67.8	1.252E-05	1.089E-05	1.089E-05
C	1.6	0.06	445.	0.	0.	51.5	29.2	51.5	1.332E-04	1.018E-04	1.018E-04
C	2.1	0.57	445.	0.	0.	51.5	29.2	51.5	1.014E-04	7.746E-05	7.746E-05
C	3.1	0.82	445.	0.	0.	51.5	29.2	51.5	6.778E-05	5.179E-05	5.179E-05
C	4.1	1.01	445.	0.	0.	51.5	29.2	51.5	5.102E-05	3.899E-05	3.899E-05
C	5.2	0.82	445.	0.	0.	51.5	29.2	51.5	4.091E-05	3.126E-05	3.126E-05
C	6.2	0.63	445.	0.	0.	51.5	29.2	51.5	3.416E-05	2.611E-05	2.611E-05
C	8.2	0.25	445.	0.	0.	51.5	29.2	51.5	2.567E-05	1.961E-05	1.961E-05
C	10.3	0.13	445.	0.	0.	51.5	29.2	51.5	2.064E-05	1.577E-05	1.577E-05
D	0.4	0.01	445.	0.	0.	36.3	16.8	72.5	7.150E-04	8.108E-04	7.150E-04
D	1.1	1.01	445.	0.	0.	36.3	16.8	72.5	2.434E-04	2.760E-04	2.434E-04
D	1.6	3.27	445.	0.	0.	36.3	16.8	72.5	1.648E-04	1.869E-04	1.648E-04
D	2.1	4.53	445.	0.	0.	36.3	16.8	70.6	1.289E-04	1.422E-04	1.289E-04
D	3.1	10.39	445.	0.	0.	36.3	16.8	54.7	1.111E-04	9.511E-05	9.511E-05
D	4.1	8.57	445.	0.	0.	36.3	16.8	45.8	1.000E-04	7.160E-05	7.160E-05
D	5.2	8.88	445.	0.	0.	36.3	16.8	39.8	9.219E-05	5.740E-05	5.740E-05
D	6.2	7.62	445.	0.	0.	36.3	16.8	36.3	8.456E-05	4.794E-05	4.794E-05
D	8.2	13.67	445.	0.	0.	36.3	16.8	36.3	6.352E-05	3.602E-05	3.602E-05
D	10.3	5.35	445.	0.	0.	36.3	16.8	36.3	5.107E-05	2.896E-05	2.896E-05
D	25.2	1.01	445.	0.	0.	36.3	16.8	36.3	2.080E-05	1.179E-05	1.179E-05
E	0.4	0.02	445.	0.	0.	25.8	11.9	77.3	9.242E-04	1.102E-03	9.242E-04
E	1.1	1.89	445.	0.	0.	25.8	11.9	77.3	3.146E-04	3.751E-04	3.146E-04

E	1.6	1.95	445.	0.	0.	25.8	11.9	77.3	2.131E-04	2.541E-04	2.131E-04
E	2.1	1.89	445.	0.	0.	25.8	11.9	72.4	1.732E-04	1.933E-04	1.732E-04
E	3.2	5.42	445.	0.	0.	25.8	11.9	48.4	1.732E-04	1.293E-04	1.293E-04
E	4.2	5.73	445.	0.	0.	25.8	11.9	36.4	1.732E-04	9.731E-05	9.731E-05
E	5.3	3.21	445.	0.	0.	25.8	11.9	29.2	1.732E-04	7.802E-05	7.802E-05
E	6.3	2.33	445.	0.	0.	25.8	11.9	25.8	1.639E-04	6.516E-05	6.516E-05
E	8.4	0.50	445.	0.	0.	25.8	11.9	25.8	1.232E-04	4.895E-05	4.895E-05
F	0.4	0.01	445.	0.	0.	17.8	7.5	71.2	1.593E-03	2.123E-03	1.593E-03
F	1.1	1.13	445.	0.	0.	17.8	7.5	71.2	5.422E-04	7.229E-04	5.422E-04
F	1.6	0.44	445.	0.	0.	17.8	7.5	71.2	3.672E-04	4.896E-04	3.672E-04
F	2.1	0.57	445.	0.	0.	17.8	7.5	65.5	3.038E-04	3.725E-04	3.038E-04
F	3.2	0.88	445.	0.	0.	17.8	7.5	39.4	3.376E-04	2.491E-04	2.491E-04
F	4.2	0.25	445.	0.	0.	17.8	7.5	27.5	3.636E-04	1.875E-04	1.875E-04
G	0.4	0.01	445.	0.	0.	12.3	4.7	73.7	2.440E-03	4.879E-03	2.440E-03
G	1.1	0.50	445.	0.	0.	12.3	4.7	73.7	8.306E-04	1.661E-03	8.306E-04
G	1.6	0.13	445.	0.	0.	12.3	4.7	73.7	5.625E-04	1.125E-03	5.625E-04
G	2.1	0.06	445.	0.	0.	12.3	4.7	66.1	4.769E-04	8.560E-04	4.769E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

SITE EXCLUSION BOUNDARY CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 445.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.440E-03	1.593E-03	9.242E-04	8.306E-04	7.150E-04	5.625E-04	5.422E-04	4.769E-04	3.672E-04	3.146E-04
0.009	0.019	0.040	0.544	0.557	0.683	1.816	1.879	2.320	4.210
0.00032	0.00068	0.00146	0.01978	0.02026	0.02484	0.06607	0.06836	0.08440	0.15312
3.038E-04	2.491E-04	2.434E-04	2.131E-04	1.875E-04	1.732E-04	1.648E-04	1.293E-04	1.289E-04	1.018E-04
4.776	5.658	6.666	8.618	8.870	10.759	14.034	19.450	23.985	24.048
0.17373	0.20580	0.24245	0.31346	0.32263	0.39135	0.51046	0.70746	0.87239	0.87468
9.731E-05	9.511E-05	7.802E-05	7.746E-05	7.160E-05	6.516E-05	5.740E-05	5.179E-05	4.895E-05	4.794E-05
29.779	40.170	43.382	43.949	52.514	54.844	63.724	64.543	65.047	72.667
1.08314	1.46110	1.57792	1.59854	1.91007	1.99483	2.31782	2.34760	2.36592	2.64309
4.299E-05	3.899E-05	3.602E-05	3.126E-05	2.896E-05	2.875E-05	2.611E-05	2.164E-05	1.961E-05	1.735E-05
72.730	73.738	87.404	88.223	93.576	93.891	94.521	95.025	95.277	95.843
2.64538	2.68204	3.17912	3.20889	3.40360	3.41506	3.43796	3.45629	3.46545	3.48607
1.602E-05	1.577E-05	1.449E-05	1.179E-05	1.089E-05	1.071E-05	8.061E-06	6.463E-06	5.398E-06	4.055E-06
95.906	96.032	96.221	97.229	97.733	98.363	99.055	99.496	99.811	100.000
3.48836	3.49294	3.49981	3.53646	3.55479	3.57770	3.60289	3.61893	3.63038	3.63725

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.020
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.066
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.313
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   0.871
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   1.459
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   1.908
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   2.315
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   2.640
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
3	1	-6.01579	-11.03820	-1.11338
3	2	-7.09335	-11.65071	-1.28626
3	3	-7.51984	-13.79758	-1.95474
3	4	-8.45385	-12.31345	-1.41185
3	5	-8.95670	-12.62956	-1.54480
3	6	-9.26047	-15.00660	-2.63472
3	7	-9.54448	-15.23007	-2.74252
3	8	-9.76542	-16.16322	-3.21083
3	9	-9.94552	NUMXQ(K)= 9	

6.727E-04	0.036	1.000
4.068E-04	0.109	3.000
2.998E-04	0.182	5.000
1.987E-04	0.364	10.000
1.635E-04	0.546	15.000
1.415E-04	0.727	20.000
1.259E-04	0.909	25.000
1.132E-04	1.091	30.000
1.034E-04	1.273	35.000
9.536E-05	1.455	40.000
8.444E-05	1.637	45.000
7.548E-05	1.819	50.000
6.795E-05	2.000	55.000
6.153E-05	2.182	60.000
5.588E-05	2.364	65.000
5.048E-05	2.546	70.000
1.706E-04	0.5	13.75

ANNUAL AVERAGE = 2.44E-06

K= 3 FIVEXQ(K)= 1.706E-04 FIVEPR(K)=13.747

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.1	0.10	445.	0.	0.	90.2	100.5	90.2	3.267E-05	3.108E-05	3.108E-05
A	2.1	0.10	445.	0.	0.	90.2	100.5	90.2	1.684E-05	1.602E-05	1.602E-05
A	3.1	0.34	445.	0.	0.	90.2	100.5	90.2	1.126E-05	1.071E-05	1.071E-05
A	4.1	0.43	445.	0.	0.	90.2	100.5	90.2	8.474E-06	8.061E-06	8.061E-06
A	5.2	0.58	445.	0.	0.	90.2	100.5	90.2	6.794E-06	6.463E-06	6.463E-06
A	6.2	0.39	445.	0.	0.	90.2	100.5	90.2	5.675E-06	5.398E-06	5.398E-06
A	8.2	0.77	445.	0.	0.	90.2	100.5	90.2	4.263E-06	4.055E-06	4.055E-06
A	10.3	0.29	445.	0.	0.	90.2	100.5	90.2	3.428E-06	3.260E-06	3.260E-06
B	1.1	0.10	445.	0.	0.	67.8	45.5	67.8	9.599E-05	8.343E-05	8.343E-05
B	1.6	0.05	445.	0.	0.	67.8	45.5	67.8	6.501E-05	5.650E-05	5.650E-05
B	3.1	0.43	445.	0.	0.	67.8	45.5	67.8	3.308E-05	2.875E-05	2.875E-05
B	4.1	0.34	445.	0.	0.	67.8	45.5	67.8	2.490E-05	2.164E-05	2.164E-05
B	5.2	0.19	445.	0.	0.	67.8	45.5	67.8	1.996E-05	1.735E-05	1.735E-05
B	6.2	0.24	445.	0.	0.	67.8	45.5	67.8	1.667E-05	1.449E-05	1.449E-05
B	8.2	0.68	445.	0.	0.	67.8	45.5	67.8	1.252E-05	1.089E-05	1.089E-05
B	10.3	0.19	445.	0.	0.	67.8	45.5	67.8	1.007E-05	8.752E-06	8.752E-06
C	1.6	0.05	445.	0.	0.	51.5	29.2	51.5	1.332E-04	1.018E-04	1.018E-04
C	2.1	0.19	445.	0.	0.	51.5	29.2	51.5	1.014E-04	7.746E-05	7.746E-05
C	3.1	0.58	445.	0.	0.	51.5	29.2	51.5	6.778E-05	5.179E-05	5.179E-05
C	4.1	0.43	445.	0.	0.	51.5	29.2	51.5	5.102E-05	3.899E-05	3.899E-05
C	5.2	0.82	445.	0.	0.	51.5	29.2	51.5	4.091E-05	3.126E-05	3.126E-05
C	6.2	0.34	445.	0.	0.	51.5	29.2	51.5	3.416E-05	2.611E-05	2.611E-05
C	8.2	0.48	445.	0.	0.	51.5	29.2	51.5	2.567E-05	1.961E-05	1.961E-05
C	10.3	0.05	445.	0.	0.	51.5	29.2	51.5	2.064E-05	1.577E-05	1.577E-05
D	0.4	0.01	445.	0.	0.	36.3	16.8	72.5	7.150E-04	8.108E-04	7.150E-04
D	1.1	0.82	445.	0.	0.	36.3	16.8	72.5	2.434E-04	2.760E-04	2.434E-04
D	1.6	2.17	445.	0.	0.	36.3	16.8	72.5	1.648E-04	1.869E-04	1.648E-04
D	2.1	2.56	445.	0.	0.	36.3	16.8	70.6	1.289E-04	1.422E-04	1.289E-04
D	3.1	7.62	445.	0.	0.	36.3	16.8	54.7	1.111E-04	9.511E-05	9.511E-05
D	4.1	9.07	445.	0.	0.	36.3	16.8	45.8	1.000E-04	7.160E-05	7.160E-05
D	5.2	13.12	445.	0.	0.	36.3	16.8	39.8	9.219E-05	5.740E-05	5.740E-05
D	6.2	9.21	445.	0.	0.	36.3	16.8	36.3	8.456E-05	4.794E-05	4.794E-05
D	8.2	11.19	445.	0.	0.	36.3	16.8	36.3	6.352E-05	3.602E-05	3.602E-05
D	10.3	1.78	445.	0.	0.	36.3	16.8	36.3	5.107E-05	2.896E-05	2.896E-05

E	0.4	0.01	445.	0.	0.	25.8	11.9	77.3	9.242E-04	1.102E-03	9.242E-04
E	1.1	1.30	445.	0.	0.	25.8	11.9	77.3	3.146E-04	3.751E-04	3.146E-04
E	1.6	2.07	445.	0.	0.	25.8	11.9	77.3	2.131E-04	2.541E-04	2.131E-04
E	2.1	2.07	445.	0.	0.	25.8	11.9	72.4	1.732E-04	1.933E-04	1.732E-04
E	3.2	6.18	445.	0.	0.	25.8	11.9	48.4	1.732E-04	1.293E-04	1.293E-04
E	4.2	6.61	445.	0.	0.	25.8	11.9	36.4	1.732E-04	9.731E-05	9.731E-05
E	5.3	5.31	445.	0.	0.	25.8	11.9	29.2	1.732E-04	7.802E-05	7.802E-05
E	6.3	2.99	445.	0.	0.	25.8	11.9	25.8	1.639E-04	6.516E-05	6.516E-05
E	8.4	1.74	445.	0.	0.	25.8	11.9	25.8	1.232E-04	4.895E-05	4.895E-05
E	10.5	0.05	445.	0.	0.	25.8	11.9	25.8	9.902E-05	3.936E-05	3.936E-05
F	0.4	0.00	445.	0.	0.	17.8	7.5	71.2	1.593E-03	2.123E-03	1.593E-03
F	1.1	0.43	445.	0.	0.	17.8	7.5	71.2	5.422E-04	7.229E-04	5.422E-04
F	1.6	0.53	445.	0.	0.	17.8	7.5	71.2	3.672E-04	4.896E-04	3.672E-04
F	2.1	0.63	445.	0.	0.	17.8	7.5	65.5	3.038E-04	3.725E-04	3.038E-04
F	3.2	1.25	445.	0.	0.	17.8	7.5	39.4	3.376E-04	2.491E-04	2.491E-04
F	4.2	1.06	445.	0.	0.	17.8	7.5	27.5	3.636E-04	1.875E-04	1.875E-04
F	5.3	0.39	445.	0.	0.	17.8	7.5	20.8	3.853E-04	1.503E-04	1.503E-04
F	8.4	0.05	445.	0.	0.	17.8	7.5	17.8	2.830E-04	9.432E-05	9.432E-05
G	0.4	0.01	445.	0.	0.	12.3	4.7	73.7	2.440E-03	4.879E-03	2.440E-03
G	1.1	0.72	445.	0.	0.	12.3	4.7	73.7	8.306E-04	1.661E-03	8.306E-04
G	1.6	0.39	445.	0.	0.	12.3	4.7	73.7	5.625E-04	1.125E-03	5.625E-04
G	2.1	0.14	445.	0.	0.	12.3	4.7	66.1	4.769E-04	8.560E-04	4.769E-04
G	3.2	0.10	445.	0.	0.	12.3	4.7	34.3	6.148E-04	5.724E-04	5.724E-04
G	4.2	0.14	445.	0.	0.	12.3	4.7	21.6	7.354E-04	4.308E-04	4.308E-04
G	5.3	0.10	445.	0.	0.	12.3	4.7	15.1	8.454E-04	3.454E-04	3.454E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 445.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.440E-03	1.593E-03	9.242E-04	8.306E-04	7.150E-04	5.724E-04	5.625E-04	5.422E-04	4.769E-04	4.308E-04
0.013	0.017	0.031	0.755	0.765	0.862	1.248	1.682	1.827	1.972
0.00060	0.00078	0.00148	0.03584	0.03635	0.04093	0.05925	0.07987	0.08674	0.09361
3.672E-04	3.454E-04	3.146E-04	3.038E-04	2.491E-04	2.434E-04	2.131E-04	1.875E-04	1.732E-04	1.648E-04
2.502	2.599	3.901	4.528	5.783	6.603	8.677	9.739	11.813	13.984
0.11881	0.12339	0.18524	0.21502	0.27458	0.31352	0.41202	0.46241	0.56091	0.66399
1.503E-04	1.293E-04	1.289E-04	1.018E-04	9.731E-05	9.511E-05	9.432E-05	8.343E-05	7.802E-05	7.746E-05
14.370	20.545	23.102	23.150	29.759	37.381	37.430	37.526	42.833	43.026
0.68232	0.97553	1.09693	1.09923	1.41305	1.77498	1.77727	1.78185	2.03383	2.04299
7.160E-05	6.516E-05	5.740E-05	5.650E-05	5.179E-05	4.895E-05	4.794E-05	3.936E-05	3.899E-05	3.602E-05
52.095	55.086	68.208	68.257	68.835	70.572	79.786	79.835	80.269	91.461
2.47364	2.61566	3.23873	3.24102	3.26851	3.35097	3.78849	3.79078	3.81140	4.34284
3.126E-05	3.108E-05	2.896E-05	2.875E-05	2.611E-05	2.164E-05	1.961E-05	1.735E-05	1.602E-05	1.577E-05
92.281	92.378	94.163	94.597	94.935	95.272	95.755	95.948	96.044	96.092
4.38178	4.38636	4.47112	4.49173	4.50777	4.52380	4.54671	4.55587	4.56046	4.56275
1.449E-05	1.089E-05	1.071E-05	8.752E-06	8.061E-06	6.463E-06	5.398E-06	4.055E-06	3.260E-06	
96.334	97.009	97.347	97.540	97.974	98.553	98.939	99.711	100.000	
4.57420	4.60627	4.62230	4.63147	4.65208	4.67957	4.69790	4.73455	4.74829	

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.036
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.080
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.412
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.096
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   1.773
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.236
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   3.785

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
  4  1      -6.01579 -10.76639  -1.08565
  4  2      -7.09335 -13.46113  -1.88215
  4  3      -7.51984 -13.25366  -1.81642
  4  4      -8.45385 -12.24396  -1.43432
  4  5      -8.95670 -12.64402  -1.60887
  4  6      -9.26047 -13.41133  -1.97373
  4  7      -9.76542 -14.44795  -2.53490
  4  8      -9.94552     NUMXQ(K)=  8
    7.172E-04              0.047              1.000
    3.962E-04              0.142              3.000
    2.963E-04              0.237              5.000
    1.988E-04              0.475             10.000
    1.620E-04              0.712             15.000
    1.393E-04              0.950             20.000
    1.228E-04              1.187             25.000
    1.096E-04              1.424             30.000
    9.927E-05              1.662             35.000
    9.007E-05              1.899             40.000
    8.181E-05              2.137             45.000
    7.496E-05              2.374             50.000
    6.916E-05              2.612             55.000
    6.420E-05              2.849             60.000
    5.988E-05              3.086             65.000
    5.574E-05              3.324             70.000
    5.150E-05              3.561             75.000

    1.938E-04              0.5               10.53

ANNUAL AVERAGE =   3.13E-06

K=  4     FIVEXQ(K)= 1.938E-04     FIVEPR(K)=10.530
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.1	0.08	445.	0.	0.	90.2	100.5	90.2	3.267E-05	3.108E-05	3.108E-05
A	2.1	0.12	445.	0.	0.	90.2	100.5	90.2	1.684E-05	1.602E-05	1.602E-05
A	3.1	0.56	445.	0.	0.	90.2	100.5	90.2	1.126E-05	1.071E-05	1.071E-05
A	4.1	1.01	445.	0.	0.	90.2	100.5	90.2	8.474E-06	8.061E-06	8.061E-06
A	5.2	0.73	445.	0.	0.	90.2	100.5	90.2	6.794E-06	6.463E-06	6.463E-06
A	6.2	0.04	445.	0.	0.	90.2	100.5	90.2	5.675E-06	5.398E-06	5.398E-06
A	8.2	0.08	445.	0.	0.	90.2	100.5	90.2	4.263E-06	4.055E-06	4.055E-06
B	1.1	0.08	445.	0.	0.	67.8	45.5	67.8	9.599E-05	8.343E-05	8.343E-05
B	1.6	0.12	445.	0.	0.	67.8	45.5	67.8	6.501E-05	5.650E-05	5.650E-05
B	2.1	0.12	445.	0.	0.	67.8	45.5	67.8	4.947E-05	4.299E-05	4.299E-05
B	3.1	0.56	445.	0.	0.	67.8	45.5	67.8	3.308E-05	2.875E-05	2.875E-05
B	4.1	0.85	445.	0.	0.	67.8	45.5	67.8	2.490E-05	2.164E-05	2.164E-05
B	5.2	0.61	445.	0.	0.	67.8	45.5	67.8	1.996E-05	1.735E-05	1.735E-05
B	6.2	0.16	445.	0.	0.	67.8	45.5	67.8	1.667E-05	1.449E-05	1.449E-05
B	8.2	0.08	445.	0.	0.	67.8	45.5	67.8	1.252E-05	1.089E-05	1.089E-05
C	1.1	0.04	445.	0.	0.	51.5	29.2	51.5	1.967E-04	1.503E-04	1.503E-04
C	1.6	0.16	445.	0.	0.	51.5	29.2	51.5	1.332E-04	1.018E-04	1.018E-04
C	2.1	0.40	445.	0.	0.	51.5	29.2	51.5	1.014E-04	7.746E-05	7.746E-05
C	3.1	1.98	445.	0.	0.	51.5	29.2	51.5	6.778E-05	5.179E-05	5.179E-05
C	4.1	1.17	445.	0.	0.	51.5	29.2	51.5	5.102E-05	3.899E-05	3.899E-05
C	5.2	0.44	445.	0.	0.	51.5	29.2	51.5	4.091E-05	3.126E-05	3.126E-05
C	6.2	0.20	445.	0.	0.	51.5	29.2	51.5	3.416E-05	2.611E-05	2.611E-05
C	8.2	0.08	445.	0.	0.	51.5	29.2	51.5	2.567E-05	1.961E-05	1.961E-05
D	0.4	0.01	445.	0.	0.	36.3	16.8	72.5	7.150E-04	8.108E-04	7.150E-04
D	1.1	0.89	445.	0.	0.	36.3	16.8	72.5	2.434E-04	2.760E-04	2.434E-04
D	1.6	2.38	445.	0.	0.	36.3	16.8	72.5	1.648E-04	1.869E-04	1.648E-04
D	2.1	4.32	445.	0.	0.	36.3	16.8	70.6	1.289E-04	1.422E-04	1.289E-04
D	3.1	11.86	445.	0.	0.	36.3	16.8	54.7	1.111E-04	9.511E-05	9.511E-05
D	4.1	9.00	445.	0.	0.	36.3	16.8	45.8	1.000E-04	7.160E-05	7.160E-05
D	5.2	6.90	445.	0.	0.	36.3	16.8	39.8	9.219E-05	5.740E-05	5.740E-05
D	6.2	2.87	445.	0.	0.	36.3	16.8	36.3	8.456E-05	4.794E-05	4.794E-05
D	8.2	1.41	445.	0.	0.	36.3	16.8	36.3	6.352E-05	3.602E-05	3.602E-05
D	10.3	0.04	445.	0.	0.	36.3	16.8	36.3	5.107E-05	2.896E-05	2.896E-05

E	0.4	0.02	445.	0.	0.	25.8	11.9	77.3	9.242E-04	1.102E-03	9.242E-04
E	1.1	1.49	445.	0.	0.	25.8	11.9	77.3	3.146E-04	3.751E-04	3.146E-04
E	1.6	3.79	445.	0.	0.	25.8	11.9	77.3	2.131E-04	2.541E-04	2.131E-04
E	2.1	6.21	445.	0.	0.	25.8	11.9	72.4	1.732E-04	1.933E-04	1.732E-04
E	3.2	13.28	445.	0.	0.	25.8	11.9	48.4	1.732E-04	1.293E-04	1.293E-04
E	4.2	6.01	445.	0.	0.	25.8	11.9	36.4	1.732E-04	9.731E-05	9.731E-05
E	5.3	1.61	445.	0.	0.	25.8	11.9	29.2	1.732E-04	7.802E-05	7.802E-05
E	6.3	0.65	445.	0.	0.	25.8	11.9	25.8	1.639E-04	6.516E-05	6.516E-05
E	8.4	0.28	445.	0.	0.	25.8	11.9	25.8	1.232E-04	4.895E-05	4.895E-05
F	0.4	0.01	445.	0.	0.	17.8	7.5	71.2	1.593E-03	2.123E-03	1.593E-03
F	1.1	0.61	445.	0.	0.	17.8	7.5	71.2	5.422E-04	7.229E-04	5.422E-04
F	1.6	2.18	445.	0.	0.	17.8	7.5	71.2	3.672E-04	4.896E-04	3.672E-04
F	2.1	4.12	445.	0.	0.	17.8	7.5	65.5	3.038E-04	3.725E-04	3.038E-04
F	3.2	4.68	445.	0.	0.	17.8	7.5	39.4	3.376E-04	2.491E-04	2.491E-04
F	4.2	0.89	445.	0.	0.	17.8	7.5	27.5	3.636E-04	1.875E-04	1.875E-04
F	5.3	0.04	445.	0.	0.	17.8	7.5	20.8	3.853E-04	1.503E-04	1.503E-04
G	0.4	0.01	445.	0.	0.	12.3	4.7	73.7	2.440E-03	4.879E-03	2.440E-03
G	1.1	0.69	445.	0.	0.	12.3	4.7	73.7	8.306E-04	1.661E-03	8.306E-04
G	1.6	1.17	445.	0.	0.	12.3	4.7	73.7	5.625E-04	1.125E-03	5.625E-04
G	2.1	1.41	445.	0.	0.	12.3	4.7	66.1	4.769E-04	8.560E-04	4.769E-04
G	3.2	1.21	445.	0.	0.	12.3	4.7	34.3	6.148E-04	5.724E-04	5.724E-04
G	4.2	0.24	445.	0.	0.	12.3	4.7	21.6	7.354E-04	4.308E-04	4.308E-04
G	6.3	0.04	445.	0.	0.	12.3	4.7	12.3	8.656E-04	2.885E-04	2.885E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 445.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.440E-03	1.593E-03	9.242E-04	8.306E-04	7.150E-04	5.724E-04	5.625E-04	5.422E-04	4.769E-04	4.308E-04
0.012	0.017	0.034	0.720	0.732	1.942	3.112	3.718	5.130	5.372
0.00069	0.00098	0.00194	0.04088	0.04153	0.11025	0.17668	0.21105	0.29122	0.30496
3.672E-04	3.146E-04	3.038E-04	2.885E-04	2.491E-04	2.434E-04	2.131E-04	1.875E-04	1.732E-04	1.648E-04
7.551	9.044	13.160	13.201	17.882	18.769	22.563	23.450	29.665	32.046
0.42866	0.51342	0.74707	0.74936	1.01508	1.06547	1.28080	1.33119	1.68396	1.81911
1.503E-04	1.503E-04	1.293E-04	1.289E-04	1.018E-04	9.731E-05	9.511E-05	8.343E-05	7.802E-05	7.746E-05
32.086	32.126	45.402	49.720	49.882	55.894	67.758	67.839	69.453	69.856
1.82140	1.82369	2.57733	2.82243	2.83159	3.17290	3.84637	3.85095	3.94258	3.96548
7.160E-05	6.516E-05	5.740E-05	5.650E-05	5.179E-05	4.895E-05	4.794E-05	4.299E-05	3.899E-05	3.602E-05
78.855	79.501	86.401	86.522	88.499	88.782	91.647	91.768	92.938	94.351
4.47631	4.51296	4.90467	4.91154	5.02378	5.03982	5.20245	5.20933	5.27576	5.35593
3.126E-05	3.108E-05	2.896E-05	2.875E-05	2.611E-05	2.164E-05	1.961E-05	1.735E-05	1.602E-05	1.449E-05
94.794	94.875	94.915	95.480	95.682	96.530	96.610	97.216	97.337	97.498
5.38113	5.38571	5.38800	5.42007	5.43152	5.47963	5.48421	5.51857	5.52544	5.53460
1.089E-05	1.071E-05	8.061E-06	6.463E-06	5.398E-06	4.055E-06				
97.579	98.144	99.153	99.879	99.919	100.000				
5.53919	5.57125	5.62852	5.66975	5.67205	5.67663				

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

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.211
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.291
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.746
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.064
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.820
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.843
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.473
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   4.901
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
5	1	-6.01579	-10.41432	-1.01152
5	2	-7.51984	-11.06537	-1.23904
5	3	-7.64824	-11.49089	-1.39333
5	4	-8.09920	-12.20567	-1.68697
5	5	-8.32075	-12.02919	-1.61034
5	6	-8.95670	-13.13290	-2.18881
5	7	-9.26047	-16.34580	-4.00483
5	8	-9.54448	-18.12093	-5.05008
5	9	-9.76542	NUMXQ(K)= 9	

8.072E-04	0.057	1.000
5.804E-04	0.170	3.000
4.819E-04	0.284	5.000
3.481E-04	0.568	10.000
2.803E-04	0.851	15.000
2.341E-04	1.135	20.000
2.037E-04	1.419	25.000
1.813E-04	1.703	30.000
1.638E-04	1.987	35.000
1.498E-04	2.271	40.000
1.381E-04	2.554	45.000
1.282E-04	2.838	50.000
1.169E-04	3.122	55.000
1.074E-04	3.406	60.000
9.917E-05	3.690	65.000
8.955E-05	3.974	70.000
7.871E-05	4.257	75.000
6.916E-05	4.541	80.000
5.973E-05	4.825	85.000
3.702E-04	0.5	8.81

ANNUAL AVERAGE = 5.73E-06

K= 5 FIVEXQ(K)= 3.702E-04 FIVEPR(K)= 8.808

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.6	0.15	445.	0.	0.	90.2	100.5	90.2	2.213E-05	2.105E-05	2.105E-05
A	2.1	0.10	445.	0.	0.	90.2	100.5	90.2	1.684E-05	1.602E-05	1.602E-05
A	3.1	0.39	445.	0.	0.	90.2	100.5	90.2	1.126E-05	1.071E-05	1.071E-05
A	4.1	0.69	445.	0.	0.	90.2	100.5	90.2	8.474E-06	8.061E-06	8.061E-06
A	5.2	0.44	445.	0.	0.	90.2	100.5	90.2	6.794E-06	6.463E-06	6.463E-06
A	6.2	0.20	445.	0.	0.	90.2	100.5	90.2	5.675E-06	5.398E-06	5.398E-06
A	8.2	0.30	445.	0.	0.	90.2	100.5	90.2	4.263E-06	4.055E-06	4.055E-06
B	1.6	0.15	445.	0.	0.	67.8	45.5	67.8	6.501E-05	5.650E-05	5.650E-05
B	2.1	0.25	445.	0.	0.	67.8	45.5	67.8	4.947E-05	4.299E-05	4.299E-05
B	3.1	0.79	445.	0.	0.	67.8	45.5	67.8	3.308E-05	2.875E-05	2.875E-05
B	4.1	0.59	445.	0.	0.	67.8	45.5	67.8	2.490E-05	2.164E-05	2.164E-05
B	5.2	0.64	445.	0.	0.	67.8	45.5	67.8	1.996E-05	1.735E-05	1.735E-05
B	6.2	0.34	445.	0.	0.	67.8	45.5	67.8	1.667E-05	1.449E-05	1.449E-05
B	8.2	0.05	445.	0.	0.	67.8	45.5	67.8	1.252E-05	1.089E-05	1.089E-05
B	10.3	0.05	445.	0.	0.	67.8	45.5	67.8	1.007E-05	8.752E-06	8.752E-06
C	1.6	0.10	445.	0.	0.	51.5	29.2	51.5	1.332E-04	1.018E-04	1.018E-04
C	2.1	0.44	445.	0.	0.	51.5	29.2	51.5	1.014E-04	7.746E-05	7.746E-05
C	3.1	1.23	445.	0.	0.	51.5	29.2	51.5	6.778E-05	5.179E-05	5.179E-05
C	4.1	0.69	445.	0.	0.	51.5	29.2	51.5	5.102E-05	3.899E-05	3.899E-05
C	5.2	0.59	445.	0.	0.	51.5	29.2	51.5	4.091E-05	3.126E-05	3.126E-05
C	6.2	0.10	445.	0.	0.	51.5	29.2	51.5	3.416E-05	2.611E-05	2.611E-05
C	8.2	0.15	445.	0.	0.	51.5	29.2	51.5	2.567E-05	1.961E-05	1.961E-05
C	10.3	0.10	445.	0.	0.	51.5	29.2	51.5	2.064E-05	1.577E-05	1.577E-05
D	0.4	0.01	445.	0.	0.	36.3	16.8	72.5	7.150E-04	8.108E-04	7.150E-04
D	1.1	0.64	445.	0.	0.	36.3	16.8	72.5	2.434E-04	2.760E-04	2.434E-04
D	1.6	2.41	445.	0.	0.	36.3	16.8	72.5	1.648E-04	1.869E-04	1.648E-04
D	2.1	3.89	445.	0.	0.	36.3	16.8	70.6	1.289E-04	1.422E-04	1.289E-04
D	3.1	7.98	445.	0.	0.	36.3	16.8	54.7	1.111E-04	9.511E-05	9.511E-05
D	4.1	5.91	445.	0.	0.	36.3	16.8	45.8	1.000E-04	7.160E-05	7.160E-05
D	5.2	5.66	445.	0.	0.	36.3	16.8	39.8	9.219E-05	5.740E-05	5.740E-05
D	6.2	3.05	445.	0.	0.	36.3	16.8	36.3	8.456E-05	4.794E-05	4.794E-05
D	8.2	3.89	445.	0.	0.	36.3	16.8	36.3	6.352E-05	3.602E-05	3.602E-05
D	10.3	1.48	445.	0.	0.	36.3	16.8	36.3	5.107E-05	2.896E-05	2.896E-05
D	25.2	0.34	445.	0.	0.	36.3	16.8	36.3	2.080E-05	1.179E-05	1.179E-05

E	0.4	0.01	445.	0.	0.	25.8	11.9	77.3	9.242E-04	1.102E-03	9.242E-04
E	1.1	0.98	445.	0.	0.	25.8	11.9	77.3	3.146E-04	3.751E-04	3.146E-04
E	1.6	2.31	445.	0.	0.	25.8	11.9	77.3	2.131E-04	2.541E-04	2.131E-04
E	2.1	3.99	445.	0.	0.	25.8	11.9	72.4	1.732E-04	1.933E-04	1.732E-04
E	3.2	8.42	445.	0.	0.	25.8	11.9	48.4	1.732E-04	1.293E-04	1.293E-04
E	4.2	5.37	445.	0.	0.	25.8	11.9	36.4	1.732E-04	9.731E-05	9.731E-05
E	5.3	3.50	445.	0.	0.	25.8	11.9	29.2	1.732E-04	7.802E-05	7.802E-05
E	6.3	1.72	445.	0.	0.	25.8	11.9	25.8	1.639E-04	6.516E-05	6.516E-05
E	8.4	1.92	445.	0.	0.	25.8	11.9	25.8	1.232E-04	4.895E-05	4.895E-05
E	10.5	0.79	445.	0.	0.	25.8	11.9	25.8	9.902E-05	3.936E-05	3.936E-05
E	25.8	0.30	445.	0.	0.	25.8	11.9	25.8	4.033E-05	1.603E-05	1.603E-05
F	0.4	0.01	445.	0.	0.	17.8	7.5	71.2	1.593E-03	2.123E-03	1.593E-03
F	1.1	0.69	445.	0.	0.	17.8	7.5	71.2	5.422E-04	7.229E-04	5.422E-04
F	1.6	1.67	445.	0.	0.	17.8	7.5	71.2	3.672E-04	4.896E-04	3.672E-04
F	2.1	3.10	445.	0.	0.	17.8	7.5	65.5	3.038E-04	3.725E-04	3.038E-04
F	3.2	7.88	445.	0.	0.	17.8	7.5	39.4	3.376E-04	2.491E-04	2.491E-04
F	4.2	4.78	445.	0.	0.	17.8	7.5	27.5	3.636E-04	1.875E-04	1.875E-04
F	5.3	0.98	445.	0.	0.	17.8	7.5	20.8	3.853E-04	1.503E-04	1.503E-04
F	6.3	0.10	445.	0.	0.	17.8	7.5	17.8	3.767E-04	1.256E-04	1.256E-04
G	0.4	0.01	445.	0.	0.	12.3	4.7	73.7	2.440E-03	4.879E-03	2.440E-03
G	1.1	0.49	445.	0.	0.	12.3	4.7	73.7	8.306E-04	1.661E-03	8.306E-04
G	1.6	1.48	445.	0.	0.	12.3	4.7	73.7	5.625E-04	1.125E-03	5.625E-04
G	2.1	1.38	445.	0.	0.	12.3	4.7	66.1	4.769E-04	8.560E-04	4.769E-04
G	3.2	2.66	445.	0.	0.	12.3	4.7	34.3	6.148E-04	5.724E-04	5.724E-04
G	4.2	1.53	445.	0.	0.	12.3	4.7	21.6	7.354E-04	4.308E-04	4.308E-04
G	5.3	0.15	445.	0.	0.	12.3	4.7	15.1	8.454E-04	3.454E-04	3.454E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 445.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.440E-03	1.593E-03	9.242E-04	8.306E-04	7.150E-04	5.724E-04	5.625E-04	5.422E-04	4.769E-04	4.308E-04
0.009	0.015	0.026	0.518	0.526	3.186	4.663	5.352	6.731	8.258
0.00040	0.00068	0.00120	0.02411	0.02449	0.14819	0.21691	0.24898	0.31312	0.38413
3.672E-04	3.454E-04	3.146E-04	3.038E-04	2.491E-04	2.434E-04	2.131E-04	1.875E-04	1.732E-04	1.648E-04
9.932	10.080	11.065	14.167	22.046	22.686	25.001	29.778	33.766	36.179
0.46201	0.46888	0.51470	0.65901	1.02552	1.05530	1.16296	1.38516	1.57071	1.68295
1.503E-04	1.293E-04	1.289E-04	1.256E-04	1.018E-04	9.731E-05	9.511E-05	7.802E-05	7.746E-05	7.160E-05
37.164	45.585	49.475	49.574	49.672	55.040	63.018	66.514	66.957	72.866
1.72876	2.12047	2.30144	2.30602	2.31060	2.56028	2.93137	3.09401	3.11463	3.38951
6.516E-05	5.740E-05	5.650E-05	5.179E-05	4.895E-05	4.794E-05	4.299E-05	3.936E-05	3.899E-05	3.602E-05
74.590	80.253	80.401	81.632	83.552	86.606	86.852	87.640	88.329	92.219
3.46969	3.73312	3.73999	3.79725	3.88659	4.02861	4.04007	4.07672	4.10879	4.28975
3.126E-05	2.896E-05	2.875E-05	2.611E-05	2.164E-05	2.105E-05	1.961E-05	1.735E-05	1.603E-05	1.602E-05
92.810	94.288	95.076	95.174	95.765	95.913	96.060	96.701	96.996	97.095
4.31724	4.38596	4.42261	4.42719	4.45468	4.46156	4.46843	4.49821	4.51195	4.51653
1.577E-05	1.449E-05	1.179E-05	1.089E-05	1.071E-05	8.752E-06	8.061E-06	6.463E-06	5.398E-06	4.055E-06
97.193	97.538	97.882	97.932	98.326	98.375	99.064	99.508	99.705	100.000
4.52111	4.53715	4.55318	4.55547	4.57380	4.57609	4.60816	4.62878	4.63794	4.65168

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   1.024
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   2.299
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.929
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.386
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.730
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.025
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
6	1	-6.01579	-10.07285	-0.90896
6	2	-7.51984	-11.96591	-1.58296
6	3	-8.29770	-13.04394	-2.04816
6	4	-8.95670	-14.77618	-2.91621
6	5	-9.26047	-17.57716	-4.39711
6	6	-9.54448	-18.74329	-5.03546
6	7	-9.76542	-18.89664	-5.12147
6	8	-9.94552	NUMXQ(K)= 8	

8.560E-04	0.047	1.000
6.395E-04	0.140	3.000
5.531E-04	0.233	5.000
3.903E-04	0.465	10.000
3.116E-04	0.698	15.000
2.639E-04	0.930	20.000
2.259E-04	1.163	25.000
1.955E-04	1.396	30.000
1.725E-04	1.628	35.000
1.544E-04	1.861	40.000
1.398E-04	2.093	45.000
1.272E-04	2.326	50.000
1.130E-04	2.558	55.000
1.013E-04	2.791	60.000
8.957E-05	3.024	65.000
7.750E-05	3.256	70.000
6.705E-05	3.489	75.000
5.782E-05	3.721	80.000
5.012E-05	3.954	85.000
3.753E-04	0.5	10.75

ANNUAL AVERAGE = 4.54E-06

K= 6 FIVEXQ(K)= 3.753E-04 FIVEPR(K)=10.749

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.6	0.13	445.	0.	0.	90.2	100.5	90.2	2.213E-05	2.105E-05	2.105E-05
A	2.1	0.09	445.	0.	0.	90.2	100.5	90.2	1.684E-05	1.602E-05	1.602E-05
A	3.1	0.18	445.	0.	0.	90.2	100.5	90.2	1.126E-05	1.071E-05	1.071E-05
A	4.1	0.31	445.	0.	0.	90.2	100.5	90.2	8.474E-06	8.061E-06	8.061E-06
A	5.2	0.45	445.	0.	0.	90.2	100.5	90.2	6.794E-06	6.463E-06	6.463E-06
A	6.2	0.40	445.	0.	0.	90.2	100.5	90.2	5.675E-06	5.398E-06	5.398E-06
A	8.2	0.31	445.	0.	0.	90.2	100.5	90.2	4.263E-06	4.055E-06	4.055E-06
B	1.6	0.09	445.	0.	0.	67.8	45.5	67.8	6.501E-05	5.650E-05	5.650E-05
B	2.1	0.13	445.	0.	0.	67.8	45.5	67.8	4.947E-05	4.299E-05	4.299E-05
B	3.1	0.40	445.	0.	0.	67.8	45.5	67.8	3.308E-05	2.875E-05	2.875E-05
B	4.1	0.98	445.	0.	0.	67.8	45.5	67.8	2.490E-05	2.164E-05	2.164E-05
B	5.2	0.67	445.	0.	0.	67.8	45.5	67.8	1.996E-05	1.735E-05	1.735E-05
B	6.2	0.45	445.	0.	0.	67.8	45.5	67.8	1.667E-05	1.449E-05	1.449E-05
B	8.2	0.18	445.	0.	0.	67.8	45.5	67.8	1.252E-05	1.089E-05	1.089E-05
B	10.3	0.22	445.	0.	0.	67.8	45.5	67.8	1.007E-05	8.752E-06	8.752E-06
C	1.6	0.09	445.	0.	0.	51.5	29.2	51.5	1.332E-04	1.018E-04	1.018E-04
C	2.1	0.58	445.	0.	0.	51.5	29.2	51.5	1.014E-04	7.746E-05	7.746E-05
C	3.1	1.47	445.	0.	0.	51.5	29.2	51.5	6.778E-05	5.179E-05	5.179E-05
C	4.1	0.89	445.	0.	0.	51.5	29.2	51.5	5.102E-05	3.899E-05	3.899E-05
C	5.2	1.03	445.	0.	0.	51.5	29.2	51.5	4.091E-05	3.126E-05	3.126E-05
C	6.2	0.45	445.	0.	0.	51.5	29.2	51.5	3.416E-05	2.611E-05	2.611E-05
C	8.2	0.22	445.	0.	0.	51.5	29.2	51.5	2.567E-05	1.961E-05	1.961E-05
C	10.3	0.22	445.	0.	0.	51.5	29.2	51.5	2.064E-05	1.577E-05	1.577E-05
D	0.4	0.01	445.	0.	0.	36.3	16.8	72.5	7.150E-04	8.108E-04	7.150E-04
D	1.1	0.80	445.	0.	0.	36.3	16.8	72.5	2.434E-04	2.760E-04	2.434E-04
D	1.6	1.69	445.	0.	0.	36.3	16.8	72.5	1.648E-04	1.869E-04	1.648E-04
D	2.1	2.09	445.	0.	0.	36.3	16.8	70.6	1.289E-04	1.422E-04	1.289E-04
D	3.1	7.31	445.	0.	0.	36.3	16.8	54.7	1.111E-04	9.511E-05	9.511E-05
D	4.1	7.09	445.	0.	0.	36.3	16.8	45.8	1.000E-04	7.160E-05	7.160E-05
D	5.2	6.77	445.	0.	0.	36.3	16.8	39.8	9.219E-05	5.740E-05	5.740E-05
D	6.2	3.43	445.	0.	0.	36.3	16.8	36.3	8.456E-05	4.794E-05	4.794E-05
D	8.2	3.74	445.	0.	0.	36.3	16.8	36.3	6.352E-05	3.602E-05	3.602E-05
D	10.3	1.20	445.	0.	0.	36.3	16.8	36.3	5.107E-05	2.896E-05	2.896E-05
D	25.2	0.04	445.	0.	0.	36.3	16.8	36.3	2.080E-05	1.179E-05	1.179E-05

E	0.4	0.01	445.	0.	0.	25.8	11.9	77.3	9.242E-04	1.102E-03	9.242E-04
E	1.1	1.20	445.	0.	0.	25.8	11.9	77.3	3.146E-04	3.751E-04	3.146E-04
E	1.6	1.96	445.	0.	0.	25.8	11.9	77.3	2.131E-04	2.541E-04	2.131E-04
E	2.1	2.23	445.	0.	0.	25.8	11.9	72.4	1.732E-04	1.933E-04	1.732E-04
E	3.2	8.96	445.	0.	0.	25.8	11.9	48.4	1.732E-04	1.293E-04	1.293E-04
E	4.2	7.53	445.	0.	0.	25.8	11.9	36.4	1.732E-04	9.731E-05	9.731E-05
E	5.3	5.04	445.	0.	0.	25.8	11.9	29.2	1.732E-04	7.802E-05	7.802E-05
E	6.3	2.27	445.	0.	0.	25.8	11.9	25.8	1.639E-04	6.516E-05	6.516E-05
E	8.4	1.07	445.	0.	0.	25.8	11.9	25.8	1.232E-04	4.895E-05	4.895E-05
E	10.5	0.45	445.	0.	0.	25.8	11.9	25.8	9.902E-05	3.936E-05	3.936E-05
E	25.8	0.04	445.	0.	0.	25.8	11.9	25.8	4.033E-05	1.603E-05	1.603E-05
F	0.4	0.00	445.	0.	0.	17.8	7.5	71.2	1.593E-03	2.123E-03	1.593E-03
F	1.1	0.45	445.	0.	0.	17.8	7.5	71.2	5.422E-04	7.229E-04	5.422E-04
F	1.6	1.34	445.	0.	0.	17.8	7.5	71.2	3.672E-04	4.896E-04	3.672E-04
F	2.1	1.96	445.	0.	0.	17.8	7.5	65.5	3.038E-04	3.725E-04	3.038E-04
F	3.2	9.45	445.	0.	0.	17.8	7.5	39.4	3.376E-04	2.491E-04	2.491E-04
F	4.2	4.77	445.	0.	0.	17.8	7.5	27.5	3.636E-04	1.875E-04	1.875E-04
F	5.3	0.89	445.	0.	0.	17.8	7.5	20.8	3.853E-04	1.503E-04	1.503E-04
F	6.3	0.04	445.	0.	0.	17.8	7.5	17.8	3.767E-04	1.256E-04	1.256E-04
G	0.4	0.01	445.	0.	0.	12.3	4.7	73.7	2.440E-03	4.879E-03	2.440E-03
G	1.1	0.49	445.	0.	0.	12.3	4.7	73.7	8.306E-04	1.661E-03	8.306E-04
G	1.6	0.62	445.	0.	0.	12.3	4.7	73.7	5.625E-04	1.125E-03	5.625E-04
G	2.1	0.76	445.	0.	0.	12.3	4.7	66.1	4.769E-04	8.560E-04	4.769E-04
G	3.2	2.76	445.	0.	0.	12.3	4.7	34.3	6.148E-04	5.724E-04	5.724E-04
G	4.2	1.34	445.	0.	0.	12.3	4.7	21.6	7.354E-04	4.308E-04	4.308E-04
G	5.3	0.22	445.	0.	0.	12.3	4.7	15.1	8.454E-04	3.454E-04	3.454E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

SITE EXCLUSION BOUNDARY CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 445.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.440E-03	1.593E-03	9.242E-04	8.306E-04	7.150E-04	5.724E-04	5.625E-04	5.422E-04	4.769E-04	4.308E-04
0.009	0.012	0.026	0.516	0.527	3.290	3.914	4.359	5.117	6.454
0.00044	0.00064	0.00134	0.02654	0.02707	0.16909	0.20116	0.22407	0.26301	0.33173
3.672E-04	3.454E-04	3.146E-04	3.038E-04	2.491E-04	2.434E-04	2.131E-04	1.875E-04	1.732E-04	1.648E-04
7.791	8.014	9.217	11.178	20.626	21.429	23.390	28.158	30.387	32.080
0.40045	0.41191	0.47376	0.57455	1.06017	1.10140	1.20219	1.44730	1.56183	1.64888
1.503E-04	1.293E-04	1.289E-04	1.256E-04	1.018E-04	9.731E-05	9.511E-05	7.802E-05	7.746E-05	7.160E-05
32.971	41.929	44.024	44.069	44.158	51.689	58.998	64.035	64.614	71.700
1.69469	2.15512	2.26278	2.26507	2.26966	2.65678	3.03245	3.29130	3.32108	3.68530
6.516E-05	5.740E-05	5.650E-05	5.179E-05	4.895E-05	4.794E-05	4.299E-05	3.936E-05	3.899E-05	3.602E-05
73.973	80.747	80.836	82.307	83.377	86.808	86.942	87.388	88.279	92.023
3.80213	4.15031	4.15489	4.23048	4.28546	4.46184	4.46872	4.49162	4.53744	4.72985
3.126E-05	2.896E-05	2.875E-05	2.611E-05	2.164E-05	2.105E-05	1.961E-05	1.735E-05	1.603E-05	1.602E-05
93.048	94.251	94.652	95.098	96.078	96.212	96.435	97.103	97.148	97.237
4.78254	4.84439	4.86501	4.88791	4.93831	4.94518	4.95663	4.99099	4.99328	4.99786
1.577E-05	1.449E-05	1.179E-05	1.089E-05	1.071E-05	8.752E-06	8.061E-06	6.463E-06	5.398E-06	4.055E-06
97.460	97.905	97.950	98.128	98.306	98.529	98.841	99.287	99.688	100.000
5.00932	5.03222	5.03452	5.04368	5.05284	5.06429	5.08033	5.10324	5.12385	5.13989

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.224
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   1.059
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.100
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.260
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.030
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   3.682
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   4.147
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE(10)=   4.458

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
  7  1      -6.01579 -10.17798  -0.93681
  7  2      -7.48309 -10.57407  -1.07450
  7  3      -7.51984 -11.63194  -1.44666
  7  4      -8.29770 -11.97206  -1.59423
  7  5      -8.32075 -13.38486  -2.21109
  7  6      -8.95670 -13.77576  -2.40628
  7  7      -9.26047 -15.34216  -3.24104
  7  8      -9.54448 -16.73736  -4.02098
  7  9      -9.76542 -18.92969  -5.28538
  7 10      -9.94552     NUMXQ(K)= 10
    8.231E-04              0.051              1.000
    6.079E-04              0.154              3.000
    5.088E-04              0.257              5.000
    3.638E-04              0.514             10.000
    2.955E-04              0.771             15.000
    2.533E-04              1.028             20.000
    2.136E-04              1.285             25.000
    1.823E-04              1.542             30.000
    1.590E-04              1.799             35.000
    1.408E-04              2.056             40.000
    1.260E-04              2.313             45.000
    1.131E-04              2.570             50.000
    1.024E-04              2.827             55.000
    9.284E-05              3.084             60.000
    8.269E-05              3.341             65.000
    7.418E-05              3.598             70.000
    6.589E-05              3.855             75.000
    5.841E-05              4.112             80.000
    5.053E-05              4.369             85.000

    3.689E-04              0.5                9.73

ANNUAL AVERAGE =   4.58E-06

K=  7     FIVEXQ(K)= 3.689E-04     FIVEPR(K)= 9.728
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.6	0.03	445.	0.	0.	90.2	100.5	90.2	2.213E-05	2.105E-05	2.105E-05
A	2.1	0.03	445.	0.	0.	90.2	100.5	90.2	1.684E-05	1.602E-05	1.602E-05
A	3.1	0.44	445.	0.	0.	90.2	100.5	90.2	1.126E-05	1.071E-05	1.071E-05
A	4.1	0.62	445.	0.	0.	90.2	100.5	90.2	8.474E-06	8.061E-06	8.061E-06
A	5.2	0.62	445.	0.	0.	90.2	100.5	90.2	6.794E-06	6.463E-06	6.463E-06
A	6.2	0.30	445.	0.	0.	90.2	100.5	90.2	5.675E-06	5.398E-06	5.398E-06
A	8.2	0.74	445.	0.	0.	90.2	100.5	90.2	4.263E-06	4.055E-06	4.055E-06
A	10.3	0.15	445.	0.	0.	90.2	100.5	90.2	3.428E-06	3.260E-06	3.260E-06
A	25.2	0.03	445.	0.	0.	90.2	100.5	90.2	1.396E-06	1.328E-06	1.328E-06
B	1.1	0.03	445.	0.	0.	67.8	45.5	67.8	9.599E-05	8.343E-05	8.343E-05
B	1.6	0.03	445.	0.	0.	67.8	45.5	67.8	6.501E-05	5.650E-05	5.650E-05
B	2.1	0.03	445.	0.	0.	67.8	45.5	67.8	4.947E-05	4.299E-05	4.299E-05
B	3.1	0.35	445.	0.	0.	67.8	45.5	67.8	3.308E-05	2.875E-05	2.875E-05
B	4.1	0.35	445.	0.	0.	67.8	45.5	67.8	2.490E-05	2.164E-05	2.164E-05
B	5.2	0.59	445.	0.	0.	67.8	45.5	67.8	1.996E-05	1.735E-05	1.735E-05
B	6.2	0.27	445.	0.	0.	67.8	45.5	67.8	1.667E-05	1.449E-05	1.449E-05
B	8.2	0.38	445.	0.	0.	67.8	45.5	67.8	1.252E-05	1.089E-05	1.089E-05
B	10.3	0.18	445.	0.	0.	67.8	45.5	67.8	1.007E-05	8.752E-06	8.752E-06
B	25.2	0.03	445.	0.	0.	67.8	45.5	67.8	4.101E-06	3.565E-06	3.565E-06
C	1.6	0.03	445.	0.	0.	51.5	29.2	51.5	1.332E-04	1.018E-04	1.018E-04
C	2.1	0.21	445.	0.	0.	51.5	29.2	51.5	1.014E-04	7.746E-05	7.746E-05
C	3.1	0.35	445.	0.	0.	51.5	29.2	51.5	6.778E-05	5.179E-05	5.179E-05
C	4.1	0.77	445.	0.	0.	51.5	29.2	51.5	5.102E-05	3.899E-05	3.899E-05
C	5.2	0.92	445.	0.	0.	51.5	29.2	51.5	4.091E-05	3.126E-05	3.126E-05
C	6.2	0.74	445.	0.	0.	51.5	29.2	51.5	3.416E-05	2.611E-05	2.611E-05
C	8.2	0.24	445.	0.	0.	51.5	29.2	51.5	2.567E-05	1.961E-05	1.961E-05
C	10.3	0.06	445.	0.	0.	51.5	29.2	51.5	2.064E-05	1.577E-05	1.577E-05
C	25.2	0.15	445.	0.	0.	51.5	29.2	51.5	8.404E-06	6.422E-06	6.422E-06
D	0.4	0.00	445.	0.	0.	36.3	16.8	72.5	7.150E-04	8.108E-04	7.150E-04
D	1.1	0.18	445.	0.	0.	36.3	16.8	72.5	2.434E-04	2.760E-04	2.434E-04
D	1.6	1.00	445.	0.	0.	36.3	16.8	72.5	1.648E-04	1.869E-04	1.648E-04
D	2.1	1.42	445.	0.	0.	36.3	16.8	70.6	1.289E-04	1.422E-04	1.289E-04
D	3.1	5.43	445.	0.	0.	36.3	16.8	54.7	1.111E-04	9.511E-05	9.511E-05
D	4.1	6.65	445.	0.	0.	36.3	16.8	45.8	1.000E-04	7.160E-05	7.160E-05

D	5.2	6.70	445.	0.	0.	36.3	16.8	39.8	9.219E-05	5.740E-05	5.740E-05
D	6.2	4.84	445.	0.	0.	36.3	16.8	36.3	8.456E-05	4.794E-05	4.794E-05
D	8.2	5.97	445.	0.	0.	36.3	16.8	36.3	6.352E-05	3.602E-05	3.602E-05
D	10.3	1.65	445.	0.	0.	36.3	16.8	36.3	5.107E-05	2.896E-05	2.896E-05
D	25.2	0.62	445.	0.	0.	36.3	16.8	36.3	2.080E-05	1.179E-05	1.179E-05
E	0.4	0.01	445.	0.	0.	25.8	11.9	77.3	9.242E-04	1.102E-03	9.242E-04
E	1.1	0.80	445.	0.	0.	25.8	11.9	77.3	3.146E-04	3.751E-04	3.146E-04
E	1.6	1.24	445.	0.	0.	25.8	11.9	77.3	2.131E-04	2.541E-04	2.131E-04
E	2.1	1.62	445.	0.	0.	25.8	11.9	72.4	1.732E-04	1.933E-04	1.732E-04
E	3.2	6.53	445.	0.	0.	25.8	11.9	48.4	1.732E-04	1.293E-04	1.293E-04
E	4.2	7.24	445.	0.	0.	25.8	11.9	36.4	1.732E-04	9.731E-05	9.731E-05
E	5.3	5.61	445.	0.	0.	25.8	11.9	29.2	1.732E-04	7.802E-05	7.802E-05
E	6.3	3.96	445.	0.	0.	25.8	11.9	25.8	1.639E-04	6.516E-05	6.516E-05
E	8.4	3.10	445.	0.	0.	25.8	11.9	25.8	1.232E-04	4.895E-05	4.895E-05
E	10.5	0.50	445.	0.	0.	25.8	11.9	25.8	9.902E-05	3.936E-05	3.936E-05
E	25.8	0.18	445.	0.	0.	25.8	11.9	25.8	4.033E-05	1.603E-05	1.603E-05
F	0.4	0.01	445.	0.	0.	17.8	7.5	71.2	1.593E-03	2.123E-03	1.593E-03
F	1.1	0.62	445.	0.	0.	17.8	7.5	71.2	5.422E-04	7.229E-04	5.422E-04
F	1.6	1.24	445.	0.	0.	17.8	7.5	71.2	3.672E-04	4.896E-04	3.672E-04
F	2.1	1.57	445.	0.	0.	17.8	7.5	65.5	3.038E-04	3.725E-04	3.038E-04
F	3.2	8.12	445.	0.	0.	17.8	7.5	39.4	3.376E-04	2.491E-04	2.491E-04
F	4.2	5.91	445.	0.	0.	17.8	7.5	27.5	3.636E-04	1.875E-04	1.875E-04
F	5.3	2.95	445.	0.	0.	17.8	7.5	20.8	3.853E-04	1.503E-04	1.503E-04
F	6.3	0.35	445.	0.	0.	17.8	7.5	17.8	3.767E-04	1.256E-04	1.256E-04
F	8.4	0.12	445.	0.	0.	17.8	7.5	17.8	2.830E-04	9.432E-05	9.432E-05
G	0.4	0.01	445.	0.	0.	12.3	4.7	73.7	2.440E-03	4.879E-03	2.440E-03
G	1.1	0.44	445.	0.	0.	12.3	4.7	73.7	8.306E-04	1.661E-03	8.306E-04
G	1.6	1.03	445.	0.	0.	12.3	4.7	73.7	5.625E-04	1.125E-03	5.625E-04
G	2.1	0.56	445.	0.	0.	12.3	4.7	66.1	4.769E-04	8.560E-04	4.769E-04
G	3.2	1.77	445.	0.	0.	12.3	4.7	34.3	6.148E-04	5.724E-04	5.724E-04
G	4.2	0.95	445.	0.	0.	12.3	4.7	21.6	7.354E-04	4.308E-04	4.308E-04
G	5.3	0.41	445.	0.	0.	12.3	4.7	15.1	8.454E-04	3.454E-04	3.454E-04
G	6.3	0.03	445.	0.	0.	12.3	4.7	12.3	8.656E-04	2.885E-04	2.885E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 445.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.440E-03	1.593E-03	9.242E-04	8.306E-04	7.150E-04	5.724E-04	5.625E-04	5.422E-04	4.769E-04	4.308E-04
0.008	0.013	0.022	0.465	0.468	2.240	3.273	3.894	4.455	5.400
0.00060	0.00102	0.00172	0.03608	0.03626	0.17370	0.25387	0.30198	0.34550	0.41880
3.672E-04	3.454E-04	3.146E-04	3.038E-04	2.885E-04	2.491E-04	2.434E-04	2.131E-04	1.875E-04	1.732E-04
6.640	7.054	7.851	9.417	9.446	17.568	17.745	18.986	24.893	26.517
0.51501	0.54708	0.60893	0.73034	0.73263	1.36257	1.37631	1.47252	1.93066	2.05665
1.648E-04	1.503E-04	1.293E-04	1.289E-04	1.256E-04	1.018E-04	9.731E-05	9.511E-05	9.432E-05	8.343E-05
27.521	30.475	37.002	38.420	38.774	38.804	46.040	51.474	51.592	51.622
2.13453	2.36360	2.86984	2.97979	3.00728	3.00957	3.57079	3.99228	4.00144	4.00373
7.802E-05	7.746E-05	7.160E-05	6.516E-05	5.740E-05	5.650E-05	5.179E-05	4.895E-05	4.794E-05	4.299E-05
57.234	57.440	64.086	68.043	74.748	74.777	75.132	78.233	83.077	83.106
4.43896	4.45500	4.97040	5.27735	5.79734	5.79963	5.82712	6.06764	6.44332	6.44561
3.936E-05	3.899E-05	3.602E-05	3.126E-05	2.896E-05	2.875E-05	2.611E-05	2.164E-05	2.105E-05	1.961E-05
83.608	84.376	90.342	91.258	92.912	93.266	94.004	94.359	94.388	94.625
6.48455	6.54411	7.00682	7.07784	7.20611	7.23360	7.29087	7.31836	7.32065	7.33897
1.735E-05	1.603E-05	1.602E-05	1.577E-05	1.449E-05	1.179E-05	1.089E-05	1.071E-05	8.752E-06	8.061E-06
95.215	95.393	95.422	95.481	95.747	96.367	96.751	97.194	97.371	97.992
7.38479	7.39853	7.40082	7.40540	7.42602	7.47412	7.50390	7.53826	7.55201	7.60011
6.463E-06	6.422E-06	5.398E-06	4.055E-06	3.565E-06	3.260E-06	1.328E-06			
98.612	98.760	99.055	99.793	99.823	99.970	100.000			
7.64822	7.65967	7.68258	7.73984	7.74213	7.75359	7.75588			

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q SEC/CUBIC METER	WITH RESPECT TO THE TOTAL TIME	WHEN THE WIND BLOWS INTO THIS SECTOR ONLY
7.983E-04	0.078	1.000
5.862E-04	0.233	3.000
4.808E-04	0.388	5.000
3.386E-04	0.776	10.000
2.721E-04	1.163	15.000
2.245E-04	1.551	20.000
1.869E-04	1.939	25.000
1.601E-04	2.327	30.000
1.400E-04	2.715	35.000
1.237E-04	3.102	40.000
1.096E-04	3.490	45.000
9.810E-05	3.878	50.000
8.740E-05	4.266	55.000
7.808E-05	4.654	60.000
7.017E-05	5.041	65.000
6.313E-05	5.429	70.000
5.708E-05	5.817	75.000
5.115E-05	6.205	80.000
4.241E-04	0.5	6.45

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   1.361
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   2.977
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   3.989
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   4.967
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   5.794
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   6.439
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
8	1	-6.01579	-10.05396	-0.92284
8	2	-7.51984	-11.49265	-1.44676
8	3	-8.29770	-12.78726	-2.03300
8	4	-8.95670	-13.28568	-2.29753
8	5	-9.26047	-14.05019	-2.73390
8	6	-9.54448	-14.35178	-2.91689
8	7	-9.76542	-15.06350	-3.36954
8	8	-9.94552	NUMXQ(K)= 8	

ANNUAL AVERAGE = 6.24E-06

K= 8 FIVEXQ(K)= 4.241E-04 FIVEPR(K)= 6.447

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.6	0.03	445.	0.	0.	90.2	100.5	90.2	2.213E-05	2.105E-05	2.105E-05
A	3.1	0.19	445.	0.	0.	90.2	100.5	90.2	1.126E-05	1.071E-05	1.071E-05
A	4.1	0.22	445.	0.	0.	90.2	100.5	90.2	8.474E-06	8.061E-06	8.061E-06
A	5.2	0.47	445.	0.	0.	90.2	100.5	90.2	6.794E-06	6.463E-06	6.463E-06
A	6.2	0.25	445.	0.	0.	90.2	100.5	90.2	5.675E-06	5.398E-06	5.398E-06
A	8.2	0.88	445.	0.	0.	90.2	100.5	90.2	4.263E-06	4.055E-06	4.055E-06
A	10.3	0.28	445.	0.	0.	90.2	100.5	90.2	3.428E-06	3.260E-06	3.260E-06
A	25.2	0.06	445.	0.	0.	90.2	100.5	90.2	1.396E-06	1.328E-06	1.328E-06
B	1.6	0.06	445.	0.	0.	67.8	45.5	67.8	6.501E-05	5.650E-05	5.650E-05
B	3.1	0.25	445.	0.	0.	67.8	45.5	67.8	3.308E-05	2.875E-05	2.875E-05
B	4.1	0.55	445.	0.	0.	67.8	45.5	67.8	2.490E-05	2.164E-05	2.164E-05
B	5.2	0.33	445.	0.	0.	67.8	45.5	67.8	1.996E-05	1.735E-05	1.735E-05
B	6.2	0.39	445.	0.	0.	67.8	45.5	67.8	1.667E-05	1.449E-05	1.449E-05
B	8.2	0.47	445.	0.	0.	67.8	45.5	67.8	1.252E-05	1.089E-05	1.089E-05
B	10.3	0.14	445.	0.	0.	67.8	45.5	67.8	1.007E-05	8.752E-06	8.752E-06
B	25.2	0.08	445.	0.	0.	67.8	45.5	67.8	4.101E-06	3.565E-06	3.565E-06
C	1.6	0.06	445.	0.	0.	51.5	29.2	51.5	1.332E-04	1.018E-04	1.018E-04
C	2.1	0.22	445.	0.	0.	51.5	29.2	51.5	1.014E-04	7.746E-05	7.746E-05
C	3.1	0.64	445.	0.	0.	51.5	29.2	51.5	6.778E-05	5.179E-05	5.179E-05
C	4.1	1.13	445.	0.	0.	51.5	29.2	51.5	5.102E-05	3.899E-05	3.899E-05
C	5.2	0.91	445.	0.	0.	51.5	29.2	51.5	4.091E-05	3.126E-05	3.126E-05
C	6.2	0.61	445.	0.	0.	51.5	29.2	51.5	3.416E-05	2.611E-05	2.611E-05
C	8.2	0.77	445.	0.	0.	51.5	29.2	51.5	2.567E-05	1.961E-05	1.961E-05
C	10.3	0.19	445.	0.	0.	51.5	29.2	51.5	2.064E-05	1.577E-05	1.577E-05
D	0.4	0.00	445.	0.	0.	36.3	16.8	72.5	7.150E-04	8.108E-04	7.150E-04
D	1.1	0.28	445.	0.	0.	36.3	16.8	72.5	2.434E-04	2.760E-04	2.434E-04
D	1.6	0.91	445.	0.	0.	36.3	16.8	72.5	1.648E-04	1.869E-04	1.648E-04
D	2.1	1.77	445.	0.	0.	36.3	16.8	70.6	1.289E-04	1.422E-04	1.289E-04
D	3.1	6.27	445.	0.	0.	36.3	16.8	54.7	1.111E-04	9.511E-05	9.511E-05
D	4.1	7.05	445.	0.	0.	36.3	16.8	45.8	1.000E-04	7.160E-05	7.160E-05
D	5.2	5.94	445.	0.	0.	36.3	16.8	39.8	9.219E-05	5.740E-05	5.740E-05
D	6.2	5.42	445.	0.	0.	36.3	16.8	36.3	8.456E-05	4.794E-05	4.794E-05
D	8.2	5.20	445.	0.	0.	36.3	16.8	36.3	6.352E-05	3.602E-05	3.602E-05
D	10.3	1.60	445.	0.	0.	36.3	16.8	36.3	5.107E-05	2.896E-05	2.896E-05

D	25.2	0.06	445.	0.	0.	36.3	16.8	36.3	2.080E-05	1.179E-05	1.179E-05
E	0.4	0.01	445.	0.	0.	25.8	11.9	77.3	9.242E-04	1.102E-03	9.242E-04
E	1.1	0.77	445.	0.	0.	25.8	11.9	77.3	3.146E-04	3.751E-04	3.146E-04
E	1.6	1.66	445.	0.	0.	25.8	11.9	77.3	2.131E-04	2.541E-04	2.131E-04
E	2.1	2.49	445.	0.	0.	25.8	11.9	72.4	1.732E-04	1.933E-04	1.732E-04
E	3.2	7.10	445.	0.	0.	25.8	11.9	48.4	1.732E-04	1.293E-04	1.293E-04
E	4.2	6.69	445.	0.	0.	25.8	11.9	36.4	1.732E-04	9.731E-05	9.731E-05
E	5.3	6.05	445.	0.	0.	25.8	11.9	29.2	1.732E-04	7.802E-05	7.802E-05
E	6.3	3.81	445.	0.	0.	25.8	11.9	25.8	1.639E-04	6.516E-05	6.516E-05
E	8.4	3.95	445.	0.	0.	25.8	11.9	25.8	1.232E-04	4.895E-05	4.895E-05
E	10.5	0.55	445.	0.	0.	25.8	11.9	25.8	9.902E-05	3.936E-05	3.936E-05
E	25.8	0.03	445.	0.	0.	25.8	11.9	25.8	4.033E-05	1.603E-05	1.603E-05
F	0.4	0.01	445.	0.	0.	17.8	7.5	71.2	1.593E-03	2.123E-03	1.593E-03
F	1.1	0.58	445.	0.	0.	17.8	7.5	71.2	5.422E-04	7.229E-04	5.422E-04
F	1.6	1.82	445.	0.	0.	17.8	7.5	71.2	3.672E-04	4.896E-04	3.672E-04
F	2.1	2.65	445.	0.	0.	17.8	7.5	65.5	3.038E-04	3.725E-04	3.038E-04
F	3.2	6.47	445.	0.	0.	17.8	7.5	39.4	3.376E-04	2.491E-04	2.491E-04
F	4.2	3.21	445.	0.	0.	17.8	7.5	27.5	3.636E-04	1.875E-04	1.875E-04
F	5.3	1.13	445.	0.	0.	17.8	7.5	20.8	3.853E-04	1.503E-04	1.503E-04
F	6.3	0.33	445.	0.	0.	17.8	7.5	17.8	3.767E-04	1.256E-04	1.256E-04
F	8.4	0.03	445.	0.	0.	17.8	7.5	17.8	2.830E-04	9.432E-05	9.432E-05
G	0.4	0.01	445.	0.	0.	12.3	4.7	73.7	2.440E-03	4.879E-03	2.440E-03
G	1.1	0.69	445.	0.	0.	12.3	4.7	73.7	8.306E-04	1.661E-03	8.306E-04
G	1.6	1.49	445.	0.	0.	12.3	4.7	73.7	5.625E-04	1.125E-03	5.625E-04
G	2.1	1.91	445.	0.	0.	12.3	4.7	66.1	4.769E-04	8.560E-04	4.769E-04
G	3.2	2.29	445.	0.	0.	12.3	4.7	34.3	6.148E-04	5.724E-04	5.724E-04
G	4.2	0.50	445.	0.	0.	12.3	4.7	21.6	7.354E-04	4.308E-04	4.308E-04
G	5.3	0.08	445.	0.	0.	12.3	4.7	15.1	8.454E-04	3.454E-04	3.454E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

SITE EXCLUSION BOUNDARY CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 445.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.440E-03	1.593E-03	9.242E-04	8.306E-04	7.150E-04	5.724E-04	5.625E-04	5.422E-04	4.769E-04	4.308E-04
0.012	0.017	0.026	0.717	0.720	3.015	4.507	5.087	6.995	7.492
0.00101	0.00143	0.00215	0.05942	0.05971	0.24984	0.37354	0.42164	0.57970	0.62093
3.672E-04	3.454E-04	3.146E-04	3.038E-04	2.491E-04	2.434E-04	2.131E-04	1.875E-04	1.732E-04	1.648E-04
9.316	9.399	10.173	12.826	19.294	19.570	21.229	24.435	26.922	27.834
0.77212	0.77899	0.84313	1.06304	1.59906	1.62196	1.75940	2.02512	2.23129	2.30688
1.503E-04	1.293E-04	1.289E-04	1.256E-04	1.018E-04	9.731E-05	9.511E-05	9.432E-05	7.802E-05	7.746E-05
28.968	36.071	37.840	38.171	38.227	44.915	51.189	51.217	57.270	57.491
2.40080	2.98950	3.13611	3.16360	3.16818	3.72252	4.24251	4.24480	4.74646	4.76479
7.160E-05	6.516E-05	5.740E-05	5.650E-05	5.179E-05	4.895E-05	4.794E-05	3.936E-05	3.899E-05	3.602E-05
64.539	68.353	74.296	74.351	74.987	78.939	84.356	84.909	86.042	91.238
5.34891	5.66503	6.15753	6.16211	6.21479	6.54236	6.99134	7.03715	7.13107	7.56172
3.126E-05	2.896E-05	2.875E-05	2.611E-05	2.164E-05	2.105E-05	1.961E-05	1.735E-05	1.603E-05	1.577E-05
92.150	93.754	94.002	94.610	95.163	95.191	95.965	96.296	96.324	96.517
7.63731	7.77017	7.79079	7.84118	7.88700	7.88929	7.95343	7.98091	7.98320	7.99924
1.449E-05	1.179E-05	1.089E-05	1.071E-05	8.752E-06	8.061E-06	6.463E-06	5.398E-06	4.055E-06	3.565E-06
96.904	96.960	97.430	97.623	97.761	97.982	98.452	98.701	99.585	99.668
8.03131	8.03589	8.07483	8.09087	8.10232	8.12065	8.15959	8.18020	8.25351	8.26038
3.260E-06	1.328E-06								
99.945	100.000								
8.28329	8.28787								

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.579
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   1.597
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   3.133
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   4.239
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   5.345
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   6.987
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   7.558
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
9	1	-6.01579	-9.95318	-0.92360
9	2	-7.51984	-10.59682	-1.16790
9	3	-7.64824	-11.96782	-1.71094
9	4	-8.29770	-13.28366	-2.32436
9	5	-8.95670	-13.05519	-2.20163
9	6	-9.26047	-13.65772	-2.55121
9	7	-9.54448	-14.31468	-2.95868
9	8	-9.94552	-20.17927	-6.93003
9	9	-10.23154	NUMXQ(K)= 9	

8.694E-04	0.083	1.000
6.371E-04	0.249	3.000
5.452E-04	0.414	5.000
3.829E-04	0.829	10.000
2.950E-04	1.243	15.000
2.409E-04	1.658	20.000
1.949E-04	2.072	25.000
1.630E-04	2.486	30.000
1.396E-04	2.901	35.000
1.220E-04	3.315	40.000
1.085E-04	3.730	45.000
9.744E-05	4.144	50.000
8.722E-05	4.558	55.000
7.840E-05	4.973	60.000
7.086E-05	5.387	65.000
6.355E-05	5.802	70.000
5.734E-05	6.216	75.000
5.200E-05	6.630	80.000
4.664E-05	7.045	85.000
3.787E-05	7.459	90.000
5.065E-04	0.5	6.03

ANNUAL AVERAGE = 7.35E-06

```
K=  9      FIVEXQ(K)= 5.065E-04      FIVEPR(K)= 6.033
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.1	0.03	445.	0.	0.	90.2	100.5	90.2	3.267E-05	3.108E-05	3.108E-05
A	1.6	0.09	445.	0.	0.	90.2	100.5	90.2	2.213E-05	2.105E-05	2.105E-05
A	2.1	0.03	445.	0.	0.	90.2	100.5	90.2	1.684E-05	1.602E-05	1.602E-05
A	3.1	0.35	445.	0.	0.	90.2	100.5	90.2	1.126E-05	1.071E-05	1.071E-05
A	4.1	0.38	445.	0.	0.	90.2	100.5	90.2	8.474E-06	8.061E-06	8.061E-06
A	5.2	0.60	445.	0.	0.	90.2	100.5	90.2	6.794E-06	6.463E-06	6.463E-06
A	6.2	0.63	445.	0.	0.	90.2	100.5	90.2	5.675E-06	5.398E-06	5.398E-06
A	8.2	1.04	445.	0.	0.	90.2	100.5	90.2	4.263E-06	4.055E-06	4.055E-06
A	10.3	0.41	445.	0.	0.	90.2	100.5	90.2	3.428E-06	3.260E-06	3.260E-06
A	25.2	0.13	445.	0.	0.	90.2	100.5	90.2	1.396E-06	1.328E-06	1.328E-06
B	1.6	0.03	445.	0.	0.	67.8	45.5	67.8	6.501E-05	5.650E-05	5.650E-05
B	2.1	0.09	445.	0.	0.	67.8	45.5	67.8	4.947E-05	4.299E-05	4.299E-05
B	3.1	0.41	445.	0.	0.	67.8	45.5	67.8	3.308E-05	2.875E-05	2.875E-05
B	4.1	0.73	445.	0.	0.	67.8	45.5	67.8	2.490E-05	2.164E-05	2.164E-05
B	5.2	0.66	445.	0.	0.	67.8	45.5	67.8	1.996E-05	1.735E-05	1.735E-05
B	6.2	0.85	445.	0.	0.	67.8	45.5	67.8	1.667E-05	1.449E-05	1.449E-05
B	8.2	0.76	445.	0.	0.	67.8	45.5	67.8	1.252E-05	1.089E-05	1.089E-05
B	10.3	0.19	445.	0.	0.	67.8	45.5	67.8	1.007E-05	8.752E-06	8.752E-06
B	25.2	0.06	445.	0.	0.	67.8	45.5	67.8	4.101E-06	3.565E-06	3.565E-06
C	1.6	0.06	445.	0.	0.	51.5	29.2	51.5	1.332E-04	1.018E-04	1.018E-04
C	2.1	0.22	445.	0.	0.	51.5	29.2	51.5	1.014E-04	7.746E-05	7.746E-05
C	3.1	1.29	445.	0.	0.	51.5	29.2	51.5	6.778E-05	5.179E-05	5.179E-05
C	4.1	1.14	445.	0.	0.	51.5	29.2	51.5	5.102E-05	3.899E-05	3.899E-05
C	5.2	1.20	445.	0.	0.	51.5	29.2	51.5	4.091E-05	3.126E-05	3.126E-05
C	6.2	0.88	445.	0.	0.	51.5	29.2	51.5	3.416E-05	2.611E-05	2.611E-05
C	8.2	0.95	445.	0.	0.	51.5	29.2	51.5	2.567E-05	1.961E-05	1.961E-05
C	10.3	0.22	445.	0.	0.	51.5	29.2	51.5	2.064E-05	1.577E-05	1.577E-05
C	25.2	0.09	445.	0.	0.	51.5	29.2	51.5	8.404E-06	6.422E-06	6.422E-06
D	0.4	0.01	445.	0.	0.	36.3	16.8	72.5	7.150E-04	8.108E-04	7.150E-04
D	1.1	0.50	445.	0.	0.	36.3	16.8	72.5	2.434E-04	2.760E-04	2.434E-04
D	1.6	1.04	445.	0.	0.	36.3	16.8	72.5	1.648E-04	1.869E-04	1.648E-04
D	2.1	2.15	445.	0.	0.	36.3	16.8	70.6	1.289E-04	1.422E-04	1.289E-04
D	3.1	7.10	445.	0.	0.	36.3	16.8	54.7	1.111E-04	9.511E-05	9.511E-05
D	4.1	6.47	445.	0.	0.	36.3	16.8	45.8	1.000E-04	7.160E-05	7.160E-05

D	5.2	5.99	445.	0.	0.	36.3	16.8	39.8	9.219E-05	5.740E-05	5.740E-05
D	6.2	4.92	445.	0.	0.	36.3	16.8	36.3	8.456E-05	4.794E-05	4.794E-05
D	8.2	6.97	445.	0.	0.	36.3	16.8	36.3	6.352E-05	3.602E-05	3.602E-05
D	10.3	2.40	445.	0.	0.	36.3	16.8	36.3	5.107E-05	2.896E-05	2.896E-05
D	25.2	0.44	445.	0.	0.	36.3	16.8	36.3	2.080E-05	1.179E-05	1.179E-05
E	0.4	0.01	445.	0.	0.	25.8	11.9	77.3	9.242E-04	1.102E-03	9.242E-04
E	1.1	1.10	445.	0.	0.	25.8	11.9	77.3	3.146E-04	3.751E-04	3.146E-04
E	1.6	2.24	445.	0.	0.	25.8	11.9	77.3	2.131E-04	2.541E-04	2.131E-04
E	2.1	2.84	445.	0.	0.	25.8	11.9	72.4	1.732E-04	1.933E-04	1.732E-04
E	3.2	6.56	445.	0.	0.	25.8	11.9	48.4	1.732E-04	1.293E-04	1.293E-04
E	4.2	5.43	445.	0.	0.	25.8	11.9	36.4	1.732E-04	9.731E-05	9.731E-05
E	5.3	5.02	445.	0.	0.	25.8	11.9	29.2	1.732E-04	7.802E-05	7.802E-05
E	6.3	4.67	445.	0.	0.	25.8	11.9	25.8	1.639E-04	6.516E-05	6.516E-05
E	8.4	4.48	445.	0.	0.	25.8	11.9	25.8	1.232E-04	4.895E-05	4.895E-05
E	10.5	1.55	445.	0.	0.	25.8	11.9	25.8	9.902E-05	3.936E-05	3.936E-05
E	25.8	0.03	445.	0.	0.	25.8	11.9	25.8	4.033E-05	1.603E-05	1.603E-05
F	0.4	0.01	445.	0.	0.	17.8	7.5	71.2	1.593E-03	2.123E-03	1.593E-03
F	1.1	0.95	445.	0.	0.	17.8	7.5	71.2	5.422E-04	7.229E-04	5.422E-04
F	1.6	2.30	445.	0.	0.	17.8	7.5	71.2	3.672E-04	4.896E-04	3.672E-04
F	2.1	3.22	445.	0.	0.	17.8	7.5	65.5	3.038E-04	3.725E-04	3.038E-04
F	3.2	2.71	445.	0.	0.	17.8	7.5	39.4	3.376E-04	2.491E-04	2.491E-04
F	4.2	1.20	445.	0.	0.	17.8	7.5	27.5	3.636E-04	1.875E-04	1.875E-04
F	5.3	0.13	445.	0.	0.	17.8	7.5	20.8	3.853E-04	1.503E-04	1.503E-04
F	6.3	0.03	445.	0.	0.	17.8	7.5	17.8	3.767E-04	1.256E-04	1.256E-04
G	0.4	0.02	445.	0.	0.	12.3	4.7	73.7	2.440E-03	4.879E-03	2.440E-03
G	1.1	1.36	445.	0.	0.	12.3	4.7	73.7	8.306E-04	1.661E-03	8.306E-04
G	1.6	1.33	445.	0.	0.	12.3	4.7	73.7	5.625E-04	1.125E-03	5.625E-04
G	2.1	1.07	445.	0.	0.	12.3	4.7	66.1	4.769E-04	8.560E-04	4.769E-04
G	3.2	0.22	445.	0.	0.	12.3	4.7	34.3	6.148E-04	5.724E-04	5.724E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 445.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.440E-03	1.593E-03	9.242E-04	8.306E-04	7.150E-04	5.724E-04	5.625E-04	5.422E-04	4.769E-04	3.672E-04
0.024	0.032	0.045	1.401	1.408	1.629	2.954	3.900	4.973	7.276
0.00173	0.00233	0.00324	0.10174	0.10221	0.11824	0.21445	0.28317	0.36106	0.52828
3.146E-04	3.038E-04	2.491E-04	2.434E-04	2.131E-04	1.875E-04	1.732E-04	1.648E-04	1.503E-04	1.293E-04
8.380	11.598	14.311	14.816	17.056	18.255	21.095	22.136	22.262	28.824
0.60845	0.84210	1.03910	1.07575	1.23839	1.32544	1.53160	1.60719	1.61635	2.09282
1.289E-04	1.256E-04	1.018E-04	9.731E-05	9.511E-05	7.802E-05	7.746E-05	7.160E-05	6.516E-05	5.740E-05
30.970	31.001	31.064	36.491	43.589	48.606	48.827	55.294	59.964	65.958
2.24858	2.25087	2.25546	2.64945	3.16486	3.52908	3.54511	4.01470	4.35373	4.78896
5.650E-05	5.179E-05	4.895E-05	4.794E-05	4.299E-05	3.936E-05	3.899E-05	3.602E-05	3.126E-05	3.108E-05
65.990	67.283	71.763	76.685	76.780	78.325	79.461	86.434	87.633	87.664
4.79125	4.88517	5.21044	5.56779	5.57466	5.68691	5.76937	6.27561	6.36266	6.36495
2.896E-05	2.875E-05	2.611E-05	2.164E-05	2.105E-05	1.961E-05	1.735E-05	1.603E-05	1.602E-05	1.577E-05
90.062	90.472	91.355	92.081	92.176	93.122	93.785	93.816	93.848	94.069
6.53904	6.56882	6.63296	6.68565	6.69252	6.76124	6.80934	6.81164	6.81393	6.82996
1.449E-05	1.179E-05	1.089E-05	1.071E-05	8.752E-06	8.061E-06	6.463E-06	6.422E-06	5.398E-06	4.055E-06
94.921	95.362	96.119	96.466	96.656	97.034	97.634	97.728	98.359	99.401
6.89181	6.92388	6.97886	7.00405	7.01780	7.04529	7.08881	7.09568	7.14149	7.21709
3.565E-06	3.260E-06	1.328E-06							
99.464	99.874	100.000							
7.22167	7.25145	7.26061							

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.102
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.283
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.841
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.246
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.162
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   5.564
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   6.272

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
 10  1      -6.01579 -10.24483  -1.02141
 10  2      -7.09335 -11.22637  -1.33954
 10  3      -7.51984 -11.77829  -1.53900
 10  4      -8.09920 -13.42066  -2.22602
 10  5      -8.95670 -13.07714  -2.05472
 10  6      -9.26047 -14.06148  -2.58464
 10  7      -9.94552 -17.52254  -4.75804
 10  8     -10.23154     NUMXQ(K)=  8
    9.189E-04              0.073              1.000
    6.072E-04              0.218              3.000
    4.779E-04              0.363              5.000
    3.301E-04              0.726             10.000
    2.453E-04              1.089             15.000
    1.915E-04              1.452             20.000
    1.570E-04              1.815             25.000
    1.328E-04              2.178             30.000
    1.158E-04              2.541             35.000
    1.028E-04              2.904             40.000
    9.168E-05              3.267             45.000
    8.107E-05              3.630             50.000
    7.238E-05              3.993             55.000
    6.515E-05              4.356             60.000
    5.904E-05              4.719             65.000
    5.383E-05              5.082             70.000
    4.932E-05              5.445             75.000
    4.337E-05              5.808             80.000
    3.750E-05              6.172             85.000

    4.043E-04              0.5                6.89

ANNUAL AVERAGE =    6.25E-06

K= 10      FIVEXQ(K)= 4.043E-04      FIVEPR(K)= 6.886
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.6	0.07	445.	0.	0.	90.2	100.5	90.2	2.213E-05	2.105E-05	2.105E-05
A	2.1	0.17	445.	0.	0.	90.2	100.5	90.2	1.684E-05	1.602E-05	1.602E-05
A	3.1	0.65	445.	0.	0.	90.2	100.5	90.2	1.126E-05	1.071E-05	1.071E-05
A	4.1	0.69	445.	0.	0.	90.2	100.5	90.2	8.474E-06	8.061E-06	8.061E-06
A	5.2	0.96	445.	0.	0.	90.2	100.5	90.2	6.794E-06	6.463E-06	6.463E-06
A	6.2	0.65	445.	0.	0.	90.2	100.5	90.2	5.675E-06	5.398E-06	5.398E-06
A	8.2	0.99	445.	0.	0.	90.2	100.5	90.2	4.263E-06	4.055E-06	4.055E-06
A	10.3	0.24	445.	0.	0.	90.2	100.5	90.2	3.428E-06	3.260E-06	3.260E-06
A	25.2	0.07	445.	0.	0.	90.2	100.5	90.2	1.396E-06	1.328E-06	1.328E-06
B	2.1	0.07	445.	0.	0.	67.8	45.5	67.8	4.947E-05	4.299E-05	4.299E-05
B	3.1	0.75	445.	0.	0.	67.8	45.5	67.8	3.308E-05	2.875E-05	2.875E-05
B	4.1	0.99	445.	0.	0.	67.8	45.5	67.8	2.490E-05	2.164E-05	2.164E-05
B	5.2	1.06	445.	0.	0.	67.8	45.5	67.8	1.996E-05	1.735E-05	1.735E-05
B	6.2	0.75	445.	0.	0.	67.8	45.5	67.8	1.667E-05	1.449E-05	1.449E-05
B	8.2	0.48	445.	0.	0.	67.8	45.5	67.8	1.252E-05	1.089E-05	1.089E-05
B	10.3	0.14	445.	0.	0.	67.8	45.5	67.8	1.007E-05	8.752E-06	8.752E-06
B	25.2	0.10	445.	0.	0.	67.8	45.5	67.8	4.101E-06	3.565E-06	3.565E-06
C	1.6	0.34	445.	0.	0.	51.5	29.2	51.5	1.332E-04	1.018E-04	1.018E-04
C	2.1	0.21	445.	0.	0.	51.5	29.2	51.5	1.014E-04	7.746E-05	7.746E-05
C	3.1	1.23	445.	0.	0.	51.5	29.2	51.5	6.778E-05	5.179E-05	5.179E-05
C	4.1	1.54	445.	0.	0.	51.5	29.2	51.5	5.102E-05	3.899E-05	3.899E-05
C	5.2	1.64	445.	0.	0.	51.5	29.2	51.5	4.091E-05	3.126E-05	3.126E-05
C	6.2	0.96	445.	0.	0.	51.5	29.2	51.5	3.416E-05	2.611E-05	2.611E-05
C	8.2	0.65	445.	0.	0.	51.5	29.2	51.5	2.567E-05	1.961E-05	1.961E-05
C	10.3	0.14	445.	0.	0.	51.5	29.2	51.5	2.064E-05	1.577E-05	1.577E-05
C	25.2	0.14	445.	0.	0.	51.5	29.2	51.5	8.404E-06	6.422E-06	6.422E-06
D	0.4	0.01	445.	0.	0.	36.3	16.8	72.5	7.150E-04	8.108E-04	7.150E-04
D	1.1	0.72	445.	0.	0.	36.3	16.8	72.5	2.434E-04	2.760E-04	2.434E-04
D	1.6	1.68	445.	0.	0.	36.3	16.8	72.5	1.648E-04	1.869E-04	1.648E-04
D	2.1	2.54	445.	0.	0.	36.3	16.8	70.6	1.289E-04	1.422E-04	1.289E-04
D	3.1	9.05	445.	0.	0.	36.3	16.8	54.7	1.111E-04	9.511E-05	9.511E-05
D	4.1	8.29	445.	0.	0.	36.3	16.8	45.8	1.000E-04	7.160E-05	7.160E-05
D	5.2	8.33	445.	0.	0.	36.3	16.8	39.8	9.219E-05	5.740E-05	5.740E-05
D	6.2	5.62	445.	0.	0.	36.3	16.8	36.3	8.456E-05	4.794E-05	4.794E-05

D	8.2	5.24	445.	0.	0.	36.3	16.8	36.3	6.352E-05	3.602E-05	3.602E-05
D	10.3	1.34	445.	0.	0.	36.3	16.8	36.3	5.107E-05	2.896E-05	2.896E-05
D	25.2	0.93	445.	0.	0.	36.3	16.8	36.3	2.080E-05	1.179E-05	1.179E-05
E	0.4	0.02	445.	0.	0.	25.8	11.9	77.3	9.242E-04	1.102E-03	9.242E-04
E	1.1	1.47	445.	0.	0.	25.8	11.9	77.3	3.146E-04	3.751E-04	3.146E-04
E	1.6	3.26	445.	0.	0.	25.8	11.9	77.3	2.131E-04	2.541E-04	2.131E-04
E	2.1	4.22	445.	0.	0.	25.8	11.9	72.4	1.732E-04	1.933E-04	1.732E-04
E	3.2	7.40	445.	0.	0.	25.8	11.9	48.4	1.732E-04	1.293E-04	1.293E-04
E	4.2	5.96	445.	0.	0.	25.8	11.9	36.4	1.732E-04	9.731E-05	9.731E-05
E	5.3	4.52	445.	0.	0.	25.8	11.9	29.2	1.732E-04	7.802E-05	7.802E-05
E	6.3	1.85	445.	0.	0.	25.8	11.9	25.8	1.639E-04	6.516E-05	6.516E-05
E	8.4	1.51	445.	0.	0.	25.8	11.9	25.8	1.232E-04	4.895E-05	4.895E-05
E	10.5	0.21	445.	0.	0.	25.8	11.9	25.8	9.902E-05	3.936E-05	3.936E-05
F	0.4	0.01	445.	0.	0.	17.8	7.5	71.2	1.593E-03	2.123E-03	1.593E-03
F	1.1	1.58	445.	0.	0.	17.8	7.5	71.2	5.422E-04	7.229E-04	5.422E-04
F	1.6	2.26	445.	0.	0.	17.8	7.5	71.2	3.672E-04	4.896E-04	3.672E-04
F	2.1	1.75	445.	0.	0.	17.8	7.5	65.5	3.038E-04	3.725E-04	3.038E-04
F	3.2	1.47	445.	0.	0.	17.8	7.5	39.4	3.376E-04	2.491E-04	2.491E-04
F	4.2	0.10	445.	0.	0.	17.8	7.5	27.5	3.636E-04	1.875E-04	1.875E-04
F	5.3	0.07	445.	0.	0.	17.8	7.5	20.8	3.853E-04	1.503E-04	1.503E-04
G	0.4	0.03	445.	0.	0.	12.3	4.7	73.7	2.440E-03	4.879E-03	2.440E-03
G	1.1	1.71	445.	0.	0.	12.3	4.7	73.7	8.306E-04	1.661E-03	8.306E-04
G	1.6	0.93	445.	0.	0.	12.3	4.7	73.7	5.625E-04	1.125E-03	5.625E-04
G	2.1	0.21	445.	0.	0.	12.3	4.7	66.1	4.769E-04	8.560E-04	4.769E-04
G	3.2	0.03	445.	0.	0.	12.3	4.7	34.3	6.148E-04	5.724E-04	5.724E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 445.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.440E-03	1.593E-03	9.242E-04	8.306E-04	7.150E-04	5.724E-04	5.625E-04	5.422E-04	4.769E-04	3.672E-04
0.030	0.044	0.061	1.774	1.783	1.818	2.743	4.319	4.525	6.787
0.00202	0.00293	0.00404	0.11858	0.11920	0.12149	0.18334	0.28871	0.30245	0.45364
3.146E-04	3.038E-04	2.491E-04	2.434E-04	2.131E-04	1.875E-04	1.732E-04	1.648E-04	1.503E-04	1.293E-04
8.260	10.008	11.482	12.201	15.457	15.560	19.775	21.454	21.523	28.925
0.55214	0.66896	0.76746	0.81557	1.03318	1.04006	1.32181	1.43405	1.43864	1.93342
1.289E-04	1.018E-04	9.731E-05	9.511E-05	7.802E-05	7.746E-05	7.160E-05	6.516E-05	5.740E-05	5.179E-05
31.461	31.803	37.766	46.814	51.337	51.543	59.836	61.687	70.014	71.248
2.10294	2.12584	2.52442	3.12916	3.43154	3.44528	3.99963	4.12332	4.67996	4.76242
4.895E-05	4.794E-05	4.299E-05	3.936E-05	3.899E-05	3.602E-05	3.126E-05	2.896E-05	2.875E-05	2.611E-05
72.756	78.376	78.444	78.650	80.192	85.435	87.080	88.417	89.171	90.130
4.86322	5.23889	5.24347	5.25721	5.36030	5.71077	5.82072	5.91006	5.96046	6.02459
2.164E-05	2.105E-05	1.961E-05	1.735E-05	1.602E-05	1.577E-05	1.449E-05	1.179E-05	1.089E-05	1.071E-05
91.124	91.193	91.844	92.906	93.078	93.215	93.969	94.894	95.374	96.025
6.09102	6.09561	6.13913	6.21014	6.22159	6.23076	6.28115	6.34300	6.37507	6.41859
8.752E-06	8.061E-06	6.463E-06	6.422E-06	5.398E-06	4.055E-06	3.565E-06	3.260E-06	1.328E-06	
96.162	96.847	97.807	97.944	98.595	99.589	99.692	99.931	100.000	
6.42776	6.47357	6.53771	6.54687	6.59039	6.65683	6.66370	6.67973	6.68431	

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

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.118
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.288
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.668
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.101
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.126
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.996
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.676
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   5.235
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE(10)=   5.707
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
11	1	-6.01579	-10.16562	-1.01076
11	2	-7.09335	-11.74203	-1.52939
11	3	-7.51984	-13.09723	-2.02028
11	4	-8.09920	-12.91447	-1.94640
11	5	-8.95670	-12.57270	-1.77832
11	6	-9.26047	-14.00744	-2.54863
11	7	-9.54448	-14.76966	-2.98391
11	8	-9.76542	-15.29657	-3.29809
11	9	-9.94552	-20.83637	-6.71252
11	10	-10.23154	NUMXQ(K)= 10	

9.850E-04	0.067	1.000
6.484E-04	0.201	3.000
4.920E-04	0.334	5.000
3.040E-04	0.668	10.000
2.277E-04	1.003	15.000
1.838E-04	1.337	20.000
1.548E-04	1.671	25.000
1.339E-04	2.005	30.000
1.190E-04	2.340	35.000
1.075E-04	2.674	40.000
9.812E-05	3.008	45.000
8.824E-05	3.342	50.000
7.904E-05	3.676	55.000
7.132E-05	4.011	60.000
6.378E-05	4.345	65.000
5.742E-05	4.679	70.000
5.146E-05	5.013	75.000
4.481E-05	5.347	80.000
3.664E-05	5.682	85.000
3.735E-04	0.5	7.48

ANNUAL AVERAGE = 5.99E-06

K= 11 FIVEXQ(K)= 3.735E-04 FIVEPR(K)= 7.480

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.6	0.23	445.	0.	0.	90.2	100.5	90.2	2.213E-05	2.105E-05	2.105E-05
A	2.1	0.15	445.	0.	0.	90.2	100.5	90.2	1.684E-05	1.602E-05	1.602E-05
A	3.1	0.39	445.	0.	0.	90.2	100.5	90.2	1.126E-05	1.071E-05	1.071E-05
A	4.1	0.35	445.	0.	0.	90.2	100.5	90.2	8.474E-06	8.061E-06	8.061E-06
A	5.2	0.89	445.	0.	0.	90.2	100.5	90.2	6.794E-06	6.463E-06	6.463E-06
A	6.2	0.58	445.	0.	0.	90.2	100.5	90.2	5.675E-06	5.398E-06	5.398E-06
A	8.2	0.96	445.	0.	0.	90.2	100.5	90.2	4.263E-06	4.055E-06	4.055E-06
A	10.3	0.12	445.	0.	0.	90.2	100.5	90.2	3.428E-06	3.260E-06	3.260E-06
A	25.2	0.04	445.	0.	0.	90.2	100.5	90.2	1.396E-06	1.328E-06	1.328E-06
B	1.6	0.04	445.	0.	0.	67.8	45.5	67.8	6.501E-05	5.650E-05	5.650E-05
B	2.1	0.19	445.	0.	0.	67.8	45.5	67.8	4.947E-05	4.299E-05	4.299E-05
B	3.1	0.23	445.	0.	0.	67.8	45.5	67.8	3.308E-05	2.875E-05	2.875E-05
B	4.1	0.50	445.	0.	0.	67.8	45.5	67.8	2.490E-05	2.164E-05	2.164E-05
B	5.2	0.96	445.	0.	0.	67.8	45.5	67.8	1.996E-05	1.735E-05	1.735E-05
B	6.2	0.50	445.	0.	0.	67.8	45.5	67.8	1.667E-05	1.449E-05	1.449E-05
B	8.2	0.39	445.	0.	0.	67.8	45.5	67.8	1.252E-05	1.089E-05	1.089E-05
B	10.3	0.23	445.	0.	0.	67.8	45.5	67.8	1.007E-05	8.752E-06	8.752E-06
B	25.2	0.08	445.	0.	0.	67.8	45.5	67.8	4.101E-06	3.565E-06	3.565E-06
C	1.6	0.08	445.	0.	0.	51.5	29.2	51.5	1.332E-04	1.018E-04	1.018E-04
C	2.1	0.31	445.	0.	0.	51.5	29.2	51.5	1.014E-04	7.746E-05	7.746E-05
C	3.1	0.73	445.	0.	0.	51.5	29.2	51.5	6.778E-05	5.179E-05	5.179E-05
C	4.1	0.85	445.	0.	0.	51.5	29.2	51.5	5.102E-05	3.899E-05	3.899E-05
C	5.2	1.27	445.	0.	0.	51.5	29.2	51.5	4.091E-05	3.126E-05	3.126E-05
C	6.2	0.50	445.	0.	0.	51.5	29.2	51.5	3.416E-05	2.611E-05	2.611E-05
C	8.2	0.89	445.	0.	0.	51.5	29.2	51.5	2.567E-05	1.961E-05	1.961E-05
C	10.3	0.27	445.	0.	0.	51.5	29.2	51.5	2.064E-05	1.577E-05	1.577E-05
C	25.2	0.15	445.	0.	0.	51.5	29.2	51.5	8.404E-06	6.422E-06	6.422E-06
D	0.4	0.01	445.	0.	0.	36.3	16.8	72.5	7.150E-04	8.108E-04	7.150E-04
D	1.1	1.12	445.	0.	0.	36.3	16.8	72.5	2.434E-04	2.760E-04	2.434E-04
D	1.6	1.93	445.	0.	0.	36.3	16.8	72.5	1.648E-04	1.869E-04	1.648E-04
D	2.1	2.89	445.	0.	0.	36.3	16.8	70.6	1.289E-04	1.422E-04	1.289E-04
D	3.1	8.18	445.	0.	0.	36.3	16.8	54.7	1.111E-04	9.511E-05	9.511E-05
D	4.1	8.53	445.	0.	0.	36.3	16.8	45.8	1.000E-04	7.160E-05	7.160E-05
D	5.2	8.76	445.	0.	0.	36.3	16.8	39.8	9.219E-05	5.740E-05	5.740E-05

D	6.2	5.94	445.	0.	0.	36.3	16.8	36.3	8.456E-05	4.794E-05	4.794E-05
D	8.2	7.37	445.	0.	0.	36.3	16.8	36.3	6.352E-05	3.602E-05	3.602E-05
D	10.3	3.13	445.	0.	0.	36.3	16.8	36.3	5.107E-05	2.896E-05	2.896E-05
D	25.2	1.70	445.	0.	0.	36.3	16.8	36.3	2.080E-05	1.179E-05	1.179E-05
E	0.4	0.02	445.	0.	0.	25.8	11.9	77.3	9.242E-04	1.102E-03	9.242E-04
E	1.1	1.70	445.	0.	0.	25.8	11.9	77.3	3.146E-04	3.751E-04	3.146E-04
E	1.6	2.89	445.	0.	0.	25.8	11.9	77.3	2.131E-04	2.541E-04	2.131E-04
E	2.1	4.17	445.	0.	0.	25.8	11.9	72.4	1.732E-04	1.933E-04	1.732E-04
E	3.2	6.95	445.	0.	0.	25.8	11.9	48.4	1.732E-04	1.293E-04	1.293E-04
E	4.2	5.67	445.	0.	0.	25.8	11.9	36.4	1.732E-04	9.731E-05	9.731E-05
E	5.3	3.97	445.	0.	0.	25.8	11.9	29.2	1.732E-04	7.802E-05	7.802E-05
E	6.3	1.20	445.	0.	0.	25.8	11.9	25.8	1.639E-04	6.516E-05	6.516E-05
E	8.4	0.81	445.	0.	0.	25.8	11.9	25.8	1.232E-04	4.895E-05	4.895E-05
E	10.5	0.08	445.	0.	0.	25.8	11.9	25.8	9.902E-05	3.936E-05	3.936E-05
F	0.4	0.02	445.	0.	0.	17.8	7.5	71.2	1.593E-03	2.123E-03	1.593E-03
F	1.1	2.08	445.	0.	0.	17.8	7.5	71.2	5.422E-04	7.229E-04	5.422E-04
F	1.6	2.66	445.	0.	0.	17.8	7.5	71.2	3.672E-04	4.896E-04	3.672E-04
F	2.1	1.93	445.	0.	0.	17.8	7.5	65.5	3.038E-04	3.725E-04	3.038E-04
F	3.2	0.62	445.	0.	0.	17.8	7.5	39.4	3.376E-04	2.491E-04	2.491E-04
F	4.2	0.23	445.	0.	0.	17.8	7.5	27.5	3.636E-04	1.875E-04	1.875E-04
F	5.3	0.08	445.	0.	0.	17.8	7.5	20.8	3.853E-04	1.503E-04	1.503E-04
F	6.3	0.04	445.	0.	0.	17.8	7.5	17.8	3.767E-04	1.256E-04	1.256E-04
G	0.4	0.04	445.	0.	0.	12.3	4.7	73.7	2.440E-03	4.879E-03	2.440E-03
G	1.1	2.01	445.	0.	0.	12.3	4.7	73.7	8.306E-04	1.661E-03	8.306E-04
G	1.6	1.16	445.	0.	0.	12.3	4.7	73.7	5.625E-04	1.125E-03	5.625E-04
G	2.1	0.15	445.	0.	0.	12.3	4.7	66.1	4.769E-04	8.560E-04	4.769E-04
G	3.2	0.08	445.	0.	0.	12.3	4.7	34.3	6.148E-04	5.724E-04	5.724E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 445.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.440E-03	1.593E-03	9.242E-04	8.306E-04	7.150E-04	5.724E-04	5.625E-04	5.422E-04	4.769E-04	3.672E-04
0.035	0.053	0.073	2.079	2.094	2.171	3.329	5.413	5.567	8.230
0.00210	0.00317	0.00431	0.12343	0.12428	0.12886	0.19758	0.32128	0.33044	0.48850
3.146E-04	3.038E-04	2.491E-04	2.434E-04	2.131E-04	1.875E-04	1.732E-04	1.648E-04	1.503E-04	1.293E-04
9.928	11.857	12.475	13.594	16.488	16.720	20.888	22.817	22.895	29.841
0.58929	0.70383	0.74048	0.80691	0.97871	0.99245	1.23985	1.35438	1.35896	1.77129
1.289E-04	1.256E-04	1.018E-04	9.731E-05	9.511E-05	7.802E-05	7.746E-05	7.160E-05	6.516E-05	5.740E-05
32.735	32.774	32.851	38.524	46.705	50.680	50.989	59.518	60.714	69.474
1.94309	1.94538	1.94996	2.28669	2.77232	3.00826	3.02659	3.53283	3.60384	4.12383
5.650E-05	5.179E-05	4.895E-05	4.794E-05	4.299E-05	3.936E-05	3.899E-05	3.602E-05	3.126E-05	2.896E-05
69.513	70.246	71.056	77.000	77.193	77.270	78.119	85.490	86.763	89.889
4.12612	4.16964	4.21774	4.57051	4.58196	4.58654	4.63694	5.07446	5.15005	5.33560
2.875E-05	2.611E-05	2.164E-05	2.105E-05	1.961E-05	1.735E-05	1.602E-05	1.577E-05	1.449E-05	1.179E-05
90.121	90.622	91.124	91.356	92.243	93.208	93.362	93.632	94.134	95.832
5.34934	5.37912	5.40890	5.42264	5.47533	5.53260	5.54176	5.55780	5.58757	5.68836
1.089E-05	1.071E-05	8.752E-06	8.061E-06	6.463E-06	6.422E-06	5.398E-06	4.055E-06	3.565E-06	3.260E-06
96.218	96.604	96.835	97.183	98.070	98.225	98.804	99.768	99.846	99.961
5.71127	5.73418	5.74792	5.76854	5.82122	5.83039	5.86475	5.92201	5.92660	5.93347
1.328E-06									
100.000									
5.93576									

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.123
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.321
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.703
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.941
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.770
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.530
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.120
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   4.567
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE(10)=   5.071

 K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
12  1      -6.01579 -10.14478  -1.00791
12  2      -7.09335 -11.37061  -1.41281
12  3      -7.51984 -13.37099  -2.14673
12  4      -8.09920 -13.50362  -2.20074
12  5      -8.95670 -13.13247  -2.02110
12  6      -9.26047 -14.31232  -2.63696
12  7      -9.54448 -15.15476  -3.10289
12  8      -9.76542 -16.21500  -3.71332
12  9      -9.94552 -19.53728  -5.68105
12 10     -10.23154     NUMXQ(K)= 10
   1.031E-03              0.059              1.000
   7.085E-04              0.178              3.000
   5.626E-04              0.297              5.000
   3.460E-04              0.594             10.000
   2.516E-04              0.890             15.000
   1.982E-04              1.187             20.000
   1.637E-04              1.484             25.000
   1.394E-04              1.781             30.000
   1.219E-04              2.078             35.000
   1.088E-04              2.374             40.000
   9.826E-05              2.671             45.000
   8.792E-05              2.968             50.000
   7.864E-05              3.265             55.000
   7.079E-05              3.561             60.000
   6.318E-05              3.858             65.000
   5.666E-05              4.155             70.000
   5.022E-05              4.452             75.000
   4.321E-05              4.749             80.000
   3.659E-05              5.045             85.000

   3.935E-04              0.5                8.42
```

```
ANNUAL AVERAGE =    5.67E-06

K= 12      FIVEXQ(K)= 3.935E-04      FIVEPR(K)= 8.424
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.6	0.03	445.	0.	0.	90.2	100.5	90.2	2.213E-05	2.105E-05	2.105E-05
A	2.1	0.11	445.	0.	0.	90.2	100.5	90.2	1.684E-05	1.602E-05	1.602E-05
A	3.1	0.27	445.	0.	0.	90.2	100.5	90.2	1.126E-05	1.071E-05	1.071E-05
A	4.1	0.38	445.	0.	0.	90.2	100.5	90.2	8.474E-06	8.061E-06	8.061E-06
A	5.2	0.49	445.	0.	0.	90.2	100.5	90.2	6.794E-06	6.463E-06	6.463E-06
A	6.2	0.74	445.	0.	0.	90.2	100.5	90.2	5.675E-06	5.398E-06	5.398E-06
A	8.2	0.71	445.	0.	0.	90.2	100.5	90.2	4.263E-06	4.055E-06	4.055E-06
A	10.3	0.27	445.	0.	0.	90.2	100.5	90.2	3.428E-06	3.260E-06	3.260E-06
A	25.2	0.03	445.	0.	0.	90.2	100.5	90.2	1.396E-06	1.328E-06	1.328E-06
B	1.6	0.03	445.	0.	0.	67.8	45.5	67.8	6.501E-05	5.650E-05	5.650E-05
B	2.1	0.11	445.	0.	0.	67.8	45.5	67.8	4.947E-05	4.299E-05	4.299E-05
B	3.1	0.30	445.	0.	0.	67.8	45.5	67.8	3.308E-05	2.875E-05	2.875E-05
B	4.1	0.44	445.	0.	0.	67.8	45.5	67.8	2.490E-05	2.164E-05	2.164E-05
B	5.2	0.76	445.	0.	0.	67.8	45.5	67.8	1.996E-05	1.735E-05	1.735E-05
B	6.2	0.57	445.	0.	0.	67.8	45.5	67.8	1.667E-05	1.449E-05	1.449E-05
B	8.2	0.52	445.	0.	0.	67.8	45.5	67.8	1.252E-05	1.089E-05	1.089E-05
B	10.3	0.27	445.	0.	0.	67.8	45.5	67.8	1.007E-05	8.752E-06	8.752E-06
C	1.6	0.08	445.	0.	0.	51.5	29.2	51.5	1.332E-04	1.018E-04	1.018E-04
C	2.1	0.14	445.	0.	0.	51.5	29.2	51.5	1.014E-04	7.746E-05	7.746E-05
C	3.1	0.68	445.	0.	0.	51.5	29.2	51.5	6.778E-05	5.179E-05	5.179E-05
C	4.1	1.09	445.	0.	0.	51.5	29.2	51.5	5.102E-05	3.899E-05	3.899E-05
C	5.2	0.74	445.	0.	0.	51.5	29.2	51.5	4.091E-05	3.126E-05	3.126E-05
C	6.2	0.74	445.	0.	0.	51.5	29.2	51.5	3.416E-05	2.611E-05	2.611E-05
C	8.2	0.90	445.	0.	0.	51.5	29.2	51.5	2.567E-05	1.961E-05	1.961E-05
C	10.3	0.27	445.	0.	0.	51.5	29.2	51.5	2.064E-05	1.577E-05	1.577E-05
C	25.2	0.08	445.	0.	0.	51.5	29.2	51.5	8.404E-06	6.422E-06	6.422E-06
D	0.4	0.01	445.	0.	0.	36.3	16.8	72.5	7.150E-04	8.108E-04	7.150E-04
D	1.1	0.71	445.	0.	0.	36.3	16.8	72.5	2.434E-04	2.760E-04	2.434E-04
D	1.6	1.25	445.	0.	0.	36.3	16.8	72.5	1.648E-04	1.869E-04	1.648E-04
D	2.1	2.24	445.	0.	0.	36.3	16.8	70.6	1.289E-04	1.422E-04	1.289E-04
D	3.1	6.57	445.	0.	0.	36.3	16.8	54.7	1.111E-04	9.511E-05	9.511E-05
D	4.1	7.77	445.	0.	0.	36.3	16.8	45.8	1.000E-04	7.160E-05	7.160E-05
D	5.2	8.94	445.	0.	0.	36.3	16.8	39.8	9.219E-05	5.740E-05	5.740E-05
D	6.2	6.90	445.	0.	0.	36.3	16.8	36.3	8.456E-05	4.794E-05	4.794E-05

D	8.2	10.99	445.	0.	0.	36.3	16.8	36.3	6.352E-05	3.602E-05	3.602E-05
D	10.3	3.87	445.	0.	0.	36.3	16.8	36.3	5.107E-05	2.896E-05	2.896E-05
D	25.2	2.67	445.	0.	0.	36.3	16.8	36.3	2.080E-05	1.179E-05	1.179E-05
E	0.4	0.02	445.	0.	0.	25.8	11.9	77.3	9.242E-04	1.102E-03	9.242E-04
E	1.1	1.69	445.	0.	0.	25.8	11.9	77.3	3.146E-04	3.751E-04	3.146E-04
E	1.6	2.84	445.	0.	0.	25.8	11.9	77.3	2.131E-04	2.541E-04	2.131E-04
E	2.1	2.67	445.	0.	0.	25.8	11.9	72.4	1.732E-04	1.933E-04	1.732E-04
E	3.2	6.84	445.	0.	0.	25.8	11.9	48.4	1.732E-04	1.293E-04	1.293E-04
E	4.2	5.15	445.	0.	0.	25.8	11.9	36.4	1.732E-04	9.731E-05	9.731E-05
E	5.3	4.20	445.	0.	0.	25.8	11.9	29.2	1.732E-04	7.802E-05	7.802E-05
E	6.3	1.39	445.	0.	0.	25.8	11.9	25.8	1.639E-04	6.516E-05	6.516E-05
E	8.4	1.04	445.	0.	0.	25.8	11.9	25.8	1.232E-04	4.895E-05	4.895E-05
E	10.5	0.22	445.	0.	0.	25.8	11.9	25.8	9.902E-05	3.936E-05	3.936E-05
F	0.4	0.02	445.	0.	0.	17.8	7.5	71.2	1.593E-03	2.123E-03	1.593E-03
F	1.1	1.91	445.	0.	0.	17.8	7.5	71.2	5.422E-04	7.229E-04	5.422E-04
F	1.6	3.08	445.	0.	0.	17.8	7.5	71.2	3.672E-04	4.896E-04	3.672E-04
F	2.1	1.72	445.	0.	0.	17.8	7.5	65.5	3.038E-04	3.725E-04	3.038E-04
F	3.2	1.01	445.	0.	0.	17.8	7.5	39.4	3.376E-04	2.491E-04	2.491E-04
F	4.2	0.08	445.	0.	0.	17.8	7.5	27.5	3.636E-04	1.875E-04	1.875E-04
F	5.3	0.05	445.	0.	0.	17.8	7.5	20.8	3.853E-04	1.503E-04	1.503E-04
G	0.4	0.04	445.	0.	0.	12.3	4.7	73.7	2.440E-03	4.879E-03	2.440E-03
G	1.1	1.99	445.	0.	0.	12.3	4.7	73.7	8.306E-04	1.661E-03	8.306E-04
G	1.6	1.06	445.	0.	0.	12.3	4.7	73.7	5.625E-04	1.125E-03	5.625E-04
G	2.1	0.25	445.	0.	0.	12.3	4.7	66.1	4.769E-04	8.560E-04	4.769E-04
G	3.2	0.05	445.	0.	0.	12.3	4.7	34.3	6.148E-04	5.724E-04	5.724E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 445.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.440E-03	1.593E-03	9.242E-04	8.306E-04	7.150E-04	5.724E-04	5.625E-04	5.422E-04	4.769E-04	3.672E-04
0.035	0.052	0.071	2.061	2.071	2.125	3.189	5.098	5.343	8.425
0.00294	0.00433	0.00594	0.17316	0.17393	0.17851	0.26785	0.42820	0.44881	0.70766
3.146E-04	3.038E-04	2.491E-04	2.434E-04	2.131E-04	1.875E-04	1.732E-04	1.648E-04	1.503E-04	1.293E-04
10.116	11.834	12.843	13.552	16.388	16.470	19.142	20.397	20.451	27.296
0.84968	0.99400	1.07875	1.13831	1.37654	1.38341	1.60790	1.71327	1.71785	2.29282
1.289E-04	1.018E-04	9.731E-05	9.511E-05	7.802E-05	7.746E-05	7.160E-05	6.516E-05	5.740E-05	5.650E-05
29.532	29.614	34.768	41.341	45.540	45.677	53.449	54.840	63.784	63.812
2.48065	2.48753	2.92047	3.47252	3.82529	3.83674	4.48959	4.60641	5.35776	5.36005
5.179E-05	4.895E-05	4.794E-05	4.299E-05	3.936E-05	3.899E-05	3.602E-05	3.126E-05	2.896E-05	2.875E-05
64.493	65.530	72.429	72.538	72.756	73.847	84.837	85.574	89.446	89.746
5.41732	5.50436	6.08391	6.09307	6.11139	6.20302	7.12617	7.18802	7.51330	7.53849
2.611E-05	2.164E-05	2.105E-05	1.961E-05	1.735E-05	1.602E-05	1.577E-05	1.449E-05	1.179E-05	1.089E-05
90.482	90.919	90.946	91.846	92.610	92.719	92.991	93.564	96.237	96.755
7.60034	7.63699	7.63928	7.71488	7.77901	7.78818	7.81108	7.85919	8.08368	8.12720
1.071E-05	8.752E-06	8.061E-06	6.463E-06	6.422E-06	5.398E-06	4.055E-06	3.260E-06	1.328E-06	
97.027	97.300	97.682	98.173	98.255	98.991	99.700	99.973	100.000	
8.15011	8.17301	8.20508	8.24632	8.25319	8.31503	8.37459	8.39750	8.39979	

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

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.428
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.993
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.478
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.469
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.486
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   5.354
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   6.080
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE(10)=   7.122
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
13	1	-6.01579	-9.97386	-0.98524
13	2	-7.09335	-11.33067	-1.44932
13	3	-7.51984	-12.59195	-1.92901
13	4	-8.09920	-13.56594	-2.34720
13	5	-8.95670	-12.99187	-2.05486
13	6	-9.26047	-13.59387	-2.38639
13	7	-9.54448	-13.93364	-2.58662
13	8	-9.76542	-14.34542	-2.84215
13	9	-9.94552	-15.38862	-3.51601
13	10	-10.23154	NUMXQ(K)= 10	

1.030E-03	0.084	1.000
6.992E-04	0.252	3.000
5.474E-04	0.420	5.000
3.427E-04	0.840	10.000
2.458E-04	1.260	15.000
1.883E-04	1.680	20.000
1.520E-04	2.100	25.000
1.271E-04	2.520	30.000
1.108E-04	2.940	35.000
9.806E-05	3.360	40.000
8.673E-05	3.780	45.000
7.718E-05	4.200	50.000
6.912E-05	4.620	55.000
6.202E-05	5.040	60.000
5.590E-05	5.460	65.000
5.034E-05	5.880	70.000
4.505E-05	6.300	75.000
4.010E-05	6.720	80.000
4.894E-04	0.5	5.95

ANNUAL AVERAGE = 7.63E-06

K= 13 FIVEXQ(K)= 4.894E-04 FIVEPR(K)= 5.953

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.6	0.03	445.	0.	0.	90.2	100.5	90.2	2.213E-05	2.105E-05	2.105E-05
A	2.1	0.08	445.	0.	0.	90.2	100.5	90.2	1.684E-05	1.602E-05	1.602E-05
A	3.1	0.44	445.	0.	0.	90.2	100.5	90.2	1.126E-05	1.071E-05	1.071E-05
A	4.1	0.83	445.	0.	0.	90.2	100.5	90.2	8.474E-06	8.061E-06	8.061E-06
A	5.2	0.89	445.	0.	0.	90.2	100.5	90.2	6.794E-06	6.463E-06	6.463E-06
A	6.2	0.53	445.	0.	0.	90.2	100.5	90.2	5.675E-06	5.398E-06	5.398E-06
A	8.2	1.27	445.	0.	0.	90.2	100.5	90.2	4.263E-06	4.055E-06	4.055E-06
A	10.3	0.11	445.	0.	0.	90.2	100.5	90.2	3.428E-06	3.260E-06	3.260E-06
B	1.1	0.03	445.	0.	0.	67.8	45.5	67.8	9.599E-05	8.343E-05	8.343E-05
B	1.6	0.03	445.	0.	0.	67.8	45.5	67.8	6.501E-05	5.650E-05	5.650E-05
B	2.1	0.03	445.	0.	0.	67.8	45.5	67.8	4.947E-05	4.299E-05	4.299E-05
B	3.1	0.19	445.	0.	0.	67.8	45.5	67.8	3.308E-05	2.875E-05	2.875E-05
B	4.1	0.55	445.	0.	0.	67.8	45.5	67.8	2.490E-05	2.164E-05	2.164E-05
B	5.2	0.75	445.	0.	0.	67.8	45.5	67.8	1.996E-05	1.735E-05	1.735E-05
B	6.2	0.89	445.	0.	0.	67.8	45.5	67.8	1.667E-05	1.449E-05	1.449E-05
B	8.2	0.72	445.	0.	0.	67.8	45.5	67.8	1.252E-05	1.089E-05	1.089E-05
B	10.3	0.25	445.	0.	0.	67.8	45.5	67.8	1.007E-05	8.752E-06	8.752E-06
B	25.2	0.06	445.	0.	0.	67.8	45.5	67.8	4.101E-06	3.565E-06	3.565E-06
C	1.6	0.08	445.	0.	0.	51.5	29.2	51.5	1.332E-04	1.018E-04	1.018E-04
C	2.1	0.14	445.	0.	0.	51.5	29.2	51.5	1.014E-04	7.746E-05	7.746E-05
C	3.1	0.80	445.	0.	0.	51.5	29.2	51.5	6.778E-05	5.179E-05	5.179E-05
C	4.1	1.11	445.	0.	0.	51.5	29.2	51.5	5.102E-05	3.899E-05	3.899E-05
C	5.2	1.25	445.	0.	0.	51.5	29.2	51.5	4.091E-05	3.126E-05	3.126E-05
C	6.2	1.13	445.	0.	0.	51.5	29.2	51.5	3.416E-05	2.611E-05	2.611E-05
C	8.2	1.19	445.	0.	0.	51.5	29.2	51.5	2.567E-05	1.961E-05	1.961E-05
C	10.3	0.47	445.	0.	0.	51.5	29.2	51.5	2.064E-05	1.577E-05	1.577E-05
C	25.2	0.06	445.	0.	0.	51.5	29.2	51.5	8.404E-06	6.422E-06	6.422E-06
D	0.4	0.01	445.	0.	0.	36.3	16.8	72.5	7.150E-04	8.108E-04	7.150E-04
D	1.1	0.89	445.	0.	0.	36.3	16.8	72.5	2.434E-04	2.760E-04	2.434E-04
D	1.6	1.77	445.	0.	0.	36.3	16.8	72.5	1.648E-04	1.869E-04	1.648E-04
D	2.1	2.96	445.	0.	0.	36.3	16.8	70.6	1.289E-04	1.422E-04	1.289E-04
D	3.1	8.63	445.	0.	0.	36.3	16.8	54.7	1.111E-04	9.511E-05	9.511E-05
D	4.1	9.93	445.	0.	0.	36.3	16.8	45.8	1.000E-04	7.160E-05	7.160E-05
D	5.2	10.27	445.	0.	0.	36.3	16.8	39.8	9.219E-05	5.740E-05	5.740E-05

D	6.2	8.69	445.	0.	0.	36.3	16.8	36.3	8.456E-05	4.794E-05	4.794E-05
D	8.2	8.80	445.	0.	0.	36.3	16.8	36.3	6.352E-05	3.602E-05	3.602E-05
D	10.3	3.76	445.	0.	0.	36.3	16.8	36.3	5.107E-05	2.896E-05	2.896E-05
D	25.2	0.89	445.	0.	0.	36.3	16.8	36.3	2.080E-05	1.179E-05	1.179E-05
E	0.4	0.02	445.	0.	0.	25.8	11.9	77.3	9.242E-04	1.102E-03	9.242E-04
E	1.1	1.80	445.	0.	0.	25.8	11.9	77.3	3.146E-04	3.751E-04	3.146E-04
E	1.6	2.85	445.	0.	0.	25.8	11.9	77.3	2.131E-04	2.541E-04	2.131E-04
E	2.1	3.21	445.	0.	0.	25.8	11.9	72.4	1.732E-04	1.933E-04	1.732E-04
E	3.2	6.03	445.	0.	0.	25.8	11.9	48.4	1.732E-04	1.293E-04	1.293E-04
E	4.2	3.54	445.	0.	0.	25.8	11.9	36.4	1.732E-04	9.731E-05	9.731E-05
E	5.3	1.80	445.	0.	0.	25.8	11.9	29.2	1.732E-04	7.802E-05	7.802E-05
E	6.3	0.55	445.	0.	0.	25.8	11.9	25.8	1.639E-04	6.516E-05	6.516E-05
E	8.4	0.22	445.	0.	0.	25.8	11.9	25.8	1.232E-04	4.895E-05	4.895E-05
E	10.5	0.03	445.	0.	0.	25.8	11.9	25.8	9.902E-05	3.936E-05	3.936E-05
E	25.8	0.11	445.	0.	0.	25.8	11.9	25.8	4.033E-05	1.603E-05	1.603E-05
F	0.4	0.02	445.	0.	0.	17.8	7.5	71.2	1.593E-03	2.123E-03	1.593E-03
F	1.1	2.46	445.	0.	0.	17.8	7.5	71.2	5.422E-04	7.229E-04	5.422E-04
F	1.6	2.16	445.	0.	0.	17.8	7.5	71.2	3.672E-04	4.896E-04	3.672E-04
F	2.1	0.69	445.	0.	0.	17.8	7.5	65.5	3.038E-04	3.725E-04	3.038E-04
F	3.2	0.50	445.	0.	0.	17.8	7.5	39.4	3.376E-04	2.491E-04	2.491E-04
F	4.2	0.03	445.	0.	0.	17.8	7.5	27.5	3.636E-04	1.875E-04	1.875E-04
G	0.4	0.05	445.	0.	0.	12.3	4.7	73.7	2.440E-03	4.879E-03	2.440E-03
G	1.1	2.60	445.	0.	0.	12.3	4.7	73.7	8.306E-04	1.661E-03	8.306E-04
G	1.6	0.64	445.	0.	0.	12.3	4.7	73.7	5.625E-04	1.125E-03	5.625E-04
G	2.1	0.17	445.	0.	0.	12.3	4.7	66.1	4.769E-04	8.560E-04	4.769E-04
G	3.2	0.03	445.	0.	0.	12.3	4.7	34.3	6.148E-04	5.724E-04	5.724E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 445.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.440E-03	1.593E-03	9.242E-04	8.306E-04	7.150E-04	5.724E-04	5.625E-04	5.422E-04	4.769E-04	3.672E-04
0.046	0.067	0.088	2.689	2.700	2.728	3.364	5.827	5.993	8.152
0.00379	0.00556	0.00724	0.22257	0.22351	0.22580	0.27849	0.48236	0.49611	0.67478
3.146E-04	3.038E-04	2.491E-04	2.434E-04	2.131E-04	1.875E-04	1.732E-04	1.648E-04	1.293E-04	1.289E-04
9.951	10.643	11.141	12.026	14.877	14.904	18.114	19.885	25.918	28.879
0.82367	0.88094	0.92217	0.99548	1.23142	1.23371	1.49943	1.64603	2.14540	2.39050
1.018E-04	9.731E-05	9.511E-05	8.343E-05	7.802E-05	7.746E-05	7.160E-05	6.516E-05	5.740E-05	5.650E-05
28.962	32.505	41.139	41.166	42.965	43.103	53.038	53.592	63.859	63.886
2.39738	2.69059	3.40528	3.40757	3.55647	3.56792	4.39028	4.43609	5.28593	5.28823
5.179E-05	4.895E-05	4.794E-05	4.299E-05	3.936E-05	3.899E-05	3.602E-05	3.126E-05	2.896E-05	2.875E-05
64.689	64.910	73.600	73.627	73.655	74.762	83.562	84.807	88.571	88.765
5.35466	5.37298	6.09226	6.09455	6.09684	6.18847	6.91690	7.01999	7.33152	7.34755
2.611E-05	2.164E-05	2.105E-05	1.961E-05	1.735E-05	1.603E-05	1.602E-05	1.577E-05	1.449E-05	1.179E-05
89.899	90.453	90.480	91.670	92.417	92.528	92.611	93.082	93.967	94.853
7.44147	7.48729	7.48958	7.58808	7.64992	7.65909	7.66596	7.70490	7.77820	7.85151
1.089E-05	1.071E-05	8.752E-06	8.061E-06	6.463E-06	6.422E-06	5.398E-06	4.055E-06	3.565E-06	3.260E-06
95.572	96.015	96.264	97.094	97.980	98.035	98.561	99.834	99.889	100.000
7.91106	7.94771	7.96833	8.03705	8.11035	8.11493	8.15846	8.26383	8.26841	8.27757

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.482
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.880
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.388
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.402
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.387
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   5.282
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   6.088
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE(10)=   6.913

 K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
 14  1      -6.01579  -9.84803  -0.96838
 14  2      -7.09335 -11.83253  -1.66601
 14  3      -7.51984 -14.50643  -2.69896
 14  4      -8.09920 -13.25958  -2.17374
 14  5      -8.95670 -12.84192  -1.96275
 14  6      -9.26047 -13.68046  -2.42229
 14  7      -9.54448 -13.76510  -2.47186
 14  8      -9.76542 -13.88789  -2.54774
 14  9      -9.94552 -16.74438  -4.39374
 14 10     -10.23154     NUMXQ(K)= 10
    1.112E-03              0.083              1.000
    7.835E-04              0.248              3.000
    5.916E-04              0.414              5.000
    3.232E-04              0.828             10.000
    2.292E-04              1.242             15.000
    1.792E-04              1.656             20.000
    1.470E-04              2.069             25.000
    1.248E-04              2.483             30.000
    1.095E-04              2.897             35.000
    9.750E-05              3.311             40.000
    8.617E-05              3.725             45.000
    7.657E-05              4.139             50.000
    6.861E-05              4.553             55.000
    6.188E-05              4.967             60.000
    5.614E-05              5.380             65.000
    5.112E-05              5.794             70.000
    4.597E-05              6.208             75.000
    3.977E-05              6.622             80.000

    5.244E-04              0.5                6.04

ANNUAL AVERAGE =   7.76E-06

K= 14     FIVEXQ(K)= 5.244E-04     FIVEPR(K)= 6.040
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.1	0.03	445.	0.	0.	90.2	100.5	90.2	3.267E-05	3.108E-05	3.108E-05
A	1.6	0.06	445.	0.	0.	90.2	100.5	90.2	2.213E-05	2.105E-05	2.105E-05
A	2.1	0.09	445.	0.	0.	90.2	100.5	90.2	1.684E-05	1.602E-05	1.602E-05
A	3.1	0.23	445.	0.	0.	90.2	100.5	90.2	1.126E-05	1.071E-05	1.071E-05
A	4.1	0.82	445.	0.	0.	90.2	100.5	90.2	8.474E-06	8.061E-06	8.061E-06
A	5.2	1.43	445.	0.	0.	90.2	100.5	90.2	6.794E-06	6.463E-06	6.463E-06
A	6.2	1.32	445.	0.	0.	90.2	100.5	90.2	5.675E-06	5.398E-06	5.398E-06
A	8.2	1.00	445.	0.	0.	90.2	100.5	90.2	4.263E-06	4.055E-06	4.055E-06
A	10.3	0.06	445.	0.	0.	90.2	100.5	90.2	3.428E-06	3.260E-06	3.260E-06
B	1.1	0.03	445.	0.	0.	67.8	45.5	67.8	9.599E-05	8.343E-05	8.343E-05
B	1.6	0.06	445.	0.	0.	67.8	45.5	67.8	6.501E-05	5.650E-05	5.650E-05
B	2.1	0.09	445.	0.	0.	67.8	45.5	67.8	4.947E-05	4.299E-05	4.299E-05
B	3.1	0.53	445.	0.	0.	67.8	45.5	67.8	3.308E-05	2.875E-05	2.875E-05
B	4.1	1.00	445.	0.	0.	67.8	45.5	67.8	2.490E-05	2.164E-05	2.164E-05
B	5.2	1.23	445.	0.	0.	67.8	45.5	67.8	1.996E-05	1.735E-05	1.735E-05
B	6.2	0.79	445.	0.	0.	67.8	45.5	67.8	1.667E-05	1.449E-05	1.449E-05
B	8.2	0.67	445.	0.	0.	67.8	45.5	67.8	1.252E-05	1.089E-05	1.089E-05
B	10.3	0.09	445.	0.	0.	67.8	45.5	67.8	1.007E-05	8.752E-06	8.752E-06
C	1.6	0.12	445.	0.	0.	51.5	29.2	51.5	1.332E-04	1.018E-04	1.018E-04
C	2.1	0.12	445.	0.	0.	51.5	29.2	51.5	1.014E-04	7.746E-05	7.746E-05
C	3.1	1.29	445.	0.	0.	51.5	29.2	51.5	6.778E-05	5.179E-05	5.179E-05
C	4.1	1.70	445.	0.	0.	51.5	29.2	51.5	5.102E-05	3.899E-05	3.899E-05
C	5.2	1.38	445.	0.	0.	51.5	29.2	51.5	4.091E-05	3.126E-05	3.126E-05
C	6.2	1.29	445.	0.	0.	51.5	29.2	51.5	3.416E-05	2.611E-05	2.611E-05
C	8.2	0.97	445.	0.	0.	51.5	29.2	51.5	2.567E-05	1.961E-05	1.961E-05
C	10.3	0.15	445.	0.	0.	51.5	29.2	51.5	2.064E-05	1.577E-05	1.577E-05
D	0.4	0.01	445.	0.	0.	36.3	16.8	72.5	7.150E-04	8.108E-04	7.150E-04
D	1.1	0.76	445.	0.	0.	36.3	16.8	72.5	2.434E-04	2.760E-04	2.434E-04
D	1.6	1.70	445.	0.	0.	36.3	16.8	72.5	1.648E-04	1.869E-04	1.648E-04
D	2.1	2.87	445.	0.	0.	36.3	16.8	70.6	1.289E-04	1.422E-04	1.289E-04
D	3.1	10.66	445.	0.	0.	36.3	16.8	54.7	1.111E-04	9.511E-05	9.511E-05
D	4.1	11.36	445.	0.	0.	36.3	16.8	45.8	1.000E-04	7.160E-05	7.160E-05
D	5.2	8.75	445.	0.	0.	36.3	16.8	39.8	9.219E-05	5.740E-05	5.740E-05
D	6.2	6.00	445.	0.	0.	36.3	16.8	36.3	8.456E-05	4.794E-05	4.794E-05

D	8.2	4.16	445.	0.	0.	36.3	16.8	36.3	6.352E-05	3.602E-05	3.602E-05
D	10.3	0.64	445.	0.	0.	36.3	16.8	36.3	5.107E-05	2.896E-05	2.896E-05
E	0.4	0.02	445.	0.	0.	25.8	11.9	77.3	9.242E-04	1.102E-03	9.242E-04
E	1.1	2.14	445.	0.	0.	25.8	11.9	77.3	3.146E-04	3.751E-04	3.146E-04
E	1.6	3.07	445.	0.	0.	25.8	11.9	77.3	2.131E-04	2.541E-04	2.131E-04
E	2.1	5.42	445.	0.	0.	25.8	11.9	72.4	1.732E-04	1.933E-04	1.732E-04
E	3.2	5.62	445.	0.	0.	25.8	11.9	48.4	1.732E-04	1.293E-04	1.293E-04
E	4.2	3.81	445.	0.	0.	25.8	11.9	36.4	1.732E-04	9.731E-05	9.731E-05
E	5.3	1.29	445.	0.	0.	25.8	11.9	29.2	1.732E-04	7.802E-05	7.802E-05
E	6.3	0.32	445.	0.	0.	25.8	11.9	25.8	1.639E-04	6.516E-05	6.516E-05
E	8.4	0.09	445.	0.	0.	25.8	11.9	25.8	1.232E-04	4.895E-05	4.895E-05
F	0.4	0.02	445.	0.	0.	17.8	7.5	71.2	1.593E-03	2.123E-03	1.593E-03
F	1.1	2.78	445.	0.	0.	17.8	7.5	71.2	5.422E-04	7.229E-04	5.422E-04
F	1.6	3.69	445.	0.	0.	17.8	7.5	71.2	3.672E-04	4.896E-04	3.672E-04
F	2.1	1.93	445.	0.	0.	17.8	7.5	65.5	3.038E-04	3.725E-04	3.038E-04
F	3.2	0.44	445.	0.	0.	17.8	7.5	39.4	3.376E-04	2.491E-04	2.491E-04
G	0.4	0.06	445.	0.	0.	12.3	4.7	73.7	2.440E-03	4.879E-03	2.440E-03
G	1.1	3.22	445.	0.	0.	12.3	4.7	73.7	8.306E-04	1.661E-03	8.306E-04
G	1.6	2.28	445.	0.	0.	12.3	4.7	73.7	5.625E-04	1.125E-03	5.625E-04
G	2.1	0.38	445.	0.	0.	12.3	4.7	66.1	4.769E-04	8.560E-04	4.769E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

SITE EXCLUSION BOUNDARY CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 445.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.440E-03	1.593E-03	9.242E-04	8.306E-04	7.150E-04	5.625E-04	5.422E-04	4.769E-04	3.672E-04	3.146E-04
0.057	0.081	0.105	3.325	3.335	5.618	8.400	8.780	12.469	14.606
0.00443	0.00632	0.00821	0.26019	0.26096	0.43963	0.65725	0.68703	0.97565	1.14287
3.038E-04	2.491E-04	2.434E-04	2.131E-04	1.732E-04	1.648E-04	1.293E-04	1.289E-04	1.018E-04	9.731E-05
16.538	16.977	17.738	20.812	26.228	27.926	33.546	36.415	36.533	40.338
1.29406	1.32842	1.38798	1.62850	2.05228	2.18514	2.62495	2.84944	2.85860	3.15639
9.511E-05	8.343E-05	7.802E-05	7.746E-05	7.160E-05	6.516E-05	5.740E-05	5.650E-05	5.179E-05	4.895E-05
50.994	51.023	52.312	52.429	63.787	64.109	72.862	72.921	74.209	74.297
3.99020	3.99249	4.09328	4.10244	4.99123	5.01643	5.70134	5.70593	5.80672	5.81359
4.794E-05	4.299E-05	3.899E-05	3.602E-05	3.126E-05	3.108E-05	2.896E-05	2.875E-05	2.611E-05	2.164E-05
80.298	80.386	82.084	86.241	87.617	87.646	88.290	88.817	90.105	91.100
6.28318	6.29005	6.42291	6.74819	6.85585	6.85814	6.90854	6.94977	7.05056	7.12844
2.105E-05	1.961E-05	1.735E-05	1.602E-05	1.577E-05	1.449E-05	1.089E-05	1.071E-05	8.752E-06	8.061E-06
91.159	92.125	93.355	93.442	93.589	94.379	95.053	95.287	95.375	96.194
7.13302	7.20862	7.30483	7.31170	7.32315	7.38500	7.43769	7.45601	7.46288	7.52702
6.463E-06	5.398E-06	4.055E-06	3.260E-06						
97.629	98.946	99.941	100.000						
7.63927	7.74235	7.82023	7.82481						

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.656
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   1.293
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.847
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.987
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.988
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   5.698
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   6.279
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE(10)=   6.744

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
 15  1      -6.01579  -9.76966  -0.95770
 15  2      -7.09335 -10.88576  -1.35709
 15  3      -7.51984 -13.22644  -2.30083
 15  4      -8.09920 -13.98584  -2.64160
 15  5      -8.95670 -12.77142  -2.00372
 15  6      -9.26047 -13.94851  -2.67549
 15  7      -9.54448 -15.10690  -3.37923
 15  8      -9.76542 -15.58239  -3.68004
 15  9      -9.94552 -21.90446  -7.80741
 15 10     -10.23154     NUMXQ(K)= 10
    1.182E-03              0.078              1.000
    8.574E-04              0.235              3.000
    6.920E-04              0.391              5.000
    4.692E-04              0.782             10.000
    3.313E-04              1.174             15.000
    2.494E-04              1.565             20.000
    1.964E-04              1.956             25.000
    1.606E-04              2.347             30.000
    1.349E-04              2.739             35.000
    1.186E-04              3.130             40.000
    1.067E-04              3.521             45.000
    9.686E-05              3.912             50.000
    8.653E-05              4.304             55.000
    7.747E-05              4.695             60.000
    6.942E-05              5.086             65.000
    6.139E-05              5.477             70.000
    5.443E-05              5.869             75.000
    4.828E-05              6.260             80.000
    3.818E-05              6.651             85.000

    6.177E-04              0.5                6.39

ANNUAL AVERAGE =   9.12E-06

K= 15     FIVEXQ(K)= 6.177E-04     FIVEPR(K)= 6.390
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.1	0.04	445.	0.	0.	90.2	100.5	90.2	3.267E-05	3.108E-05	3.108E-05
A	2.1	0.04	445.	0.	0.	90.2	100.5	90.2	1.684E-05	1.602E-05	1.602E-05
A	3.1	0.53	445.	0.	0.	90.2	100.5	90.2	1.126E-05	1.071E-05	1.071E-05
A	4.1	0.73	445.	0.	0.	90.2	100.5	90.2	8.474E-06	8.061E-06	8.061E-06
A	5.2	0.73	445.	0.	0.	90.2	100.5	90.2	6.794E-06	6.463E-06	6.463E-06
A	6.2	0.81	445.	0.	0.	90.2	100.5	90.2	5.675E-06	5.398E-06	5.398E-06
A	8.2	0.57	445.	0.	0.	90.2	100.5	90.2	4.263E-06	4.055E-06	4.055E-06
A	10.3	0.04	445.	0.	0.	90.2	100.5	90.2	3.428E-06	3.260E-06	3.260E-06
B	1.6	0.16	445.	0.	0.	67.8	45.5	67.8	6.501E-05	5.650E-05	5.650E-05
B	2.1	0.20	445.	0.	0.	67.8	45.5	67.8	4.947E-05	4.299E-05	4.299E-05
B	3.1	0.65	445.	0.	0.	67.8	45.5	67.8	3.308E-05	2.875E-05	2.875E-05
B	4.1	0.65	445.	0.	0.	67.8	45.5	67.8	2.490E-05	2.164E-05	2.164E-05
B	5.2	0.89	445.	0.	0.	67.8	45.5	67.8	1.996E-05	1.735E-05	1.735E-05
B	6.2	0.65	445.	0.	0.	67.8	45.5	67.8	1.667E-05	1.449E-05	1.449E-05
B	8.2	0.36	445.	0.	0.	67.8	45.5	67.8	1.252E-05	1.089E-05	1.089E-05
B	10.3	0.04	445.	0.	0.	67.8	45.5	67.8	1.007E-05	8.752E-06	8.752E-06
C	1.1	0.04	445.	0.	0.	51.5	29.2	51.5	1.967E-04	1.503E-04	1.503E-04
C	1.6	0.16	445.	0.	0.	51.5	29.2	51.5	1.332E-04	1.018E-04	1.018E-04
C	2.1	0.41	445.	0.	0.	51.5	29.2	51.5	1.014E-04	7.746E-05	7.746E-05
C	3.1	1.01	445.	0.	0.	51.5	29.2	51.5	6.778E-05	5.179E-05	5.179E-05
C	4.1	1.42	445.	0.	0.	51.5	29.2	51.5	5.102E-05	3.899E-05	3.899E-05
C	5.2	1.38	445.	0.	0.	51.5	29.2	51.5	4.091E-05	3.126E-05	3.126E-05
C	6.2	0.65	445.	0.	0.	51.5	29.2	51.5	3.416E-05	2.611E-05	2.611E-05
C	8.2	0.57	445.	0.	0.	51.5	29.2	51.5	2.567E-05	1.961E-05	1.961E-05
C	25.2	0.04	445.	0.	0.	51.5	29.2	51.5	8.404E-06	6.422E-06	6.422E-06
D	0.4	0.01	445.	0.	0.	36.3	16.8	72.5	7.150E-04	8.108E-04	7.150E-04
D	1.1	0.61	445.	0.	0.	36.3	16.8	72.5	2.434E-04	2.760E-04	2.434E-04
D	1.6	2.64	445.	0.	0.	36.3	16.8	72.5	1.648E-04	1.869E-04	1.648E-04
D	2.1	3.85	445.	0.	0.	36.3	16.8	70.6	1.289E-04	1.422E-04	1.289E-04
D	3.1	12.29	445.	0.	0.	36.3	16.8	54.7	1.111E-04	9.511E-05	9.511E-05
D	4.1	11.64	445.	0.	0.	36.3	16.8	45.8	1.000E-04	7.160E-05	7.160E-05
D	5.2	11.03	445.	0.	0.	36.3	16.8	39.8	9.219E-05	5.740E-05	5.740E-05
D	6.2	5.15	445.	0.	0.	36.3	16.8	36.3	8.456E-05	4.794E-05	4.794E-05
D	8.2	4.18	445.	0.	0.	36.3	16.8	36.3	6.352E-05	3.602E-05	3.602E-05

D	10.3	0.69	445.	0.	0.	36.3	16.8	36.3	5.107E-05	2.896E-05	2.896E-05
E	0.4	0.02	445.	0.	0.	25.8	11.9	77.3	9.242E-04	1.102E-03	9.242E-04
E	1.1	1.78	445.	0.	0.	25.8	11.9	77.3	3.146E-04	3.751E-04	3.146E-04
E	1.6	2.31	445.	0.	0.	25.8	11.9	77.3	2.131E-04	2.541E-04	2.131E-04
E	2.1	3.53	445.	0.	0.	25.8	11.9	72.4	1.732E-04	1.933E-04	1.732E-04
E	3.2	8.07	445.	0.	0.	25.8	11.9	48.4	1.732E-04	1.293E-04	1.293E-04
E	4.2	4.01	445.	0.	0.	25.8	11.9	36.4	1.732E-04	9.731E-05	9.731E-05
E	5.3	1.22	445.	0.	0.	25.8	11.9	29.2	1.732E-04	7.802E-05	7.802E-05
E	6.3	0.36	445.	0.	0.	25.8	11.9	25.8	1.639E-04	6.516E-05	6.516E-05
E	8.4	0.20	445.	0.	0.	25.8	11.9	25.8	1.232E-04	4.895E-05	4.895E-05
F	0.4	0.01	445.	0.	0.	17.8	7.5	71.2	1.593E-03	2.123E-03	1.593E-03
F	1.1	1.58	445.	0.	0.	17.8	7.5	71.2	5.422E-04	7.229E-04	5.422E-04
F	1.6	2.60	445.	0.	0.	17.8	7.5	71.2	3.672E-04	4.896E-04	3.672E-04
F	2.1	2.60	445.	0.	0.	17.8	7.5	65.5	3.038E-04	3.725E-04	3.038E-04
F	3.2	1.70	445.	0.	0.	17.8	7.5	39.4	3.376E-04	2.491E-04	2.491E-04
G	0.4	0.05	445.	0.	0.	12.3	4.7	73.7	2.440E-03	4.879E-03	2.440E-03
G	1.1	2.76	445.	0.	0.	12.3	4.7	73.7	8.306E-04	1.661E-03	8.306E-04
G	1.6	1.95	445.	0.	0.	12.3	4.7	73.7	5.625E-04	1.125E-03	5.625E-04
G	2.1	0.41	445.	0.	0.	12.3	4.7	66.1	4.769E-04	8.560E-04	4.769E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

SITE EXCLUSION BOUNDARY CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 445.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.440E-03	1.593E-03	9.242E-04	8.306E-04	7.150E-04	5.625E-04	5.422E-04	4.769E-04	3.672E-04	3.146E-04
0.049	0.062	0.082	2.840	2.848	4.794	6.375	6.781	9.376	11.160
0.00274	0.00352	0.00466	0.16042	0.16087	0.27082	0.36016	0.38306	0.52967	0.63046
3.038E-04	2.491E-04	2.434E-04	2.131E-04	1.732E-04	1.648E-04	1.503E-04	1.293E-04	1.289E-04	1.018E-04
13.755	15.458	16.066	18.377	21.905	24.541	24.581	32.650	36.502	36.664
0.77706	0.87327	0.90763	1.03820	1.23749	1.38639	1.38868	1.84452	2.06214	2.07130
9.731E-05	9.511E-05	7.802E-05	7.746E-05	7.160E-05	6.516E-05	5.740E-05	5.650E-05	5.179E-05	4.895E-05
40.679	52.965	54.181	54.586	66.224	66.589	77.618	77.780	78.794	78.996
2.29808	2.99216	3.06088	3.08379	3.74121	3.76183	4.38490	4.39406	4.45133	4.46278
4.794E-05	4.299E-05	3.899E-05	3.602E-05	3.126E-05	3.108E-05	2.896E-05	2.875E-05	2.611E-05	2.164E-05
84.146	84.349	85.768	89.944	91.323	91.363	92.053	92.701	93.350	93.999
4.75370	4.76515	4.84532	5.08127	5.15915	5.16144	5.20038	5.23703	5.27368	5.31034
1.961E-05	1.735E-05	1.602E-05	1.449E-05	1.089E-05	1.071E-05	8.752E-06	8.061E-06	6.463E-06	6.422E-06
94.567	95.459	95.499	96.148	96.513	97.040	97.081	97.810	98.540	98.581
5.34240	5.39280	5.39509	5.43174	5.45236	5.48214	5.48443	5.52566	5.56689	5.56918
5.398E-06	4.055E-06	3.260E-06							
99.392	99.959	100.000							
5.61500	5.64707	5.64936							

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.360
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.776
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.060
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.989
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.738
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.381
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   4.750
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
16	1	-6.01579	-10.01595	-0.99160
16	2	-7.09335	-11.93428	-1.64247
16	3	-7.51984	-13.33558	-2.16384
16	4	-8.09920	-13.58273	-2.26597
16	5	-8.95670	-12.85332	-1.90869
16	6	-9.26047	-14.58379	-2.82799
16	7	-9.54448	-14.87237	-2.98994
16	8	-9.76542	-17.76390	-4.68283
16	9	-9.94552	NUMXQ(K)= 9	

1.128E-03	0.056	1.000
8.077E-04	0.169	3.000
6.185E-04	0.282	5.000
3.886E-04	0.565	10.000
2.827E-04	0.847	15.000
2.215E-04	1.130	20.000
1.822E-04	1.412	25.000
1.546E-04	1.695	30.000
1.340E-04	1.977	35.000
1.198E-04	2.260	40.000
1.089E-04	2.542	45.000
9.981E-05	2.825	50.000
9.073E-05	3.107	55.000
8.128E-05	3.390	60.000
7.334E-05	3.672	65.000
6.633E-05	3.955	70.000
6.024E-05	4.237	75.000
5.368E-05	4.519	80.000
4.260E-04	0.5	8.85

ANNUAL AVERAGE = 6.00E-06

K= 16 FIVEXQ(K)= 4.260E-04 FIVEPR(K)= 8.851

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.1	0.02	445.	0.	0.	90.2	100.5	90.2	3.267E-05	3.108E-05	3.108E-05
A	1.6	0.05	445.	0.	0.	90.2	100.5	90.2	2.213E-05	2.105E-05	2.105E-05
A	2.1	0.08	445.	0.	0.	90.2	100.5	90.2	1.684E-05	1.602E-05	1.602E-05
A	3.1	0.41	445.	0.	0.	90.2	100.5	90.2	1.126E-05	1.071E-05	1.071E-05
A	4.1	0.66	445.	0.	0.	90.2	100.5	90.2	8.474E-06	8.061E-06	8.061E-06
A	5.2	0.74	445.	0.	0.	90.2	100.5	90.2	6.794E-06	6.463E-06	6.463E-06
A	6.2	0.55	445.	0.	0.	90.2	100.5	90.2	5.675E-06	5.398E-06	5.398E-06
A	8.2	0.73	445.	0.	0.	90.2	100.5	90.2	4.263E-06	4.055E-06	4.055E-06
A	10.3	0.14	445.	0.	0.	90.2	100.5	90.2	3.428E-06	3.260E-06	3.260E-06
A	25.2	0.03	445.	0.	0.	90.2	100.5	90.2	1.396E-06	1.328E-06	1.328E-06
B	1.1	0.02	445.	0.	0.	67.8	45.5	67.8	9.599E-05	8.343E-05	8.343E-05
B	1.6	0.06	445.	0.	0.	67.8	45.5	67.8	6.501E-05	5.650E-05	5.650E-05
B	2.1	0.11	445.	0.	0.	67.8	45.5	67.8	4.947E-05	4.299E-05	4.299E-05
B	3.1	0.44	445.	0.	0.	67.8	45.5	67.8	3.308E-05	2.875E-05	2.875E-05
B	4.1	0.68	445.	0.	0.	67.8	45.5	67.8	2.490E-05	2.164E-05	2.164E-05
B	5.2	0.79	445.	0.	0.	67.8	45.5	67.8	1.996E-05	1.735E-05	1.735E-05
B	6.2	0.55	445.	0.	0.	67.8	45.5	67.8	1.667E-05	1.449E-05	1.449E-05
B	8.2	0.45	445.	0.	0.	67.8	45.5	67.8	1.252E-05	1.089E-05	1.089E-05
B	10.3	0.14	445.	0.	0.	67.8	45.5	67.8	1.007E-05	8.752E-06	8.752E-06
B	25.2	0.04	445.	0.	0.	67.8	45.5	67.8	4.101E-06	3.565E-06	3.565E-06
C	1.1	0.01	445.	0.	0.	51.5	29.2	51.5	1.967E-04	1.503E-04	1.503E-04
C	1.6	0.10	445.	0.	0.	51.5	29.2	51.5	1.332E-04	1.018E-04	1.018E-04
C	2.1	0.29	445.	0.	0.	51.5	29.2	51.5	1.014E-04	7.746E-05	7.746E-05
C	3.1	0.96	445.	0.	0.	51.5	29.2	51.5	6.778E-05	5.179E-05	5.179E-05
C	4.1	1.13	445.	0.	0.	51.5	29.2	51.5	5.102E-05	3.899E-05	3.899E-05
C	5.2	1.06	445.	0.	0.	51.5	29.2	51.5	4.091E-05	3.126E-05	3.126E-05
C	6.2	0.71	445.	0.	0.	51.5	29.2	51.5	3.416E-05	2.611E-05	2.611E-05
C	8.2	0.63	445.	0.	0.	51.5	29.2	51.5	2.567E-05	1.961E-05	1.961E-05
C	10.3	0.17	445.	0.	0.	51.5	29.2	51.5	2.064E-05	1.577E-05	1.577E-05
C	25.2	0.05	445.	0.	0.	51.5	29.2	51.5	8.404E-06	6.422E-06	6.422E-06
D	0.4	0.01	445.	0.	0.	36.3	16.8	36.3	1.430E-03	8.108E-04	8.108E-04
D	1.1	0.71	445.	0.	0.	36.3	16.8	36.3	4.868E-04	2.760E-04	2.760E-04
D	1.6	1.71	445.	0.	0.	36.3	16.8	36.3	3.297E-04	1.869E-04	1.869E-04
D	2.1	2.89	445.	0.	0.	36.3	16.8	36.3	2.509E-04	1.422E-04	1.422E-04

D	3.1	8.55	445.	0.	0.	36.3	16.8	36.3	1.677E-04	9.511E-05	9.511E-05
D	4.1	8.69	445.	0.	0.	36.3	16.8	36.3	1.263E-04	7.160E-05	7.160E-05
D	5.2	8.72	445.	0.	0.	36.3	16.8	36.3	1.012E-04	5.740E-05	5.740E-05
D	6.2	5.97	445.	0.	0.	36.3	16.8	36.3	8.456E-05	4.794E-05	4.794E-05
D	8.2	6.76	445.	0.	0.	36.3	16.8	36.3	6.352E-05	3.602E-05	3.602E-05
D	10.3	2.02	445.	0.	0.	36.3	16.8	36.3	5.107E-05	2.896E-05	2.896E-05
D	25.2	0.65	445.	0.	0.	36.3	16.8	36.3	2.080E-05	1.179E-05	1.179E-05
E	0.4	0.02	445.	0.	0.	25.8	11.9	25.8	2.773E-03	1.102E-03	1.102E-03
E	1.1	1.42	445.	0.	0.	25.8	11.9	25.8	9.439E-04	3.751E-04	3.751E-04
E	1.6	2.42	445.	0.	0.	25.8	11.9	25.8	6.392E-04	2.541E-04	2.541E-04
E	2.1	3.22	445.	0.	0.	25.8	11.9	25.8	4.864E-04	1.933E-04	1.933E-04
E	3.2	7.17	445.	0.	0.	25.8	11.9	25.8	3.252E-04	1.293E-04	1.293E-04
E	4.2	5.47	445.	0.	0.	25.8	11.9	25.8	2.448E-04	9.731E-05	9.731E-05
E	5.3	3.56	445.	0.	0.	25.8	11.9	25.8	1.963E-04	7.802E-05	7.802E-05
E	6.3	1.88	445.	0.	0.	25.8	11.9	25.8	1.639E-04	6.516E-05	6.516E-05
E	8.4	1.45	445.	0.	0.	25.8	11.9	25.8	1.232E-04	4.895E-05	4.895E-05
E	10.5	0.30	445.	0.	0.	25.8	11.9	25.8	9.902E-05	3.936E-05	3.936E-05
E	25.8	0.04	445.	0.	0.	25.8	11.9	25.8	4.033E-05	1.603E-05	1.603E-05
F	0.4	0.01	445.	0.	0.	17.8	7.5	17.8	6.371E-03	2.123E-03	2.123E-03
F	1.1	1.32	445.	0.	0.	17.8	7.5	17.8	2.169E-03	7.229E-04	7.229E-04
F	1.6	2.01	445.	0.	0.	17.8	7.5	17.8	1.469E-03	4.896E-04	4.896E-04
F	2.1	1.92	445.	0.	0.	17.8	7.5	17.8	1.118E-03	3.725E-04	3.725E-04
F	3.2	3.13	445.	0.	0.	17.8	7.5	17.8	7.473E-04	2.491E-04	2.491E-04
F	4.2	1.47	445.	0.	0.	17.8	7.5	17.8	5.626E-04	1.875E-04	1.875E-04
F	5.3	0.46	445.	0.	0.	17.8	7.5	17.8	4.510E-04	1.503E-04	1.503E-04
F	6.3	0.07	445.	0.	0.	17.8	7.5	17.8	3.767E-04	1.256E-04	1.256E-04
F	8.4	0.01	445.	0.	0.	17.8	7.5	17.8	2.830E-04	9.432E-05	9.432E-05
G	0.4	0.03	445.	0.	0.	12.3	4.7	12.3	1.464E-02	4.879E-03	4.879E-03
G	1.1	1.43	445.	0.	0.	12.3	4.7	12.3	4.984E-03	1.661E-03	1.661E-03
G	1.6	1.07	445.	0.	0.	12.3	4.7	12.3	3.375E-03	1.125E-03	1.125E-03
G	2.1	0.60	445.	0.	0.	12.3	4.7	12.3	2.568E-03	8.560E-04	8.560E-04
G	3.2	0.72	445.	0.	0.	12.3	4.7	12.3	1.717E-03	5.724E-04	5.724E-04
G	4.2	0.28	445.	0.	0.	12.3	4.7	12.3	1.293E-03	4.308E-04	4.308E-04
G	5.3	0.06	445.	0.	0.	12.3	4.7	12.3	1.036E-03	3.454E-04	3.454E-04
G	6.3	0.00	445.	0.	0.	12.3	4.7	12.3	8.656E-04	2.885E-04	2.885E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

SITE EXCLUSION BOUNDARY CALCULATIONS:
DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.
MINIMUM BOUNDARY DISTANCE = 445.0 METERS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.879E-03	2.123E-03	1.661E-03	1.125E-03	1.102E-03	8.560E-04	8.108E-04	7.229E-04	5.724E-04	4.896E-04
0.025	0.037	1.468	2.543	2.559	3.154	3.163	4.483	5.202	7.209
0.02520	0.03665	1.46833	2.54266	2.55870	3.15428	3.16344	4.48288	5.20215	7.20880
4.308E-04	3.751E-04	3.725E-04	3.454E-04	2.885E-04	2.760E-04	2.541E-04	2.491E-04	1.933E-04	1.875E-04
7.486	8.904	10.828	10.890	10.895	11.605	14.021	17.148	20.367	21.833
7.48597	8.90391	10.82808	10.88993	10.89451	11.60463	14.02131	17.14810	20.36651	21.83255
1.869E-04	1.503E-04	1.503E-04	1.422E-04	1.293E-04	1.256E-04	1.018E-04	9.731E-05	9.511E-05	9.432E-05
23.544	24.006	24.018	26.911	34.083	34.150	34.250	39.721	48.269	48.283
23.54370	24.00642	24.01787	26.91101	34.08316	34.14959	34.25038	39.72054	48.26939	48.28313
8.343E-05	7.802E-05	7.746E-05	7.160E-05	6.516E-05	5.740E-05	5.650E-05	5.179E-05	4.895E-05	4.794E-05
48.304	51.866	52.152	60.845	62.726	71.444	71.509	72.464	73.914	79.888
48.30375	51.86576	52.15210	60.84526	62.72592	71.44428	71.50842	72.46363	73.91364	79.88776
4.299E-05	3.936E-05	3.899E-05	3.602E-05	3.126E-05	3.108E-05	2.896E-05	2.875E-05	2.611E-05	2.164E-05
79.993	80.291	81.420	88.178	89.241	89.264	91.286	91.731	92.436	93.112
79.99313	80.29092	81.42023	88.17776	89.24064	89.26353	91.28622	91.73061	92.43615	93.11190
2.105E-05	1.961E-05	1.735E-05	1.603E-05	1.602E-05	1.577E-05	1.449E-05	1.179E-05	1.089E-05	1.071E-05
93.165	93.797	94.583	94.626	94.709	94.876	95.423	96.069	96.521	96.926
93.16459	93.79682	94.58253	94.62605	94.70852	94.87574	95.42322	96.06918	96.52045	96.92590
8.752E-06	8.061E-06	6.463E-06	6.422E-06	5.398E-06	4.055E-06	3.565E-06	3.260E-06	1.328E-06	
97.070	97.726	98.461	98.516	99.063	99.794	99.831	99.975	100.000	
97.07021	97.72535	98.46066	98.51564	99.06312	99.79384	99.83049	99.97480	100.00000	

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q SEC/CUBIC METER	WITH RESPECT TO THE TOTAL TIME	WHEN THE WIND BLOWS INTO THIS SECTOR ONLY
1.878E-03	1.000	1.000
1.001E-03	3.000	3.000
6.701E-04	5.000	5.000
3.939E-04	10.000	10.000
2.852E-04	15.000	15.000
2.197E-04	20.000	20.000
1.784E-04	25.000	25.000
1.536E-04	30.000	30.000
1.337E-04	35.000	35.000
1.172E-04	40.000	40.000
1.032E-04	45.000	45.000
9.176E-05	50.000	50.000
8.270E-05	55.000	55.000
7.441E-05	60.000	60.000
6.670E-05	65.000	65.000
5.944E-05	70.000	70.000
5.343E-05	75.000	75.000
6.700E-04	5.0	5.00

K= 17 FIVEXQ(K)= 6.700E-04 FIVEPR(K)= 5.000

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(3)= 7.205
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(4)= 10.825

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.440E-03	1.593E-03	9.242E-04	8.306E-04	7.150E-04	5.724E-04	5.625E-04	5.422E-04	4.769E-04	4.308E-04
0.025	0.037	0.053	1.484	1.494	2.213	3.287	4.607	5.202	5.479
0.02520	0.03665	0.05269	1.48437	1.49353	2.21281	3.28714	4.60658	5.20216	5.47933
3.672E-04	3.454E-04	3.146E-04	3.038E-04	2.885E-04	2.491E-04	2.434E-04	2.131E-04	1.875E-04	1.732E-04
7.486	7.548	8.966	10.890	10.895	14.021	14.731	17.148	18.614	21.833
7.48597	7.54782	8.96576	10.88993	10.89452	14.02130	14.73142	17.14809	18.61414	21.83255
1.648E-04	1.503E-04	1.503E-04	1.293E-04	1.289E-04	1.256E-04	1.018E-04	9.731E-05	9.511E-05	9.432E-05
23.544	24.006	24.018	31.190	34.083	34.150	34.250	39.721	48.269	48.283
23.54369	24.00641	24.01787	31.19001	34.08315	34.14957	34.25035	39.72052	48.26936	48.28310
8.343E-05	7.802E-05	7.746E-05	7.160E-05	6.516E-05	5.740E-05	5.650E-05	5.179E-05	4.895E-05	4.794E-05
48.304	51.866	52.152	60.845	62.726	71.444	71.509	72.464	73.914	79.888
48.30371	51.86574	52.15207	60.84523	62.72588	71.44425	71.50838	72.46359	73.91360	79.88772
4.299E-05	3.936E-05	3.899E-05	3.602E-05	3.126E-05	3.108E-05	2.896E-05	2.875E-05	2.611E-05	2.164E-05
79.993	80.291	81.420	88.178	89.241	89.264	91.286	91.731	92.436	93.112
79.99308	80.29086	81.42016	88.17770	89.24059	89.26347	91.28616	91.73054	92.43606	93.11181
2.105E-05	1.961E-05	1.735E-05	1.603E-05	1.602E-05	1.577E-05	1.449E-05	1.179E-05	1.089E-05	1.071E-05
93.165	93.797	94.583	94.626	94.709	94.876	95.423	96.069	96.520	96.926
93.16448	93.79671	94.58242	94.62593	94.70837	94.87557	95.42304	96.06902	96.52026	96.92571
8.752E-06	8.061E-06	6.463E-06	6.422E-06	5.398E-06	4.055E-06	3.565E-06	3.260E-06	1.328E-06	
97.070	97.725	98.461	98.516	99.063	99.794	99.830	99.975	100.000	
97.07000	97.72513	98.46043	98.51540	99.06287	99.79359	99.83023	99.97453	99.99971	

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO 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)= 14.731

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
18	1	-6.01579	-8.89020	-0.82626
18	2	-7.09335	-8.98596	-0.87029
18	3	-7.51984	-9.63928	-1.25811
18	4	-8.32075	-9.36496	-0.99635
18	5	-8.95670	-9.29635	-0.82890
18	6	-9.26047	-9.29634	-0.82871
18	7	-9.76542	-9.38980	-0.66359
18	8	-9.94552	NUMXQ(K)= 8	

9.418E-04	1.000	1.000
6.434E-04	3.000	3.000
5.160E-04	5.000	5.000
3.266E-04	10.000	10.000
2.406E-04	15.000	15.000
1.981E-04	20.000	20.000
1.677E-04	25.000	25.000
1.444E-04	30.000	30.000
1.262E-04	35.000	35.000
1.132E-04	40.000	40.000
1.018E-04	45.000	45.000
9.176E-05	50.000	50.000
8.270E-05	55.000	55.000
7.441E-05	60.000	60.000
6.670E-05	65.000	65.000
5.944E-05	70.000	70.000
5.343E-05	75.000	75.000
5.160E-04	5.0	5.00

K= 18 FIVEXQ(K)= 5.160E-04 FIVEPR(K)= 5.000

K	HIGHPR	PR	GRNDVT(K)
1	-3.04916	0.11475	5.94713
2	-1.83433	3.33028	4.12317
3	-3.31283	0.04618	3.63725
4	-3.22587	0.06280	4.74829
5	-2.99031	0.13936	5.67663
6	-2.95204	0.15785	4.65168
7	-2.97652	0.14578	5.13989
8	-2.88717	0.19437	7.75588
9	-2.77568	0.27544	8.28787
10	-2.86428	0.20899	7.26061
11	-2.84589	0.22144	6.68431
12	-2.81782	0.24176	5.93576

13	-2.71927	0.32713	8.39979
14	-2.66683	0.38286	8.27757
15	-2.57624	0.49942	7.82481
16	-2.76701	0.28287	5.64936

K	HOURS(K)	TOTHRS
1	10.05218	10.05218
2	291.73240	301.78460
3	4.04552	305.83010
4	5.50123	311.33130
5	12.20756	323.53880
6	13.82722	337.36610
7	12.77042	350.13650
8	17.02688	367.16340
9	24.12846	391.29180
10	18.30716	409.59900
11	19.39842	428.99740
12	21.17786	450.17520
13	28.65695	478.83220
14	33.53841	512.37060
15	43.74879	556.11940
16	24.77956	580.89890

K	FIVEXQ	SVANN	SLTIME	TIMINT	I	TIME	XQT
1	2.420E-04	4.177E-06	-0.4841	-7.9908			
					1	8.0	-8.99755
					2	16.0	-9.33311
					3	72.0	-10.06128
					4	624.0	-11.10673
2	2.013E-04	2.896E-06	-0.5058	-8.1603			
					1	8.0	-9.21211
					2	16.0	-9.56272
					3	72.0	-10.32353
					4	624.0	-11.41587
3	1.706E-04	2.443E-06	-0.5064	-8.3252			
					1	8.0	-9.37819
					2	16.0	-9.72918
					3	72.0	-10.49081
					4	624.0	-11.58432
4	1.938E-04	3.129E-06	-0.4920	-8.2078			
					1	8.0	-9.23095
					2	16.0	-9.57201
					3	72.0	-10.31209
					4	624.0	-11.37466
5	3.702E-04	5.727E-06	-0.4972	-7.5567			
					1	8.0	-8.59060
					2	16.0	-8.93524
					3	72.0	-9.68307
					4	624.0	-10.75677
6	3.753E-04	4.542E-06	-0.5264	-7.5229			
					1	8.0	-8.61764

```
                                        2   16.0    -8.98255
                                        3   72.0    -9.77436
                                        4  624.0   -10.91120
 7 3.689E-04 4.584E-06   -0.5233   -7.5423
                                        1    8.0    -8.63045
                                        2   16.0    -8.99317
                                        3   72.0    -9.78025
                                        4  624.0   -10.91031
 8 4.241E-04 6.242E-06   -0.5031   -7.4167
                                        1    8.0    -8.46294
                                        2   16.0    -8.81168
                                        3   72.0    -9.56843
                                        4  624.0   -10.65494
 9 5.065E-04 7.354E-06   -0.5047   -7.2382
                                        1    8.0    -8.28775
                                        2   16.0    -8.63761
                                        3   72.0    -9.39677
                                        4  624.0   -10.48675
10 4.043E-04 6.253E-06   -0.4972   -7.4688
                                        1    8.0    -8.50271
                                        2   16.0    -8.84733
                                        3   72.0    -9.59514
                                        4  624.0   -10.66881
11 3.735E-04 5.989E-06   -0.4929   -7.5509
                                        1    8.0    -8.57585
                                        2   16.0    -8.91751
                                        3   72.0    -9.65890
                                        4  624.0   -10.72334
12 3.935E-04 5.674E-06   -0.5056   -7.4901
                                        1    8.0    -8.54136
                                        2   16.0    -8.89178
                                        3   72.0    -9.65218
                                        4  624.0   -10.74393
13 4.894E-04 7.632E-06   -0.4962   -7.2784
                                        1    8.0    -8.31026
                                        2   16.0    -8.65420
                                        3   72.0    -9.40054
                                        4  624.0   -10.47209
14 5.244E-04 7.757E-06   -0.5025   -7.2050
                                        1    8.0    -8.24992
                                        2   16.0    -8.59824
                                        3   72.0    -9.35407
                                        4  624.0   -10.43925
15 6.177E-04 9.122E-06   -0.5027   -7.0411
                                        1    8.0    -8.08648
                                        2   16.0    -8.43493
                                        3   72.0    -9.19106
                                        4  624.0   -10.27667
16 4.260E-04 6.000E-06   -0.5084   -7.4086
                                        1    8.0    -8.46578
                                        2   16.0    -8.81816
```

```
                                        3   72.0    -9.58281
                                        4  624.0   -10.68066
17 6.700E-04 9.122E-06   -0.5124   -6.9530
                                        1    8.0    -8.01853
                                        2   16.0    -8.37372
                                        3   72.0    -9.14445
                                        4  624.0   -10.25102
18 5.160E-04 9.122E-06   -0.4813   -7.2358
                                        1    8.0    -8.23661
                                        2   16.0    -8.57020
                                        3   72.0    -9.29406
                                        4  624.0   -10.33335
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

DOWNWIND SECTOR	DISTANCE (METERS)	0-2 HOURS	0-8 HOURS	8-24 HOURS	1-4 DAYS	4-30 DAYS	ANNUAL AVERAGE	HOURS PER YEAR MAX 0-2 HR X/Q IS EXCEEDED IN SECTOR	DOWNWIND SECTOR
S	445.	2.42E-04	1.24E-04	8.84E-05	4.27E-05	1.50E-05	4.18E-06	10.1	S
SSW	445.	2.01E-04	9.98E-05	7.03E-05	3.29E-05	1.10E-05	2.90E-06	291.7	SSW
SW	445.	1.71E-04	8.45E-05	5.95E-05	2.78E-05	9.31E-06	2.44E-06	4.0	SW
WSW	445.	1.94E-04	9.80E-05	6.97E-05	3.32E-05	1.15E-05	3.13E-06	5.5	WSW
W	445.	3.70E-04	1.86E-04	1.32E-04	6.23E-05	2.13E-05	5.73E-06	12.2	W
WNW	445.	3.75E-04	1.81E-04	1.26E-04	5.69E-05	1.83E-05	4.54E-06	13.8	WNW
NW	445.	3.69E-04	1.79E-04	1.24E-04	5.66E-05	1.83E-05	4.58E-06	12.8	NW
NNW	445.	4.24E-04	2.11E-04	1.49E-04	6.99E-05	2.36E-05	6.24E-06	17.0	NNW
N	445.	5.06E-04	2.52E-04	1.77E-04	8.30E-05	2.79E-05	7.35E-06	24.1	N
NNE	445.	4.04E-04	2.03E-04	1.44E-04	6.81E-05	2.33E-05	6.25E-06	18.3	NNE
NE	445.	3.74E-04	1.89E-04	1.34E-04	6.39E-05	2.20E-05	5.99E-06	19.4	NE
ENE	445.	3.93E-04	1.95E-04	1.38E-04	6.43E-05	2.16E-05	5.67E-06	21.2	ENE
E	445.	4.89E-04	2.46E-04	1.74E-04	8.27E-05	2.83E-05	7.63E-06	28.7	E
ESE	445.	5.24E-04	2.61E-04	1.84E-04	8.66E-05	2.93E-05	7.76E-06	33.5	ESE
SE	445.	6.18E-04	3.08E-04	2.17E-04	1.02E-04	3.44E-05	9.12E-06	43.7	SE
SSE	445.	4.26E-04	2.11E-04	1.48E-04	6.89E-05	2.30E-05	6.00E-06	24.8	SSE
MAX X/Q		6.18E-04				TOTAL HOURS AROUND SITE:		580.9	
SRP 2.3.4	445.	6.70E-04	3.29E-04	2.31E-04	1.07E-04	3.53E-05	9.12E-06		
SITE LIMIT		5.16E-04	2.65E-04	1.90E-04	9.20E-05	3.25E-05	9.12E-06		

THE FIVE-PERCENT-FOR-THE-ENTIRE-SITE X/Q IS LIMITING.

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

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.1	0.04	4828.	0.	0.	776.3	1000.0	776.3	3.812E-07	3.810E-07	3.810E-07
A	2.1	0.08	4828.	0.	0.	776.3	1000.0	776.3	1.964E-07	1.963E-07	1.963E-07
A	3.1	0.62	4828.	0.	0.	776.3	1000.0	776.3	1.313E-07	1.313E-07	1.313E-07
A	4.1	1.50	4828.	0.	0.	776.3	1000.0	776.3	9.887E-08	9.881E-08	9.881E-08
A	5.2	0.73	4828.	0.	0.	776.3	1000.0	776.3	7.927E-08	7.923E-08	7.923E-08
A	6.2	0.39	4828.	0.	0.	776.3	1000.0	776.3	6.621E-08	6.617E-08	6.617E-08
A	8.2	0.54	4828.	0.	0.	776.3	1000.0	776.3	4.974E-08	4.971E-08	4.971E-08
B	1.6	0.12	4828.	0.	0.	583.8	611.7	583.8	5.611E-07	5.604E-07	5.604E-07
B	2.1	0.19	4828.	0.	0.	583.8	611.7	583.8	4.270E-07	4.265E-07	4.265E-07
B	3.1	0.73	4828.	0.	0.	583.8	611.7	583.8	2.855E-07	2.851E-07	2.851E-07
B	4.1	0.85	4828.	0.	0.	583.8	611.7	583.8	2.149E-07	2.146E-07	2.146E-07
B	5.2	1.50	4828.	0.	0.	583.8	611.7	583.8	1.723E-07	1.721E-07	1.721E-07
B	6.2	0.50	4828.	0.	0.	583.8	611.7	583.8	1.439E-07	1.437E-07	1.437E-07
B	8.2	0.39	4828.	0.	0.	583.8	611.7	583.8	1.081E-07	1.080E-07	1.080E-07
B	10.3	0.08	4828.	0.	0.	583.8	611.7	583.8	8.693E-08	8.681E-08	8.681E-08
B	25.2	0.12	4828.	0.	0.	583.8	611.7	583.8	3.540E-08	3.536E-08	3.536E-08
C	1.1	0.08	4828.	0.	0.	443.4	256.4	443.4	2.603E-06	2.592E-06	2.592E-06
C	1.6	0.08	4828.	0.	0.	443.4	256.4	443.4	1.763E-06	1.756E-06	1.756E-06
C	2.1	0.23	4828.	0.	0.	443.4	256.4	443.4	1.341E-06	1.336E-06	1.336E-06
C	3.1	0.81	4828.	0.	0.	443.4	256.4	443.4	8.969E-07	8.932E-07	8.932E-07
C	4.1	1.39	4828.	0.	0.	443.4	256.4	443.4	6.751E-07	6.724E-07	6.724E-07
C	5.2	1.35	4828.	0.	0.	443.4	256.4	443.4	5.413E-07	5.391E-07	5.391E-07
C	6.2	0.69	4828.	0.	0.	443.4	256.4	443.4	4.521E-07	4.503E-07	4.503E-07
C	8.2	0.46	4828.	0.	0.	443.4	256.4	443.4	3.396E-07	3.383E-07	3.383E-07
C	10.3	0.08	4828.	0.	0.	443.4	256.4	443.4	2.731E-07	2.720E-07	2.720E-07
C	25.2	0.08	4828.	0.	0.	443.4	256.4	443.4	1.112E-07	1.108E-07	1.108E-07
D	0.4	0.01	4828.	0.	0.	312.2	87.3	373.8	2.665E-05	3.137E-05	2.665E-05
D	1.1	0.69	4828.	0.	0.	312.2	87.3	373.8	9.072E-06	1.068E-05	9.072E-06
D	1.6	1.23	4828.	0.	0.	312.2	87.3	373.8	6.144E-06	7.232E-06	6.144E-06
D	2.1	4.20	4828.	0.	0.	312.2	87.3	370.5	4.717E-06	5.504E-06	4.717E-06
D	3.1	10.44	4828.	0.	0.	312.2	87.3	343.6	3.400E-06	3.680E-06	3.400E-06
D	4.1	12.60	4828.	0.	0.	312.2	87.3	328.4	2.679E-06	2.770E-06	2.679E-06
D	5.2	14.33	4828.	0.	0.	312.2	87.3	318.2	2.216E-06	2.221E-06	2.216E-06
D	6.2	8.47	4828.	0.	0.	312.2	87.3	312.2	1.886E-06	1.855E-06	1.855E-06

D	8.2	7.59	4828.	0.	0.	312.2	87.3	312.2	1.417E-06	1.393E-06	1.393E-06
D	10.3	1.54	4828.	0.	0.	312.2	87.3	312.2	1.139E-06	1.120E-06	1.120E-06
D	25.2	0.62	4828.	0.	0.	312.2	87.3	312.2	4.641E-07	4.563E-07	4.563E-07
E	0.4	0.01	4828.	0.	0.	222.0	55.4	309.6	4.947E-05	6.647E-05	4.947E-05
E	1.1	1.16	4828.	0.	0.	222.0	55.4	309.6	1.684E-05	2.263E-05	1.684E-05
E	1.6	1.93	4828.	0.	0.	222.0	55.4	309.6	1.140E-05	1.532E-05	1.140E-05
E	2.1	1.73	4828.	0.	0.	222.0	55.4	301.1	8.921E-06	1.166E-05	8.921E-06
E	3.2	5.85	4828.	0.	0.	222.0	55.4	260.4	6.898E-06	7.797E-06	6.898E-06
E	4.2	4.62	4828.	0.	0.	222.0	55.4	240.1	5.632E-06	5.869E-06	5.632E-06
E	5.3	1.77	4828.	0.	0.	222.0	55.4	227.8	4.759E-06	4.706E-06	4.706E-06
E	6.3	0.54	4828.	0.	0.	222.0	55.4	222.0	4.079E-06	3.930E-06	3.930E-06
E	8.4	0.23	4828.	0.	0.	222.0	55.4	222.0	3.064E-06	2.953E-06	2.953E-06
F	0.4	0.01	4828.	0.	0.	153.2	34.5	243.9	1.009E-04	1.477E-04	1.009E-04
F	1.1	0.92	4828.	0.	0.	153.2	34.5	243.9	3.436E-05	5.027E-05	3.436E-05
F	1.6	1.19	4828.	0.	0.	153.2	34.5	243.9	2.327E-05	3.405E-05	2.327E-05
F	2.1	0.77	4828.	0.	0.	153.2	34.5	234.2	1.844E-05	2.591E-05	1.844E-05
F	3.2	1.50	4828.	0.	0.	153.2	34.5	189.9	1.520E-05	1.732E-05	1.520E-05
F	4.2	0.58	4828.	0.	0.	153.2	34.5	169.8	1.280E-05	1.304E-05	1.280E-05
F	5.3	0.04	4828.	0.	0.	153.2	34.5	158.4	1.100E-05	1.045E-05	1.045E-05
G	0.4	0.02	4828.	0.	0.	105.8	21.5	210.1	1.884E-04	3.106E-04	1.884E-04
G	1.1	0.96	4828.	0.	0.	105.8	21.5	210.1	6.413E-05	1.057E-04	6.413E-05
G	1.6	0.27	4828.	0.	0.	105.8	21.5	210.1	4.343E-05	7.161E-05	4.343E-05
G	2.1	0.19	4828.	0.	0.	105.8	21.5	197.3	3.520E-05	5.449E-05	3.520E-05
G	3.2	0.35	4828.	0.	0.	105.8	21.5	143.2	3.242E-05	3.643E-05	3.242E-05
G	4.2	0.04	4828.	0.	0.	105.8	21.5	121.6	2.874E-05	2.743E-05	2.743E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

LOW POPULATION ZONE CALCULATIONS:

S SECTOR BOUNDARY DISTANCE = 4828.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

1.884E-04	1.009E-04	6.413E-05	4.947E-05	4.343E-05	3.520E-05	3.436E-05	3.242E-05	2.743E-05	2.665E-05
0.017	0.025	0.988	1.001	1.271	1.463	2.388	2.734	2.773	2.782
0.00101	0.00149	0.05875	0.05953	0.07556	0.08702	0.14199	0.16261	0.16490	0.16543
2.327E-05	1.844E-05	1.684E-05	1.520E-05	1.280E-05	1.140E-05	1.045E-05	9.072E-06	8.921E-06	6.898E-06
3.976	4.746	5.902	7.404	7.982	9.907	9.946	10.639	12.373	18.227
0.23644	0.28226	0.35098	0.44032	0.47468	0.58921	0.59150	0.63273	0.73581	1.08400
6.144E-06	5.632E-06	4.717E-06	4.706E-06	3.930E-06	3.400E-06	2.953E-06	2.679E-06	2.592E-06	2.216E-06
19.460	24.082	28.280	30.052	30.591	41.030	41.261	53.856	53.933	68.262
1.15730	1.43218	1.68187	1.78724	1.81931	2.44009	2.45383	3.20289	3.20747	4.05960
1.855E-06	1.756E-06	1.393E-06	1.336E-06	1.120E-06	8.932E-07	6.724E-07	5.604E-07	5.391E-07	4.563E-07
76.735	76.812	84.400	84.631	86.172	86.981	88.368	88.483	89.831	90.448
4.56355	4.56814	5.01940	5.03315	5.12477	5.17288	5.25534	5.26222	5.34239	5.37904
4.503E-07	4.265E-07	3.810E-07	3.383E-07	2.851E-07	2.720E-07	2.146E-07	1.963E-07	1.721E-07	1.437E-07
91.141	91.334	91.372	91.834	92.566	92.643	93.491	93.568	95.070	95.570
5.42027	5.43173	5.43402	5.46150	5.50503	5.50961	5.56000	5.56459	5.65392	5.68370
1.313E-07	1.108E-07	1.080E-07	9.881E-08	8.681E-08	7.923E-08	6.617E-08	4.971E-08	3.536E-08	
96.187	96.264	96.649	98.151	98.228	98.960	99.345	99.884	100.000	
5.72035	5.72493	5.74784	5.83718	5.84176	5.88528	5.90819	5.94026	5.94713	

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

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

                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.059
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.162
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.440
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.431
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   1.785
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.056
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.560

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
  1  1      -8.57707 -13.08970  -1.05854
  1  2      -9.65463 -16.98518  -2.25895
  1  3     -10.33672 -17.23053  -2.34231
  1  4     -11.09395 -17.12962  -2.30380
  1  5     -12.08707 -16.52718  -2.02856
  1  6     -12.26668 -16.70947  -2.11535
  1  7     -13.01987 -18.64922  -3.22747
  1  8     -13.19770     NUMXQ(K)=  8
    6.363E-05              0.059              1.000
    3.030E-05              0.178              3.000
    2.067E-05              0.297              5.000
    1.196E-05              0.595             10.000
    8.536E-06              0.892             15.000
    6.651E-06              1.189             20.000
    5.466E-06              1.487             25.000
    4.713E-06              1.784             30.000
    4.122E-06              2.081             35.000
    3.661E-06              2.379             40.000
    3.290E-06              2.676             45.000
    2.985E-06              2.974             50.000
    2.730E-06              3.271             55.000
    2.512E-06              3.568             60.000
    2.325E-06              3.866             65.000
    2.133E-06              4.163             70.000
    1.921E-06              4.460             75.000

    1.375E-05              0.5                8.41

ANNUAL AVERAGE =    1.17E-07

K=  1      FIVEXQ(K)= 1.375E-05      FIVEPR(K)= 8.407
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.1	0.11	4828.	0.	0.	776.3	1000.0	776.3	3.812E-07	3.810E-07	3.810E-07
A	2.1	0.11	4828.	0.	0.	776.3	1000.0	776.3	1.964E-07	1.963E-07	1.963E-07
A	3.1	0.50	4828.	0.	0.	776.3	1000.0	776.3	1.313E-07	1.313E-07	1.313E-07
A	4.1	1.17	4828.	0.	0.	776.3	1000.0	776.3	9.887E-08	9.881E-08	9.881E-08
A	5.2	1.17	4828.	0.	0.	776.3	1000.0	776.3	7.927E-08	7.923E-08	7.923E-08
A	6.2	1.00	4828.	0.	0.	776.3	1000.0	776.3	6.621E-08	6.617E-08	6.617E-08
A	8.2	0.39	4828.	0.	0.	776.3	1000.0	776.3	4.974E-08	4.971E-08	4.971E-08
A	10.3	0.11	4828.	0.	0.	776.3	1000.0	776.3	3.999E-08	3.997E-08	3.997E-08
B	1.1	0.11	4828.	0.	0.	583.8	611.7	583.8	8.286E-07	8.275E-07	8.275E-07
B	1.6	0.17	4828.	0.	0.	583.8	611.7	583.8	5.611E-07	5.604E-07	5.604E-07
B	2.1	0.28	4828.	0.	0.	583.8	611.7	583.8	4.270E-07	4.265E-07	4.265E-07
B	3.1	0.44	4828.	0.	0.	583.8	611.7	583.8	2.855E-07	2.851E-07	2.851E-07
B	4.1	1.11	4828.	0.	0.	583.8	611.7	583.8	2.149E-07	2.146E-07	2.146E-07
B	5.2	1.11	4828.	0.	0.	583.8	611.7	583.8	1.723E-07	1.721E-07	1.721E-07
B	6.2	0.89	4828.	0.	0.	583.8	611.7	583.8	1.439E-07	1.437E-07	1.437E-07
B	8.2	0.17	4828.	0.	0.	583.8	611.7	583.8	1.081E-07	1.080E-07	1.080E-07
B	10.3	0.06	4828.	0.	0.	583.8	611.7	583.8	8.693E-08	8.681E-08	8.681E-08
C	1.1	0.06	4828.	0.	0.	443.4	256.4	443.4	2.603E-06	2.592E-06	2.592E-06
C	1.6	0.06	4828.	0.	0.	443.4	256.4	443.4	1.763E-06	1.756E-06	1.756E-06
C	2.1	0.78	4828.	0.	0.	443.4	256.4	443.4	1.341E-06	1.336E-06	1.336E-06
C	3.1	0.56	4828.	0.	0.	443.4	256.4	443.4	8.969E-07	8.932E-07	8.932E-07
C	4.1	1.44	4828.	0.	0.	443.4	256.4	443.4	6.751E-07	6.724E-07	6.724E-07
C	5.2	0.94	4828.	0.	0.	443.4	256.4	443.4	5.413E-07	5.391E-07	5.391E-07
C	6.2	0.67	4828.	0.	0.	443.4	256.4	443.4	4.521E-07	4.503E-07	4.503E-07
C	8.2	0.50	4828.	0.	0.	443.4	256.4	443.4	3.396E-07	3.383E-07	3.383E-07
C	10.3	0.11	4828.	0.	0.	443.4	256.4	443.4	2.731E-07	2.720E-07	2.720E-07
D	0.4	0.02	4828.	0.	0.	312.2	87.3	373.8	2.665E-05	3.137E-05	2.665E-05
D	1.1	1.39	4828.	0.	0.	312.2	87.3	373.8	9.072E-06	1.068E-05	9.072E-06
D	1.6	2.22	4828.	0.	0.	312.2	87.3	373.8	6.144E-06	7.232E-06	6.144E-06
D	2.1	4.72	4828.	0.	0.	312.2	87.3	370.5	4.717E-06	5.504E-06	4.717E-06
D	3.1	10.33	4828.	0.	0.	312.2	87.3	343.6	3.400E-06	3.680E-06	3.400E-06
D	4.1	9.72	4828.	0.	0.	312.2	87.3	328.4	2.679E-06	2.770E-06	2.679E-06
D	5.2	11.72	4828.	0.	0.	312.2	87.3	318.2	2.216E-06	2.221E-06	2.216E-06
D	6.2	7.39	4828.	0.	0.	312.2	87.3	312.2	1.886E-06	1.855E-06	1.855E-06

D	8.2	10.28	4828.	0.	0.	312.2	87.3	312.2	1.417E-06	1.393E-06	1.393E-06
D	10.3	2.00	4828.	0.	0.	312.2	87.3	312.2	1.139E-06	1.120E-06	1.120E-06
D	25.2	0.22	4828.	0.	0.	312.2	87.3	312.2	4.641E-07	4.563E-07	4.563E-07
E	0.4	0.02	4828.	0.	0.	222.0	55.4	309.6	4.947E-05	6.647E-05	4.947E-05
E	1.1	1.50	4828.	0.	0.	222.0	55.4	309.6	1.684E-05	2.263E-05	1.684E-05
E	1.6	1.89	4828.	0.	0.	222.0	55.4	309.6	1.140E-05	1.532E-05	1.140E-05
E	2.1	2.78	4828.	0.	0.	222.0	55.4	301.1	8.921E-06	1.166E-05	8.921E-06
E	3.2	6.78	4828.	0.	0.	222.0	55.4	260.4	6.898E-06	7.797E-06	6.898E-06
E	4.2	4.83	4828.	0.	0.	222.0	55.4	240.1	5.632E-06	5.869E-06	5.632E-06
E	5.3	1.56	4828.	0.	0.	222.0	55.4	227.8	4.759E-06	4.706E-06	4.706E-06
E	6.3	0.56	4828.	0.	0.	222.0	55.4	222.0	4.079E-06	3.930E-06	3.930E-06
E	8.4	0.22	4828.	0.	0.	222.0	55.4	222.0	3.064E-06	2.953E-06	2.953E-06
F	0.4	0.01	4828.	0.	0.	153.2	34.5	243.9	1.009E-04	1.477E-04	1.009E-04
F	1.1	1.17	4828.	0.	0.	153.2	34.5	243.9	3.436E-05	5.027E-05	3.436E-05
F	1.6	0.67	4828.	0.	0.	153.2	34.5	243.9	2.327E-05	3.405E-05	2.327E-05
F	2.1	1.06	4828.	0.	0.	153.2	34.5	234.2	1.844E-05	2.591E-05	1.844E-05
F	3.2	1.78	4828.	0.	0.	153.2	34.5	189.9	1.520E-05	1.732E-05	1.520E-05
F	4.2	0.33	4828.	0.	0.	153.2	34.5	169.8	1.280E-05	1.304E-05	1.280E-05
F	5.3	0.06	4828.	0.	0.	153.2	34.5	158.4	1.100E-05	1.045E-05	1.045E-05
G	0.4	0.01	4828.	0.	0.	105.8	21.5	210.1	1.884E-04	3.106E-04	1.884E-04
G	1.1	0.50	4828.	0.	0.	105.8	21.5	210.1	6.413E-05	1.057E-04	6.413E-05
G	1.6	0.17	4828.	0.	0.	105.8	21.5	210.1	4.343E-05	7.161E-05	4.343E-05
G	2.1	0.06	4828.	0.	0.	105.8	21.5	197.3	3.520E-05	5.449E-05	3.520E-05
G	3.2	0.06	4828.	0.	0.	105.8	21.5	143.2	3.242E-05	3.643E-05	3.242E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

LOW POPULATION ZONE CALCULATIONS:

SSW SECTOR BOUNDARY DISTANCE = 4828.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

1.884E-04	1.009E-04	6.413E-05	4.947E-05	4.343E-05	3.520E-05	3.436E-05	3.242E-05	2.665E-05	2.327E-05
0.009	0.019	0.519	0.536	0.703	0.758	1.925	1.980	1.998	2.665
0.00036	0.00078	0.02140	0.02210	0.02897	0.03126	0.07936	0.08165	0.08239	0.10988
1.844E-05	1.684E-05	1.520E-05	1.280E-05	1.140E-05	1.045E-05	9.072E-06	8.921E-06	6.898E-06	6.144E-06
3.721	5.221	6.998	7.332	9.221	9.276	10.665	13.443	20.221	22.443
0.15340	0.21525	0.28855	0.30230	0.38018	0.38247	0.43974	0.55427	0.83374	0.92537
5.632E-06	4.717E-06	4.706E-06	3.930E-06	3.400E-06	2.953E-06	2.679E-06	2.592E-06	2.216E-06	1.855E-06
27.277	31.999	33.554	34.110	44.443	44.666	54.388	54.444	66.166	73.555
1.12466	1.31936	1.38350	1.40641	1.83248	1.84164	2.24251	2.24480	2.72814	3.03280
1.756E-06	1.393E-06	1.336E-06	1.120E-06	8.932E-07	8.275E-07	6.724E-07	5.604E-07	5.391E-07	4.563E-07
73.611	83.889	84.666	86.666	87.222	87.333	88.778	88.944	89.889	90.111
3.03509	3.45887	3.49094	3.57340	3.59631	3.60089	3.66045	3.66732	3.70626	3.71543
4.503E-07	4.265E-07	3.810E-07	3.383E-07	2.851E-07	2.720E-07	2.146E-07	1.963E-07	1.721E-07	1.437E-07
90.778	91.055	91.167	91.667	92.111	92.222	93.333	93.444	94.555	95.444
3.74291	3.75437	3.75895	3.77956	3.79789	3.80247	3.84829	3.85287	3.89868	3.93533
1.313E-07	1.080E-07	9.881E-08	8.681E-08	7.923E-08	6.617E-08	4.971E-08	3.997E-08		
95.944	96.111	97.278	97.333	98.500	99.500	99.889	100.000		
3.95595	3.96282	4.01092	4.01322	4.06132	4.10255	4.11859	4.12317		

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

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.021
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.079
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.288
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.123
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   1.382
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   2.725
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   3.030
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   3.456
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
2	1	-8.57707	-13.59395	-1.11837
2	2	-9.65463	-15.69505	-1.71486
2	3	-10.27864	-16.75494	-2.05043
2	4	-11.09395	-16.82408	-2.07547
2	5	-12.08707	-17.21115	-2.24506
2	6	-12.26668	-18.19933	-2.69375
2	7	-13.01987	-20.39588	-3.83614
2	8	-13.19770	-22.33334	-4.86867
2	9	-13.48372	NUMXQ(K)= 9	

4.728E-05	0.041	1.000
2.623E-05	0.124	3.000
1.897E-05	0.206	5.000
1.188E-05	0.412	10.000
8.881E-06	0.618	15.000
7.163E-06	0.825	20.000
6.031E-06	1.031	25.000
5.189E-06	1.237	30.000
4.501E-06	1.443	35.000
3.901E-06	1.649	40.000
3.430E-06	1.855	45.000
3.052E-06	2.062	50.000
2.741E-06	2.268	55.000
2.482E-06	2.474	60.000
2.262E-06	2.680	65.000
2.017E-06	2.886	70.000
1.779E-06	3.092	75.000
1.546E-06	3.299	80.000
1.036E-05	0.5	12.13

ANNUAL AVERAGE = 8.25E-08

K= 2 FIVEXQ(K)= 1.036E-05 FIVEPR(K)=12.127

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	2.1	0.06	4828.	0.	0.	776.3	1000.0	776.3	1.964E-07	1.963E-07	1.963E-07
A	3.1	0.63	4828.	0.	0.	776.3	1000.0	776.3	1.313E-07	1.313E-07	1.313E-07
A	4.1	0.69	4828.	0.	0.	776.3	1000.0	776.3	9.887E-08	9.881E-08	9.881E-08
A	5.2	0.44	4828.	0.	0.	776.3	1000.0	776.3	7.927E-08	7.923E-08	7.923E-08
A	6.2	0.31	4828.	0.	0.	776.3	1000.0	776.3	6.621E-08	6.617E-08	6.617E-08
A	8.2	0.19	4828.	0.	0.	776.3	1000.0	776.3	4.974E-08	4.971E-08	4.971E-08
B	2.1	0.06	4828.	0.	0.	583.8	611.7	583.8	4.270E-07	4.265E-07	4.265E-07
B	3.1	0.31	4828.	0.	0.	583.8	611.7	583.8	2.855E-07	2.851E-07	2.851E-07
B	4.1	0.50	4828.	0.	0.	583.8	611.7	583.8	2.149E-07	2.146E-07	2.146E-07
B	5.2	0.57	4828.	0.	0.	583.8	611.7	583.8	1.723E-07	1.721E-07	1.721E-07
B	6.2	0.19	4828.	0.	0.	583.8	611.7	583.8	1.439E-07	1.437E-07	1.437E-07
B	8.2	0.50	4828.	0.	0.	583.8	611.7	583.8	1.081E-07	1.080E-07	1.080E-07
C	1.6	0.06	4828.	0.	0.	443.4	256.4	443.4	1.763E-06	1.756E-06	1.756E-06
C	2.1	0.57	4828.	0.	0.	443.4	256.4	443.4	1.341E-06	1.336E-06	1.336E-06
C	3.1	0.82	4828.	0.	0.	443.4	256.4	443.4	8.969E-07	8.932E-07	8.932E-07
C	4.1	1.01	4828.	0.	0.	443.4	256.4	443.4	6.751E-07	6.724E-07	6.724E-07
C	5.2	0.82	4828.	0.	0.	443.4	256.4	443.4	5.413E-07	5.391E-07	5.391E-07
C	6.2	0.63	4828.	0.	0.	443.4	256.4	443.4	4.521E-07	4.503E-07	4.503E-07
C	8.2	0.25	4828.	0.	0.	443.4	256.4	443.4	3.396E-07	3.383E-07	3.383E-07
C	10.3	0.13	4828.	0.	0.	443.4	256.4	443.4	2.731E-07	2.720E-07	2.720E-07
D	0.4	0.01	4828.	0.	0.	312.2	87.3	373.8	2.665E-05	3.137E-05	2.665E-05
D	1.1	1.01	4828.	0.	0.	312.2	87.3	373.8	9.072E-06	1.068E-05	9.072E-06
D	1.6	3.27	4828.	0.	0.	312.2	87.3	373.8	6.144E-06	7.232E-06	6.144E-06
D	2.1	4.53	4828.	0.	0.	312.2	87.3	370.5	4.717E-06	5.504E-06	4.717E-06
D	3.1	10.39	4828.	0.	0.	312.2	87.3	343.6	3.400E-06	3.680E-06	3.400E-06
D	4.1	8.57	4828.	0.	0.	312.2	87.3	328.4	2.679E-06	2.770E-06	2.679E-06
D	5.2	8.88	4828.	0.	0.	312.2	87.3	318.2	2.216E-06	2.221E-06	2.216E-06
D	6.2	7.62	4828.	0.	0.	312.2	87.3	312.2	1.886E-06	1.855E-06	1.855E-06
D	8.2	13.67	4828.	0.	0.	312.2	87.3	312.2	1.417E-06	1.393E-06	1.393E-06
D	10.3	5.35	4828.	0.	0.	312.2	87.3	312.2	1.139E-06	1.120E-06	1.120E-06
D	25.2	1.01	4828.	0.	0.	312.2	87.3	312.2	4.641E-07	4.563E-07	4.563E-07
E	0.4	0.02	4828.	0.	0.	222.0	55.4	309.6	4.947E-05	6.647E-05	4.947E-05
E	1.1	1.89	4828.	0.	0.	222.0	55.4	309.6	1.684E-05	2.263E-05	1.684E-05

E	1.6	1.95	4828.	0.	0.	222.0	55.4	309.6	1.140E-05	1.532E-05	1.140E-05
E	2.1	1.89	4828.	0.	0.	222.0	55.4	301.1	8.921E-06	1.166E-05	8.921E-06
E	3.2	5.42	4828.	0.	0.	222.0	55.4	260.4	6.898E-06	7.797E-06	6.898E-06
E	4.2	5.73	4828.	0.	0.	222.0	55.4	240.1	5.632E-06	5.869E-06	5.632E-06
E	5.3	3.21	4828.	0.	0.	222.0	55.4	227.8	4.759E-06	4.706E-06	4.706E-06
E	6.3	2.33	4828.	0.	0.	222.0	55.4	222.0	4.079E-06	3.930E-06	3.930E-06
E	8.4	0.50	4828.	0.	0.	222.0	55.4	222.0	3.064E-06	2.953E-06	2.953E-06
F	0.4	0.01	4828.	0.	0.	153.2	34.5	243.9	1.009E-04	1.477E-04	1.009E-04
F	1.1	1.13	4828.	0.	0.	153.2	34.5	243.9	3.436E-05	5.027E-05	3.436E-05
F	1.6	0.44	4828.	0.	0.	153.2	34.5	243.9	2.327E-05	3.405E-05	2.327E-05
F	2.1	0.57	4828.	0.	0.	153.2	34.5	234.2	1.844E-05	2.591E-05	1.844E-05
F	3.2	0.88	4828.	0.	0.	153.2	34.5	189.9	1.520E-05	1.732E-05	1.520E-05
F	4.2	0.25	4828.	0.	0.	153.2	34.5	169.8	1.280E-05	1.304E-05	1.280E-05
G	0.4	0.01	4828.	0.	0.	105.8	21.5	210.1	1.884E-04	3.106E-04	1.884E-04
G	1.1	0.50	4828.	0.	0.	105.8	21.5	210.1	6.413E-05	1.057E-04	6.413E-05
G	1.6	0.13	4828.	0.	0.	105.8	21.5	210.1	4.343E-05	7.161E-05	4.343E-05
G	2.1	0.06	4828.	0.	0.	105.8	21.5	197.3	3.520E-05	5.449E-05	3.520E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 4828.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

1.884E-04	1.009E-04	6.413E-05	4.947E-05	4.343E-05	3.520E-05	3.436E-05	2.665E-05	2.327E-05	1.844E-05
0.009	0.019	0.523	0.544	0.670	0.733	1.866	1.879	2.320	2.887
0.00032	0.00068	0.01901	0.01978	0.02436	0.02666	0.06789	0.06836	0.08440	0.10501
1.684E-05	1.520E-05	1.280E-05	1.140E-05	9.072E-06	8.921E-06	6.898E-06	6.144E-06	5.632E-06	4.717E-06
4.776	5.658	5.910	7.862	8.870	10.759	16.176	19.450	25.182	29.716
0.17373	0.20580	0.21496	0.28598	0.32263	0.39135	0.58835	0.70746	0.91592	1.08084
4.706E-06	3.930E-06	3.400E-06	2.953E-06	2.679E-06	2.216E-06	1.855E-06	1.756E-06	1.393E-06	1.336E-06
32.928	35.258	45.650	46.153	54.718	63.598	71.219	71.282	84.948	85.515
1.19767	1.28243	1.66039	1.67871	1.99025	2.31324	2.59041	2.59270	3.08978	3.11039
1.120E-06	8.932E-07	6.724E-07	5.391E-07	4.563E-07	4.503E-07	4.265E-07	3.383E-07	2.851E-07	2.720E-07
90.868	91.687	92.694	93.513	94.521	95.151	95.214	95.466	95.780	95.906
3.30510	3.33488	3.37153	3.40131	3.43796	3.46087	3.46316	3.47232	3.48378	3.48836
2.146E-07	1.963E-07	1.721E-07	1.437E-07	1.313E-07	1.080E-07	9.881E-08	7.923E-08	6.617E-08	4.971E-08
96.410	96.473	97.040	97.229	97.859	98.363	99.055	99.496	99.811	100.000
3.50668	3.50897	3.52959	3.53646	3.55937	3.57769	3.60289	3.61893	3.63038	3.63725

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.019
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.068
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.206
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.196
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   1.659
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   2.311
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   2.588
```

```
 K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
 3  1      -8.57707 -13.65483  -1.12565
 3  2      -9.65463 -15.99180  -1.78327
 3  3     -10.27864 -18.09280  -2.43907
 3  4     -11.09395 -16.60010  -1.91887
 3  5     -12.26668 -17.98582  -2.53248
 3  6     -12.59163 -19.26928  -3.13504
 3  7     -13.01987 -20.36619  -3.68531
 3  8     -13.19770     NUMXQ(K)=  8
   4.698E-05              0.036              1.000
   2.447E-05              0.109              3.000
   1.672E-05              0.182              5.000
   1.066E-05              0.364             10.000
   8.172E-06              0.546             15.000
   6.718E-06              0.727             20.000
   5.744E-06              0.909             25.000
   5.038E-06              1.091             30.000
   4.434E-06              1.273             35.000
   3.885E-06              1.455             40.000
   3.450E-06              1.637             45.000
   3.030E-06              1.819             50.000
   2.680E-06              2.000             55.000
   2.393E-06              2.182             60.000
   2.142E-06              2.364             65.000
   1.906E-06              2.546             70.000

   8.661E-06              0.5               13.75

ANNUAL AVERAGE =   7.07E-08

K=  3     FIVEXQ(K)= 8.661E-06     FIVEPR(K)=13.747
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.1	0.10	4828.	0.	0.	776.3	1000.0	776.3	3.812E-07	3.810E-07	3.810E-07
A	2.1	0.10	4828.	0.	0.	776.3	1000.0	776.3	1.964E-07	1.963E-07	1.963E-07
A	3.1	0.34	4828.	0.	0.	776.3	1000.0	776.3	1.313E-07	1.313E-07	1.313E-07
A	4.1	0.43	4828.	0.	0.	776.3	1000.0	776.3	9.887E-08	9.881E-08	9.881E-08
A	5.2	0.58	4828.	0.	0.	776.3	1000.0	776.3	7.927E-08	7.923E-08	7.923E-08
A	6.2	0.39	4828.	0.	0.	776.3	1000.0	776.3	6.621E-08	6.617E-08	6.617E-08
A	8.2	0.77	4828.	0.	0.	776.3	1000.0	776.3	4.974E-08	4.971E-08	4.971E-08
A	10.3	0.29	4828.	0.	0.	776.3	1000.0	776.3	3.999E-08	3.997E-08	3.997E-08
B	1.1	0.10	4828.	0.	0.	583.8	611.7	583.8	8.286E-07	8.275E-07	8.275E-07
B	1.6	0.05	4828.	0.	0.	583.8	611.7	583.8	5.611E-07	5.604E-07	5.604E-07
B	3.1	0.43	4828.	0.	0.	583.8	611.7	583.8	2.855E-07	2.851E-07	2.851E-07
B	4.1	0.34	4828.	0.	0.	583.8	611.7	583.8	2.149E-07	2.146E-07	2.146E-07
B	5.2	0.19	4828.	0.	0.	583.8	611.7	583.8	1.723E-07	1.721E-07	1.721E-07
B	6.2	0.24	4828.	0.	0.	583.8	611.7	583.8	1.439E-07	1.437E-07	1.437E-07
B	8.2	0.68	4828.	0.	0.	583.8	611.7	583.8	1.081E-07	1.080E-07	1.080E-07
B	10.3	0.19	4828.	0.	0.	583.8	611.7	583.8	8.693E-08	8.681E-08	8.681E-08
C	1.6	0.05	4828.	0.	0.	443.4	256.4	443.4	1.763E-06	1.756E-06	1.756E-06
C	2.1	0.19	4828.	0.	0.	443.4	256.4	443.4	1.341E-06	1.336E-06	1.336E-06
C	3.1	0.58	4828.	0.	0.	443.4	256.4	443.4	8.969E-07	8.932E-07	8.932E-07
C	4.1	0.43	4828.	0.	0.	443.4	256.4	443.4	6.751E-07	6.724E-07	6.724E-07
C	5.2	0.82	4828.	0.	0.	443.4	256.4	443.4	5.413E-07	5.391E-07	5.391E-07
C	6.2	0.34	4828.	0.	0.	443.4	256.4	443.4	4.521E-07	4.503E-07	4.503E-07
C	8.2	0.48	4828.	0.	0.	443.4	256.4	443.4	3.396E-07	3.383E-07	3.383E-07
C	10.3	0.05	4828.	0.	0.	443.4	256.4	443.4	2.731E-07	2.720E-07	2.720E-07
D	0.4	0.01	4828.	0.	0.	312.2	87.3	373.8	2.665E-05	3.137E-05	2.665E-05
D	1.1	0.82	4828.	0.	0.	312.2	87.3	373.8	9.072E-06	1.068E-05	9.072E-06
D	1.6	2.17	4828.	0.	0.	312.2	87.3	373.8	6.144E-06	7.232E-06	6.144E-06
D	2.1	2.56	4828.	0.	0.	312.2	87.3	370.5	4.717E-06	5.504E-06	4.717E-06
D	3.1	7.62	4828.	0.	0.	312.2	87.3	343.6	3.400E-06	3.680E-06	3.400E-06
D	4.1	9.07	4828.	0.	0.	312.2	87.3	328.4	2.679E-06	2.770E-06	2.679E-06
D	5.2	13.12	4828.	0.	0.	312.2	87.3	318.2	2.216E-06	2.221E-06	2.216E-06
D	6.2	9.21	4828.	0.	0.	312.2	87.3	312.2	1.886E-06	1.855E-06	1.855E-06
D	8.2	11.19	4828.	0.	0.	312.2	87.3	312.2	1.417E-06	1.393E-06	1.393E-06
D	10.3	1.78	4828.	0.	0.	312.2	87.3	312.2	1.139E-06	1.120E-06	1.120E-06

E	0.4	0.01	4828.	0.	0.	222.0	55.4	309.6	4.947E-05	6.647E-05	4.947E-05
E	1.1	1.30	4828.	0.	0.	222.0	55.4	309.6	1.684E-05	2.263E-05	1.684E-05
E	1.6	2.07	4828.	0.	0.	222.0	55.4	309.6	1.140E-05	1.532E-05	1.140E-05
E	2.1	2.07	4828.	0.	0.	222.0	55.4	301.1	8.921E-06	1.166E-05	8.921E-06
E	3.2	6.18	4828.	0.	0.	222.0	55.4	260.4	6.898E-06	7.797E-06	6.898E-06
E	4.2	6.61	4828.	0.	0.	222.0	55.4	240.1	5.632E-06	5.869E-06	5.632E-06
E	5.3	5.31	4828.	0.	0.	222.0	55.4	227.8	4.759E-06	4.706E-06	4.706E-06
E	6.3	2.99	4828.	0.	0.	222.0	55.4	222.0	4.079E-06	3.930E-06	3.930E-06
E	8.4	1.74	4828.	0.	0.	222.0	55.4	222.0	3.064E-06	2.953E-06	2.953E-06
E	10.5	0.05	4828.	0.	0.	222.0	55.4	222.0	2.464E-06	2.374E-06	2.374E-06
F	0.4	0.00	4828.	0.	0.	153.2	34.5	243.9	1.009E-04	1.477E-04	1.009E-04
F	1.1	0.43	4828.	0.	0.	153.2	34.5	243.9	3.436E-05	5.027E-05	3.436E-05
F	1.6	0.53	4828.	0.	0.	153.2	34.5	243.9	2.327E-05	3.405E-05	2.327E-05
F	2.1	0.63	4828.	0.	0.	153.2	34.5	234.2	1.844E-05	2.591E-05	1.844E-05
F	3.2	1.25	4828.	0.	0.	153.2	34.5	189.9	1.520E-05	1.732E-05	1.520E-05
F	4.2	1.06	4828.	0.	0.	153.2	34.5	169.8	1.280E-05	1.304E-05	1.280E-05
F	5.3	0.39	4828.	0.	0.	153.2	34.5	158.4	1.100E-05	1.045E-05	1.045E-05
F	8.4	0.05	4828.	0.	0.	153.2	34.5	153.2	7.136E-06	6.560E-06	6.560E-06
G	0.4	0.01	4828.	0.	0.	105.8	21.5	210.1	1.884E-04	3.106E-04	1.884E-04
G	1.1	0.72	4828.	0.	0.	105.8	21.5	210.1	6.413E-05	1.057E-04	6.413E-05
G	1.6	0.39	4828.	0.	0.	105.8	21.5	210.1	4.343E-05	7.161E-05	4.343E-05
G	2.1	0.14	4828.	0.	0.	105.8	21.5	197.3	3.520E-05	5.449E-05	3.520E-05
G	3.2	0.10	4828.	0.	0.	105.8	21.5	143.2	3.242E-05	3.643E-05	3.242E-05
G	4.2	0.14	4828.	0.	0.	105.8	21.5	121.6	2.874E-05	2.743E-05	2.743E-05
G	5.3	0.10	4828.	0.	0.	105.8	21.5	110.5	2.536E-05	2.199E-05	2.199E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 4828.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

1.884E-04	1.009E-04	6.413E-05	4.947E-05	4.343E-05	3.520E-05	3.436E-05	3.242E-05	2.743E-05	2.665E-05
0.013	0.017	0.740	0.755	1.141	1.286	1.720	1.816	1.961	1.972
0.00060	0.00078	0.03514	0.03584	0.05417	0.06104	0.08166	0.08624	0.09311	0.09361
2.327E-05	2.199E-05	1.844E-05	1.684E-05	1.520E-05	1.280E-05	1.140E-05	1.045E-05	9.072E-06	8.921E-06
2.502	2.599	3.226	4.528	5.783	6.844	8.918	9.304	10.124	12.199
0.11881	0.12339	0.15317	0.21502	0.27458	0.32497	0.42347	0.44180	0.48074	0.57924
6.898E-06	6.560E-06	6.144E-06	5.632E-06	4.717E-06	4.706E-06	3.930E-06	3.400E-06	2.953E-06	2.679E-06
18.374	18.422	20.593	27.202	29.759	35.066	38.057	45.679	47.416	56.485
0.87245	0.87474	0.97782	1.29164	1.41305	1.66503	1.80705	2.16898	2.25144	2.68209
2.374E-06	2.216E-06	1.855E-06	1.756E-06	1.393E-06	1.336E-06	1.120E-06	8.932E-07	8.275E-07	6.724E-07
56.534	69.656	78.870	78.918	90.110	90.303	92.088	92.667	92.764	93.198
2.68438	3.30745	3.74497	3.74726	4.27870	4.28786	4.37262	4.40011	4.40469	4.42530
5.604E-07	5.391E-07	4.503E-07	3.810E-07	3.383E-07	2.851E-07	2.720E-07	2.146E-07	1.963E-07	1.721E-07
93.246	94.066	94.404	94.500	94.983	95.417	95.465	95.803	95.899	96.092
4.42759	4.46654	4.48257	4.48715	4.51006	4.53068	4.53297	4.54900	4.55358	4.56275
1.437E-07	1.313E-07	1.080E-07	9.881E-08	8.681E-08	7.923E-08	6.617E-08	4.971E-08	3.997E-08	
96.334	96.671	97.347	97.781	97.974	98.553	98.939	99.711	100.000	
4.57420	4.59023	4.62230	4.64292	4.65208	4.67957	4.69790	4.73455	4.74829	

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.035
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.082
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.274
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.290
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   1.663
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.304
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   3.742

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
  4  1      -8.57707 -13.35368  -1.09160
  4  2      -9.65463 -18.52216  -2.61683
  4  3     -10.27864 -17.16181  -2.18500
  4  4     -11.09395 -16.12766  -1.81261
  4  5     -12.08707 -16.07988  -1.79117
  4  6     -12.26668 -17.77572  -2.58776
  4  7     -13.01987 -18.81989  -3.15591
  4  8     -13.19770     NUMXQ(K)=  8
    5.155E-05              0.047              1.000
    2.389E-05              0.142              3.000
    1.685E-05              0.237              5.000
    1.091E-05              0.475             10.000
    8.426E-06              0.712             15.000
    6.962E-06              0.950             20.000
    5.974E-06              1.187             25.000
    5.259E-06              1.424             30.000
    4.712E-06              1.662             35.000
    4.098E-06              1.899             40.000
    3.613E-06              2.137             45.000
    3.221E-06              2.374             50.000
    2.899E-06              2.612             55.000
    2.629E-06              2.849             60.000
    2.400E-06              3.086             65.000
    2.200E-06              3.324             70.000
    1.994E-06              3.561             75.000

    1.057E-05              0.5               10.53

ANNUAL AVERAGE =    8.99E-08

K=  4      FIVEXQ(K)= 1.057E-05      FIVEPR(K)=10.530
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.1	0.08	4828.	0.	0.	776.3	1000.0	776.3	3.812E-07	3.810E-07	3.810E-07
A	2.1	0.12	4828.	0.	0.	776.3	1000.0	776.3	1.964E-07	1.963E-07	1.963E-07
A	3.1	0.56	4828.	0.	0.	776.3	1000.0	776.3	1.313E-07	1.313E-07	1.313E-07
A	4.1	1.01	4828.	0.	0.	776.3	1000.0	776.3	9.887E-08	9.881E-08	9.881E-08
A	5.2	0.73	4828.	0.	0.	776.3	1000.0	776.3	7.927E-08	7.923E-08	7.923E-08
A	6.2	0.04	4828.	0.	0.	776.3	1000.0	776.3	6.621E-08	6.617E-08	6.617E-08
A	8.2	0.08	4828.	0.	0.	776.3	1000.0	776.3	4.974E-08	4.971E-08	4.971E-08
B	1.1	0.08	4828.	0.	0.	583.8	611.7	583.8	8.286E-07	8.275E-07	8.275E-07
B	1.6	0.12	4828.	0.	0.	583.8	611.7	583.8	5.611E-07	5.604E-07	5.604E-07
B	2.1	0.12	4828.	0.	0.	583.8	611.7	583.8	4.270E-07	4.265E-07	4.265E-07
B	3.1	0.56	4828.	0.	0.	583.8	611.7	583.8	2.855E-07	2.851E-07	2.851E-07
B	4.1	0.85	4828.	0.	0.	583.8	611.7	583.8	2.149E-07	2.146E-07	2.146E-07
B	5.2	0.61	4828.	0.	0.	583.8	611.7	583.8	1.723E-07	1.721E-07	1.721E-07
B	6.2	0.16	4828.	0.	0.	583.8	611.7	583.8	1.439E-07	1.437E-07	1.437E-07
B	8.2	0.08	4828.	0.	0.	583.8	611.7	583.8	1.081E-07	1.080E-07	1.080E-07
C	1.1	0.04	4828.	0.	0.	443.4	256.4	443.4	2.603E-06	2.592E-06	2.592E-06
C	1.6	0.16	4828.	0.	0.	443.4	256.4	443.4	1.763E-06	1.756E-06	1.756E-06
C	2.1	0.40	4828.	0.	0.	443.4	256.4	443.4	1.341E-06	1.336E-06	1.336E-06
C	3.1	1.98	4828.	0.	0.	443.4	256.4	443.4	8.969E-07	8.932E-07	8.932E-07
C	4.1	1.17	4828.	0.	0.	443.4	256.4	443.4	6.751E-07	6.724E-07	6.724E-07
C	5.2	0.44	4828.	0.	0.	443.4	256.4	443.4	5.413E-07	5.391E-07	5.391E-07
C	6.2	0.20	4828.	0.	0.	443.4	256.4	443.4	4.521E-07	4.503E-07	4.503E-07
C	8.2	0.08	4828.	0.	0.	443.4	256.4	443.4	3.396E-07	3.383E-07	3.383E-07
D	0.4	0.01	4828.	0.	0.	312.2	87.3	373.8	2.665E-05	3.137E-05	2.665E-05
D	1.1	0.89	4828.	0.	0.	312.2	87.3	373.8	9.072E-06	1.068E-05	9.072E-06
D	1.6	2.38	4828.	0.	0.	312.2	87.3	373.8	6.144E-06	7.232E-06	6.144E-06
D	2.1	4.32	4828.	0.	0.	312.2	87.3	370.5	4.717E-06	5.504E-06	4.717E-06
D	3.1	11.86	4828.	0.	0.	312.2	87.3	343.6	3.400E-06	3.680E-06	3.400E-06
D	4.1	9.00	4828.	0.	0.	312.2	87.3	328.4	2.679E-06	2.770E-06	2.679E-06
D	5.2	6.90	4828.	0.	0.	312.2	87.3	318.2	2.216E-06	2.221E-06	2.216E-06
D	6.2	2.87	4828.	0.	0.	312.2	87.3	312.2	1.886E-06	1.855E-06	1.855E-06
D	8.2	1.41	4828.	0.	0.	312.2	87.3	312.2	1.417E-06	1.393E-06	1.393E-06
D	10.3	0.04	4828.	0.	0.	312.2	87.3	312.2	1.139E-06	1.120E-06	1.120E-06

E	0.4	0.02	4828.	0.	0.	222.0	55.4	309.6	4.947E-05	6.647E-05	4.947E-05
E	1.1	1.49	4828.	0.	0.	222.0	55.4	309.6	1.684E-05	2.263E-05	1.684E-05
E	1.6	3.79	4828.	0.	0.	222.0	55.4	309.6	1.140E-05	1.532E-05	1.140E-05
E	2.1	6.21	4828.	0.	0.	222.0	55.4	301.1	8.921E-06	1.166E-05	8.921E-06
E	3.2	13.28	4828.	0.	0.	222.0	55.4	260.4	6.898E-06	7.797E-06	6.898E-06
E	4.2	6.01	4828.	0.	0.	222.0	55.4	240.1	5.632E-06	5.869E-06	5.632E-06
E	5.3	1.61	4828.	0.	0.	222.0	55.4	227.8	4.759E-06	4.706E-06	4.706E-06
E	6.3	0.65	4828.	0.	0.	222.0	55.4	222.0	4.079E-06	3.930E-06	3.930E-06
E	8.4	0.28	4828.	0.	0.	222.0	55.4	222.0	3.064E-06	2.953E-06	2.953E-06
F	0.4	0.01	4828.	0.	0.	153.2	34.5	243.9	1.009E-04	1.477E-04	1.009E-04
F	1.1	0.61	4828.	0.	0.	153.2	34.5	243.9	3.436E-05	5.027E-05	3.436E-05
F	1.6	2.18	4828.	0.	0.	153.2	34.5	243.9	2.327E-05	3.405E-05	2.327E-05
F	2.1	4.12	4828.	0.	0.	153.2	34.5	234.2	1.844E-05	2.591E-05	1.844E-05
F	3.2	4.68	4828.	0.	0.	153.2	34.5	189.9	1.520E-05	1.732E-05	1.520E-05
F	4.2	0.89	4828.	0.	0.	153.2	34.5	169.8	1.280E-05	1.304E-05	1.280E-05
F	5.3	0.04	4828.	0.	0.	153.2	34.5	158.4	1.100E-05	1.045E-05	1.045E-05
G	0.4	0.01	4828.	0.	0.	105.8	21.5	210.1	1.884E-04	3.106E-04	1.884E-04
G	1.1	0.69	4828.	0.	0.	105.8	21.5	210.1	6.413E-05	1.057E-04	6.413E-05
G	1.6	1.17	4828.	0.	0.	105.8	21.5	210.1	4.343E-05	7.161E-05	4.343E-05
G	2.1	1.41	4828.	0.	0.	105.8	21.5	197.3	3.520E-05	5.449E-05	3.520E-05
G	3.2	1.21	4828.	0.	0.	105.8	21.5	143.2	3.242E-05	3.643E-05	3.242E-05
G	4.2	0.24	4828.	0.	0.	105.8	21.5	121.6	2.874E-05	2.743E-05	2.743E-05
G	6.3	0.04	4828.	0.	0.	105.8	21.5	105.8	2.212E-05	1.837E-05	1.837E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

LOW POPULATION ZONE CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 4828.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

1.884E-04	1.009E-04	6.413E-05	4.947E-05	4.343E-05	3.520E-05	3.436E-05	3.242E-05	2.743E-05	2.665E-05
0.012	0.017	0.703	0.720	1.890	3.303	3.908	5.119	5.361	5.372
0.00069	0.00098	0.03993	0.04088	0.10731	0.18749	0.22185	0.29057	0.30431	0.30496
2.327E-05	1.844E-05	1.837E-05	1.684E-05	1.520E-05	1.280E-05	1.140E-05	1.045E-05	9.072E-06	8.921E-06
7.551	11.667	11.708	13.201	17.882	18.769	22.563	22.603	23.491	29.705
0.42866	0.66231	0.66460	0.74936	1.01508	1.06547	1.28080	1.28309	1.33348	1.68625
6.898E-06	6.144E-06	5.632E-06	4.717E-06	4.706E-06	3.930E-06	3.400E-06	2.953E-06	2.679E-06	2.592E-06
42.981	45.362	51.375	55.692	57.307	57.952	69.816	70.098	79.097	79.138
2.43989	2.57504	2.91635	3.16145	3.25308	3.28973	3.96319	3.97923	4.49005	4.49234
2.216E-06	1.855E-06	1.756E-06	1.393E-06	1.336E-06	1.120E-06	8.932E-07	8.275E-07	6.724E-07	5.604E-07
86.038	88.903	89.064	90.477	90.880	90.921	92.898	92.979	94.149	94.270
4.88405	5.04669	5.05585	5.13603	5.15893	5.16122	5.27347	5.27805	5.34448	5.35135
5.391E-07	4.503E-07	4.265E-07	3.810E-07	3.383E-07	2.851E-07	2.146E-07	1.963E-07	1.721E-07	1.437E-07
94.714	94.916	95.037	95.117	95.198	95.763	96.610	96.731	97.337	97.498
5.37655	5.38800	5.39487	5.39945	5.40404	5.43610	5.48421	5.49108	5.52544	5.53460
1.313E-07	1.080E-07	9.881E-08	7.923E-08	6.617E-08	4.971E-08				
98.063	98.144	99.153	99.879	99.919	100.000				
5.56667	5.57126	5.62852	5.66975	5.67205	5.67663				

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

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.040
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.290
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   1.014
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.437
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.914
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.960
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.487
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   4.880
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
5	1	-8.57707	-13.28677	-1.08308
5	2	-9.65463	-13.49956	-1.14653
5	3	-10.33672	-15.11195	-1.73103
5	4	-11.09395	-16.32996	-2.25577
5	5	-11.88432	-17.06474	-2.62861
5	6	-12.08707	-18.99617	-3.64855
5	7	-12.59163	-19.74597	-4.07570
5	8	-12.83023	-20.82331	-4.71062
5	9	-13.01987	NUMXQ(K)= 9	

5.727E-05	0.057	1.000
3.941E-05	0.170	3.000
3.271E-05	0.284	5.000
2.190E-05	0.568	10.000
1.702E-05	0.851	15.000
1.382E-05	1.135	20.000
1.137E-05	1.419	25.000
9.654E-06	1.703	30.000
8.377E-06	1.987	35.000
7.388E-06	2.271	40.000
6.551E-06	2.554	45.000
5.810E-06	2.838	50.000
5.046E-06	3.122	55.000
4.378E-06	3.406	60.000
3.834E-06	3.690	65.000
3.383E-06	3.974	70.000
2.967E-06	4.257	75.000
2.611E-06	4.541	80.000
2.278E-06	4.825	85.000
2.364E-05	0.5	8.81

ANNUAL AVERAGE = 1.62E-07

K= 5 FIVEXQ(K)= 2.364E-05 FIVEPR(K)= 8.808

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.6	0.15	4828.	0.	0.	776.3	1000.0	776.3	2.582E-07	2.580E-07	2.580E-07
A	2.1	0.10	4828.	0.	0.	776.3	1000.0	776.3	1.964E-07	1.963E-07	1.963E-07
A	3.1	0.39	4828.	0.	0.	776.3	1000.0	776.3	1.313E-07	1.313E-07	1.313E-07
A	4.1	0.69	4828.	0.	0.	776.3	1000.0	776.3	9.887E-08	9.881E-08	9.881E-08
A	5.2	0.44	4828.	0.	0.	776.3	1000.0	776.3	7.927E-08	7.923E-08	7.923E-08
A	6.2	0.20	4828.	0.	0.	776.3	1000.0	776.3	6.621E-08	6.617E-08	6.617E-08
A	8.2	0.30	4828.	0.	0.	776.3	1000.0	776.3	4.974E-08	4.971E-08	4.971E-08
B	1.6	0.15	4828.	0.	0.	583.8	611.7	583.8	5.611E-07	5.604E-07	5.604E-07
B	2.1	0.25	4828.	0.	0.	583.8	611.7	583.8	4.270E-07	4.265E-07	4.265E-07
B	3.1	0.79	4828.	0.	0.	583.8	611.7	583.8	2.855E-07	2.851E-07	2.851E-07
B	4.1	0.59	4828.	0.	0.	583.8	611.7	583.8	2.149E-07	2.146E-07	2.146E-07
B	5.2	0.64	4828.	0.	0.	583.8	611.7	583.8	1.723E-07	1.721E-07	1.721E-07
B	6.2	0.34	4828.	0.	0.	583.8	611.7	583.8	1.439E-07	1.437E-07	1.437E-07
B	8.2	0.05	4828.	0.	0.	583.8	611.7	583.8	1.081E-07	1.080E-07	1.080E-07
B	10.3	0.05	4828.	0.	0.	583.8	611.7	583.8	8.693E-08	8.681E-08	8.681E-08
C	1.6	0.10	4828.	0.	0.	443.4	256.4	443.4	1.763E-06	1.756E-06	1.756E-06
C	2.1	0.44	4828.	0.	0.	443.4	256.4	443.4	1.341E-06	1.336E-06	1.336E-06
C	3.1	1.23	4828.	0.	0.	443.4	256.4	443.4	8.969E-07	8.932E-07	8.932E-07
C	4.1	0.69	4828.	0.	0.	443.4	256.4	443.4	6.751E-07	6.724E-07	6.724E-07
C	5.2	0.59	4828.	0.	0.	443.4	256.4	443.4	5.413E-07	5.391E-07	5.391E-07
C	6.2	0.10	4828.	0.	0.	443.4	256.4	443.4	4.521E-07	4.503E-07	4.503E-07
C	8.2	0.15	4828.	0.	0.	443.4	256.4	443.4	3.396E-07	3.383E-07	3.383E-07
C	10.3	0.10	4828.	0.	0.	443.4	256.4	443.4	2.731E-07	2.720E-07	2.720E-07
D	0.4	0.01	4828.	0.	0.	312.2	87.3	373.8	2.665E-05	3.137E-05	2.665E-05
D	1.1	0.64	4828.	0.	0.	312.2	87.3	373.8	9.072E-06	1.068E-05	9.072E-06
D	1.6	2.41	4828.	0.	0.	312.2	87.3	373.8	6.144E-06	7.232E-06	6.144E-06
D	2.1	3.89	4828.	0.	0.	312.2	87.3	370.5	4.717E-06	5.504E-06	4.717E-06
D	3.1	7.98	4828.	0.	0.	312.2	87.3	343.6	3.400E-06	3.680E-06	3.400E-06
D	4.1	5.91	4828.	0.	0.	312.2	87.3	328.4	2.679E-06	2.770E-06	2.679E-06
D	5.2	5.66	4828.	0.	0.	312.2	87.3	318.2	2.216E-06	2.221E-06	2.216E-06
D	6.2	3.05	4828.	0.	0.	312.2	87.3	312.2	1.886E-06	1.855E-06	1.855E-06
D	8.2	3.89	4828.	0.	0.	312.2	87.3	312.2	1.417E-06	1.393E-06	1.393E-06
D	10.3	1.48	4828.	0.	0.	312.2	87.3	312.2	1.139E-06	1.120E-06	1.120E-06
D	25.2	0.34	4828.	0.	0.	312.2	87.3	312.2	4.641E-07	4.563E-07	4.563E-07

E	0.4	0.01	4828.	0.	0.	222.0	55.4	309.6	4.947E-05	6.647E-05	4.947E-05
E	1.1	0.98	4828.	0.	0.	222.0	55.4	309.6	1.684E-05	2.263E-05	1.684E-05
E	1.6	2.31	4828.	0.	0.	222.0	55.4	309.6	1.140E-05	1.532E-05	1.140E-05
E	2.1	3.99	4828.	0.	0.	222.0	55.4	301.1	8.921E-06	1.166E-05	8.921E-06
E	3.2	8.42	4828.	0.	0.	222.0	55.4	260.4	6.898E-06	7.797E-06	6.898E-06
E	4.2	5.37	4828.	0.	0.	222.0	55.4	240.1	5.632E-06	5.869E-06	5.632E-06
E	5.3	3.50	4828.	0.	0.	222.0	55.4	227.8	4.759E-06	4.706E-06	4.706E-06
E	6.3	1.72	4828.	0.	0.	222.0	55.4	222.0	4.079E-06	3.930E-06	3.930E-06
E	8.4	1.92	4828.	0.	0.	222.0	55.4	222.0	3.064E-06	2.953E-06	2.953E-06
E	10.5	0.79	4828.	0.	0.	222.0	55.4	222.0	2.464E-06	2.374E-06	2.374E-06
E	25.8	0.30	4828.	0.	0.	222.0	55.4	222.0	1.003E-06	9.669E-07	9.669E-07
F	0.4	0.01	4828.	0.	0.	153.2	34.5	243.9	1.009E-04	1.477E-04	1.009E-04
F	1.1	0.69	4828.	0.	0.	153.2	34.5	243.9	3.436E-05	5.027E-05	3.436E-05
F	1.6	1.67	4828.	0.	0.	153.2	34.5	243.9	2.327E-05	3.405E-05	2.327E-05
F	2.1	3.10	4828.	0.	0.	153.2	34.5	234.2	1.844E-05	2.591E-05	1.844E-05
F	3.2	7.88	4828.	0.	0.	153.2	34.5	189.9	1.520E-05	1.732E-05	1.520E-05
F	4.2	4.78	4828.	0.	0.	153.2	34.5	169.8	1.280E-05	1.304E-05	1.280E-05
F	5.3	0.98	4828.	0.	0.	153.2	34.5	158.4	1.100E-05	1.045E-05	1.045E-05
F	6.3	0.10	4828.	0.	0.	153.2	34.5	153.2	9.499E-06	8.732E-06	8.732E-06
G	0.4	0.01	4828.	0.	0.	105.8	21.5	210.1	1.884E-04	3.106E-04	1.884E-04
G	1.1	0.49	4828.	0.	0.	105.8	21.5	210.1	6.413E-05	1.057E-04	6.413E-05
G	1.6	1.48	4828.	0.	0.	105.8	21.5	210.1	4.343E-05	7.161E-05	4.343E-05
G	2.1	1.38	4828.	0.	0.	105.8	21.5	197.3	3.520E-05	5.449E-05	3.520E-05
G	3.2	2.66	4828.	0.	0.	105.8	21.5	143.2	3.242E-05	3.643E-05	3.242E-05
G	4.2	1.53	4828.	0.	0.	105.8	21.5	121.6	2.874E-05	2.743E-05	2.743E-05
G	5.3	0.15	4828.	0.	0.	105.8	21.5	110.5	2.536E-05	2.199E-05	2.199E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 4828.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

1.884E-04	1.009E-04	6.413E-05	4.947E-05	4.343E-05	3.520E-05	3.436E-05	3.242E-05	2.743E-05	2.665E-05
0.009	0.015	0.507	0.518	1.996	3.374	4.064	6.723	8.250	8.258
0.00040	0.00068	0.02359	0.02411	0.09283	0.15697	0.18904	0.31273	0.38374	0.38413
2.327E-05	2.199E-05	1.844E-05	1.684E-05	1.520E-05	1.280E-05	1.140E-05	1.045E-05	9.072E-06	8.921E-06
9.932	10.080	13.182	14.167	22.046	26.823	29.137	30.122	30.762	34.751
0.46201	0.46888	0.61320	0.65901	1.02552	1.24772	1.35538	1.40119	1.43097	1.61652
8.732E-06	6.898E-06	6.144E-06	5.632E-06	4.717E-06	4.706E-06	3.930E-06	3.400E-06	2.953E-06	2.679E-06
34.850	43.271	45.684	51.051	54.941	58.438	60.161	68.139	70.059	75.969
1.62110	2.01281	2.12505	2.37474	2.55570	2.71834	2.79851	3.16961	3.25894	3.53383
2.374E-06	2.216E-06	1.855E-06	1.756E-06	1.393E-06	1.336E-06	1.120E-06	9.669E-07	8.932E-07	6.724E-07
76.757	82.420	85.473	85.571	89.462	89.905	91.382	91.678	92.909	93.598
3.57048	3.83391	3.97593	3.98051	4.16147	4.18209	4.25081	4.26455	4.32182	4.35389
5.604E-07	5.391E-07	4.563E-07	4.503E-07	4.265E-07	3.383E-07	2.851E-07	2.720E-07	2.580E-07	2.146E-07
93.746	94.337	94.682	94.780	95.026	95.174	95.962	96.060	96.208	96.799
4.36076	4.38825	4.40429	4.40887	4.42032	4.42719	4.46385	4.46843	4.47530	4.50279
1.963E-07	1.721E-07	1.437E-07	1.313E-07	1.080E-07	9.881E-08	8.681E-08	7.923E-08	6.617E-08	4.971E-08
96.898	97.538	97.882	98.276	98.326	99.015	99.064	99.508	99.705	100.000
4.50737	4.53715	4.55318	4.57151	4.57380	4.60587	4.60816	4.62878	4.63794	4.65168

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

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

                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.312
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   1.024
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   1.246
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.372
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.716
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.167
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   3.531
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   3.831
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE(10)=   3.973

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
  6  1      -8.57707 -13.11985  -1.01779
  6  2     -10.33672 -15.30008  -1.81509
  6  3     -11.09395 -16.41983  -2.29830
  6  4     -11.26578 -18.34265  -3.15572
  6  5     -12.08707 -18.22916  -3.09847
  6  6     -12.26668 -21.53285  -4.81528
  6  7     -12.59163 -21.65345  -4.88022
  6  8     -12.83023 -22.03122  -5.08917
  6  9     -13.01987 -31.74827 -10.57689
  6 10     -13.19770     NUMXQ(K)= 10
    5.830E-05              0.047              1.000
    4.206E-05              0.140              3.000
    3.575E-05              0.233              5.000
    2.545E-05              0.465             10.000
    1.966E-05              0.698             15.000
    1.624E-05              0.930             20.000
    1.363E-05              1.163             25.000
    1.116E-05              1.396             30.000
    9.202E-06              1.628             35.000
    7.760E-06              1.861             40.000
    6.657E-06              2.093             45.000
    5.791E-06              2.326             50.000
    5.103E-06              2.558             55.000
    4.453E-06              2.791             60.000
    3.761E-06              3.024             65.000
    3.207E-06              3.256             70.000
    2.756E-06              3.489             75.000
    2.376E-06              3.721             80.000
    1.906E-06              3.954             85.000

    2.433E-05              0.5               10.75

ANNUAL AVERAGE =   1.26E-07

K=  6     FIVEXQ(K)= 2.433E-05     FIVEPR(K)=10.749
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.6	0.13	4828.	0.	0.	776.3	1000.0	776.3	2.582E-07	2.580E-07	2.580E-07
A	2.1	0.09	4828.	0.	0.	776.3	1000.0	776.3	1.964E-07	1.963E-07	1.963E-07
A	3.1	0.18	4828.	0.	0.	776.3	1000.0	776.3	1.313E-07	1.313E-07	1.313E-07
A	4.1	0.31	4828.	0.	0.	776.3	1000.0	776.3	9.887E-08	9.881E-08	9.881E-08
A	5.2	0.45	4828.	0.	0.	776.3	1000.0	776.3	7.927E-08	7.923E-08	7.923E-08
A	6.2	0.40	4828.	0.	0.	776.3	1000.0	776.3	6.621E-08	6.617E-08	6.617E-08
A	8.2	0.31	4828.	0.	0.	776.3	1000.0	776.3	4.974E-08	4.971E-08	4.971E-08
B	1.6	0.09	4828.	0.	0.	583.8	611.7	583.8	5.611E-07	5.604E-07	5.604E-07
B	2.1	0.13	4828.	0.	0.	583.8	611.7	583.8	4.270E-07	4.265E-07	4.265E-07
B	3.1	0.40	4828.	0.	0.	583.8	611.7	583.8	2.855E-07	2.851E-07	2.851E-07
B	4.1	0.98	4828.	0.	0.	583.8	611.7	583.8	2.149E-07	2.146E-07	2.146E-07
B	5.2	0.67	4828.	0.	0.	583.8	611.7	583.8	1.723E-07	1.721E-07	1.721E-07
B	6.2	0.45	4828.	0.	0.	583.8	611.7	583.8	1.439E-07	1.437E-07	1.437E-07
B	8.2	0.18	4828.	0.	0.	583.8	611.7	583.8	1.081E-07	1.080E-07	1.080E-07
B	10.3	0.22	4828.	0.	0.	583.8	611.7	583.8	8.693E-08	8.681E-08	8.681E-08
C	1.6	0.09	4828.	0.	0.	443.4	256.4	443.4	1.763E-06	1.756E-06	1.756E-06
C	2.1	0.58	4828.	0.	0.	443.4	256.4	443.4	1.341E-06	1.336E-06	1.336E-06
C	3.1	1.47	4828.	0.	0.	443.4	256.4	443.4	8.969E-07	8.932E-07	8.932E-07
C	4.1	0.89	4828.	0.	0.	443.4	256.4	443.4	6.751E-07	6.724E-07	6.724E-07
C	5.2	1.03	4828.	0.	0.	443.4	256.4	443.4	5.413E-07	5.391E-07	5.391E-07
C	6.2	0.45	4828.	0.	0.	443.4	256.4	443.4	4.521E-07	4.503E-07	4.503E-07
C	8.2	0.22	4828.	0.	0.	443.4	256.4	443.4	3.396E-07	3.383E-07	3.383E-07
C	10.3	0.22	4828.	0.	0.	443.4	256.4	443.4	2.731E-07	2.720E-07	2.720E-07
D	0.4	0.01	4828.	0.	0.	312.2	87.3	373.8	2.665E-05	3.137E-05	2.665E-05
D	1.1	0.80	4828.	0.	0.	312.2	87.3	373.8	9.072E-06	1.068E-05	9.072E-06
D	1.6	1.69	4828.	0.	0.	312.2	87.3	373.8	6.144E-06	7.232E-06	6.144E-06
D	2.1	2.09	4828.	0.	0.	312.2	87.3	370.5	4.717E-06	5.504E-06	4.717E-06
D	3.1	7.31	4828.	0.	0.	312.2	87.3	343.6	3.400E-06	3.680E-06	3.400E-06
D	4.1	7.09	4828.	0.	0.	312.2	87.3	328.4	2.679E-06	2.770E-06	2.679E-06
D	5.2	6.77	4828.	0.	0.	312.2	87.3	318.2	2.216E-06	2.221E-06	2.216E-06
D	6.2	3.43	4828.	0.	0.	312.2	87.3	312.2	1.886E-06	1.855E-06	1.855E-06
D	8.2	3.74	4828.	0.	0.	312.2	87.3	312.2	1.417E-06	1.393E-06	1.393E-06
D	10.3	1.20	4828.	0.	0.	312.2	87.3	312.2	1.139E-06	1.120E-06	1.120E-06
D	25.2	0.04	4828.	0.	0.	312.2	87.3	312.2	4.641E-07	4.563E-07	4.563E-07

E	0.4	0.01	4828.	0.	0.	222.0	55.4	309.6	4.947E-05	6.647E-05	4.947E-05
E	1.1	1.20	4828.	0.	0.	222.0	55.4	309.6	1.684E-05	2.263E-05	1.684E-05
E	1.6	1.96	4828.	0.	0.	222.0	55.4	309.6	1.140E-05	1.532E-05	1.140E-05
E	2.1	2.23	4828.	0.	0.	222.0	55.4	301.1	8.921E-06	1.166E-05	8.921E-06
E	3.2	8.96	4828.	0.	0.	222.0	55.4	260.4	6.898E-06	7.797E-06	6.898E-06
E	4.2	7.53	4828.	0.	0.	222.0	55.4	240.1	5.632E-06	5.869E-06	5.632E-06
E	5.3	5.04	4828.	0.	0.	222.0	55.4	227.8	4.759E-06	4.706E-06	4.706E-06
E	6.3	2.27	4828.	0.	0.	222.0	55.4	222.0	4.079E-06	3.930E-06	3.930E-06
E	8.4	1.07	4828.	0.	0.	222.0	55.4	222.0	3.064E-06	2.953E-06	2.953E-06
E	10.5	0.45	4828.	0.	0.	222.0	55.4	222.0	2.464E-06	2.374E-06	2.374E-06
E	25.8	0.04	4828.	0.	0.	222.0	55.4	222.0	1.003E-06	9.669E-07	9.669E-07
F	0.4	0.00	4828.	0.	0.	153.2	34.5	243.9	1.009E-04	1.477E-04	1.009E-04
F	1.1	0.45	4828.	0.	0.	153.2	34.5	243.9	3.436E-05	5.027E-05	3.436E-05
F	1.6	1.34	4828.	0.	0.	153.2	34.5	243.9	2.327E-05	3.405E-05	2.327E-05
F	2.1	1.96	4828.	0.	0.	153.2	34.5	234.2	1.844E-05	2.591E-05	1.844E-05
F	3.2	9.45	4828.	0.	0.	153.2	34.5	189.9	1.520E-05	1.732E-05	1.520E-05
F	4.2	4.77	4828.	0.	0.	153.2	34.5	169.8	1.280E-05	1.304E-05	1.280E-05
F	5.3	0.89	4828.	0.	0.	153.2	34.5	158.4	1.100E-05	1.045E-05	1.045E-05
F	6.3	0.04	4828.	0.	0.	153.2	34.5	153.2	9.499E-06	8.732E-06	8.732E-06
G	0.4	0.01	4828.	0.	0.	105.8	21.5	210.1	1.884E-04	3.106E-04	1.884E-04
G	1.1	0.49	4828.	0.	0.	105.8	21.5	210.1	6.413E-05	1.057E-04	6.413E-05
G	1.6	0.62	4828.	0.	0.	105.8	21.5	210.1	4.343E-05	7.161E-05	4.343E-05
G	2.1	0.76	4828.	0.	0.	105.8	21.5	197.3	3.520E-05	5.449E-05	3.520E-05
G	3.2	2.76	4828.	0.	0.	105.8	21.5	143.2	3.242E-05	3.643E-05	3.242E-05
G	4.2	1.34	4828.	0.	0.	105.8	21.5	121.6	2.874E-05	2.743E-05	2.743E-05
G	5.3	0.22	4828.	0.	0.	105.8	21.5	110.5	2.536E-05	2.199E-05	2.199E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 4828.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

1.884E-04	1.009E-04	6.413E-05	4.947E-05	4.343E-05	3.520E-05	3.436E-05	3.242E-05	2.743E-05	2.665E-05
0.009	0.012	0.503	0.516	1.140	1.898	2.344	5.107	6.444	6.454
0.00044	0.00064	0.02584	0.02654	0.05861	0.09755	0.12046	0.26248	0.33120	0.33173
2.327E-05	2.199E-05	1.844E-05	1.684E-05	1.520E-05	1.280E-05	1.140E-05	1.045E-05	9.072E-06	8.921E-06
7.791	8.014	9.975	11.178	20.626	25.395	27.356	28.247	29.050	31.278
0.40045	0.41191	0.51270	0.57455	1.06017	1.30528	1.40607	1.45188	1.49311	1.60765
8.732E-06	6.898E-06	6.144E-06	5.632E-06	4.717E-06	4.706E-06	3.930E-06	3.400E-06	2.953E-06	2.679E-06
31.322	40.280	41.974	49.506	51.600	56.636	58.909	66.218	67.288	74.374
1.60994	2.07037	2.15741	2.54454	2.65220	2.91105	3.02787	3.40355	3.45852	3.82274
2.374E-06	2.216E-06	1.855E-06	1.756E-06	1.393E-06	1.336E-06	1.120E-06	9.669E-07	8.932E-07	6.724E-07
74.820	81.594	85.026	85.115	88.858	89.438	90.641	90.686	92.156	93.048
3.84565	4.19383	4.37022	4.37480	4.56722	4.59699	4.65884	4.66113	4.73673	4.78254
5.604E-07	5.391E-07	4.563E-07	4.503E-07	4.265E-07	3.383E-07	2.851E-07	2.720E-07	2.580E-07	2.146E-07
93.137	94.162	94.206	94.652	94.786	95.008	95.410	95.632	95.766	96.747
4.78712	4.83981	4.84210	4.86501	4.87188	4.88333	4.90395	4.91540	4.92227	4.97267
1.963E-07	1.721E-07	1.437E-07	1.313E-07	1.080E-07	9.881E-08	8.681E-08	7.923E-08	6.617E-08	4.971E-08
96.836	97.504	97.950	98.128	98.306	98.618	98.841	99.287	99.688	100.000
4.97725	5.01161	5.03452	5.04368	5.05284	5.06888	5.08033	5.10324	5.12385	5.13989

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.262
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   1.059
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   1.304
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.542
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.908
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.190
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.367

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
  7  1      -8.57707 -13.31160  -1.06563
  7  2     -10.33672 -14.67844  -1.55524
  7  3     -11.09395 -16.06300  -2.15597
  7  4     -11.26578 -17.97814  -3.01668
  7  5     -12.08707 -18.09517  -3.07661
  7  6     -12.26668 -20.89125  -4.55254
  7  7     -13.01987 -28.88731  -9.17720
  7  8     -13.19770     NUMXQ(K)=  8
    5.473E-05              0.051              1.000
    3.877E-05              0.154              3.000
    3.266E-05              0.257              5.000
    2.285E-05              0.514             10.000
    1.827E-05              0.771             15.000
    1.548E-05              1.028             20.000
    1.297E-05              1.285             25.000
    1.051E-05              1.542             30.000
    8.716E-06              1.799             35.000
    7.387E-06              2.056             40.000
    6.366E-06              2.313             45.000
    5.558E-06              2.570             50.000
    4.895E-06              2.827             55.000
    4.191E-06              3.084             60.000
    3.562E-06              3.341             65.000
    3.058E-06              3.598             70.000
    2.648E-06              3.855             75.000
    2.311E-06              4.112             80.000
    1.857E-06              4.369             85.000

    2.319E-05              0.5                9.73

ANNUAL AVERAGE =   1.28E-07

K=  7     FIVEXQ(K)= 2.319E-05     FIVEPR(K)= 9.728
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.6	0.03	4828.	0.	0.	776.3	1000.0	776.3	2.582E-07	2.580E-07	2.580E-07
A	2.1	0.03	4828.	0.	0.	776.3	1000.0	776.3	1.964E-07	1.963E-07	1.963E-07
A	3.1	0.44	4828.	0.	0.	776.3	1000.0	776.3	1.313E-07	1.313E-07	1.313E-07
A	4.1	0.62	4828.	0.	0.	776.3	1000.0	776.3	9.887E-08	9.881E-08	9.881E-08
A	5.2	0.62	4828.	0.	0.	776.3	1000.0	776.3	7.927E-08	7.923E-08	7.923E-08
A	6.2	0.30	4828.	0.	0.	776.3	1000.0	776.3	6.621E-08	6.617E-08	6.617E-08
A	8.2	0.74	4828.	0.	0.	776.3	1000.0	776.3	4.974E-08	4.971E-08	4.971E-08
A	10.3	0.15	4828.	0.	0.	776.3	1000.0	776.3	3.999E-08	3.997E-08	3.997E-08
A	25.2	0.03	4828.	0.	0.	776.3	1000.0	776.3	1.629E-08	1.628E-08	1.628E-08
B	1.1	0.03	4828.	0.	0.	583.8	611.7	583.8	8.286E-07	8.275E-07	8.275E-07
B	1.6	0.03	4828.	0.	0.	583.8	611.7	583.8	5.611E-07	5.604E-07	5.604E-07
B	2.1	0.03	4828.	0.	0.	583.8	611.7	583.8	4.270E-07	4.265E-07	4.265E-07
B	3.1	0.35	4828.	0.	0.	583.8	611.7	583.8	2.855E-07	2.851E-07	2.851E-07
B	4.1	0.35	4828.	0.	0.	583.8	611.7	583.8	2.149E-07	2.146E-07	2.146E-07
B	5.2	0.59	4828.	0.	0.	583.8	611.7	583.8	1.723E-07	1.721E-07	1.721E-07
B	6.2	0.27	4828.	0.	0.	583.8	611.7	583.8	1.439E-07	1.437E-07	1.437E-07
B	8.2	0.38	4828.	0.	0.	583.8	611.7	583.8	1.081E-07	1.080E-07	1.080E-07
B	10.3	0.18	4828.	0.	0.	583.8	611.7	583.8	8.693E-08	8.681E-08	8.681E-08
B	25.2	0.03	4828.	0.	0.	583.8	611.7	583.8	3.540E-08	3.536E-08	3.536E-08
C	1.6	0.03	4828.	0.	0.	443.4	256.4	443.4	1.763E-06	1.756E-06	1.756E-06
C	2.1	0.21	4828.	0.	0.	443.4	256.4	443.4	1.341E-06	1.336E-06	1.336E-06
C	3.1	0.35	4828.	0.	0.	443.4	256.4	443.4	8.969E-07	8.932E-07	8.932E-07
C	4.1	0.77	4828.	0.	0.	443.4	256.4	443.4	6.751E-07	6.724E-07	6.724E-07
C	5.2	0.92	4828.	0.	0.	443.4	256.4	443.4	5.413E-07	5.391E-07	5.391E-07
C	6.2	0.74	4828.	0.	0.	443.4	256.4	443.4	4.521E-07	4.503E-07	4.503E-07
C	8.2	0.24	4828.	0.	0.	443.4	256.4	443.4	3.396E-07	3.383E-07	3.383E-07
C	10.3	0.06	4828.	0.	0.	443.4	256.4	443.4	2.731E-07	2.720E-07	2.720E-07
C	25.2	0.15	4828.	0.	0.	443.4	256.4	443.4	1.112E-07	1.108E-07	1.108E-07
D	0.4	0.00	4828.	0.	0.	312.2	87.3	373.8	2.665E-05	3.137E-05	2.665E-05
D	1.1	0.18	4828.	0.	0.	312.2	87.3	373.8	9.072E-06	1.068E-05	9.072E-06
D	1.6	1.00	4828.	0.	0.	312.2	87.3	373.8	6.144E-06	7.232E-06	6.144E-06
D	2.1	1.42	4828.	0.	0.	312.2	87.3	370.5	4.717E-06	5.504E-06	4.717E-06
D	3.1	5.43	4828.	0.	0.	312.2	87.3	343.6	3.400E-06	3.680E-06	3.400E-06
D	4.1	6.65	4828.	0.	0.	312.2	87.3	328.4	2.679E-06	2.770E-06	2.679E-06

D	5.2	6.70	4828.	0.	0.	312.2	87.3	318.2	2.216E-06	2.221E-06	2.216E-06
D	6.2	4.84	4828.	0.	0.	312.2	87.3	312.2	1.886E-06	1.855E-06	1.855E-06
D	8.2	5.97	4828.	0.	0.	312.2	87.3	312.2	1.417E-06	1.393E-06	1.393E-06
D	10.3	1.65	4828.	0.	0.	312.2	87.3	312.2	1.139E-06	1.120E-06	1.120E-06
D	25.2	0.62	4828.	0.	0.	312.2	87.3	312.2	4.641E-07	4.563E-07	4.563E-07
E	0.4	0.01	4828.	0.	0.	222.0	55.4	309.6	4.947E-05	6.647E-05	4.947E-05
E	1.1	0.80	4828.	0.	0.	222.0	55.4	309.6	1.684E-05	2.263E-05	1.684E-05
E	1.6	1.24	4828.	0.	0.	222.0	55.4	309.6	1.140E-05	1.532E-05	1.140E-05
E	2.1	1.62	4828.	0.	0.	222.0	55.4	301.1	8.921E-06	1.166E-05	8.921E-06
E	3.2	6.53	4828.	0.	0.	222.0	55.4	260.4	6.898E-06	7.797E-06	6.898E-06
E	4.2	7.24	4828.	0.	0.	222.0	55.4	240.1	5.632E-06	5.869E-06	5.632E-06
E	5.3	5.61	4828.	0.	0.	222.0	55.4	227.8	4.759E-06	4.706E-06	4.706E-06
E	6.3	3.96	4828.	0.	0.	222.0	55.4	222.0	4.079E-06	3.930E-06	3.930E-06
E	8.4	3.10	4828.	0.	0.	222.0	55.4	222.0	3.064E-06	2.953E-06	2.953E-06
E	10.5	0.50	4828.	0.	0.	222.0	55.4	222.0	2.464E-06	2.374E-06	2.374E-06
E	25.8	0.18	4828.	0.	0.	222.0	55.4	222.0	1.003E-06	9.669E-07	9.669E-07
F	0.4	0.01	4828.	0.	0.	153.2	34.5	243.9	1.009E-04	1.477E-04	1.009E-04
F	1.1	0.62	4828.	0.	0.	153.2	34.5	243.9	3.436E-05	5.027E-05	3.436E-05
F	1.6	1.24	4828.	0.	0.	153.2	34.5	243.9	2.327E-05	3.405E-05	2.327E-05
F	2.1	1.57	4828.	0.	0.	153.2	34.5	234.2	1.844E-05	2.591E-05	1.844E-05
F	3.2	8.12	4828.	0.	0.	153.2	34.5	189.9	1.520E-05	1.732E-05	1.520E-05
F	4.2	5.91	4828.	0.	0.	153.2	34.5	169.8	1.280E-05	1.304E-05	1.280E-05
F	5.3	2.95	4828.	0.	0.	153.2	34.5	158.4	1.100E-05	1.045E-05	1.045E-05
F	6.3	0.35	4828.	0.	0.	153.2	34.5	153.2	9.499E-06	8.732E-06	8.732E-06
F	8.4	0.12	4828.	0.	0.	153.2	34.5	153.2	7.136E-06	6.560E-06	6.560E-06
G	0.4	0.01	4828.	0.	0.	105.8	21.5	210.1	1.884E-04	3.106E-04	1.884E-04
G	1.1	0.44	4828.	0.	0.	105.8	21.5	210.1	6.413E-05	1.057E-04	6.413E-05
G	1.6	1.03	4828.	0.	0.	105.8	21.5	210.1	4.343E-05	7.161E-05	4.343E-05
G	2.1	0.56	4828.	0.	0.	105.8	21.5	197.3	3.520E-05	5.449E-05	3.520E-05
G	3.2	1.77	4828.	0.	0.	105.8	21.5	143.2	3.242E-05	3.643E-05	3.242E-05
G	4.2	0.95	4828.	0.	0.	105.8	21.5	121.6	2.874E-05	2.743E-05	2.743E-05
G	5.3	0.41	4828.	0.	0.	105.8	21.5	110.5	2.536E-05	2.199E-05	2.199E-05
G	6.3	0.03	4828.	0.	0.	105.8	21.5	105.8	2.212E-05	1.837E-05	1.837E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 4828.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

1.884E-04	1.009E-04	6.413E-05	4.947E-05	4.343E-05	3.520E-05	3.436E-05	3.242E-05	2.743E-05	2.665E-05
0.008	0.013	0.456	0.465	1.499	2.060	2.680	4.452	5.398	5.400
0.00060	0.00102	0.03538	0.03608	0.11626	0.15978	0.20788	0.34532	0.41863	0.41880
2.327E-05	2.199E-05	1.844E-05	1.837E-05	1.684E-05	1.520E-05	1.280E-05	1.140E-05	1.045E-05	9.072E-06
6.640	7.054	8.619	8.649	9.446	17.568	23.475	24.716	27.669	27.846
0.51501	0.54708	0.66849	0.67078	0.73263	1.36257	1.82071	1.91691	2.14598	2.15973
8.921E-06	8.732E-06	6.898E-06	6.560E-06	6.144E-06	5.632E-06	4.717E-06	4.706E-06	3.930E-06	3.400E-06
29.471	29.825	36.352	36.471	37.475	44.711	46.128	51.740	55.698	61.132
2.28572	2.31320	2.81945	2.82861	2.90649	3.46771	3.57766	4.01289	4.31985	4.74133
2.953E-06	2.679E-06	2.374E-06	2.216E-06	1.855E-06	1.756E-06	1.393E-06	1.336E-06	1.120E-06	9.669E-07
64.233	70.879	71.381	78.085	82.929	82.958	88.924	89.131	90.785	90.962
4.98186	5.49726	5.53620	6.05619	6.43186	6.43415	6.89687	6.91291	7.04118	7.05493
8.932E-07	8.275E-07	6.724E-07	5.604E-07	5.391E-07	4.563E-07	4.503E-07	4.265E-07	3.383E-07	2.851E-07
91.317	91.346	92.114	92.144	93.059	93.680	94.418	94.447	94.684	95.038
7.08242	7.08471	7.14427	7.14656	7.21757	7.26567	7.32294	7.32523	7.34356	7.37104
2.720E-07	2.580E-07	2.146E-07	1.963E-07	1.721E-07	1.437E-07	1.313E-07	1.108E-07	1.080E-07	9.881E-08
95.097	95.127	95.481	95.511	96.101	96.367	96.810	96.958	97.342	97.962
7.37562	7.37791	7.40540	7.40769	7.45351	7.47412	7.50848	7.51994	7.54972	7.59782
8.681E-08	7.923E-08	6.617E-08	4.971E-08	3.997E-08	3.536E-08	1.628E-08			
98.139	98.760	99.055	99.793	99.941	99.970	100.000			
7.61157	7.65967	7.68258	7.73984	7.75130	7.75359	7.75588			

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.345
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   1.819
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   3.465
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   4.010
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   5.493
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   6.052
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   6.428

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
  8  1      -8.57707 -13.17650  -1.05111
  8  2     -10.33672 -14.45838  -1.52558
  8  3     -11.26578 -17.48852  -2.97352
  8  4     -12.08707 -16.96167  -2.68349
  8  5     -12.26668 -18.80489  -3.73701
  8  6     -12.83023 -19.09670  -3.91953
  8  7     -13.01987 -22.03260  -5.81318
  8  8     -13.19770     NUMXQ(K)=  8
    5.277E-05              0.078              1.000
    3.712E-05              0.233              3.000
    3.056E-05              0.388              5.000
    2.112E-05              0.776             10.000
    1.677E-05              1.163             15.000
    1.413E-05              1.551             20.000
    1.186E-05              1.939             25.000
    9.460E-06              2.327             30.000
    7.774E-06              2.715             35.000
    6.532E-06              3.102             40.000
    5.588E-06              3.490             45.000
    4.910E-06              3.878             50.000
    4.230E-06              4.266             55.000
    3.626E-06              4.654             60.000
    3.139E-06              5.041             65.000
    2.741E-06              5.429             70.000
    2.399E-06              5.817             75.000
    2.063E-06              6.205             80.000

    2.677E-05              0.5                6.45

ANNUAL AVERAGE =   1.75E-07

K=  8     FIVEXQ(K)= 2.677E-05     FIVEPR(K)= 6.447
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.6	0.03	4828.	0.	0.	776.3	1000.0	776.3	2.582E-07	2.580E-07	2.580E-07
A	3.1	0.19	4828.	0.	0.	776.3	1000.0	776.3	1.313E-07	1.313E-07	1.313E-07
A	4.1	0.22	4828.	0.	0.	776.3	1000.0	776.3	9.887E-08	9.881E-08	9.881E-08
A	5.2	0.47	4828.	0.	0.	776.3	1000.0	776.3	7.927E-08	7.923E-08	7.923E-08
A	6.2	0.25	4828.	0.	0.	776.3	1000.0	776.3	6.621E-08	6.617E-08	6.617E-08
A	8.2	0.88	4828.	0.	0.	776.3	1000.0	776.3	4.974E-08	4.971E-08	4.971E-08
A	10.3	0.28	4828.	0.	0.	776.3	1000.0	776.3	3.999E-08	3.997E-08	3.997E-08
A	25.2	0.06	4828.	0.	0.	776.3	1000.0	776.3	1.629E-08	1.628E-08	1.628E-08
B	1.6	0.06	4828.	0.	0.	583.8	611.7	583.8	5.611E-07	5.604E-07	5.604E-07
B	3.1	0.25	4828.	0.	0.	583.8	611.7	583.8	2.855E-07	2.851E-07	2.851E-07
B	4.1	0.55	4828.	0.	0.	583.8	611.7	583.8	2.149E-07	2.146E-07	2.146E-07
B	5.2	0.33	4828.	0.	0.	583.8	611.7	583.8	1.723E-07	1.721E-07	1.721E-07
B	6.2	0.39	4828.	0.	0.	583.8	611.7	583.8	1.439E-07	1.437E-07	1.437E-07
B	8.2	0.47	4828.	0.	0.	583.8	611.7	583.8	1.081E-07	1.080E-07	1.080E-07
B	10.3	0.14	4828.	0.	0.	583.8	611.7	583.8	8.693E-08	8.681E-08	8.681E-08
B	25.2	0.08	4828.	0.	0.	583.8	611.7	583.8	3.540E-08	3.536E-08	3.536E-08
C	1.6	0.06	4828.	0.	0.	443.4	256.4	443.4	1.763E-06	1.756E-06	1.756E-06
C	2.1	0.22	4828.	0.	0.	443.4	256.4	443.4	1.341E-06	1.336E-06	1.336E-06
C	3.1	0.64	4828.	0.	0.	443.4	256.4	443.4	8.969E-07	8.932E-07	8.932E-07
C	4.1	1.13	4828.	0.	0.	443.4	256.4	443.4	6.751E-07	6.724E-07	6.724E-07
C	5.2	0.91	4828.	0.	0.	443.4	256.4	443.4	5.413E-07	5.391E-07	5.391E-07
C	6.2	0.61	4828.	0.	0.	443.4	256.4	443.4	4.521E-07	4.503E-07	4.503E-07
C	8.2	0.77	4828.	0.	0.	443.4	256.4	443.4	3.396E-07	3.383E-07	3.383E-07
C	10.3	0.19	4828.	0.	0.	443.4	256.4	443.4	2.731E-07	2.720E-07	2.720E-07
D	0.4	0.00	4828.	0.	0.	312.2	87.3	373.8	2.665E-05	3.137E-05	2.665E-05
D	1.1	0.28	4828.	0.	0.	312.2	87.3	373.8	9.072E-06	1.068E-05	9.072E-06
D	1.6	0.91	4828.	0.	0.	312.2	87.3	373.8	6.144E-06	7.232E-06	6.144E-06
D	2.1	1.77	4828.	0.	0.	312.2	87.3	370.5	4.717E-06	5.504E-06	4.717E-06
D	3.1	6.27	4828.	0.	0.	312.2	87.3	343.6	3.400E-06	3.680E-06	3.400E-06
D	4.1	7.05	4828.	0.	0.	312.2	87.3	328.4	2.679E-06	2.770E-06	2.679E-06
D	5.2	5.94	4828.	0.	0.	312.2	87.3	318.2	2.216E-06	2.221E-06	2.216E-06
D	6.2	5.42	4828.	0.	0.	312.2	87.3	312.2	1.886E-06	1.855E-06	1.855E-06
D	8.2	5.20	4828.	0.	0.	312.2	87.3	312.2	1.417E-06	1.393E-06	1.393E-06
D	10.3	1.60	4828.	0.	0.	312.2	87.3	312.2	1.139E-06	1.120E-06	1.120E-06

D	25.2	0.06	4828.	0.	0.	312.2	87.3	312.2	4.641E-07	4.563E-07	4.563E-07
E	0.4	0.01	4828.	0.	0.	222.0	55.4	309.6	4.947E-05	6.647E-05	4.947E-05
E	1.1	0.77	4828.	0.	0.	222.0	55.4	309.6	1.684E-05	2.263E-05	1.684E-05
E	1.6	1.66	4828.	0.	0.	222.0	55.4	309.6	1.140E-05	1.532E-05	1.140E-05
E	2.1	2.49	4828.	0.	0.	222.0	55.4	301.1	8.921E-06	1.166E-05	8.921E-06
E	3.2	7.10	4828.	0.	0.	222.0	55.4	260.4	6.898E-06	7.797E-06	6.898E-06
E	4.2	6.69	4828.	0.	0.	222.0	55.4	240.1	5.632E-06	5.869E-06	5.632E-06
E	5.3	6.05	4828.	0.	0.	222.0	55.4	227.8	4.759E-06	4.706E-06	4.706E-06
E	6.3	3.81	4828.	0.	0.	222.0	55.4	222.0	4.079E-06	3.930E-06	3.930E-06
E	8.4	3.95	4828.	0.	0.	222.0	55.4	222.0	3.064E-06	2.953E-06	2.953E-06
E	10.5	0.55	4828.	0.	0.	222.0	55.4	222.0	2.464E-06	2.374E-06	2.374E-06
E	25.8	0.03	4828.	0.	0.	222.0	55.4	222.0	1.003E-06	9.669E-07	9.669E-07
F	0.4	0.01	4828.	0.	0.	153.2	34.5	243.9	1.009E-04	1.477E-04	1.009E-04
F	1.1	0.58	4828.	0.	0.	153.2	34.5	243.9	3.436E-05	5.027E-05	3.436E-05
F	1.6	1.82	4828.	0.	0.	153.2	34.5	243.9	2.327E-05	3.405E-05	2.327E-05
F	2.1	2.65	4828.	0.	0.	153.2	34.5	234.2	1.844E-05	2.591E-05	1.844E-05
F	3.2	6.47	4828.	0.	0.	153.2	34.5	189.9	1.520E-05	1.732E-05	1.520E-05
F	4.2	3.21	4828.	0.	0.	153.2	34.5	169.8	1.280E-05	1.304E-05	1.280E-05
F	5.3	1.13	4828.	0.	0.	153.2	34.5	158.4	1.100E-05	1.045E-05	1.045E-05
F	6.3	0.33	4828.	0.	0.	153.2	34.5	153.2	9.499E-06	8.732E-06	8.732E-06
F	8.4	0.03	4828.	0.	0.	153.2	34.5	153.2	7.136E-06	6.560E-06	6.560E-06
G	0.4	0.01	4828.	0.	0.	105.8	21.5	210.1	1.884E-04	3.106E-04	1.884E-04
G	1.1	0.69	4828.	0.	0.	105.8	21.5	210.1	6.413E-05	1.057E-04	6.413E-05
G	1.6	1.49	4828.	0.	0.	105.8	21.5	210.1	4.343E-05	7.161E-05	4.343E-05
G	2.1	1.91	4828.	0.	0.	105.8	21.5	197.3	3.520E-05	5.449E-05	3.520E-05
G	3.2	2.29	4828.	0.	0.	105.8	21.5	143.2	3.242E-05	3.643E-05	3.242E-05
G	4.2	0.50	4828.	0.	0.	105.8	21.5	121.6	2.874E-05	2.743E-05	2.743E-05
G	5.3	0.08	4828.	0.	0.	105.8	21.5	110.5	2.536E-05	2.199E-05	2.199E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

LOW POPULATION ZONE CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 4828.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

1.884E-04	1.009E-04	6.413E-05	4.947E-05	4.343E-05	3.520E-05	3.436E-05	3.242E-05	2.743E-05	2.665E-05
0.012	0.017	0.708	0.717	2.209	4.117	4.697	6.991	7.488	7.492
0.00101	0.00143	0.05869	0.05942	0.18312	0.34117	0.38928	0.57940	0.62064	0.62093
2.327E-05	2.199E-05	1.844E-05	1.684E-05	1.520E-05	1.280E-05	1.140E-05	1.045E-05	9.072E-06	8.921E-06
9.316	9.399	12.053	12.826	19.294	22.500	24.158	25.292	25.568	28.056
0.77212	0.77899	0.99890	1.06304	1.59906	1.86478	2.00222	2.09614	2.11904	2.32520
8.732E-06	6.898E-06	6.560E-06	6.144E-06	5.632E-06	4.717E-06	4.706E-06	3.930E-06	3.400E-06	2.953E-06
28.387	35.490	35.518	36.430	43.119	44.888	50.941	54.755	61.029	64.981
2.35269	2.94140	2.94369	3.01928	3.57363	3.72023	4.22189	4.53801	5.05800	5.38556
2.679E-06	2.374E-06	2.216E-06	1.855E-06	1.756E-06	1.393E-06	1.336E-06	1.120E-06	9.669E-07	8.932E-07
72.029	72.582	78.524	83.942	83.997	89.193	89.414	91.017	91.045	91.681
5.96969	6.01550	6.50800	6.95698	6.96156	7.39221	7.41053	7.54339	7.54568	7.59837
6.724E-07	5.604E-07	5.391E-07	4.563E-07	4.503E-07	3.383E-07	2.851E-07	2.720E-07	2.580E-07	2.146E-07
92.814	92.869	93.781	93.836	94.445	95.218	95.467	95.661	95.688	96.241
7.69229	7.69687	7.77246	7.77704	7.82744	7.89158	7.91219	7.92823	7.93052	7.97633
1.721E-07	1.437E-07	1.313E-07	1.080E-07	9.881E-08	8.681E-08	7.923E-08	6.617E-08	4.971E-08	3.997E-08
96.573	96.960	97.153	97.623	97.844	97.982	98.452	98.701	99.585	99.862
8.00382	8.03589	8.05192	8.09087	8.10919	8.12065	8.15959	8.18020	8.25351	8.27641
3.536E-08	1.628E-08								
99.945	100.000								
8.28329	8.28787								

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.579
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   1.597
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   1.863
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   3.570
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   4.218
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   5.966
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   6.504
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   6.953
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
9	1	-8.57707	-12.89270	-1.01233
9	2	-10.33672	-15.37105	-1.99391
9	3	-11.09395	-17.02617	-2.76549
9	4	-11.26578	-17.37355	-2.93226
9	5	-12.08707	-16.29315	-2.33299
9	6	-12.26668	-18.04802	-3.34979
9	7	-12.83023	-19.56366	-4.32282
9	8	-13.01987	-20.82581	-5.15660
9	9	-13.19770	NUMXQ(K)= 9	

6.079E-05	0.083	1.000
4.323E-05	0.249	3.000
3.645E-05	0.414	5.000
2.510E-05	0.829	10.000
1.852E-05	1.243	15.000
1.461E-05	1.658	20.000
1.127E-05	2.072	25.000
9.000E-06	2.486	30.000
7.400E-06	2.901	35.000
6.221E-06	3.315	40.000
5.381E-06	3.730	45.000
4.803E-06	4.144	50.000
4.168E-06	4.558	55.000
3.624E-06	4.973	60.000
3.179E-06	5.387	65.000
2.810E-06	5.802	70.000
2.452E-06	6.216	75.000
2.109E-06	6.630	80.000
3.415E-05	0.5	6.03

ANNUAL AVERAGE = 2.03E-07

```
K=  9      FIVEXQ(K)= 3.415E-05      FIVEPR(K)= 6.033
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.1	0.03	4828.	0.	0.	776.3	1000.0	776.3	3.812E-07	3.810E-07	3.810E-07
A	1.6	0.09	4828.	0.	0.	776.3	1000.0	776.3	2.582E-07	2.580E-07	2.580E-07
A	2.1	0.03	4828.	0.	0.	776.3	1000.0	776.3	1.964E-07	1.963E-07	1.963E-07
A	3.1	0.35	4828.	0.	0.	776.3	1000.0	776.3	1.313E-07	1.313E-07	1.313E-07
A	4.1	0.38	4828.	0.	0.	776.3	1000.0	776.3	9.887E-08	9.881E-08	9.881E-08
A	5.2	0.60	4828.	0.	0.	776.3	1000.0	776.3	7.927E-08	7.923E-08	7.923E-08
A	6.2	0.63	4828.	0.	0.	776.3	1000.0	776.3	6.621E-08	6.617E-08	6.617E-08
A	8.2	1.04	4828.	0.	0.	776.3	1000.0	776.3	4.974E-08	4.971E-08	4.971E-08
A	10.3	0.41	4828.	0.	0.	776.3	1000.0	776.3	3.999E-08	3.997E-08	3.997E-08
A	25.2	0.13	4828.	0.	0.	776.3	1000.0	776.3	1.629E-08	1.628E-08	1.628E-08
B	1.6	0.03	4828.	0.	0.	583.8	611.7	583.8	5.611E-07	5.604E-07	5.604E-07
B	2.1	0.09	4828.	0.	0.	583.8	611.7	583.8	4.270E-07	4.265E-07	4.265E-07
B	3.1	0.41	4828.	0.	0.	583.8	611.7	583.8	2.855E-07	2.851E-07	2.851E-07
B	4.1	0.73	4828.	0.	0.	583.8	611.7	583.8	2.149E-07	2.146E-07	2.146E-07
B	5.2	0.66	4828.	0.	0.	583.8	611.7	583.8	1.723E-07	1.721E-07	1.721E-07
B	6.2	0.85	4828.	0.	0.	583.8	611.7	583.8	1.439E-07	1.437E-07	1.437E-07
B	8.2	0.76	4828.	0.	0.	583.8	611.7	583.8	1.081E-07	1.080E-07	1.080E-07
B	10.3	0.19	4828.	0.	0.	583.8	611.7	583.8	8.693E-08	8.681E-08	8.681E-08
B	25.2	0.06	4828.	0.	0.	583.8	611.7	583.8	3.540E-08	3.536E-08	3.536E-08
C	1.6	0.06	4828.	0.	0.	443.4	256.4	443.4	1.763E-06	1.756E-06	1.756E-06
C	2.1	0.22	4828.	0.	0.	443.4	256.4	443.4	1.341E-06	1.336E-06	1.336E-06
C	3.1	1.29	4828.	0.	0.	443.4	256.4	443.4	8.969E-07	8.932E-07	8.932E-07
C	4.1	1.14	4828.	0.	0.	443.4	256.4	443.4	6.751E-07	6.724E-07	6.724E-07
C	5.2	1.20	4828.	0.	0.	443.4	256.4	443.4	5.413E-07	5.391E-07	5.391E-07
C	6.2	0.88	4828.	0.	0.	443.4	256.4	443.4	4.521E-07	4.503E-07	4.503E-07
C	8.2	0.95	4828.	0.	0.	443.4	256.4	443.4	3.396E-07	3.383E-07	3.383E-07
C	10.3	0.22	4828.	0.	0.	443.4	256.4	443.4	2.731E-07	2.720E-07	2.720E-07
C	25.2	0.09	4828.	0.	0.	443.4	256.4	443.4	1.112E-07	1.108E-07	1.108E-07
D	0.4	0.01	4828.	0.	0.	312.2	87.3	373.8	2.665E-05	3.137E-05	2.665E-05
D	1.1	0.50	4828.	0.	0.	312.2	87.3	373.8	9.072E-06	1.068E-05	9.072E-06
D	1.6	1.04	4828.	0.	0.	312.2	87.3	373.8	6.144E-06	7.232E-06	6.144E-06
D	2.1	2.15	4828.	0.	0.	312.2	87.3	370.5	4.717E-06	5.504E-06	4.717E-06
D	3.1	7.10	4828.	0.	0.	312.2	87.3	343.6	3.400E-06	3.680E-06	3.400E-06
D	4.1	6.47	4828.	0.	0.	312.2	87.3	328.4	2.679E-06	2.770E-06	2.679E-06

D	5.2	5.99	4828.	0.	0.	312.2	87.3	318.2	2.216E-06	2.221E-06	2.216E-06
D	6.2	4.92	4828.	0.	0.	312.2	87.3	312.2	1.886E-06	1.855E-06	1.855E-06
D	8.2	6.97	4828.	0.	0.	312.2	87.3	312.2	1.417E-06	1.393E-06	1.393E-06
D	10.3	2.40	4828.	0.	0.	312.2	87.3	312.2	1.139E-06	1.120E-06	1.120E-06
D	25.2	0.44	4828.	0.	0.	312.2	87.3	312.2	4.641E-07	4.563E-07	4.563E-07
E	0.4	0.01	4828.	0.	0.	222.0	55.4	309.6	4.947E-05	6.647E-05	4.947E-05
E	1.1	1.10	4828.	0.	0.	222.0	55.4	309.6	1.684E-05	2.263E-05	1.684E-05
E	1.6	2.24	4828.	0.	0.	222.0	55.4	309.6	1.140E-05	1.532E-05	1.140E-05
E	2.1	2.84	4828.	0.	0.	222.0	55.4	301.1	8.921E-06	1.166E-05	8.921E-06
E	3.2	6.56	4828.	0.	0.	222.0	55.4	260.4	6.898E-06	7.797E-06	6.898E-06
E	4.2	5.43	4828.	0.	0.	222.0	55.4	240.1	5.632E-06	5.869E-06	5.632E-06
E	5.3	5.02	4828.	0.	0.	222.0	55.4	227.8	4.759E-06	4.706E-06	4.706E-06
E	6.3	4.67	4828.	0.	0.	222.0	55.4	222.0	4.079E-06	3.930E-06	3.930E-06
E	8.4	4.48	4828.	0.	0.	222.0	55.4	222.0	3.064E-06	2.953E-06	2.953E-06
E	10.5	1.55	4828.	0.	0.	222.0	55.4	222.0	2.464E-06	2.374E-06	2.374E-06
E	25.8	0.03	4828.	0.	0.	222.0	55.4	222.0	1.003E-06	9.669E-07	9.669E-07
F	0.4	0.01	4828.	0.	0.	153.2	34.5	243.9	1.009E-04	1.477E-04	1.009E-04
F	1.1	0.95	4828.	0.	0.	153.2	34.5	243.9	3.436E-05	5.027E-05	3.436E-05
F	1.6	2.30	4828.	0.	0.	153.2	34.5	243.9	2.327E-05	3.405E-05	2.327E-05
F	2.1	3.22	4828.	0.	0.	153.2	34.5	234.2	1.844E-05	2.591E-05	1.844E-05
F	3.2	2.71	4828.	0.	0.	153.2	34.5	189.9	1.520E-05	1.732E-05	1.520E-05
F	4.2	1.20	4828.	0.	0.	153.2	34.5	169.8	1.280E-05	1.304E-05	1.280E-05
F	5.3	0.13	4828.	0.	0.	153.2	34.5	158.4	1.100E-05	1.045E-05	1.045E-05
F	6.3	0.03	4828.	0.	0.	153.2	34.5	153.2	9.499E-06	8.732E-06	8.732E-06
G	0.4	0.02	4828.	0.	0.	105.8	21.5	210.1	1.884E-04	3.106E-04	1.884E-04
G	1.1	1.36	4828.	0.	0.	105.8	21.5	210.1	6.413E-05	1.057E-04	6.413E-05
G	1.6	1.33	4828.	0.	0.	105.8	21.5	210.1	4.343E-05	7.161E-05	4.343E-05
G	2.1	1.07	4828.	0.	0.	105.8	21.5	197.3	3.520E-05	5.449E-05	3.520E-05
G	3.2	0.22	4828.	0.	0.	105.8	21.5	143.2	3.242E-05	3.643E-05	3.242E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 4828.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

1.884E-04	1.009E-04	6.413E-05	4.947E-05	4.343E-05	3.520E-05	3.436E-05	3.242E-05	2.665E-05	2.327E-05
0.024	0.032	1.389	1.401	2.726	3.799	4.745	4.966	4.973	7.276
0.00173	0.00233	0.10083	0.10174	0.19795	0.27583	0.34455	0.36058	0.36106	0.52828
1.844E-05	1.684E-05	1.520E-05	1.280E-05	1.140E-05	1.045E-05	9.072E-06	8.921E-06	8.732E-06	6.898E-06
10.494	11.598	14.311	15.510	17.750	17.877	18.381	21.221	21.252	27.815
0.76193	0.84210	1.03910	1.12615	1.28879	1.29795	1.33460	1.54076	1.54305	2.01952
6.144E-06	5.632E-06	4.717E-06	4.706E-06	3.930E-06	3.400E-06	2.953E-06	2.679E-06	2.374E-06	2.216E-06
28.856	34.282	36.428	41.444	46.113	53.212	57.692	64.160	65.706	71.700
2.09511	2.48911	2.64487	3.00909	3.34811	3.86352	4.18880	4.65839	4.77063	5.20586
1.855E-06	1.756E-06	1.393E-06	1.336E-06	1.120E-06	9.669E-07	8.932E-07	6.724E-07	5.604E-07	5.391E-07
76.622	76.685	83.657	83.878	86.276	86.308	87.601	88.737	88.768	89.967
5.56321	5.56779	6.07403	6.09007	6.26416	6.26645	6.36037	6.44283	6.44513	6.53217
4.563E-07	4.503E-07	4.265E-07	3.810E-07	3.383E-07	2.851E-07	2.720E-07	2.580E-07	2.146E-07	1.963E-07
90.409	91.292	91.387	91.419	92.365	92.775	92.996	93.091	93.816	93.848
6.56424	6.62838	6.63525	6.63754	6.70626	6.73604	6.75208	6.75895	6.81164	6.81393
1.721E-07	1.437E-07	1.313E-07	1.108E-07	1.080E-07	9.881E-08	8.681E-08	7.923E-08	6.617E-08	4.971E-08
94.510	95.362	95.709	95.804	96.561	96.940	97.129	97.728	98.359	99.401
6.86203	6.92388	6.94908	6.95595	7.01093	7.03841	7.05216	7.09568	7.14149	7.21709
3.997E-08	3.536E-08	1.628E-08							
99.811	99.874	100.000							
7.24687	7.25145	7.26061							

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.101
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.344
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   1.038
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.487
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.006
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.655
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   5.202
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   5.559
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE(10)=   6.070
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE(11)=   6.260

 K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
10  1      -8.57707 -12.81680  -1.02400
10  2      -9.65463 -14.65183  -1.61823
10  3     -10.27864 -15.92686  -2.09003
10  4     -11.09395 -17.65345  -2.83671
10  5     -12.08707 -16.36502  -2.18011
10  6     -12.26668 -17.54812  -2.80946
10  7     -12.83023 -18.75804  -3.52995
10  8     -13.01987 -21.86278  -5.43990
10  9     -13.19770 -23.56004  -6.50544
10 10     -13.48372 -35.10695 -13.96030
10 11     -13.70185     NUMXQ(K)= 11
   7.077E-05              0.073              1.000
   4.373E-05              0.218              3.000
   3.313E-05              0.363              5.000
   2.004E-05              0.726             10.000
   1.446E-05              1.089             15.000
   1.054E-05              1.452             20.000
   8.183E-06              1.815             25.000
   6.610E-06              2.178             30.000
   5.524E-06              2.541             35.000
   4.869E-06              2.904             40.000
   4.246E-06              3.267             45.000
   3.715E-06              3.630             50.000
   3.284E-06              3.993             55.000
   2.929E-06              4.356             60.000
   2.620E-06              4.719             65.000
   2.309E-06              5.082             70.000
   1.965E-06              5.445             75.000
   1.613E-06              5.808             80.000
   1.245E-06              6.172             85.000
```

```
    2.639E-05              0.5                6.89

ANNUAL AVERAGE =    1.73E-07

K= 10      FIVEXQ(K)= 2.639E-05      FIVEPR(K)= 6.886
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.6	0.07	4828.	0.	0.	776.3	1000.0	776.3	2.582E-07	2.580E-07	2.580E-07
A	2.1	0.17	4828.	0.	0.	776.3	1000.0	776.3	1.964E-07	1.963E-07	1.963E-07
A	3.1	0.65	4828.	0.	0.	776.3	1000.0	776.3	1.313E-07	1.313E-07	1.313E-07
A	4.1	0.69	4828.	0.	0.	776.3	1000.0	776.3	9.887E-08	9.881E-08	9.881E-08
A	5.2	0.96	4828.	0.	0.	776.3	1000.0	776.3	7.927E-08	7.923E-08	7.923E-08
A	6.2	0.65	4828.	0.	0.	776.3	1000.0	776.3	6.621E-08	6.617E-08	6.617E-08
A	8.2	0.99	4828.	0.	0.	776.3	1000.0	776.3	4.974E-08	4.971E-08	4.971E-08
A	10.3	0.24	4828.	0.	0.	776.3	1000.0	776.3	3.999E-08	3.997E-08	3.997E-08
A	25.2	0.07	4828.	0.	0.	776.3	1000.0	776.3	1.629E-08	1.628E-08	1.628E-08
B	2.1	0.07	4828.	0.	0.	583.8	611.7	583.8	4.270E-07	4.265E-07	4.265E-07
B	3.1	0.75	4828.	0.	0.	583.8	611.7	583.8	2.855E-07	2.851E-07	2.851E-07
B	4.1	0.99	4828.	0.	0.	583.8	611.7	583.8	2.149E-07	2.146E-07	2.146E-07
B	5.2	1.06	4828.	0.	0.	583.8	611.7	583.8	1.723E-07	1.721E-07	1.721E-07
B	6.2	0.75	4828.	0.	0.	583.8	611.7	583.8	1.439E-07	1.437E-07	1.437E-07
B	8.2	0.48	4828.	0.	0.	583.8	611.7	583.8	1.081E-07	1.080E-07	1.080E-07
B	10.3	0.14	4828.	0.	0.	583.8	611.7	583.8	8.693E-08	8.681E-08	8.681E-08
B	25.2	0.10	4828.	0.	0.	583.8	611.7	583.8	3.540E-08	3.536E-08	3.536E-08
C	1.6	0.34	4828.	0.	0.	443.4	256.4	443.4	1.763E-06	1.756E-06	1.756E-06
C	2.1	0.21	4828.	0.	0.	443.4	256.4	443.4	1.341E-06	1.336E-06	1.336E-06
C	3.1	1.23	4828.	0.	0.	443.4	256.4	443.4	8.969E-07	8.932E-07	8.932E-07
C	4.1	1.54	4828.	0.	0.	443.4	256.4	443.4	6.751E-07	6.724E-07	6.724E-07
C	5.2	1.64	4828.	0.	0.	443.4	256.4	443.4	5.413E-07	5.391E-07	5.391E-07
C	6.2	0.96	4828.	0.	0.	443.4	256.4	443.4	4.521E-07	4.503E-07	4.503E-07
C	8.2	0.65	4828.	0.	0.	443.4	256.4	443.4	3.396E-07	3.383E-07	3.383E-07
C	10.3	0.14	4828.	0.	0.	443.4	256.4	443.4	2.731E-07	2.720E-07	2.720E-07
C	25.2	0.14	4828.	0.	0.	443.4	256.4	443.4	1.112E-07	1.108E-07	1.108E-07
D	0.4	0.01	4828.	0.	0.	312.2	87.3	373.8	2.665E-05	3.137E-05	2.665E-05
D	1.1	0.72	4828.	0.	0.	312.2	87.3	373.8	9.072E-06	1.068E-05	9.072E-06
D	1.6	1.68	4828.	0.	0.	312.2	87.3	373.8	6.144E-06	7.232E-06	6.144E-06
D	2.1	2.54	4828.	0.	0.	312.2	87.3	370.5	4.717E-06	5.504E-06	4.717E-06
D	3.1	9.05	4828.	0.	0.	312.2	87.3	343.6	3.400E-06	3.680E-06	3.400E-06
D	4.1	8.29	4828.	0.	0.	312.2	87.3	328.4	2.679E-06	2.770E-06	2.679E-06
D	5.2	8.33	4828.	0.	0.	312.2	87.3	318.2	2.216E-06	2.221E-06	2.216E-06
D	6.2	5.62	4828.	0.	0.	312.2	87.3	312.2	1.886E-06	1.855E-06	1.855E-06

D	8.2	5.24	4828.	0.	0.	312.2	87.3	312.2	1.417E-06	1.393E-06	1.393E-06
D	10.3	1.34	4828.	0.	0.	312.2	87.3	312.2	1.139E-06	1.120E-06	1.120E-06
D	25.2	0.93	4828.	0.	0.	312.2	87.3	312.2	4.641E-07	4.563E-07	4.563E-07
E	0.4	0.02	4828.	0.	0.	222.0	55.4	309.6	4.947E-05	6.647E-05	4.947E-05
E	1.1	1.47	4828.	0.	0.	222.0	55.4	309.6	1.684E-05	2.263E-05	1.684E-05
E	1.6	3.26	4828.	0.	0.	222.0	55.4	309.6	1.140E-05	1.532E-05	1.140E-05
E	2.1	4.22	4828.	0.	0.	222.0	55.4	301.1	8.921E-06	1.166E-05	8.921E-06
E	3.2	7.40	4828.	0.	0.	222.0	55.4	260.4	6.898E-06	7.797E-06	6.898E-06
E	4.2	5.96	4828.	0.	0.	222.0	55.4	240.1	5.632E-06	5.869E-06	5.632E-06
E	5.3	4.52	4828.	0.	0.	222.0	55.4	227.8	4.759E-06	4.706E-06	4.706E-06
E	6.3	1.85	4828.	0.	0.	222.0	55.4	222.0	4.079E-06	3.930E-06	3.930E-06
E	8.4	1.51	4828.	0.	0.	222.0	55.4	222.0	3.064E-06	2.953E-06	2.953E-06
E	10.5	0.21	4828.	0.	0.	222.0	55.4	222.0	2.464E-06	2.374E-06	2.374E-06
F	0.4	0.01	4828.	0.	0.	153.2	34.5	243.9	1.009E-04	1.477E-04	1.009E-04
F	1.1	1.58	4828.	0.	0.	153.2	34.5	243.9	3.436E-05	5.027E-05	3.436E-05
F	1.6	2.26	4828.	0.	0.	153.2	34.5	243.9	2.327E-05	3.405E-05	2.327E-05
F	2.1	1.75	4828.	0.	0.	153.2	34.5	234.2	1.844E-05	2.591E-05	1.844E-05
F	3.2	1.47	4828.	0.	0.	153.2	34.5	189.9	1.520E-05	1.732E-05	1.520E-05
F	4.2	0.10	4828.	0.	0.	153.2	34.5	169.8	1.280E-05	1.304E-05	1.280E-05
F	5.3	0.07	4828.	0.	0.	153.2	34.5	158.4	1.100E-05	1.045E-05	1.045E-05
G	0.4	0.03	4828.	0.	0.	105.8	21.5	210.1	1.884E-04	3.106E-04	1.884E-04
G	1.1	1.71	4828.	0.	0.	105.8	21.5	210.1	6.413E-05	1.057E-04	6.413E-05
G	1.6	0.93	4828.	0.	0.	105.8	21.5	210.1	4.343E-05	7.161E-05	4.343E-05
G	2.1	0.21	4828.	0.	0.	105.8	21.5	197.3	3.520E-05	5.449E-05	3.520E-05
G	3.2	0.03	4828.	0.	0.	105.8	21.5	143.2	3.242E-05	3.643E-05	3.242E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

LOW POPULATION ZONE CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 4828.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

1.884E-04	1.009E-04	6.413E-05	4.947E-05	4.343E-05	3.520E-05	3.436E-05	3.242E-05	2.665E-05	2.327E-05
0.030	0.044	1.757	1.774	2.699	2.905	4.481	4.516	4.525	6.787
0.00202	0.00293	0.11746	0.11858	0.18043	0.19417	0.29954	0.30183	0.30245	0.45364
1.844E-05	1.684E-05	1.520E-05	1.280E-05	1.140E-05	1.045E-05	9.072E-06	8.921E-06	6.898E-06	6.144E-06
8.534	10.008	11.482	11.584	14.840	14.909	15.628	19.843	27.246	28.925
0.57047	0.66896	0.76746	0.77434	0.99195	0.99653	1.04464	1.32639	1.82118	1.93342
5.632E-06	4.717E-06	4.706E-06	3.930E-06	3.400E-06	2.953E-06	2.679E-06	2.374E-06	2.216E-06	1.855E-06
34.888	37.424	41.947	43.798	52.845	54.353	62.646	62.852	71.179	76.799
2.33200	2.50152	2.80389	2.92758	3.53233	3.63312	4.18746	4.20121	4.75784	5.13352
1.756E-06	1.393E-06	1.336E-06	1.120E-06	8.932E-07	6.724E-07	5.391E-07	4.563E-07	4.503E-07	4.265E-07
77.142	82.385	82.591	83.928	85.161	86.703	88.348	89.274	90.233	90.302
5.15642	5.50690	5.52064	5.60998	5.69244	5.79553	5.90548	5.96733	6.03147	6.03605
3.383E-07	2.851E-07	2.720E-07	2.580E-07	2.146E-07	1.963E-07	1.721E-07	1.437E-07	1.313E-07	1.108E-07
90.953	91.707	91.844	91.912	92.906	93.078	94.140	94.894	95.545	95.682
6.07957	6.12997	6.13913	6.14371	6.21014	6.22159	6.29260	6.34300	6.38652	6.39569
1.080E-07	9.881E-08	8.681E-08	7.923E-08	6.617E-08	4.971E-08	3.997E-08	3.536E-08	1.628E-08	
96.162	96.847	96.984	97.944	98.595	99.589	99.829	99.931	100.000	
6.42776	6.47357	6.48273	6.54687	6.59039	6.65682	6.67286	6.67973	6.68431	

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

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

HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.117
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.299
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.767
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.330
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.801
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.184
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.754
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   5.130
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE(10)=   5.503

 K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
11  1      -8.57707 -12.73798  -1.01346
11  2      -9.65463 -16.11759  -2.12429
11  3     -10.27864 -17.19110  -2.51485
11  4     -11.09395 -16.63585  -2.28583
11  5     -12.08707 -16.60370  -2.26968
11  6     -12.26668 -18.21169  -3.11118
11  7     -12.83023 -18.24765  -3.13197
11  8     -13.01987 -21.09208  -4.83607
11  9     -13.19770 -26.73759  -8.29449
11 10     -13.48372     NUMXQ(K)= 10
   7.586E-05              0.067              1.000
   4.519E-05              0.201              3.000
   3.138E-05              0.334              5.000
   1.723E-05              0.668             10.000
   1.213E-05              1.003             15.000
   9.436E-06              1.337             20.000
   7.711E-06              1.671             25.000
   6.506E-06              2.005             30.000
   5.614E-06              2.340             35.000
   4.932E-06              2.674             40.000
   4.276E-06              3.008             45.000
   3.695E-06              3.342             50.000
   3.231E-06              3.676             55.000
   2.852E-06              4.011             60.000
   2.537E-06              4.345             65.000
   2.272E-06              4.679             70.000
   1.961E-06              5.013             75.000
   1.571E-06              5.347             80.000

   2.227E-05              0.5                7.48

ANNUAL AVERAGE =   1.67E-07

K= 11     FIVEXQ(K)= 2.227E-05     FIVEPR(K)= 7.480
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.6	0.23	4828.	0.	0.	776.3	1000.0	776.3	2.582E-07	2.580E-07	2.580E-07
A	2.1	0.15	4828.	0.	0.	776.3	1000.0	776.3	1.964E-07	1.963E-07	1.963E-07
A	3.1	0.39	4828.	0.	0.	776.3	1000.0	776.3	1.313E-07	1.313E-07	1.313E-07
A	4.1	0.35	4828.	0.	0.	776.3	1000.0	776.3	9.887E-08	9.881E-08	9.881E-08
A	5.2	0.89	4828.	0.	0.	776.3	1000.0	776.3	7.927E-08	7.923E-08	7.923E-08
A	6.2	0.58	4828.	0.	0.	776.3	1000.0	776.3	6.621E-08	6.617E-08	6.617E-08
A	8.2	0.96	4828.	0.	0.	776.3	1000.0	776.3	4.974E-08	4.971E-08	4.971E-08
A	10.3	0.12	4828.	0.	0.	776.3	1000.0	776.3	3.999E-08	3.997E-08	3.997E-08
A	25.2	0.04	4828.	0.	0.	776.3	1000.0	776.3	1.629E-08	1.628E-08	1.628E-08
B	1.6	0.04	4828.	0.	0.	583.8	611.7	583.8	5.611E-07	5.604E-07	5.604E-07
B	2.1	0.19	4828.	0.	0.	583.8	611.7	583.8	4.270E-07	4.265E-07	4.265E-07
B	3.1	0.23	4828.	0.	0.	583.8	611.7	583.8	2.855E-07	2.851E-07	2.851E-07
B	4.1	0.50	4828.	0.	0.	583.8	611.7	583.8	2.149E-07	2.146E-07	2.146E-07
B	5.2	0.96	4828.	0.	0.	583.8	611.7	583.8	1.723E-07	1.721E-07	1.721E-07
B	6.2	0.50	4828.	0.	0.	583.8	611.7	583.8	1.439E-07	1.437E-07	1.437E-07
B	8.2	0.39	4828.	0.	0.	583.8	611.7	583.8	1.081E-07	1.080E-07	1.080E-07
B	10.3	0.23	4828.	0.	0.	583.8	611.7	583.8	8.693E-08	8.681E-08	8.681E-08
B	25.2	0.08	4828.	0.	0.	583.8	611.7	583.8	3.540E-08	3.536E-08	3.536E-08
C	1.6	0.08	4828.	0.	0.	443.4	256.4	443.4	1.763E-06	1.756E-06	1.756E-06
C	2.1	0.31	4828.	0.	0.	443.4	256.4	443.4	1.341E-06	1.336E-06	1.336E-06
C	3.1	0.73	4828.	0.	0.	443.4	256.4	443.4	8.969E-07	8.932E-07	8.932E-07
C	4.1	0.85	4828.	0.	0.	443.4	256.4	443.4	6.751E-07	6.724E-07	6.724E-07
C	5.2	1.27	4828.	0.	0.	443.4	256.4	443.4	5.413E-07	5.391E-07	5.391E-07
C	6.2	0.50	4828.	0.	0.	443.4	256.4	443.4	4.521E-07	4.503E-07	4.503E-07
C	8.2	0.89	4828.	0.	0.	443.4	256.4	443.4	3.396E-07	3.383E-07	3.383E-07
C	10.3	0.27	4828.	0.	0.	443.4	256.4	443.4	2.731E-07	2.720E-07	2.720E-07
C	25.2	0.15	4828.	0.	0.	443.4	256.4	443.4	1.112E-07	1.108E-07	1.108E-07
D	0.4	0.01	4828.	0.	0.	312.2	87.3	373.8	2.665E-05	3.137E-05	2.665E-05
D	1.1	1.12	4828.	0.	0.	312.2	87.3	373.8	9.072E-06	1.068E-05	9.072E-06
D	1.6	1.93	4828.	0.	0.	312.2	87.3	373.8	6.144E-06	7.232E-06	6.144E-06
D	2.1	2.89	4828.	0.	0.	312.2	87.3	370.5	4.717E-06	5.504E-06	4.717E-06
D	3.1	8.18	4828.	0.	0.	312.2	87.3	343.6	3.400E-06	3.680E-06	3.400E-06
D	4.1	8.53	4828.	0.	0.	312.2	87.3	328.4	2.679E-06	2.770E-06	2.679E-06
D	5.2	8.76	4828.	0.	0.	312.2	87.3	318.2	2.216E-06	2.221E-06	2.216E-06

D	6.2	5.94	4828.	0.	0.	312.2	87.3	312.2	1.886E-06	1.855E-06	1.855E-06
D	8.2	7.37	4828.	0.	0.	312.2	87.3	312.2	1.417E-06	1.393E-06	1.393E-06
D	10.3	3.13	4828.	0.	0.	312.2	87.3	312.2	1.139E-06	1.120E-06	1.120E-06
D	25.2	1.70	4828.	0.	0.	312.2	87.3	312.2	4.641E-07	4.563E-07	4.563E-07
E	0.4	0.02	4828.	0.	0.	222.0	55.4	309.6	4.947E-05	6.647E-05	4.947E-05
E	1.1	1.70	4828.	0.	0.	222.0	55.4	309.6	1.684E-05	2.263E-05	1.684E-05
E	1.6	2.89	4828.	0.	0.	222.0	55.4	309.6	1.140E-05	1.532E-05	1.140E-05
E	2.1	4.17	4828.	0.	0.	222.0	55.4	301.1	8.921E-06	1.166E-05	8.921E-06
E	3.2	6.95	4828.	0.	0.	222.0	55.4	260.4	6.898E-06	7.797E-06	6.898E-06
E	4.2	5.67	4828.	0.	0.	222.0	55.4	240.1	5.632E-06	5.869E-06	5.632E-06
E	5.3	3.97	4828.	0.	0.	222.0	55.4	227.8	4.759E-06	4.706E-06	4.706E-06
E	6.3	1.20	4828.	0.	0.	222.0	55.4	222.0	4.079E-06	3.930E-06	3.930E-06
E	8.4	0.81	4828.	0.	0.	222.0	55.4	222.0	3.064E-06	2.953E-06	2.953E-06
E	10.5	0.08	4828.	0.	0.	222.0	55.4	222.0	2.464E-06	2.374E-06	2.374E-06
F	0.4	0.02	4828.	0.	0.	153.2	34.5	243.9	1.009E-04	1.477E-04	1.009E-04
F	1.1	2.08	4828.	0.	0.	153.2	34.5	243.9	3.436E-05	5.027E-05	3.436E-05
F	1.6	2.66	4828.	0.	0.	153.2	34.5	243.9	2.327E-05	3.405E-05	2.327E-05
F	2.1	1.93	4828.	0.	0.	153.2	34.5	234.2	1.844E-05	2.591E-05	1.844E-05
F	3.2	0.62	4828.	0.	0.	153.2	34.5	189.9	1.520E-05	1.732E-05	1.520E-05
F	4.2	0.23	4828.	0.	0.	153.2	34.5	169.8	1.280E-05	1.304E-05	1.280E-05
F	5.3	0.08	4828.	0.	0.	153.2	34.5	158.4	1.100E-05	1.045E-05	1.045E-05
F	6.3	0.04	4828.	0.	0.	153.2	34.5	153.2	9.499E-06	8.732E-06	8.732E-06
G	0.4	0.04	4828.	0.	0.	105.8	21.5	210.1	1.884E-04	3.106E-04	1.884E-04
G	1.1	2.01	4828.	0.	0.	105.8	21.5	210.1	6.413E-05	1.057E-04	6.413E-05
G	1.6	1.16	4828.	0.	0.	105.8	21.5	210.1	4.343E-05	7.161E-05	4.343E-05
G	2.1	0.15	4828.	0.	0.	105.8	21.5	197.3	3.520E-05	5.449E-05	3.520E-05
G	3.2	0.08	4828.	0.	0.	105.8	21.5	143.2	3.242E-05	3.643E-05	3.242E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 4828.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

1.884E-04	1.009E-04	6.413E-05	4.947E-05	4.343E-05	3.520E-05	3.436E-05	3.242E-05	2.665E-05	2.327E-05
0.035	0.053	2.060	2.079	3.237	3.391	5.475	5.553	5.567	8.230
0.00210	0.00317	0.12229	0.12343	0.19215	0.20131	0.32501	0.32959	0.33044	0.48850
1.844E-05	1.684E-05	1.520E-05	1.280E-05	1.140E-05	1.045E-05	9.072E-06	8.921E-06	8.732E-06	6.898E-06
10.159	11.857	12.475	12.706	15.601	15.678	16.797	20.965	21.004	27.950
0.60304	0.70383	0.74048	0.75422	0.92602	0.93061	0.99704	1.24443	1.24672	1.65904
6.144E-06	5.632E-06	4.717E-06	4.706E-06	3.930E-06	3.400E-06	2.953E-06	2.679E-06	2.374E-06	2.216E-06
29.880	35.552	38.447	42.422	43.618	51.799	52.610	61.139	61.216	69.976
1.77358	2.11031	2.28211	2.51805	2.58906	3.07469	3.12279	3.62904	3.63362	4.15360
1.855E-06	1.756E-06	1.393E-06	1.336E-06	1.120E-06	8.932E-07	6.724E-07	5.604E-07	5.391E-07	4.563E-07
75.919	75.996	83.367	83.676	86.802	87.535	88.384	88.423	89.696	91.394
4.50637	4.51095	4.94847	4.96680	5.15234	5.19587	5.24626	5.24855	5.32415	5.42494
4.503E-07	4.265E-07	3.383E-07	2.851E-07	2.720E-07	2.580E-07	2.146E-07	1.963E-07	1.721E-07	1.437E-07
91.896	92.089	92.976	93.208	93.478	93.710	94.211	94.366	95.330	95.832
5.45472	5.46617	5.51885	5.53260	5.54863	5.56238	5.59216	5.60132	5.65859	5.68837
1.313E-07	1.108E-07	1.080E-07	9.881E-08	8.681E-08	7.923E-08	6.617E-08	4.971E-08	3.997E-08	3.536E-08
96.218	96.372	96.758	97.106	97.337	98.225	98.804	99.768	99.884	99.961
5.71127	5.72043	5.74334	5.76396	5.77770	5.83039	5.86475	5.92202	5.92889	5.93347
1.628E-08									
100.000									
5.93576									

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.122
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.325
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.703
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.657
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.108
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   2.516
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.150
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   4.503
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE(10)=   4.945

 K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
12  1      -8.57707 -12.71690  -1.01056
12  2      -9.65463 -15.78453  -2.02288
12  3     -10.27864 -17.57358  -2.68018
12  4     -10.99177 -17.72768  -2.74294
12  5     -11.88432 -16.27337  -2.06027
12  6     -12.08707 -16.97881  -2.40745
12  7     -12.26668 -18.85408  -3.36553
12  8     -13.01987 -21.04370  -4.62864
12  9     -13.19770 -24.00276  -6.37429
12 10     -13.48372     NUMXQ(K)= 10
   7.944E-05              0.059              1.000
   5.078E-05              0.178              3.000
   3.650E-05              0.297              5.000
   1.981E-05              0.594             10.000
   1.331E-05              0.890             15.000
   9.890E-06              1.187             20.000
   7.792E-06              1.484             25.000
   6.503E-06              1.781             30.000
   5.708E-06              2.078             35.000
   4.999E-06              2.374             40.000
   4.320E-06              2.671             45.000
   3.701E-06              2.968             50.000
   3.210E-06              3.265             55.000
   2.813E-06              3.561             60.000
   2.487E-06              3.858             65.000
   2.214E-06              4.155             70.000
   1.905E-06              4.452             75.000
   1.582E-06              4.749             80.000

   2.326E-05              0.5                8.42
```

```
ANNUAL AVERAGE =    1.58E-07

K= 12      FIVEXQ(K)= 2.326E-05      FIVEPR(K)= 8.424
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.6	0.03	4828.	0.	0.	776.3	1000.0	776.3	2.582E-07	2.580E-07	2.580E-07
A	2.1	0.11	4828.	0.	0.	776.3	1000.0	776.3	1.964E-07	1.963E-07	1.963E-07
A	3.1	0.27	4828.	0.	0.	776.3	1000.0	776.3	1.313E-07	1.313E-07	1.313E-07
A	4.1	0.38	4828.	0.	0.	776.3	1000.0	776.3	9.887E-08	9.881E-08	9.881E-08
A	5.2	0.49	4828.	0.	0.	776.3	1000.0	776.3	7.927E-08	7.923E-08	7.923E-08
A	6.2	0.74	4828.	0.	0.	776.3	1000.0	776.3	6.621E-08	6.617E-08	6.617E-08
A	8.2	0.71	4828.	0.	0.	776.3	1000.0	776.3	4.974E-08	4.971E-08	4.971E-08
A	10.3	0.27	4828.	0.	0.	776.3	1000.0	776.3	3.999E-08	3.997E-08	3.997E-08
A	25.2	0.03	4828.	0.	0.	776.3	1000.0	776.3	1.629E-08	1.628E-08	1.628E-08
B	1.6	0.03	4828.	0.	0.	583.8	611.7	583.8	5.611E-07	5.604E-07	5.604E-07
B	2.1	0.11	4828.	0.	0.	583.8	611.7	583.8	4.270E-07	4.265E-07	4.265E-07
B	3.1	0.30	4828.	0.	0.	583.8	611.7	583.8	2.855E-07	2.851E-07	2.851E-07
B	4.1	0.44	4828.	0.	0.	583.8	611.7	583.8	2.149E-07	2.146E-07	2.146E-07
B	5.2	0.76	4828.	0.	0.	583.8	611.7	583.8	1.723E-07	1.721E-07	1.721E-07
B	6.2	0.57	4828.	0.	0.	583.8	611.7	583.8	1.439E-07	1.437E-07	1.437E-07
B	8.2	0.52	4828.	0.	0.	583.8	611.7	583.8	1.081E-07	1.080E-07	1.080E-07
B	10.3	0.27	4828.	0.	0.	583.8	611.7	583.8	8.693E-08	8.681E-08	8.681E-08
C	1.6	0.08	4828.	0.	0.	443.4	256.4	443.4	1.763E-06	1.756E-06	1.756E-06
C	2.1	0.14	4828.	0.	0.	443.4	256.4	443.4	1.341E-06	1.336E-06	1.336E-06
C	3.1	0.68	4828.	0.	0.	443.4	256.4	443.4	8.969E-07	8.932E-07	8.932E-07
C	4.1	1.09	4828.	0.	0.	443.4	256.4	443.4	6.751E-07	6.724E-07	6.724E-07
C	5.2	0.74	4828.	0.	0.	443.4	256.4	443.4	5.413E-07	5.391E-07	5.391E-07
C	6.2	0.74	4828.	0.	0.	443.4	256.4	443.4	4.521E-07	4.503E-07	4.503E-07
C	8.2	0.90	4828.	0.	0.	443.4	256.4	443.4	3.396E-07	3.383E-07	3.383E-07
C	10.3	0.27	4828.	0.	0.	443.4	256.4	443.4	2.731E-07	2.720E-07	2.720E-07
C	25.2	0.08	4828.	0.	0.	443.4	256.4	443.4	1.112E-07	1.108E-07	1.108E-07
D	0.4	0.01	4828.	0.	0.	312.2	87.3	373.8	2.665E-05	3.137E-05	2.665E-05
D	1.1	0.71	4828.	0.	0.	312.2	87.3	373.8	9.072E-06	1.068E-05	9.072E-06
D	1.6	1.25	4828.	0.	0.	312.2	87.3	373.8	6.144E-06	7.232E-06	6.144E-06
D	2.1	2.24	4828.	0.	0.	312.2	87.3	370.5	4.717E-06	5.504E-06	4.717E-06
D	3.1	6.57	4828.	0.	0.	312.2	87.3	343.6	3.400E-06	3.680E-06	3.400E-06
D	4.1	7.77	4828.	0.	0.	312.2	87.3	328.4	2.679E-06	2.770E-06	2.679E-06
D	5.2	8.94	4828.	0.	0.	312.2	87.3	318.2	2.216E-06	2.221E-06	2.216E-06
D	6.2	6.90	4828.	0.	0.	312.2	87.3	312.2	1.886E-06	1.855E-06	1.855E-06

D	8.2	10.99	4828.	0.	0.	312.2	87.3	312.2	1.417E-06	1.393E-06	1.393E-06
D	10.3	3.87	4828.	0.	0.	312.2	87.3	312.2	1.139E-06	1.120E-06	1.120E-06
D	25.2	2.67	4828.	0.	0.	312.2	87.3	312.2	4.641E-07	4.563E-07	4.563E-07
E	0.4	0.02	4828.	0.	0.	222.0	55.4	309.6	4.947E-05	6.647E-05	4.947E-05
E	1.1	1.69	4828.	0.	0.	222.0	55.4	309.6	1.684E-05	2.263E-05	1.684E-05
E	1.6	2.84	4828.	0.	0.	222.0	55.4	309.6	1.140E-05	1.532E-05	1.140E-05
E	2.1	2.67	4828.	0.	0.	222.0	55.4	301.1	8.921E-06	1.166E-05	8.921E-06
E	3.2	6.84	4828.	0.	0.	222.0	55.4	260.4	6.898E-06	7.797E-06	6.898E-06
E	4.2	5.15	4828.	0.	0.	222.0	55.4	240.1	5.632E-06	5.869E-06	5.632E-06
E	5.3	4.20	4828.	0.	0.	222.0	55.4	227.8	4.759E-06	4.706E-06	4.706E-06
E	6.3	1.39	4828.	0.	0.	222.0	55.4	222.0	4.079E-06	3.930E-06	3.930E-06
E	8.4	1.04	4828.	0.	0.	222.0	55.4	222.0	3.064E-06	2.953E-06	2.953E-06
E	10.5	0.22	4828.	0.	0.	222.0	55.4	222.0	2.464E-06	2.374E-06	2.374E-06
F	0.4	0.02	4828.	0.	0.	153.2	34.5	243.9	1.009E-04	1.477E-04	1.009E-04
F	1.1	1.91	4828.	0.	0.	153.2	34.5	243.9	3.436E-05	5.027E-05	3.436E-05
F	1.6	3.08	4828.	0.	0.	153.2	34.5	243.9	2.327E-05	3.405E-05	2.327E-05
F	2.1	1.72	4828.	0.	0.	153.2	34.5	234.2	1.844E-05	2.591E-05	1.844E-05
F	3.2	1.01	4828.	0.	0.	153.2	34.5	189.9	1.520E-05	1.732E-05	1.520E-05
F	4.2	0.08	4828.	0.	0.	153.2	34.5	169.8	1.280E-05	1.304E-05	1.280E-05
F	5.3	0.05	4828.	0.	0.	153.2	34.5	158.4	1.100E-05	1.045E-05	1.045E-05
G	0.4	0.04	4828.	0.	0.	105.8	21.5	210.1	1.884E-04	3.106E-04	1.884E-04
G	1.1	1.99	4828.	0.	0.	105.8	21.5	210.1	6.413E-05	1.057E-04	6.413E-05
G	1.6	1.06	4828.	0.	0.	105.8	21.5	210.1	4.343E-05	7.161E-05	4.343E-05
G	2.1	0.25	4828.	0.	0.	105.8	21.5	197.3	3.520E-05	5.449E-05	3.520E-05
G	3.2	0.05	4828.	0.	0.	105.8	21.5	143.2	3.242E-05	3.643E-05	3.242E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

LOW POPULATION ZONE CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 4828.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

1.884E-04	1.009E-04	6.413E-05	4.947E-05	4.343E-05	3.520E-05	3.436E-05	3.242E-05	2.665E-05	2.327E-05
0.035	0.052	2.042	2.061	3.125	3.370	5.279	5.334	5.343	8.425
0.00294	0.00433	0.17156	0.17316	0.26250	0.28311	0.44346	0.44804	0.44881	0.70766
1.844E-05	1.684E-05	1.520E-05	1.280E-05	1.140E-05	1.045E-05	9.072E-06	8.921E-06	6.898E-06	6.144E-06
10.143	11.834	12.843	12.924	15.761	15.815	16.524	19.197	26.042	27.296
0.85197	0.99400	1.07875	1.08562	1.32386	1.32844	1.38799	1.61248	2.18745	2.29282
5.632E-06	4.717E-06	4.706E-06	3.930E-06	3.400E-06	2.953E-06	2.679E-06	2.374E-06	2.216E-06	1.855E-06
32.450	34.686	38.886	40.277	46.849	47.886	55.658	55.876	64.821	71.720
2.72576	2.91359	3.26636	3.38318	3.93524	4.02229	4.67513	4.69346	5.44480	6.02435
1.756E-06	1.393E-06	1.336E-06	1.120E-06	8.932E-07	6.724E-07	5.604E-07	5.391E-07	4.563E-07	4.503E-07
71.802	82.792	82.928	86.801	87.483	88.574	88.601	89.337	92.010	92.746
6.03122	6.95437	6.96582	7.29110	7.34837	7.43999	7.44228	7.50413	7.72862	7.79047
4.265E-07	3.383E-07	2.851E-07	2.720E-07	2.580E-07	2.146E-07	1.963E-07	1.721E-07	1.437E-07	1.313E-07
92.855	93.755	94.055	94.328	94.355	94.791	94.900	95.664	96.237	96.509
7.79963	7.87522	7.90042	7.92333	7.92562	7.96227	7.97143	8.03557	8.08368	8.10658
1.108E-07	1.080E-07	9.881E-08	8.681E-08	7.923E-08	6.617E-08	4.971E-08	3.997E-08	1.628E-08	
96.591	97.109	97.491	97.764	98.255	98.991	99.700	99.973	100.000	
8.11345	8.15698	8.18905	8.21195	8.25319	8.31503	8.37459	8.39750	8.39979	

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

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

                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.443
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.707
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   0.993
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.723
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.263
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   5.441
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   6.020
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE(10)=   6.951

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
 13  1      -8.57707 -12.54565  -0.98786
 13  2      -9.65463 -15.56285  -2.01884
 13  3     -10.27864 -16.51121  -2.38116
 13  4     -10.66838 -17.03023  -2.59268
 13  5     -10.99177 -17.27662  -2.69846
 13  6     -12.08707 -16.41974  -2.25290
 13  7     -12.26668 -18.05416  -3.13952
 13  8     -13.01987 -18.67047  -3.52387
 13  9     -13.19770 -19.23569  -3.88782
 13 10     -13.48372     NUMXQ(K)= 10
    7.933E-05              0.084              1.000
    5.016E-05              0.252              3.000
    3.567E-05              0.420              5.000
    1.980E-05              0.840             10.000
    1.320E-05              1.260             15.000
    9.717E-06              1.680             20.000
    7.595E-06              2.100             25.000
    6.170E-06              2.520             30.000
    5.228E-06              2.940             35.000
    4.522E-06              3.360             40.000
    3.823E-06              3.780             45.000
    3.279E-06              4.200             50.000
    2.846E-06              4.620             55.000
    2.495E-06              5.040             60.000
    2.205E-06              5.460             65.000
    1.936E-06              5.880             70.000
    1.698E-06              6.300             75.000
    1.493E-06              6.720             80.000

    3.115E-05              0.5                5.95

ANNUAL AVERAGE =   2.12E-07

K= 13     FIVEXQ(K)= 3.115E-05     FIVEPR(K)= 5.953
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.6	0.03	4828.	0.	0.	776.3	1000.0	776.3	2.582E-07	2.580E-07	2.580E-07
A	2.1	0.08	4828.	0.	0.	776.3	1000.0	776.3	1.964E-07	1.963E-07	1.963E-07
A	3.1	0.44	4828.	0.	0.	776.3	1000.0	776.3	1.313E-07	1.313E-07	1.313E-07
A	4.1	0.83	4828.	0.	0.	776.3	1000.0	776.3	9.887E-08	9.881E-08	9.881E-08
A	5.2	0.89	4828.	0.	0.	776.3	1000.0	776.3	7.927E-08	7.923E-08	7.923E-08
A	6.2	0.53	4828.	0.	0.	776.3	1000.0	776.3	6.621E-08	6.617E-08	6.617E-08
A	8.2	1.27	4828.	0.	0.	776.3	1000.0	776.3	4.974E-08	4.971E-08	4.971E-08
A	10.3	0.11	4828.	0.	0.	776.3	1000.0	776.3	3.999E-08	3.997E-08	3.997E-08
B	1.1	0.03	4828.	0.	0.	583.8	611.7	583.8	8.286E-07	8.275E-07	8.275E-07
B	1.6	0.03	4828.	0.	0.	583.8	611.7	583.8	5.611E-07	5.604E-07	5.604E-07
B	2.1	0.03	4828.	0.	0.	583.8	611.7	583.8	4.270E-07	4.265E-07	4.265E-07
B	3.1	0.19	4828.	0.	0.	583.8	611.7	583.8	2.855E-07	2.851E-07	2.851E-07
B	4.1	0.55	4828.	0.	0.	583.8	611.7	583.8	2.149E-07	2.146E-07	2.146E-07
B	5.2	0.75	4828.	0.	0.	583.8	611.7	583.8	1.723E-07	1.721E-07	1.721E-07
B	6.2	0.89	4828.	0.	0.	583.8	611.7	583.8	1.439E-07	1.437E-07	1.437E-07
B	8.2	0.72	4828.	0.	0.	583.8	611.7	583.8	1.081E-07	1.080E-07	1.080E-07
B	10.3	0.25	4828.	0.	0.	583.8	611.7	583.8	8.693E-08	8.681E-08	8.681E-08
B	25.2	0.06	4828.	0.	0.	583.8	611.7	583.8	3.540E-08	3.536E-08	3.536E-08
C	1.6	0.08	4828.	0.	0.	443.4	256.4	443.4	1.763E-06	1.756E-06	1.756E-06
C	2.1	0.14	4828.	0.	0.	443.4	256.4	443.4	1.341E-06	1.336E-06	1.336E-06
C	3.1	0.80	4828.	0.	0.	443.4	256.4	443.4	8.969E-07	8.932E-07	8.932E-07
C	4.1	1.11	4828.	0.	0.	443.4	256.4	443.4	6.751E-07	6.724E-07	6.724E-07
C	5.2	1.25	4828.	0.	0.	443.4	256.4	443.4	5.413E-07	5.391E-07	5.391E-07
C	6.2	1.13	4828.	0.	0.	443.4	256.4	443.4	4.521E-07	4.503E-07	4.503E-07
C	8.2	1.19	4828.	0.	0.	443.4	256.4	443.4	3.396E-07	3.383E-07	3.383E-07
C	10.3	0.47	4828.	0.	0.	443.4	256.4	443.4	2.731E-07	2.720E-07	2.720E-07
C	25.2	0.06	4828.	0.	0.	443.4	256.4	443.4	1.112E-07	1.108E-07	1.108E-07
D	0.4	0.01	4828.	0.	0.	312.2	87.3	373.8	2.665E-05	3.137E-05	2.665E-05
D	1.1	0.89	4828.	0.	0.	312.2	87.3	373.8	9.072E-06	1.068E-05	9.072E-06
D	1.6	1.77	4828.	0.	0.	312.2	87.3	373.8	6.144E-06	7.232E-06	6.144E-06
D	2.1	2.96	4828.	0.	0.	312.2	87.3	370.5	4.717E-06	5.504E-06	4.717E-06
D	3.1	8.63	4828.	0.	0.	312.2	87.3	343.6	3.400E-06	3.680E-06	3.400E-06
D	4.1	9.93	4828.	0.	0.	312.2	87.3	328.4	2.679E-06	2.770E-06	2.679E-06
D	5.2	10.27	4828.	0.	0.	312.2	87.3	318.2	2.216E-06	2.221E-06	2.216E-06

D	6.2	8.69	4828.	0.	0.	312.2	87.3	312.2	1.886E-06	1.855E-06	1.855E-06
D	8.2	8.80	4828.	0.	0.	312.2	87.3	312.2	1.417E-06	1.393E-06	1.393E-06
D	10.3	3.76	4828.	0.	0.	312.2	87.3	312.2	1.139E-06	1.120E-06	1.120E-06
D	25.2	0.89	4828.	0.	0.	312.2	87.3	312.2	4.641E-07	4.563E-07	4.563E-07
E	0.4	0.02	4828.	0.	0.	222.0	55.4	309.6	4.947E-05	6.647E-05	4.947E-05
E	1.1	1.80	4828.	0.	0.	222.0	55.4	309.6	1.684E-05	2.263E-05	1.684E-05
E	1.6	2.85	4828.	0.	0.	222.0	55.4	309.6	1.140E-05	1.532E-05	1.140E-05
E	2.1	3.21	4828.	0.	0.	222.0	55.4	301.1	8.921E-06	1.166E-05	8.921E-06
E	3.2	6.03	4828.	0.	0.	222.0	55.4	260.4	6.898E-06	7.797E-06	6.898E-06
E	4.2	3.54	4828.	0.	0.	222.0	55.4	240.1	5.632E-06	5.869E-06	5.632E-06
E	5.3	1.80	4828.	0.	0.	222.0	55.4	227.8	4.759E-06	4.706E-06	4.706E-06
E	6.3	0.55	4828.	0.	0.	222.0	55.4	222.0	4.079E-06	3.930E-06	3.930E-06
E	8.4	0.22	4828.	0.	0.	222.0	55.4	222.0	3.064E-06	2.953E-06	2.953E-06
E	10.5	0.03	4828.	0.	0.	222.0	55.4	222.0	2.464E-06	2.374E-06	2.374E-06
E	25.8	0.11	4828.	0.	0.	222.0	55.4	222.0	1.003E-06	9.669E-07	9.669E-07
F	0.4	0.02	4828.	0.	0.	153.2	34.5	243.9	1.009E-04	1.477E-04	1.009E-04
F	1.1	2.46	4828.	0.	0.	153.2	34.5	243.9	3.436E-05	5.027E-05	3.436E-05
F	1.6	2.16	4828.	0.	0.	153.2	34.5	243.9	2.327E-05	3.405E-05	2.327E-05
F	2.1	0.69	4828.	0.	0.	153.2	34.5	234.2	1.844E-05	2.591E-05	1.844E-05
F	3.2	0.50	4828.	0.	0.	153.2	34.5	189.9	1.520E-05	1.732E-05	1.520E-05
F	4.2	0.03	4828.	0.	0.	153.2	34.5	169.8	1.280E-05	1.304E-05	1.280E-05
G	0.4	0.05	4828.	0.	0.	105.8	21.5	210.1	1.884E-04	3.106E-04	1.884E-04
G	1.1	2.60	4828.	0.	0.	105.8	21.5	210.1	6.413E-05	1.057E-04	6.413E-05
G	1.6	0.64	4828.	0.	0.	105.8	21.5	210.1	4.343E-05	7.161E-05	4.343E-05
G	2.1	0.17	4828.	0.	0.	105.8	21.5	197.3	3.520E-05	5.449E-05	3.520E-05
G	3.2	0.03	4828.	0.	0.	105.8	21.5	143.2	3.242E-05	3.643E-05	3.242E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

LOW POPULATION ZONE CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 4828.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

1.884E-04	1.009E-04	6.413E-05	4.947E-05	4.343E-05	3.520E-05	3.436E-05	3.242E-05	2.665E-05	2.327E-05
0.046	0.067	2.668	2.689	3.325	3.491	5.954	5.982	5.993	8.152
0.00379	0.00556	0.22088	0.22257	0.27525	0.28900	0.49287	0.49516	0.49611	0.67478
1.844E-05	1.684E-05	1.520E-05	1.280E-05	1.140E-05	9.072E-06	8.921E-06	6.898E-06	6.144E-06	5.632E-06
8.844	10.643	11.141	11.168	14.019	14.904	18.114	24.147	25.918	29.460
0.73205	0.88094	0.92217	0.92446	1.16041	1.23371	1.49943	1.99880	2.14540	2.43861
4.717E-06	4.706E-06	3.930E-06	3.400E-06	2.953E-06	2.679E-06	2.374E-06	2.216E-06	1.855E-06	1.756E-06
32.421	34.220	34.774	43.408	43.629	53.564	53.592	63.858	72.548	72.631
2.68371	2.83261	2.87842	3.59312	3.61144	4.43380	4.43609	5.28593	6.00521	6.01208
1.393E-06	1.336E-06	1.120E-06	9.669E-07	8.932E-07	8.275E-07	6.724E-07	5.604E-07	5.391E-07	4.563E-07
81.431	81.569	85.333	85.444	86.246	86.274	87.381	87.409	88.654	89.539
6.74052	6.75198	7.06351	7.07267	7.13910	7.14139	7.23302	7.23531	7.33839	7.41169
4.503E-07	4.265E-07	3.383E-07	2.851E-07	2.720E-07	2.580E-07	2.146E-07	1.963E-07	1.721E-07	1.437E-07
90.674	90.702	91.892	92.085	92.556	92.584	93.137	93.220	93.967	94.853
7.50561	7.50790	7.60640	7.62244	7.66138	7.66367	7.70948	7.71635	7.77820	7.85151
1.313E-07	1.108E-07	1.080E-07	9.881E-08	8.681E-08	7.923E-08	6.617E-08	4.971E-08	3.997E-08	3.536E-08
95.296	95.351	96.070	96.901	97.150	98.035	98.561	99.834	99.945	100.000
7.88816	7.89274	7.95230	8.02102	8.04163	8.11493	8.15846	8.26383	8.27299	8.27757

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

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.492
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.880
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.436
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   5.282
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   6.001
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   6.737
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   7.060
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
14	1	-8.57707	-12.41765	-0.97049
14	2	-9.65463	-16.33760	-2.34734
14	3	-10.27864	-19.16112	-3.44122
14	4	-10.99177	-17.44459	-2.71816
14	5	-12.08707	-17.29661	-2.64308
14	6	-13.01987	-17.55618	-2.80350
14	7	-13.19770	-20.73894	-4.85074
14	8	-13.48372	-26.89186	-8.96449
14	9	-13.70185	NUMXQ(K)= 9	

8.573E-05	0.083	1.000
5.873E-05	0.248	3.000
3.953E-05	0.414	5.000
1.822E-05	0.828	10.000
1.184E-05	1.242	15.000
8.704E-06	1.656	20.000
6.795E-06	2.069	25.000
5.518E-06	2.483	30.000
4.626E-06	2.897	35.000
3.956E-06	3.311	40.000
3.435E-06	3.725	45.000
3.020E-06	4.139	50.000
2.681E-06	4.553	55.000
2.401E-06	4.967	60.000
2.162E-06	5.380	65.000
1.951E-06	5.794	70.000
1.710E-06	6.208	75.000
1.457E-06	6.622	80.000
1.141E-06	7.036	85.000
3.378E-05	0.5	6.04

ANNUAL AVERAGE = 2.14E-07

K= 14 FIVEXQ(K)= 3.378E-05 FIVEPR(K)= 6.040

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.1	0.03	4828.	0.	0.	776.3	1000.0	776.3	3.812E-07	3.810E-07	3.810E-07
A	1.6	0.06	4828.	0.	0.	776.3	1000.0	776.3	2.582E-07	2.580E-07	2.580E-07
A	2.1	0.09	4828.	0.	0.	776.3	1000.0	776.3	1.964E-07	1.963E-07	1.963E-07
A	3.1	0.23	4828.	0.	0.	776.3	1000.0	776.3	1.313E-07	1.313E-07	1.313E-07
A	4.1	0.82	4828.	0.	0.	776.3	1000.0	776.3	9.887E-08	9.881E-08	9.881E-08
A	5.2	1.43	4828.	0.	0.	776.3	1000.0	776.3	7.927E-08	7.923E-08	7.923E-08
A	6.2	1.32	4828.	0.	0.	776.3	1000.0	776.3	6.621E-08	6.617E-08	6.617E-08
A	8.2	1.00	4828.	0.	0.	776.3	1000.0	776.3	4.974E-08	4.971E-08	4.971E-08
A	10.3	0.06	4828.	0.	0.	776.3	1000.0	776.3	3.999E-08	3.997E-08	3.997E-08
B	1.1	0.03	4828.	0.	0.	583.8	611.7	583.8	8.286E-07	8.275E-07	8.275E-07
B	1.6	0.06	4828.	0.	0.	583.8	611.7	583.8	5.611E-07	5.604E-07	5.604E-07
B	2.1	0.09	4828.	0.	0.	583.8	611.7	583.8	4.270E-07	4.265E-07	4.265E-07
B	3.1	0.53	4828.	0.	0.	583.8	611.7	583.8	2.855E-07	2.851E-07	2.851E-07
B	4.1	1.00	4828.	0.	0.	583.8	611.7	583.8	2.149E-07	2.146E-07	2.146E-07
B	5.2	1.23	4828.	0.	0.	583.8	611.7	583.8	1.723E-07	1.721E-07	1.721E-07
B	6.2	0.79	4828.	0.	0.	583.8	611.7	583.8	1.439E-07	1.437E-07	1.437E-07
B	8.2	0.67	4828.	0.	0.	583.8	611.7	583.8	1.081E-07	1.080E-07	1.080E-07
B	10.3	0.09	4828.	0.	0.	583.8	611.7	583.8	8.693E-08	8.681E-08	8.681E-08
C	1.6	0.12	4828.	0.	0.	443.4	256.4	443.4	1.763E-06	1.756E-06	1.756E-06
C	2.1	0.12	4828.	0.	0.	443.4	256.4	443.4	1.341E-06	1.336E-06	1.336E-06
C	3.1	1.29	4828.	0.	0.	443.4	256.4	443.4	8.969E-07	8.932E-07	8.932E-07
C	4.1	1.70	4828.	0.	0.	443.4	256.4	443.4	6.751E-07	6.724E-07	6.724E-07
C	5.2	1.38	4828.	0.	0.	443.4	256.4	443.4	5.413E-07	5.391E-07	5.391E-07
C	6.2	1.29	4828.	0.	0.	443.4	256.4	443.4	4.521E-07	4.503E-07	4.503E-07
C	8.2	0.97	4828.	0.	0.	443.4	256.4	443.4	3.396E-07	3.383E-07	3.383E-07
C	10.3	0.15	4828.	0.	0.	443.4	256.4	443.4	2.731E-07	2.720E-07	2.720E-07
D	0.4	0.01	4828.	0.	0.	312.2	87.3	373.8	2.665E-05	3.137E-05	2.665E-05
D	1.1	0.76	4828.	0.	0.	312.2	87.3	373.8	9.072E-06	1.068E-05	9.072E-06
D	1.6	1.70	4828.	0.	0.	312.2	87.3	373.8	6.144E-06	7.232E-06	6.144E-06
D	2.1	2.87	4828.	0.	0.	312.2	87.3	370.5	4.717E-06	5.504E-06	4.717E-06
D	3.1	10.66	4828.	0.	0.	312.2	87.3	343.6	3.400E-06	3.680E-06	3.400E-06
D	4.1	11.36	4828.	0.	0.	312.2	87.3	328.4	2.679E-06	2.770E-06	2.679E-06
D	5.2	8.75	4828.	0.	0.	312.2	87.3	318.2	2.216E-06	2.221E-06	2.216E-06
D	6.2	6.00	4828.	0.	0.	312.2	87.3	312.2	1.886E-06	1.855E-06	1.855E-06

D	8.2	4.16	4828.	0.	0.	312.2	87.3	312.2	1.417E-06	1.393E-06	1.393E-06
D	10.3	0.64	4828.	0.	0.	312.2	87.3	312.2	1.139E-06	1.120E-06	1.120E-06
E	0.4	0.02	4828.	0.	0.	222.0	55.4	309.6	4.947E-05	6.647E-05	4.947E-05
E	1.1	2.14	4828.	0.	0.	222.0	55.4	309.6	1.684E-05	2.263E-05	1.684E-05
E	1.6	3.07	4828.	0.	0.	222.0	55.4	309.6	1.140E-05	1.532E-05	1.140E-05
E	2.1	5.42	4828.	0.	0.	222.0	55.4	301.1	8.921E-06	1.166E-05	8.921E-06
E	3.2	5.62	4828.	0.	0.	222.0	55.4	260.4	6.898E-06	7.797E-06	6.898E-06
E	4.2	3.81	4828.	0.	0.	222.0	55.4	240.1	5.632E-06	5.869E-06	5.632E-06
E	5.3	1.29	4828.	0.	0.	222.0	55.4	227.8	4.759E-06	4.706E-06	4.706E-06
E	6.3	0.32	4828.	0.	0.	222.0	55.4	222.0	4.079E-06	3.930E-06	3.930E-06
E	8.4	0.09	4828.	0.	0.	222.0	55.4	222.0	3.064E-06	2.953E-06	2.953E-06
F	0.4	0.02	4828.	0.	0.	153.2	34.5	243.9	1.009E-04	1.477E-04	1.009E-04
F	1.1	2.78	4828.	0.	0.	153.2	34.5	243.9	3.436E-05	5.027E-05	3.436E-05
F	1.6	3.69	4828.	0.	0.	153.2	34.5	243.9	2.327E-05	3.405E-05	2.327E-05
F	2.1	1.93	4828.	0.	0.	153.2	34.5	234.2	1.844E-05	2.591E-05	1.844E-05
F	3.2	0.44	4828.	0.	0.	153.2	34.5	189.9	1.520E-05	1.732E-05	1.520E-05
G	0.4	0.06	4828.	0.	0.	105.8	21.5	210.1	1.884E-04	3.106E-04	1.884E-04
G	1.1	3.22	4828.	0.	0.	105.8	21.5	210.1	6.413E-05	1.057E-04	6.413E-05
G	1.6	2.28	4828.	0.	0.	105.8	21.5	210.1	4.343E-05	7.161E-05	4.343E-05
G	2.1	0.38	4828.	0.	0.	105.8	21.5	197.3	3.520E-05	5.449E-05	3.520E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 4828.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

1.884E-04	1.009E-04	6.413E-05	4.947E-05	4.343E-05	3.520E-05	3.436E-05	2.665E-05	2.327E-05	1.844E-05
0.057	0.081	3.301	3.325	5.609	5.989	8.770	8.780	12.469	14.401
0.00443	0.00632	0.25830	0.26019	0.43886	0.46864	0.68626	0.68703	0.97565	1.12684
1.684E-05	1.520E-05	1.140E-05	9.072E-06	8.921E-06	6.898E-06	6.144E-06	5.632E-06	4.717E-06	4.706E-06
16.538	16.977	20.051	20.812	26.228	31.849	33.546	37.352	40.221	41.509
1.29406	1.32842	1.56894	1.62850	2.05228	2.49209	2.62495	2.92274	3.14723	3.24802
3.930E-06	3.400E-06	2.953E-06	2.679E-06	2.216E-06	1.855E-06	1.756E-06	1.393E-06	1.336E-06	1.120E-06
41.831	52.487	52.575	63.934	72.687	78.688	78.805	82.962	83.079	83.723
3.27321	4.10703	4.11390	5.00268	5.68760	6.15719	6.16635	6.49163	6.50079	6.55119
8.932E-07	8.275E-07	6.724E-07	5.604E-07	5.391E-07	4.503E-07	4.265E-07	3.810E-07	3.383E-07	2.851E-07
85.011	85.041	86.739	86.797	88.173	89.461	89.549	89.578	90.544	91.071
6.65198	6.65427	6.78713	6.79171	6.89937	7.00016	7.00704	7.00933	7.08492	7.12615
2.720E-07	2.580E-07	2.146E-07	1.963E-07	1.721E-07	1.437E-07	1.313E-07	1.080E-07	9.881E-08	8.681E-08
91.218	91.276	92.271	92.359	93.589	94.379	94.613	95.287	96.106	96.194
7.13761	7.14219	7.22007	7.22694	7.32315	7.38500	7.40332	7.45601	7.52015	7.52702
7.923E-08	6.617E-08	4.971E-08	3.997E-08						
97.629	98.946	99.941	100.000						
7.63927	7.74235	7.82023	7.82481						

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

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

                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.685
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   1.293
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.920
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   4.999
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   5.684
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   6.153
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   6.488
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE(10)=   6.996

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
 15  1      -8.57707 -12.33881  -0.95971
 15  2      -9.65463 -14.91057  -1.87923
 15  3     -10.27864 -17.71504  -3.01704
 15  4     -10.99177 -18.26170  -3.26235
 15  5     -12.08707 -17.76460  -2.99971
 15  6     -12.83023 -17.77685  -3.00715
 15  7     -13.01987 -20.07746  -4.46150
 15  8     -13.19770 -29.55655 -10.60866
 15  9     -13.48372 -57.36961 -28.96629
 15 10     -14.61346     NUMXQ(K)= 10
    9.110E-05              0.078              1.000
    6.605E-05              0.235              3.000
    4.958E-05              0.391              5.000
    2.978E-05              0.782             10.000
    1.886E-05              1.174             15.000
    1.320E-05              1.565             20.000
    9.826E-06              1.956             25.000
    7.666E-06              2.347             30.000
    6.179E-06              2.739             35.000
    5.143E-06              3.130             40.000
    4.389E-06              3.521             45.000
    3.798E-06              3.912             50.000
    3.323E-06              4.304             55.000
    2.936E-06              4.695             60.000
    2.615E-06              5.086             65.000
    2.344E-06              5.477             70.000
    2.066E-06              5.869             75.000
    1.697E-06              6.260             80.000
    9.708E-07              6.651             85.000

    4.236E-05              0.5                6.39

ANNUAL AVERAGE =   2.48E-07

K= 15     FIVEXQ(K)= 4.236E-05     FIVEPR(K)= 6.390
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.1	0.04	4828.	0.	0.	776.3	1000.0	776.3	3.812E-07	3.810E-07	3.810E-07
A	2.1	0.04	4828.	0.	0.	776.3	1000.0	776.3	1.964E-07	1.963E-07	1.963E-07
A	3.1	0.53	4828.	0.	0.	776.3	1000.0	776.3	1.313E-07	1.313E-07	1.313E-07
A	4.1	0.73	4828.	0.	0.	776.3	1000.0	776.3	9.887E-08	9.881E-08	9.881E-08
A	5.2	0.73	4828.	0.	0.	776.3	1000.0	776.3	7.927E-08	7.923E-08	7.923E-08
A	6.2	0.81	4828.	0.	0.	776.3	1000.0	776.3	6.621E-08	6.617E-08	6.617E-08
A	8.2	0.57	4828.	0.	0.	776.3	1000.0	776.3	4.974E-08	4.971E-08	4.971E-08
A	10.3	0.04	4828.	0.	0.	776.3	1000.0	776.3	3.999E-08	3.997E-08	3.997E-08
B	1.6	0.16	4828.	0.	0.	583.8	611.7	583.8	5.611E-07	5.604E-07	5.604E-07
B	2.1	0.20	4828.	0.	0.	583.8	611.7	583.8	4.270E-07	4.265E-07	4.265E-07
B	3.1	0.65	4828.	0.	0.	583.8	611.7	583.8	2.855E-07	2.851E-07	2.851E-07
B	4.1	0.65	4828.	0.	0.	583.8	611.7	583.8	2.149E-07	2.146E-07	2.146E-07
B	5.2	0.89	4828.	0.	0.	583.8	611.7	583.8	1.723E-07	1.721E-07	1.721E-07
B	6.2	0.65	4828.	0.	0.	583.8	611.7	583.8	1.439E-07	1.437E-07	1.437E-07
B	8.2	0.36	4828.	0.	0.	583.8	611.7	583.8	1.081E-07	1.080E-07	1.080E-07
B	10.3	0.04	4828.	0.	0.	583.8	611.7	583.8	8.693E-08	8.681E-08	8.681E-08
C	1.1	0.04	4828.	0.	0.	443.4	256.4	443.4	2.603E-06	2.592E-06	2.592E-06
C	1.6	0.16	4828.	0.	0.	443.4	256.4	443.4	1.763E-06	1.756E-06	1.756E-06
C	2.1	0.41	4828.	0.	0.	443.4	256.4	443.4	1.341E-06	1.336E-06	1.336E-06
C	3.1	1.01	4828.	0.	0.	443.4	256.4	443.4	8.969E-07	8.932E-07	8.932E-07
C	4.1	1.42	4828.	0.	0.	443.4	256.4	443.4	6.751E-07	6.724E-07	6.724E-07
C	5.2	1.38	4828.	0.	0.	443.4	256.4	443.4	5.413E-07	5.391E-07	5.391E-07
C	6.2	0.65	4828.	0.	0.	443.4	256.4	443.4	4.521E-07	4.503E-07	4.503E-07
C	8.2	0.57	4828.	0.	0.	443.4	256.4	443.4	3.396E-07	3.383E-07	3.383E-07
C	25.2	0.04	4828.	0.	0.	443.4	256.4	443.4	1.112E-07	1.108E-07	1.108E-07
D	0.4	0.01	4828.	0.	0.	312.2	87.3	373.8	2.665E-05	3.137E-05	2.665E-05
D	1.1	0.61	4828.	0.	0.	312.2	87.3	373.8	9.072E-06	1.068E-05	9.072E-06
D	1.6	2.64	4828.	0.	0.	312.2	87.3	373.8	6.144E-06	7.232E-06	6.144E-06
D	2.1	3.85	4828.	0.	0.	312.2	87.3	370.5	4.717E-06	5.504E-06	4.717E-06
D	3.1	12.29	4828.	0.	0.	312.2	87.3	343.6	3.400E-06	3.680E-06	3.400E-06
D	4.1	11.64	4828.	0.	0.	312.2	87.3	328.4	2.679E-06	2.770E-06	2.679E-06
D	5.2	11.03	4828.	0.	0.	312.2	87.3	318.2	2.216E-06	2.221E-06	2.216E-06
D	6.2	5.15	4828.	0.	0.	312.2	87.3	312.2	1.886E-06	1.855E-06	1.855E-06
D	8.2	4.18	4828.	0.	0.	312.2	87.3	312.2	1.417E-06	1.393E-06	1.393E-06

D	10.3	0.69	4828.	0.	0.	312.2	87.3	312.2	1.139E-06	1.120E-06	1.120E-06
E	0.4	0.02	4828.	0.	0.	222.0	55.4	309.6	4.947E-05	6.647E-05	4.947E-05
E	1.1	1.78	4828.	0.	0.	222.0	55.4	309.6	1.684E-05	2.263E-05	1.684E-05
E	1.6	2.31	4828.	0.	0.	222.0	55.4	309.6	1.140E-05	1.532E-05	1.140E-05
E	2.1	3.53	4828.	0.	0.	222.0	55.4	301.1	8.921E-06	1.166E-05	8.921E-06
E	3.2	8.07	4828.	0.	0.	222.0	55.4	260.4	6.898E-06	7.797E-06	6.898E-06
E	4.2	4.01	4828.	0.	0.	222.0	55.4	240.1	5.632E-06	5.869E-06	5.632E-06
E	5.3	1.22	4828.	0.	0.	222.0	55.4	227.8	4.759E-06	4.706E-06	4.706E-06
E	6.3	0.36	4828.	0.	0.	222.0	55.4	222.0	4.079E-06	3.930E-06	3.930E-06
E	8.4	0.20	4828.	0.	0.	222.0	55.4	222.0	3.064E-06	2.953E-06	2.953E-06
F	0.4	0.01	4828.	0.	0.	153.2	34.5	243.9	1.009E-04	1.477E-04	1.009E-04
F	1.1	1.58	4828.	0.	0.	153.2	34.5	243.9	3.436E-05	5.027E-05	3.436E-05
F	1.6	2.60	4828.	0.	0.	153.2	34.5	243.9	2.327E-05	3.405E-05	2.327E-05
F	2.1	2.60	4828.	0.	0.	153.2	34.5	234.2	1.844E-05	2.591E-05	1.844E-05
F	3.2	1.70	4828.	0.	0.	153.2	34.5	189.9	1.520E-05	1.732E-05	1.520E-05
G	0.4	0.05	4828.	0.	0.	105.8	21.5	210.1	1.884E-04	3.106E-04	1.884E-04
G	1.1	2.76	4828.	0.	0.	105.8	21.5	210.1	6.413E-05	1.057E-04	6.413E-05
G	1.6	1.95	4828.	0.	0.	105.8	21.5	210.1	4.343E-05	7.161E-05	4.343E-05
G	2.1	0.41	4828.	0.	0.	105.8	21.5	197.3	3.520E-05	5.449E-05	3.520E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 9.1 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 76.2-9.1 meters
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 4828.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

1.884E-04	1.009E-04	6.413E-05	4.947E-05	4.343E-05	3.520E-05	3.436E-05	2.665E-05	2.327E-05	1.844E-05
0.049	0.062	2.820	2.840	4.786	5.191	6.773	6.781	9.376	11.971
0.00274	0.00352	0.15928	0.16042	0.27038	0.29328	0.38262	0.38306	0.52967	0.67627
1.684E-05	1.520E-05	1.140E-05	9.072E-06	8.921E-06	6.898E-06	6.144E-06	5.632E-06	4.717E-06	4.706E-06
13.755	15.458	17.769	18.377	21.905	29.974	32.610	36.624	40.476	41.692
0.77706	0.87327	1.00384	1.03820	1.23749	1.69334	1.84223	2.06901	2.28663	2.35535
3.930E-06	3.400E-06	2.953E-06	2.679E-06	2.592E-06	2.216E-06	1.855E-06	1.756E-06	1.393E-06	1.336E-06
42.057	54.343	54.546	66.183	66.224	77.253	82.402	82.564	86.741	87.146
2.37596	3.07004	3.08149	3.73892	3.74121	4.36428	4.65520	4.66436	4.90030	4.92321
1.120E-06	8.932E-07	6.724E-07	5.604E-07	5.391E-07	4.503E-07	4.265E-07	3.810E-07	3.383E-07	2.851E-07
87.836	88.849	90.269	90.431	91.809	92.458	92.661	92.701	93.269	93.918
4.96215	5.01942	5.09959	5.10875	5.18664	5.22329	5.23474	5.23703	5.26910	5.30575
2.146E-07	1.963E-07	1.721E-07	1.437E-07	1.313E-07	1.108E-07	1.080E-07	9.881E-08	8.681E-08	7.923E-08
94.567	94.607	95.499	96.148	96.675	96.716	97.081	97.810	97.851	98.581
5.34240	5.34470	5.39509	5.43174	5.46152	5.46381	5.48443	5.52566	5.52795	5.56918
6.617E-08	4.971E-08	3.997E-08							
99.392	99.959	100.000							
5.61500	5.64707	5.64936							

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.382
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.872
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.067
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   4.361
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.652
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.897

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
 16  1      -8.57707 -12.58535  -0.99361
 16  2      -9.65463 -16.17842  -2.21179
 16  3     -10.27864 -17.77187  -2.80916
 16  4     -11.09395 -18.09831  -2.94648
 16  5     -12.08707 -17.85621  -2.82781
 16  6     -13.01987 -22.94043  -5.80057
 16  7     -13.19770 -32.68114 -11.59994
 16  8     -13.48372     NUMXQ(K)=  8
    8.698E-05              0.056              1.000
    6.146E-05              0.169              3.000
    4.290E-05              0.282              5.000
    2.360E-05              0.565             10.000
    1.568E-05              0.847             15.000
    1.144E-05              1.130             20.000
    8.870E-06              1.412             25.000
    7.163E-06              1.695             30.000
    5.952E-06              1.977             35.000
    5.074E-06              2.260             40.000
    4.405E-06              2.542             45.000
    3.872E-06              2.825             50.000
    3.439E-06              3.107             55.000
    3.081E-06              3.390             60.000
    2.780E-06              3.672             65.000
    2.524E-06              3.955             70.000
    2.305E-06              4.237             75.000
    2.013E-06              4.519             80.000
    1.561E-06              4.802             85.000

    2.659E-05              0.5                8.85

ANNUAL AVERAGE =   1.64E-07

K= 16     FIVEXQ(K)= 2.659E-05     FIVEPR(K)= 8.851
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.1	0.02	4828.	0.	0.	776.3	1000.0	776.3	3.812E-07	3.810E-07	3.810E-07
A	1.6	0.05	4828.	0.	0.	776.3	1000.0	776.3	2.582E-07	2.580E-07	2.580E-07
A	2.1	0.08	4828.	0.	0.	776.3	1000.0	776.3	1.964E-07	1.963E-07	1.963E-07
A	3.1	0.41	4828.	0.	0.	776.3	1000.0	776.3	1.313E-07	1.313E-07	1.313E-07
A	4.1	0.66	4828.	0.	0.	776.3	1000.0	776.3	9.887E-08	9.881E-08	9.881E-08
A	5.2	0.74	4828.	0.	0.	776.3	1000.0	776.3	7.927E-08	7.923E-08	7.923E-08
A	6.2	0.55	4828.	0.	0.	776.3	1000.0	776.3	6.621E-08	6.617E-08	6.617E-08
A	8.2	0.73	4828.	0.	0.	776.3	1000.0	776.3	4.974E-08	4.971E-08	4.971E-08
A	10.3	0.14	4828.	0.	0.	776.3	1000.0	776.3	3.999E-08	3.997E-08	3.997E-08
A	25.2	0.03	4828.	0.	0.	776.3	1000.0	776.3	1.629E-08	1.628E-08	1.628E-08
B	1.1	0.02	4828.	0.	0.	583.8	611.7	583.8	8.286E-07	8.275E-07	8.275E-07
B	1.6	0.06	4828.	0.	0.	583.8	611.7	583.8	5.611E-07	5.604E-07	5.604E-07
B	2.1	0.11	4828.	0.	0.	583.8	611.7	583.8	4.270E-07	4.265E-07	4.265E-07
B	3.1	0.44	4828.	0.	0.	583.8	611.7	583.8	2.855E-07	2.851E-07	2.851E-07
B	4.1	0.68	4828.	0.	0.	583.8	611.7	583.8	2.149E-07	2.146E-07	2.146E-07
B	5.2	0.79	4828.	0.	0.	583.8	611.7	583.8	1.723E-07	1.721E-07	1.721E-07
B	6.2	0.55	4828.	0.	0.	583.8	611.7	583.8	1.439E-07	1.437E-07	1.437E-07
B	8.2	0.45	4828.	0.	0.	583.8	611.7	583.8	1.081E-07	1.080E-07	1.080E-07
B	10.3	0.14	4828.	0.	0.	583.8	611.7	583.8	8.693E-08	8.681E-08	8.681E-08
B	25.2	0.04	4828.	0.	0.	583.8	611.7	583.8	3.540E-08	3.536E-08	3.536E-08
C	1.1	0.01	4828.	0.	0.	443.4	256.4	443.4	2.603E-06	2.592E-06	2.592E-06
C	1.6	0.10	4828.	0.	0.	443.4	256.4	443.4	1.763E-06	1.756E-06	1.756E-06
C	2.1	0.29	4828.	0.	0.	443.4	256.4	443.4	1.341E-06	1.336E-06	1.336E-06
C	3.1	0.96	4828.	0.	0.	443.4	256.4	443.4	8.969E-07	8.932E-07	8.932E-07
C	4.1	1.13	4828.	0.	0.	443.4	256.4	443.4	6.751E-07	6.724E-07	6.724E-07
C	5.2	1.06	4828.	0.	0.	443.4	256.4	443.4	5.413E-07	5.391E-07	5.391E-07
C	6.2	0.71	4828.	0.	0.	443.4	256.4	443.4	4.521E-07	4.503E-07	4.503E-07
C	8.2	0.63	4828.	0.	0.	443.4	256.4	443.4	3.396E-07	3.383E-07	3.383E-07
C	10.3	0.17	4828.	0.	0.	443.4	256.4	443.4	2.731E-07	2.720E-07	2.720E-07
C	25.2	0.05	4828.	0.	0.	443.4	256.4	443.4	1.112E-07	1.108E-07	1.108E-07
D	0.4	0.01	4828.	0.	0.	312.2	87.3	312.2	3.190E-05	3.137E-05	3.137E-05
D	1.1	0.71	4828.	0.	0.	312.2	87.3	312.2	1.086E-05	1.068E-05	1.068E-05
D	1.6	1.71	4828.	0.	0.	312.2	87.3	312.2	7.356E-06	7.232E-06	7.232E-06
D	2.1	2.89	4828.	0.	0.	312.2	87.3	312.2	5.597E-06	5.504E-06	5.504E-06

D	3.1	8.55	4828.	0.	0.	312.2	87.3	312.2	3.743E-06	3.680E-06	3.680E-06
D	4.1	8.69	4828.	0.	0.	312.2	87.3	312.2	2.817E-06	2.770E-06	2.770E-06
D	5.2	8.72	4828.	0.	0.	312.2	87.3	312.2	2.259E-06	2.221E-06	2.221E-06
D	6.2	5.97	4828.	0.	0.	312.2	87.3	312.2	1.886E-06	1.855E-06	1.855E-06
D	8.2	6.76	4828.	0.	0.	312.2	87.3	312.2	1.417E-06	1.393E-06	1.393E-06
D	10.3	2.02	4828.	0.	0.	312.2	87.3	312.2	1.139E-06	1.120E-06	1.120E-06
D	25.2	0.65	4828.	0.	0.	312.2	87.3	312.2	4.641E-07	4.563E-07	4.563E-07
E	0.4	0.02	4828.	0.	0.	222.0	55.4	222.0	6.898E-05	6.647E-05	6.647E-05
E	1.1	1.42	4828.	0.	0.	222.0	55.4	222.0	2.348E-05	2.263E-05	2.263E-05
E	1.6	2.42	4828.	0.	0.	222.0	55.4	222.0	1.590E-05	1.532E-05	1.532E-05
E	2.1	3.22	4828.	0.	0.	222.0	55.4	222.0	1.210E-05	1.166E-05	1.166E-05
E	3.2	7.17	4828.	0.	0.	222.0	55.4	222.0	8.091E-06	7.797E-06	7.797E-06
E	4.2	5.47	4828.	0.	0.	222.0	55.4	222.0	6.091E-06	5.869E-06	5.869E-06
E	5.3	3.56	4828.	0.	0.	222.0	55.4	222.0	4.883E-06	4.706E-06	4.706E-06
E	6.3	1.88	4828.	0.	0.	222.0	55.4	222.0	4.079E-06	3.930E-06	3.930E-06
E	8.4	1.45	4828.	0.	0.	222.0	55.4	222.0	3.064E-06	2.953E-06	2.953E-06
E	10.5	0.30	4828.	0.	0.	222.0	55.4	222.0	2.464E-06	2.374E-06	2.374E-06
E	25.8	0.04	4828.	0.	0.	222.0	55.4	222.0	1.003E-06	9.669E-07	9.669E-07
F	0.4	0.01	4828.	0.	0.	153.2	34.5	153.2	1.606E-04	1.477E-04	1.477E-04
F	1.1	1.32	4828.	0.	0.	153.2	34.5	153.2	5.469E-05	5.027E-05	5.027E-05
F	1.6	2.01	4828.	0.	0.	153.2	34.5	153.2	3.704E-05	3.405E-05	3.405E-05
F	2.1	1.92	4828.	0.	0.	153.2	34.5	153.2	2.818E-05	2.591E-05	2.591E-05
F	3.2	3.13	4828.	0.	0.	153.2	34.5	153.2	1.884E-05	1.732E-05	1.732E-05
F	4.2	1.47	4828.	0.	0.	153.2	34.5	153.2	1.419E-05	1.304E-05	1.304E-05
F	5.3	0.46	4828.	0.	0.	153.2	34.5	153.2	1.137E-05	1.045E-05	1.045E-05
F	6.3	0.07	4828.	0.	0.	153.2	34.5	153.2	9.499E-06	8.732E-06	8.732E-06
F	8.4	0.01	4828.	0.	0.	153.2	34.5	153.2	7.136E-06	6.560E-06	6.560E-06
G	0.4	0.03	4828.	0.	0.	105.8	21.5	105.8	3.741E-04	3.106E-04	3.106E-04
G	1.1	1.43	4828.	0.	0.	105.8	21.5	105.8	1.274E-04	1.057E-04	1.057E-04
G	1.6	1.07	4828.	0.	0.	105.8	21.5	105.8	8.626E-05	7.161E-05	7.161E-05
G	2.1	0.60	4828.	0.	0.	105.8	21.5	105.8	6.564E-05	5.449E-05	5.449E-05
G	3.2	0.72	4828.	0.	0.	105.8	21.5	105.8	4.389E-05	3.643E-05	3.643E-05
G	4.2	0.28	4828.	0.	0.	105.8	21.5	105.8	3.304E-05	2.743E-05	2.743E-05
G	5.3	0.06	4828.	0.	0.	105.8	21.5	105.8	2.649E-05	2.199E-05	2.199E-05
G	6.3	0.00	4828.	0.	0.	105.8	21.5	105.8	2.212E-05	1.837E-05	1.837E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

LOW POPULATION ZONE CALCULATIONS:
DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.
MINIMUM BOUNDARY DISTANCE = 4828.0 METERS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

3.106E-04	1.477E-04	1.057E-04	7.161E-05	6.647E-05	5.449E-05	5.027E-05	3.643E-05	3.405E-05	3.137E-05
0.025	0.037	1.468	2.543	2.559	3.154	4.474	5.193	7.200	7.209
0.02520	0.03665	1.46833	2.54266	2.55870	3.15428	4.47371	5.19299	7.19963	7.20880
2.743E-05	2.591E-05	2.263E-05	2.199E-05	1.837E-05	1.732E-05	1.532E-05	1.304E-05	1.166E-05	1.068E-05
7.486	9.410	10.828	10.890	10.895	14.021	16.438	17.904	21.122	21.833
7.48597	9.41015	10.82808	10.88993	10.89452	14.02131	16.43798	17.90402	21.12244	21.83255
1.045E-05	8.732E-06	7.797E-06	7.232E-06	6.560E-06	5.869E-06	5.504E-06	4.706E-06	3.930E-06	3.680E-06
22.295	22.362	29.534	31.245	31.259	36.729	39.622	43.184	45.065	53.614
22.29527	22.36170	29.53385	31.24499	31.25874	36.72890	39.62204	43.18406	45.06472	53.61356
2.953E-06	2.770E-06	2.592E-06	2.374E-06	2.221E-06	1.855E-06	1.756E-06	1.393E-06	1.336E-06	1.120E-06
55.064	63.757	63.768	64.066	72.784	78.759	78.859	85.617	85.903	87.926
55.06357	63.75673	63.76818	64.06597	72.78432	78.75845	78.85924	85.61677	85.90310	87.92578
9.669E-07	8.932E-07	8.275E-07	6.724E-07	5.604E-07	5.391E-07	4.563E-07	4.503E-07	4.265E-07	3.810E-07
87.970	88.925	88.945	90.075	90.139	91.202	91.848	92.553	92.659	92.681
87.96931	88.92452	88.94514	90.07444	90.13858	91.20146	91.84743	92.55297	92.65833	92.68124
3.383E-07	2.851E-07	2.720E-07	2.580E-07	2.146E-07	1.963E-07	1.721E-07	1.437E-07	1.313E-07	1.108E-07
93.314	93.758	93.925	93.978	94.654	94.736	95.522	96.069	96.475	96.530
93.31347	93.75787	93.92509	93.97778	94.65353	94.73600	95.52171	96.06918	96.47463	96.52961
1.080E-07	9.881E-08	8.681E-08	7.923E-08	6.617E-08	4.971E-08	3.997E-08	3.536E-08	1.628E-08	
96.981	97.636	97.781	98.516	99.063	99.794	99.938	99.975	100.000	
96.98087	97.63601	97.78032	98.51563	99.06311	99.79383	99.93814	99.97479	99.99999	

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q SEC/CUBIC METER	WITH RESPECT TO THE TOTAL TIME	WHEN THE WIND BLOWS INTO THIS SECTOR ONLY
1.195E-04	1.000	1.000
6.670E-05	3.000	3.000
4.605E-05	5.000	5.000
2.533E-05	10.000	10.000
1.691E-05	15.000	15.000
1.251E-05	20.000	20.000
9.724E-06	25.000	25.000
7.758E-06	30.000	30.000
6.293E-06	35.000	35.000
5.449E-06	40.000	40.000
4.781E-06	45.000	45.000
4.204E-06	50.000	50.000
3.697E-06	55.000	55.000
3.243E-06	60.000	60.000
2.833E-06	65.000	65.000
2.456E-06	70.000	70.000
2.106E-06	75.000	75.000
1.770E-06	80.000	80.000
1.434E-06	85.000	85.000
4.605E-05	'5.0	5.00

K= 17 FIVEXQ(K)= 4.605E-05 FIVEPR(K)= 5.000

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(3)= 4.470
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(4)= 7.196
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(5)= 16.439

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

LOW POPULATION ZONE CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

1.884E-04	1.009E-04	6.413E-05	4.947E-05	4.343E-05	3.520E-05	3.436E-05	3.242E-05	2.743E-05	2.665E-05
0.025	0.037	1.468	1.484	2.559	3.154	4.474	5.193	5.470	5.479
0.02520	0.03665	1.46833	1.48437	2.55870	3.15428	4.47371	5.19299	5.47017	5.47933
2.327E-05	2.199E-05	1.844E-05	1.837E-05	1.684E-05	1.520E-05	1.280E-05	1.140E-05	1.045E-05	9.072E-06
7.486	7.548	9.472	9.477	10.895	14.021	15.487	17.904	18.367	19.077
7.48597	7.54782	9.47200	9.47658	10.89452	14.02131	15.48735	17.90402	18.36674	19.07686
8.921E-06	8.732E-06	6.898E-06	6.560E-06	6.144E-06	5.632E-06	4.717E-06	4.706E-06	3.930E-06	3.400E-06
22.295	22.362	29.534	29.548	31.259	36.729	39.622	43.184	45.065	53.614
22.29527	22.36171	29.53385	29.54760	31.25874	36.72891	39.62204	43.18407	45.06472	53.61356
2.953E-06	2.679E-06	2.592E-06	2.374E-06	2.216E-06	1.855E-06	1.756E-06	1.393E-06	1.336E-06	1.120E-06
55.064	63.757	63.768	64.066	72.785	78.759	78.859	85.617	85.903	87.926
55.06357	63.75673	63.76818	64.06596	72.78434	78.75845	78.85921	85.61675	85.90307	87.92575
9.669E-07	8.932E-07	8.275E-07	6.724E-07	5.604E-07	5.391E-07	4.563E-07	4.503E-07	4.265E-07	3.810E-07
87.969	88.925	88.945	90.075	90.139	91.202	91.848	92.553	92.658	92.681
87.96926	88.92448	88.94508	90.07438	90.13850	91.20139	91.84737	92.55289	92.65825	92.68114
3.383E-07	2.851E-07	2.720E-07	2.580E-07	2.146E-07	1.963E-07	1.721E-07	1.437E-07	1.313E-07	1.108E-07
93.314	93.758	93.925	93.978	94.654	94.736	95.522	96.069	96.475	96.530
93.31336	93.75774	93.92494	93.97762	94.65337	94.73581	95.52152	96.06899	96.47444	96.52941
1.080E-07	9.881E-08	8.681E-08	7.923E-08	6.617E-08	4.971E-08	3.997E-08	3.536E-08	1.628E-08	
96.981	97.636	97.780	98.516	99.063	99.794	99.938	99.975	100.000	
96.98066	97.63579	97.78008	98.51538	99.06285	99.79356	99.93786	99.97450	99.99969	

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   5.189
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=  14.021

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
 18  1      -8.57707 -11.46096  -0.82898
 18  2      -9.65463 -12.34616  -1.23523
 18  3     -10.33672 -12.58715  -1.38337
 18  4     -11.09395 -12.66818  -1.45844
 18  5     -11.88432 -12.43229  -1.01955
 18  6     -12.08707 -12.42146  -0.98756
 18  7     -13.01987 -12.45841  -0.92658
 18  8     -13.19770     NUMXQ(K)=  8
    7.249E-05              1.000              1.000
    4.439E-05              3.000              3.000
    3.317E-05              5.000              5.000
    2.012E-05             10.000             10.000
    1.428E-05             15.000             15.000
    1.075E-05             20.000             20.000
    8.420E-06             25.000             25.000
    6.804E-06             30.000             30.000
    5.904E-06             35.000             35.000
    5.175E-06             40.000             40.000
    4.563E-06             45.000             45.000
    4.031E-06             50.000             50.000
    3.562E-06             55.000             55.000
    3.140E-06             60.000             60.000
    2.757E-06             65.000             65.000
    2.403E-06             70.000             70.000
    2.080E-06             75.000             75.000

    3.317E-05              5.0                5.00

K= 18      FIVEXQ(K)= 3.317E-05      FIVEPR(K)= 5.000

  K         HIGHPR            PR       GRNDVT(K)
  1       -3.06158        0.11010        5.94713
  2       -1.84332        3.26408        4.12317
  3       -3.32118        0.04482        3.63725
  4       -3.23022        0.06185        4.74829
  5       -2.99191        0.13862        5.67663
  6       -2.99731        0.13619        4.65168
  7       -3.04268        0.11725        5.13989
  8       -2.95619        0.15574        7.75588
  9       -2.78909        0.26429        8.28787
 10       -2.83186        0.23140        7.26061
 11       -2.84724        0.22051        6.68431
```

12	-2.82533	0.23617	5.93576
13	-2.72118	0.32525	8.39979
14	-2.67041	0.37879	8.27757
15	-2.57624	0.49942	7.82481
16	-2.76210	0.28716	5.64936

K	HOURS(K)	TOTHRS
1	9.64439	9.64439
2	285.93350	295.57790
3	3.92647	299.50440
4	5.41821	304.92260
5	12.14333	317.06590
6	11.93030	328.99620
7	10.27095	339.26720
8	13.64291	352.91010
9	23.15154	376.06170
10	20.27039	396.33210
11	19.31645	415.64850
12	20.68810	436.33660
13	28.49195	464.82860
14	33.18231	498.01090
15	43.74879	541.75960
16	25.15498	566.91460

K	FIVEXQ	SVANN	SLTIME	TIMINT	I	TIME	XQT
1	1.375E-05	1.171E-07	-0.5684	-10.8005			
					1	8.0	-11.98241
					2	16.0	-12.37636
					3	72.0	-13.23121
					4	624.0	-14.45857
2	1.036E-05	8.248E-08	-0.5765	-11.0776			
					1	8.0	-12.27631
					2	16.0	-12.67587
					3	72.0	-13.54290
					4	624.0	-14.78774
3	8.661E-06	7.068E-08	-0.5735	-11.2591			
					1	8.0	-12.45162
					2	16.0	-12.84912
					3	72.0	-13.71165
					4	624.0	-14.95004
4	1.057E-05	8.991E-08	-0.5685	-11.0639			
					1	8.0	-12.24600
					2	16.0	-12.64002
					3	72.0	-13.49501
					4	624.0	-14.72258
5	2.364E-05	1.618E-07	-0.5945	-10.2403			
					1	8.0	-11.47654
					2	16.0	-11.88861
					3	72.0	-12.78277
					4	624.0	-14.06655
6	2.433E-05	1.261E-07	-0.6276	-10.1890			

```
                                        1    8.0   -11.49395
                                        2   16.0   -11.92893
                                        3   72.0   -12.87282
                                        4  624.0   -14.22800
 7 2.319E-05 1.282E-07   -0.6199  -10.2421
                                        1    8.0   -11.53118
                                        2   16.0   -11.96089
                                        3   72.0   -12.89332
                                        4  624.0   -14.23207
 8 2.677E-05 1.750E-07   -0.6000  -10.1123
                                        1    8.0   -11.35983
                                        2   16.0   -11.77569
                                        3   72.0   -12.67806
                                        4  624.0   -13.97365
 9 3.415E-05 2.035E-07   -0.6110   -9.8612
                                        1    8.0   -11.13171
                                        2   16.0   -11.55521
                                        3   72.0   -12.47418
                                        4  624.0   -13.79358
10 2.639E-05 1.732E-07   -0.5994  -10.1269
                                        1    8.0   -11.37341
                                        2   16.0   -11.78890
                                        3   72.0   -12.69048
                                        4  624.0   -13.98492
11 2.227E-05 1.667E-07   -0.5837  -10.3076
                                        1    8.0   -11.52147
                                        2   16.0   -11.92608
                                        3   72.0   -12.80406
                                        4  624.0   -14.06462
12 2.326E-05 1.582E-07   -0.5952  -10.2562
                                        1    8.0   -11.49390
                                        2   16.0   -11.90646
                                        3   72.0   -12.80167
                                        4  624.0   -14.08698
13 3.115E-05 2.125E-07   -0.5948   -9.9645
                                        1    8.0   -11.20140
                                        2   16.0   -11.61370
                                        3   72.0   -12.50838
                                        4  624.0   -13.79291
14 3.378E-05 2.139E-07   -0.6037   -9.8773
                                        1    8.0   -11.13259
                                        2   16.0   -11.55103
                                        3   72.0   -12.45900
                                        4  624.0   -13.76263
15 4.236E-05 2.476E-07   -0.6132   -9.6442
                                        1    8.0   -10.91937
                                        2   16.0   -11.34444
                                        3   72.0   -12.26682
                                        4  624.0   -13.59112
16 2.659E-05 1.638E-07   -0.6070  -10.1140
                                        1    8.0   -11.37634
```

```
                                        2   16.0   -11.79712
                                        3   72.0   -12.71016
                                        4  624.0   -14.02106
17 4.605E-05 2.476E-07   -0.6232   -9.5537
                                        1    8.0   -10.84964
                                        2   16.0   -11.28162
                                        3   72.0   -12.21898
                                        4  624.0   -13.56479
18 3.317E-05 2.476E-07   -0.5841   -9.9091
                                        1    8.0   -11.12363
                                        2   16.0   -11.52847
                                        3   72.0   -12.40695
                                        4  624.0   -13.66822
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Byron
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Byron, 94-98 met (r4), 11 ws cats, 30' wind, 30'-250' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 9.1 meters
DELTA-T HEIGHTS: 76.2-9.1 meters

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

DOWNWIND SECTOR	DISTANCE (METERS)	0-2 HOURS	0-8 HOURS	8-24 HOURS	1-4 DAYS	4-30 DAYS	ANNUAL AVERAGE	HOURS PER YEAR MAX 0-2 HR X/Q IS EXCEEDED IN SECTOR	DOWNWIND SECTOR
S	4828.	1.37E-05	6.25E-06	4.22E-06	1.79E-06	5.26E-07	1.17E-07	9.6	S
SSW	4828.	1.04E-05	4.66E-06	3.13E-06	1.31E-06	3.78E-07	8.25E-08	285.9	SSW
SW	4828.	8.66E-06	3.91E-06	2.63E-06	1.11E-06	3.22E-07	7.07E-08	3.9	SW
WSW	4828.	1.06E-05	4.80E-06	3.24E-06	1.38E-06	4.04E-07	8.99E-08	5.4	WSW
W	4828.	2.36E-05	1.04E-05	6.87E-06	2.81E-06	7.78E-07	1.62E-07	12.1	W
WNW	4828.	2.43E-05	1.02E-05	6.60E-06	2.57E-06	6.62E-07	1.26E-07	11.9	WNW
NW	4828.	2.32E-05	9.82E-06	6.39E-06	2.51E-06	6.59E-07	1.28E-07	10.3	NW
NNW	4828.	2.68E-05	1.17E-05	7.69E-06	3.12E-06	8.54E-07	1.75E-07	13.6	NNW
N	4828.	3.42E-05	1.46E-05	9.59E-06	3.82E-06	1.02E-06	2.03E-07	23.2	N
NNE	4828.	2.64E-05	1.15E-05	7.59E-06	3.08E-06	8.44E-07	1.73E-07	20.3	NNE
NE	4828.	2.23E-05	9.91E-06	6.62E-06	2.75E-06	7.79E-07	1.67E-07	19.3	NE
ENE	4828.	2.33E-05	1.02E-05	6.75E-06	2.76E-06	7.62E-07	1.58E-07	20.7	ENE
E	4828.	3.11E-05	1.37E-05	9.04E-06	3.70E-06	1.02E-06	2.12E-07	28.5	E
ESE	4828.	3.38E-05	1.46E-05	9.63E-06	3.88E-06	1.05E-06	2.14E-07	33.2	ESE
SE	4828.	4.24E-05	1.81E-05	1.18E-05	4.71E-06	1.25E-06	2.48E-07	43.7	SE
SSE	4828.	2.66E-05	1.15E-05	7.53E-06	3.02E-06	8.14E-07	1.64E-07	25.2	SSE
MAX X/Q		4.24E-05				TOTAL HOURS AROUND SITE:		566.9	
SRP 2.3.4	4828.	4.61E-05	1.94E-05	1.26E-05	4.94E-06	1.28E-06	2.48E-07		
SITE LIMIT		3.32E-05	1.48E-05	9.85E-06	4.09E-06	1.16E-06	2.48E-07		

THE FIVE-PERCENT-FOR-THE-ENTIRE-SITE X/Q IS LIMITING.

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

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PRINTOUT OF INPUT CARDS

```
1     00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000
```

ATTACHMENT 3

Braidwood and Byron Stations
Measurement Uncertainty Recapture Technical Evaluation

Response to NRC Acceptance Review Questions

Calculation No. BYR04-050, BRW-04-0044-M, Minor Rev. 1B, Appendix BB-7: "Braidwood PAVAN Input and Output"

Braidwood PAVAN Input and Output

```
   1  1111
Braidwood                                   Ground Release
10.4 meters            61.9-10.4 meters

Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
   11    0
2917. 60.7 10.0 10.4
    0    0    0    0    3   20   19
   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.
   0.   0.   2.   3.   0.   1.   3.   2.   0.   3.   0.   0.   1.   0.   0.   0.
   0.   5.  14.  16.  21.   6.  14.   7.   7.   8.   0.   7.   2.   3.   0.   3.
  27.  15.  67.  44.  45.  28.  32.  51.  46.  24.  19.  26.  34.  22.  29.  14.
  33.  41.  55.  19.  20.  14.  19.  38.  32.  31.  30.  38.  46.  36.  41.  49.
  31.  40.  25.   3.   8.   7.   6.  10.  31.  62.  33.  25.  29.  33.  62.  58.
  12.  10.   5.   1.   0.   3.   2.   7.  21.  27.  20.  19.  21.  37.  19.  19.
   2.   1.   0.   0.   0.   0.   7.  12.  18.  32.   7.   5.  11.  30.  15.   8.
   0.   0.   0.   0.   0.   0.   0.   3.   6.   2.   0.   0.   0.   1.   0.   0.
   0.   0.   0.   0.   0.   0.   0.   1.   3.   7.   1.   0.   0.   0.   0.   0.
   0.   0.   1.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.
   0.   1.   4.   6.   6.   1.   1.   3.   4.   0.   0.   0.   1.   1.   1.   1.
   3.   3.   9.  15.  20.  12.  10.  11.   5.   4.   4.   6.   2.   6.   5.   1.
  21.  17.  31.  35.  29.  27.  32.  29.  21.  21.  20.  19.  53.  28.  28.  27.
  23.  26.  34.  14.  15.  10.  12.  19.  19.  27.  18.  27.  21.  43.  43.  31.
  10.  20.  13.   4.   4.   1.   7.  15.  20.  28.  28.  24.  30.  39.  28.  33.
   9.  12.   3.   3.   0.   0.   0.   8.  22.  20.  18.  13.   8.  24.  20.  17.
   2.   0.   1.   0.   0.   0.   5.  11.   9.  17.  18.   7.  12.  18.   4.   7.
   0.   0.   0.   0.   0.   0.   0.   1.   6.   2.   0.   0.   4.   3.   0.   0.
   0.   0.   0.   0.   0.   0.   0.   1.   1.   2.   0.   0.   0.   0.   0.   0.
   0.   0.   0.   2.   1.   0.   1.   0.   0.   0.   0.   0.   0.   0.   0.   0.
   1.   3.   3.  10.  10.   6.   5.   2.   4.   2.   1.   3.   3.   1.   2.   0.
  11.  13.  23.  20.  24.  18.  13.  14.  13.  11.   7.  11.  16.  12.   5.   9.
  21.  25.  40.  41.  49.  35.  39.  41.  20.  23.  26.  33.  48.  49.  48.  28.
  27.  27.  36.  14.  16.  10.  16.  35.  27.  35.  35.  37.  56.  58.  51.  41.
  19.  18.  23.   2.   4.   0.   9.  13.  27.  31.  37.  38.  35.  47.  50.  33.
  10.  12.   4.   0.   0.   4.   5.  19.  17.  29.  31.  18.  12.  21.  22.  12.
   4.   4.   0.   0.   0.   0.   5.  14.  18.  35.  11.  13.  12.  24.   7.   8.
   1.   0.   0.   0.   0.   0.   0.   1.   2.  10.   0.   1.   1.   5.   0.   0.
   0.   0.   0.   0.   0.   0.   0.   1.   0.   6.   0.   0.   0.   3.   0.   0.
   9.  21.  15.  36.  23.   7.   4.   4.   3.   1.   6.   4.   8.  11.  15.  16.
  31.  51.  90. 131. 128.  43.  24.  19.  12.  12.  19.  28.  41.  70.  72.  39.
  71.  70. 129. 195. 164.  93.  66.  54.  35.  40.  33.  58.  85.  81. 133.  91.
 167. 222. 315. 343. 197. 166. 190. 203. 115.  97. 145. 224. 318. 306. 323. 276.
 166. 196. 262. 203. 106.  89. 132. 217. 128. 150. 228. 228. 266. 302. 279. 213.
 100. 194. 196.  92.  26.  57.  97. 147. 155. 179. 239. 201. 261. 286. 193. 207.
  71. 148. 111.  20.   3.  32.  81. 133. 143. 179. 154. 115. 192. 227.  68. 139.
  33.  66.  13.   0.   1.   7.  39. 107. 205. 253. 166.  85. 192. 198.  48.  89.
  10.   1.   0.   0.   0.   0.   0.  18.  60. 111.  33.  22.  51.  50.   2.  21.
   0.   0.   0.   0.   0.   0.   0.   3.  13.  16.  15.   1.  10.   3.   0.   3.
```

43.	50.	85.	124.	140.	34.	21.	13.	10.	13.	9.	20.	23.	51.	47.	37.
84.	94.	146.	263.	285.	159.	60.	38.	19.	17.	20.	45.	118.	171.	130.	82.
99.	125.	156.	235.	201.	192.	125.	105.	55.	32.	50.	140.	180.	165.	172.	89.
188.	238.	202.	262.	175.	269.	355.	422.	233.	187.	224.	421.	298.	310.	183.	215.
125.	129.	153.	97.	56.	88.	254.	317.	319.	350.	299.	249.	200.	244.	130.	153.
46.	87.	66.	34.	13.	50.	100.	223.	310.	388.	186.	114.	134.	165.	61.	85.
39.	52.	47.	15.	2.	25.	37.	136.	216.	264.	79.	61.	75.	88.	23.	30.
27.	71.	75.	6.	0.	3.	35.	77.	185.	236.	61.	46.	71.	84.	19.	23.
14.	14.	3.	0.	0.	0.	2.	5.	81.	44.	19.	27.	43.	16.	0.	0.
1.	0.	0.	0.	0.	0.	0.	10.	12.	10.	15.	13.	23.	3.	0.	2.
64.	45.	84.	114.	143.	60.	32.	23.	17.	19.	19.	31.	56.	82.	79.	52.
45.	30.	37.	75.	144.	147.	68.	36.	16.	25.	22.	54.	128.	199.	114.	68.
45.	24.	10.	11.	28.	150.	77.	44.	21.	27.	37.	103.	164.	93.	44.	28.
21.	9.	4.	4.	6.	49.	71.	72.	43.	62.	43.	259.	128.	37.	10.	12.
0.	0.	1.	0.	0.	1.	5.	27.	17.	73.	36.	37.	13.	3.	1.	0.
0.	0.	0.	0.	0.	0.	1.	1.	7.	47.	10.	0.	1.	0.	0.	1.
0.	0.	0.	0.	0.	0.	0.	0.	0.	10.	0.	0.	0.	0.	0.	0.
0.	0.	1.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	1.	0.	0.
0.	4.	8.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	17.	1.	0.	0.	0.
52.	44.	53.	81.	91.	46.	27.	18.	13.	12.	19.	17.	43.	81.	77.	66.
18.	20.	10.	14.	65.	48.	15.	4.	9.	9.	11.	31.	73.	91.	39.	28.
8.	3.	0.	3.	25.	30.	11.	1.	4.	8.	6.	30.	47.	21.	5.	9.
1.	1.	0.	1.	0.	6.	5.	3.	2.	6.	1.	111.	22.	1.	2.	1.
1.	0.	0.	0.	0.	0.	0.	1.	2.	4.	2.	3.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	3.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
101.	0.80	2.35	3.47	4.56	6.82	9.06	11.30	13.53	18.01	22.40	55.0				
485.	485.	485.	485.	485.	485.	485.	485.	485.	485.	485.	485.	485.	485.	485.	485.
1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PRINTOUT OF INPUT CARDS

```
  1     00010 01111 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000   2     Braidwood
Ground Release
  3     10.4 meters           61.9-10.4 meters
  4
  5     Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T                  6         11 43730     0
  7          0.500  2917.000    60.700    10.000    10.400
  8        0.000  0.000  0.000  0.000  3.000 20.000 19.000
  9        0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000
  9        0.000  0.000  2.000  3.000  0.000  1.000  3.000  2.000  0.000  3.000  0.000  0.000  1.000  0.000  0.000  0.000
  9        0.000  5.000 14.000 16.000 21.000  6.000 14.000  7.000  7.000  8.000  0.000  7.000  2.000  3.000  0.000  3.000
  9       27.000 15.000 67.000 44.000 45.000 28.000 32.000 51.000 46.000 24.000 19.000 26.000 34.000 22.000 29.000 14.000
  9       33.000 41.000 55.000 19.000 20.000 14.000 19.000 38.000 32.000 31.000 30.000 38.000 46.000 36.000 41.000 49.000
  9       31.000 40.000 25.000  3.000  8.000  7.000  6.000 10.000 31.000 62.000 33.000 25.000 29.000 33.000 62.000 58.000
  9       12.000 10.000  5.000  1.000  0.000  3.000  2.000  7.000 21.000 27.000 20.000 19.000 21.000 37.000 19.000 19.000
  9        2.000  1.000  0.000  0.000  0.000  0.000  7.000 12.000 18.000 32.000  7.000  5.000 11.000 30.000 15.000  8.000
  9        0.000  0.000  0.000  0.000  0.000  0.000  0.000  3.000  6.000  2.000  0.000  0.000  0.000  1.000  0.000  0.000
  9        0.000  0.000  0.000  0.000  0.000  0.000  0.000  1.000  3.000  7.000  1.000  0.000  0.000  0.000  0.000  0.000
  9        0.000  0.000  1.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  1.000
  9        0.000  1.000  4.000  6.000  6.000  1.000  1.000  3.000  4.000  0.000  0.000  0.000  1.000  1.000  1.000  1.000
  9        3.000  3.000  9.000 15.000 20.000 12.000 10.000 11.000  5.000  4.000  4.000  6.000  2.000  6.000  5.000  1.000
  9       21.000 17.000 31.000 35.000 29.000 27.000 32.000 29.000 21.000 21.000 20.000 19.000 53.000 28.000 28.000 27.000
  9       23.000 26.000 34.000 14.000 15.000 10.000 12.000 19.000 19.000 27.000 18.000 27.000 21.000 43.000 43.000 31.000
  9       10.000 20.000 13.000  4.000  4.000  1.000  7.000 15.000 20.000 28.000 28.000 24.000 30.000 39.000 28.000 33.000
  9        9.000 12.000  3.000  3.000  0.000  0.000  0.000  8.000 22.000 20.000 18.000 13.000  8.000 24.000 20.000 17.000
  9        2.000  0.000  1.000  0.000  0.000  0.000  5.000 11.000  9.000 17.000 18.000  7.000 12.000 18.000  4.000  7.000
  9        0.000  0.000  0.000  0.000  0.000  0.000  0.000  1.000  6.000  2.000  0.000  0.000  4.000  3.000  0.000  0.000
  9        0.000  0.000  0.000  0.000  0.000  0.000  0.000  1.000  1.000  2.000  0.000  0.000  0.000  0.000  0.000  0.000
  9        0.000  0.000  0.000  2.000  1.000  0.000  1.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000
  9        1.000  3.000  3.000 10.000 10.000  6.000  5.000  2.000  4.000  2.000  1.000  3.000  3.000  1.000  2.000  0.000
  9       11.000 13.000 23.000 20.000 24.000 18.000 13.000 14.000 13.000 11.000  7.000 11.000 16.000 12.000  5.000  9.000
  9       21.000 25.000 40.000 41.000 49.000 35.000 39.000 41.000 20.000 23.000 26.000 33.000 48.000 49.000 48.000 28.000
  9       27.000 27.000 36.000 14.000 16.000 10.000 16.000 35.000 27.000 35.000 35.000 37.000 56.000 58.000 51.000 41.000
  9       19.000 18.000 23.000  2.000  4.000  0.000  9.000 13.000 27.000 31.000 37.000 38.000 35.000 47.000 50.000 33.000
  9       10.000 12.000  4.000  0.000  0.000  4.000  5.000 19.000 17.000 29.000 31.000 18.000 12.000 21.000 22.000 12.000
  9        4.000  4.000  0.000  0.000  0.000  0.000  5.000 14.000 18.000 35.000 11.000 13.000 12.000 24.000  7.000  8.000
  9        1.000  0.000  0.000  0.000  0.000  0.000  0.000  1.000  2.000 10.000  0.000  1.000  1.000  5.000  0.000  0.000
  9        0.000  0.000  0.000  0.000  0.000  0.000  0.000  1.000  0.000  6.000  0.000  0.000  0.000  3.000  0.000  0.000
  9        9.000 21.000 15.000 36.000 23.000  7.000  4.000  4.000  3.000  1.000  6.000  4.000  8.000 11.000 15.000 16.000
  9       31.000 51.000 90.000131.000128.000 43.000 24.000 19.000 12.000 12.000 19.000 28.000 41.000 70.000 72.000 39.000
  9       71.000 70.000129.000195.000164.000 93.000 66.000 54.000 35.000 40.000 33.000 58.000 85.000 81.000133.000 91.000
  9      167.000222.000315.000343.000197.000166.000190.000203.000115.000 97.000145.000224.000318.000306.000323.000276.000
  9      166.000196.000262.000203.000106.000 89.000132.000217.000128.000150.000228.000228.000266.000302.000279.000213.000
  9      100.000194.000196.000 92.000 26.000 57.000 97.000147.000155.000179.000239.000201.000261.000286.000193.000207.000
```

```
  9      71.000148.000111.000 20.000  3.000 32.000 81.000133.000143.000179.000154.000115.000192.000227.000 68.000139.000
  9      33.000 66.000 13.000  0.000  1.000  7.000 39.000107.000205.000253.000166.000 85.000192.000198.000 48.000 89.000
  9      10.000  1.000  0.000  0.000  0.000  0.000  0.000 18.000 60.000111.000 33.000 22.000 51.000 50.000  2.000 21.000
  9       0.000  0.000  0.000  0.000  0.000  0.000  0.000  3.000 13.000 16.000 15.000  1.000 10.000  3.000  0.000  3.000
  9      43.000 50.000 85.000124.000140.000 34.000 21.000 13.000 10.000 13.000  9.000 20.000 23.000 51.000 47.000 37.000
  9      84.000 94.000146.000263.000285.000159.000 60.000 38.000 19.000 17.000 20.000 45.000118.000171.000130.000 82.000
  9      99.000125.000156.000235.000201.000192.000125.000105.000 55.000 32.000 50.000140.000180.000165.000172.000 89.000
  9     188.000238.000202.000262.000175.000269.000355.000422.000233.000187.000224.000421.000298.000310.000183.000215.000
  9     125.000129.000153.000 97.000 56.000 88.000254.000317.000319.000350.000299.000249.000200.000244.000130.000153.000
  9      46.000 87.000 66.000 34.000 13.000 50.000100.000223.000310.000388.000186.000114.000134.000165.000 61.000 85.000
  9      39.000 52.000 47.000 15.000  2.000 25.000 37.000136.000216.000264.000 79.000 61.000 75.000 88.000 23.000 30.000
  9      27.000 71.000 75.000  6.000  0.000  3.000 35.000 77.000185.000236.000 61.000 46.000 71.000 84.000 19.000 23.000
  9      14.000 14.000  3.000  0.000  0.000  0.000  2.000  5.000 81.000 44.000 19.000 27.000 43.000 16.000  0.000  0.000
  9       1.000  0.000  0.000  0.000  0.000  0.000  0.000 10.000 12.000 10.000 15.000 13.000 23.000  3.000  0.000  2.000
  9      64.000 45.000 84.000114.000143.000 60.000 32.000 23.000 17.000 19.000 19.000 31.000 56.000 82.000 79.000 52.000
  9      45.000 30.000 37.000 75.000144.000147.000 68.000 36.000 16.000 25.000 22.000 54.000128.000199.000114.000 68.000
  9      45.000 24.000 10.000 11.000 28.000150.000 77.000 44.000 21.000 27.000 37.000103.000164.000 93.000 44.000 28.000
  9      21.000  9.000  4.000  4.000  6.000 49.000 71.000 72.000 43.000 62.000 43.000259.000128.000 37.000 10.000 12.000
  9       0.000  0.000  1.000  0.000  0.000  1.000  5.000 27.000 17.000 73.000 36.000 37.000 13.000  3.000  1.000  0.000
  9       0.000  0.000  0.000  0.000  0.000  0.000  1.000  1.000  7.000 47.000 10.000  0.000  1.000  0.000  0.000  1.000
  9       0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000 10.000  0.000  0.000  0.000  0.000  0.000  0.000
  9       0.000  0.000  1.000  0.000  0.000  0.000  0.000  0.000  0.000  1.000  0.000  0.000  0.000  1.000  0.000  0.000
  9       0.000  4.000  8.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000
  9       0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000 17.000  1.000  0.000  0.000  0.000
  9      52.000 44.000 53.000 81.000 91.000 46.000 27.000 18.000 13.000 12.000 19.000 17.000 43.000 81.000 77.000 66.000
  9      18.000 20.000 10.000 14.000 65.000 48.000 15.000  4.000  9.000  9.000 11.000 31.000 73.000 91.000 39.000 28.000
  9       8.000  3.000  0.000  3.000 25.000 30.000 11.000  1.000  4.000  8.000  6.000 30.000 47.000 21.000  5.000  9.000
  9       1.000  1.000  0.000  1.000  0.000  6.000  5.000  3.000  2.000  6.000  1.000111.000 22.000  1.000  2.000  1.000
  9       1.000  0.000  0.000  0.000  0.000  0.000  0.000  1.000  2.000  4.000  2.000  3.000  0.000  0.000  0.000  0.000
  9       0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  3.000  0.000  0.000  0.000  0.000  0.000  0.000
  9       0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000
  9       0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000
  9       0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000
  9       0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  0.000  10        101.
0.800  2.350  3.470  4.560  6.820  9.060 11.300 13.530 18.010 22.400 55.000  0.000  0.000  0.000  11        485.   485.   485.   485.
485.   485.   485.   485.   485.   485.   485.   485.   485.   485.   485.   485.  11        1810.  1810.  1810.  1810.  1810.  1810.
1810.  1810.  1810.  1810.  1810.  1810.  1810.  1810.  1810.  1810.  12         1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0
1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0
  12         1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0    1.0
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION ATMOSPHERIC STABILITY CLASS A
WIND SPEED (M/S)

TOWER	RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.36	0.35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.05	1.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.55	1.54	0.000	0.000	0.005	0.007	0.000	0.002	0.007	0.005	0.000	0.007	0.000	0.000	0.002	0.000	0.000	0.000	0.034
2.04	2.02	0.000	0.011	0.032	0.037	0.048	0.014	0.032	0.016	0.016	0.018	0.000	0.016	0.005	0.007	0.000	0.007	0.258
3.05	3.02	0.062	0.034	0.153	0.101	0.103	0.064	0.073	0.117	0.105	0.055	0.043	0.059	0.078	0.050	0.066	0.032	1.196
4.05	4.01	0.075	0.094	0.126	0.043	0.046	0.032	0.043	0.087	0.073	0.071	0.069	0.087	0.105	0.082	0.094	0.112	1.239
5.05	5.00	0.071	0.091	0.057	0.007	0.018	0.016	0.014	0.023	0.071	0.142	0.075	0.057	0.066	0.075	0.142	0.133	1.059
6.05	5.99	0.027	0.023	0.011	0.002	0.000	0.007	0.005	0.016	0.048	0.062	0.046	0.043	0.048	0.085	0.043	0.043	0.510
8.05	7.97	0.005	0.002	0.000	0.000	0.000	0.000	0.016	0.027	0.041	0.073	0.016	0.011	0.025	0.069	0.034	0.018	0.338
10.01	9.92	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.014	0.005	0.000	0.000	0.000	0.002	0.000	0.000	0.027
24.59	24.35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.007	0.016	0.002	0.000	0.000	0.000	0.000	0.000	0.027
TOTAL		0.24	0.26	0.38	0.20	0.21	0.13	0.19	0.30	0.38	0.45	0.25	0.27	0.33	0.37	0.38	0.35	4.69

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION ATMOSPHERIC STABILITY CLASS B
WIND SPEED (M/S)

TOWER	RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.36	0.35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.05	1.04	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.005
1.55	1.54	0.000	0.002	0.009	0.014	0.014	0.002	0.002	0.007	0.009	0.000	0.000	0.000	0.002	0.002	0.002	0.002	0.069
2.04	2.02	0.007	0.007	0.021	0.034	0.046	0.027	0.023	0.025	0.011	0.009	0.009	0.014	0.005	0.014	0.011	0.002	0.265
3.05	3.02	0.048	0.039	0.071	0.080	0.066	0.062	0.073	0.066	0.048	0.048	0.046	0.043	0.121	0.064	0.064	0.062	1.002
4.05	4.01	0.053	0.059	0.078	0.032	0.034	0.023	0.027	0.043	0.043	0.062	0.041	0.062	0.048	0.098	0.098	0.071	0.874
5.05	5.00	0.023	0.046	0.030	0.009	0.009	0.002	0.016	0.034	0.046	0.064	0.064	0.055	0.069	0.089	0.064	0.075	0.695
6.05	5.99	0.021	0.027	0.007	0.007	0.000	0.000	0.000	0.018	0.050	0.046	0.041	0.030	0.018	0.055	0.046	0.039	0.405
8.05	7.97	0.005	0.000	0.002	0.000	0.000	0.000	0.011	0.025	0.021	0.039	0.041	0.016	0.027	0.041	0.009	0.016	0.254
10.01	9.92	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.014	0.005	0.000	0.000	0.009	0.007	0.000	0.000	0.037
24.59	24.35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.009
TOTAL		0.16	0.18	0.22	0.18	0.17	0.12	0.15	0.22	0.24	0.28	0.24	0.22	0.30	0.37	0.29	0.27	3.61

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION ATMOSPHERIC STABILITY CLASS C
WIND SPEED (M/S)

TOWER	RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.36	0.35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.05	1.04	0.000	0.000	0.000	0.005	0.002	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009
1.55	1.54	0.002	0.007	0.007	0.023	0.023	0.014	0.011	0.005	0.009	0.005	0.002	0.007	0.007	0.002	0.005	0.000	0.128
2.04	2.02	0.025	0.030	0.053	0.046	0.055	0.041	0.030	0.032	0.030	0.025	0.016	0.025	0.037	0.027	0.011	0.021	0.503
3.05	3.02	0.048	0.057	0.091	0.094	0.112	0.080	0.089	0.094	0.046	0.053	0.059	0.075	0.110	0.112	0.110	0.064	1.294

4.05	4.01	0.062	0.062	0.082	0.032	0.037	0.023	0.037	0.080	0.062	0.080	0.080	0.085	0.128	0.133	0.117	0.094	1.191
5.05	5.00	0.043	0.041	0.053	0.005	0.009	0.000	0.021	0.030	0.062	0.071	0.085	0.087	0.080	0.107	0.114	0.075	0.883
6.05	5.99	0.023	0.027	0.009	0.000	0.000	0.009	0.011	0.043	0.039	0.066	0.071	0.041	0.027	0.048	0.050	0.027	0.494
8.05	7.97	0.009	0.009	0.000	0.000	0.000	0.000	0.011	0.032	0.041	0.080	0.025	0.030	0.027	0.055	0.016	0.018	0.354
10.01	9.92	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.005	0.023	0.000	0.002	0.002	0.011	0.000	0.000	0.048
24.59	24.35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.014	0.000	0.000	0.000	0.007	0.000	0.000	0.023
TOTAL		0.21	0.23	0.29	0.20	0.24	0.17	0.21	0.32	0.29	0.42	0.34	0.35	0.42	0.50	0.42	0.30	4.93

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

WIND SPEED (M/S)

TOWER	RELEASE	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0.36	0.35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.05	1.04	0.021	0.048	0.034	0.082	0.053	0.016	0.009	0.009	0.007	0.002	0.014	0.009	0.018	0.025	0.034	0.037	0.418
1.55	1.54	0.071	0.117	0.206	0.300	0.293	0.098	0.055	0.043	0.027	0.027	0.043	0.064	0.094	0.160	0.165	0.089	1.852
2.04	2.02	0.162	0.160	0.295	0.446	0.375	0.213	0.151	0.123	0.080	0.091	0.075	0.133	0.194	0.185	0.304	0.208	3.197
3.05	3.02	0.382	0.508	0.720	0.784	0.450	0.380	0.434	0.464	0.263	0.222	0.332	0.512	0.727	0.700	0.739	0.631	8.248
4.05	4.01	0.380	0.448	0.599	0.464	0.242	0.204	0.302	0.496	0.293	0.343	0.521	0.521	0.608	0.691	0.638	0.487	7.238
5.05	5.00	0.229	0.444	0.448	0.210	0.059	0.130	0.222	0.336	0.354	0.409	0.547	0.460	0.597	0.654	0.441	0.473	6.014
6.05	5.99	0.162	0.338	0.254	0.046	0.007	0.073	0.185	0.304	0.327	0.409	0.352	0.263	0.439	0.519	0.155	0.318	4.153
8.05	7.97	0.075	0.151	0.030	0.000	0.002	0.016	0.089	0.245	0.469	0.579	0.380	0.194	0.439	0.453	0.110	0.204	3.435
10.01	9.92	0.023	0.002	0.000	0.000	0.000	0.000	0.000	0.041	0.137	0.254	0.075	0.050	0.117	0.114	0.005	0.048	0.867
24.59	24.35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.030	0.037	0.034	0.002	0.023	0.007	0.000	0.007	0.146
TOTAL		1.50	2.22	2.59	2.33	1.48	1.13	1.45	2.07	1.99	2.37	2.37	2.21	3.26	3.51	2.59	2.50	35.57

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
0.36	0.35	0.000	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007
1.05	1.03	0.098	0.114	0.194	0.284	0.320	0.078	0.048	0.030	0.023	0.030	0.021	0.046	0.053	0.117	0.107	0.085	1.646
1.55	1.52	0.192	0.215	0.334	0.601	0.652	0.364	0.137	0.087	0.043	0.039	0.046	0.103	0.270	0.391	0.297	0.188	3.958
2.04	2.00	0.226	0.286	0.357	0.537	0.460	0.439	0.286	0.240	0.126	0.073	0.114	0.320	0.412	0.377	0.393	0.204	4.850
3.05	2.99	0.430	0.544	0.462	0.599	0.400	0.615	0.812	0.965	0.533	0.428	0.512	0.963	0.681	0.709	0.418	0.492	9.563
4.05	3.97	0.286	0.295	0.350	0.222	0.128	0.201	0.581	0.725	0.729	0.800	0.684	0.569	0.457	0.558	0.297	0.350	7.233
5.05	4.95	0.105	0.199	0.151	0.078	0.030	0.114	0.229	0.510	0.709	0.887	0.425	0.261	0.306	0.377	0.139	0.194	4.715
6.05	5.93	0.089	0.119	0.107	0.034	0.005	0.057	0.085	0.311	0.494	0.604	0.181	0.139	0.172	0.201	0.053	0.069	2.719
8.05	7.89	0.062	0.162	0.172	0.014	0.000	0.007	0.080	0.176	0.423	0.540	0.139	0.105	0.162	0.192	0.043	0.053	2.330
10.01	9.82	0.032	0.032	0.007	0.000	0.000	0.000	0.005	0.011	0.185	0.101	0.043	0.062	0.098	0.037	0.000	0.000	0.613
24.59	24.11	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.023	0.027	0.023	0.034	0.030	0.053	0.007	0.000	0.005	0.204
TOTAL		1.52	1.97	2.13	2.37	2.00	1.88	2.26	3.08	3.29	3.52	2.20	2.60	2.66	2.97	1.75	1.64	37.84

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
0.36	0.35	0.003	0.002	0.004	0.006	0.007	0.003	0.002	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.004	0.003	0.046
1.05	1.03	0.146	0.103	0.192	0.261	0.327	0.137	0.073	0.053	0.039	0.043	0.043	0.071	0.128	0.188	0.181	0.119	2.104
1.55	1.52	0.103	0.069	0.085	0.172	0.329	0.336	0.155	0.082	0.037	0.057	0.050	0.123	0.293	0.455	0.261	0.155	2.762
2.04	2.00	0.103	0.055	0.023	0.025	0.064	0.343	0.176	0.101	0.048	0.062	0.085	0.236	0.375	0.213	0.101	0.064	2.072
3.05	2.99	0.048	0.021	0.009	0.009	0.014	0.112	0.162	0.165	0.098	0.142	0.098	0.592	0.293	0.085	0.023	0.027	1.898

4.05	3.97	0.000	0.000	0.002	0.000	0.000	0.002	0.011	0.062	0.039	0.167	0.082	0.085	0.030	0.007	0.002	0.000	0.489
5.05	4.95	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.016	0.107	0.023	0.000	0.002	0.000	0.000	0.002	0.155
6.05	5.93	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.023
8.05	7.89	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.002	0.000	0.000	0.007
10.01	9.82	0.000	0.009	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.027
24.59	24.11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.039	0.002	0.000	0.000	0.000	0.041
TOTAL		0.40	0.26	0.34	0.47	0.74	0.93	0.58	0.47	0.28	0.60	0.38	1.15	1.13	0.95	0.57	0.37	9.62

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
0.36	0.35	0.003	0.003	0.003	0.005	0.005	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.003	0.005	0.005	0.004	0.043
1.05	1.03	0.119	0.101	0.121	0.185	0.208	0.105	0.062	0.041	0.030	0.027	0.043	0.039	0.098	0.185	0.176	0.151	1.692
1.55	1.52	0.041	0.046	0.023	0.032	0.149	0.110	0.034	0.009	0.021	0.021	0.025	0.071	0.167	0.208	0.089	0.064	1.109
2.04	2.00	0.018	0.007	0.000	0.007	0.057	0.069	0.025	0.002	0.009	0.018	0.014	0.069	0.107	0.048	0.011	0.021	0.483
3.05	2.99	0.002	0.002	0.000	0.002	0.000	0.014	0.011	0.007	0.005	0.014	0.002	0.254	0.050	0.002	0.005	0.002	0.373
4.05	3.97	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.005	0.009	0.005	0.007	0.000	0.000	0.000	0.000	0.030
5.05	4.95	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.007
6.05	5.93	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8.05	7.89	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10.01	9.82	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24.59	24.11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL		0.19	0.16	0.15	0.23	0.42	0.30	0.13	0.06	0.07	0.10	0.09	0.44	0.43	0.45	0.29	0.24	3.74

WIND MEASURED AT 10.4 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:	4.2	5.3	6.1	6.0	5.3	4.7	5.0	6.5	6.5	7.7	5.9	7.2	8.5	9.1	6.3	5.7

OVERALL WIND SPEED FREQUENCY AS MEASURED ON THE TOWER:

MAX.WIND SPEED (M/S):	0.358	1.051	1.551	2.039	3.049	4.050	5.052	6.048	8.051	10.014	24.587
WIND SPEED FREQUENCY:	0.10	5.87	9.91	11.63	23.57	18.29	13.53	8.30	6.72	1.62	0.45

BUILDING AND RELEASE CHARACTERISTICS:
RELEASE HEIGHT: 10.00 METERS
MIXING VOLUME COEFFICIENT: 0.50
BUILDING CROSS-SECTIONAL AREA: 2917.00 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	485.	485.	485.	485.	485.	485.	485.	485.	485.	485.	485.	485.	485.	485.	485.	485.
BOUNDARY 2	1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.	1810.

THE CONVERSION FACTOR APPLIED TO THE WIND SPEED CLASSES IS 0.447

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

WINDSPEEDS ADJUSTED TO 10.0 METERS.

PERCENT OF THE TIME A GIVEN WINDSPEED IS LOWER:

WINDSPEED (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.35	0.10
0.35	0.10
1.03	5.54
1.04	5.97
1.52	13.80
1.54	15.88
2.00	23.29
2.02	27.51
2.99	39.35
3.02	51.09
3.97	58.84
4.01	69.38
4.95	74.26
5.00	82.91
5.93	85.65
5.99	91.21
7.89	93.55
7.97	97.93
9.82	98.57
9.92	99.55
24.11	99.79
24.35	100.00

WINDSPEED (INTERPOLATED) (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.35	0.10
1.03	5.97
1.52	15.88
2.01	27.51
3.00	51.09
3.99	69.38
4.98	82.91
5.97	91.21
7.95	97.93
9.88	99.55

24.22 100.00

ERROR IN NORMAL TRANSFORMATION FOR A(11)= 100.00000

LOG-NORMAL INTERPOLATION PERCENTILES

WINDSPEED (METER/SEC)	CUMULATIVE FREQUENCY (PERCENT)
0.60	1.00
0.82	3.00
0.97	5.00
1.25	10.00
1.49	15.00
1.70	20.00
1.90	25.00
2.10	30.00
2.30	35.00
2.51	40.00
2.72	45.00
2.95	50.00
3.19	55.00
3.44	60.00
3.72	65.00
4.03	70.00
4.34	75.00
4.72	80.00
5.28	85.00
5.78	90.00

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	3.0	1.46	485.	0.	0.	97.4	117.1	97.4	9.244E-06	8.882E-06	8.882E-06
A	4.0	1.78	485.	0.	0.	97.4	117.1	97.4	6.958E-06	6.686E-06	6.686E-06
A	5.0	1.68	485.	0.	0.	97.4	117.1	97.4	5.579E-06	5.361E-06	5.361E-06
A	6.0	0.65	485.	0.	0.	97.4	117.1	97.4	4.659E-06	4.477E-06	4.477E-06
A	8.0	0.11	485.	0.	0.	97.4	117.1	97.4	3.500E-06	3.363E-06	3.363E-06
B	2.0	0.16	485.	0.	0.	73.3	49.9	73.3	4.316E-05	3.829E-05	3.829E-05
B	3.0	1.14	485.	0.	0.	73.3	49.9	73.3	2.886E-05	2.560E-05	2.560E-05
B	4.0	1.24	485.	0.	0.	73.3	49.9	73.3	2.172E-05	1.927E-05	1.927E-05
B	5.0	0.54	485.	0.	0.	73.3	49.9	73.3	1.742E-05	1.545E-05	1.545E-05
B	6.0	0.49	485.	0.	0.	73.3	49.9	73.3	1.455E-05	1.291E-05	1.291E-05
B	8.0	0.11	485.	0.	0.	73.3	49.9	73.3	1.093E-05	9.696E-06	9.696E-06
C	1.5	0.05	485.	0.	0.	55.6	31.6	55.6	1.178E-04	9.321E-05	9.321E-05
C	2.0	0.59	485.	0.	0.	55.6	31.6	55.6	8.966E-05	7.093E-05	7.093E-05
C	3.0	1.14	485.	0.	0.	55.6	31.6	55.6	5.995E-05	4.743E-05	4.743E-05
C	4.0	1.46	485.	0.	0.	55.6	31.6	55.6	4.512E-05	3.570E-05	3.570E-05
C	5.0	1.03	485.	0.	0.	55.6	31.6	55.6	3.618E-05	2.862E-05	2.862E-05
C	6.0	0.54	485.	0.	0.	55.6	31.6	55.6	3.022E-05	2.391E-05	2.391E-05
C	8.0	0.22	485.	0.	0.	55.6	31.6	55.6	2.270E-05	1.796E-05	1.796E-05
C	9.9	0.05	485.	0.	0.	55.6	31.6	55.6	1.825E-05	1.444E-05	1.444E-05
D	1.0	0.49	485.	0.	0.	39.2	18.0	78.4	2.174E-04	2.620E-04	2.174E-04
D	1.5	1.68	485.	0.	0.	39.2	18.0	78.4	1.473E-04	1.774E-04	1.473E-04
D	2.0	3.84	485.	0.	0.	39.2	18.0	77.9	1.127E-04	1.350E-04	1.127E-04
D	3.0	9.03	485.	0.	0.	39.2	18.0	60.4	9.715E-05	9.028E-05	9.028E-05
D	4.0	8.98	485.	0.	0.	39.2	18.0	50.5	8.749E-05	6.796E-05	6.796E-05
D	5.0	5.41	485.	0.	0.	39.2	18.0	43.9	8.063E-05	5.449E-05	5.449E-05
D	6.0	3.84	485.	0.	0.	39.2	18.0	39.2	7.545E-05	4.551E-05	4.551E-05
D	8.0	1.78	485.	0.	0.	39.2	18.0	39.2	5.674E-05	3.419E-05	3.419E-05
D	9.9	0.54	485.	0.	0.	39.2	18.0	39.2	4.562E-05	2.749E-05	2.749E-05
E	0.4	0.01	485.	0.	0.	27.9	12.7	83.6	8.570E-04	1.111E-03	8.570E-04
E	1.0	2.33	485.	0.	0.	27.9	12.7	83.6	2.917E-04	3.781E-04	2.917E-04
E	1.5	4.54	485.	0.	0.	27.9	12.7	83.6	1.976E-04	2.560E-04	1.976E-04
E	2.0	5.35	485.	0.	0.	27.9	12.7	83.6	1.504E-04	1.948E-04	1.504E-04
E	3.0	10.17	485.	0.	0.	27.9	12.7	55.9	1.503E-04	1.303E-04	1.303E-04

E	4.0	6.76	485.	0.	0.	27.9	12.7	42.1	1.503E-04	9.806E-05	9.806E-05
E	5.0	2.49	485.	0.	0.	27.9	12.7	33.8	1.503E-04	7.863E-05	7.863E-05
E	5.9	2.11	485.	0.	0.	27.9	12.7	28.2	1.503E-04	6.567E-05	6.567E-05
E	7.9	1.46	485.	0.	0.	27.9	12.7	27.9	1.142E-04	4.933E-05	4.933E-05
E	9.8	0.76	485.	0.	0.	27.9	12.7	27.9	9.182E-05	3.966E-05	3.966E-05
E	24.1	0.05	485.	0.	0.	27.9	12.7	27.9	3.740E-05	1.615E-05	1.615E-05
F	0.4	0.08	485.	0.	0.	19.2	8.0	76.9	1.474E-03	1.965E-03	1.474E-03
F	1.0	3.46	485.	0.	0.	19.2	8.0	76.9	5.018E-04	6.690E-04	5.018E-04
F	1.5	2.43	485.	0.	0.	19.2	8.0	76.9	3.398E-04	4.530E-04	3.398E-04
F	2.0	2.43	485.	0.	0.	19.2	8.0	76.9	2.586E-04	3.447E-04	2.586E-04
F	3.0	1.14	485.	0.	0.	19.2	8.0	46.3	2.871E-04	2.305E-04	2.305E-04
G	0.4	0.07	485.	0.	0.	13.3	5.1	79.7	2.253E-03	4.506E-03	2.253E-03
G	1.0	2.81	485.	0.	0.	13.3	5.1	79.7	7.671E-04	1.534E-03	7.671E-04
G	1.5	0.97	485.	0.	0.	13.3	5.1	79.7	5.195E-04	1.039E-03	5.195E-04
G	2.0	0.43	485.	0.	0.	13.3	5.1	79.7	3.953E-04	7.905E-04	3.953E-04
G	3.0	0.05	485.	0.	0.	13.3	5.1	41.3	5.092E-04	5.286E-04	5.092E-04
G	4.0	0.05	485.	0.	0.	13.3	5.1	26.0	6.091E-04	3.979E-04	3.979E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

SITE EXCLUSION BOUNDARY CALCULATIONS:

S SECTOR BOUNDARY DISTANCE = 485.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.253E-03	1.474E-03	8.570E-04	7.671E-04	5.195E-04	5.092E-04	5.018E-04	3.979E-04	3.953E-04	3.398E-04
0.072	0.147	0.157	2.970	3.943	3.997	7.459	7.513	7.946	10.379
0.00305	0.00623	0.00664	0.12556	0.16672	0.16900	0.31536	0.31764	0.33594	0.43884
2.917E-04	2.586E-04	2.305E-04	2.174E-04	1.976E-04	1.504E-04	1.473E-04	1.303E-04	1.127E-04	9.806E-05
12.705	15.139	16.275	16.762	21.305	26.659	28.336	38.504	42.344	49.105
0.53717	0.64008	0.68810	0.70868	0.90077	1.12716	1.19805	1.62796	1.79032	2.07616
9.321E-05	9.028E-05	7.863E-05	7.093E-05	6.796E-05	6.567E-05	5.449E-05	4.933E-05	4.743E-05	4.551E-05
49.159	58.191	60.679	61.274	70.253	72.362	77.771	79.231	80.367	84.207
2.07845	2.46034	2.56553	2.59068	2.97028	3.05947	3.28814	3.34989	3.39791	3.56027
3.966E-05	3.829E-05	3.570E-05	3.419E-05	2.862E-05	2.749E-05	2.560E-05	2.391E-05	1.927E-05	1.796E-05
84.964	85.126	86.587	88.371	89.399	89.940	91.076	91.617	92.861	93.077
3.59228	3.59914	3.66089	3.73635	3.77980	3.80266	3.85069	3.87355	3.92615	3.93530
1.615E-05	1.545E-05	1.444E-05	1.291E-05	9.696E-06	8.882E-06	6.686E-06	5.361E-06	4.477E-06	3.363E-06
93.131	93.672	93.726	94.213	94.321	95.781	97.566	99.243	99.892	100.000
3.93758	3.96045	3.96274	3.98332	3.98789	4.04963	4.12510	4.19599	4.22343	4.22800

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.125
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.315
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.900
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.626
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.458
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.057
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   3.557
```

```
 K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
 1  1      -6.09537 -10.47460  -1.09243
 1  2      -7.17293 -11.58799  -1.46083
 1  3      -7.59738 -14.55324  -2.54630
 1  4      -8.52936 -12.85459  -1.82828
 1  5      -8.94587 -13.53938  -2.14859
 1  6      -9.31262 -15.92579  -3.36167
 1  7      -9.63092 -19.73417  -5.39547
 1  8      -9.99767     NUMXQ(K)=  8
   1.083E-03              0.042              1.000
   7.636E-04              0.127              3.000
   6.060E-04              0.211              5.000
   3.909E-04              0.423             10.000
   2.732E-04              0.634             15.000
   2.097E-04              0.846             20.000
   1.771E-04              1.057             25.000
   1.559E-04              1.268             30.000
   1.396E-04              1.480             35.000
   1.261E-04              1.691             40.000
   1.137E-04              1.903             45.000
   1.036E-04              2.114             50.000
   9.505E-05              2.325             55.000
   8.639E-05              2.537             60.000
   7.692E-05              2.748             65.000
   6.898E-05              2.960             70.000
   6.027E-05              3.171             75.000
   5.157E-05              3.382             80.000

   3.377E-04              0.5               11.83

ANNUAL AVERAGE =   4.55E-06

K=  1     FIVEXQ(K)= 3.377E-04     FIVEPR(K)=11.826
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	2.0	0.22	485.	0.	0.	97.4	117.1	97.4	1.382E-05	1.328E-05	1.328E-05
A	3.0	0.65	485.	0.	0.	97.4	117.1	97.4	9.244E-06	8.882E-06	8.882E-06
A	4.0	1.78	485.	0.	0.	97.4	117.1	97.4	6.958E-06	6.686E-06	6.686E-06
A	5.0	1.74	485.	0.	0.	97.4	117.1	97.4	5.579E-06	5.361E-06	5.361E-06
A	6.0	0.43	485.	0.	0.	97.4	117.1	97.4	4.659E-06	4.477E-06	4.477E-06
A	8.0	0.04	485.	0.	0.	97.4	117.1	97.4	3.500E-06	3.363E-06	3.363E-06
B	1.5	0.04	485.	0.	0.	73.3	49.9	73.3	5.672E-05	5.032E-05	5.032E-05
B	2.0	0.13	485.	0.	0.	73.3	49.9	73.3	4.316E-05	3.829E-05	3.829E-05
B	3.0	0.74	485.	0.	0.	73.3	49.9	73.3	2.886E-05	2.560E-05	2.560E-05
B	4.0	1.13	485.	0.	0.	73.3	49.9	73.3	2.172E-05	1.927E-05	1.927E-05
B	5.0	0.87	485.	0.	0.	73.3	49.9	73.3	1.742E-05	1.545E-05	1.545E-05
B	6.0	0.52	485.	0.	0.	73.3	49.9	73.3	1.455E-05	1.291E-05	1.291E-05
C	1.5	0.13	485.	0.	0.	55.6	31.6	55.6	1.178E-04	9.321E-05	9.321E-05
C	2.0	0.56	485.	0.	0.	55.6	31.6	55.6	8.966E-05	7.093E-05	7.093E-05
C	3.0	1.08	485.	0.	0.	55.6	31.6	55.6	5.995E-05	4.743E-05	4.743E-05
C	4.0	1.17	485.	0.	0.	55.6	31.6	55.6	4.512E-05	3.570E-05	3.570E-05
C	5.0	0.78	485.	0.	0.	55.6	31.6	55.6	3.618E-05	2.862E-05	2.862E-05
C	6.0	0.52	485.	0.	0.	55.6	31.6	55.6	3.022E-05	2.391E-05	2.391E-05
C	8.0	0.17	485.	0.	0.	55.6	31.6	55.6	2.270E-05	1.796E-05	1.796E-05
D	1.0	0.91	485.	0.	0.	39.2	18.0	78.4	2.174E-04	2.620E-04	2.174E-04
D	1.5	2.21	485.	0.	0.	39.2	18.0	78.4	1.473E-04	1.774E-04	1.473E-04
D	2.0	3.04	485.	0.	0.	39.2	18.0	77.9	1.127E-04	1.350E-04	1.127E-04
D	3.0	9.63	485.	0.	0.	39.2	18.0	60.4	9.715E-05	9.028E-05	9.028E-05
D	4.0	8.51	485.	0.	0.	39.2	18.0	50.5	8.749E-05	6.796E-05	6.796E-05
D	5.0	8.42	485.	0.	0.	39.2	18.0	43.9	8.063E-05	5.449E-05	5.449E-05
D	6.0	6.42	485.	0.	0.	39.2	18.0	39.2	7.545E-05	4.551E-05	4.551E-05
D	8.0	2.86	485.	0.	0.	39.2	18.0	39.2	5.674E-05	3.419E-05	3.419E-05
D	9.9	0.04	485.	0.	0.	39.2	18.0	39.2	4.562E-05	2.749E-05	2.749E-05
E	0.4	0.01	485.	0.	0.	27.9	12.7	83.6	8.570E-04	1.111E-03	8.570E-04
E	1.0	2.17	485.	0.	0.	27.9	12.7	83.6	2.917E-04	3.781E-04	2.917E-04
E	1.5	4.08	485.	0.	0.	27.9	12.7	83.6	1.976E-04	2.560E-04	1.976E-04
E	2.0	5.42	485.	0.	0.	27.9	12.7	83.6	1.504E-04	1.948E-04	1.504E-04
E	3.0	10.33	485.	0.	0.	27.9	12.7	55.9	1.503E-04	1.303E-04	1.303E-04

E	4.0	5.60	485.	0.	0.	27.9	12.7	42.1	1.503E-04	9.806E-05	9.806E-05
E	5.0	3.78	485.	0.	0.	27.9	12.7	33.8	1.503E-04	7.863E-05	7.863E-05
E	5.9	2.26	485.	0.	0.	27.9	12.7	28.2	1.503E-04	6.567E-05	6.567E-05
E	7.9	3.08	485.	0.	0.	27.9	12.7	27.9	1.142E-04	4.933E-05	4.933E-05
E	9.8	0.61	485.	0.	0.	27.9	12.7	27.9	9.182E-05	3.966E-05	3.966E-05
F	0.4	0.04	485.	0.	0.	19.2	8.0	76.9	1.474E-03	1.965E-03	1.474E-03
F	1.0	1.95	485.	0.	0.	19.2	8.0	76.9	5.018E-04	6.690E-04	5.018E-04
F	1.5	1.30	485.	0.	0.	19.2	8.0	76.9	3.398E-04	4.530E-04	3.398E-04
F	2.0	1.04	485.	0.	0.	19.2	8.0	76.9	2.586E-04	3.447E-04	2.586E-04
F	3.0	0.39	485.	0.	0.	19.2	8.0	46.3	2.871E-04	2.305E-04	2.305E-04
F	9.8	0.17	485.	0.	0.	19.2	8.0	19.2	2.106E-04	7.018E-05	7.018E-05
G	0.4	0.05	485.	0.	0.	13.3	5.1	79.7	2.253E-03	4.506E-03	2.253E-03
G	1.0	1.91	485.	0.	0.	13.3	5.1	79.7	7.671E-04	1.534E-03	7.671E-04
G	1.5	0.87	485.	0.	0.	13.3	5.1	79.7	5.195E-04	1.039E-03	5.195E-04
G	2.0	0.13	485.	0.	0.	13.3	5.1	79.7	3.953E-04	7.905E-04	3.953E-04
G	3.0	0.04	485.	0.	0.	13.3	5.1	41.3	5.092E-04	5.286E-04	5.092E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SSW SECTOR BOUNDARY DISTANCE = 485.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.253E-03	1.474E-03	8.570E-04	7.671E-04	5.195E-04	5.092E-04	5.018E-04	3.953E-04	3.398E-04	2.917E-04
0.049	0.091	0.101	2.010	2.878	2.921	4.874	5.004	6.306	8.476
0.00258	0.00482	0.00530	0.10591	0.15165	0.15394	0.25684	0.26370	0.33230	0.44664
2.586E-04	2.305E-04	2.174E-04	1.976E-04	1.504E-04	1.473E-04	1.303E-04	1.127E-04	9.806E-05	9.321E-05
9.518	9.908	10.820	14.899	20.323	22.537	32.865	35.903	41.501	41.631
0.50152	0.52210	0.57013	0.78508	1.07093	1.18755	1.73180	1.89187	2.18687	2.19373
9.028E-05	7.863E-05	7.093E-05	7.018E-05	6.796E-05	6.567E-05	5.449E-05	5.032E-05	4.933E-05	4.743E-05
51.265	55.041	55.605	55.779	64.284	66.541	74.960	75.003	78.085	79.170
2.70139	2.90033	2.93006	2.93921	3.38741	3.50633	3.94996	3.95224	4.11460	4.17177
4.551E-05	3.966E-05	3.829E-05	3.570E-05	3.419E-05	2.862E-05	2.749E-05	2.560E-05	2.391E-05	1.927E-05
85.592	86.200	86.330	87.502	90.366	91.147	91.190	91.928	92.449	93.577
4.51021	4.54223	4.54909	4.61083	4.76176	4.80292	4.80521	4.84408	4.87152	4.93098
1.796E-05	1.545E-05	1.328E-05	1.291E-05	8.882E-06	6.686E-06	5.361E-06	4.477E-06	3.363E-06	
93.751	94.619	94.836	95.357	96.008	97.787	99.523	99.957	100.000	
4.94012	4.98586	4.99729	5.02474	5.05904	5.15279	5.24426	5.26713	5.26942	

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.106
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.257
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   1.186
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.699
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.503
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.507
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
2	1	-6.09537	-10.57124	-1.10571
2	2	-7.17293	-11.92131	-1.54498
2	3	-7.59738	-13.98545	-2.28252
2	4	-8.82336	-10.68859	-0.82475
2	5	-8.94587	-13.11250	-1.97187
2	6	-9.31262	-14.62129	-2.75483
2	7	-9.63092	-15.31884	-3.13990
2	8	-9.99767	NUMXQ(K)= 8	

9.596E-04	0.053	1.000
6.358E-04	0.158	3.000
4.924E-04	0.263	5.000
2.897E-04	0.527	10.000
2.084E-04	0.790	15.000
1.634E-04	1.054	20.000
1.425E-04	1.317	25.000
1.343E-04	1.581	30.000
1.239E-04	1.844	35.000
1.111E-04	2.108	40.000
1.008E-04	2.371	45.000
9.222E-05	2.635	50.000
8.297E-05	2.898	55.000
7.463E-05	3.162	60.000
6.761E-05	3.425	65.000
6.108E-05	3.689	70.000
5.528E-05	3.952	75.000
5.030E-05	4.216	80.000
4.598E-05	4.479	85.000
3.020E-04	0.5	9.49

ANNUAL AVERAGE = 4.65E-06

K= 2 FIVEXQ(K)= 3.020E-04 FIVEPR(K)= 9.489

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.5	0.07	485.	0.	0.	97.4	117.1	97.4	1.817E-05	1.746E-05	1.746E-05
A	2.0	0.52	485.	0.	0.	97.4	117.1	97.4	1.382E-05	1.328E-05	1.328E-05
A	3.0	2.51	485.	0.	0.	97.4	117.1	97.4	9.244E-06	8.882E-06	8.882E-06
A	4.0	2.06	485.	0.	0.	97.4	117.1	97.4	6.958E-06	6.686E-06	6.686E-06
A	5.0	0.94	485.	0.	0.	97.4	117.1	97.4	5.579E-06	5.361E-06	5.361E-06
A	6.0	0.19	485.	0.	0.	97.4	117.1	97.4	4.659E-06	4.477E-06	4.477E-06
B	1.0	0.04	485.	0.	0.	73.3	49.9	73.3	8.375E-05	7.431E-05	7.431E-05
B	1.5	0.15	485.	0.	0.	73.3	49.9	73.3	5.672E-05	5.032E-05	5.032E-05
B	2.0	0.34	485.	0.	0.	73.3	49.9	73.3	4.316E-05	3.829E-05	3.829E-05
B	3.0	1.16	485.	0.	0.	73.3	49.9	73.3	2.886E-05	2.560E-05	2.560E-05
B	4.0	1.27	485.	0.	0.	73.3	49.9	73.3	2.172E-05	1.927E-05	1.927E-05
B	5.0	0.49	485.	0.	0.	73.3	49.9	73.3	1.742E-05	1.545E-05	1.545E-05
B	6.0	0.11	485.	0.	0.	73.3	49.9	73.3	1.455E-05	1.291E-05	1.291E-05
B	8.0	0.04	485.	0.	0.	73.3	49.9	73.3	1.093E-05	9.696E-06	9.696E-06
C	1.5	0.11	485.	0.	0.	55.6	31.6	55.6	1.178E-04	9.321E-05	9.321E-05
C	2.0	0.86	485.	0.	0.	55.6	31.6	55.6	8.966E-05	7.093E-05	7.093E-05
C	3.0	1.50	485.	0.	0.	55.6	31.6	55.6	5.995E-05	4.743E-05	4.743E-05
C	4.0	1.35	485.	0.	0.	55.6	31.6	55.6	4.512E-05	3.570E-05	3.570E-05
C	5.0	0.86	485.	0.	0.	55.6	31.6	55.6	3.618E-05	2.862E-05	2.862E-05
C	6.0	0.15	485.	0.	0.	55.6	31.6	55.6	3.022E-05	2.391E-05	2.391E-05
D	1.0	0.56	485.	0.	0.	39.2	18.0	78.4	2.174E-04	2.620E-04	2.174E-04
D	1.5	3.37	485.	0.	0.	39.2	18.0	78.4	1.473E-04	1.774E-04	1.473E-04
D	2.0	4.83	485.	0.	0.	39.2	18.0	77.9	1.127E-04	1.350E-04	1.127E-04
D	3.0	11.80	485.	0.	0.	39.2	18.0	60.4	9.715E-05	9.028E-05	9.028E-05
D	4.0	9.82	485.	0.	0.	39.2	18.0	50.5	8.749E-05	6.796E-05	6.796E-05
D	5.0	7.34	485.	0.	0.	39.2	18.0	43.9	8.063E-05	5.449E-05	5.449E-05
D	6.0	4.16	485.	0.	0.	39.2	18.0	39.2	7.545E-05	4.551E-05	4.551E-05
D	8.0	0.49	485.	0.	0.	39.2	18.0	39.2	5.674E-05	3.419E-05	3.419E-05
E	0.4	0.01	485.	0.	0.	27.9	12.7	83.6	8.570E-04	1.111E-03	8.570E-04
E	1.0	3.19	485.	0.	0.	27.9	12.7	83.6	2.917E-04	3.781E-04	2.917E-04
E	1.5	5.47	485.	0.	0.	27.9	12.7	83.6	1.976E-04	2.560E-04	1.976E-04
E	2.0	5.85	485.	0.	0.	27.9	12.7	83.6	1.504E-04	1.948E-04	1.504E-04
E	3.0	7.57	485.	0.	0.	27.9	12.7	55.9	1.503E-04	1.303E-04	1.303E-04

E	4.0	5.73	485.	0.	0.	27.9	12.7	42.1	1.503E-04	9.806E-05	9.806E-05
E	5.0	2.47	485.	0.	0.	27.9	12.7	33.8	1.503E-04	7.863E-05	7.863E-05
E	5.9	1.76	485.	0.	0.	27.9	12.7	28.2	1.503E-04	6.567E-05	6.567E-05
E	7.9	2.81	485.	0.	0.	27.9	12.7	27.9	1.142E-04	4.933E-05	4.933E-05
E	9.8	0.11	485.	0.	0.	27.9	12.7	27.9	9.182E-05	3.966E-05	3.966E-05
F	0.4	0.07	485.	0.	0.	19.2	8.0	76.9	1.474E-03	1.965E-03	1.474E-03
F	1.0	3.15	485.	0.	0.	19.2	8.0	76.9	5.018E-04	6.690E-04	5.018E-04
F	1.5	1.39	485.	0.	0.	19.2	8.0	76.9	3.398E-04	4.530E-04	3.398E-04
F	2.0	0.37	485.	0.	0.	19.2	8.0	76.9	2.586E-04	3.447E-04	2.586E-04
F	3.0	0.15	485.	0.	0.	19.2	8.0	46.3	2.871E-04	2.305E-04	2.305E-04
F	4.0	0.04	485.	0.	0.	19.2	8.0	32.4	3.093E-04	1.735E-04	1.735E-04
F	7.9	0.04	485.	0.	0.	19.2	8.0	19.2	2.619E-04	8.729E-05	8.729E-05
F	9.8	0.30	485.	0.	0.	19.2	8.0	19.2	2.106E-04	7.018E-05	7.018E-05
G	0.4	0.05	485.	0.	0.	13.3	5.1	79.7	2.253E-03	4.506E-03	2.253E-03
G	1.0	1.99	485.	0.	0.	13.3	5.1	79.7	7.671E-04	1.534E-03	7.671E-04
G	1.5	0.37	485.	0.	0.	13.3	5.1	79.7	5.195E-04	1.039E-03	5.195E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 485.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.253E-03	1.474E-03	8.570E-04	7.671E-04	5.195E-04	5.018E-04	3.398E-04	2.917E-04	2.586E-04	2.305E-04
0.051	0.119	0.133	2.119	2.494	5.641	7.028	10.213	10.588	10.738
0.00311	0.00729	0.00810	0.12930	0.15216	0.34425	0.42886	0.62324	0.64610	0.65525
2.174E-04	1.976E-04	1.735E-04	1.504E-04	1.473E-04	1.303E-04	1.127E-04	9.806E-05	9.321E-05	9.028E-05
11.300	16.771	16.808	22.654	26.027	33.597	38.431	44.164	44.277	56.081
0.68955	1.02342	1.02571	1.38244	1.58825	2.05017	2.34517	2.69504	2.70190	3.42223
8.729E-05	7.863E-05	7.431E-05	7.093E-05	7.018E-05	6.796E-05	6.567E-05	5.449E-05	5.032E-05	4.933E-05
56.118	58.592	58.629	59.491	59.791	69.609	71.370	78.715	78.865	81.675
3.42452	3.57544	3.57773	3.63032	3.64862	4.24775	4.35523	4.80343	4.81258	4.98409
4.743E-05	4.551E-05	3.966E-05	3.829E-05	3.570E-05	3.419E-05	2.862E-05	2.560E-05	2.391E-05	1.927E-05
83.174	87.334	87.446	87.784	89.133	89.620	90.482	91.643	91.793	93.067
5.07556	5.32939	5.33625	5.35683	5.43915	5.46888	5.52148	5.59236	5.60151	5.67926
1.746E-05	1.545E-05	1.328E-05	1.291E-05	9.696E-06	8.882E-06	6.686E-06	5.361E-06	4.477E-06	
93.142	93.629	94.154	94.267	94.304	96.815	98.876	99.813	100.000	
5.68384	5.71356	5.74558	5.75244	5.75472	5.90794	6.03371	6.09088	6.10231	

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.129
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.344
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   1.586
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.048
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.419
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.244
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.352
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
3	1	-6.09537	-10.45028	-1.08759
3	2	-7.17293	-11.28996	-1.36624
3	3	-7.59738	-13.56830	-2.20921
3	4	-8.82336	-11.35674	-1.17952
3	5	-8.94587	-12.33076	-1.65607
3	6	-9.31262	-14.51666	-2.85548
3	7	-9.59663	-14.61973	-2.91530
3	8	-9.63092	NUMXQ(K)= 8	

9.754E-04	0.061	1.000
6.626E-04	0.183	3.000
5.299E-04	0.305	5.000
3.253E-04	0.610	10.000
2.352E-04	0.915	15.000
1.850E-04	1.220	20.000
1.526E-04	1.526	25.000
1.376E-04	1.831	30.000
1.267E-04	2.136	35.000
1.154E-04	2.441	40.000
1.061E-04	2.746	45.000
9.828E-05	3.051	50.000
9.160E-05	3.356	55.000
8.271E-05	3.661	60.000
7.445E-05	3.967	65.000
6.744E-05	4.272	70.000
3.794E-04	0.5	8.19

ANNUAL AVERAGE = 5.90E-06

K= 3 FIVEXQ(K)= 3.794E-04 FIVEPR(K)= 8.194

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.5	0.11	485.	0.	0.	97.4	117.1	97.4	1.817E-05	1.746E-05	1.746E-05
A	2.0	0.61	485.	0.	0.	97.4	117.1	97.4	1.382E-05	1.328E-05	1.328E-05
A	3.0	1.68	485.	0.	0.	97.4	117.1	97.4	9.244E-06	8.882E-06	8.882E-06
A	4.0	0.73	485.	0.	0.	97.4	117.1	97.4	6.958E-06	6.686E-06	6.686E-06
A	5.0	0.11	485.	0.	0.	97.4	117.1	97.4	5.579E-06	5.361E-06	5.361E-06
A	6.0	0.04	485.	0.	0.	97.4	117.1	97.4	4.659E-06	4.477E-06	4.477E-06
B	1.5	0.23	485.	0.	0.	73.3	49.9	73.3	5.672E-05	5.032E-05	5.032E-05
B	2.0	0.57	485.	0.	0.	73.3	49.9	73.3	4.316E-05	3.829E-05	3.829E-05
B	3.0	1.34	485.	0.	0.	73.3	49.9	73.3	2.886E-05	2.560E-05	2.560E-05
B	4.0	0.54	485.	0.	0.	73.3	49.9	73.3	2.172E-05	1.927E-05	1.927E-05
B	5.0	0.15	485.	0.	0.	73.3	49.9	73.3	1.742E-05	1.545E-05	1.545E-05
B	6.0	0.11	485.	0.	0.	73.3	49.9	73.3	1.455E-05	1.291E-05	1.291E-05
C	1.0	0.08	485.	0.	0.	55.6	31.6	55.6	1.740E-04	1.376E-04	1.376E-04
C	1.5	0.38	485.	0.	0.	55.6	31.6	55.6	1.178E-04	9.321E-05	9.321E-05
C	2.0	0.76	485.	0.	0.	55.6	31.6	55.6	8.966E-05	7.093E-05	7.093E-05
C	3.0	1.57	485.	0.	0.	55.6	31.6	55.6	5.995E-05	4.743E-05	4.743E-05
C	4.0	0.54	485.	0.	0.	55.6	31.6	55.6	4.512E-05	3.570E-05	3.570E-05
C	5.0	0.08	485.	0.	0.	55.6	31.6	55.6	3.618E-05	2.862E-05	2.862E-05
D	1.0	1.38	485.	0.	0.	39.2	18.0	78.4	2.174E-04	2.620E-04	2.174E-04
D	1.5	5.01	485.	0.	0.	39.2	18.0	78.4	1.473E-04	1.774E-04	1.473E-04
D	2.0	7.45	485.	0.	0.	39.2	18.0	77.9	1.127E-04	1.350E-04	1.127E-04
D	3.0	13.11	485.	0.	0.	39.2	18.0	60.4	9.715E-05	9.028E-05	9.028E-05
D	4.0	7.76	485.	0.	0.	39.2	18.0	50.5	8.749E-05	6.796E-05	6.796E-05
D	5.0	3.52	485.	0.	0.	39.2	18.0	43.9	8.063E-05	5.449E-05	5.449E-05
D	6.0	0.76	485.	0.	0.	39.2	18.0	39.2	7.545E-05	4.551E-05	4.551E-05
E	0.4	0.02	485.	0.	0.	27.9	12.7	83.6	8.570E-04	1.111E-03	8.570E-04
E	1.0	4.74	485.	0.	0.	27.9	12.7	83.6	2.917E-04	3.781E-04	2.917E-04
E	1.5	10.05	485.	0.	0.	27.9	12.7	83.6	1.976E-04	2.560E-04	1.976E-04
E	2.0	8.98	485.	0.	0.	27.9	12.7	83.6	1.504E-04	1.948E-04	1.504E-04
E	3.0	10.02	485.	0.	0.	27.9	12.7	55.9	1.503E-04	1.303E-04	1.303E-04
E	4.0	3.71	485.	0.	0.	27.9	12.7	42.1	1.503E-04	9.806E-05	9.806E-05
E	5.0	1.30	485.	0.	0.	27.9	12.7	33.8	1.503E-04	7.863E-05	7.863E-05
E	5.9	0.57	485.	0.	0.	27.9	12.7	28.2	1.503E-04	6.567E-05	6.567E-05

E	7.9	0.23	485.	0.	0.	27.9	12.7	27.9	1.142E-04	4.933E-05	4.933E-05
F	0.4	0.09	485.	0.	0.	19.2	8.0	76.9	1.474E-03	1.965E-03	1.474E-03
F	1.0	4.36	485.	0.	0.	19.2	8.0	76.9	5.018E-04	6.690E-04	5.018E-04
F	1.5	2.87	485.	0.	0.	19.2	8.0	76.9	3.398E-04	4.530E-04	3.398E-04
F	2.0	0.42	485.	0.	0.	19.2	8.0	76.9	2.586E-04	3.447E-04	2.586E-04
F	3.0	0.15	485.	0.	0.	19.2	8.0	46.3	2.871E-04	2.305E-04	2.305E-04
G	0.4	0.08	485.	0.	0.	13.3	5.1	79.7	2.253E-03	4.506E-03	2.253E-03
G	1.0	3.10	485.	0.	0.	13.3	5.1	79.7	7.671E-04	1.534E-03	7.671E-04
G	1.5	0.54	485.	0.	0.	13.3	5.1	79.7	5.195E-04	1.039E-03	5.195E-04
G	2.0	0.11	485.	0.	0.	13.3	5.1	79.7	3.953E-04	7.905E-04	3.953E-04
G	3.0	0.04	485.	0.	0.	13.3	5.1	41.3	5.092E-04	5.286E-04	5.092E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 485.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.253E-03	1.474E-03	8.570E-04	7.671E-04	5.195E-04	5.092E-04	5.018E-04	3.953E-04	3.398E-04	2.917E-04
0.079	0.174	0.194	3.290	3.825	3.864	8.221	8.336	11.203	15.943
0.00476	0.01042	0.01160	0.19683	0.22885	0.23113	0.49182	0.49868	0.67019	0.95375
2.586E-04	2.305E-04	2.174E-04	1.976E-04	1.504E-04	1.473E-04	1.376E-04	1.303E-04	1.127E-04	9.806E-05
16.363	16.516	17.892	27.945	36.928	41.936	42.012	52.027	59.481	63.189
0.97890	0.98805	1.07037	1.67179	2.20918	2.50875	2.51332	3.11245	3.55837	3.78018
9.321E-05	9.028E-05	7.863E-05	7.093E-05	6.796E-05	6.567E-05	5.449E-05	5.032E-05	4.933E-05	4.743E-05
63.571	76.683	77.982	78.747	86.506	87.080	90.597	90.826	91.055	92.623
3.80305	4.58741	4.66516	4.71090	5.17511	5.20941	5.41979	5.43351	5.44723	5.54099
4.551E-05	3.829E-05	3.570E-05	2.862E-05	2.560E-05	1.927E-05	1.746E-05	1.545E-05	1.328E-05	1.291E-05
93.387	93.960	94.496	94.572	95.910	96.445	96.560	96.713	97.324	97.439
5.58672	5.62103	5.65304	5.65761	5.73765	5.76967	5.77653	5.78567	5.82226	5.82912
8.882E-06	6.686E-06	5.361E-06	4.477E-06						
99.121	99.847	99.962	100.000						
5.92974	5.97319	5.98005	5.98233						

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

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.197
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.491
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   2.506
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   3.110
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   4.584
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   5.171
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   5.416
```

```
K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
4  1      -6.09537 -10.22146  -1.05722
4  2      -7.17293 -11.23096  -1.40731
4  3      -7.59738 -12.67802  -1.96777
4  4      -8.82336 -11.37733  -1.30378
4  5      -8.94587 -12.78156  -2.05674
4  6      -9.31262 -17.54883  -4.88327
4  7      -9.59663 -25.46684  -9.74554
4  8      -9.81756     NUMXQ(K)=  8
  1.118E-03              0.060              1.000
  7.909E-04              0.179              3.000
  6.349E-04              0.299              5.000
  4.386E-04              0.598             10.000
  3.288E-04              0.897             15.000
  2.656E-04              1.196             20.000
  2.238E-04              1.496             25.000
  1.938E-04              1.795             30.000
  1.711E-04              2.094             35.000
  1.532E-04              2.393             40.000
  1.415E-04              2.692             45.000
  1.333E-04              2.991             50.000
  1.238E-04              3.290             55.000
  1.142E-04              3.589             60.000
  1.059E-04              3.889             65.000
  9.864E-05              4.188             70.000
  9.226E-05              4.487             75.000
  8.177E-05              4.786             80.000
  7.086E-05              5.085             85.000
  5.624E-05              5.384             90.000

  4.962E-04              0.5                8.36

ANNUAL AVERAGE =   7.88E-06

K=  4     FIVEXQ(K)= 4.962E-04     FIVEPR(K)= 8.358
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	2.0	0.91	485.	0.	0.	97.4	117.1	97.4	1.382E-05	1.328E-05	1.328E-05
A	3.0	1.96	485.	0.	0.	97.4	117.1	97.4	9.244E-06	8.882E-06	8.882E-06
A	4.0	0.87	485.	0.	0.	97.4	117.1	97.4	6.958E-06	6.686E-06	6.686E-06
A	5.0	0.35	485.	0.	0.	97.4	117.1	97.4	5.579E-06	5.361E-06	5.361E-06
B	1.5	0.26	485.	0.	0.	73.3	49.9	73.3	5.672E-05	5.032E-05	5.032E-05
B	2.0	0.87	485.	0.	0.	73.3	49.9	73.3	4.316E-05	3.829E-05	3.829E-05
B	3.0	1.26	485.	0.	0.	73.3	49.9	73.3	2.886E-05	2.560E-05	2.560E-05
B	4.0	0.65	485.	0.	0.	73.3	49.9	73.3	2.172E-05	1.927E-05	1.927E-05
B	5.0	0.17	485.	0.	0.	73.3	49.9	73.3	1.742E-05	1.545E-05	1.545E-05
C	1.0	0.04	485.	0.	0.	55.6	31.6	55.6	1.740E-04	1.376E-04	1.376E-04
C	1.5	0.43	485.	0.	0.	55.6	31.6	55.6	1.178E-04	9.321E-05	9.321E-05
C	2.0	1.04	485.	0.	0.	55.6	31.6	55.6	8.966E-05	7.093E-05	7.093E-05
C	3.0	2.13	485.	0.	0.	55.6	31.6	55.6	5.995E-05	4.743E-05	4.743E-05
C	4.0	0.70	485.	0.	0.	55.6	31.6	55.6	4.512E-05	3.570E-05	3.570E-05
C	5.0	0.17	485.	0.	0.	55.6	31.6	55.6	3.618E-05	2.862E-05	2.862E-05
D	1.0	1.00	485.	0.	0.	39.2	18.0	78.4	2.174E-04	2.620E-04	2.174E-04
D	1.5	5.57	485.	0.	0.	39.2	18.0	78.4	1.473E-04	1.774E-04	1.473E-04
D	2.0	7.13	485.	0.	0.	39.2	18.0	77.9	1.127E-04	1.350E-04	1.127E-04
D	3.0	8.57	485.	0.	0.	39.2	18.0	60.4	9.715E-05	9.028E-05	9.028E-05
D	4.0	4.61	485.	0.	0.	39.2	18.0	50.5	8.749E-05	6.796E-05	6.796E-05
D	5.0	1.13	485.	0.	0.	39.2	18.0	43.9	8.063E-05	5.449E-05	5.449E-05
D	6.0	0.13	485.	0.	0.	39.2	18.0	39.2	7.545E-05	4.551E-05	4.551E-05
D	8.0	0.04	485.	0.	0.	39.2	18.0	39.2	5.674E-05	3.419E-05	3.419E-05
E	0.4	0.03	485.	0.	0.	27.9	12.7	83.6	8.570E-04	1.111E-03	8.570E-04
E	1.0	6.09	485.	0.	0.	27.9	12.7	83.6	2.917E-04	3.781E-04	2.917E-04
E	1.5	12.39	485.	0.	0.	27.9	12.7	83.6	1.976E-04	2.560E-04	1.976E-04
E	2.0	8.74	485.	0.	0.	27.9	12.7	83.6	1.504E-04	1.948E-04	1.504E-04
E	3.0	7.61	485.	0.	0.	27.9	12.7	55.9	1.503E-04	1.303E-04	1.303E-04
E	4.0	2.43	485.	0.	0.	27.9	12.7	42.1	1.503E-04	9.806E-05	9.806E-05
E	5.0	0.57	485.	0.	0.	27.9	12.7	33.8	1.503E-04	7.863E-05	7.863E-05
E	5.9	0.09	485.	0.	0.	27.9	12.7	28.2	1.503E-04	6.567E-05	6.567E-05
F	0.4	0.14	485.	0.	0.	19.2	8.0	76.9	1.474E-03	1.965E-03	1.474E-03

F	1.0	6.22	485.	0.	0.	19.2	8.0	76.9	5.018E-04	6.690E-04	5.018E-04
F	1.5	6.26	485.	0.	0.	19.2	8.0	76.9	3.398E-04	4.530E-04	3.398E-04
F	2.0	1.22	485.	0.	0.	19.2	8.0	76.9	2.586E-04	3.447E-04	2.586E-04
F	3.0	0.26	485.	0.	0.	19.2	8.0	46.3	2.871E-04	2.305E-04	2.305E-04
G	0.4	0.10	485.	0.	0.	13.3	5.1	79.7	2.253E-03	4.506E-03	2.253E-03
G	1.0	3.96	485.	0.	0.	13.3	5.1	79.7	7.671E-04	1.534E-03	7.671E-04
G	1.5	2.83	485.	0.	0.	13.3	5.1	79.7	5.195E-04	1.039E-03	5.195E-04
G	2.0	1.09	485.	0.	0.	13.3	5.1	79.7	3.953E-04	7.905E-04	3.953E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 485.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.253E-03	1.474E-03	8.570E-04	7.671E-04	5.195E-04	5.018E-04	3.953E-04	3.398E-04	2.917E-04	2.586E-04
0.102	0.237	0.262	4.219	7.045	13.262	14.349	20.610	26.697	27.914
0.00534	0.01245	0.01379	0.22188	0.37052	0.69753	0.75470	1.08399	1.40414	1.46817
2.305E-04	2.174E-04	1.976E-04	1.504E-04	1.473E-04	1.376E-04	1.303E-04	1.127E-04	9.806E-05	9.321E-05
28.175	29.175	41.566	50.305	55.870	55.914	63.522	70.653	73.087	73.522
1.48189	1.53448	2.18621	2.64585	2.93855	2.94084	3.34102	3.71605	3.84411	3.86698
9.028E-05	7.863E-05	7.093E-05	6.796E-05	6.567E-05	5.449E-05	5.032E-05	4.743E-05	4.551E-05	3.829E-05
82.087	82.652	83.696	88.304	88.391	89.522	89.783	91.913	92.044	92.913
4.31747	4.34720	4.40208	4.64447	4.64905	4.70850	4.72222	4.83427	4.84114	4.88687
3.570E-05	3.419E-05	2.862E-05	2.560E-05	1.927E-05	1.545E-05	1.328E-05	8.882E-06	6.686E-06	5.361E-06
93.609	93.652	93.826	95.087	95.739	95.913	96.826	98.783	99.652	100.000
4.92346	4.92575	4.93489	5.00121	5.03551	5.04466	5.09268	5.19558	5.24132	5.25961

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(2)= 0.222
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(3)= 0.697
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(4)= 1.403

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.184
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.338
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.713
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.314
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   4.641

 K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
 5  1      -6.09537 -10.15304  -1.04727
 5  2      -7.17293 -10.29679  -1.09778
 5  3      -7.59738 -12.67897  -2.06656
 5  4      -8.13962 -12.91134  -2.17235
 5  5      -8.52936 -13.09867  -2.26522
 5  6      -8.94587 -14.44510  -2.99965
 5  7      -9.09063 -14.77800  -3.18615
 5  8      -9.31262 -23.37688  -8.19903
 5  9      -9.59663     NUMXQ(K)=  9
   1.205E-03              0.053              1.000
   8.579E-04              0.158              3.000
   7.225E-04              0.263              5.000
   5.598E-04              0.526             10.000
   4.576E-04              0.789             15.000
   3.671E-04              1.052             20.000
   3.076E-04              1.315             25.000
   2.639E-04              1.578             30.000
   2.306E-04              1.841             35.000
   2.046E-04              2.104             40.000
   1.832E-04              2.367             45.000
   1.654E-04              2.630             50.000
   1.506E-04              2.893             55.000
   1.380E-04              3.156             60.000
   1.263E-04              3.419             65.000
   1.142E-04              3.682             70.000
   1.033E-04              3.945             75.000
   9.383E-05              4.208             80.000
   7.887E-05              4.471             85.000

   5.707E-04              0.5                9.51

ANNUAL AVERAGE =   8.80E-06

K=  5     FIVEXQ(K)= 5.707E-04     FIVEPR(K)= 9.506
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.5	0.05	485.	0.	0.	97.4	117.1	97.4	1.817E-05	1.746E-05	1.746E-05
A	2.0	0.29	485.	0.	0.	97.4	117.1	97.4	1.382E-05	1.328E-05	1.328E-05
A	3.0	1.37	485.	0.	0.	97.4	117.1	97.4	9.244E-06	8.882E-06	8.882E-06
A	4.0	0.69	485.	0.	0.	97.4	117.1	97.4	6.958E-06	6.686E-06	6.686E-06
A	5.0	0.34	485.	0.	0.	97.4	117.1	97.4	5.579E-06	5.361E-06	5.361E-06
A	6.0	0.15	485.	0.	0.	97.4	117.1	97.4	4.659E-06	4.477E-06	4.477E-06
B	1.5	0.05	485.	0.	0.	73.3	49.9	73.3	5.672E-05	5.032E-05	5.032E-05
B	2.0	0.59	485.	0.	0.	73.3	49.9	73.3	4.316E-05	3.829E-05	3.829E-05
B	3.0	1.33	485.	0.	0.	73.3	49.9	73.3	2.886E-05	2.560E-05	2.560E-05
B	4.0	0.49	485.	0.	0.	73.3	49.9	73.3	2.172E-05	1.927E-05	1.927E-05
B	5.0	0.05	485.	0.	0.	73.3	49.9	73.3	1.742E-05	1.545E-05	1.545E-05
C	1.5	0.29	485.	0.	0.	55.6	31.6	55.6	1.178E-04	9.321E-05	9.321E-05
C	2.0	0.88	485.	0.	0.	55.6	31.6	55.6	8.966E-05	7.093E-05	7.093E-05
C	3.0	1.72	485.	0.	0.	55.6	31.6	55.6	5.995E-05	4.743E-05	4.743E-05
C	4.0	0.49	485.	0.	0.	55.6	31.6	55.6	4.512E-05	3.570E-05	3.570E-05
C	6.0	0.20	485.	0.	0.	55.6	31.6	55.6	3.022E-05	2.391E-05	2.391E-05
D	1.0	0.34	485.	0.	0.	39.2	18.0	78.4	2.174E-04	2.620E-04	2.174E-04
D	1.5	2.11	485.	0.	0.	39.2	18.0	78.4	1.473E-04	1.774E-04	1.473E-04
D	2.0	4.57	485.	0.	0.	39.2	18.0	77.9	1.127E-04	1.350E-04	1.127E-04
D	3.0	8.15	485.	0.	0.	39.2	18.0	60.4	9.715E-05	9.028E-05	9.028E-05
D	4.0	4.37	485.	0.	0.	39.2	18.0	50.5	8.749E-05	6.796E-05	6.796E-05
D	5.0	2.80	485.	0.	0.	39.2	18.0	43.9	8.063E-05	5.449E-05	5.449E-05
D	6.0	1.57	485.	0.	0.	39.2	18.0	39.2	7.545E-05	4.551E-05	4.551E-05
D	8.0	0.34	485.	0.	0.	39.2	18.0	39.2	5.674E-05	3.419E-05	3.419E-05
E	0.4	0.01	485.	0.	0.	27.9	12.7	83.6	8.570E-04	1.111E-03	8.570E-04
E	1.0	1.67	485.	0.	0.	27.9	12.7	83.6	2.917E-04	3.781E-04	2.917E-04
E	1.5	7.81	485.	0.	0.	27.9	12.7	83.6	1.976E-04	2.560E-04	1.976E-04
E	2.0	9.43	485.	0.	0.	27.9	12.7	83.6	1.504E-04	1.948E-04	1.504E-04
E	3.0	13.21	485.	0.	0.	27.9	12.7	55.9	1.503E-04	1.303E-04	1.303E-04
E	4.0	4.32	485.	0.	0.	27.9	12.7	42.1	1.503E-04	9.806E-05	9.806E-05
E	5.0	2.46	485.	0.	0.	27.9	12.7	33.8	1.503E-04	7.863E-05	7.863E-05
E	5.9	1.23	485.	0.	0.	27.9	12.7	28.2	1.503E-04	6.567E-05	6.567E-05
E	7.9	0.15	485.	0.	0.	27.9	12.7	27.9	1.142E-04	4.933E-05	4.933E-05

F	0.4	0.06	485.	0.	0.	19.2	8.0	76.9	1.474E-03	1.965E-03	1.474E-03
F	1.0	2.95	485.	0.	0.	19.2	8.0	76.9	5.018E-04	6.690E-04	5.018E-04
F	1.5	7.22	485.	0.	0.	19.2	8.0	76.9	3.398E-04	4.530E-04	3.398E-04
F	2.0	7.37	485.	0.	0.	19.2	8.0	76.9	2.586E-04	3.447E-04	2.586E-04
F	3.0	2.41	485.	0.	0.	19.2	8.0	46.3	2.871E-04	2.305E-04	2.305E-04
F	4.0	0.05	485.	0.	0.	19.2	8.0	32.4	3.093E-04	1.735E-04	1.735E-04
G	0.4	0.06	485.	0.	0.	13.3	5.1	79.7	2.253E-03	4.506E-03	2.253E-03
G	1.0	2.26	485.	0.	0.	13.3	5.1	79.7	7.671E-04	1.534E-03	7.671E-04
G	1.5	2.36	485.	0.	0.	13.3	5.1	79.7	5.195E-04	1.039E-03	5.195E-04
G	2.0	1.47	485.	0.	0.	13.3	5.1	79.7	3.953E-04	7.905E-04	3.953E-04
G	3.0	0.29	485.	0.	0.	13.3	5.1	41.3	5.092E-04	5.286E-04	5.092E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 485.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.253E-03	1.474E-03	8.570E-04	7.671E-04	5.195E-04	5.092E-04	5.018E-04	3.953E-04	3.398E-04	2.917E-04
0.058	0.122	0.129	2.388	4.744	5.039	7.985	9.458	16.676	18.345
0.00270	0.00568	0.00601	0.11120	0.22096	0.23468	0.37189	0.44049	0.77665	0.85440
2.586E-04	2.305E-04	2.174E-04	1.976E-04	1.735E-04	1.504E-04	1.473E-04	1.303E-04	1.127E-04	9.806E-05
25.710	28.116	28.460	36.267	36.316	45.744	47.855	61.063	65.629	69.950
1.19741	1.30946	1.32547	1.68906	1.69135	2.13041	2.22874	2.84388	3.05654	3.25778
9.321E-05	9.028E-05	7.863E-05	7.093E-05	6.796E-05	6.567E-05	5.449E-05	5.032E-05	4.933E-05	4.743E-05
70.245	78.396	80.851	81.734	86.104	87.332	90.131	90.180	90.327	92.046
3.27150	3.65110	3.76544	3.80660	4.01012	4.06729	4.19764	4.19992	4.20678	4.28682
4.551E-05	3.829E-05	3.570E-05	3.419E-05	2.560E-05	2.391E-05	1.927E-05	1.746E-05	1.545E-05	1.328E-05
93.617	94.206	94.697	95.041	96.367	96.563	97.054	97.103	97.152	97.447
4.36000	4.38744	4.41031	4.42631	4.48806	4.49720	4.52007	4.52236	4.52464	4.53836
8.882E-06	6.686E-06	5.361E-06	4.477E-06						
98.822	99.509	99.853	100.000						
4.60239	4.63441	4.65042	4.65728						

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.111
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.371
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.776
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.196
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.841
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.648
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.064
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   4.356
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
6	1	-6.09537	-10.54085	-1.10103
6	2	-7.17293	-10.57265	-1.11143
6	3	-7.59738	-11.65968	-1.51750
6	4	-7.98712	-12.07465	-1.68897
6	5	-8.26029	-12.63744	-1.93816
6	6	-8.94587	-15.20629	-3.28687
6	7	-9.31262	-20.77899	-6.39474
6	8	-9.63092	-29.25344	-11.25585
6	9	-9.99767	NUMXQ(K)= 9	

1.012E-03	0.047	1.000
7.104E-04	0.140	3.000
5.949E-04	0.233	5.000
4.469E-04	0.466	10.000
3.601E-04	0.699	15.000
3.035E-04	0.931	20.000
2.633E-04	1.164	25.000
2.302E-04	1.397	30.000
2.045E-04	1.630	35.000
1.842E-04	1.863	40.000
1.676E-04	2.096	45.000
1.539E-04	2.329	50.000
1.422E-04	2.562	55.000
1.322E-04	2.794	60.000
1.190E-04	3.027	65.000
1.068E-04	3.260	70.000
9.645E-05	3.493	75.000
8.508E-05	3.726	80.000
7.116E-05	3.959	85.000
5.606E-05	4.192	90.000
4.306E-04	0.5	10.74

ANNUAL AVERAGE = 6.28E-06

K= 6 FIVEXQ(K)= 4.306E-04 FIVEPR(K)=10.736

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.5	0.14	485.	0.	0.	97.4	117.1	97.4	1.817E-05	1.746E-05	1.746E-05
A	2.0	0.64	485.	0.	0.	97.4	117.1	97.4	1.382E-05	1.328E-05	1.328E-05
A	3.0	1.47	485.	0.	0.	97.4	117.1	97.4	9.244E-06	8.882E-06	8.882E-06
A	4.0	0.87	485.	0.	0.	97.4	117.1	97.4	6.958E-06	6.686E-06	6.686E-06
A	5.0	0.28	485.	0.	0.	97.4	117.1	97.4	5.579E-06	5.361E-06	5.361E-06
A	6.0	0.09	485.	0.	0.	97.4	117.1	97.4	4.659E-06	4.477E-06	4.477E-06
A	8.0	0.32	485.	0.	0.	97.4	117.1	97.4	3.500E-06	3.363E-06	3.363E-06
B	1.5	0.05	485.	0.	0.	73.3	49.9	73.3	5.672E-05	5.032E-05	5.032E-05
B	2.0	0.46	485.	0.	0.	73.3	49.9	73.3	4.316E-05	3.829E-05	3.829E-05
B	3.0	1.47	485.	0.	0.	73.3	49.9	73.3	2.886E-05	2.560E-05	2.560E-05
B	4.0	0.55	485.	0.	0.	73.3	49.9	73.3	2.172E-05	1.927E-05	1.927E-05
B	5.0	0.32	485.	0.	0.	73.3	49.9	73.3	1.742E-05	1.545E-05	1.545E-05
B	8.0	0.23	485.	0.	0.	73.3	49.9	73.3	1.093E-05	9.696E-06	9.696E-06
C	1.0	0.05	485.	0.	0.	55.6	31.6	55.6	1.740E-04	1.376E-04	1.376E-04
C	1.5	0.23	485.	0.	0.	55.6	31.6	55.6	1.178E-04	9.321E-05	9.321E-05
C	2.0	0.60	485.	0.	0.	55.6	31.6	55.6	8.966E-05	7.093E-05	7.093E-05
C	3.0	1.79	485.	0.	0.	55.6	31.6	55.6	5.995E-05	4.743E-05	4.743E-05
C	4.0	0.73	485.	0.	0.	55.6	31.6	55.6	4.512E-05	3.570E-05	3.570E-05
C	5.0	0.41	485.	0.	0.	55.6	31.6	55.6	3.618E-05	2.862E-05	2.862E-05
C	6.0	0.23	485.	0.	0.	55.6	31.6	55.6	3.022E-05	2.391E-05	2.391E-05
C	8.0	0.23	485.	0.	0.	55.6	31.6	55.6	2.270E-05	1.796E-05	1.796E-05
D	1.0	0.18	485.	0.	0.	39.2	18.0	78.4	2.174E-04	2.620E-04	2.174E-04
D	1.5	1.10	485.	0.	0.	39.2	18.0	78.4	1.473E-04	1.774E-04	1.473E-04
D	2.0	3.03	485.	0.	0.	39.2	18.0	77.9	1.127E-04	1.350E-04	1.127E-04
D	3.0	8.72	485.	0.	0.	39.2	18.0	60.4	9.715E-05	9.028E-05	9.028E-05
D	4.0	6.06	485.	0.	0.	39.2	18.0	50.5	8.749E-05	6.796E-05	6.796E-05
D	5.0	4.45	485.	0.	0.	39.2	18.0	43.9	8.063E-05	5.449E-05	5.449E-05
D	6.0	3.72	485.	0.	0.	39.2	18.0	39.2	7.545E-05	4.551E-05	4.551E-05
D	8.0	1.79	485.	0.	0.	39.2	18.0	39.2	5.674E-05	3.419E-05	3.419E-05
E	0.4	0.00	485.	0.	0.	27.9	12.7	83.6	8.570E-04	1.111E-03	8.570E-04
E	1.0	0.96	485.	0.	0.	27.9	12.7	83.6	2.917E-04	3.781E-04	2.917E-04
E	1.5	2.75	485.	0.	0.	27.9	12.7	83.6	1.976E-04	2.560E-04	1.976E-04
E	2.0	5.74	485.	0.	0.	27.9	12.7	83.6	1.504E-04	1.948E-04	1.504E-04

E	3.0	16.30	485.	0.	0.	27.9	12.7	55.9	1.503E-04	1.303E-04	1.303E-04
E	4.0	11.66	485.	0.	0.	27.9	12.7	42.1	1.503E-04	9.806E-05	9.806E-05
E	5.0	4.59	485.	0.	0.	27.9	12.7	33.8	1.503E-04	7.863E-05	7.863E-05
E	5.9	1.70	485.	0.	0.	27.9	12.7	28.2	1.503E-04	6.567E-05	6.567E-05
E	7.9	1.61	485.	0.	0.	27.9	12.7	27.9	1.142E-04	4.933E-05	4.933E-05
E	9.8	0.09	485.	0.	0.	27.9	12.7	27.9	9.182E-05	3.966E-05	3.966E-05
F	0.4	0.03	485.	0.	0.	19.2	8.0	76.9	1.474E-03	1.965E-03	1.474E-03
F	1.0	1.47	485.	0.	0.	19.2	8.0	76.9	5.018E-04	6.690E-04	5.018E-04
F	1.5	3.12	485.	0.	0.	19.2	8.0	76.9	3.398E-04	4.530E-04	3.398E-04
F	2.0	3.53	485.	0.	0.	19.2	8.0	76.9	2.586E-04	3.447E-04	2.586E-04
F	3.0	3.26	485.	0.	0.	19.2	8.0	46.3	2.871E-04	2.305E-04	2.305E-04
F	4.0	0.23	485.	0.	0.	19.2	8.0	32.4	3.093E-04	1.735E-04	1.735E-04
F	5.0	0.05	485.	0.	0.	19.2	8.0	24.5	3.277E-04	1.391E-04	1.391E-04
G	0.4	0.03	485.	0.	0.	13.3	5.1	79.7	2.253E-03	4.506E-03	2.253E-03
G	1.0	1.24	485.	0.	0.	13.3	5.1	79.7	7.671E-04	1.534E-03	7.671E-04
G	1.5	0.69	485.	0.	0.	13.3	5.1	79.7	5.195E-04	1.039E-03	5.195E-04
G	2.0	0.50	485.	0.	0.	13.3	5.1	79.7	3.953E-04	7.905E-04	3.953E-04
G	3.0	0.23	485.	0.	0.	13.3	5.1	41.3	5.092E-04	5.286E-04	5.092E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 485.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.253E-03	1.474E-03	8.570E-04	7.671E-04	5.195E-04	5.092E-04	5.018E-04	3.953E-04	3.398E-04	2.917E-04
0.032	0.064	0.068	1.307	1.996	2.225	3.694	4.199	7.321	8.285
0.00159	0.00318	0.00338	0.06512	0.09942	0.11085	0.18403	0.20918	0.36468	0.41271
2.586E-04	2.305E-04	2.174E-04	1.976E-04	1.735E-04	1.504E-04	1.473E-04	1.391E-04	1.376E-04	1.303E-04
11.819	15.078	15.262	18.016	18.246	23.984	25.085	25.131	25.177	41.473
0.58879	0.75115	0.76029	0.89750	0.90893	1.19478	1.24966	1.25195	1.25423	2.06603
1.127E-04	9.806E-05	9.321E-05	9.028E-05	7.863E-05	7.093E-05	6.796E-05	6.567E-05	5.449E-05	5.032E-05
44.503	56.162	56.392	65.113	69.704	70.300	76.360	78.058	82.511	82.557
2.21696	2.79780	2.80923	3.24371	3.47239	3.50212	3.80397	3.88858	4.11040	4.11268
4.933E-05	4.743E-05	4.551E-05	3.966E-05	3.829E-05	3.570E-05	3.419E-05	2.862E-05	2.560E-05	2.391E-05
84.163	85.954	89.672	89.764	90.223	90.957	92.747	93.160	94.629	94.859
4.19272	4.28190	4.46713	4.47170	4.49457	4.53116	4.62034	4.64092	4.71410	4.72553
1.927E-05	1.796E-05	1.746E-05	1.545E-05	1.328E-05	9.696E-06	8.882E-06	6.686E-06	5.361E-06	4.477E-06
95.410	95.639	95.777	96.098	96.741	96.970	98.439	99.311	99.587	99.679
4.75298	4.76441	4.77127	4.78728	4.81929	4.83073	4.90390	4.94735	4.96107	4.96564
3.363E-06									
100.000									
4.98165									

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.065
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.184
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.750
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.064
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.241
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.885
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.464

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
  7  1      -6.09537 -10.83923  -1.14012
  7  2      -7.17293 -11.56089  -1.36454
  7  3      -7.59738 -12.38026  -1.64663
  7  4      -8.37525 -11.92020  -1.45748
  7  5      -8.94587 -12.79981  -1.88850
  7  6      -9.31262 -16.44752  -3.86394
  7  7      -9.63092 -19.59900  -5.65033
  7  8      -9.99767     NUMXQ(K)=  8
    8.366E-04              0.050              1.000
    5.480E-04              0.149              3.000
    4.283E-04              0.249              5.000
    2.928E-04              0.498             10.000
    2.312E-04              0.747             15.000
    1.981E-04              0.996             20.000
    1.750E-04              1.245             25.000
    1.577E-04              1.494             30.000
    1.442E-04              1.744             35.000
    1.331E-04              1.993             40.000
    1.221E-04              2.242             45.000
    1.123E-04              2.491             50.000
    1.039E-04              2.740             55.000
    9.668E-05              2.989             60.000
    9.041E-05              3.238             65.000
    7.961E-05              3.487             70.000
    7.050E-05              3.736             75.000
    6.158E-05              3.985             80.000
    5.248E-05              4.234             85.000

    2.922E-04              0.5               10.04

ANNUAL AVERAGE =   4.50E-06

K=  7     FIVEXQ(K)= 2.922E-04     FIVEPR(K)=10.037
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.5	0.07	485.	0.	0.	97.4	117.1	97.4	1.817E-05	1.746E-05	1.746E-05
A	2.0	0.25	485.	0.	0.	97.4	117.1	97.4	1.382E-05	1.328E-05	1.328E-05
A	3.0	1.79	485.	0.	0.	97.4	117.1	97.4	9.244E-06	8.882E-06	8.882E-06
A	4.0	1.33	485.	0.	0.	97.4	117.1	97.4	6.958E-06	6.686E-06	6.686E-06
A	5.0	0.35	485.	0.	0.	97.4	117.1	97.4	5.579E-06	5.361E-06	5.361E-06
A	6.0	0.25	485.	0.	0.	97.4	117.1	97.4	4.659E-06	4.477E-06	4.477E-06
A	8.0	0.42	485.	0.	0.	97.4	117.1	97.4	3.500E-06	3.363E-06	3.363E-06
A	9.9	0.11	485.	0.	0.	97.4	117.1	97.4	2.814E-06	2.704E-06	2.704E-06
A	24.3	0.04	485.	0.	0.	97.4	117.1	97.4	1.146E-06	1.101E-06	1.101E-06
B	1.5	0.11	485.	0.	0.	73.3	49.9	73.3	5.672E-05	5.032E-05	5.032E-05
B	2.0	0.39	485.	0.	0.	73.3	49.9	73.3	4.316E-05	3.829E-05	3.829E-05
B	3.0	1.02	485.	0.	0.	73.3	49.9	73.3	2.886E-05	2.560E-05	2.560E-05
B	4.0	0.67	485.	0.	0.	73.3	49.9	73.3	2.172E-05	1.927E-05	1.927E-05
B	5.0	0.53	485.	0.	0.	73.3	49.9	73.3	1.742E-05	1.545E-05	1.545E-05
B	6.0	0.28	485.	0.	0.	73.3	49.9	73.3	1.455E-05	1.291E-05	1.291E-05
B	8.0	0.39	485.	0.	0.	73.3	49.9	73.3	1.093E-05	9.696E-06	9.696E-06
B	9.9	0.04	485.	0.	0.	73.3	49.9	73.3	8.786E-06	7.796E-06	7.796E-06
B	24.3	0.04	485.	0.	0.	73.3	49.9	73.3	3.578E-06	3.175E-06	3.175E-06
C	1.5	0.07	485.	0.	0.	55.6	31.6	55.6	1.178E-04	9.321E-05	9.321E-05
C	2.0	0.49	485.	0.	0.	55.6	31.6	55.6	8.966E-05	7.093E-05	7.093E-05
C	3.0	1.44	485.	0.	0.	55.6	31.6	55.6	5.995E-05	4.743E-05	4.743E-05
C	4.0	1.23	485.	0.	0.	55.6	31.6	55.6	4.512E-05	3.570E-05	3.570E-05
C	5.0	0.46	485.	0.	0.	55.6	31.6	55.6	3.618E-05	2.862E-05	2.862E-05
C	6.0	0.67	485.	0.	0.	55.6	31.6	55.6	3.022E-05	2.391E-05	2.391E-05
C	8.0	0.49	485.	0.	0.	55.6	31.6	55.6	2.270E-05	1.796E-05	1.796E-05
C	9.9	0.04	485.	0.	0.	55.6	31.6	55.6	1.825E-05	1.444E-05	1.444E-05
C	24.3	0.04	485.	0.	0.	55.6	31.6	55.6	7.433E-06	5.881E-06	5.881E-06
D	1.0	0.14	485.	0.	0.	39.2	18.0	78.4	2.174E-04	2.620E-04	2.174E-04
D	1.5	0.67	485.	0.	0.	39.2	18.0	78.4	1.473E-04	1.774E-04	1.473E-04
D	2.0	1.89	485.	0.	0.	39.2	18.0	77.9	1.127E-04	1.350E-04	1.127E-04
D	3.0	7.12	485.	0.	0.	39.2	18.0	60.4	9.715E-05	9.028E-05	9.028E-05
D	4.0	7.61	485.	0.	0.	39.2	18.0	50.5	8.749E-05	6.796E-05	6.796E-05
D	5.0	5.16	485.	0.	0.	39.2	18.0	43.9	8.063E-05	5.449E-05	5.449E-05
D	6.0	4.67	485.	0.	0.	39.2	18.0	39.2	7.545E-05	4.551E-05	4.551E-05

D	8.0	3.75	485.	0.	0.	39.2	18.0	39.2	5.674E-05	3.419E-05	3.419E-05
D	9.9	0.63	485.	0.	0.	39.2	18.0	39.2	4.562E-05	2.749E-05	2.749E-05
D	24.3	0.11	485.	0.	0.	39.2	18.0	39.2	1.858E-05	1.119E-05	1.119E-05
E	0.4	0.00	485.	0.	0.	27.9	12.7	83.6	8.570E-04	1.111E-03	8.570E-04
E	1.0	0.46	485.	0.	0.	27.9	12.7	83.6	2.917E-04	3.781E-04	2.917E-04
E	1.5	1.33	485.	0.	0.	27.9	12.7	83.6	1.976E-04	2.560E-04	1.976E-04
E	2.0	3.68	485.	0.	0.	27.9	12.7	83.6	1.504E-04	1.948E-04	1.504E-04
E	3.0	14.80	485.	0.	0.	27.9	12.7	55.9	1.503E-04	1.303E-04	1.303E-04
E	4.0	11.12	485.	0.	0.	27.9	12.7	42.1	1.503E-04	9.806E-05	9.806E-05
E	5.0	7.82	485.	0.	0.	27.9	12.7	33.8	1.503E-04	7.863E-05	7.863E-05
E	5.9	4.77	485.	0.	0.	27.9	12.7	28.2	1.503E-04	6.567E-05	6.567E-05
E	7.9	2.70	485.	0.	0.	27.9	12.7	27.9	1.142E-04	4.933E-05	4.933E-05
E	9.8	0.18	485.	0.	0.	27.9	12.7	27.9	9.182E-05	3.966E-05	3.966E-05
E	24.1	0.35	485.	0.	0.	27.9	12.7	27.9	3.740E-05	1.615E-05	1.615E-05
F	0.4	0.02	485.	0.	0.	19.2	8.0	76.9	1.474E-03	1.965E-03	1.474E-03
F	1.0	0.81	485.	0.	0.	19.2	8.0	76.9	5.018E-04	6.690E-04	5.018E-04
F	1.5	1.26	485.	0.	0.	19.2	8.0	76.9	3.398E-04	4.530E-04	3.398E-04
F	2.0	1.54	485.	0.	0.	19.2	8.0	76.9	2.586E-04	3.447E-04	2.586E-04
F	3.0	2.53	485.	0.	0.	19.2	8.0	46.3	2.871E-04	2.305E-04	2.305E-04
F	4.0	0.95	485.	0.	0.	19.2	8.0	32.4	3.093E-04	1.735E-04	1.735E-04
F	5.0	0.04	485.	0.	0.	19.2	8.0	24.5	3.277E-04	1.391E-04	1.391E-04
G	0.4	0.02	485.	0.	0.	13.3	5.1	79.7	2.253E-03	4.506E-03	2.253E-03
G	1.0	0.63	485.	0.	0.	13.3	5.1	79.7	7.671E-04	1.534E-03	7.671E-04
G	1.5	0.14	485.	0.	0.	13.3	5.1	79.7	5.195E-04	1.039E-03	5.195E-04
G	2.0	0.04	485.	0.	0.	13.3	5.1	79.7	3.953E-04	7.905E-04	3.953E-04
G	3.0	0.11	485.	0.	0.	13.3	5.1	41.3	5.092E-04	5.286E-04	5.092E-04
G	4.0	0.04	485.	0.	0.	13.3	5.1	26.0	6.091E-04	3.979E-04	3.979E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 485.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.253E-03	1.474E-03	8.570E-04	7.671E-04	5.195E-04	5.092E-04	5.018E-04	3.979E-04	3.953E-04	3.398E-04
0.016	0.034	0.036	0.667	0.807	0.913	1.719	1.754	1.789	3.052
0.00106	0.00220	0.00232	0.04349	0.05263	0.05949	0.11209	0.11438	0.11666	0.19899
2.917E-04	2.586E-04	2.305E-04	2.174E-04	1.976E-04	1.735E-04	1.504E-04	1.473E-04	1.391E-04	1.303E-04
3.508	5.051	7.577	7.717	9.050	9.997	13.680	14.346	14.381	29.183
0.22871	0.32933	0.49398	0.50312	0.59002	0.65176	0.89187	0.93532	0.93761	1.90262
1.127E-04	9.806E-05	9.321E-05	9.028E-05	7.863E-05	7.093E-05	6.796E-05	6.567E-05	5.449E-05	5.032E-05
31.077	42.196	42.266	49.386	57.208	57.699	65.311	70.081	75.237	75.342
2.02611	2.75101	2.75558	3.21980	3.72974	3.76176	4.25798	4.56898	4.90514	4.91200
4.933E-05	4.743E-05	4.551E-05	3.966E-05	3.829E-05	3.570E-05	3.419E-05	2.862E-05	2.749E-05	2.560E-05
78.043	79.481	84.146	84.321	84.707	85.935	89.688	90.144	90.775	91.792
5.08808	5.18183	5.48597	5.49741	5.52256	5.60260	5.84728	5.87701	5.91817	5.98449
2.391E-05	1.927E-05	1.796E-05	1.746E-05	1.615E-05	1.545E-05	1.444E-05	1.328E-05	1.291E-05	1.119E-05
92.459	93.125	93.616	93.686	94.037	94.563	94.598	94.844	95.125	95.230
6.02794	6.07138	6.10340	6.10797	6.13084	6.16514	6.16743	6.18343	6.20173	6.20859
9.696E-06	8.882E-06	7.796E-06	6.686E-06	5.881E-06	5.361E-06	4.477E-06	3.363E-06	3.175E-06	2.704E-06
95.616	97.404	97.439	98.772	98.807	99.158	99.404	99.825	99.860	99.965
6.23374	6.35037	6.35265	6.43955	6.44184	6.46471	6.48071	6.50815	6.51044	6.51730
1.101E-06									
100.000									
6.51959									

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.043
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.112
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.493
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.901
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.217
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.565
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   5.482
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   5.843

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
  8  1      -6.09537 -11.06175  -1.16788
  8  2      -7.17293 -12.34358  -1.55283
  8  3      -7.59738 -12.59159  -1.63398
  8  4      -8.37525 -11.28701  -1.12841
  8  5      -8.94587 -12.32935  -1.63081
  8  6      -9.31262 -12.96288  -1.97328
  8  7      -9.63092 -16.60936  -4.13283
  8  8      -9.99767 -24.41187  -9.01002
  8  9     -10.28369     NUMXQ(K)=  9
    6.422E-04              0.065              1.000
    3.795E-04              0.196              3.000
    2.899E-04              0.326              5.000
    2.065E-04              0.652             10.000
    1.748E-04              0.978             15.000
    1.544E-04              1.304             20.000
    1.398E-04              1.630             25.000
    1.279E-04              1.956             30.000
    1.152E-04              2.282             35.000
    1.050E-04              2.608             40.000
    9.655E-05              2.934             45.000
    8.930E-05              3.260             50.000
    8.204E-05              3.586             55.000
    7.582E-05              3.912             60.000
    7.044E-05              4.238             65.000
    6.574E-05              4.564             70.000
    5.741E-05              4.890             75.000
    5.043E-05              5.216             80.000
    4.350E-05              5.542             85.000

    2.294E-04              0.5                7.67

ANNUAL AVERAGE =    4.28E-06
```

```
K=  8      FIVEXQ(K)= 2.294E-04      FIVEPR(K)= 7.669
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	2.0	0.24	485.	0.	0.	97.4	117.1	97.4	1.382E-05	1.328E-05	1.328E-05
A	3.0	1.61	485.	0.	0.	97.4	117.1	97.4	9.244E-06	8.882E-06	8.882E-06
A	4.0	1.12	485.	0.	0.	97.4	117.1	97.4	6.958E-06	6.686E-06	6.686E-06
A	5.0	1.08	485.	0.	0.	97.4	117.1	97.4	5.579E-06	5.361E-06	5.361E-06
A	6.0	0.73	485.	0.	0.	97.4	117.1	97.4	4.659E-06	4.477E-06	4.477E-06
A	8.0	0.63	485.	0.	0.	97.4	117.1	97.4	3.500E-06	3.363E-06	3.363E-06
A	9.9	0.21	485.	0.	0.	97.4	117.1	97.4	2.814E-06	2.704E-06	2.704E-06
A	24.3	0.10	485.	0.	0.	97.4	117.1	97.4	1.146E-06	1.101E-06	1.101E-06
B	1.5	0.14	485.	0.	0.	73.3	49.9	73.3	5.672E-05	5.032E-05	5.032E-05
B	2.0	0.17	485.	0.	0.	73.3	49.9	73.3	4.316E-05	3.829E-05	3.829E-05
B	3.0	0.73	485.	0.	0.	73.3	49.9	73.3	2.886E-05	2.560E-05	2.560E-05
B	4.0	0.66	485.	0.	0.	73.3	49.9	73.3	2.172E-05	1.927E-05	1.927E-05
B	5.0	0.70	485.	0.	0.	73.3	49.9	73.3	1.742E-05	1.545E-05	1.545E-05
B	6.0	0.77	485.	0.	0.	73.3	49.9	73.3	1.455E-05	1.291E-05	1.291E-05
B	8.0	0.31	485.	0.	0.	73.3	49.9	73.3	1.093E-05	9.696E-06	9.696E-06
B	9.9	0.21	485.	0.	0.	73.3	49.9	73.3	8.786E-06	7.796E-06	7.796E-06
B	24.3	0.03	485.	0.	0.	73.3	49.9	73.3	3.578E-06	3.175E-06	3.175E-06
C	1.5	0.14	485.	0.	0.	55.6	31.6	55.6	1.178E-04	9.321E-05	9.321E-05
C	2.0	0.45	485.	0.	0.	55.6	31.6	55.6	8.966E-05	7.093E-05	7.093E-05
C	3.0	0.70	485.	0.	0.	55.6	31.6	55.6	5.995E-05	4.743E-05	4.743E-05
C	4.0	0.94	485.	0.	0.	55.6	31.6	55.6	4.512E-05	3.570E-05	3.570E-05
C	5.0	0.94	485.	0.	0.	55.6	31.6	55.6	3.618E-05	2.862E-05	2.862E-05
C	6.0	0.59	485.	0.	0.	55.6	31.6	55.6	3.022E-05	2.391E-05	2.391E-05
C	8.0	0.63	485.	0.	0.	55.6	31.6	55.6	2.270E-05	1.796E-05	1.796E-05
C	9.9	0.07	485.	0.	0.	55.6	31.6	55.6	1.825E-05	1.444E-05	1.444E-05
D	1.0	0.10	485.	0.	0.	39.2	18.0	78.4	2.174E-04	2.620E-04	2.174E-04
D	1.5	0.42	485.	0.	0.	39.2	18.0	78.4	1.473E-04	1.774E-04	1.473E-04
D	2.0	1.22	485.	0.	0.	39.2	18.0	77.9	1.127E-04	1.350E-04	1.127E-04
D	3.0	4.02	485.	0.	0.	39.2	18.0	60.4	9.715E-05	9.028E-05	9.028E-05
D	4.0	4.48	485.	0.	0.	39.2	18.0	50.5	8.749E-05	6.796E-05	6.796E-05
D	5.0	5.42	485.	0.	0.	39.2	18.0	43.9	8.063E-05	5.449E-05	5.449E-05
D	6.0	5.00	485.	0.	0.	39.2	18.0	39.2	7.545E-05	4.551E-05	4.551E-05
D	8.0	7.17	485.	0.	0.	39.2	18.0	39.2	5.674E-05	3.419E-05	3.419E-05
D	9.9	2.10	485.	0.	0.	39.2	18.0	39.2	4.562E-05	2.749E-05	2.749E-05

D	24.3	0.45	485.	0.	0.	39.2	18.0	39.2	1.858E-05	1.119E-05	1.119E-05
E	0.4	0.00	485.	0.	0.	27.9	12.7	83.6	8.570E-04	1.111E-03	8.570E-04
E	1.0	0.35	485.	0.	0.	27.9	12.7	83.6	2.917E-04	3.781E-04	2.917E-04
E	1.5	0.66	485.	0.	0.	27.9	12.7	83.6	1.976E-04	2.560E-04	1.976E-04
E	2.0	1.92	485.	0.	0.	27.9	12.7	83.6	1.504E-04	1.948E-04	1.504E-04
E	3.0	8.15	485.	0.	0.	27.9	12.7	55.9	1.503E-04	1.303E-04	1.303E-04
E	4.0	11.15	485.	0.	0.	27.9	12.7	42.1	1.503E-04	9.806E-05	9.806E-05
E	5.0	10.84	485.	0.	0.	27.9	12.7	33.8	1.503E-04	7.863E-05	7.863E-05
E	5.9	7.55	485.	0.	0.	27.9	12.7	28.2	1.503E-04	6.567E-05	6.567E-05
E	7.9	6.47	485.	0.	0.	27.9	12.7	27.9	1.142E-04	4.933E-05	4.933E-05
E	9.8	2.83	485.	0.	0.	27.9	12.7	27.9	9.182E-05	3.966E-05	3.966E-05
E	24.1	0.42	485.	0.	0.	27.9	12.7	27.9	3.740E-05	1.615E-05	1.615E-05
F	0.4	0.01	485.	0.	0.	19.2	8.0	76.9	1.474E-03	1.965E-03	1.474E-03
F	1.0	0.59	485.	0.	0.	19.2	8.0	76.9	5.018E-04	6.690E-04	5.018E-04
F	1.5	0.56	485.	0.	0.	19.2	8.0	76.9	3.398E-04	4.530E-04	3.398E-04
F	2.0	0.73	485.	0.	0.	19.2	8.0	76.9	2.586E-04	3.447E-04	2.586E-04
F	3.0	1.50	485.	0.	0.	19.2	8.0	46.3	2.871E-04	2.305E-04	2.305E-04
F	4.0	0.59	485.	0.	0.	19.2	8.0	32.4	3.093E-04	1.735E-04	1.735E-04
F	5.0	0.24	485.	0.	0.	19.2	8.0	24.5	3.277E-04	1.391E-04	1.391E-04
G	0.4	0.01	485.	0.	0.	13.3	5.1	79.7	2.253E-03	4.506E-03	2.253E-03
G	1.0	0.45	485.	0.	0.	13.3	5.1	79.7	7.671E-04	1.534E-03	7.671E-04
G	1.5	0.31	485.	0.	0.	13.3	5.1	79.7	5.195E-04	1.039E-03	5.195E-04
G	2.0	0.14	485.	0.	0.	13.3	5.1	79.7	3.953E-04	7.905E-04	3.953E-04
G	3.0	0.07	485.	0.	0.	13.3	5.1	41.3	5.092E-04	5.286E-04	5.092E-04
G	4.0	0.07	485.	0.	0.	13.3	5.1	26.0	6.091E-04	3.979E-04	3.979E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 485.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.253E-03	1.474E-03	8.570E-04	7.671E-04	5.195E-04	5.092E-04	5.018E-04	3.979E-04	3.953E-04	3.398E-04
0.012	0.025	0.026	0.481	0.795	0.865	1.460	1.530	1.670	2.229
0.00076	0.00161	0.00170	0.03143	0.05201	0.05659	0.09546	0.10003	0.10918	0.14577
2.917E-04	2.586E-04	2.305E-04	2.174E-04	1.976E-04	1.735E-04	1.504E-04	1.473E-04	1.391E-04	1.303E-04
2.579	3.313	4.817	4.922	5.586	6.180	8.104	8.523	8.768	16.916
0.16864	0.21666	0.31499	0.32185	0.36530	0.40417	0.52995	0.55739	0.57339	1.10621
1.127E-04	9.806E-05	9.321E-05	9.028E-05	7.863E-05	7.093E-05	6.796E-05	6.567E-05	5.449E-05	5.032E-05
18.140	29.294	29.434	33.456	44.296	44.750	49.226	56.779	62.199	62.339
1.18625	1.91572	1.92487	2.18785	2.89674	2.92647	3.21917	3.71311	4.06756	4.07671
4.933E-05	4.743E-05	4.551E-05	3.966E-05	3.829E-05	3.570E-05	3.419E-05	2.862E-05	2.749E-05	2.560E-05
68.808	69.508	74.508	77.341	77.515	78.460	85.628	86.572	88.670	89.405
4.49976	4.54550	4.87250	5.05773	5.06916	5.13091	5.59969	5.66143	5.79864	5.84666
2.391E-05	1.927E-05	1.796E-05	1.615E-05	1.545E-05	1.444E-05	1.328E-05	1.291E-05	1.119E-05	9.696E-06
89.999	90.664	91.293	91.713	92.412	92.482	92.727	93.496	93.951	94.265
5.88554	5.92898	5.97015	5.99759	6.04332	6.04790	6.06390	6.11421	6.14394	6.16452
8.882E-06	7.796E-06	6.686E-06	5.361E-06	4.477E-06	3.363E-06	3.175E-06	2.704E-06	1.101E-06	
95.874	96.084	97.203	98.287	99.021	99.650	99.685	99.895	100.000	
6.26971	6.28343	6.35661	6.42750	6.47552	6.51668	6.51897	6.53269	6.53955	

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.031
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.095
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.315
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.105
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.894
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.710
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.869
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   5.596

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
  9  1      -6.09537 -11.24127  -1.18987
  9  2      -7.17293 -11.78222  -1.34808
  9  3      -7.59738 -14.08581  -2.09015
  9  4      -8.37525 -11.89082  -1.28675
  9  5      -8.94587 -11.89352  -1.28793
  9  6      -9.45081 -12.52216  -1.61939
  9  7      -9.63092 -14.75899  -2.87223
  9  8      -9.99767 -16.96269  -4.20160
  9  9     -10.28369     NUMXQ(K)=  9
    5.821E-04              0.065              1.000
    3.170E-04              0.196              3.000
    2.269E-04              0.327              5.000
    1.671E-04              0.654             10.000
    1.381E-04              0.981             15.000
    1.199E-04              1.308             20.000
    1.070E-04              1.635             25.000
    9.731E-05              1.962             30.000
    8.958E-05              2.289             35.000
    8.325E-05              2.616             40.000
    7.775E-05              2.943             45.000
    7.208E-05              3.270             50.000
    6.723E-05              3.597             55.000
    6.105E-05              3.924             60.000
    5.484E-05              4.251             65.000
    4.959E-05              4.578             70.000
    4.490E-05              4.905             75.000
    3.936E-05              5.232             80.000
    3.471E-05              5.559             85.000

    1.886E-04              0.5                7.65

ANNUAL AVERAGE =   3.43E-06

K=  9     FIVEXQ(K)= 1.886E-04     FIVEPR(K)= 7.646
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.5	0.09	485.	0.	0.	97.4	117.1	97.4	1.817E-05	1.746E-05	1.746E-05
A	2.0	0.24	485.	0.	0.	97.4	117.1	97.4	1.382E-05	1.328E-05	1.328E-05
A	3.0	0.71	485.	0.	0.	97.4	117.1	97.4	9.244E-06	8.882E-06	8.882E-06
A	4.0	0.92	485.	0.	0.	97.4	117.1	97.4	6.958E-06	6.686E-06	6.686E-06
A	5.0	1.83	485.	0.	0.	97.4	117.1	97.4	5.579E-06	5.361E-06	5.361E-06
A	6.0	0.80	485.	0.	0.	97.4	117.1	97.4	4.659E-06	4.477E-06	4.477E-06
A	8.0	0.95	485.	0.	0.	97.4	117.1	97.4	3.500E-06	3.363E-06	3.363E-06
A	9.9	0.06	485.	0.	0.	97.4	117.1	97.4	2.814E-06	2.704E-06	2.704E-06
A	24.3	0.21	485.	0.	0.	97.4	117.1	97.4	1.146E-06	1.101E-06	1.101E-06
B	2.0	0.12	485.	0.	0.	73.3	49.9	73.3	4.316E-05	3.829E-05	3.829E-05
B	3.0	0.62	485.	0.	0.	73.3	49.9	73.3	2.886E-05	2.560E-05	2.560E-05
B	4.0	0.80	485.	0.	0.	73.3	49.9	73.3	2.172E-05	1.927E-05	1.927E-05
B	5.0	0.83	485.	0.	0.	73.3	49.9	73.3	1.742E-05	1.545E-05	1.545E-05
B	6.0	0.59	485.	0.	0.	73.3	49.9	73.3	1.455E-05	1.291E-05	1.291E-05
B	8.0	0.50	485.	0.	0.	73.3	49.9	73.3	1.093E-05	9.696E-06	9.696E-06
B	9.9	0.06	485.	0.	0.	73.3	49.9	73.3	8.786E-06	7.796E-06	7.796E-06
B	24.3	0.06	485.	0.	0.	73.3	49.9	73.3	3.578E-06	3.175E-06	3.175E-06
C	1.5	0.06	485.	0.	0.	55.6	31.6	55.6	1.178E-04	9.321E-05	9.321E-05
C	2.0	0.32	485.	0.	0.	55.6	31.6	55.6	8.966E-05	7.093E-05	7.093E-05
C	3.0	0.68	485.	0.	0.	55.6	31.6	55.6	5.995E-05	4.743E-05	4.743E-05
C	4.0	1.03	485.	0.	0.	55.6	31.6	55.6	4.512E-05	3.570E-05	3.570E-05
C	5.0	0.92	485.	0.	0.	55.6	31.6	55.6	3.618E-05	2.862E-05	2.862E-05
C	6.0	0.86	485.	0.	0.	55.6	31.6	55.6	3.022E-05	2.391E-05	2.391E-05
C	8.0	1.03	485.	0.	0.	55.6	31.6	55.6	2.270E-05	1.796E-05	1.796E-05
C	9.9	0.30	485.	0.	0.	55.6	31.6	55.6	1.825E-05	1.444E-05	1.444E-05
C	24.3	0.18	485.	0.	0.	55.6	31.6	55.6	7.433E-06	5.881E-06	5.881E-06
D	1.0	0.03	485.	0.	0.	39.2	18.0	78.4	2.174E-04	2.620E-04	2.174E-04
D	1.5	0.35	485.	0.	0.	39.2	18.0	78.4	1.473E-04	1.774E-04	1.473E-04
D	2.0	1.18	485.	0.	0.	39.2	18.0	77.9	1.127E-04	1.350E-04	1.127E-04
D	3.0	2.87	485.	0.	0.	39.2	18.0	60.4	9.715E-05	9.028E-05	9.028E-05
D	4.0	4.43	485.	0.	0.	39.2	18.0	50.5	8.749E-05	6.796E-05	6.796E-05
D	5.0	5.29	485.	0.	0.	39.2	18.0	43.9	8.063E-05	5.449E-05	5.449E-05
D	6.0	5.29	485.	0.	0.	39.2	18.0	39.2	7.545E-05	4.551E-05	4.551E-05
D	8.0	7.47	485.	0.	0.	39.2	18.0	39.2	5.674E-05	3.419E-05	3.419E-05

D	9.9	3.28	485.	0.	0.	39.2	18.0	39.2	4.562E-05	2.749E-05	2.749E-05
D	24.3	0.47	485.	0.	0.	39.2	18.0	39.2	1.858E-05	1.119E-05	1.119E-05
E	0.4	0.00	485.	0.	0.	27.9	12.7	83.6	8.570E-04	1.111E-03	8.570E-04
E	1.0	0.38	485.	0.	0.	27.9	12.7	83.6	2.917E-04	3.781E-04	2.917E-04
E	1.5	0.50	485.	0.	0.	27.9	12.7	83.6	1.976E-04	2.560E-04	1.976E-04
E	2.0	0.95	485.	0.	0.	27.9	12.7	83.6	1.504E-04	1.948E-04	1.504E-04
E	3.0	5.52	485.	0.	0.	27.9	12.7	55.9	1.503E-04	1.303E-04	1.303E-04
E	4.0	10.34	485.	0.	0.	27.9	12.7	42.1	1.503E-04	9.806E-05	9.806E-05
E	5.0	11.46	485.	0.	0.	27.9	12.7	33.8	1.503E-04	7.863E-05	7.863E-05
E	5.9	7.80	485.	0.	0.	27.9	12.7	28.2	1.503E-04	6.567E-05	6.567E-05
E	7.9	6.97	485.	0.	0.	27.9	12.7	27.9	1.142E-04	4.933E-05	4.933E-05
E	9.8	1.30	485.	0.	0.	27.9	12.7	27.9	9.182E-05	3.966E-05	3.966E-05
E	24.1	0.30	485.	0.	0.	27.9	12.7	27.9	3.740E-05	1.615E-05	1.615E-05
F	0.4	0.01	485.	0.	0.	19.2	8.0	76.9	1.474E-03	1.965E-03	1.474E-03
F	1.0	0.56	485.	0.	0.	19.2	8.0	76.9	5.018E-04	6.690E-04	5.018E-04
F	1.5	0.74	485.	0.	0.	19.2	8.0	76.9	3.398E-04	4.530E-04	3.398E-04
F	2.0	0.80	485.	0.	0.	19.2	8.0	76.9	2.586E-04	3.447E-04	2.586E-04
F	3.0	1.83	485.	0.	0.	19.2	8.0	46.3	2.871E-04	2.305E-04	2.305E-04
F	4.0	2.16	485.	0.	0.	19.2	8.0	32.4	3.093E-04	1.735E-04	1.735E-04
F	5.0	1.39	485.	0.	0.	19.2	8.0	24.5	3.277E-04	1.391E-04	1.391E-04
F	5.9	0.30	485.	0.	0.	19.2	8.0	19.5	3.436E-04	1.162E-04	1.162E-04
F	7.9	0.03	485.	0.	0.	19.2	8.0	19.2	2.619E-04	8.729E-05	8.729E-05
G	0.4	0.01	485.	0.	0.	13.3	5.1	79.7	2.253E-03	4.506E-03	2.253E-03
G	1.0	0.35	485.	0.	0.	13.3	5.1	79.7	7.671E-04	1.534E-03	7.671E-04
G	1.5	0.27	485.	0.	0.	13.3	5.1	79.7	5.195E-04	1.039E-03	5.195E-04
G	2.0	0.24	485.	0.	0.	13.3	5.1	79.7	3.953E-04	7.905E-04	3.953E-04
G	3.0	0.18	485.	0.	0.	13.3	5.1	41.3	5.092E-04	5.286E-04	5.092E-04
G	4.0	0.12	485.	0.	0.	13.3	5.1	26.0	6.091E-04	3.979E-04	3.979E-04
G	5.0	0.09	485.	0.	0.	13.3	5.1	18.1	7.002E-04	3.190E-04	3.190E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 485.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.253E-03	1.474E-03	8.570E-04	7.671E-04	5.195E-04	5.092E-04	5.018E-04	3.979E-04	3.953E-04	3.398E-04
0.009	0.021	0.023	0.377	0.643	0.821	1.382	1.500	1.736	2.475
0.00070	0.00165	0.00177	0.02921	0.04979	0.06352	0.10696	0.11611	0.13441	0.19157
3.190E-04	2.917E-04	2.586E-04	2.305E-04	2.174E-04	1.976E-04	1.735E-04	1.504E-04	1.473E-04	1.391E-04
2.564	2.948	3.745	5.577	5.607	6.109	8.266	9.211	9.566	10.954
0.19843	0.22816	0.28990	0.43168	0.43397	0.47285	0.63978	0.71296	0.74040	0.84787
1.303E-04	1.162E-04	1.127E-04	9.806E-05	9.321E-05	9.028E-05	8.729E-05	7.863E-05	7.093E-05	6.796E-05
16.479	16.774	17.956	28.297	28.356	31.221	31.251	42.714	43.039	47.471
1.27550	1.29837	1.38984	2.19020	2.19478	2.41659	2.41888	3.30614	3.33130	3.67431
6.567E-05	5.449E-05	4.933E-05	4.743E-05	4.551E-05	3.966E-05	3.829E-05	3.570E-05	3.419E-05	2.862E-05
55.270	60.559	67.531	68.211	73.499	74.799	74.917	75.951	83.426	84.342
4.27801	4.68734	5.22702	5.27961	5.68894	5.78956	5.79871	5.87875	6.45730	6.52819
2.749E-05	2.560E-05	2.391E-05	1.927E-05	1.796E-05	1.746E-05	1.615E-05	1.545E-05	1.444E-05	1.328E-05
87.621	88.241	89.098	89.896	90.930	91.019	91.314	92.141	92.437	92.673
6.78202	6.83004	6.89635	6.95810	7.03813	7.04499	7.06786	7.13189	7.15476	7.17305
1.291E-05	1.119E-05	9.696E-06	8.882E-06	7.796E-06	6.686E-06	5.881E-06	5.361E-06	4.477E-06	3.363E-06
93.264	93.737	94.239	94.948	95.007	95.923	96.100	97.932	98.730	99.675
7.21879	7.25537	7.29425	7.34913	7.35371	7.42460	7.43832	7.58009	7.64184	7.71501
3.175E-06	2.704E-06	1.101E-06							
99.734	99.793	100.000							
7.71959	7.72416	7.74017							

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.107
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.431
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   1.274
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   3.303
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   4.275
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   5.685
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   6.453

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
 10  1      -6.09537 -11.22341  -1.18093
 10  2      -7.59738 -12.97848  -1.75253
 10  3      -8.37525 -12.19300  -1.45348
 10  4      -8.94587 -11.79427  -1.27500
 10  5      -9.45081 -12.24857  -1.52217
 10  6      -9.63092 -14.20408  -2.65931
 10  7      -9.99767 -17.06856  -4.47024
 10  8     -10.28369     NUMXQ(K)=  8
    5.615E-04              0.077              1.000
    3.298E-04              0.232              3.000
    2.459E-04              0.387              5.000
    1.710E-04              0.774             10.000
    1.373E-04              1.161             15.000
    1.182E-04              1.548             20.000
    1.054E-04              1.935             25.000
    9.566E-05              2.322             30.000
    8.794E-05              2.709             35.000
    8.162E-05              3.096             40.000
    7.586E-05              3.483             45.000
    7.050E-05              3.870             50.000
    6.590E-05              4.257             55.000
    5.921E-05              4.644             60.000
    5.344E-05              5.031             65.000
    4.853E-05              5.418             70.000
    4.350E-05              5.805             75.000
    3.761E-05              6.192             80.000

    2.142E-04              0.5                6.46

ANNUAL AVERAGE =   3.94E-06

K= 10     FIVEXQ(K)= 2.142E-04     FIVEPR(K)= 6.460
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	3.0	0.74	485.	0.	0.	97.4	117.1	97.4	9.244E-06	8.882E-06	8.882E-06
A	4.0	1.17	485.	0.	0.	97.4	117.1	97.4	6.958E-06	6.686E-06	6.686E-06
A	5.0	1.28	485.	0.	0.	97.4	117.1	97.4	5.579E-06	5.361E-06	5.361E-06
A	6.0	0.78	485.	0.	0.	97.4	117.1	97.4	4.659E-06	4.477E-06	4.477E-06
A	8.0	0.27	485.	0.	0.	97.4	117.1	97.4	3.500E-06	3.363E-06	3.363E-06
A	24.3	0.04	485.	0.	0.	97.4	117.1	97.4	1.146E-06	1.101E-06	1.101E-06
B	2.0	0.16	485.	0.	0.	73.3	49.9	73.3	4.316E-05	3.829E-05	3.829E-05
B	3.0	0.78	485.	0.	0.	73.3	49.9	73.3	2.886E-05	2.560E-05	2.560E-05
B	4.0	0.70	485.	0.	0.	73.3	49.9	73.3	2.172E-05	1.927E-05	1.927E-05
B	5.0	1.09	485.	0.	0.	73.3	49.9	73.3	1.742E-05	1.545E-05	1.545E-05
B	6.0	0.70	485.	0.	0.	73.3	49.9	73.3	1.455E-05	1.291E-05	1.291E-05
B	8.0	0.70	485.	0.	0.	73.3	49.9	73.3	1.093E-05	9.696E-06	9.696E-06
C	1.5	0.04	485.	0.	0.	55.6	31.6	55.6	1.178E-04	9.321E-05	9.321E-05
C	2.0	0.27	485.	0.	0.	55.6	31.6	55.6	8.966E-05	7.093E-05	7.093E-05
C	3.0	1.01	485.	0.	0.	55.6	31.6	55.6	5.995E-05	4.743E-05	4.743E-05
C	4.0	1.36	485.	0.	0.	55.6	31.6	55.6	4.512E-05	3.570E-05	3.570E-05
C	5.0	1.44	485.	0.	0.	55.6	31.6	55.6	3.618E-05	2.862E-05	2.862E-05
C	6.0	1.21	485.	0.	0.	55.6	31.6	55.6	3.022E-05	2.391E-05	2.391E-05
C	8.0	0.43	485.	0.	0.	55.6	31.6	55.6	2.270E-05	1.796E-05	1.796E-05
D	1.0	0.23	485.	0.	0.	39.2	18.0	78.4	2.174E-04	2.620E-04	2.174E-04
D	1.5	0.74	485.	0.	0.	39.2	18.0	78.4	1.473E-04	1.774E-04	1.473E-04
D	2.0	1.28	485.	0.	0.	39.2	18.0	77.9	1.127E-04	1.350E-04	1.127E-04
D	3.0	5.64	485.	0.	0.	39.2	18.0	60.4	9.715E-05	9.028E-05	9.028E-05
D	4.0	8.87	485.	0.	0.	39.2	18.0	50.5	8.749E-05	6.796E-05	6.796E-05
D	5.0	9.30	485.	0.	0.	39.2	18.0	43.9	8.063E-05	5.449E-05	5.449E-05
D	6.0	5.99	485.	0.	0.	39.2	18.0	39.2	7.545E-05	4.551E-05	4.551E-05
D	8.0	6.46	485.	0.	0.	39.2	18.0	39.2	5.674E-05	3.419E-05	3.419E-05
D	9.9	1.28	485.	0.	0.	39.2	18.0	39.2	4.562E-05	2.749E-05	2.749E-05
D	24.3	0.58	485.	0.	0.	39.2	18.0	39.2	1.858E-05	1.119E-05	1.119E-05
E	0.4	0.00	485.	0.	0.	27.9	12.7	83.6	8.570E-04	1.111E-03	8.570E-04
E	1.0	0.35	485.	0.	0.	27.9	12.7	83.6	2.917E-04	3.781E-04	2.917E-04
E	1.5	0.78	485.	0.	0.	27.9	12.7	83.6	1.976E-04	2.560E-04	1.976E-04
E	2.0	1.94	485.	0.	0.	27.9	12.7	83.6	1.504E-04	1.948E-04	1.504E-04

E	3.0	8.71	485.	0.	0.	27.9	12.7	55.9	1.503E-04	1.303E-04	1.303E-04
E	4.0	11.63	485.	0.	0.	27.9	12.7	42.1	1.503E-04	9.806E-05	9.806E-05
E	5.0	7.23	485.	0.	0.	27.9	12.7	33.8	1.503E-04	7.863E-05	7.863E-05
E	5.9	3.07	485.	0.	0.	27.9	12.7	28.2	1.503E-04	6.567E-05	6.567E-05
E	7.9	2.37	485.	0.	0.	27.9	12.7	27.9	1.142E-04	4.933E-05	4.933E-05
E	9.8	0.74	485.	0.	0.	27.9	12.7	27.9	9.182E-05	3.966E-05	3.966E-05
E	24.1	0.58	485.	0.	0.	27.9	12.7	27.9	3.740E-05	1.615E-05	1.615E-05
F	0.4	0.02	485.	0.	0.	19.2	8.0	76.9	1.474E-03	1.965E-03	1.474E-03
F	1.0	0.74	485.	0.	0.	19.2	8.0	76.9	5.018E-04	6.690E-04	5.018E-04
F	1.5	0.86	485.	0.	0.	19.2	8.0	76.9	3.398E-04	4.530E-04	3.398E-04
F	2.0	1.44	485.	0.	0.	19.2	8.0	76.9	2.586E-04	3.447E-04	2.586E-04
F	3.0	1.67	485.	0.	0.	19.2	8.0	46.3	2.871E-04	2.305E-04	2.305E-04
F	4.0	1.40	485.	0.	0.	19.2	8.0	32.4	3.093E-04	1.735E-04	1.735E-04
F	5.0	0.39	485.	0.	0.	19.2	8.0	24.5	3.277E-04	1.391E-04	1.391E-04
G	0.4	0.02	485.	0.	0.	13.3	5.1	79.7	2.253E-03	4.506E-03	2.253E-03
G	1.0	0.74	485.	0.	0.	13.3	5.1	79.7	7.671E-04	1.534E-03	7.671E-04
G	1.5	0.43	485.	0.	0.	13.3	5.1	79.7	5.195E-04	1.039E-03	5.195E-04
G	2.0	0.23	485.	0.	0.	13.3	5.1	79.7	3.953E-04	7.905E-04	3.953E-04
G	3.0	0.04	485.	0.	0.	13.3	5.1	41.3	5.092E-04	5.286E-04	5.092E-04
G	4.0	0.08	485.	0.	0.	13.3	5.1	26.0	6.091E-04	3.979E-04	3.979E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

SITE EXCLUSION BOUNDARY CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 485.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.253E-03	1.474E-03	8.570E-04	7.671E-04	5.195E-04	5.092E-04	5.018E-04	3.979E-04	3.953E-04	3.398E-04
0.019	0.035	0.036	0.776	1.203	1.242	1.981	2.059	2.292	3.148
0.00112	0.00206	0.00215	0.04559	0.07075	0.07304	0.11648	0.12106	0.13478	0.18509
2.917E-04	2.586E-04	2.305E-04	2.174E-04	1.976E-04	1.735E-04	1.504E-04	1.473E-04	1.391E-04	1.303E-04
3.498	4.937	6.610	6.843	7.621	9.022	10.966	11.705	12.094	20.807
0.20567	0.29028	0.38861	0.40233	0.44806	0.53039	0.64473	0.68817	0.71104	1.22328
1.127E-04	9.806E-05	9.321E-05	9.028E-05	7.863E-05	7.093E-05	6.796E-05	6.567E-05	5.449E-05	4.933E-05
22.091	33.721	33.760	39.400	46.634	46.907	55.775	58.848	68.144	70.517
1.29874	1.98248	1.98477	2.31635	2.74168	2.75769	3.27907	3.45973	4.00626	4.14575
4.743E-05	4.551E-05	3.966E-05	3.829E-05	3.570E-05	3.419E-05	2.862E-05	2.749E-05	2.560E-05	2.391E-05
71.528	77.518	78.257	78.413	79.774	86.231	87.670	88.953	89.731	90.937
4.20521	4.55737	4.60082	4.60997	4.69000	5.06961	5.15422	5.22968	5.27541	5.34630
1.927E-05	1.796E-05	1.615E-05	1.545E-05	1.291E-05	1.119E-05	9.696E-06	8.882E-06	6.686E-06	5.361E-06
91.637	92.065	92.649	93.738	94.438	95.021	95.721	96.460	97.627	98.911
5.38747	5.41262	5.44692	5.51095	5.55211	5.58641	5.62757	5.67102	5.73963	5.81509
4.477E-06	3.363E-06	1.101E-06							
99.689	99.961	100.000							
5.86082	5.87683	5.87912							

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.046
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.116
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.388
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.222
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.314
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.457
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.003

 K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
11  1      -6.09537 -11.04176  -1.16650
11  2      -7.17293 -12.35449  -1.56230
11  3      -7.59738 -13.78593  -2.03241
11  4      -8.37525 -12.06225  -1.38495
11  5      -8.94587 -12.15267  -1.42513
11  6      -9.31262 -12.93147  -1.81593
11  7      -9.63092 -14.67871  -2.77724
11  8      -9.81756     NUMXQ(K)=  8
   6.858E-04              0.059              1.000
   3.876E-04              0.176              3.000
   2.782E-04              0.294              5.000
   1.892E-04              0.588             10.000
   1.546E-04              0.882             15.000
   1.330E-04              1.176             20.000
   1.176E-04              1.470             25.000
   1.060E-04              1.764             30.000
   9.689E-05              2.058             35.000
   8.923E-05              2.352             40.000
   8.143E-05              2.646             45.000
   7.492E-05              2.940             50.000
   6.939E-05              3.234             55.000
   6.408E-05              3.527             60.000
   5.789E-05              3.821             65.000

   2.046E-04              0.5                8.50

ANNUAL AVERAGE =   3.50E-06

K= 11     FIVEXQ(K)= 2.046E-04     FIVEPR(K)= 8.505
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	2.0	0.22	485.	0.	0.	97.4	117.1	97.4	1.382E-05	1.328E-05	1.328E-05
A	3.0	0.82	485.	0.	0.	97.4	117.1	97.4	9.244E-06	8.882E-06	8.882E-06
A	4.0	1.20	485.	0.	0.	97.4	117.1	97.4	6.958E-06	6.686E-06	6.686E-06
A	5.0	0.79	485.	0.	0.	97.4	117.1	97.4	5.579E-06	5.361E-06	5.361E-06
A	6.0	0.60	485.	0.	0.	97.4	117.1	97.4	4.659E-06	4.477E-06	4.477E-06
A	8.0	0.16	485.	0.	0.	97.4	117.1	97.4	3.500E-06	3.363E-06	3.363E-06
B	2.0	0.19	485.	0.	0.	73.3	49.9	73.3	4.316E-05	3.829E-05	3.829E-05
B	3.0	0.60	485.	0.	0.	73.3	49.9	73.3	2.886E-05	2.560E-05	2.560E-05
B	4.0	0.85	485.	0.	0.	73.3	49.9	73.3	2.172E-05	1.927E-05	1.927E-05
B	5.0	0.76	485.	0.	0.	73.3	49.9	73.3	1.742E-05	1.545E-05	1.545E-05
B	6.0	0.41	485.	0.	0.	73.3	49.9	73.3	1.455E-05	1.291E-05	1.291E-05
B	8.0	0.22	485.	0.	0.	73.3	49.9	73.3	1.093E-05	9.696E-06	9.696E-06
C	1.5	0.09	485.	0.	0.	55.6	31.6	55.6	1.178E-04	9.321E-05	9.321E-05
C	2.0	0.35	485.	0.	0.	55.6	31.6	55.6	8.966E-05	7.093E-05	7.093E-05
C	3.0	1.04	485.	0.	0.	55.6	31.6	55.6	5.995E-05	4.743E-05	4.743E-05
C	4.0	1.17	485.	0.	0.	55.6	31.6	55.6	4.512E-05	3.570E-05	3.570E-05
C	5.0	1.20	485.	0.	0.	55.6	31.6	55.6	3.618E-05	2.862E-05	2.862E-05
C	6.0	0.57	485.	0.	0.	55.6	31.6	55.6	3.022E-05	2.391E-05	2.391E-05
C	8.0	0.41	485.	0.	0.	55.6	31.6	55.6	2.270E-05	1.796E-05	1.796E-05
C	9.9	0.03	485.	0.	0.	55.6	31.6	55.6	1.825E-05	1.444E-05	1.444E-05
D	1.0	0.13	485.	0.	0.	39.2	18.0	78.4	2.174E-04	2.620E-04	2.174E-04
D	1.5	0.88	485.	0.	0.	39.2	18.0	78.4	1.473E-04	1.774E-04	1.473E-04
D	2.0	1.83	485.	0.	0.	39.2	18.0	77.9	1.127E-04	1.350E-04	1.127E-04
D	3.0	7.07	485.	0.	0.	39.2	18.0	60.4	9.715E-05	9.028E-05	9.028E-05
D	4.0	7.20	485.	0.	0.	39.2	18.0	50.5	8.749E-05	6.796E-05	6.796E-05
D	5.0	6.35	485.	0.	0.	39.2	18.0	43.9	8.063E-05	5.449E-05	5.449E-05
D	6.0	3.63	485.	0.	0.	39.2	18.0	39.2	7.545E-05	4.551E-05	4.551E-05
D	8.0	2.68	485.	0.	0.	39.2	18.0	39.2	5.674E-05	3.419E-05	3.419E-05
D	9.9	0.69	485.	0.	0.	39.2	18.0	39.2	4.562E-05	2.749E-05	2.749E-05
D	24.3	0.03	485.	0.	0.	39.2	18.0	39.2	1.858E-05	1.119E-05	1.119E-05
E	0.4	0.00	485.	0.	0.	27.9	12.7	83.6	8.570E-04	1.111E-03	8.570E-04
E	1.0	0.63	485.	0.	0.	27.9	12.7	83.6	2.917E-04	3.781E-04	2.917E-04
E	1.5	1.42	485.	0.	0.	27.9	12.7	83.6	1.976E-04	2.560E-04	1.976E-04

E	2.0	4.42	485.	0.	0.	27.9	12.7	83.6	1.504E-04	1.948E-04	1.504E-04
E	3.0	13.30	485.	0.	0.	27.9	12.7	55.9	1.503E-04	1.303E-04	1.303E-04
E	4.0	7.86	485.	0.	0.	27.9	12.7	42.1	1.503E-04	9.806E-05	9.806E-05
E	5.0	3.60	485.	0.	0.	27.9	12.7	33.8	1.503E-04	7.863E-05	7.863E-05
E	5.9	1.93	485.	0.	0.	27.9	12.7	28.2	1.503E-04	6.567E-05	6.567E-05
E	7.9	1.45	485.	0.	0.	27.9	12.7	27.9	1.142E-04	4.933E-05	4.933E-05
E	9.8	0.85	485.	0.	0.	27.9	12.7	27.9	9.182E-05	3.966E-05	3.966E-05
E	24.1	0.41	485.	0.	0.	27.9	12.7	27.9	3.740E-05	1.615E-05	1.615E-05
F	0.4	0.02	485.	0.	0.	19.2	8.0	76.9	1.474E-03	1.965E-03	1.474E-03
F	1.0	0.98	485.	0.	0.	19.2	8.0	76.9	5.018E-04	6.690E-04	5.018E-04
F	1.5	1.71	485.	0.	0.	19.2	8.0	76.9	3.398E-04	4.530E-04	3.398E-04
F	2.0	3.25	485.	0.	0.	19.2	8.0	76.9	2.586E-04	3.447E-04	2.586E-04
F	3.0	8.18	485.	0.	0.	19.2	8.0	46.3	2.871E-04	2.305E-04	2.305E-04
F	4.0	1.17	485.	0.	0.	19.2	8.0	32.4	3.093E-04	1.735E-04	1.735E-04
F	24.1	0.54	485.	0.	0.	19.2	8.0	19.2	8.576E-05	2.858E-05	2.858E-05
G	0.4	0.01	485.	0.	0.	13.3	5.1	79.7	2.253E-03	4.506E-03	2.253E-03
G	1.0	0.54	485.	0.	0.	13.3	5.1	79.7	7.671E-04	1.534E-03	7.671E-04
G	1.5	0.98	485.	0.	0.	13.3	5.1	79.7	5.195E-04	1.039E-03	5.195E-04
G	2.0	0.95	485.	0.	0.	13.3	5.1	79.7	3.953E-04	7.905E-04	3.953E-04
G	3.0	3.51	485.	0.	0.	13.3	5.1	41.3	5.092E-04	5.286E-04	5.092E-04
G	4.0	0.09	485.	0.	0.	13.3	5.1	26.0	6.091E-04	3.979E-04	3.979E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

SITE EXCLUSION BOUNDARY CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 485.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.253E-03	1.474E-03	8.570E-04	7.671E-04	5.195E-04	5.092E-04	5.018E-04	3.979E-04	3.953E-04	3.398E-04
0.014	0.035	0.038	0.575	1.554	5.060	6.039	6.133	7.081	8.786
0.00100	0.00254	0.00273	0.04160	0.11249	0.36632	0.43721	0.44407	0.51268	0.63616
2.917E-04	2.586E-04	2.305E-04	2.174E-04	1.976E-04	1.735E-04	1.504E-04	1.473E-04	1.303E-04	1.127E-04
9.418	12.671	20.851	20.978	22.399	23.568	27.989	28.874	42.170	44.002
0.68190	0.91743	1.50970	1.51885	1.62176	1.70637	2.02651	2.09054	3.05327	3.18590
9.806E-05	9.321E-05	9.028E-05	7.863E-05	7.093E-05	6.796E-05	6.567E-05	5.449E-05	4.933E-05	4.743E-05
51.866	51.961	59.036	62.637	62.984	70.185	72.112	78.460	79.913	80.955
3.75530	3.76216	4.27440	4.53509	4.56024	5.08162	5.22112	5.68075	5.78594	5.86141
4.551E-05	3.966E-05	3.829E-05	3.570E-05	3.419E-05	2.862E-05	2.858E-05	2.749E-05	2.560E-05	2.391E-05
84.587	85.440	85.629	86.798	89.483	90.683	91.220	91.915	92.515	93.083
6.12439	6.18613	6.19985	6.28446	6.47883	6.56573	6.60460	6.65491	6.69836	6.73952
1.927E-05	1.796E-05	1.615E-05	1.545E-05	1.444E-05	1.328E-05	1.291E-05	1.119E-05	9.696E-06	8.882E-06
93.936	94.347	94.757	95.515	95.547	95.768	96.178	96.210	96.431	97.252
6.80127	6.83099	6.86072	6.91560	6.91789	6.93390	6.96363	6.96591	6.98192	7.04138
6.686E-06	5.361E-06	4.477E-06	3.363E-06						
98.452	99.242	99.842	100.000						
7.12827	7.18544	7.22889	7.24032						

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO 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)=   1.508
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   3.050
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   4.271
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   5.217
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   5.677
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   6.121
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
12	1	-6.09537	-9.99470	-0.91421
12	2	-7.59738	-12.08720	-1.71217
12	3	-8.37525	-12.57539	-1.93736
12	4	-8.94587	-13.42597	-2.39137
12	5	-9.31262	-15.01910	-3.31757
12	6	-9.63092	-16.90946	-4.48149
12	7	-9.81756	-17.36738	-4.77086
12	8	-9.99767	NUMXQ(K)= 8	

8.394E-04	0.072	1.000
6.192E-04	0.217	3.000
5.318E-04	0.362	5.000
3.707E-04	0.724	10.000
2.868E-04	1.086	15.000
2.371E-04	1.448	20.000
2.002E-04	1.810	25.000
1.730E-04	2.172	30.000
1.525E-04	2.534	35.000
1.363E-04	2.896	40.000
1.216E-04	3.258	45.000
1.085E-04	3.620	50.000
9.771E-05	3.982	55.000
8.802E-05	4.344	60.000
7.758E-05	4.706	65.000
6.890E-05	5.068	70.000
6.023E-05	5.430	75.000
5.202E-05	5.792	80.000
4.637E-04	0.5	6.91

ANNUAL AVERAGE = 6.08E-06

K= 12 FIVEXQ(K)= 4.637E-04 FIVEPR(K)= 6.906

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.5	0.03	485.	0.	0.	97.4	117.1	97.4	1.817E-05	1.746E-05	1.746E-05
A	2.0	0.05	485.	0.	0.	97.4	117.1	97.4	1.382E-05	1.328E-05	1.328E-05
A	3.0	0.91	485.	0.	0.	97.4	117.1	97.4	9.244E-06	8.882E-06	8.882E-06
A	4.0	1.23	485.	0.	0.	97.4	117.1	97.4	6.958E-06	6.686E-06	6.686E-06
A	5.0	0.78	485.	0.	0.	97.4	117.1	97.4	5.579E-06	5.361E-06	5.361E-06
A	6.0	0.56	485.	0.	0.	97.4	117.1	97.4	4.659E-06	4.477E-06	4.477E-06
A	8.0	0.30	485.	0.	0.	97.4	117.1	97.4	3.500E-06	3.363E-06	3.363E-06
B	1.5	0.03	485.	0.	0.	73.3	49.9	73.3	5.672E-05	5.032E-05	5.032E-05
B	2.0	0.05	485.	0.	0.	73.3	49.9	73.3	4.316E-05	3.829E-05	3.829E-05
B	3.0	1.42	485.	0.	0.	73.3	49.9	73.3	2.886E-05	2.560E-05	2.560E-05
B	4.0	0.56	485.	0.	0.	73.3	49.9	73.3	2.172E-05	1.927E-05	1.927E-05
B	5.0	0.81	485.	0.	0.	73.3	49.9	73.3	1.742E-05	1.545E-05	1.545E-05
B	6.0	0.21	485.	0.	0.	73.3	49.9	73.3	1.455E-05	1.291E-05	1.291E-05
B	8.0	0.32	485.	0.	0.	73.3	49.9	73.3	1.093E-05	9.696E-06	9.696E-06
B	9.9	0.11	485.	0.	0.	73.3	49.9	73.3	8.786E-06	7.796E-06	7.796E-06
C	1.5	0.08	485.	0.	0.	55.6	31.6	55.6	1.178E-04	9.321E-05	9.321E-05
C	2.0	0.43	485.	0.	0.	55.6	31.6	55.6	8.966E-05	7.093E-05	7.093E-05
C	3.0	1.29	485.	0.	0.	55.6	31.6	55.6	5.995E-05	4.743E-05	4.743E-05
C	4.0	1.50	485.	0.	0.	55.6	31.6	55.6	4.512E-05	3.570E-05	3.570E-05
C	5.0	0.94	485.	0.	0.	55.6	31.6	55.6	3.618E-05	2.862E-05	2.862E-05
C	6.0	0.32	485.	0.	0.	55.6	31.6	55.6	3.022E-05	2.391E-05	2.391E-05
C	8.0	0.32	485.	0.	0.	55.6	31.6	55.6	2.270E-05	1.796E-05	1.796E-05
C	9.9	0.03	485.	0.	0.	55.6	31.6	55.6	1.825E-05	1.444E-05	1.444E-05
D	1.0	0.21	485.	0.	0.	39.2	18.0	78.4	2.174E-04	2.620E-04	2.174E-04
D	1.5	1.10	485.	0.	0.	39.2	18.0	78.4	1.473E-04	1.774E-04	1.473E-04
D	2.0	2.28	485.	0.	0.	39.2	18.0	77.9	1.127E-04	1.350E-04	1.127E-04
D	3.0	8.54	485.	0.	0.	39.2	18.0	60.4	9.715E-05	9.028E-05	9.028E-05
D	4.0	7.14	485.	0.	0.	39.2	18.0	50.5	8.749E-05	6.796E-05	6.796E-05
D	5.0	7.01	485.	0.	0.	39.2	18.0	43.9	8.063E-05	5.449E-05	5.449E-05
D	6.0	5.15	485.	0.	0.	39.2	18.0	39.2	7.545E-05	4.551E-05	4.551E-05
D	8.0	5.15	485.	0.	0.	39.2	18.0	39.2	5.674E-05	3.419E-05	3.419E-05
D	9.9	1.37	485.	0.	0.	39.2	18.0	39.2	4.562E-05	2.749E-05	2.749E-05
D	24.3	0.27	485.	0.	0.	39.2	18.0	39.2	1.858E-05	1.119E-05	1.119E-05

E	0.4	0.00	485.	0.	0.	27.9	12.7	83.6	8.570E-04	1.111E-03	8.570E-04
E	1.0	0.62	485.	0.	0.	27.9	12.7	83.6	2.917E-04	3.781E-04	2.917E-04
E	1.5	3.17	485.	0.	0.	27.9	12.7	83.6	1.976E-04	2.560E-04	1.976E-04
E	2.0	4.83	485.	0.	0.	27.9	12.7	83.6	1.504E-04	1.948E-04	1.504E-04
E	3.0	8.00	485.	0.	0.	27.9	12.7	55.9	1.503E-04	1.303E-04	1.303E-04
E	4.0	5.37	485.	0.	0.	27.9	12.7	42.1	1.503E-04	9.806E-05	9.806E-05
E	5.0	3.60	485.	0.	0.	27.9	12.7	33.8	1.503E-04	7.863E-05	7.863E-05
E	5.9	2.01	485.	0.	0.	27.9	12.7	28.2	1.503E-04	6.567E-05	6.567E-05
E	7.9	1.91	485.	0.	0.	27.9	12.7	27.9	1.142E-04	4.933E-05	4.933E-05
E	9.8	1.15	485.	0.	0.	27.9	12.7	27.9	9.182E-05	3.966E-05	3.966E-05
E	24.1	0.62	485.	0.	0.	27.9	12.7	27.9	3.740E-05	1.615E-05	1.615E-05
F	0.4	0.03	485.	0.	0.	19.2	8.0	76.9	1.474E-03	1.965E-03	1.474E-03
F	1.0	1.50	485.	0.	0.	19.2	8.0	76.9	5.018E-04	6.690E-04	5.018E-04
F	1.5	3.44	485.	0.	0.	19.2	8.0	76.9	3.398E-04	4.530E-04	3.398E-04
F	2.0	4.40	485.	0.	0.	19.2	8.0	76.9	2.586E-04	3.447E-04	2.586E-04
F	3.0	3.44	485.	0.	0.	19.2	8.0	46.3	2.871E-04	2.305E-04	2.305E-04
F	4.0	0.35	485.	0.	0.	19.2	8.0	32.4	3.093E-04	1.735E-04	1.735E-04
F	5.0	0.03	485.	0.	0.	19.2	8.0	24.5	3.277E-04	1.391E-04	1.391E-04
F	24.1	0.03	485.	0.	0.	19.2	8.0	19.2	8.576E-05	2.858E-05	2.858E-05
G	0.4	0.03	485.	0.	0.	13.3	5.1	79.7	2.253E-03	4.506E-03	2.253E-03
G	1.0	1.15	485.	0.	0.	13.3	5.1	79.7	7.671E-04	1.534E-03	7.671E-04
G	1.5	1.96	485.	0.	0.	13.3	5.1	79.7	5.195E-04	1.039E-03	5.195E-04
G	2.0	1.26	485.	0.	0.	13.3	5.1	79.7	3.953E-04	7.905E-04	3.953E-04
G	3.0	0.59	485.	0.	0.	13.3	5.1	41.3	5.092E-04	5.286E-04	5.092E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 485.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.253E-03	1.474E-03	8.570E-04	7.671E-04	5.195E-04	5.092E-04	5.018E-04	3.953E-04	3.398E-04	2.917E-04
0.030	0.062	0.065	1.219	3.179	3.769	5.272	6.534	9.970	10.587
0.00252	0.00531	0.00553	0.10386	0.27079	0.32110	0.44916	0.55664	0.84934	0.90194
2.586E-04	2.305E-04	2.174E-04	1.976E-04	1.735E-04	1.504E-04	1.473E-04	1.391E-04	1.303E-04	1.127E-04
14.989	18.425	18.640	21.807	22.156	26.988	28.089	28.115	36.115	38.396
1.27697	1.56967	1.58797	1.85780	1.88753	2.29915	2.39290	2.39519	3.07665	3.27102
9.806E-05	9.321E-05	9.028E-05	7.863E-05	7.093E-05	6.796E-05	6.567E-05	5.449E-05	5.032E-05	4.933E-05
43.765	43.845	52.381	55.978	56.408	63.548	65.561	72.567	72.594	74.500
3.72837	3.73523	4.46242	4.76885	4.80544	5.41371	5.58522	6.18207	6.18435	6.34671
4.743E-05	4.551E-05	3.966E-05	3.829E-05	3.570E-05	3.419E-05	2.862E-05	2.858E-05	2.749E-05	2.560E-05
75.788	80.942	82.096	82.150	83.653	88.807	89.746	89.773	91.142	92.565
6.45648	6.89553	6.99387	6.99844	7.12650	7.56556	7.64559	7.64788	7.76450	7.88570
2.391E-05	1.927E-05	1.796E-05	1.746E-05	1.615E-05	1.545E-05	1.444E-05	1.328E-05	1.291E-05	1.119E-05
92.887	93.450	93.773	93.799	94.417	95.222	95.249	95.303	95.517	95.786
7.91314	7.96116	7.98861	7.99089	8.04349	8.11209	8.11438	8.11895	8.13725	8.16011
9.696E-06	8.882E-06	7.796E-06	6.686E-06	5.361E-06	4.477E-06	3.363E-06			
96.108	97.020	97.128	98.363	99.141	99.705	100.000			
8.18755	8.26530	8.27445	8.37964	8.44596	8.49398	8.51913			

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

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.449
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   1.568
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   3.074
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   4.459
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   5.581
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   6.892
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   7.562
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
13	1	-6.09537	-10.32254	-1.04289
13	2	-7.59738	-12.01038	-1.68880
13	3	-8.37525	-12.72418	-2.02042
13	4	-8.94587	-12.97285	-2.15339
13	5	-9.31262	-14.28376	-2.92463
13	6	-9.63092	-15.08341	-3.42726
13	7	-9.99767	-18.70822	-5.87001
13	8	-10.28369	NUMXQ(K)= 8	

8.673E-04	0.085	1.000
6.099E-04	0.256	3.000
5.113E-04	0.426	5.000
3.421E-04	0.852	10.000
2.642E-04	1.278	15.000
2.157E-04	1.704	20.000
1.793E-04	2.130	25.000
1.534E-04	2.556	30.000
1.340E-04	2.982	35.000
1.181E-04	3.408	40.000
1.052E-04	3.834	45.000
9.465E-05	4.260	50.000
8.435E-05	4.686	55.000
7.459E-05	5.111	60.000
6.649E-05	5.537	65.000
5.870E-05	5.963	70.000
5.207E-05	6.389	75.000
4.646E-05	6.815	80.000
3.916E-05	7.241	85.000
4.715E-04	0.5	5.87

ANNUAL AVERAGE = 7.70E-06

K= 13 FIVEXQ(K)= 4.715E-04 FIVEPR(K)= 5.869

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	2.0	0.08	485.	0.	0.	97.4	117.1	97.4	1.382E-05	1.328E-05	1.328E-05
A	3.0	0.55	485.	0.	0.	97.4	117.1	97.4	9.244E-06	8.882E-06	8.882E-06
A	4.0	0.90	485.	0.	0.	97.4	117.1	97.4	6.958E-06	6.686E-06	6.686E-06
A	5.0	0.83	485.	0.	0.	97.4	117.1	97.4	5.579E-06	5.361E-06	5.361E-06
A	6.0	0.93	485.	0.	0.	97.4	117.1	97.4	4.659E-06	4.477E-06	4.477E-06
A	8.0	0.75	485.	0.	0.	97.4	117.1	97.4	3.500E-06	3.363E-06	3.363E-06
A	9.9	0.03	485.	0.	0.	97.4	117.1	97.4	2.814E-06	2.704E-06	2.704E-06
B	1.5	0.03	485.	0.	0.	73.3	49.9	73.3	5.672E-05	5.032E-05	5.032E-05
B	2.0	0.15	485.	0.	0.	73.3	49.9	73.3	4.316E-05	3.829E-05	3.829E-05
B	3.0	0.70	485.	0.	0.	73.3	49.9	73.3	2.886E-05	2.560E-05	2.560E-05
B	4.0	1.08	485.	0.	0.	73.3	49.9	73.3	2.172E-05	1.927E-05	1.927E-05
B	5.0	0.98	485.	0.	0.	73.3	49.9	73.3	1.742E-05	1.545E-05	1.545E-05
B	6.0	0.60	485.	0.	0.	73.3	49.9	73.3	1.455E-05	1.291E-05	1.291E-05
B	8.0	0.45	485.	0.	0.	73.3	49.9	73.3	1.093E-05	9.696E-06	9.696E-06
B	9.9	0.08	485.	0.	0.	73.3	49.9	73.3	8.786E-06	7.796E-06	7.796E-06
C	1.5	0.03	485.	0.	0.	55.6	31.6	55.6	1.178E-04	9.321E-05	9.321E-05
C	2.0	0.30	485.	0.	0.	55.6	31.6	55.6	8.966E-05	7.093E-05	7.093E-05
C	3.0	1.23	485.	0.	0.	55.6	31.6	55.6	5.995E-05	4.743E-05	4.743E-05
C	4.0	1.45	485.	0.	0.	55.6	31.6	55.6	4.512E-05	3.570E-05	3.570E-05
C	5.0	1.18	485.	0.	0.	55.6	31.6	55.6	3.618E-05	2.862E-05	2.862E-05
C	6.0	0.53	485.	0.	0.	55.6	31.6	55.6	3.022E-05	2.391E-05	2.391E-05
C	8.0	0.60	485.	0.	0.	55.6	31.6	55.6	2.270E-05	1.796E-05	1.796E-05
C	9.9	0.13	485.	0.	0.	55.6	31.6	55.6	1.825E-05	1.444E-05	1.444E-05
C	24.3	0.08	485.	0.	0.	55.6	31.6	55.6	7.433E-06	5.881E-06	5.881E-06
D	1.0	0.28	485.	0.	0.	39.2	18.0	78.4	2.174E-04	2.620E-04	2.174E-04
D	1.5	1.76	485.	0.	0.	39.2	18.0	78.4	1.473E-04	1.774E-04	1.473E-04
D	2.0	2.03	485.	0.	0.	39.2	18.0	77.9	1.127E-04	1.350E-04	1.127E-04
D	3.0	7.67	485.	0.	0.	39.2	18.0	60.4	9.715E-05	9.028E-05	9.028E-05
D	4.0	7.57	485.	0.	0.	39.2	18.0	50.5	8.749E-05	6.796E-05	6.796E-05
D	5.0	7.17	485.	0.	0.	39.2	18.0	43.9	8.063E-05	5.449E-05	5.449E-05
D	6.0	5.69	485.	0.	0.	39.2	18.0	39.2	7.545E-05	4.551E-05	4.551E-05
D	8.0	4.96	485.	0.	0.	39.2	18.0	39.2	5.674E-05	3.419E-05	3.419E-05
D	9.9	1.25	485.	0.	0.	39.2	18.0	39.2	4.562E-05	2.749E-05	2.749E-05
D	24.3	0.08	485.	0.	0.	39.2	18.0	39.2	1.858E-05	1.119E-05	1.119E-05

E	0.4	0.01	485.	0.	0.	27.9	12.7	83.6	8.570E-04	1.111E-03	8.570E-04
E	1.0	1.28	485.	0.	0.	27.9	12.7	83.6	2.917E-04	3.781E-04	2.917E-04
E	1.5	4.29	485.	0.	0.	27.9	12.7	83.6	1.976E-04	2.560E-04	1.976E-04
E	2.0	4.14	485.	0.	0.	27.9	12.7	83.6	1.504E-04	1.948E-04	1.504E-04
E	3.0	7.77	485.	0.	0.	27.9	12.7	55.9	1.503E-04	1.303E-04	1.303E-04
E	4.0	6.12	485.	0.	0.	27.9	12.7	42.1	1.503E-04	9.806E-05	9.806E-05
E	5.0	4.14	485.	0.	0.	27.9	12.7	33.8	1.503E-04	7.863E-05	7.863E-05
E	5.9	2.21	485.	0.	0.	27.9	12.7	28.2	1.503E-04	6.567E-05	6.567E-05
E	7.9	2.11	485.	0.	0.	27.9	12.7	27.9	1.142E-04	4.933E-05	4.933E-05
E	9.8	0.40	485.	0.	0.	27.9	12.7	27.9	9.182E-05	3.966E-05	3.966E-05
E	24.1	0.08	485.	0.	0.	27.9	12.7	27.9	3.740E-05	1.615E-05	1.615E-05
F	0.4	0.04	485.	0.	0.	19.2	8.0	76.9	1.474E-03	1.965E-03	1.474E-03
F	1.0	2.06	485.	0.	0.	19.2	8.0	76.9	5.018E-04	6.690E-04	5.018E-04
F	1.5	4.99	485.	0.	0.	19.2	8.0	76.9	3.398E-04	4.530E-04	3.398E-04
F	2.0	2.33	485.	0.	0.	19.2	8.0	76.9	2.586E-04	3.447E-04	2.586E-04
F	3.0	0.93	485.	0.	0.	19.2	8.0	46.3	2.871E-04	2.305E-04	2.305E-04
F	4.0	0.08	485.	0.	0.	19.2	8.0	32.4	3.093E-04	1.735E-04	1.735E-04
F	7.9	0.03	485.	0.	0.	19.2	8.0	19.2	2.619E-04	8.729E-05	8.729E-05
G	0.4	0.05	485.	0.	0.	13.3	5.1	79.7	2.253E-03	4.506E-03	2.253E-03
G	1.0	2.03	485.	0.	0.	13.3	5.1	79.7	7.671E-04	1.534E-03	7.671E-04
G	1.5	2.28	485.	0.	0.	13.3	5.1	79.7	5.195E-04	1.039E-03	5.195E-04
G	2.0	0.53	485.	0.	0.	13.3	5.1	79.7	3.953E-04	7.905E-04	3.953E-04
G	3.0	0.03	485.	0.	0.	13.3	5.1	41.3	5.092E-04	5.286E-04	5.092E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 485.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.253E-03	1.474E-03	8.570E-04	7.671E-04	5.195E-04	5.092E-04	5.018E-04	3.953E-04	3.398E-04	2.917E-04
0.052	0.097	0.102	2.133	4.415	4.440	6.496	7.023	12.013	13.291
0.00476	0.00883	0.00932	0.19455	0.40264	0.40493	0.59244	0.64046	1.09553	1.21215
2.586E-04	2.305E-04	2.174E-04	1.976E-04	1.735E-04	1.504E-04	1.473E-04	1.303E-04	1.127E-04	9.806E-05
15.623	16.551	16.827	21.115	21.190	25.327	27.083	34.856	36.887	43.005
1.42482	1.50943	1.53459	1.92562	1.93248	2.30980	2.46987	3.17877	3.36399	3.92196
9.321E-05	9.028E-05	8.729E-05	7.863E-05	7.093E-05	6.796E-05	6.567E-05	5.449E-05	5.032E-05	4.933E-05
43.030	50.703	50.728	54.865	55.166	62.739	64.945	72.117	72.142	74.248
3.92425	4.62400	4.62629	5.00360	5.03104	5.72164	5.92288	6.57689	6.57918	6.77127
4.743E-05	4.551E-05	3.966E-05	3.829E-05	3.570E-05	3.419E-05	2.862E-05	2.749E-05	2.560E-05	2.391E-05
75.477	81.169	81.570	81.720	83.175	88.140	89.318	90.572	91.274	91.801
6.88332	7.40241	7.43900	7.45272	7.58535	8.03813	8.14561	8.25995	8.32398	8.37200
1.927E-05	1.796E-05	1.615E-05	1.545E-05	1.444E-05	1.328E-05	1.291E-05	1.119E-05	9.696E-06	8.882E-06
92.879	93.481	93.556	94.534	94.659	94.734	95.336	95.411	95.863	96.414
8.47033	8.52521	8.53207	8.62126	8.63269	8.63955	8.69443	8.70129	8.74245	8.79276
7.796E-06	6.686E-06	5.881E-06	5.361E-06	4.477E-06	3.363E-06	2.704E-06			
96.490	97.392	97.467	98.295	99.223	99.975	100.000			
8.79962	8.88195	8.88881	8.96427	9.04888	9.11748	9.11977			

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

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

                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.194
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.592
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   1.094
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   3.176
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   4.620
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   5.919
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   7.399
                                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   8.034

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
 14  1      -6.09537 -10.23640  -1.06105
 14  2      -7.17293 -10.48342  -1.14660
 14  3      -7.59738 -11.96360  -1.73467
 14  4      -7.98712 -13.01877  -2.19497
 14  5      -8.94587 -12.88565  -2.12323
 14  6      -9.31262 -13.73133  -2.62577
 14  7      -9.63092 -14.61653  -3.19261
 14  8      -9.99767 -19.40802  -6.50455
 14  9     -10.28369     NUMXQ(K)=  9
    9.797E-04              0.091              1.000
    6.770E-04              0.274              3.000
    5.569E-04              0.456              5.000
    3.829E-04              0.912             10.000
    2.816E-04              1.368             15.000
    2.189E-04              1.824             20.000
    1.787E-04              2.280             25.000
    1.506E-04              2.736             30.000
    1.298E-04              3.192             35.000
    1.142E-04              3.648             40.000
    1.017E-04              4.104             45.000
    9.156E-05              4.560             50.000
    8.146E-05              5.016             55.000
    7.284E-05              5.472             60.000
    6.558E-05              5.928             65.000
    5.817E-05              6.384             70.000
    5.193E-05              6.840             75.000
    4.663E-05              7.296             80.000
    3.880E-05              7.752             85.000

    5.370E-04              0.5                5.48

ANNUAL AVERAGE =    8.96E-06

K= 14      FIVEXQ(K)= 5.370E-04      FIVEPR(K)= 5.483
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	3.0	1.05	485.	0.	0.	97.4	117.1	97.4	9.244E-06	8.882E-06	8.882E-06
A	4.0	1.49	485.	0.	0.	97.4	117.1	97.4	6.958E-06	6.686E-06	6.686E-06
A	5.0	2.25	485.	0.	0.	97.4	117.1	97.4	5.579E-06	5.361E-06	5.361E-06
A	6.0	0.69	485.	0.	0.	97.4	117.1	97.4	4.659E-06	4.477E-06	4.477E-06
A	8.0	0.54	485.	0.	0.	97.4	117.1	97.4	3.500E-06	3.363E-06	3.363E-06
B	1.5	0.04	485.	0.	0.	73.3	49.9	73.3	5.672E-05	5.032E-05	5.032E-05
B	2.0	0.18	485.	0.	0.	73.3	49.9	73.3	4.316E-05	3.829E-05	3.829E-05
B	3.0	1.02	485.	0.	0.	73.3	49.9	73.3	2.886E-05	2.560E-05	2.560E-05
B	4.0	1.56	485.	0.	0.	73.3	49.9	73.3	2.172E-05	1.927E-05	1.927E-05
B	5.0	1.02	485.	0.	0.	73.3	49.9	73.3	1.742E-05	1.545E-05	1.545E-05
B	6.0	0.73	485.	0.	0.	73.3	49.9	73.3	1.455E-05	1.291E-05	1.291E-05
B	8.0	0.15	485.	0.	0.	73.3	49.9	73.3	1.093E-05	9.696E-06	9.696E-06
C	1.5	0.07	485.	0.	0.	55.6	31.6	55.6	1.178E-04	9.321E-05	9.321E-05
C	2.0	0.18	485.	0.	0.	55.6	31.6	55.6	8.966E-05	7.093E-05	7.093E-05
C	3.0	1.74	485.	0.	0.	55.6	31.6	55.6	5.995E-05	4.743E-05	4.743E-05
C	4.0	1.85	485.	0.	0.	55.6	31.6	55.6	4.512E-05	3.570E-05	3.570E-05
C	5.0	1.82	485.	0.	0.	55.6	31.6	55.6	3.618E-05	2.862E-05	2.862E-05
C	6.0	0.80	485.	0.	0.	55.6	31.6	55.6	3.022E-05	2.391E-05	2.391E-05
C	8.0	0.25	485.	0.	0.	55.6	31.6	55.6	2.270E-05	1.796E-05	1.796E-05
D	1.0	0.54	485.	0.	0.	39.2	18.0	78.4	2.174E-04	2.620E-04	2.174E-04
D	1.5	2.62	485.	0.	0.	39.2	18.0	78.4	1.473E-04	1.774E-04	1.473E-04
D	2.0	4.83	485.	0.	0.	39.2	18.0	77.9	1.127E-04	1.350E-04	1.127E-04
D	3.0	11.73	485.	0.	0.	39.2	18.0	60.4	9.715E-05	9.028E-05	9.028E-05
D	4.0	10.13	485.	0.	0.	39.2	18.0	50.5	8.749E-05	6.796E-05	6.796E-05
D	5.0	7.01	485.	0.	0.	39.2	18.0	43.9	8.063E-05	5.449E-05	5.449E-05
D	6.0	2.47	485.	0.	0.	39.2	18.0	39.2	7.545E-05	4.551E-05	4.551E-05
D	8.0	1.74	485.	0.	0.	39.2	18.0	39.2	5.674E-05	3.419E-05	3.419E-05
D	9.9	0.07	485.	0.	0.	39.2	18.0	39.2	4.562E-05	2.749E-05	2.749E-05
E	0.4	0.01	485.	0.	0.	27.9	12.7	83.6	8.570E-04	1.111E-03	8.570E-04
E	1.0	1.71	485.	0.	0.	27.9	12.7	83.6	2.917E-04	3.781E-04	2.917E-04
E	1.5	4.72	485.	0.	0.	27.9	12.7	83.6	1.976E-04	2.560E-04	1.976E-04
E	2.0	6.25	485.	0.	0.	27.9	12.7	83.6	1.504E-04	1.948E-04	1.504E-04
E	3.0	6.65	485.	0.	0.	27.9	12.7	55.9	1.503E-04	1.303E-04	1.303E-04

E	4.0	4.72	485.	0.	0.	27.9	12.7	42.1	1.503E-04	9.806E-05	9.806E-05
E	5.0	2.22	485.	0.	0.	27.9	12.7	33.8	1.503E-04	7.863E-05	7.863E-05
E	5.9	0.84	485.	0.	0.	27.9	12.7	28.2	1.503E-04	6.567E-05	6.567E-05
E	7.9	0.69	485.	0.	0.	27.9	12.7	27.9	1.142E-04	4.933E-05	4.933E-05
F	0.4	0.06	485.	0.	0.	19.2	8.0	76.9	1.474E-03	1.965E-03	1.474E-03
F	1.0	2.87	485.	0.	0.	19.2	8.0	76.9	5.018E-04	6.690E-04	5.018E-04
F	1.5	4.14	485.	0.	0.	19.2	8.0	76.9	3.398E-04	4.530E-04	3.398E-04
F	2.0	1.60	485.	0.	0.	19.2	8.0	76.9	2.586E-04	3.447E-04	2.586E-04
F	3.0	0.36	485.	0.	0.	19.2	8.0	46.3	2.871E-04	2.305E-04	2.305E-04
F	4.0	0.04	485.	0.	0.	19.2	8.0	32.4	3.093E-04	1.735E-04	1.735E-04
G	0.4	0.07	485.	0.	0.	13.3	5.1	79.7	2.253E-03	4.506E-03	2.253E-03
G	1.0	2.80	485.	0.	0.	13.3	5.1	79.7	7.671E-04	1.534E-03	7.671E-04
G	1.5	1.42	485.	0.	0.	13.3	5.1	79.7	5.195E-04	1.039E-03	5.195E-04
G	2.0	0.18	485.	0.	0.	13.3	5.1	79.7	3.953E-04	7.905E-04	3.953E-04
G	3.0	0.07	485.	0.	0.	13.3	5.1	41.3	5.092E-04	5.286E-04	5.092E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 485.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.253E-03	1.474E-03	8.570E-04	7.671E-04	5.195E-04	5.092E-04	5.018E-04	3.953E-04	3.398E-04	2.917E-04
0.072	0.134	0.141	2.938	4.355	4.428	7.297	7.479	11.620	13.327
0.00452	0.00845	0.00890	0.18498	0.27416	0.27873	0.45939	0.47082	0.73151	0.83899
2.586E-04	2.305E-04	2.174E-04	1.976E-04	1.735E-04	1.504E-04	1.473E-04	1.303E-04	1.127E-04	9.806E-05
14.926	15.289	15.834	20.556	20.593	26.841	29.456	36.104	40.935	45.657
0.93961	0.96247	0.99678	1.29406	1.29634	1.68966	1.85431	2.27279	2.57693	2.87421
9.321E-05	9.028E-05	7.863E-05	7.093E-05	6.796E-05	6.567E-05	5.449E-05	5.032E-05	4.933E-05	4.743E-05
45.730	57.463	59.679	59.860	69.995	70.831	77.841	77.878	78.568	80.312
2.87878	3.61740	3.75690	3.76833	4.40634	4.45893	4.90028	4.90256	4.94601	5.05578
4.551E-05	3.829E-05	3.570E-05	3.419E-05	2.862E-05	2.749E-05	2.560E-05	2.391E-05	1.927E-05	1.796E-05
82.782	82.963	84.816	86.560	88.376	88.448	89.466	90.265	91.827	92.081
5.21127	5.22271	5.33933	5.44910	5.56344	5.56801	5.63204	5.68235	5.78068	5.79668
1.545E-05	1.291E-05	9.696E-06	8.882E-06	6.686E-06	5.361E-06	4.477E-06	3.363E-06		
93.098	93.825	93.970	95.023	96.513	98.765	99.455	100.000		
5.86071	5.90645	5.91560	5.98191	6.07567	6.21745	6.26090	6.29520		

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.185
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.459
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.731
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.270
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.614
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.403
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.897
```

```
 K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
15  1      -6.09537 -10.26415  -1.06482
15  2      -7.17293 -11.31265  -1.42599
15  3      -7.59738 -13.80570  -2.38288
15  4      -7.98712 -13.29595  -2.17412
15  5      -8.94587 -12.55138  -1.80199
15  6      -9.31262 -14.88633  -3.10112
15  7      -9.59663 -17.01813  -4.35089
15  8      -9.81756     NUMXQ(K)=  8
   1.081E-03              0.063              1.000
   7.600E-04              0.189              3.000
   6.014E-04              0.315              5.000
   3.862E-04              0.630             10.000
   2.772E-04              0.944             15.000
   2.187E-04              1.259             20.000
   1.807E-04              1.574             25.000
   1.540E-04              1.889             30.000
   1.340E-04              2.203             35.000
   1.204E-04              2.518             40.000
   1.099E-04              2.833             45.000
   1.011E-04              3.148             50.000
   9.357E-05              3.462             55.000
   8.491E-05              3.777             60.000
   7.569E-05              4.092             65.000
   6.795E-05              4.407             70.000
   5.890E-05              4.721             75.000

   4.681E-04              0.5                7.94

ANNUAL AVERAGE =    6.71E-06

K= 15     FIVEXQ(K)= 4.681E-04     FIVEPR(K)= 7.943
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	2.0	0.12	485.	0.	0.	97.4	117.1	97.4	1.382E-05	1.328E-05	1.328E-05
A	3.0	0.56	485.	0.	0.	97.4	117.1	97.4	9.244E-06	8.882E-06	8.882E-06
A	4.0	1.98	485.	0.	0.	97.4	117.1	97.4	6.958E-06	6.686E-06	6.686E-06
A	5.0	2.34	485.	0.	0.	97.4	117.1	97.4	5.579E-06	5.361E-06	5.361E-06
A	6.0	0.77	485.	0.	0.	97.4	117.1	97.4	4.659E-06	4.477E-06	4.477E-06
A	8.0	0.32	485.	0.	0.	97.4	117.1	97.4	3.500E-06	3.363E-06	3.363E-06
B	1.0	0.04	485.	0.	0.	73.3	49.9	73.3	8.375E-05	7.431E-05	7.431E-05
B	1.5	0.04	485.	0.	0.	73.3	49.9	73.3	5.672E-05	5.032E-05	5.032E-05
B	2.0	0.04	485.	0.	0.	73.3	49.9	73.3	4.316E-05	3.829E-05	3.829E-05
B	3.0	1.09	485.	0.	0.	73.3	49.9	73.3	2.886E-05	2.560E-05	2.560E-05
B	4.0	1.25	485.	0.	0.	73.3	49.9	73.3	2.172E-05	1.927E-05	1.927E-05
B	5.0	1.33	485.	0.	0.	73.3	49.9	73.3	1.742E-05	1.545E-05	1.545E-05
B	6.0	0.69	485.	0.	0.	73.3	49.9	73.3	1.455E-05	1.291E-05	1.291E-05
B	8.0	0.28	485.	0.	0.	73.3	49.9	73.3	1.093E-05	9.696E-06	9.696E-06
C	2.0	0.36	485.	0.	0.	55.6	31.6	55.6	8.966E-05	7.093E-05	7.093E-05
C	3.0	1.13	485.	0.	0.	55.6	31.6	55.6	5.995E-05	4.743E-05	4.743E-05
C	4.0	1.65	485.	0.	0.	55.6	31.6	55.6	4.512E-05	3.570E-05	3.570E-05
C	5.0	1.33	485.	0.	0.	55.6	31.6	55.6	3.618E-05	2.862E-05	2.862E-05
C	6.0	0.48	485.	0.	0.	55.6	31.6	55.6	3.022E-05	2.391E-05	2.391E-05
C	8.0	0.32	485.	0.	0.	55.6	31.6	55.6	2.270E-05	1.796E-05	1.796E-05
D	1.0	0.65	485.	0.	0.	39.2	18.0	78.4	2.174E-04	2.620E-04	2.174E-04
D	1.5	1.57	485.	0.	0.	39.2	18.0	78.4	1.473E-04	1.774E-04	1.473E-04
D	2.0	3.67	485.	0.	0.	39.2	18.0	77.9	1.127E-04	1.350E-04	1.127E-04
D	3.0	11.14	485.	0.	0.	39.2	18.0	60.4	9.715E-05	9.028E-05	9.028E-05
D	4.0	8.60	485.	0.	0.	39.2	18.0	50.5	8.749E-05	6.796E-05	6.796E-05
D	5.0	8.35	485.	0.	0.	39.2	18.0	43.9	8.063E-05	5.449E-05	5.449E-05
D	6.0	5.61	485.	0.	0.	39.2	18.0	39.2	7.545E-05	4.551E-05	4.551E-05
D	8.0	3.59	485.	0.	0.	39.2	18.0	39.2	5.674E-05	3.419E-05	3.419E-05
D	9.9	0.85	485.	0.	0.	39.2	18.0	39.2	4.562E-05	2.749E-05	2.749E-05
D	24.3	0.12	485.	0.	0.	39.2	18.0	39.2	1.858E-05	1.119E-05	1.119E-05
E	0.4	0.01	485.	0.	0.	27.9	12.7	83.6	8.570E-04	1.111E-03	8.570E-04
E	1.0	1.49	485.	0.	0.	27.9	12.7	83.6	2.917E-04	3.781E-04	2.917E-04
E	1.5	3.31	485.	0.	0.	27.9	12.7	83.6	1.976E-04	2.560E-04	1.976E-04

E	2.0	3.59	485.	0.	0.	27.9	12.7	83.6	1.504E-04	1.948E-04	1.504E-04
E	3.0	8.68	485.	0.	0.	27.9	12.7	55.9	1.503E-04	1.303E-04	1.303E-04
E	4.0	6.17	485.	0.	0.	27.9	12.7	42.1	1.503E-04	9.806E-05	9.806E-05
E	5.0	3.43	485.	0.	0.	27.9	12.7	33.8	1.503E-04	7.863E-05	7.863E-05
E	5.9	1.21	485.	0.	0.	27.9	12.7	28.2	1.503E-04	6.567E-05	6.567E-05
E	7.9	0.93	485.	0.	0.	27.9	12.7	27.9	1.142E-04	4.933E-05	4.933E-05
E	24.1	0.08	485.	0.	0.	27.9	12.7	27.9	3.740E-05	1.615E-05	1.615E-05
F	0.4	0.05	485.	0.	0.	19.2	8.0	76.9	1.474E-03	1.965E-03	1.474E-03
F	1.0	2.10	485.	0.	0.	19.2	8.0	76.9	5.018E-04	6.690E-04	5.018E-04
F	1.5	2.74	485.	0.	0.	19.2	8.0	76.9	3.398E-04	4.530E-04	3.398E-04
F	2.0	1.13	485.	0.	0.	19.2	8.0	76.9	2.586E-04	3.447E-04	2.586E-04
F	3.0	0.48	485.	0.	0.	19.2	8.0	46.3	2.871E-04	2.305E-04	2.305E-04
F	5.0	0.04	485.	0.	0.	19.2	8.0	24.5	3.277E-04	1.391E-04	1.391E-04
G	0.4	0.07	485.	0.	0.	13.3	5.1	79.7	2.253E-03	4.506E-03	2.253E-03
G	1.0	2.66	485.	0.	0.	13.3	5.1	79.7	7.671E-04	1.534E-03	7.671E-04
G	1.5	1.13	485.	0.	0.	13.3	5.1	79.7	5.195E-04	1.039E-03	5.195E-04
G	2.0	0.36	485.	0.	0.	13.3	5.1	79.7	3.953E-04	7.905E-04	3.953E-04
G	3.0	0.04	485.	0.	0.	13.3	5.1	41.3	5.092E-04	5.286E-04	5.092E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

SITE EXCLUSION BOUNDARY CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 485.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.253E-03	1.474E-03	8.570E-04	7.671E-04	5.195E-04	5.092E-04	5.018E-04	3.953E-04	3.398E-04	2.917E-04
0.068	0.114	0.120	2.784	3.914	3.954	6.052	6.416	9.160	10.653
0.00388	0.00646	0.00681	0.15774	0.22177	0.22405	0.34297	0.36355	0.51905	0.60366
2.586E-04	2.305E-04	2.174E-04	1.976E-04	1.504E-04	1.473E-04	1.391E-04	1.303E-04	1.127E-04	9.806E-05
11.783	12.267	12.913	16.222	19.814	21.388	21.428	30.104	33.777	39.951
0.66769	0.69513	0.73172	0.91923	1.12275	1.21194	1.21422	1.70588	1.91397	2.26384
9.028E-05	7.863E-05	7.431E-05	7.093E-05	6.796E-05	6.567E-05	5.449E-05	5.032E-05	4.933E-05	4.743E-05
51.089	54.519	54.560	54.923	63.519	64.729	73.083	73.123	74.051	75.181
2.89499	3.08936	3.09165	3.11223	3.59931	3.66791	4.14127	4.14356	4.19616	4.26019
4.551E-05	3.829E-05	3.570E-05	3.419E-05	2.862E-05	2.749E-05	2.560E-05	2.391E-05	1.927E-05	1.796E-05
80.791	80.831	82.486	86.077	87.409	88.257	89.346	89.830	91.081	91.404
4.57804	4.58033	4.67409	4.87761	4.95307	5.00110	5.06284	5.09028	5.16117	5.17946
1.615E-05	1.545E-05	1.328E-05	1.291E-05	1.119E-05	9.696E-06	8.882E-06	6.686E-06	5.361E-06	4.477E-06
91.485	92.817	92.938	93.624	93.745	94.027	94.592	96.570	98.910	99.677
5.18404	5.25950	5.26636	5.30523	5.31210	5.32810	5.36012	5.47217	5.60480	5.64825
3.363E-06									
100.000									
5.66654									

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.158
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.343
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.918
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.892
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.596
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.138
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.574

 K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
16  1      -6.09537 -10.35618  -1.07813
16  2      -7.17293 -12.21438  -1.70748
16  3      -7.59738 -14.88569  -2.69540
16  4      -8.52936 -12.53315  -1.69780
16  5      -9.31262 -14.85114  -2.91981
16  6      -9.59663 -15.74186  -3.41476
16  7      -9.81756 -16.42147  -3.80649
16  8      -9.99767     NUMXQ(K)=  8
   1.063E-03              0.057              1.000
   7.373E-04              0.170              3.000
   5.586E-04              0.283              5.000
   3.162E-04              0.567             10.000
   2.136E-04              0.850             15.000
   1.729E-04              1.133             20.000
   1.493E-04              1.417             25.000
   1.320E-04              1.700             30.000
   1.186E-04              1.983             35.000
   1.079E-04              2.267             40.000
   9.912E-05              2.550             45.000
   9.173E-05              2.833             50.000
   8.210E-05              3.117             55.000
   7.328E-05              3.400             60.000
   6.556E-05              3.683             65.000
   5.835E-05              3.967             70.000
   5.203E-05              4.250             75.000
   4.632E-05              4.533             80.000

   3.556E-04              0.5                8.82

ANNUAL AVERAGE =   5.29E-06

K= 16     FIVEXQ(K)= 3.556E-04     FIVEPR(K)= 8.824
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.5	0.03	485.	0.	0.	97.4	117.1	97.4	1.817E-05	1.746E-05	1.746E-05
A	2.0	0.26	485.	0.	0.	97.4	117.1	97.4	1.382E-05	1.328E-05	1.328E-05
A	3.0	1.20	485.	0.	0.	97.4	117.1	97.4	9.244E-06	8.882E-06	8.882E-06
A	4.0	1.24	485.	0.	0.	97.4	117.1	97.4	6.958E-06	6.686E-06	6.686E-06
A	5.0	1.06	485.	0.	0.	97.4	117.1	97.4	5.579E-06	5.361E-06	5.361E-06
A	6.0	0.51	485.	0.	0.	97.4	117.1	97.4	4.659E-06	4.477E-06	4.477E-06
A	8.0	0.34	485.	0.	0.	97.4	117.1	97.4	3.500E-06	3.363E-06	3.363E-06
A	9.9	0.03	485.	0.	0.	97.4	117.1	97.4	2.814E-06	2.704E-06	2.704E-06
A	24.3	0.03	485.	0.	0.	97.4	117.1	97.4	1.146E-06	1.101E-06	1.101E-06
B	1.0	0.00	485.	0.	0.	73.3	49.9	73.3	8.375E-05	7.431E-05	7.431E-05
B	1.5	0.07	485.	0.	0.	73.3	49.9	73.3	5.672E-05	5.032E-05	5.032E-05
B	2.0	0.27	485.	0.	0.	73.3	49.9	73.3	4.316E-05	3.829E-05	3.829E-05
B	3.0	1.00	485.	0.	0.	73.3	49.9	73.3	2.886E-05	2.560E-05	2.560E-05
B	4.0	0.87	485.	0.	0.	73.3	49.9	73.3	2.172E-05	1.927E-05	1.927E-05
B	5.0	0.70	485.	0.	0.	73.3	49.9	73.3	1.742E-05	1.545E-05	1.545E-05
B	6.0	0.40	485.	0.	0.	73.3	49.9	73.3	1.455E-05	1.291E-05	1.291E-05
B	8.0	0.25	485.	0.	0.	73.3	49.9	73.3	1.093E-05	9.696E-06	9.696E-06
B	9.9	0.04	485.	0.	0.	73.3	49.9	73.3	8.786E-06	7.796E-06	7.796E-06
B	24.3	0.01	485.	0.	0.	73.3	49.9	73.3	3.578E-06	3.175E-06	3.175E-06
C	1.0	0.01	485.	0.	0.	55.6	31.6	55.6	1.740E-04	1.376E-04	1.376E-04
C	1.5	0.13	485.	0.	0.	55.6	31.6	55.6	1.178E-04	9.321E-05	9.321E-05
C	2.0	0.50	485.	0.	0.	55.6	31.6	55.6	8.966E-05	7.093E-05	7.093E-05
C	3.0	1.29	485.	0.	0.	55.6	31.6	55.6	5.995E-05	4.743E-05	4.743E-05
C	4.0	1.19	485.	0.	0.	55.6	31.6	55.6	4.512E-05	3.570E-05	3.570E-05
C	5.0	0.88	485.	0.	0.	55.6	31.6	55.6	3.618E-05	2.862E-05	2.862E-05
C	6.0	0.49	485.	0.	0.	55.6	31.6	55.6	3.022E-05	2.391E-05	2.391E-05
C	8.0	0.35	485.	0.	0.	55.6	31.6	55.6	2.270E-05	1.796E-05	1.796E-05
C	9.9	0.05	485.	0.	0.	55.6	31.6	55.6	1.825E-05	1.444E-05	1.444E-05
C	24.3	0.02	485.	0.	0.	55.6	31.6	55.6	7.433E-06	5.881E-06	5.881E-06
D	1.0	0.42	485.	0.	0.	39.2	18.0	39.2	4.349E-04	2.620E-04	2.620E-04
D	1.5	1.85	485.	0.	0.	39.2	18.0	39.2	2.945E-04	1.774E-04	1.774E-04
D	2.0	3.20	485.	0.	0.	39.2	18.0	39.2	2.241E-04	1.350E-04	1.350E-04
D	3.0	8.25	485.	0.	0.	39.2	18.0	39.2	1.498E-04	9.028E-05	9.028E-05
D	4.0	7.24	485.	0.	0.	39.2	18.0	39.2	1.128E-04	6.796E-05	6.796E-05

D	5.0	6.01	485.	0.	0.	39.2	18.0	39.2	9.044E-05	5.449E-05	5.449E-05
D	6.0	4.15	485.	0.	0.	39.2	18.0	39.2	7.553E-05	4.551E-05	4.551E-05
D	8.0	3.43	485.	0.	0.	39.2	18.0	39.2	5.674E-05	3.419E-05	3.419E-05
D	9.9	0.87	485.	0.	0.	39.2	18.0	39.2	4.562E-05	2.749E-05	2.749E-05
D	24.3	0.15	485.	0.	0.	39.2	18.0	39.2	1.858E-05	1.119E-05	1.119E-05
E	0.4	0.01	485.	0.	0.	27.9	12.7	27.9	2.571E-03	1.111E-03	1.111E-03
E	1.0	1.65	485.	0.	0.	27.9	12.7	27.9	8.752E-04	3.781E-04	3.781E-04
E	1.5	3.96	485.	0.	0.	27.9	12.7	27.9	5.927E-04	2.560E-04	2.560E-04
E	2.0	4.85	485.	0.	0.	27.9	12.7	27.9	4.511E-04	1.948E-04	1.948E-04
E	3.0	9.56	485.	0.	0.	27.9	12.7	27.9	3.016E-04	1.303E-04	1.303E-04
E	4.0	7.23	485.	0.	0.	27.9	12.7	27.9	2.270E-04	9.806E-05	9.806E-05
E	5.0	4.72	485.	0.	0.	27.9	12.7	27.9	1.820E-04	7.863E-05	7.863E-05
E	5.9	2.72	485.	0.	0.	27.9	12.7	27.9	1.520E-04	6.567E-05	6.567E-05
E	7.9	2.33	485.	0.	0.	27.9	12.7	27.9	1.142E-04	4.933E-05	4.933E-05
E	9.8	0.61	485.	0.	0.	27.9	12.7	27.9	9.182E-05	3.966E-05	3.966E-05
E	24.1	0.20	485.	0.	0.	27.9	12.7	27.9	3.740E-05	1.615E-05	1.615E-05
F	0.4	0.05	485.	0.	0.	19.2	8.0	19.2	5.896E-03	1.965E-03	1.965E-03
F	1.0	2.10	485.	0.	0.	19.2	8.0	19.2	2.007E-03	6.690E-04	6.690E-04
F	1.5	2.76	485.	0.	0.	19.2	8.0	19.2	1.359E-03	4.530E-04	4.530E-04
F	2.0	2.07	485.	0.	0.	19.2	8.0	19.2	1.034E-03	3.447E-04	3.447E-04
F	3.0	1.90	485.	0.	0.	19.2	8.0	19.2	6.916E-04	2.305E-04	2.305E-04
F	4.0	0.49	485.	0.	0.	19.2	8.0	19.2	5.206E-04	1.735E-04	1.735E-04
F	5.0	0.16	485.	0.	0.	19.2	8.0	19.2	4.174E-04	1.391E-04	1.391E-04
F	5.9	0.02	485.	0.	0.	19.2	8.0	19.2	3.486E-04	1.162E-04	1.162E-04
F	7.9	0.01	485.	0.	0.	19.2	8.0	19.2	2.619E-04	8.729E-05	8.729E-05
F	9.8	0.03	485.	0.	0.	19.2	8.0	19.2	2.106E-04	7.018E-05	7.018E-05
F	24.1	0.04	485.	0.	0.	19.2	8.0	19.2	8.576E-05	2.858E-05	2.858E-05
G	0.4	0.04	485.	0.	0.	13.3	5.1	13.3	1.352E-02	4.506E-03	4.506E-03
G	1.0	1.69	485.	0.	0.	13.3	5.1	13.3	4.602E-03	1.534E-03	1.534E-03
G	1.5	1.11	485.	0.	0.	13.3	5.1	13.3	3.117E-03	1.039E-03	1.039E-03
G	2.0	0.48	485.	0.	0.	13.3	5.1	13.3	2.372E-03	7.905E-04	7.905E-04
G	3.0	0.37	485.	0.	0.	13.3	5.1	13.3	1.586E-03	5.286E-04	5.286E-04
G	4.0	0.03	485.	0.	0.	13.3	5.1	13.3	1.194E-03	3.979E-04	3.979E-04
G	5.0	0.01	485.	0.	0.	13.3	5.1	13.3	9.571E-04	3.190E-04	3.190E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:
DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.
MINIMUM BOUNDARY DISTANCE = 485.0 METERS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.506E-03	1.965E-03	1.534E-03	1.111E-03	1.039E-03	7.905E-04	6.690E-04	5.286E-04	4.530E-04	3.979E-04
0.043	0.089	1.781	1.788	2.897	3.380	5.484	5.856	8.619	8.649
0.04345	0.08918	1.78139	1.78825	2.89732	3.37983	5.48365	5.85639	8.61880	8.64853
3.781E-04	3.447E-04	3.190E-04	2.620E-04	2.560E-04	2.305E-04	1.948E-04	1.774E-04	1.735E-04	1.391E-04
10.295	12.367	12.374	12.792	16.751	18.649	23.499	25.351	25.840	25.996
10.29499	12.36680	12.37366	12.79213	16.75051	18.64853	23.49874	25.35102	25.84038	25.99588
1.376E-04	1.350E-04	1.303E-04	1.162E-04	9.806E-05	9.321E-05	9.028E-05	8.729E-05	7.863E-05	7.431E-05
26.005	29.202	38.765	38.788	46.021	46.149	54.397	54.404	59.120	59.124
26.00503	29.20192	38.76515	38.78802	46.02104	46.14910	54.39744	54.40430	59.11960	59.12417
7.093E-05	7.018E-05	6.796E-05	6.567E-05	5.449E-05	5.032E-05	4.933E-05	4.743E-05	4.551E-05	3.966E-05
59.627	59.655	66.892	69.611	75.625	75.694	78.024	79.319	83.471	84.084
59.62726	59.65470	66.89230	69.61125	75.62543	75.69403	78.02424	79.31854	83.47129	84.08414
3.829E-05	3.570E-05	3.419E-05	2.862E-05	2.858E-05	2.749E-05	2.560E-05	2.391E-05	1.927E-05	1.796E-05
84.349	85.541	88.976	89.858	89.899	90.766	91.768	92.262	93.135	93.490
84.34941	85.54081	88.97552	89.85822	89.89938	90.76606	91.76766	92.26160	93.13515	93.48959
1.746E-05	1.615E-05	1.545E-05	1.444E-05	1.328E-05	1.291E-05	1.119E-05	9.696E-06	8.882E-06	7.796E-06
93.524	93.727	94.423	94.471	94.729	95.134	95.280	95.534	96.730	96.767
93.52390	93.72742	94.42259	94.47061	94.72902	95.13377	95.28013	95.53396	96.72993	96.76653
6.686E-06	5.881E-06	5.361E-06	4.477E-06	3.363E-06	3.175E-06	2.704E-06	1.101E-06		
98.006	98.029	99.088	99.598	99.936	99.945	99.973	100.000		
98.00595	98.02882	99.08759	99.59753	99.93597	99.94512	99.97256	100.00000		

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q SEC/CUBIC METER	WITH RESPECT TO THE TOTAL TIME	WHEN THE WIND BLOWS INTO THIS SECTOR ONLY
1.869E-03	1.000	1.000
1.083E-03	3.000	3.000
7.458E-04	5.000	5.000
4.199E-04	10.000	10.000
2.943E-04	15.000	15.000
2.278E-04	20.000	20.000
1.864E-04	25.000	25.000
1.623E-04	30.000	30.000
1.428E-04	35.000	35.000
1.265E-04	40.000	40.000
1.123E-04	45.000	45.000
1.000E-04	50.000	50.000
8.920E-05	55.000	55.000
8.064E-05	60.000	60.000
7.266E-05	65.000	65.000
6.509E-05	70.000	70.000
5.774E-05	75.000	75.000
5.053E-05	80.000	80.000
4.235E-05	85.000	85.000
7.458E-04	5.0	5.00

K= 17 FIVEXQ(K)= 7.458E-04 FIVEPR(K)= 5.000

ERROR IN NORMAL TRANSFORMATION FOR A(68)= 100.00000
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(3)= 12.365

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

SITE EXCLUSION BOUNDARY CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

2.253E-03	1.474E-03	8.570E-04	7.671E-04	5.195E-04	5.092E-04	5.018E-04	3.979E-04	3.953E-04	3.398E-04
0.043	0.089	0.096	1.788	2.897	3.270	5.374	5.404	5.886	8.649
0.04345	0.08918	0.09604	1.78825	2.89732	3.27007	5.37388	5.40361	5.88612	8.64852
3.190E-04	2.917E-04	2.586E-04	2.305E-04	2.174E-04	1.976E-04	1.735E-04	1.504E-04	1.473E-04	1.391E-04
8.655	10.302	12.374	14.272	14.690	18.649	19.138	23.988	25.840	25.996
8.65538	10.30185	12.37366	14.27167	14.69014	18.64852	19.13789	23.98811	25.84038	25.99588
1.376E-04	1.303E-04	1.162E-04	1.127E-04	9.806E-05	9.321E-05	9.028E-05	8.729E-05	7.863E-05	7.431E-05
26.005	35.568	35.591	38.788	46.021	46.149	54.397	54.404	59.120	59.124
26.00503	35.56825	35.59112	38.78801	46.02103	46.14908	54.39742	54.40428	59.11958	59.12415
7.093E-05	7.018E-05	6.796E-05	6.567E-05	5.449E-05	5.032E-05	4.933E-05	4.743E-05	4.551E-05	3.966E-05
59.627	59.655	66.892	69.611	75.625	75.694	78.024	79.319	83.471	84.084
59.62723	59.65467	66.89227	69.61122	75.62541	75.69402	78.02424	79.31854	83.47129	84.08414
3.829E-05	3.570E-05	3.419E-05	2.862E-05	2.858E-05	2.749E-05	2.560E-05	2.391E-05	1.927E-05	1.796E-05
84.349	85.541	88.976	89.858	89.899	90.766	91.768	92.262	93.135	93.490
84.34940	85.54082	88.97552	89.85822	89.89938	90.76606	91.76765	92.26160	93.13514	93.48959
1.746E-05	1.615E-05	1.545E-05	1.444E-05	1.328E-05	1.291E-05	1.119E-05	9.696E-06	8.882E-06	7.796E-06
93.524	93.727	94.423	94.471	94.729	95.134	95.280	95.534	96.730	96.767
93.52389	93.72740	94.42257	94.47060	94.72899	95.13375	95.28010	95.53393	96.72990	96.76649
6.686E-06	5.881E-06	5.361E-06	4.477E-06	3.363E-06	3.175E-06	2.704E-06	1.101E-06		
98.006	98.029	99.088	99.598	99.936	99.945	99.973	100.000		
98.00592	98.02879	99.08754	99.59749	99.93593	99.94508	99.97251	99.99995		

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED
CHI/Q WITH RESPECT TO 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)= 18.652

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
18	1	-6.09537	-9.00325	-0.87322
18	2	-7.59738	-9.68374	-1.29589
18	3	-8.52936	-9.24120	-0.79911
18	4	-8.94587	-9.22838	-0.76442
18	5	-9.31262	-9.22551	-0.79051
18	6	-9.63092	-9.22209	-0.79718
18	7	-9.99767	-8.89545	-1.13291
18	8	-10.28369	NUMXQ(K)= 8	

9.383E-04	1.000	1.000
6.359E-04	3.000	3.000
5.174E-04	5.000	5.000
3.279E-04	10.000	10.000
2.386E-04	15.000	15.000
1.899E-04	20.000	20.000
1.662E-04	25.000	25.000
1.474E-04	30.000	30.000
1.319E-04	35.000	35.000
1.192E-04	40.000	40.000
1.081E-04	45.000	45.000
9.821E-05	50.000	50.000
8.920E-05	55.000	55.000
8.064E-05	60.000	60.000
7.266E-05	65.000	65.000
6.509E-05	70.000	70.000
5.774E-05	75.000	75.000
5.053E-05	80.000	80.000
4.235E-05	85.000	85.000
5.174E-04	5.0	5.00

K= 18 FIVEXQ(K)= 5.174E-04 FIVEPR(K)= 5.000

K	HIGHPR	PR	GRNDVT(K)
1	-2.81988	0.24021	4.22800
2	-1.75742	3.94233	5.26942
3	-2.79697	0.25793	6.10231
4	-2.67341	0.37542	5.98233
5	-2.57624	0.49942	5.25961
6	-2.79281	0.26127	4.65728
7	-2.99900	0.13544	4.98165
8	-3.13939	0.08466	6.51959
9	-3.19979	0.06877	6.53955
10	-3.17950	0.07377	7.74017

11	-3.12734	0.08820	5.87912
12	-2.76312	0.28626	7.24032
13	-2.73655	0.31044	8.51913
14	-2.62932	0.42779	9.11977
15	-2.69567	0.35124	6.29520
16	-2.77938	0.27232	5.66654

K	HOURS(K)	TOTHRS
1	21.04263	21.04263
2	345.34800	366.39060
3	22.59442	388.98500
4	32.88678	421.87180
5	43.74879	465.62060
6	22.88734	488.50790
7	11.86451	500.37240
8	7.41591	507.78830
9	6.02441	513.81270
10	6.46249	520.27520
11	7.72658	528.00180
12	25.07666	553.07840
13	27.19497	580.27340
14	37.47427	617.74760
15	30.76847	648.51610
16	23.85486	672.37100

K	FIVEXQ	SVANN	SLTIME	TIMINT	I	TIME	XQT
1	3.377E-04	4.555E-06	-0.5135	-7.6374			
					1	8.0	-8.70527
					2	16.0	-9.06123
					3	72.0	-9.83362
					4	624.0	-10.94259
2	3.020E-04	4.650E-06	-0.4977	-7.7601			
					1	8.0	-8.79515
					2	16.0	-9.14016
					3	72.0	-9.88881
					4	624.0	-10.96367
3	3.794E-04	5.897E-06	-0.4966	-7.5326			
					1	8.0	-8.56532
					2	16.0	-8.90955
					3	72.0	-9.65651
					4	624.0	-10.72895
4	4.962E-04	7.880E-06	-0.4941	-7.2661			
					1	8.0	-8.29349
					2	16.0	-8.63594
					3	72.0	-9.37903
					4	624.0	-10.44592
5	5.707E-04	8.804E-06	-0.4975	-7.1238			
					1	8.0	-8.15833
					2	16.0	-8.50318
					3	72.0	-9.25147
					4	624.0	-10.32583

```
 6 4.306E-04 6.280E-06   -0.5042   -7.4007
                                     1    8.0    -8.44923
                                     2   16.0    -8.79873
                                     3   72.0    -9.55711
                                     4  624.0   -10.64596
 7 2.922E-04 4.500E-06   -0.4977   -7.7932
                                     1    8.0    -8.82813
                                     2   16.0    -9.17311
                                     3   72.0    -9.92171
                                     4  624.0   -10.99650
 8 2.294E-04 4.280E-06   -0.4748   -8.0508
                                     1    8.0    -9.03825
                                     2   16.0    -9.36739
                                     3   72.0   -10.08160
                                     4  624.0   -11.10703
 9 1.886E-04 3.427E-06   -0.4780   -8.2445
                                     1    8.0    -9.23849
                                     2   16.0    -9.56981
                                     3   72.0   -10.28875
                                     4  624.0   -11.32097
10 2.142E-04 3.939E-06   -0.4766   -8.1181
                                     1    8.0    -9.10917
                                     2   16.0    -9.43952
                                     3   72.0   -10.15633
                                     4  624.0   -11.18551
11 2.046E-04 3.502E-06   -0.4851   -8.1580
                                     1    8.0    -9.16683
                                     2   16.0    -9.50309
                                     3   72.0   -10.23276
                                     4  624.0   -11.28038
12 4.637E-04 6.082E-06   -0.5169   -7.3180
                                     1    8.0    -8.39277
                                     2   16.0    -8.75104
                                     3   72.0    -9.52845
                                     4  624.0   -10.64462
13 4.715E-04 7.700E-06   -0.4907   -7.3195
                                     1    8.0    -8.33990
                                     2   16.0    -8.68004
                                     3   72.0    -9.41811
                                     4  624.0   -10.47780
14 5.370E-04 8.960E-06   -0.4882   -7.1911
                                     1    8.0    -8.20623
                                     2   16.0    -8.54460
                                     3   72.0    -9.27884
                                     4  624.0   -10.33302
15 4.681E-04 6.713E-06   -0.5062   -7.3160
                                     1    8.0    -8.36861
                                     2   16.0    -8.71949
                                     3   72.0    -9.48087
                                     4  624.0   -10.57402
16 3.556E-04 5.289E-06   -0.5019   -7.5938
```

```
                                        1    8.0    -8.63744
                                        2   16.0    -8.98531
                                        3   72.0    -9.74016
                                        4  624.0   -10.82395
17 7.458E-04 8.960E-06   -0.5273   -6.8356
                                        1    8.0    -7.93213
                                        2   16.0    -8.29764
                                        3   72.0    -9.09078
                                        4  624.0   -10.22954
18 5.174E-04 8.960E-06   -0.4837   -7.2313
                                        1    8.0    -8.23722
                                        2   16.0    -8.57252
                                        3   72.0    -9.30009
                                        4  624.0   -10.34471
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

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

DOWNWIND SECTOR	DISTANCE (METERS)	0-2 HOURS	0-8 HOURS	8-24 HOURS	1-4 DAYS	4-30 DAYS	ANNUAL AVERAGE	HOURS PER YEAR MAX 0-2 HR X/Q IS EXCEEDED IN SECTOR	DOWNWIND SECTOR
S	485.	3.38E-04	1.66E-04	1.16E-04	5.36E-05	1.77E-05	4.55E-06	21.0	S
SSW	485.	3.02E-04	1.51E-04	1.07E-04	5.07E-05	1.73E-05	4.65E-06	345.3	SSW
SW	485.	3.79E-04	1.91E-04	1.35E-04	6.40E-05	2.19E-05	5.90E-06	22.6	SW
WSW	485.	4.96E-04	2.50E-04	1.78E-04	8.45E-05	2.91E-05	7.88E-06	32.9	WSW
W	485.	5.71E-04	2.86E-04	2.03E-04	9.60E-05	3.28E-05	8.80E-06	43.7	W
WNW	485.	4.31E-04	2.14E-04	1.51E-04	7.07E-05	2.38E-05	6.28E-06	22.9	WNW
NW	485.	2.92E-04	1.47E-04	1.04E-04	4.91E-05	1.68E-05	4.50E-06	11.9	NW
NNW	485.	2.29E-04	1.19E-04	8.55E-05	4.18E-05	1.50E-05	4.28E-06	7.4	NNW
N	485.	1.89E-04	9.72E-05	6.98E-05	3.40E-05	1.21E-05	3.43E-06	6.0	N
NNE	485.	2.14E-04	1.11E-04	7.95E-05	3.88E-05	1.39E-05	3.94E-06	6.5	NNE
NE	485.	2.05E-04	1.04E-04	7.46E-05	3.60E-05	1.26E-05	3.50E-06	7.7	NE
ENE	485.	4.64E-04	2.26E-04	1.58E-04	7.28E-05	2.38E-05	6.08E-06	25.1	ENE
E	485.	4.71E-04	2.39E-04	1.70E-04	8.12E-05	2.82E-05	7.70E-06	27.2	E
ESE	485.	5.37E-04	2.73E-04	1.95E-04	9.34E-05	3.25E-05	8.96E-06	37.5	ESE
SE	485.	4.68E-04	2.32E-04	1.63E-04	7.63E-05	2.56E-05	6.71E-06	30.8	SE
SSE	485.	3.56E-04	1.77E-04	1.25E-04	5.89E-05	1.99E-05	5.29E-06	23.9	SSE
MAX X/Q		5.71E-04				TOTAL HOURS AROUND SITE:		672.4	
SRP 2.3.4	485.	7.46E-04	3.59E-04	2.49E-04	1.13E-04	3.61E-05	8.96E-06		
SITE LIMIT		5.17E-04	2.65E-04	1.89E-04	9.14E-05	3.22E-05	8.96E-06		

THE FIVE-PERCENT-FOR-THE-ENTIRE-SITE X/Q IS LIMITING.

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

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	3.0	1.46	1810.	0.	0.	320.1	1000.0	320.1	3.294E-07	3.289E-07	3.289E-07
A	4.0	1.78	1810.	0.	0.	320.1	1000.0	320.1	2.480E-07	2.476E-07	2.476E-07
A	5.0	1.68	1810.	0.	0.	320.1	1000.0	320.1	1.988E-07	1.985E-07	1.985E-07
A	6.0	0.65	1810.	0.	0.	320.1	1000.0	320.1	1.660E-07	1.658E-07	1.658E-07
A	8.0	0.11	1810.	0.	0.	320.1	1000.0	320.1	1.247E-07	1.246E-07	1.246E-07
B	2.0	0.16	1810.	0.	0.	240.7	209.6	240.7	3.125E-06	3.096E-06	3.096E-06
B	3.0	1.14	1810.	0.	0.	240.7	209.6	240.7	2.089E-06	2.070E-06	2.070E-06
B	4.0	1.24	1810.	0.	0.	240.7	209.6	240.7	1.573E-06	1.558E-06	1.558E-06
B	5.0	0.54	1810.	0.	0.	240.7	209.6	240.7	1.261E-06	1.250E-06	1.250E-06
B	6.0	0.49	1810.	0.	0.	240.7	209.6	240.7	1.053E-06	1.044E-06	1.044E-06
B	8.0	0.11	1810.	0.	0.	240.7	209.6	240.7	7.912E-07	7.840E-07	7.840E-07
C	1.5	0.05	1810.	0.	0.	182.8	104.9	182.8	1.081E-05	1.055E-05	1.055E-05
C	2.0	0.59	1810.	0.	0.	182.8	104.9	182.8	8.223E-06	8.029E-06	8.029E-06
C	3.0	1.14	1810.	0.	0.	182.8	104.9	182.8	5.498E-06	5.368E-06	5.368E-06
C	4.0	1.46	1810.	0.	0.	182.8	104.9	182.8	4.139E-06	4.041E-06	4.041E-06
C	5.0	1.03	1810.	0.	0.	182.8	104.9	182.8	3.318E-06	3.240E-06	3.240E-06
C	6.0	0.54	1810.	0.	0.	182.8	104.9	182.8	2.771E-06	2.706E-06	2.706E-06
C	8.0	0.22	1810.	0.	0.	182.8	104.9	182.8	2.082E-06	2.033E-06	2.033E-06
C	9.9	0.05	1810.	0.	0.	182.8	104.9	182.8	1.674E-06	1.634E-06	1.634E-06
D	1.0	0.49	1810.	0.	0.	128.7	47.4	190.3	3.389E-05	4.657E-05	3.389E-05
D	1.5	1.68	1810.	0.	0.	128.7	47.4	190.3	2.295E-05	3.154E-05	2.295E-05
D	2.0	3.84	1810.	0.	0.	128.7	47.4	189.6	1.753E-05	2.400E-05	1.753E-05
D	3.0	9.03	1810.	0.	0.	128.7	47.4	162.1	1.371E-05	1.605E-05	1.371E-05
D	4.0	8.98	1810.	0.	0.	128.7	47.4	146.5	1.142E-05	1.208E-05	1.142E-05
D	5.0	5.41	1810.	0.	0.	128.7	47.4	136.2	9.848E-06	9.685E-06	9.685E-06
D	6.0	3.84	1810.	0.	0.	128.7	47.4	128.8	8.699E-06	8.088E-06	8.088E-06
D	8.0	1.78	1810.	0.	0.	128.7	47.4	128.7	6.538E-06	6.076E-06	6.076E-06
D	9.9	0.54	1810.	0.	0.	128.7	47.4	128.7	5.257E-06	4.886E-06	4.886E-06
E	0.4	0.01	1810.	0.	0.	91.5	32.3	179.1	1.568E-04	2.653E-04	1.568E-04
E	1.0	2.33	1810.	0.	0.	91.5	32.3	179.1	5.339E-05	9.030E-05	5.339E-05
E	1.5	4.54	1810.	0.	0.	91.5	32.3	179.1	3.616E-05	6.115E-05	3.616E-05
E	2.0	5.35	1810.	0.	0.	91.5	32.3	179.1	2.752E-05	4.654E-05	2.752E-05
E	3.0	10.17	1810.	0.	0.	91.5	32.3	135.6	2.430E-05	3.112E-05	2.430E-05

E	4.0	6.76	1810.	0.	0.	91.5	32.3	113.9	2.178E-05	2.342E-05	2.178E-05
E	5.0	2.49	1810.	0.	0.	91.5	32.3	100.8	1.973E-05	1.878E-05	1.878E-05
E	5.9	2.11	1810.	0.	0.	91.5	32.3	92.0	1.805E-05	1.568E-05	1.568E-05
E	7.9	1.46	1810.	0.	0.	91.5	32.3	91.5	1.363E-05	1.178E-05	1.178E-05
E	9.8	0.76	1810.	0.	0.	91.5	32.3	91.5	1.096E-05	9.474E-06	9.474E-06
E	24.1	0.05	1810.	0.	0.	91.5	32.3	91.5	4.464E-06	3.858E-06	3.858E-06
F	0.4	0.08	1810.	0.	0.	63.2	21.0	153.8	2.804E-04	5.061E-04	2.804E-04
F	1.0	3.46	1810.	0.	0.	63.2	21.0	153.8	9.546E-05	1.723E-04	9.546E-05
F	1.5	2.43	1810.	0.	0.	63.2	21.0	153.8	6.465E-05	1.167E-04	6.465E-05
F	2.0	2.43	1810.	0.	0.	63.2	21.0	153.8	4.920E-05	8.879E-05	4.920E-05
F	3.0	1.14	1810.	0.	0.	63.2	21.0	105.7	4.786E-05	5.937E-05	4.786E-05
G	0.4	0.07	1810.	0.	0.	43.6	13.7	147.9	4.480E-04	8.550E-04	4.480E-04
G	1.0	2.81	1810.	0.	0.	43.6	13.7	147.9	1.525E-04	2.911E-04	1.525E-04
G	1.5	0.97	1810.	0.	0.	43.6	13.7	147.9	1.033E-04	1.971E-04	1.033E-04
G	2.0	0.43	1810.	0.	0.	43.6	13.7	147.9	7.859E-05	1.500E-04	7.859E-05
G	3.0	0.05	1810.	0.	0.	43.6	13.7	87.7	8.860E-05	1.003E-04	8.860E-05
G	4.0	0.05	1810.	0.	0.	43.6	13.7	63.6	9.194E-05	7.549E-05	7.549E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

S SECTOR BOUNDARY DISTANCE = 1810.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.480E-04	2.804E-04	1.568E-04	1.525E-04	1.033E-04	9.546E-05	8.860E-05	7.859E-05	7.549E-05	6.465E-05
0.072	0.147	0.157	2.970	3.943	7.405	7.459	7.891	7.946	10.379
0.00305	0.00623	0.00664	0.12556	0.16672	0.31307	0.31536	0.33365	0.33594	0.43884
5.339E-05	4.920E-05	4.786E-05	3.616E-05	3.389E-05	2.752E-05	2.430E-05	2.295E-05	2.178E-05	1.878E-05
12.705	15.139	16.275	20.818	21.305	26.659	36.827	38.504	45.265	47.753
0.53717	0.64008	0.68810	0.88019	0.90077	1.12716	1.55707	1.62796	1.91380	2.01899
1.753E-05	1.568E-05	1.371E-05	1.178E-05	1.142E-05	1.055E-05	9.685E-06	9.474E-06	8.088E-06	8.029E-06
51.593	53.702	62.735	64.195	73.173	73.227	78.636	79.393	83.233	83.828
2.18135	2.27054	2.65243	2.71417	3.09377	3.09606	3.32473	3.35675	3.51911	3.54426
6.076E-06	5.368E-06	4.886E-06	4.041E-06	3.858E-06	3.240E-06	3.096E-06	2.706E-06	2.070E-06	2.033E-06
85.613	86.749	87.290	88.750	88.804	89.832	89.994	90.535	91.671	91.887
3.61972	3.66775	3.69061	3.75236	3.75464	3.79809	3.80495	3.82782	3.87584	3.88499
1.634E-06	1.558E-06	1.250E-06	1.044E-06	7.840E-07	3.289E-07	2.476E-07	1.985E-07	1.658E-07	1.246E-07
91.941	93.185	93.726	94.213	94.321	95.781	97.566	99.243	99.892	100.000
3.88727	3.93987	3.96274	3.98332	3.98789	4.04963	4.12510	4.19599	4.22343	4.22800

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.125
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.313
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.687
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.912
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.091
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.354
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   3.541
```

```
 K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
 1  1      -7.71082 -12.09005  -1.09243
 1  2      -8.78838 -13.70105  -1.62547
 1  3      -9.25677 -16.24183  -2.55475
 1  4      -9.94734 -14.90189  -2.01091
 1  5     -10.73463 -17.27135  -3.15429
 1  6     -11.38039 -20.94877  -5.12335
 1  7     -11.56701 -23.90543  -6.73796
 1  8     -11.73251     NUMXQ(K)=  8
   2.152E-04              0.042              1.000
   1.517E-04              0.127              3.000
   1.173E-04              0.211              5.000
   7.386E-05              0.423             10.000
   5.155E-05              0.634             15.000
   4.117E-05              0.846             20.000
   3.483E-05              1.057             25.000
   3.028E-05              1.268             30.000
   2.682E-05              1.480             35.000
   2.409E-05              1.691             40.000
   2.188E-05              1.903             45.000
   1.913E-05              2.114             50.000
   1.686E-05              2.325             55.000
   1.500E-05              2.537             60.000
   1.345E-05              2.748             65.000
   1.214E-05              2.960             70.000
   1.079E-05              3.171             75.000
   9.257E-06              3.382             80.000

   6.377E-05              0.5               11.83

ANNUAL AVERAGE =   5.72E-07

K=  1     FIVEXQ(K)= 6.377E-05     FIVEPR(K)=11.826
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	2.0	0.22	1810.	0.	0.	320.1	1000.0	320.1	4.927E-07	4.919E-07	4.919E-07
A	3.0	0.65	1810.	0.	0.	320.1	1000.0	320.1	3.294E-07	3.289E-07	3.289E-07
A	4.0	1.78	1810.	0.	0.	320.1	1000.0	320.1	2.480E-07	2.476E-07	2.476E-07
A	5.0	1.74	1810.	0.	0.	320.1	1000.0	320.1	1.988E-07	1.985E-07	1.985E-07
A	6.0	0.43	1810.	0.	0.	320.1	1000.0	320.1	1.660E-07	1.658E-07	1.658E-07
A	8.0	0.04	1810.	0.	0.	320.1	1000.0	320.1	1.247E-07	1.246E-07	1.246E-07
B	1.5	0.04	1810.	0.	0.	240.7	209.6	240.7	4.107E-06	4.069E-06	4.069E-06
B	2.0	0.13	1810.	0.	0.	240.7	209.6	240.7	3.125E-06	3.096E-06	3.096E-06
B	3.0	0.74	1810.	0.	0.	240.7	209.6	240.7	2.089E-06	2.070E-06	2.070E-06
B	4.0	1.13	1810.	0.	0.	240.7	209.6	240.7	1.573E-06	1.558E-06	1.558E-06
B	5.0	0.87	1810.	0.	0.	240.7	209.6	240.7	1.261E-06	1.250E-06	1.250E-06
B	6.0	0.52	1810.	0.	0.	240.7	209.6	240.7	1.053E-06	1.044E-06	1.044E-06
C	1.5	0.13	1810.	0.	0.	182.8	104.9	182.8	1.081E-05	1.055E-05	1.055E-05
C	2.0	0.56	1810.	0.	0.	182.8	104.9	182.8	8.223E-06	8.029E-06	8.029E-06
C	3.0	1.08	1810.	0.	0.	182.8	104.9	182.8	5.498E-06	5.368E-06	5.368E-06
C	4.0	1.17	1810.	0.	0.	182.8	104.9	182.8	4.139E-06	4.041E-06	4.041E-06
C	5.0	0.78	1810.	0.	0.	182.8	104.9	182.8	3.318E-06	3.240E-06	3.240E-06
C	6.0	0.52	1810.	0.	0.	182.8	104.9	182.8	2.771E-06	2.706E-06	2.706E-06
C	8.0	0.17	1810.	0.	0.	182.8	104.9	182.8	2.082E-06	2.033E-06	2.033E-06
D	1.0	0.91	1810.	0.	0.	128.7	47.4	190.3	3.389E-05	4.657E-05	3.389E-05
D	1.5	2.21	1810.	0.	0.	128.7	47.4	190.3	2.295E-05	3.154E-05	2.295E-05
D	2.0	3.04	1810.	0.	0.	128.7	47.4	189.6	1.753E-05	2.400E-05	1.753E-05
D	3.0	9.63	1810.	0.	0.	128.7	47.4	162.1	1.371E-05	1.605E-05	1.371E-05
D	4.0	8.51	1810.	0.	0.	128.7	47.4	146.5	1.142E-05	1.208E-05	1.142E-05
D	5.0	8.42	1810.	0.	0.	128.7	47.4	136.2	9.848E-06	9.685E-06	9.685E-06
D	6.0	6.42	1810.	0.	0.	128.7	47.4	128.8	8.699E-06	8.088E-06	8.088E-06
D	8.0	2.86	1810.	0.	0.	128.7	47.4	128.7	6.538E-06	6.076E-06	6.076E-06
D	9.9	0.04	1810.	0.	0.	128.7	47.4	128.7	5.257E-06	4.886E-06	4.886E-06
E	0.4	0.01	1810.	0.	0.	91.5	32.3	179.1	1.568E-04	2.653E-04	1.568E-04
E	1.0	2.17	1810.	0.	0.	91.5	32.3	179.1	5.339E-05	9.030E-05	5.339E-05
E	1.5	4.08	1810.	0.	0.	91.5	32.3	179.1	3.616E-05	6.115E-05	3.616E-05
E	2.0	5.42	1810.	0.	0.	91.5	32.3	179.1	2.752E-05	4.654E-05	2.752E-05
E	3.0	10.33	1810.	0.	0.	91.5	32.3	135.6	2.430E-05	3.112E-05	2.430E-05

E	4.0	5.60	1810.	0.	0.	91.5	32.3	113.9	2.178E-05	2.342E-05	2.178E-05
E	5.0	3.78	1810.	0.	0.	91.5	32.3	100.8	1.973E-05	1.878E-05	1.878E-05
E	5.9	2.26	1810.	0.	0.	91.5	32.3	92.0	1.805E-05	1.568E-05	1.568E-05
E	7.9	3.08	1810.	0.	0.	91.5	32.3	91.5	1.363E-05	1.178E-05	1.178E-05
E	9.8	0.61	1810.	0.	0.	91.5	32.3	91.5	1.096E-05	9.474E-06	9.474E-06
F	0.4	0.04	1810.	0.	0.	63.2	21.0	153.8	2.804E-04	5.061E-04	2.804E-04
F	1.0	1.95	1810.	0.	0.	63.2	21.0	153.8	9.546E-05	1.723E-04	9.546E-05
F	1.5	1.30	1810.	0.	0.	63.2	21.0	153.8	6.465E-05	1.167E-04	6.465E-05
F	2.0	1.04	1810.	0.	0.	63.2	21.0	153.8	4.920E-05	8.879E-05	4.920E-05
F	3.0	0.39	1810.	0.	0.	63.2	21.0	105.7	4.786E-05	5.937E-05	4.786E-05
F	9.8	0.17	1810.	0.	0.	63.2	21.0	63.2	2.439E-05	1.807E-05	1.807E-05
G	0.4	0.05	1810.	0.	0.	43.6	13.7	147.9	4.480E-04	8.550E-04	4.480E-04
G	1.0	1.91	1810.	0.	0.	43.6	13.7	147.9	1.525E-04	2.911E-04	1.525E-04
G	1.5	0.87	1810.	0.	0.	43.6	13.7	147.9	1.033E-04	1.971E-04	1.033E-04
G	2.0	0.13	1810.	0.	0.	43.6	13.7	147.9	7.859E-05	1.500E-04	7.859E-05
G	3.0	0.04	1810.	0.	0.	43.6	13.7	87.7	8.860E-05	1.003E-04	8.860E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SSW SECTOR BOUNDARY DISTANCE = 1810.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.480E-04	2.804E-04	1.568E-04	1.525E-04	1.033E-04	9.546E-05	8.860E-05	7.859E-05	6.465E-05	5.339E-05
0.049	0.091	0.101	2.010	2.878	4.831	4.874	5.004	6.306	8.476
0.00258	0.00482	0.00530	0.10591	0.15165	0.25455	0.25684	0.26370	0.33230	0.44664
4.920E-05	4.786E-05	3.616E-05	3.389E-05	2.752E-05	2.430E-05	2.295E-05	2.178E-05	1.878E-05	1.807E-05
9.518	9.908	13.988	14.899	20.323	30.652	32.865	38.463	42.239	42.412
0.50152	0.52210	0.73706	0.78508	1.07093	1.61518	1.73180	2.02679	2.22574	2.23489
1.753E-05	1.568E-05	1.371E-05	1.178E-05	1.142E-05	1.055E-05	9.685E-06	9.474E-06	8.088E-06	8.029E-06
45.450	47.707	57.341	60.422	68.928	69.058	77.477	78.085	84.507	85.071
2.39496	2.51387	3.02153	3.18389	3.63210	3.63896	4.08259	4.11460	4.45304	4.48277
6.076E-06	5.368E-06	4.886E-06	4.069E-06	4.041E-06	3.240E-06	3.096E-06	2.706E-06	2.070E-06	2.033E-06
87.936	89.021	89.064	89.107	90.279	91.060	91.190	91.711	92.449	92.623
4.63370	4.69087	4.69315	4.69544	4.75718	4.79835	4.80521	4.83265	4.87152	4.88067
1.558E-06	1.250E-06	1.044E-06	4.919E-07	3.289E-07	2.476E-07	1.985E-07	1.658E-07	1.246E-07	
93.751	94.619	95.140	95.357	96.007	97.787	99.523	99.957	100.000	
4.94012	4.98586	5.01330	5.02473	5.05904	5.15279	5.24426	5.26713	5.26942	

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.106
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.254
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   1.070
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.025
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.629
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.079
```

```
K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
2  1      -7.71082 -12.18668  -1.10571
2  2      -8.78838 -14.08399  -1.72304
2  3      -9.25677 -16.21843  -2.48491
2  4     -10.50075 -12.29200  -0.77848
2  5     -10.62522 -13.16077  -1.18424
2  6     -10.73463 -15.95933  -2.55027
2  7     -11.38039 -16.86238  -3.05323
2  8     -11.54497     NUMXQ(K)=  8
  1.908E-04              0.053              1.000
  1.237E-04              0.158              3.000
  9.286E-05              0.263              5.000
  5.212E-05              0.527             10.000
  3.642E-05              0.790             15.000
  2.793E-05              1.054             20.000
  2.587E-05              1.317             25.000
  2.446E-05              1.581             30.000
  2.280E-05              1.844             35.000
  2.089E-05              2.108             40.000
  1.841E-05              2.371             45.000
  1.642E-05              2.635             50.000
  1.477E-05              2.898             55.000
  1.339E-05              3.162             60.000
  1.222E-05              3.425             65.000
  1.117E-05              3.689             70.000
  1.014E-05              3.952             75.000

  5.453E-05              0.5                9.49

ANNUAL AVERAGE =    6.06E-07

K=  2      FIVEXQ(K)= 5.453E-05      FIVEPR(K)= 9.489
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.5	0.07	1810.	0.	0.	320.1	1000.0	320.1	6.474E-07	6.465E-07	6.465E-07
A	2.0	0.52	1810.	0.	0.	320.1	1000.0	320.1	4.927E-07	4.919E-07	4.919E-07
A	3.0	2.51	1810.	0.	0.	320.1	1000.0	320.1	3.294E-07	3.289E-07	3.289E-07
A	4.0	2.06	1810.	0.	0.	320.1	1000.0	320.1	2.480E-07	2.476E-07	2.476E-07
A	5.0	0.94	1810.	0.	0.	320.1	1000.0	320.1	1.988E-07	1.985E-07	1.985E-07
A	6.0	0.19	1810.	0.	0.	320.1	1000.0	320.1	1.660E-07	1.658E-07	1.658E-07
B	1.0	0.04	1810.	0.	0.	240.7	209.6	240.7	6.064E-06	6.008E-06	6.008E-06
B	1.5	0.15	1810.	0.	0.	240.7	209.6	240.7	4.107E-06	4.069E-06	4.069E-06
B	2.0	0.34	1810.	0.	0.	240.7	209.6	240.7	3.125E-06	3.096E-06	3.096E-06
B	3.0	1.16	1810.	0.	0.	240.7	209.6	240.7	2.089E-06	2.070E-06	2.070E-06
B	4.0	1.27	1810.	0.	0.	240.7	209.6	240.7	1.573E-06	1.558E-06	1.558E-06
B	5.0	0.49	1810.	0.	0.	240.7	209.6	240.7	1.261E-06	1.250E-06	1.250E-06
B	6.0	0.11	1810.	0.	0.	240.7	209.6	240.7	1.053E-06	1.044E-06	1.044E-06
B	8.0	0.04	1810.	0.	0.	240.7	209.6	240.7	7.912E-07	7.840E-07	7.840E-07
C	1.5	0.11	1810.	0.	0.	182.8	104.9	182.8	1.081E-05	1.055E-05	1.055E-05
C	2.0	0.86	1810.	0.	0.	182.8	104.9	182.8	8.223E-06	8.029E-06	8.029E-06
C	3.0	1.50	1810.	0.	0.	182.8	104.9	182.8	5.498E-06	5.368E-06	5.368E-06
C	4.0	1.35	1810.	0.	0.	182.8	104.9	182.8	4.139E-06	4.041E-06	4.041E-06
C	5.0	0.86	1810.	0.	0.	182.8	104.9	182.8	3.318E-06	3.240E-06	3.240E-06
C	6.0	0.15	1810.	0.	0.	182.8	104.9	182.8	2.771E-06	2.706E-06	2.706E-06
D	1.0	0.56	1810.	0.	0.	128.7	47.4	190.3	3.389E-05	4.657E-05	3.389E-05
D	1.5	3.37	1810.	0.	0.	128.7	47.4	190.3	2.295E-05	3.154E-05	2.295E-05
D	2.0	4.83	1810.	0.	0.	128.7	47.4	189.6	1.753E-05	2.400E-05	1.753E-05
D	3.0	11.80	1810.	0.	0.	128.7	47.4	162.1	1.371E-05	1.605E-05	1.371E-05
D	4.0	9.82	1810.	0.	0.	128.7	47.4	146.5	1.142E-05	1.208E-05	1.142E-05
D	5.0	7.34	1810.	0.	0.	128.7	47.4	136.2	9.848E-06	9.685E-06	9.685E-06
D	6.0	4.16	1810.	0.	0.	128.7	47.4	128.8	8.699E-06	8.088E-06	8.088E-06
D	8.0	0.49	1810.	0.	0.	128.7	47.4	128.7	6.538E-06	6.076E-06	6.076E-06
E	0.4	0.01	1810.	0.	0.	91.5	32.3	179.1	1.568E-04	2.653E-04	1.568E-04
E	1.0	3.19	1810.	0.	0.	91.5	32.3	179.1	5.339E-05	9.030E-05	5.339E-05
E	1.5	5.47	1810.	0.	0.	91.5	32.3	179.1	3.616E-05	6.115E-05	3.616E-05
E	2.0	5.85	1810.	0.	0.	91.5	32.3	179.1	2.752E-05	4.654E-05	2.752E-05
E	3.0	7.57	1810.	0.	0.	91.5	32.3	135.6	2.430E-05	3.112E-05	2.430E-05

E	4.0	5.73	1810.	0.	0.	91.5	32.3	113.9	2.178E-05	2.342E-05	2.178E-05
E	5.0	2.47	1810.	0.	0.	91.5	32.3	100.8	1.973E-05	1.878E-05	1.878E-05
E	5.9	1.76	1810.	0.	0.	91.5	32.3	92.0	1.805E-05	1.568E-05	1.568E-05
E	7.9	2.81	1810.	0.	0.	91.5	32.3	91.5	1.363E-05	1.178E-05	1.178E-05
E	9.8	0.11	1810.	0.	0.	91.5	32.3	91.5	1.096E-05	9.474E-06	9.474E-06
F	0.4	0.07	1810.	0.	0.	63.2	21.0	153.8	2.804E-04	5.061E-04	2.804E-04
F	1.0	3.15	1810.	0.	0.	63.2	21.0	153.8	9.546E-05	1.723E-04	9.546E-05
F	1.5	1.39	1810.	0.	0.	63.2	21.0	153.8	6.465E-05	1.167E-04	6.465E-05
F	2.0	0.37	1810.	0.	0.	63.2	21.0	153.8	4.920E-05	8.879E-05	4.920E-05
F	3.0	0.15	1810.	0.	0.	63.2	21.0	105.7	4.786E-05	5.937E-05	4.786E-05
F	4.0	0.04	1810.	0.	0.	63.2	21.0	83.8	4.545E-05	4.469E-05	4.469E-05
F	7.9	0.04	1810.	0.	0.	63.2	21.0	63.2	3.033E-05	2.248E-05	2.248E-05
F	9.8	0.30	1810.	0.	0.	63.2	21.0	63.2	2.439E-05	1.807E-05	1.807E-05
G	0.4	0.05	1810.	0.	0.	43.6	13.7	147.9	4.480E-04	8.550E-04	4.480E-04
G	1.0	1.99	1810.	0.	0.	43.6	13.7	147.9	1.525E-04	2.911E-04	1.525E-04
G	1.5	0.37	1810.	0.	0.	43.6	13.7	147.9	1.033E-04	1.971E-04	1.033E-04

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SW SECTOR BOUNDARY DISTANCE = 1810.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.480E-04	2.804E-04	1.568E-04	1.525E-04	1.033E-04	9.546E-05	6.465E-05	5.339E-05	4.920E-05	4.786E-05
0.051	0.119	0.133	2.119	2.494	5.641	7.028	10.213	10.588	10.738
0.00311	0.00729	0.00810	0.12930	0.15216	0.34425	0.42886	0.62324	0.64610	0.65525
4.469E-05	3.616E-05	3.389E-05	2.752E-05	2.430E-05	2.295E-05	2.248E-05	2.178E-05	1.878E-05	1.807E-05
10.775	16.246	16.808	22.654	30.224	33.597	33.634	39.368	41.841	42.141
0.65754	0.99140	1.02571	1.38244	1.84437	2.05017	2.05246	2.40234	2.55326	2.57156
1.753E-05	1.568E-05	1.371E-05	1.178E-05	1.142E-05	1.055E-05	9.685E-06	9.474E-06	8.088E-06	8.029E-06
46.975	48.736	60.540	63.351	73.169	73.281	80.626	80.739	84.898	85.760
2.86655	2.97403	3.69435	3.86586	4.46499	4.47185	4.92006	4.92692	5.18075	5.23334
6.076E-06	6.008E-06	5.368E-06	4.069E-06	4.041E-06	3.240E-06	3.096E-06	2.706E-06	2.070E-06	1.558E-06
86.247	86.285	87.784	87.933	89.283	90.144	90.482	90.632	91.793	93.067
5.26307	5.26536	5.35683	5.36598	5.44830	5.50089	5.52148	5.53062	5.60151	5.67926
1.250E-06	1.044E-06	7.840E-07	6.465E-07	4.919E-07	3.289E-07	2.476E-07	1.985E-07	1.658E-07	
93.555	93.667	93.704	93.779	94.304	96.815	98.876	99.813	100.000	
5.70899	5.71585	5.71814	5.72271	5.75472	5.90794	6.03371	6.09088	6.10231	

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.129
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.344
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   1.842
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   4.461
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.916
```

```
 K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
 3  1      -7.71082 -12.06573  -1.08759
 3  2      -8.78838 -13.33164  -1.50768
 3  3      -9.25677 -15.26786  -2.22407
 3  4     -10.62522 -12.70037  -0.99411
 3  5     -10.73463 -15.32931  -2.32361
 3  6     -11.38039 -17.40055  -3.54236
 3  7     -11.54497     NUMXQ(K)=  7
   1.939E-04              0.061              1.000
   1.298E-04              0.183              3.000
   1.014E-04              0.305              5.000
   6.171E-05              0.610             10.000
   4.452E-05              0.915             15.000
   3.496E-05              1.220             20.000
   2.879E-05              1.526             25.000
   2.446E-05              1.831             30.000
   2.288E-05              2.136             35.000
   2.144E-05              2.441             40.000
   1.906E-05              2.746             45.000
   1.712E-05              3.051             50.000
   1.551E-05              3.356             55.000
   1.415E-05              3.661             60.000
   1.299E-05              3.967             65.000
   1.199E-05              4.272             70.000
   1.095E-05              4.577             75.000
   9.815E-06              4.882             80.000

   7.205E-05              0.5                8.19

ANNUAL AVERAGE =   7.70E-07

K=  3     FIVEXQ(K)= 7.205E-05     FIVEPR(K)= 8.194
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.5	0.11	1810.	0.	0.	320.1	1000.0	320.1	6.474E-07	6.465E-07	6.465E-07
A	2.0	0.61	1810.	0.	0.	320.1	1000.0	320.1	4.927E-07	4.919E-07	4.919E-07
A	3.0	1.68	1810.	0.	0.	320.1	1000.0	320.1	3.294E-07	3.289E-07	3.289E-07
A	4.0	0.73	1810.	0.	0.	320.1	1000.0	320.1	2.480E-07	2.476E-07	2.476E-07
A	5.0	0.11	1810.	0.	0.	320.1	1000.0	320.1	1.988E-07	1.985E-07	1.985E-07
A	6.0	0.04	1810.	0.	0.	320.1	1000.0	320.1	1.660E-07	1.658E-07	1.658E-07
B	1.5	0.23	1810.	0.	0.	240.7	209.6	240.7	4.107E-06	4.069E-06	4.069E-06
B	2.0	0.57	1810.	0.	0.	240.7	209.6	240.7	3.125E-06	3.096E-06	3.096E-06
B	3.0	1.34	1810.	0.	0.	240.7	209.6	240.7	2.089E-06	2.070E-06	2.070E-06
B	4.0	0.54	1810.	0.	0.	240.7	209.6	240.7	1.573E-06	1.558E-06	1.558E-06
B	5.0	0.15	1810.	0.	0.	240.7	209.6	240.7	1.261E-06	1.250E-06	1.250E-06
B	6.0	0.11	1810.	0.	0.	240.7	209.6	240.7	1.053E-06	1.044E-06	1.044E-06
C	1.0	0.08	1810.	0.	0.	182.8	104.9	182.8	1.596E-05	1.558E-05	1.558E-05
C	1.5	0.38	1810.	0.	0.	182.8	104.9	182.8	1.081E-05	1.055E-05	1.055E-05
C	2.0	0.76	1810.	0.	0.	182.8	104.9	182.8	8.223E-06	8.029E-06	8.029E-06
C	3.0	1.57	1810.	0.	0.	182.8	104.9	182.8	5.498E-06	5.368E-06	5.368E-06
C	4.0	0.54	1810.	0.	0.	182.8	104.9	182.8	4.139E-06	4.041E-06	4.041E-06
C	5.0	0.08	1810.	0.	0.	182.8	104.9	182.8	3.318E-06	3.240E-06	3.240E-06
D	1.0	1.38	1810.	0.	0.	128.7	47.4	190.3	3.389E-05	4.657E-05	3.389E-05
D	1.5	5.01	1810.	0.	0.	128.7	47.4	190.3	2.295E-05	3.154E-05	2.295E-05
D	2.0	7.45	1810.	0.	0.	128.7	47.4	189.6	1.753E-05	2.400E-05	1.753E-05
D	3.0	13.11	1810.	0.	0.	128.7	47.4	162.1	1.371E-05	1.605E-05	1.371E-05
D	4.0	7.76	1810.	0.	0.	128.7	47.4	146.5	1.142E-05	1.208E-05	1.142E-05
D	5.0	3.52	1810.	0.	0.	128.7	47.4	136.2	9.848E-06	9.685E-06	9.685E-06
D	6.0	0.76	1810.	0.	0.	128.7	47.4	128.8	8.699E-06	8.088E-06	8.088E-06
E	0.4	0.02	1810.	0.	0.	91.5	32.3	179.1	1.568E-04	2.653E-04	1.568E-04
E	1.0	4.74	1810.	0.	0.	91.5	32.3	179.1	5.339E-05	9.030E-05	5.339E-05
E	1.5	10.05	1810.	0.	0.	91.5	32.3	179.1	3.616E-05	6.115E-05	3.616E-05
E	2.0	8.98	1810.	0.	0.	91.5	32.3	179.1	2.752E-05	4.654E-05	2.752E-05
E	3.0	10.02	1810.	0.	0.	91.5	32.3	135.6	2.430E-05	3.112E-05	2.430E-05
E	4.0	3.71	1810.	0.	0.	91.5	32.3	113.9	2.178E-05	2.342E-05	2.178E-05
E	5.0	1.30	1810.	0.	0.	91.5	32.3	100.8	1.973E-05	1.878E-05	1.878E-05
E	5.9	0.57	1810.	0.	0.	91.5	32.3	92.0	1.805E-05	1.568E-05	1.568E-05

E	7.9	0.23	1810.	0.	0.	91.5	32.3	91.5	1.363E-05	1.178E-05	1.178E-05
F	0.4	0.09	1810.	0.	0.	63.2	21.0	153.8	2.804E-04	5.061E-04	2.804E-04
F	1.0	4.36	1810.	0.	0.	63.2	21.0	153.8	9.546E-05	1.723E-04	9.546E-05
F	1.5	2.87	1810.	0.	0.	63.2	21.0	153.8	6.465E-05	1.167E-04	6.465E-05
F	2.0	0.42	1810.	0.	0.	63.2	21.0	153.8	4.920E-05	8.879E-05	4.920E-05
F	3.0	0.15	1810.	0.	0.	63.2	21.0	105.7	4.786E-05	5.937E-05	4.786E-05
G	0.4	0.08	1810.	0.	0.	43.6	13.7	147.9	4.480E-04	8.550E-04	4.480E-04
G	1.0	3.10	1810.	0.	0.	43.6	13.7	147.9	1.525E-04	2.911E-04	1.525E-04
G	1.5	0.54	1810.	0.	0.	43.6	13.7	147.9	1.033E-04	1.971E-04	1.033E-04
G	2.0	0.11	1810.	0.	0.	43.6	13.7	147.9	7.859E-05	1.500E-04	7.859E-05
G	3.0	0.04	1810.	0.	0.	43.6	13.7	87.7	8.860E-05	1.003E-04	8.860E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WSW SECTOR BOUNDARY DISTANCE = 1810.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.480E-04	2.804E-04	1.568E-04	1.525E-04	1.033E-04	9.546E-05	8.860E-05	7.859E-05	6.465E-05	5.339E-05
0.079	0.174	0.194	3.290	3.825	8.183	8.221	8.336	11.203	15.943
0.00476	0.01042	0.01160	0.19683	0.22885	0.48954	0.49182	0.49868	0.67019	0.95375
4.920E-05	4.786E-05	3.616E-05	3.389E-05	2.752E-05	2.430E-05	2.295E-05	2.178E-05	1.878E-05	1.753E-05
16.363	16.516	26.569	27.945	36.928	46.943	51.951	55.659	56.958	64.412
0.97890	0.98805	1.58947	1.67179	2.20918	2.80831	3.10788	3.32969	3.40744	3.85336
1.568E-05	1.558E-05	1.371E-05	1.178E-05	1.142E-05	1.055E-05	9.685E-06	8.088E-06	8.029E-06	5.368E-06
64.986	65.062	78.173	78.403	86.162	86.545	90.061	90.826	91.590	93.158
3.88766	3.89224	4.67659	4.69032	5.15453	5.17740	5.38778	5.43351	5.47925	5.57300
4.069E-06	4.041E-06	3.240E-06	3.096E-06	2.070E-06	1.558E-06	1.250E-06	1.044E-06	6.465E-07	4.919E-07
93.387	93.922	93.999	94.572	95.910	96.445	96.598	96.713	96.827	97.439
5.58673	5.61874	5.62331	5.65762	5.73765	5.76967	5.77881	5.78567	5.79253	5.82912
3.289E-07	2.476E-07	1.985E-07	1.658E-07						
99.121	99.847	99.962	100.000						
5.92974	5.97319	5.98005	5.98234						

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.197
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.489
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   2.207
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.806
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.105
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.327
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.673
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   5.151
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
4	1	-7.71082	-11.83691	-1.05722
4	2	-8.78838	-13.29054	-1.56133
4	3	-9.25677	-14.88764	-2.17952
4	4	-10.50075	-12.94221	-1.21298
4	5	-10.62522	-13.05795	-1.27357
4	6	-10.68199	-13.87328	-1.71061
4	7	-10.73463	-16.12957	-2.94031
4	8	-11.19742	-17.72502	-3.89145
4	9	-11.38039	NUMXQ(K)= 9	

2.223E-04	0.060	1.000
1.572E-04	0.179	3.000
1.236E-04	0.299	5.000
8.197E-05	0.598	10.000
5.957E-05	0.897	15.000
4.703E-05	1.196	20.000
3.891E-05	1.496	25.000
3.317E-05	1.795	30.000
2.889E-05	2.094	35.000
2.641E-05	2.393	40.000
2.484E-05	2.692	45.000
2.345E-05	2.991	50.000
2.198E-05	3.290	55.000
1.971E-05	3.589	60.000
1.769E-05	3.889	65.000
1.599E-05	4.188	70.000
1.453E-05	4.487	75.000
1.313E-05	4.786	80.000
1.172E-05	5.085	85.000
9.396E-05	0.5	8.36

ANNUAL AVERAGE = 1.02E-06

K= 4 FIVEXQ(K)= 9.396E-05 FIVEPR(K)= 8.358

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	2.0	0.91	1810.	0.	0.	320.1	1000.0	320.1	4.927E-07	4.919E-07	4.919E-07
A	3.0	1.96	1810.	0.	0.	320.1	1000.0	320.1	3.294E-07	3.289E-07	3.289E-07
A	4.0	0.87	1810.	0.	0.	320.1	1000.0	320.1	2.480E-07	2.476E-07	2.476E-07
A	5.0	0.35	1810.	0.	0.	320.1	1000.0	320.1	1.988E-07	1.985E-07	1.985E-07
B	1.5	0.26	1810.	0.	0.	240.7	209.6	240.7	4.107E-06	4.069E-06	4.069E-06
B	2.0	0.87	1810.	0.	0.	240.7	209.6	240.7	3.125E-06	3.096E-06	3.096E-06
B	3.0	1.26	1810.	0.	0.	240.7	209.6	240.7	2.089E-06	2.070E-06	2.070E-06
B	4.0	0.65	1810.	0.	0.	240.7	209.6	240.7	1.573E-06	1.558E-06	1.558E-06
B	5.0	0.17	1810.	0.	0.	240.7	209.6	240.7	1.261E-06	1.250E-06	1.250E-06
C	1.0	0.04	1810.	0.	0.	182.8	104.9	182.8	1.596E-05	1.558E-05	1.558E-05
C	1.5	0.43	1810.	0.	0.	182.8	104.9	182.8	1.081E-05	1.055E-05	1.055E-05
C	2.0	1.04	1810.	0.	0.	182.8	104.9	182.8	8.223E-06	8.029E-06	8.029E-06
C	3.0	2.13	1810.	0.	0.	182.8	104.9	182.8	5.498E-06	5.368E-06	5.368E-06
C	4.0	0.70	1810.	0.	0.	182.8	104.9	182.8	4.139E-06	4.041E-06	4.041E-06
C	5.0	0.17	1810.	0.	0.	182.8	104.9	182.8	3.318E-06	3.240E-06	3.240E-06
D	1.0	1.00	1810.	0.	0.	128.7	47.4	190.3	3.389E-05	4.657E-05	3.389E-05
D	1.5	5.57	1810.	0.	0.	128.7	47.4	190.3	2.295E-05	3.154E-05	2.295E-05
D	2.0	7.13	1810.	0.	0.	128.7	47.4	189.6	1.753E-05	2.400E-05	1.753E-05
D	3.0	8.57	1810.	0.	0.	128.7	47.4	162.1	1.371E-05	1.605E-05	1.371E-05
D	4.0	4.61	1810.	0.	0.	128.7	47.4	146.5	1.142E-05	1.208E-05	1.142E-05
D	5.0	1.13	1810.	0.	0.	128.7	47.4	136.2	9.848E-06	9.685E-06	9.685E-06
D	6.0	0.13	1810.	0.	0.	128.7	47.4	128.8	8.699E-06	8.088E-06	8.088E-06
D	8.0	0.04	1810.	0.	0.	128.7	47.4	128.7	6.538E-06	6.076E-06	6.076E-06
E	0.4	0.03	1810.	0.	0.	91.5	32.3	179.1	1.568E-04	2.653E-04	1.568E-04
E	1.0	6.09	1810.	0.	0.	91.5	32.3	179.1	5.339E-05	9.030E-05	5.339E-05
E	1.5	12.39	1810.	0.	0.	91.5	32.3	179.1	3.616E-05	6.115E-05	3.616E-05
E	2.0	8.74	1810.	0.	0.	91.5	32.3	179.1	2.752E-05	4.654E-05	2.752E-05
E	3.0	7.61	1810.	0.	0.	91.5	32.3	135.6	2.430E-05	3.112E-05	2.430E-05
E	4.0	2.43	1810.	0.	0.	91.5	32.3	113.9	2.178E-05	2.342E-05	2.178E-05
E	5.0	0.57	1810.	0.	0.	91.5	32.3	100.8	1.973E-05	1.878E-05	1.878E-05
E	5.9	0.09	1810.	0.	0.	91.5	32.3	92.0	1.805E-05	1.568E-05	1.568E-05
F	0.4	0.14	1810.	0.	0.	63.2	21.0	153.8	2.804E-04	5.061E-04	2.804E-04

F	1.0	6.22	1810.	0.	0.	63.2	21.0	153.8	9.546E-05	1.723E-04	9.546E-05
F	1.5	6.26	1810.	0.	0.	63.2	21.0	153.8	6.465E-05	1.167E-04	6.465E-05
F	2.0	1.22	1810.	0.	0.	63.2	21.0	153.8	4.920E-05	8.879E-05	4.920E-05
F	3.0	0.26	1810.	0.	0.	63.2	21.0	105.7	4.786E-05	5.937E-05	4.786E-05
G	0.4	0.10	1810.	0.	0.	43.6	13.7	147.9	4.480E-04	8.550E-04	4.480E-04
G	1.0	3.96	1810.	0.	0.	43.6	13.7	147.9	1.525E-04	2.911E-04	1.525E-04
G	1.5	2.83	1810.	0.	0.	43.6	13.7	147.9	1.033E-04	1.971E-04	1.033E-04
G	2.0	1.09	1810.	0.	0.	43.6	13.7	147.9	7.859E-05	1.500E-04	7.859E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

W SECTOR BOUNDARY DISTANCE = 1810.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.480E-04	2.804E-04	1.568E-04	1.525E-04	1.033E-04	9.546E-05	7.859E-05	6.465E-05	5.339E-05	4.920E-05
0.102	0.237	0.262	4.219	7.045	13.262	14.349	20.610	26.697	27.914
0.00534	0.01245	0.01379	0.22188	0.37052	0.69753	0.75470	1.08399	1.40414	1.46817
4.786E-05	3.616E-05	3.389E-05	2.752E-05	2.430E-05	2.295E-05	2.178E-05	1.878E-05	1.753E-05	1.568E-05
28.175	40.566	41.566	50.305	57.914	63.479	65.913	66.479	73.609	73.696
1.48189	2.13361	2.18621	2.64585	3.04603	3.33873	3.46679	3.49652	3.87155	3.87612
1.558E-05	1.371E-05	1.142E-05	1.055E-05	9.685E-06	8.088E-06	8.029E-06	6.076E-06	5.368E-06	4.069E-06
73.739	82.305	86.913	87.348	88.478	88.609	89.652	89.696	91.826	92.087
3.87841	4.32890	4.57130	4.59417	4.65362	4.66048	4.71536	4.71765	4.82970	4.84342
4.041E-06	3.240E-06	3.096E-06	2.070E-06	1.558E-06	1.250E-06	4.919E-07	3.289E-07	2.476E-07	1.985E-07
92.783	92.957	93.826	95.087	95.739	95.913	96.826	98.783	99.652	100.000
4.88001	4.88916	4.93489	5.00121	5.03551	5.04466	5.09268	5.19558	5.24132	5.25961

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

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(2)= 0.222
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(3)= 0.697
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(4)= 1.403

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.131
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.336
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.464
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   3.868
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   4.325
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE(10)=   4.568
```

```
K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
5  1      -7.71082 -11.76849  -1.04727
5  2      -8.78838 -12.23565  -1.21144
5  3      -9.25677 -14.70226  -2.21455
5  4      -9.83784 -14.89658  -2.30301
5  5     -10.22758 -14.98256  -2.34543
5  6     -10.68199 -16.37066  -3.10246
5  7     -10.73463 -18.53890  -4.29601
5  8     -10.95135 -19.29725  -4.72538
5  9     -11.19742 -23.34609  -7.08744
5 10     -11.38039     NUMXQ(K)= 10
  2.395E-04              0.053              1.000
  1.706E-04              0.158              3.000
  1.427E-04              0.263              5.000
  1.077E-04              0.526             10.000
  8.650E-05              0.789             15.000
  6.830E-05              1.052             20.000
  5.651E-05              1.315             25.000
  4.801E-05              1.578             30.000
  4.160E-05              1.841             35.000
  3.665E-05              2.104             40.000
  3.264E-05              2.367             45.000
  2.937E-05              2.630             50.000
  2.665E-05              2.893             55.000
  2.435E-05              3.156             60.000
  2.221E-05              3.419             65.000
  1.936E-05              3.682             70.000
  1.683E-05              3.945             75.000
  1.460E-05              4.208             80.000
  1.231E-05              4.471             85.000

  1.100E-04              0.5                9.51

ANNUAL AVERAGE =   1.09E-06

K=  5     FIVEXQ(K)= 1.100E-04     FIVEPR(K)= 9.506
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.5	0.05	1810.	0.	0.	320.1	1000.0	320.1	6.474E-07	6.465E-07	6.465E-07
A	2.0	0.29	1810.	0.	0.	320.1	1000.0	320.1	4.927E-07	4.919E-07	4.919E-07
A	3.0	1.37	1810.	0.	0.	320.1	1000.0	320.1	3.294E-07	3.289E-07	3.289E-07
A	4.0	0.69	1810.	0.	0.	320.1	1000.0	320.1	2.480E-07	2.476E-07	2.476E-07
A	5.0	0.34	1810.	0.	0.	320.1	1000.0	320.1	1.988E-07	1.985E-07	1.985E-07
A	6.0	0.15	1810.	0.	0.	320.1	1000.0	320.1	1.660E-07	1.658E-07	1.658E-07
B	1.5	0.05	1810.	0.	0.	240.7	209.6	240.7	4.107E-06	4.069E-06	4.069E-06
B	2.0	0.59	1810.	0.	0.	240.7	209.6	240.7	3.125E-06	3.096E-06	3.096E-06
B	3.0	1.33	1810.	0.	0.	240.7	209.6	240.7	2.089E-06	2.070E-06	2.070E-06
B	4.0	0.49	1810.	0.	0.	240.7	209.6	240.7	1.573E-06	1.558E-06	1.558E-06
B	5.0	0.05	1810.	0.	0.	240.7	209.6	240.7	1.261E-06	1.250E-06	1.250E-06
C	1.5	0.29	1810.	0.	0.	182.8	104.9	182.8	1.081E-05	1.055E-05	1.055E-05
C	2.0	0.88	1810.	0.	0.	182.8	104.9	182.8	8.223E-06	8.029E-06	8.029E-06
C	3.0	1.72	1810.	0.	0.	182.8	104.9	182.8	5.498E-06	5.368E-06	5.368E-06
C	4.0	0.49	1810.	0.	0.	182.8	104.9	182.8	4.139E-06	4.041E-06	4.041E-06
C	6.0	0.20	1810.	0.	0.	182.8	104.9	182.8	2.771E-06	2.706E-06	2.706E-06
D	1.0	0.34	1810.	0.	0.	128.7	47.4	190.3	3.389E-05	4.657E-05	3.389E-05
D	1.5	2.11	1810.	0.	0.	128.7	47.4	190.3	2.295E-05	3.154E-05	2.295E-05
D	2.0	4.57	1810.	0.	0.	128.7	47.4	189.6	1.753E-05	2.400E-05	1.753E-05
D	3.0	8.15	1810.	0.	0.	128.7	47.4	162.1	1.371E-05	1.605E-05	1.371E-05
D	4.0	4.37	1810.	0.	0.	128.7	47.4	146.5	1.142E-05	1.208E-05	1.142E-05
D	5.0	2.80	1810.	0.	0.	128.7	47.4	136.2	9.848E-06	9.685E-06	9.685E-06
D	6.0	1.57	1810.	0.	0.	128.7	47.4	128.8	8.699E-06	8.088E-06	8.088E-06
D	8.0	0.34	1810.	0.	0.	128.7	47.4	128.7	6.538E-06	6.076E-06	6.076E-06
E	0.4	0.01	1810.	0.	0.	91.5	32.3	179.1	1.568E-04	2.653E-04	1.568E-04
E	1.0	1.67	1810.	0.	0.	91.5	32.3	179.1	5.339E-05	9.030E-05	5.339E-05
E	1.5	7.81	1810.	0.	0.	91.5	32.3	179.1	3.616E-05	6.115E-05	3.616E-05
E	2.0	9.43	1810.	0.	0.	91.5	32.3	179.1	2.752E-05	4.654E-05	2.752E-05
E	3.0	13.21	1810.	0.	0.	91.5	32.3	135.6	2.430E-05	3.112E-05	2.430E-05
E	4.0	4.32	1810.	0.	0.	91.5	32.3	113.9	2.178E-05	2.342E-05	2.178E-05
E	5.0	2.46	1810.	0.	0.	91.5	32.3	100.8	1.973E-05	1.878E-05	1.878E-05
E	5.9	1.23	1810.	0.	0.	91.5	32.3	92.0	1.805E-05	1.568E-05	1.568E-05
E	7.9	0.15	1810.	0.	0.	91.5	32.3	91.5	1.363E-05	1.178E-05	1.178E-05

F	0.4	0.06	1810.	0.	0.	63.2	21.0	153.8	2.804E-04	5.061E-04	2.804E-04
F	1.0	2.95	1810.	0.	0.	63.2	21.0	153.8	9.546E-05	1.723E-04	9.546E-05
F	1.5	7.22	1810.	0.	0.	63.2	21.0	153.8	6.465E-05	1.167E-04	6.465E-05
F	2.0	7.37	1810.	0.	0.	63.2	21.0	153.8	4.920E-05	8.879E-05	4.920E-05
F	3.0	2.41	1810.	0.	0.	63.2	21.0	105.7	4.786E-05	5.937E-05	4.786E-05
F	4.0	0.05	1810.	0.	0.	63.2	21.0	83.8	4.545E-05	4.469E-05	4.469E-05
G	0.4	0.06	1810.	0.	0.	43.6	13.7	147.9	4.480E-04	8.550E-04	4.480E-04
G	1.0	2.26	1810.	0.	0.	43.6	13.7	147.9	1.525E-04	2.911E-04	1.525E-04
G	1.5	2.36	1810.	0.	0.	43.6	13.7	147.9	1.033E-04	1.971E-04	1.033E-04
G	2.0	1.47	1810.	0.	0.	43.6	13.7	147.9	7.859E-05	1.500E-04	7.859E-05
G	3.0	0.29	1810.	0.	0.	43.6	13.7	87.7	8.860E-05	1.003E-04	8.860E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

WNW SECTOR BOUNDARY DISTANCE = 1810.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.480E-04	2.804E-04	1.568E-04	1.525E-04	1.033E-04	9.546E-05	8.860E-05	7.859E-05	6.465E-05	5.339E-05
0.058	0.122	0.129	2.388	4.744	7.691	7.985	9.458	16.676	18.345
0.00270	0.00568	0.00601	0.11120	0.22096	0.35817	0.37189	0.44049	0.77665	0.85440
4.920E-05	4.786E-05	4.469E-05	3.616E-05	3.389E-05	2.752E-05	2.430E-05	2.295E-05	2.178E-05	1.878E-05
25.710	28.116	28.166	35.973	36.316	45.744	58.952	61.063	65.384	67.839
1.19741	1.30946	1.31175	1.67534	1.69135	2.13041	2.74555	2.84388	3.04511	3.15945
1.753E-05	1.568E-05	1.371E-05	1.178E-05	1.142E-05	1.055E-05	9.685E-06	8.088E-06	8.029E-06	6.076E-06
72.405	73.633	81.784	81.931	86.301	86.595	89.394	90.965	91.849	92.193
3.37212	3.42929	3.80889	3.81575	4.01927	4.03299	4.16334	4.23651	4.27767	4.29368
5.368E-06	4.069E-06	4.041E-06	3.096E-06	2.706E-06	2.070E-06	1.558E-06	1.250E-06	6.465E-07	4.919E-07
93.911	93.961	94.452	95.041	95.237	96.563	97.054	97.103	97.152	97.447
4.37372	4.37600	4.39887	4.42631	4.43546	4.49720	4.52007	4.52236	4.52464	4.53836
3.289E-07	2.476E-07	1.985E-07	1.658E-07						
98.822	99.509	99.853	100.000						
4.60239	4.63441	4.65042	4.65728						

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.111
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.358
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.776
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.308
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.743
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.042
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   3.806
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   4.016
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
6	1	-7.71082	-12.15629	-1.10103
6	2	-8.78838	-12.66776	-1.26824
6	3	-9.25677	-13.14771	-1.44669
6	4	-9.64651	-13.35526	-1.53245
6	5	-9.94734	-14.90897	-2.23111
6	6	-10.62522	-15.25415	-2.41089
6	7	-10.73463	-19.33111	-4.58571
6	8	-11.19742	-24.25202	-7.36008
6	9	-11.38039	NUMXQ(K)= 9	

2.012E-04	0.047	1.000
1.397E-04	0.140	3.000
1.141E-04	0.233	5.000
8.395E-05	0.466	10.000
6.833E-05	0.699	15.000
5.836E-05	0.931	20.000
5.130E-05	1.164	25.000
4.523E-05	1.397	30.000
3.946E-05	1.630	35.000
3.498E-05	1.863	40.000
3.139E-05	2.096	45.000
2.844E-05	2.329	50.000
2.598E-05	2.562	55.000
2.385E-05	2.794	60.000
2.191E-05	3.027	65.000
1.895E-05	3.260	70.000
1.643E-05	3.493	75.000
1.436E-05	3.726	80.000
1.203E-05	3.959	85.000
8.103E-05	0.5	10.74

ANNUAL AVERAGE = 7.79E-07

K= 6 FIVEXQ(K)= 8.103E-05 FIVEPR(K)=10.736

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.5	0.14	1810.	0.	0.	320.1	1000.0	320.1	6.474E-07	6.465E-07	6.465E-07
A	2.0	0.64	1810.	0.	0.	320.1	1000.0	320.1	4.927E-07	4.919E-07	4.919E-07
A	3.0	1.47	1810.	0.	0.	320.1	1000.0	320.1	3.294E-07	3.289E-07	3.289E-07
A	4.0	0.87	1810.	0.	0.	320.1	1000.0	320.1	2.480E-07	2.476E-07	2.476E-07
A	5.0	0.28	1810.	0.	0.	320.1	1000.0	320.1	1.988E-07	1.985E-07	1.985E-07
A	6.0	0.09	1810.	0.	0.	320.1	1000.0	320.1	1.660E-07	1.658E-07	1.658E-07
A	8.0	0.32	1810.	0.	0.	320.1	1000.0	320.1	1.247E-07	1.246E-07	1.246E-07
B	1.5	0.05	1810.	0.	0.	240.7	209.6	240.7	4.107E-06	4.069E-06	4.069E-06
B	2.0	0.46	1810.	0.	0.	240.7	209.6	240.7	3.125E-06	3.096E-06	3.096E-06
B	3.0	1.47	1810.	0.	0.	240.7	209.6	240.7	2.089E-06	2.070E-06	2.070E-06
B	4.0	0.55	1810.	0.	0.	240.7	209.6	240.7	1.573E-06	1.558E-06	1.558E-06
B	5.0	0.32	1810.	0.	0.	240.7	209.6	240.7	1.261E-06	1.250E-06	1.250E-06
B	8.0	0.23	1810.	0.	0.	240.7	209.6	240.7	7.912E-07	7.840E-07	7.840E-07
C	1.0	0.05	1810.	0.	0.	182.8	104.9	182.8	1.596E-05	1.558E-05	1.558E-05
C	1.5	0.23	1810.	0.	0.	182.8	104.9	182.8	1.081E-05	1.055E-05	1.055E-05
C	2.0	0.60	1810.	0.	0.	182.8	104.9	182.8	8.223E-06	8.029E-06	8.029E-06
C	3.0	1.79	1810.	0.	0.	182.8	104.9	182.8	5.498E-06	5.368E-06	5.368E-06
C	4.0	0.73	1810.	0.	0.	182.8	104.9	182.8	4.139E-06	4.041E-06	4.041E-06
C	5.0	0.41	1810.	0.	0.	182.8	104.9	182.8	3.318E-06	3.240E-06	3.240E-06
C	6.0	0.23	1810.	0.	0.	182.8	104.9	182.8	2.771E-06	2.706E-06	2.706E-06
C	8.0	0.23	1810.	0.	0.	182.8	104.9	182.8	2.082E-06	2.033E-06	2.033E-06
D	1.0	0.18	1810.	0.	0.	128.7	47.4	190.3	3.389E-05	4.657E-05	3.389E-05
D	1.5	1.10	1810.	0.	0.	128.7	47.4	190.3	2.295E-05	3.154E-05	2.295E-05
D	2.0	3.03	1810.	0.	0.	128.7	47.4	189.6	1.753E-05	2.400E-05	1.753E-05
D	3.0	8.72	1810.	0.	0.	128.7	47.4	162.1	1.371E-05	1.605E-05	1.371E-05
D	4.0	6.06	1810.	0.	0.	128.7	47.4	146.5	1.142E-05	1.208E-05	1.142E-05
D	5.0	4.45	1810.	0.	0.	128.7	47.4	136.2	9.848E-06	9.685E-06	9.685E-06
D	6.0	3.72	1810.	0.	0.	128.7	47.4	128.8	8.699E-06	8.088E-06	8.088E-06
D	8.0	1.79	1810.	0.	0.	128.7	47.4	128.7	6.538E-06	6.076E-06	6.076E-06
E	0.4	0.00	1810.	0.	0.	91.5	32.3	179.1	1.568E-04	2.653E-04	1.568E-04
E	1.0	0.96	1810.	0.	0.	91.5	32.3	179.1	5.339E-05	9.030E-05	5.339E-05
E	1.5	2.75	1810.	0.	0.	91.5	32.3	179.1	3.616E-05	6.115E-05	3.616E-05
E	2.0	5.74	1810.	0.	0.	91.5	32.3	179.1	2.752E-05	4.654E-05	2.752E-05

E	3.0	16.30	1810.	0.	0.	91.5	32.3	135.6	2.430E-05	3.112E-05	2.430E-05
E	4.0	11.66	1810.	0.	0.	91.5	32.3	113.9	2.178E-05	2.342E-05	2.178E-05
E	5.0	4.59	1810.	0.	0.	91.5	32.3	100.8	1.973E-05	1.878E-05	1.878E-05
E	5.9	1.70	1810.	0.	0.	91.5	32.3	92.0	1.805E-05	1.568E-05	1.568E-05
E	7.9	1.61	1810.	0.	0.	91.5	32.3	91.5	1.363E-05	1.178E-05	1.178E-05
E	9.8	0.09	1810.	0.	0.	91.5	32.3	91.5	1.096E-05	9.474E-06	9.474E-06
F	0.4	0.03	1810.	0.	0.	63.2	21.0	153.8	2.804E-04	5.061E-04	2.804E-04
F	1.0	1.47	1810.	0.	0.	63.2	21.0	153.8	9.546E-05	1.723E-04	9.546E-05
F	1.5	3.12	1810.	0.	0.	63.2	21.0	153.8	6.465E-05	1.167E-04	6.465E-05
F	2.0	3.53	1810.	0.	0.	63.2	21.0	153.8	4.920E-05	8.879E-05	4.920E-05
F	3.0	3.26	1810.	0.	0.	63.2	21.0	105.7	4.786E-05	5.937E-05	4.786E-05
F	4.0	0.23	1810.	0.	0.	63.2	21.0	83.8	4.545E-05	4.469E-05	4.469E-05
F	5.0	0.05	1810.	0.	0.	63.2	21.0	71.4	4.275E-05	3.583E-05	3.583E-05
G	0.4	0.03	1810.	0.	0.	43.6	13.7	147.9	4.480E-04	8.550E-04	4.480E-04
G	1.0	1.24	1810.	0.	0.	43.6	13.7	147.9	1.525E-04	2.911E-04	1.525E-04
G	1.5	0.69	1810.	0.	0.	43.6	13.7	147.9	1.033E-04	1.971E-04	1.033E-04
G	2.0	0.50	1810.	0.	0.	43.6	13.7	147.9	7.859E-05	1.500E-04	7.859E-05
G	3.0	0.23	1810.	0.	0.	43.6	13.7	87.7	8.860E-05	1.003E-04	8.860E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NW SECTOR BOUNDARY DISTANCE = 1810.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.480E-04	2.804E-04	1.568E-04	1.525E-04	1.033E-04	9.546E-05	8.860E-05	7.859E-05	6.465E-05	5.339E-05
0.032	0.064	0.068	1.307	1.996	3.465	3.694	4.199	7.321	8.285
0.00159	0.00318	0.00338	0.06512	0.09942	0.17260	0.18403	0.20918	0.36468	0.41271
4.920E-05	4.786E-05	4.469E-05	3.616E-05	3.583E-05	3.389E-05	2.752E-05	2.430E-05	2.295E-05	2.178E-05
11.819	15.078	15.308	18.062	18.108	18.292	24.029	40.325	41.427	53.086
0.58879	0.75115	0.76258	0.89979	0.90207	0.91122	1.19706	2.00886	2.06375	2.64458
1.878E-05	1.753E-05	1.568E-05	1.558E-05	1.371E-05	1.178E-05	1.142E-05	1.055E-05	9.685E-06	9.474E-06
57.677	60.707	62.405	62.451	71.173	72.779	78.838	79.068	83.521	83.612
2.87326	3.02419	3.10880	3.11108	3.54557	3.62560	3.92746	3.93889	4.16071	4.16528
8.088E-06	8.029E-06	6.076E-06	5.368E-06	4.069E-06	4.041E-06	3.240E-06	3.096E-06	2.706E-06	2.070E-06
87.331	87.927	89.718	91.508	91.554	92.288	92.701	93.160	93.390	94.859
4.35051	4.38023	4.46942	4.55860	4.56089	4.59748	4.61806	4.64092	4.65236	4.72553
2.033E-06	1.558E-06	1.250E-06	7.840E-07	6.465E-07	4.919E-07	3.289E-07	2.476E-07	1.985E-07	1.658E-07
95.088	95.639	95.960	96.190	96.328	96.970	98.439	99.311	99.587	99.679
4.73697	4.76441	4.78042	4.79185	4.79871	4.83073	4.90390	4.94735	4.96107	4.96564
1.246E-07									
100.000									
4.98165									

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

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.065
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.750
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   2.642
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   3.542
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.924
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.157
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
7	1	-7.71082	-12.45468	-1.14012
7	2	-8.78838	-13.54533	-1.47929
7	3	-9.94734	-13.80787	-1.58722
7	4	-10.73463	-17.63891	-3.56583
7	5	-11.19742	-18.24652	-3.90219
7	6	-11.38039	-22.17016	-6.13209
7	7	-11.54497	NUMXQ(K)= 7	

1.663E-04	0.050	1.000
1.059E-04	0.149	3.000
8.350E-05	0.249	5.000
5.933E-05	0.498	10.000
4.799E-05	0.747	15.000
4.057E-05	0.996	20.000
3.545E-05	1.245	25.000
3.166E-05	1.494	30.000
2.871E-05	1.744	35.000
2.632E-05	1.993	40.000
2.435E-05	2.242	45.000
2.269E-05	2.491	50.000
2.062E-05	2.740	55.000
1.800E-05	2.989	60.000
1.586E-05	3.238	65.000
1.408E-05	3.487	70.000
1.249E-05	3.736	75.000
1.095E-05	3.985	80.000
5.921E-05	0.5	10.04

ANNUAL AVERAGE = 5.81E-07

K= 7 FIVEXQ(K)= 5.921E-05 FIVEPR(K)=10.037

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.5	0.07	1810.	0.	0.	320.1	1000.0	320.1	6.474E-07	6.465E-07	6.465E-07
A	2.0	0.25	1810.	0.	0.	320.1	1000.0	320.1	4.927E-07	4.919E-07	4.919E-07
A	3.0	1.79	1810.	0.	0.	320.1	1000.0	320.1	3.294E-07	3.289E-07	3.289E-07
A	4.0	1.33	1810.	0.	0.	320.1	1000.0	320.1	2.480E-07	2.476E-07	2.476E-07
A	5.0	0.35	1810.	0.	0.	320.1	1000.0	320.1	1.988E-07	1.985E-07	1.985E-07
A	6.0	0.25	1810.	0.	0.	320.1	1000.0	320.1	1.660E-07	1.658E-07	1.658E-07
A	8.0	0.42	1810.	0.	0.	320.1	1000.0	320.1	1.247E-07	1.246E-07	1.246E-07
A	9.9	0.11	1810.	0.	0.	320.1	1000.0	320.1	1.003E-07	1.001E-07	1.001E-07
A	24.3	0.04	1810.	0.	0.	320.1	1000.0	320.1	4.085E-08	4.079E-08	4.079E-08
B	1.5	0.11	1810.	0.	0.	240.7	209.6	240.7	4.107E-06	4.069E-06	4.069E-06
B	2.0	0.39	1810.	0.	0.	240.7	209.6	240.7	3.125E-06	3.096E-06	3.096E-06
B	3.0	1.02	1810.	0.	0.	240.7	209.6	240.7	2.089E-06	2.070E-06	2.070E-06
B	4.0	0.67	1810.	0.	0.	240.7	209.6	240.7	1.573E-06	1.558E-06	1.558E-06
B	5.0	0.53	1810.	0.	0.	240.7	209.6	240.7	1.261E-06	1.250E-06	1.250E-06
B	6.0	0.28	1810.	0.	0.	240.7	209.6	240.7	1.053E-06	1.044E-06	1.044E-06
B	8.0	0.39	1810.	0.	0.	240.7	209.6	240.7	7.912E-07	7.840E-07	7.840E-07
B	9.9	0.04	1810.	0.	0.	240.7	209.6	240.7	6.361E-07	6.303E-07	6.303E-07
B	24.3	0.04	1810.	0.	0.	240.7	209.6	240.7	2.591E-07	2.567E-07	2.567E-07
C	1.5	0.07	1810.	0.	0.	182.8	104.9	182.8	1.081E-05	1.055E-05	1.055E-05
C	2.0	0.49	1810.	0.	0.	182.8	104.9	182.8	8.223E-06	8.029E-06	8.029E-06
C	3.0	1.44	1810.	0.	0.	182.8	104.9	182.8	5.498E-06	5.368E-06	5.368E-06
C	4.0	1.23	1810.	0.	0.	182.8	104.9	182.8	4.139E-06	4.041E-06	4.041E-06
C	5.0	0.46	1810.	0.	0.	182.8	104.9	182.8	3.318E-06	3.240E-06	3.240E-06
C	6.0	0.67	1810.	0.	0.	182.8	104.9	182.8	2.771E-06	2.706E-06	2.706E-06
C	8.0	0.49	1810.	0.	0.	182.8	104.9	182.8	2.082E-06	2.033E-06	2.033E-06
C	9.9	0.04	1810.	0.	0.	182.8	104.9	182.8	1.674E-06	1.634E-06	1.634E-06
C	24.3	0.04	1810.	0.	0.	182.8	104.9	182.8	6.818E-07	6.656E-07	6.656E-07
D	1.0	0.14	1810.	0.	0.	128.7	47.4	190.3	3.389E-05	4.657E-05	3.389E-05
D	1.5	0.67	1810.	0.	0.	128.7	47.4	190.3	2.295E-05	3.154E-05	2.295E-05
D	2.0	1.89	1810.	0.	0.	128.7	47.4	189.6	1.753E-05	2.400E-05	1.753E-05
D	3.0	7.12	1810.	0.	0.	128.7	47.4	162.1	1.371E-05	1.605E-05	1.371E-05
D	4.0	7.61	1810.	0.	0.	128.7	47.4	146.5	1.142E-05	1.208E-05	1.142E-05
D	5.0	5.16	1810.	0.	0.	128.7	47.4	136.2	9.848E-06	9.685E-06	9.685E-06
D	6.0	4.67	1810.	0.	0.	128.7	47.4	128.8	8.699E-06	8.088E-06	8.088E-06

D	8.0	3.75	1810.	0.	0.	128.7	47.4	128.7	6.538E-06	6.076E-06	6.076E-06
D	9.9	0.63	1810.	0.	0.	128.7	47.4	128.7	5.257E-06	4.886E-06	4.886E-06
D	24.3	0.11	1810.	0.	0.	128.7	47.4	128.7	2.141E-06	1.990E-06	1.990E-06
E	0.4	0.00	1810.	0.	0.	91.5	32.3	179.1	1.568E-04	2.653E-04	1.568E-04
E	1.0	0.46	1810.	0.	0.	91.5	32.3	179.1	5.339E-05	9.030E-05	5.339E-05
E	1.5	1.33	1810.	0.	0.	91.5	32.3	179.1	3.616E-05	6.115E-05	3.616E-05
E	2.0	3.68	1810.	0.	0.	91.5	32.3	179.1	2.752E-05	4.654E-05	2.752E-05
E	3.0	14.80	1810.	0.	0.	91.5	32.3	135.6	2.430E-05	3.112E-05	2.430E-05
E	4.0	11.12	1810.	0.	0.	91.5	32.3	113.9	2.178E-05	2.342E-05	2.178E-05
E	5.0	7.82	1810.	0.	0.	91.5	32.3	100.8	1.973E-05	1.878E-05	1.878E-05
E	5.9	4.77	1810.	0.	0.	91.5	32.3	92.0	1.805E-05	1.568E-05	1.568E-05
E	7.9	2.70	1810.	0.	0.	91.5	32.3	91.5	1.363E-05	1.178E-05	1.178E-05
E	9.8	0.18	1810.	0.	0.	91.5	32.3	91.5	1.096E-05	9.474E-06	9.474E-06
E	24.1	0.35	1810.	0.	0.	91.5	32.3	91.5	4.464E-06	3.858E-06	3.858E-06
F	0.4	0.02	1810.	0.	0.	63.2	21.0	153.8	2.804E-04	5.061E-04	2.804E-04
F	1.0	0.81	1810.	0.	0.	63.2	21.0	153.8	9.546E-05	1.723E-04	9.546E-05
F	1.5	1.26	1810.	0.	0.	63.2	21.0	153.8	6.465E-05	1.167E-04	6.465E-05
F	2.0	1.54	1810.	0.	0.	63.2	21.0	153.8	4.920E-05	8.879E-05	4.920E-05
F	3.0	2.53	1810.	0.	0.	63.2	21.0	105.7	4.786E-05	5.937E-05	4.786E-05
F	4.0	0.95	1810.	0.	0.	63.2	21.0	83.8	4.545E-05	4.469E-05	4.469E-05
F	5.0	0.04	1810.	0.	0.	63.2	21.0	71.4	4.275E-05	3.583E-05	3.583E-05
G	0.4	0.02	1810.	0.	0.	43.6	13.7	147.9	4.480E-04	8.550E-04	4.480E-04
G	1.0	0.63	1810.	0.	0.	43.6	13.7	147.9	1.525E-04	2.911E-04	1.525E-04
G	1.5	0.14	1810.	0.	0.	43.6	13.7	147.9	1.033E-04	1.971E-04	1.033E-04
G	2.0	0.04	1810.	0.	0.	43.6	13.7	147.9	7.859E-05	1.500E-04	7.859E-05
G	3.0	0.11	1810.	0.	0.	43.6	13.7	87.7	8.860E-05	1.003E-04	8.860E-05
G	4.0	0.04	1810.	0.	0.	43.6	13.7	63.6	9.194E-05	7.549E-05	7.549E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNW SECTOR BOUNDARY DISTANCE = 1810.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.480E-04	2.804E-04	1.568E-04	1.525E-04	1.033E-04	9.546E-05	8.860E-05	7.859E-05	7.549E-05	6.465E-05
0.016	0.034	0.036	0.667	0.807	1.614	1.719	1.754	1.789	3.052
0.00106	0.00220	0.00232	0.04349	0.05263	0.10523	0.11209	0.11438	0.11666	0.19899
5.339E-05	4.920E-05	4.786E-05	4.469E-05	3.616E-05	3.583E-05	3.389E-05	2.752E-05	2.430E-05	2.295E-05
3.508	5.051	7.577	8.524	9.857	9.892	10.032	13.715	28.517	29.183
0.22871	0.32933	0.49398	0.55572	0.64262	0.64490	0.65405	0.89416	1.85917	1.90262
2.178E-05	1.878E-05	1.753E-05	1.568E-05	1.371E-05	1.178E-05	1.142E-05	1.055E-05	9.685E-06	9.474E-06
40.302	48.124	50.018	54.788	61.908	64.609	72.220	72.291	77.447	77.622
2.62752	3.13747	3.26096	3.57196	4.03617	4.21225	4.70848	4.71305	5.04920	5.06064
8.088E-06	8.029E-06	6.076E-06	5.368E-06	4.886E-06	4.069E-06	4.041E-06	3.858E-06	3.240E-06	3.096E-06
82.287	82.778	86.531	87.969	88.601	88.706	89.933	90.284	90.740	91.126
5.36478	5.39679	5.64147	5.73523	5.77639	5.78325	5.86329	5.88616	5.91588	5.94104
2.706E-06	2.070E-06	2.033E-06	1.990E-06	1.634E-06	1.558E-06	1.250E-06	1.044E-06	7.840E-07	6.656E-07
91.792	92.810	93.301	93.406	93.441	94.107	94.633	94.914	95.300	95.335
5.98449	6.05080	6.08282	6.08968	6.09196	6.13541	6.16971	6.18801	6.21316	6.21545
6.465E-07	6.303E-07	4.919E-07	3.289E-07	2.567E-07	2.476E-07	1.985E-07	1.658E-07	1.246E-07	1.001E-07
95.405	95.440	95.686	97.475	97.510	98.842	99.193	99.439	99.860	99.965
6.22002	6.22231	6.23832	6.35494	6.35723	6.44412	6.46699	6.48300	6.51044	6.51730
4.079E-08									
100.000									
6.51959									

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.043
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.493
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   2.625
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   3.135
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   4.705
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   5.045
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   5.393
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   5.638
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
8	1	-7.71082	-12.67720	-1.16788
8	2	-8.78838	-13.93802	-1.54652
8	3	-9.94734	-13.11472	-1.22747
8	4	-10.73463	-14.43346	-1.90757
8	5	-10.88275	-15.83067	-2.65820
8	6	-11.38039	-19.55400	-4.88219
8	7	-11.54497	-20.98979	-5.75743
8	8	-11.73251	-32.14287	-12.69392
8	9	-12.01110	NUMXQ(K)= 9	

1.278E-04	0.065	1.000
7.671E-05	0.196	3.000
5.946E-05	0.326	5.000
4.247E-05	0.652	10.000
3.541E-05	0.978	15.000
3.095E-05	1.304	20.000
2.778E-05	1.630	25.000
2.537E-05	1.956	30.000
2.345E-05	2.282	35.000
2.186E-05	2.608	40.000
1.987E-05	2.934	45.000
1.795E-05	3.260	50.000
1.601E-05	3.586	55.000
1.440E-05	3.912	60.000
1.304E-05	4.238	65.000
1.188E-05	4.564	70.000
1.045E-05	4.890	75.000
8.842E-06	5.216	80.000
6.800E-06	5.542	85.000
4.761E-05	0.5	7.67

ANNUAL AVERAGE = 5.72E-07

```
K=  8      FIVEXQ(K)= 4.761E-05      FIVEPR(K)= 7.669
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	2.0	0.24	1810.	0.	0.	320.1	1000.0	320.1	4.927E-07	4.919E-07	4.919E-07
A	3.0	1.61	1810.	0.	0.	320.1	1000.0	320.1	3.294E-07	3.289E-07	3.289E-07
A	4.0	1.12	1810.	0.	0.	320.1	1000.0	320.1	2.480E-07	2.476E-07	2.476E-07
A	5.0	1.08	1810.	0.	0.	320.1	1000.0	320.1	1.988E-07	1.985E-07	1.985E-07
A	6.0	0.73	1810.	0.	0.	320.1	1000.0	320.1	1.660E-07	1.658E-07	1.658E-07
A	8.0	0.63	1810.	0.	0.	320.1	1000.0	320.1	1.247E-07	1.246E-07	1.246E-07
A	9.9	0.21	1810.	0.	0.	320.1	1000.0	320.1	1.003E-07	1.001E-07	1.001E-07
A	24.3	0.10	1810.	0.	0.	320.1	1000.0	320.1	4.085E-08	4.079E-08	4.079E-08
B	1.5	0.14	1810.	0.	0.	240.7	209.6	240.7	4.107E-06	4.069E-06	4.069E-06
B	2.0	0.17	1810.	0.	0.	240.7	209.6	240.7	3.125E-06	3.096E-06	3.096E-06
B	3.0	0.73	1810.	0.	0.	240.7	209.6	240.7	2.089E-06	2.070E-06	2.070E-06
B	4.0	0.66	1810.	0.	0.	240.7	209.6	240.7	1.573E-06	1.558E-06	1.558E-06
B	5.0	0.70	1810.	0.	0.	240.7	209.6	240.7	1.261E-06	1.250E-06	1.250E-06
B	6.0	0.77	1810.	0.	0.	240.7	209.6	240.7	1.053E-06	1.044E-06	1.044E-06
B	8.0	0.31	1810.	0.	0.	240.7	209.6	240.7	7.912E-07	7.840E-07	7.840E-07
B	9.9	0.21	1810.	0.	0.	240.7	209.6	240.7	6.361E-07	6.303E-07	6.303E-07
B	24.3	0.03	1810.	0.	0.	240.7	209.6	240.7	2.591E-07	2.567E-07	2.567E-07
C	1.5	0.14	1810.	0.	0.	182.8	104.9	182.8	1.081E-05	1.055E-05	1.055E-05
C	2.0	0.45	1810.	0.	0.	182.8	104.9	182.8	8.223E-06	8.029E-06	8.029E-06
C	3.0	0.70	1810.	0.	0.	182.8	104.9	182.8	5.498E-06	5.368E-06	5.368E-06
C	4.0	0.94	1810.	0.	0.	182.8	104.9	182.8	4.139E-06	4.041E-06	4.041E-06
C	5.0	0.94	1810.	0.	0.	182.8	104.9	182.8	3.318E-06	3.240E-06	3.240E-06
C	6.0	0.59	1810.	0.	0.	182.8	104.9	182.8	2.771E-06	2.706E-06	2.706E-06
C	8.0	0.63	1810.	0.	0.	182.8	104.9	182.8	2.082E-06	2.033E-06	2.033E-06
C	9.9	0.07	1810.	0.	0.	182.8	104.9	182.8	1.674E-06	1.634E-06	1.634E-06
D	1.0	0.10	1810.	0.	0.	128.7	47.4	190.3	3.389E-05	4.657E-05	3.389E-05
D	1.5	0.42	1810.	0.	0.	128.7	47.4	190.3	2.295E-05	3.154E-05	2.295E-05
D	2.0	1.22	1810.	0.	0.	128.7	47.4	189.6	1.753E-05	2.400E-05	1.753E-05
D	3.0	4.02	1810.	0.	0.	128.7	47.4	162.1	1.371E-05	1.605E-05	1.371E-05
D	4.0	4.48	1810.	0.	0.	128.7	47.4	146.5	1.142E-05	1.208E-05	1.142E-05
D	5.0	5.42	1810.	0.	0.	128.7	47.4	136.2	9.848E-06	9.685E-06	9.685E-06
D	6.0	5.00	1810.	0.	0.	128.7	47.4	128.8	8.699E-06	8.088E-06	8.088E-06
D	8.0	7.17	1810.	0.	0.	128.7	47.4	128.7	6.538E-06	6.076E-06	6.076E-06
D	9.9	2.10	1810.	0.	0.	128.7	47.4	128.7	5.257E-06	4.886E-06	4.886E-06

D	24.3	0.45	1810.	0.	0.	128.7	47.4	128.7	2.141E-06	1.990E-06	1.990E-06
E	0.4	0.00	1810.	0.	0.	91.5	32.3	179.1	1.568E-04	2.653E-04	1.568E-04
E	1.0	0.35	1810.	0.	0.	91.5	32.3	179.1	5.339E-05	9.030E-05	5.339E-05
E	1.5	0.66	1810.	0.	0.	91.5	32.3	179.1	3.616E-05	6.115E-05	3.616E-05
E	2.0	1.92	1810.	0.	0.	91.5	32.3	179.1	2.752E-05	4.654E-05	2.752E-05
E	3.0	8.15	1810.	0.	0.	91.5	32.3	135.6	2.430E-05	3.112E-05	2.430E-05
E	4.0	11.15	1810.	0.	0.	91.5	32.3	113.9	2.178E-05	2.342E-05	2.178E-05
E	5.0	10.84	1810.	0.	0.	91.5	32.3	100.8	1.973E-05	1.878E-05	1.878E-05
E	5.9	7.55	1810.	0.	0.	91.5	32.3	92.0	1.805E-05	1.568E-05	1.568E-05
E	7.9	6.47	1810.	0.	0.	91.5	32.3	91.5	1.363E-05	1.178E-05	1.178E-05
E	9.8	2.83	1810.	0.	0.	91.5	32.3	91.5	1.096E-05	9.474E-06	9.474E-06
E	24.1	0.42	1810.	0.	0.	91.5	32.3	91.5	4.464E-06	3.858E-06	3.858E-06
F	0.4	0.01	1810.	0.	0.	63.2	21.0	153.8	2.804E-04	5.061E-04	2.804E-04
F	1.0	0.59	1810.	0.	0.	63.2	21.0	153.8	9.546E-05	1.723E-04	9.546E-05
F	1.5	0.56	1810.	0.	0.	63.2	21.0	153.8	6.465E-05	1.167E-04	6.465E-05
F	2.0	0.73	1810.	0.	0.	63.2	21.0	153.8	4.920E-05	8.879E-05	4.920E-05
F	3.0	1.50	1810.	0.	0.	63.2	21.0	105.7	4.786E-05	5.937E-05	4.786E-05
F	4.0	0.59	1810.	0.	0.	63.2	21.0	83.8	4.545E-05	4.469E-05	4.469E-05
F	5.0	0.24	1810.	0.	0.	63.2	21.0	71.4	4.275E-05	3.583E-05	3.583E-05
G	0.4	0.01	1810.	0.	0.	43.6	13.7	147.9	4.480E-04	8.550E-04	4.480E-04
G	1.0	0.45	1810.	0.	0.	43.6	13.7	147.9	1.525E-04	2.911E-04	1.525E-04
G	1.5	0.31	1810.	0.	0.	43.6	13.7	147.9	1.033E-04	1.971E-04	1.033E-04
G	2.0	0.14	1810.	0.	0.	43.6	13.7	147.9	7.859E-05	1.500E-04	7.859E-05
G	3.0	0.07	1810.	0.	0.	43.6	13.7	87.7	8.860E-05	1.003E-04	8.860E-05
G	4.0	0.07	1810.	0.	0.	43.6	13.7	63.6	9.194E-05	7.549E-05	7.549E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

N SECTOR BOUNDARY DISTANCE = 1810.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.480E-04	2.804E-04	1.568E-04	1.525E-04	1.033E-04	9.546E-05	8.860E-05	7.859E-05	7.549E-05	6.465E-05
0.012	0.025	0.026	0.481	0.795	1.390	1.460	1.600	1.670	2.229
0.00076	0.00161	0.00170	0.03143	0.05201	0.09089	0.09546	0.10461	0.10918	0.14577
5.339E-05	4.920E-05	4.786E-05	4.469E-05	3.616E-05	3.583E-05	3.389E-05	2.752E-05	2.430E-05	2.295E-05
2.579	3.313	4.817	5.411	6.076	6.320	6.425	8.348	16.496	16.916
0.16864	0.21666	0.31499	0.35386	0.39731	0.41332	0.42018	0.54595	1.07877	1.10621
2.178E-05	1.878E-05	1.753E-05	1.568E-05	1.371E-05	1.178E-05	1.142E-05	1.055E-05	9.685E-06	9.474E-06
28.071	38.911	40.135	47.688	51.709	58.178	62.654	62.794	68.214	71.046
1.83568	2.54458	2.62462	3.11856	3.38153	3.80458	4.09729	4.10644	4.46089	4.64611
8.088E-06	8.029E-06	6.076E-06	5.368E-06	4.886E-06	4.069E-06	4.041E-06	3.858E-06	3.240E-06	3.096E-06
76.047	76.501	83.670	84.369	86.467	86.607	87.551	87.971	88.915	89.090
4.97312	5.00285	5.47163	5.51737	5.65457	5.66372	5.72546	5.75290	5.81465	5.82608
2.706E-06	2.070E-06	2.033E-06	1.990E-06	1.634E-06	1.558E-06	1.250E-06	1.044E-06	7.840E-07	6.303E-07
89.684	90.419	91.048	91.503	91.573	92.237	92.936	93.706	94.020	94.230
5.86496	5.91298	5.95414	5.98387	5.98844	6.03189	6.07762	6.12793	6.14851	6.16223
4.919E-07	3.289E-07	2.567E-07	2.476E-07	1.985E-07	1.658E-07	1.246E-07	1.001E-07	4.079E-08	
94.475	96.084	96.119	97.238	98.322	99.056	99.685	99.895	100.000	
6.17824	6.28343	6.28572	6.35890	6.42979	6.47781	6.51897	6.53269	6.53955	

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.031
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.091
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.353
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.542
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.116
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.094
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.643
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   4.999

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
  9  1      -7.71082 -12.85672  -1.18987
  9  2      -8.78838 -14.12028  -1.55943
  9  3      -9.25677 -14.82390  -1.78503
  9  4     -10.01579 -13.16830  -1.17038
  9  5     -10.88275 -14.84538  -2.02918
  9  6     -11.06285 -15.82967  -2.55722
  9  7     -11.38039 -16.85190  -3.14474
  9  8     -11.56701 -19.37663  -4.64707
  9  9     -11.73251     NUMXQ(K)=  9
    1.108E-04              0.065              1.000
    6.284E-05              0.196              3.000
    4.683E-05              0.327              5.000
    3.489E-05              0.654             10.000
    2.934E-05              0.981             15.000
    2.580E-05              1.308             20.000
    2.328E-05              1.635             25.000
    2.134E-05              1.962             30.000
    1.980E-05              2.289             35.000
    1.833E-05              2.616             40.000
    1.652E-05              2.943             45.000
    1.486E-05              3.270             50.000
    1.331E-05              3.597             55.000
    1.202E-05              3.924             60.000
    1.082E-05              4.251             65.000
    9.687E-06              4.578             70.000
    8.395E-06              4.905             75.000

    3.895E-05              0.5                7.65

ANNUAL AVERAGE =   4.59E-07

K=  9     FIVEXQ(K)= 3.895E-05     FIVEPR(K)= 7.646
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.5	0.09	1810.	0.	0.	320.1	1000.0	320.1	6.474E-07	6.465E-07	6.465E-07
A	2.0	0.24	1810.	0.	0.	320.1	1000.0	320.1	4.927E-07	4.919E-07	4.919E-07
A	3.0	0.71	1810.	0.	0.	320.1	1000.0	320.1	3.294E-07	3.289E-07	3.289E-07
A	4.0	0.92	1810.	0.	0.	320.1	1000.0	320.1	2.480E-07	2.476E-07	2.476E-07
A	5.0	1.83	1810.	0.	0.	320.1	1000.0	320.1	1.988E-07	1.985E-07	1.985E-07
A	6.0	0.80	1810.	0.	0.	320.1	1000.0	320.1	1.660E-07	1.658E-07	1.658E-07
A	8.0	0.95	1810.	0.	0.	320.1	1000.0	320.1	1.247E-07	1.246E-07	1.246E-07
A	9.9	0.06	1810.	0.	0.	320.1	1000.0	320.1	1.003E-07	1.001E-07	1.001E-07
A	24.3	0.21	1810.	0.	0.	320.1	1000.0	320.1	4.085E-08	4.079E-08	4.079E-08
B	2.0	0.12	1810.	0.	0.	240.7	209.6	240.7	3.125E-06	3.096E-06	3.096E-06
B	3.0	0.62	1810.	0.	0.	240.7	209.6	240.7	2.089E-06	2.070E-06	2.070E-06
B	4.0	0.80	1810.	0.	0.	240.7	209.6	240.7	1.573E-06	1.558E-06	1.558E-06
B	5.0	0.83	1810.	0.	0.	240.7	209.6	240.7	1.261E-06	1.250E-06	1.250E-06
B	6.0	0.59	1810.	0.	0.	240.7	209.6	240.7	1.053E-06	1.044E-06	1.044E-06
B	8.0	0.50	1810.	0.	0.	240.7	209.6	240.7	7.912E-07	7.840E-07	7.840E-07
B	9.9	0.06	1810.	0.	0.	240.7	209.6	240.7	6.361E-07	6.303E-07	6.303E-07
B	24.3	0.06	1810.	0.	0.	240.7	209.6	240.7	2.591E-07	2.567E-07	2.567E-07
C	1.5	0.06	1810.	0.	0.	182.8	104.9	182.8	1.081E-05	1.055E-05	1.055E-05
C	2.0	0.32	1810.	0.	0.	182.8	104.9	182.8	8.223E-06	8.029E-06	8.029E-06
C	3.0	0.68	1810.	0.	0.	182.8	104.9	182.8	5.498E-06	5.368E-06	5.368E-06
C	4.0	1.03	1810.	0.	0.	182.8	104.9	182.8	4.139E-06	4.041E-06	4.041E-06
C	5.0	0.92	1810.	0.	0.	182.8	104.9	182.8	3.318E-06	3.240E-06	3.240E-06
C	6.0	0.86	1810.	0.	0.	182.8	104.9	182.8	2.771E-06	2.706E-06	2.706E-06
C	8.0	1.03	1810.	0.	0.	182.8	104.9	182.8	2.082E-06	2.033E-06	2.033E-06
C	9.9	0.30	1810.	0.	0.	182.8	104.9	182.8	1.674E-06	1.634E-06	1.634E-06
C	24.3	0.18	1810.	0.	0.	182.8	104.9	182.8	6.818E-07	6.656E-07	6.656E-07
D	1.0	0.03	1810.	0.	0.	128.7	47.4	190.3	3.389E-05	4.657E-05	3.389E-05
D	1.5	0.35	1810.	0.	0.	128.7	47.4	190.3	2.295E-05	3.154E-05	2.295E-05
D	2.0	1.18	1810.	0.	0.	128.7	47.4	189.6	1.753E-05	2.400E-05	1.753E-05
D	3.0	2.87	1810.	0.	0.	128.7	47.4	162.1	1.371E-05	1.605E-05	1.371E-05
D	4.0	4.43	1810.	0.	0.	128.7	47.4	146.5	1.142E-05	1.208E-05	1.142E-05
D	5.0	5.29	1810.	0.	0.	128.7	47.4	136.2	9.848E-06	9.685E-06	9.685E-06
D	6.0	5.29	1810.	0.	0.	128.7	47.4	128.8	8.699E-06	8.088E-06	8.088E-06
D	8.0	7.47	1810.	0.	0.	128.7	47.4	128.7	6.538E-06	6.076E-06	6.076E-06

D	9.9	3.28	1810.	0.	0.	128.7	47.4	128.7	5.257E-06	4.886E-06	4.886E-06
D	24.3	0.47	1810.	0.	0.	128.7	47.4	128.7	2.141E-06	1.990E-06	1.990E-06
E	0.4	0.00	1810.	0.	0.	91.5	32.3	179.1	1.568E-04	2.653E-04	1.568E-04
E	1.0	0.38	1810.	0.	0.	91.5	32.3	179.1	5.339E-05	9.030E-05	5.339E-05
E	1.5	0.50	1810.	0.	0.	91.5	32.3	179.1	3.616E-05	6.115E-05	3.616E-05
E	2.0	0.95	1810.	0.	0.	91.5	32.3	179.1	2.752E-05	4.654E-05	2.752E-05
E	3.0	5.52	1810.	0.	0.	91.5	32.3	135.6	2.430E-05	3.112E-05	2.430E-05
E	4.0	10.34	1810.	0.	0.	91.5	32.3	113.9	2.178E-05	2.342E-05	2.178E-05
E	5.0	11.46	1810.	0.	0.	91.5	32.3	100.8	1.973E-05	1.878E-05	1.878E-05
E	5.9	7.80	1810.	0.	0.	91.5	32.3	92.0	1.805E-05	1.568E-05	1.568E-05
E	7.9	6.97	1810.	0.	0.	91.5	32.3	91.5	1.363E-05	1.178E-05	1.178E-05
E	9.8	1.30	1810.	0.	0.	91.5	32.3	91.5	1.096E-05	9.474E-06	9.474E-06
E	24.1	0.30	1810.	0.	0.	91.5	32.3	91.5	4.464E-06	3.858E-06	3.858E-06
F	0.4	0.01	1810.	0.	0.	63.2	21.0	153.8	2.804E-04	5.061E-04	2.804E-04
F	1.0	0.56	1810.	0.	0.	63.2	21.0	153.8	9.546E-05	1.723E-04	9.546E-05
F	1.5	0.74	1810.	0.	0.	63.2	21.0	153.8	6.465E-05	1.167E-04	6.465E-05
F	2.0	0.80	1810.	0.	0.	63.2	21.0	153.8	4.920E-05	8.879E-05	4.920E-05
F	3.0	1.83	1810.	0.	0.	63.2	21.0	105.7	4.786E-05	5.937E-05	4.786E-05
F	4.0	2.16	1810.	0.	0.	63.2	21.0	83.8	4.545E-05	4.469E-05	4.469E-05
F	5.0	1.39	1810.	0.	0.	63.2	21.0	71.4	4.275E-05	3.583E-05	3.583E-05
F	5.9	0.30	1810.	0.	0.	63.2	21.0	63.6	4.009E-05	2.992E-05	2.992E-05
F	7.9	0.03	1810.	0.	0.	63.2	21.0	63.2	3.033E-05	2.248E-05	2.248E-05
G	0.4	0.01	1810.	0.	0.	43.6	13.7	147.9	4.480E-04	8.550E-04	4.480E-04
G	1.0	0.35	1810.	0.	0.	43.6	13.7	147.9	1.525E-04	2.911E-04	1.525E-04
G	1.5	0.27	1810.	0.	0.	43.6	13.7	147.9	1.033E-04	1.971E-04	1.033E-04
G	2.0	0.24	1810.	0.	0.	43.6	13.7	147.9	7.859E-05	1.500E-04	7.859E-05
G	3.0	0.18	1810.	0.	0.	43.6	13.7	87.7	8.860E-05	1.003E-04	8.860E-05
G	4.0	0.12	1810.	0.	0.	43.6	13.7	63.6	9.194E-05	7.549E-05	7.549E-05
G	5.0	0.09	1810.	0.	0.	43.6	13.7	51.3	9.150E-05	6.053E-05	6.053E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NNE SECTOR BOUNDARY DISTANCE = 1810.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.480E-04	2.804E-04	1.568E-04	1.525E-04	1.033E-04	9.546E-05	8.860E-05	7.859E-05	7.549E-05	6.465E-05
0.009	0.021	0.023	0.377	0.643	1.205	1.382	1.618	1.736	2.475
0.00070	0.00165	0.00177	0.02921	0.04979	0.09324	0.10696	0.12526	0.13441	0.19157
6.053E-05	5.339E-05	4.920E-05	4.786E-05	4.469E-05	3.616E-05	3.583E-05	3.389E-05	2.992E-05	2.752E-05
2.564	2.948	3.745	5.577	7.734	8.236	9.625	9.654	9.950	10.895
0.19843	0.22816	0.28990	0.43168	0.59862	0.63749	0.74497	0.74726	0.77012	0.84330
2.430E-05	2.295E-05	2.248E-05	2.178E-05	1.878E-05	1.753E-05	1.568E-05	1.371E-05	1.178E-05	1.142E-05
16.420	16.774	16.804	27.144	38.607	39.789	47.589	50.455	57.427	61.859
1.27092	1.29837	1.30065	2.10102	2.98828	3.07975	3.68346	3.90527	4.44495	4.78796
1.055E-05	9.685E-06	9.474E-06	8.088E-06	8.029E-06	6.076E-06	5.368E-06	4.886E-06	4.041E-06	3.858E-06
61.918	67.206	68.506	73.794	74.119	81.594	82.274	85.553	86.587	86.882
4.79253	5.20186	5.30248	5.71181	5.73697	6.31552	6.36811	6.62194	6.70198	6.72485
3.240E-06	3.096E-06	2.706E-06	2.070E-06	2.033E-06	1.990E-06	1.634E-06	1.558E-06	1.250E-06	1.044E-06
87.798	87.916	88.773	89.394	90.428	90.900	91.196	91.994	92.821	93.412
6.79573	6.80488	6.87120	6.91922	6.99926	7.03584	7.05871	7.12046	7.18448	7.23022
7.840E-07	6.656E-07	6.465E-07	6.303E-07	4.919E-07	3.289E-07	2.567E-07	2.476E-07	1.985E-07	1.658E-07
93.914	94.091	94.180	94.239	94.475	95.184	95.243	96.159	97.991	98.789
7.26909	7.28281	7.28968	7.29425	7.31254	7.36743	7.37200	7.44289	7.58467	7.64641
1.246E-07	1.001E-07	4.079E-08							
99.734	99.793	100.000							
7.71959	7.72416	7.74017							

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.029
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.093
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.598
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.099
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.680
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.784
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   5.299
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE(10)=   5.733

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
 10  1      -7.71082 -12.89050  -1.19282
 10  2      -8.78838 -13.70294  -1.42907
 10  3      -9.25677 -13.20666  -1.26956
 10  4     -10.01579 -13.78278  -1.49878
 10  5     -10.73463 -12.73195  -0.98208
 10  6     -10.88275 -14.49532  -1.91858
 10  7     -11.06285 -15.68413  -2.58307
 10  8     -11.38039 -17.65162  -3.76394
 10  9     -11.56701 -18.43112  -4.24614
 10 10     -11.73251     NUMXQ(K)= 10
    1.032E-04              0.077              1.000
    6.689E-05              0.232              3.000
    5.408E-05              0.387              5.000
    3.893E-05              0.774             10.000
    3.104E-05              1.161             15.000
    2.624E-05              1.548             20.000
    2.292E-05              1.935             25.000
    2.090E-05              2.322             30.000
    1.959E-05              2.709             35.000
    1.822E-05              3.096             40.000
    1.647E-05              3.483             45.000
    1.479E-05              3.870             50.000
    1.319E-05              4.257             55.000
    1.186E-05              4.644             60.000
    1.043E-05              5.031             65.000
    9.056E-06              5.418             70.000

    4.840E-05              0.5                6.46

ANNUAL AVERAGE =   5.21E-07

K= 10     FIVEXQ(K)= 4.840E-05     FIVEPR(K)= 6.460
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	3.0	0.74	1810.	0.	0.	320.1	1000.0	320.1	3.294E-07	3.289E-07	3.289E-07
A	4.0	1.17	1810.	0.	0.	320.1	1000.0	320.1	2.480E-07	2.476E-07	2.476E-07
A	5.0	1.28	1810.	0.	0.	320.1	1000.0	320.1	1.988E-07	1.985E-07	1.985E-07
A	6.0	0.78	1810.	0.	0.	320.1	1000.0	320.1	1.660E-07	1.658E-07	1.658E-07
A	8.0	0.27	1810.	0.	0.	320.1	1000.0	320.1	1.247E-07	1.246E-07	1.246E-07
A	24.3	0.04	1810.	0.	0.	320.1	1000.0	320.1	4.085E-08	4.079E-08	4.079E-08
B	2.0	0.16	1810.	0.	0.	240.7	209.6	240.7	3.125E-06	3.096E-06	3.096E-06
B	3.0	0.78	1810.	0.	0.	240.7	209.6	240.7	2.089E-06	2.070E-06	2.070E-06
B	4.0	0.70	1810.	0.	0.	240.7	209.6	240.7	1.573E-06	1.558E-06	1.558E-06
B	5.0	1.09	1810.	0.	0.	240.7	209.6	240.7	1.261E-06	1.250E-06	1.250E-06
B	6.0	0.70	1810.	0.	0.	240.7	209.6	240.7	1.053E-06	1.044E-06	1.044E-06
B	8.0	0.70	1810.	0.	0.	240.7	209.6	240.7	7.912E-07	7.840E-07	7.840E-07
C	1.5	0.04	1810.	0.	0.	182.8	104.9	182.8	1.081E-05	1.055E-05	1.055E-05
C	2.0	0.27	1810.	0.	0.	182.8	104.9	182.8	8.223E-06	8.029E-06	8.029E-06
C	3.0	1.01	1810.	0.	0.	182.8	104.9	182.8	5.498E-06	5.368E-06	5.368E-06
C	4.0	1.36	1810.	0.	0.	182.8	104.9	182.8	4.139E-06	4.041E-06	4.041E-06
C	5.0	1.44	1810.	0.	0.	182.8	104.9	182.8	3.318E-06	3.240E-06	3.240E-06
C	6.0	1.21	1810.	0.	0.	182.8	104.9	182.8	2.771E-06	2.706E-06	2.706E-06
C	8.0	0.43	1810.	0.	0.	182.8	104.9	182.8	2.082E-06	2.033E-06	2.033E-06
D	1.0	0.23	1810.	0.	0.	128.7	47.4	190.3	3.389E-05	4.657E-05	3.389E-05
D	1.5	0.74	1810.	0.	0.	128.7	47.4	190.3	2.295E-05	3.154E-05	2.295E-05
D	2.0	1.28	1810.	0.	0.	128.7	47.4	189.6	1.753E-05	2.400E-05	1.753E-05
D	3.0	5.64	1810.	0.	0.	128.7	47.4	162.1	1.371E-05	1.605E-05	1.371E-05
D	4.0	8.87	1810.	0.	0.	128.7	47.4	146.5	1.142E-05	1.208E-05	1.142E-05
D	5.0	9.30	1810.	0.	0.	128.7	47.4	136.2	9.848E-06	9.685E-06	9.685E-06
D	6.0	5.99	1810.	0.	0.	128.7	47.4	128.8	8.699E-06	8.088E-06	8.088E-06
D	8.0	6.46	1810.	0.	0.	128.7	47.4	128.7	6.538E-06	6.076E-06	6.076E-06
D	9.9	1.28	1810.	0.	0.	128.7	47.4	128.7	5.257E-06	4.886E-06	4.886E-06
D	24.3	0.58	1810.	0.	0.	128.7	47.4	128.7	2.141E-06	1.990E-06	1.990E-06
E	0.4	0.00	1810.	0.	0.	91.5	32.3	179.1	1.568E-04	2.653E-04	1.568E-04
E	1.0	0.35	1810.	0.	0.	91.5	32.3	179.1	5.339E-05	9.030E-05	5.339E-05
E	1.5	0.78	1810.	0.	0.	91.5	32.3	179.1	3.616E-05	6.115E-05	3.616E-05
E	2.0	1.94	1810.	0.	0.	91.5	32.3	179.1	2.752E-05	4.654E-05	2.752E-05

E	3.0	8.71	1810.	0.	0.	91.5	32.3	135.6	2.430E-05	3.112E-05	2.430E-05
E	4.0	11.63	1810.	0.	0.	91.5	32.3	113.9	2.178E-05	2.342E-05	2.178E-05
E	5.0	7.23	1810.	0.	0.	91.5	32.3	100.8	1.973E-05	1.878E-05	1.878E-05
E	5.9	3.07	1810.	0.	0.	91.5	32.3	92.0	1.805E-05	1.568E-05	1.568E-05
E	7.9	2.37	1810.	0.	0.	91.5	32.3	91.5	1.363E-05	1.178E-05	1.178E-05
E	9.8	0.74	1810.	0.	0.	91.5	32.3	91.5	1.096E-05	9.474E-06	9.474E-06
E	24.1	0.58	1810.	0.	0.	91.5	32.3	91.5	4.464E-06	3.858E-06	3.858E-06
F	0.4	0.02	1810.	0.	0.	63.2	21.0	153.8	2.804E-04	5.061E-04	2.804E-04
F	1.0	0.74	1810.	0.	0.	63.2	21.0	153.8	9.546E-05	1.723E-04	9.546E-05
F	1.5	0.86	1810.	0.	0.	63.2	21.0	153.8	6.465E-05	1.167E-04	6.465E-05
F	2.0	1.44	1810.	0.	0.	63.2	21.0	153.8	4.920E-05	8.879E-05	4.920E-05
F	3.0	1.67	1810.	0.	0.	63.2	21.0	105.7	4.786E-05	5.937E-05	4.786E-05
F	4.0	1.40	1810.	0.	0.	63.2	21.0	83.8	4.545E-05	4.469E-05	4.469E-05
F	5.0	0.39	1810.	0.	0.	63.2	21.0	71.4	4.275E-05	3.583E-05	3.583E-05
G	0.4	0.02	1810.	0.	0.	43.6	13.7	147.9	4.480E-04	8.550E-04	4.480E-04
G	1.0	0.74	1810.	0.	0.	43.6	13.7	147.9	1.525E-04	2.911E-04	1.525E-04
G	1.5	0.43	1810.	0.	0.	43.6	13.7	147.9	1.033E-04	1.971E-04	1.033E-04
G	2.0	0.23	1810.	0.	0.	43.6	13.7	147.9	7.859E-05	1.500E-04	7.859E-05
G	3.0	0.04	1810.	0.	0.	43.6	13.7	87.7	8.860E-05	1.003E-04	8.860E-05
G	4.0	0.08	1810.	0.	0.	43.6	13.7	63.6	9.194E-05	7.549E-05	7.549E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

NE SECTOR BOUNDARY DISTANCE = 1810.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.480E-04	2.804E-04	1.568E-04	1.525E-04	1.033E-04	9.546E-05	8.860E-05	7.859E-05	7.549E-05	6.465E-05
0.019	0.035	0.036	0.776	1.203	1.942	1.981	2.215	2.292	3.148
0.00112	0.00206	0.00215	0.04559	0.07075	0.11420	0.11648	0.13020	0.13478	0.18509
5.339E-05	4.920E-05	4.786E-05	4.469E-05	3.616E-05	3.583E-05	3.389E-05	2.752E-05	2.430E-05	2.295E-05
3.498	4.937	6.610	8.010	8.788	9.177	9.411	11.355	20.068	20.807
0.20567	0.29028	0.38861	0.47093	0.51667	0.53953	0.55325	0.66759	1.17983	1.22328
2.178E-05	1.878E-05	1.753E-05	1.568E-05	1.371E-05	1.178E-05	1.142E-05	1.055E-05	9.685E-06	9.474E-06
32.437	39.672	40.955	44.028	49.668	52.041	60.909	60.948	70.244	70.983
1.90702	2.33235	2.40782	2.58847	2.92005	3.05954	3.58092	3.58321	4.12975	4.17320
8.088E-06	8.029E-06	6.076E-06	5.368E-06	4.886E-06	4.041E-06	3.858E-06	3.240E-06	3.096E-06	2.706E-06
76.973	77.246	83.702	84.714	85.997	87.359	87.942	89.381	89.537	90.743
4.52536	4.54136	4.92097	4.98042	5.05588	5.13592	5.17022	5.25483	5.26398	5.33487
2.070E-06	2.033E-06	1.990E-06	1.558E-06	1.250E-06	1.044E-06	7.840E-07	3.289E-07	2.476E-07	1.985E-07
91.521	91.948	92.532	93.232	94.321	95.021	95.721	96.460	97.627	98.911
5.38060	5.40576	5.44006	5.48122	5.54525	5.58641	5.62757	5.67102	5.73963	5.81509
1.658E-07	1.246E-07	4.079E-08							
99.689	99.961	100.000							
5.86082	5.87683	5.87912							

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

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.046
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.114
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.470
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.905
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.330
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.126
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.522
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
11	1	-7.71082	-12.65721	-1.16650
11	2	-8.78838	-14.63457	-1.76270
11	3	-9.25677	-14.35723	-1.67180
11	4	-10.01579	-13.58447	-1.37422
11	5	-10.73463	-14.39743	-1.76624
11	6	-10.88275	-16.07671	-2.61013
11	7	-11.54497	-18.79886	-4.17800
11	8	-11.72508	NUMXQ(K)= 8	

1.344E-04	0.059	1.000
7.644E-05	0.176	3.000
5.819E-05	0.294	5.000
4.019E-05	0.588	10.000
3.288E-05	0.882	15.000
2.834E-05	1.176	20.000
2.515E-05	1.470	25.000
2.275E-05	1.764	30.000
2.060E-05	2.058	35.000
1.861E-05	2.352	40.000
1.632E-05	2.646	45.000
1.447E-05	2.940	50.000
1.296E-05	3.234	55.000
1.170E-05	3.527	60.000
1.064E-05	3.821	65.000
9.726E-06	4.115	70.000
8.515E-06	4.409	75.000
4.344E-05	0.5	8.50

ANNUAL AVERAGE = 4.62E-07

K= 11 FIVEXQ(K)= 4.344E-05 FIVEPR(K)= 8.505

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	2.0	0.22	1810.	0.	0.	320.1	1000.0	320.1	4.927E-07	4.919E-07	4.919E-07
A	3.0	0.82	1810.	0.	0.	320.1	1000.0	320.1	3.294E-07	3.289E-07	3.289E-07
A	4.0	1.20	1810.	0.	0.	320.1	1000.0	320.1	2.480E-07	2.476E-07	2.476E-07
A	5.0	0.79	1810.	0.	0.	320.1	1000.0	320.1	1.988E-07	1.985E-07	1.985E-07
A	6.0	0.60	1810.	0.	0.	320.1	1000.0	320.1	1.660E-07	1.658E-07	1.658E-07
A	8.0	0.16	1810.	0.	0.	320.1	1000.0	320.1	1.247E-07	1.246E-07	1.246E-07
B	2.0	0.19	1810.	0.	0.	240.7	209.6	240.7	3.125E-06	3.096E-06	3.096E-06
B	3.0	0.60	1810.	0.	0.	240.7	209.6	240.7	2.089E-06	2.070E-06	2.070E-06
B	4.0	0.85	1810.	0.	0.	240.7	209.6	240.7	1.573E-06	1.558E-06	1.558E-06
B	5.0	0.76	1810.	0.	0.	240.7	209.6	240.7	1.261E-06	1.250E-06	1.250E-06
B	6.0	0.41	1810.	0.	0.	240.7	209.6	240.7	1.053E-06	1.044E-06	1.044E-06
B	8.0	0.22	1810.	0.	0.	240.7	209.6	240.7	7.912E-07	7.840E-07	7.840E-07
C	1.5	0.09	1810.	0.	0.	182.8	104.9	182.8	1.081E-05	1.055E-05	1.055E-05
C	2.0	0.35	1810.	0.	0.	182.8	104.9	182.8	8.223E-06	8.029E-06	8.029E-06
C	3.0	1.04	1810.	0.	0.	182.8	104.9	182.8	5.498E-06	5.368E-06	5.368E-06
C	4.0	1.17	1810.	0.	0.	182.8	104.9	182.8	4.139E-06	4.041E-06	4.041E-06
C	5.0	1.20	1810.	0.	0.	182.8	104.9	182.8	3.318E-06	3.240E-06	3.240E-06
C	6.0	0.57	1810.	0.	0.	182.8	104.9	182.8	2.771E-06	2.706E-06	2.706E-06
C	8.0	0.41	1810.	0.	0.	182.8	104.9	182.8	2.082E-06	2.033E-06	2.033E-06
C	9.9	0.03	1810.	0.	0.	182.8	104.9	182.8	1.674E-06	1.634E-06	1.634E-06
D	1.0	0.13	1810.	0.	0.	128.7	47.4	190.3	3.389E-05	4.657E-05	3.389E-05
D	1.5	0.88	1810.	0.	0.	128.7	47.4	190.3	2.295E-05	3.154E-05	2.295E-05
D	2.0	1.83	1810.	0.	0.	128.7	47.4	189.6	1.753E-05	2.400E-05	1.753E-05
D	3.0	7.07	1810.	0.	0.	128.7	47.4	162.1	1.371E-05	1.605E-05	1.371E-05
D	4.0	7.20	1810.	0.	0.	128.7	47.4	146.5	1.142E-05	1.208E-05	1.142E-05
D	5.0	6.35	1810.	0.	0.	128.7	47.4	136.2	9.848E-06	9.685E-06	9.685E-06
D	6.0	3.63	1810.	0.	0.	128.7	47.4	128.8	8.699E-06	8.088E-06	8.088E-06
D	8.0	2.68	1810.	0.	0.	128.7	47.4	128.7	6.538E-06	6.076E-06	6.076E-06
D	9.9	0.69	1810.	0.	0.	128.7	47.4	128.7	5.257E-06	4.886E-06	4.886E-06
D	24.3	0.03	1810.	0.	0.	128.7	47.4	128.7	2.141E-06	1.990E-06	1.990E-06
E	0.4	0.00	1810.	0.	0.	91.5	32.3	179.1	1.568E-04	2.653E-04	1.568E-04
E	1.0	0.63	1810.	0.	0.	91.5	32.3	179.1	5.339E-05	9.030E-05	5.339E-05
E	1.5	1.42	1810.	0.	0.	91.5	32.3	179.1	3.616E-05	6.115E-05	3.616E-05

E	2.0	4.42	1810.	0.	0.	91.5	32.3	179.1	2.752E-05	4.654E-05	2.752E-05
E	3.0	13.30	1810.	0.	0.	91.5	32.3	135.6	2.430E-05	3.112E-05	2.430E-05
E	4.0	7.86	1810.	0.	0.	91.5	32.3	113.9	2.178E-05	2.342E-05	2.178E-05
E	5.0	3.60	1810.	0.	0.	91.5	32.3	100.8	1.973E-05	1.878E-05	1.878E-05
E	5.9	1.93	1810.	0.	0.	91.5	32.3	92.0	1.805E-05	1.568E-05	1.568E-05
E	7.9	1.45	1810.	0.	0.	91.5	32.3	91.5	1.363E-05	1.178E-05	1.178E-05
E	9.8	0.85	1810.	0.	0.	91.5	32.3	91.5	1.096E-05	9.474E-06	9.474E-06
E	24.1	0.41	1810.	0.	0.	91.5	32.3	91.5	4.464E-06	3.858E-06	3.858E-06
F	0.4	0.02	1810.	0.	0.	63.2	21.0	153.8	2.804E-04	5.061E-04	2.804E-04
F	1.0	0.98	1810.	0.	0.	63.2	21.0	153.8	9.546E-05	1.723E-04	9.546E-05
F	1.5	1.71	1810.	0.	0.	63.2	21.0	153.8	6.465E-05	1.167E-04	6.465E-05
F	2.0	3.25	1810.	0.	0.	63.2	21.0	153.8	4.920E-05	8.879E-05	4.920E-05
F	3.0	8.18	1810.	0.	0.	63.2	21.0	105.7	4.786E-05	5.937E-05	4.786E-05
F	4.0	1.17	1810.	0.	0.	63.2	21.0	83.8	4.545E-05	4.469E-05	4.469E-05
F	24.1	0.54	1810.	0.	0.	63.2	21.0	63.2	9.933E-06	7.361E-06	7.361E-06
G	0.4	0.01	1810.	0.	0.	43.6	13.7	147.9	4.480E-04	8.550E-04	4.480E-04
G	1.0	0.54	1810.	0.	0.	43.6	13.7	147.9	1.525E-04	2.911E-04	1.525E-04
G	1.5	0.98	1810.	0.	0.	43.6	13.7	147.9	1.033E-04	1.971E-04	1.033E-04
G	2.0	0.95	1810.	0.	0.	43.6	13.7	147.9	7.859E-05	1.500E-04	7.859E-05
G	3.0	3.51	1810.	0.	0.	43.6	13.7	87.7	8.860E-05	1.003E-04	8.860E-05
G	4.0	0.09	1810.	0.	0.	43.6	13.7	63.6	9.194E-05	7.549E-05	7.549E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ENE SECTOR BOUNDARY DISTANCE = 1810.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.480E-04	2.804E-04	1.568E-04	1.525E-04	1.033E-04	9.546E-05	8.860E-05	7.859E-05	7.549E-05	6.465E-05
0.014	0.035	0.038	0.575	1.554	2.533	6.039	6.986	7.081	8.786
0.00100	0.00254	0.00273	0.04160	0.11249	0.18338	0.43721	0.50582	0.51268	0.63616
5.339E-05	4.920E-05	4.786E-05	4.469E-05	3.616E-05	3.389E-05	2.752E-05	2.430E-05	2.295E-05	2.178E-05
9.418	12.671	20.851	22.020	23.441	23.568	27.989	41.286	42.170	50.035
0.68190	0.91743	1.50970	1.59431	1.69722	1.70637	2.02651	2.98924	3.05327	3.62267
1.878E-05	1.753E-05	1.568E-05	1.371E-05	1.178E-05	1.142E-05	1.055E-05	9.685E-06	9.474E-06	8.088E-06
53.635	55.467	57.394	64.468	65.921	73.122	73.217	79.565	80.418	84.050
3.88336	4.01599	4.15549	4.66772	4.77291	5.29429	5.30115	5.76079	5.82253	6.08551
8.029E-06	7.361E-06	6.076E-06	5.368E-06	4.886E-06	4.041E-06	3.858E-06	3.240E-06	3.096E-06	2.706E-06
84.398	84.935	87.619	88.661	89.356	90.525	90.935	92.136	92.325	92.894
6.11066	6.14954	6.34391	6.41938	6.46969	6.55430	6.58402	6.67092	6.68464	6.72580
2.070E-06	2.033E-06	1.990E-06	1.634E-06	1.558E-06	1.250E-06	1.044E-06	7.840E-07	4.919E-07	3.289E-07
93.494	93.904	93.936	93.968	94.820	95.578	95.989	96.210	96.431	97.252
6.76925	6.79898	6.80127	6.80355	6.86529	6.92018	6.94991	6.96591	6.98192	7.04138
2.476E-07	1.985E-07	1.658E-07	1.246E-07						
98.452	99.242	99.842	100.000						
7.12827	7.18544	7.22889	7.24032						

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(3)= 1.508
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(4)= 3.619
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(5)= 5.291
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(6)= 5.757
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(7)= 5.819

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
12	1	-7.71082	-11.91790	-0.98636
12	2	-9.33138	-12.88668	-1.35580
12	3	-9.94734	-14.54404	-2.12027
12	4	-10.73463	-17.20365	-3.60058
12	5	-11.38039	-17.74777	-3.93702
12	6	-11.54497	-18.05599	-4.13264
12	7	-11.56701	NUMXQ(K)= 7	

1.544E-04	0.072	1.000
1.112E-04	0.217	3.000
9.434E-05	0.362	5.000
6.972E-05	0.724	10.000
5.690E-05	1.086	15.000
4.894E-05	1.448	20.000
4.100E-05	1.810	25.000
3.496E-05	2.172	30.000
3.044E-05	2.534	35.000
2.692E-05	2.896	40.000
2.411E-05	3.258	45.000
2.179E-05	3.620	50.000
1.862E-05	3.982	55.000
1.608E-05	4.344	60.000
1.402E-05	4.706	65.000
1.233E-05	5.068	70.000
1.087E-05	5.430	75.000
9.576E-06	5.792	80.000
8.324E-05	0.5	6.91

ANNUAL AVERAGE = 7.67E-07

K= 12 FIVEXQ(K)= 8.324E-05 FIVEPR(K)= 6.906

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.5	0.03	1810.	0.	0.	320.1	1000.0	320.1	6.474E-07	6.465E-07	6.465E-07
A	2.0	0.05	1810.	0.	0.	320.1	1000.0	320.1	4.927E-07	4.919E-07	4.919E-07
A	3.0	0.91	1810.	0.	0.	320.1	1000.0	320.1	3.294E-07	3.289E-07	3.289E-07
A	4.0	1.23	1810.	0.	0.	320.1	1000.0	320.1	2.480E-07	2.476E-07	2.476E-07
A	5.0	0.78	1810.	0.	0.	320.1	1000.0	320.1	1.988E-07	1.985E-07	1.985E-07
A	6.0	0.56	1810.	0.	0.	320.1	1000.0	320.1	1.660E-07	1.658E-07	1.658E-07
A	8.0	0.30	1810.	0.	0.	320.1	1000.0	320.1	1.247E-07	1.246E-07	1.246E-07
B	1.5	0.03	1810.	0.	0.	240.7	209.6	240.7	4.107E-06	4.069E-06	4.069E-06
B	2.0	0.05	1810.	0.	0.	240.7	209.6	240.7	3.125E-06	3.096E-06	3.096E-06
B	3.0	1.42	1810.	0.	0.	240.7	209.6	240.7	2.089E-06	2.070E-06	2.070E-06
B	4.0	0.56	1810.	0.	0.	240.7	209.6	240.7	1.573E-06	1.558E-06	1.558E-06
B	5.0	0.81	1810.	0.	0.	240.7	209.6	240.7	1.261E-06	1.250E-06	1.250E-06
B	6.0	0.21	1810.	0.	0.	240.7	209.6	240.7	1.053E-06	1.044E-06	1.044E-06
B	8.0	0.32	1810.	0.	0.	240.7	209.6	240.7	7.912E-07	7.840E-07	7.840E-07
B	9.9	0.11	1810.	0.	0.	240.7	209.6	240.7	6.361E-07	6.303E-07	6.303E-07
C	1.5	0.08	1810.	0.	0.	182.8	104.9	182.8	1.081E-05	1.055E-05	1.055E-05
C	2.0	0.43	1810.	0.	0.	182.8	104.9	182.8	8.223E-06	8.029E-06	8.029E-06
C	3.0	1.29	1810.	0.	0.	182.8	104.9	182.8	5.498E-06	5.368E-06	5.368E-06
C	4.0	1.50	1810.	0.	0.	182.8	104.9	182.8	4.139E-06	4.041E-06	4.041E-06
C	5.0	0.94	1810.	0.	0.	182.8	104.9	182.8	3.318E-06	3.240E-06	3.240E-06
C	6.0	0.32	1810.	0.	0.	182.8	104.9	182.8	2.771E-06	2.706E-06	2.706E-06
C	8.0	0.32	1810.	0.	0.	182.8	104.9	182.8	2.082E-06	2.033E-06	2.033E-06
C	9.9	0.03	1810.	0.	0.	182.8	104.9	182.8	1.674E-06	1.634E-06	1.634E-06
D	1.0	0.21	1810.	0.	0.	128.7	47.4	190.3	3.389E-05	4.657E-05	3.389E-05
D	1.5	1.10	1810.	0.	0.	128.7	47.4	190.3	2.295E-05	3.154E-05	2.295E-05
D	2.0	2.28	1810.	0.	0.	128.7	47.4	189.6	1.753E-05	2.400E-05	1.753E-05
D	3.0	8.54	1810.	0.	0.	128.7	47.4	162.1	1.371E-05	1.605E-05	1.371E-05
D	4.0	7.14	1810.	0.	0.	128.7	47.4	146.5	1.142E-05	1.208E-05	1.142E-05
D	5.0	7.01	1810.	0.	0.	128.7	47.4	136.2	9.848E-06	9.685E-06	9.685E-06
D	6.0	5.15	1810.	0.	0.	128.7	47.4	128.8	8.699E-06	8.088E-06	8.088E-06
D	8.0	5.15	1810.	0.	0.	128.7	47.4	128.7	6.538E-06	6.076E-06	6.076E-06
D	9.9	1.37	1810.	0.	0.	128.7	47.4	128.7	5.257E-06	4.886E-06	4.886E-06
D	24.3	0.27	1810.	0.	0.	128.7	47.4	128.7	2.141E-06	1.990E-06	1.990E-06

E	0.4	0.00	1810.	0.	0.	91.5	32.3	179.1	1.568E-04	2.653E-04	1.568E-04
E	1.0	0.62	1810.	0.	0.	91.5	32.3	179.1	5.339E-05	9.030E-05	5.339E-05
E	1.5	3.17	1810.	0.	0.	91.5	32.3	179.1	3.616E-05	6.115E-05	3.616E-05
E	2.0	4.83	1810.	0.	0.	91.5	32.3	179.1	2.752E-05	4.654E-05	2.752E-05
E	3.0	8.00	1810.	0.	0.	91.5	32.3	135.6	2.430E-05	3.112E-05	2.430E-05
E	4.0	5.37	1810.	0.	0.	91.5	32.3	113.9	2.178E-05	2.342E-05	2.178E-05
E	5.0	3.60	1810.	0.	0.	91.5	32.3	100.8	1.973E-05	1.878E-05	1.878E-05
E	5.9	2.01	1810.	0.	0.	91.5	32.3	92.0	1.805E-05	1.568E-05	1.568E-05
E	7.9	1.91	1810.	0.	0.	91.5	32.3	91.5	1.363E-05	1.178E-05	1.178E-05
E	9.8	1.15	1810.	0.	0.	91.5	32.3	91.5	1.096E-05	9.474E-06	9.474E-06
E	24.1	0.62	1810.	0.	0.	91.5	32.3	91.5	4.464E-06	3.858E-06	3.858E-06
F	0.4	0.03	1810.	0.	0.	63.2	21.0	153.8	2.804E-04	5.061E-04	2.804E-04
F	1.0	1.50	1810.	0.	0.	63.2	21.0	153.8	9.546E-05	1.723E-04	9.546E-05
F	1.5	3.44	1810.	0.	0.	63.2	21.0	153.8	6.465E-05	1.167E-04	6.465E-05
F	2.0	4.40	1810.	0.	0.	63.2	21.0	153.8	4.920E-05	8.879E-05	4.920E-05
F	3.0	3.44	1810.	0.	0.	63.2	21.0	105.7	4.786E-05	5.937E-05	4.786E-05
F	4.0	0.35	1810.	0.	0.	63.2	21.0	83.8	4.545E-05	4.469E-05	4.469E-05
F	5.0	0.03	1810.	0.	0.	63.2	21.0	71.4	4.275E-05	3.583E-05	3.583E-05
F	24.1	0.03	1810.	0.	0.	63.2	21.0	63.2	9.933E-06	7.361E-06	7.361E-06
G	0.4	0.03	1810.	0.	0.	43.6	13.7	147.9	4.480E-04	8.550E-04	4.480E-04
G	1.0	1.15	1810.	0.	0.	43.6	13.7	147.9	1.525E-04	2.911E-04	1.525E-04
G	1.5	1.96	1810.	0.	0.	43.6	13.7	147.9	1.033E-04	1.971E-04	1.033E-04
G	2.0	1.26	1810.	0.	0.	43.6	13.7	147.9	7.859E-05	1.500E-04	7.859E-05
G	3.0	0.59	1810.	0.	0.	43.6	13.7	87.7	8.860E-05	1.003E-04	8.860E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

E SECTOR BOUNDARY DISTANCE = 1810.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.480E-04	2.804E-04	1.568E-04	1.525E-04	1.033E-04	9.546E-05	8.860E-05	7.859E-05	6.465E-05	5.339E-05
0.030	0.062	0.065	1.219	3.179	4.682	5.272	6.534	9.970	10.587
0.00252	0.00531	0.00553	0.10386	0.27079	0.39885	0.44916	0.55664	0.84934	0.90194
4.920E-05	4.786E-05	4.469E-05	3.616E-05	3.583E-05	3.389E-05	2.752E-05	2.430E-05	2.295E-05	2.178E-05
14.989	18.425	18.774	21.942	21.968	22.183	27.015	35.014	36.115	41.483
1.27697	1.56967	1.59940	1.86924	1.87152	1.88982	2.30143	2.98289	3.07665	3.53400
1.878E-05	1.753E-05	1.568E-05	1.371E-05	1.178E-05	1.142E-05	1.055E-05	9.685E-06	9.474E-06	8.088E-06
45.080	47.362	49.375	57.911	59.817	66.957	67.037	74.043	75.197	80.351
3.84042	4.03480	4.20631	4.93349	5.09585	5.70413	5.71099	6.30784	6.40617	6.84523
8.029E-06	7.361E-06	6.076E-06	5.368E-06	4.886E-06	4.069E-06	4.041E-06	3.858E-06	3.240E-06	3.096E-06
80.781	80.808	85.961	87.250	88.619	88.646	90.149	90.766	91.706	91.759
6.88181	6.88410	7.32316	7.43292	7.54955	7.55183	7.67989	7.73249	7.81252	7.81710
2.706E-06	2.070E-06	2.033E-06	1.990E-06	1.634E-06	1.558E-06	1.250E-06	1.044E-06	7.840E-07	6.465E-07
92.081	93.504	93.826	94.095	94.121	94.685	95.490	95.705	96.027	96.054
7.84454	7.96574	7.99318	8.01605	8.01833	8.06636	8.13496	8.15325	8.18069	8.18298
6.303E-07	4.919E-07	3.289E-07	2.476E-07	1.985E-07	1.658E-07	1.246E-07			
96.162	96.215	97.128	98.363	99.141	99.705	100.000			
8.19213	8.19670	8.27445	8.37964	8.44596	8.49398	8.51913			

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

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

                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.398
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   1.568
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   3.531
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   5.700
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   6.402
                                                          HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   6.878

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
 13  1      -7.71082 -12.18704  -1.10433
 13  2      -9.25677 -12.91461  -1.37853
 13  3      -9.94734 -14.86563  -2.28493
 13  4     -10.73463 -15.86656  -2.83856
 13  5     -11.38039 -16.41466  -3.18537
 13  6     -11.56701 -18.39092  -4.48395
 13  7     -11.73251     NUMXQ(K)=  7
    1.630E-04              0.085              1.000
    1.123E-04              0.256              3.000
    9.258E-05              0.426              5.000
    6.606E-05              0.852             10.000
    5.350E-05              1.278             15.000
    4.439E-05              1.704             20.000
    3.601E-05              2.130             25.000
    3.019E-05              2.556             30.000
    2.591E-05              2.982             35.000
    2.261E-05              3.408             40.000
    1.959E-05              3.834             45.000
    1.705E-05              4.260             50.000
    1.500E-05              4.686             55.000
    1.331E-05              5.111             60.000
    1.190E-05              5.537             65.000
    1.064E-05              5.963             70.000
    9.514E-06              6.389             75.000
    8.212E-06              6.815             80.000

    8.583E-05              0.5                5.87

ANNUAL AVERAGE =    9.62E-07

K= 13     FIVEXQ(K)= 8.583E-05     FIVEPR(K)= 5.869
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	2.0	0.08	1810.	0.	0.	320.1	1000.0	320.1	4.927E-07	4.919E-07	4.919E-07
A	3.0	0.55	1810.	0.	0.	320.1	1000.0	320.1	3.294E-07	3.289E-07	3.289E-07
A	4.0	0.90	1810.	0.	0.	320.1	1000.0	320.1	2.480E-07	2.476E-07	2.476E-07
A	5.0	0.83	1810.	0.	0.	320.1	1000.0	320.1	1.988E-07	1.985E-07	1.985E-07
A	6.0	0.93	1810.	0.	0.	320.1	1000.0	320.1	1.660E-07	1.658E-07	1.658E-07
A	8.0	0.75	1810.	0.	0.	320.1	1000.0	320.1	1.247E-07	1.246E-07	1.246E-07
A	9.9	0.03	1810.	0.	0.	320.1	1000.0	320.1	1.003E-07	1.001E-07	1.001E-07
B	1.5	0.03	1810.	0.	0.	240.7	209.6	240.7	4.107E-06	4.069E-06	4.069E-06
B	2.0	0.15	1810.	0.	0.	240.7	209.6	240.7	3.125E-06	3.096E-06	3.096E-06
B	3.0	0.70	1810.	0.	0.	240.7	209.6	240.7	2.089E-06	2.070E-06	2.070E-06
B	4.0	1.08	1810.	0.	0.	240.7	209.6	240.7	1.573E-06	1.558E-06	1.558E-06
B	5.0	0.98	1810.	0.	0.	240.7	209.6	240.7	1.261E-06	1.250E-06	1.250E-06
B	6.0	0.60	1810.	0.	0.	240.7	209.6	240.7	1.053E-06	1.044E-06	1.044E-06
B	8.0	0.45	1810.	0.	0.	240.7	209.6	240.7	7.912E-07	7.840E-07	7.840E-07
B	9.9	0.08	1810.	0.	0.	240.7	209.6	240.7	6.361E-07	6.303E-07	6.303E-07
C	1.5	0.03	1810.	0.	0.	182.8	104.9	182.8	1.081E-05	1.055E-05	1.055E-05
C	2.0	0.30	1810.	0.	0.	182.8	104.9	182.8	8.223E-06	8.029E-06	8.029E-06
C	3.0	1.23	1810.	0.	0.	182.8	104.9	182.8	5.498E-06	5.368E-06	5.368E-06
C	4.0	1.45	1810.	0.	0.	182.8	104.9	182.8	4.139E-06	4.041E-06	4.041E-06
C	5.0	1.18	1810.	0.	0.	182.8	104.9	182.8	3.318E-06	3.240E-06	3.240E-06
C	6.0	0.53	1810.	0.	0.	182.8	104.9	182.8	2.771E-06	2.706E-06	2.706E-06
C	8.0	0.60	1810.	0.	0.	182.8	104.9	182.8	2.082E-06	2.033E-06	2.033E-06
C	9.9	0.13	1810.	0.	0.	182.8	104.9	182.8	1.674E-06	1.634E-06	1.634E-06
C	24.3	0.08	1810.	0.	0.	182.8	104.9	182.8	6.818E-07	6.656E-07	6.656E-07
D	1.0	0.28	1810.	0.	0.	128.7	47.4	190.3	3.389E-05	4.657E-05	3.389E-05
D	1.5	1.76	1810.	0.	0.	128.7	47.4	190.3	2.295E-05	3.154E-05	2.295E-05
D	2.0	2.03	1810.	0.	0.	128.7	47.4	189.6	1.753E-05	2.400E-05	1.753E-05
D	3.0	7.67	1810.	0.	0.	128.7	47.4	162.1	1.371E-05	1.605E-05	1.371E-05
D	4.0	7.57	1810.	0.	0.	128.7	47.4	146.5	1.142E-05	1.208E-05	1.142E-05
D	5.0	7.17	1810.	0.	0.	128.7	47.4	136.2	9.848E-06	9.685E-06	9.685E-06
D	6.0	5.69	1810.	0.	0.	128.7	47.4	128.8	8.699E-06	8.088E-06	8.088E-06
D	8.0	4.96	1810.	0.	0.	128.7	47.4	128.7	6.538E-06	6.076E-06	6.076E-06
D	9.9	1.25	1810.	0.	0.	128.7	47.4	128.7	5.257E-06	4.886E-06	4.886E-06
D	24.3	0.08	1810.	0.	0.	128.7	47.4	128.7	2.141E-06	1.990E-06	1.990E-06

E	0.4	0.01	1810.	0.	0.	91.5	32.3	179.1	1.568E-04	2.653E-04	1.568E-04
E	1.0	1.28	1810.	0.	0.	91.5	32.3	179.1	5.339E-05	9.030E-05	5.339E-05
E	1.5	4.29	1810.	0.	0.	91.5	32.3	179.1	3.616E-05	6.115E-05	3.616E-05
E	2.0	4.14	1810.	0.	0.	91.5	32.3	179.1	2.752E-05	4.654E-05	2.752E-05
E	3.0	7.77	1810.	0.	0.	91.5	32.3	135.6	2.430E-05	3.112E-05	2.430E-05
E	4.0	6.12	1810.	0.	0.	91.5	32.3	113.9	2.178E-05	2.342E-05	2.178E-05
E	5.0	4.14	1810.	0.	0.	91.5	32.3	100.8	1.973E-05	1.878E-05	1.878E-05
E	5.9	2.21	1810.	0.	0.	91.5	32.3	92.0	1.805E-05	1.568E-05	1.568E-05
E	7.9	2.11	1810.	0.	0.	91.5	32.3	91.5	1.363E-05	1.178E-05	1.178E-05
E	9.8	0.40	1810.	0.	0.	91.5	32.3	91.5	1.096E-05	9.474E-06	9.474E-06
E	24.1	0.08	1810.	0.	0.	91.5	32.3	91.5	4.464E-06	3.858E-06	3.858E-06
F	0.4	0.04	1810.	0.	0.	63.2	21.0	153.8	2.804E-04	5.061E-04	2.804E-04
F	1.0	2.06	1810.	0.	0.	63.2	21.0	153.8	9.546E-05	1.723E-04	9.546E-05
F	1.5	4.99	1810.	0.	0.	63.2	21.0	153.8	6.465E-05	1.167E-04	6.465E-05
F	2.0	2.33	1810.	0.	0.	63.2	21.0	153.8	4.920E-05	8.879E-05	4.920E-05
F	3.0	0.93	1810.	0.	0.	63.2	21.0	105.7	4.786E-05	5.937E-05	4.786E-05
F	4.0	0.08	1810.	0.	0.	63.2	21.0	83.8	4.545E-05	4.469E-05	4.469E-05
F	7.9	0.03	1810.	0.	0.	63.2	21.0	63.2	3.033E-05	2.248E-05	2.248E-05
G	0.4	0.05	1810.	0.	0.	43.6	13.7	147.9	4.480E-04	8.550E-04	4.480E-04
G	1.0	2.03	1810.	0.	0.	43.6	13.7	147.9	1.525E-04	2.911E-04	1.525E-04
G	1.5	2.28	1810.	0.	0.	43.6	13.7	147.9	1.033E-04	1.971E-04	1.033E-04
G	2.0	0.53	1810.	0.	0.	43.6	13.7	147.9	7.859E-05	1.500E-04	7.859E-05
G	3.0	0.03	1810.	0.	0.	43.6	13.7	87.7	8.860E-05	1.003E-04	8.860E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

ESE SECTOR BOUNDARY DISTANCE = 1810.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.480E-04	2.804E-04	1.568E-04	1.525E-04	1.033E-04	9.546E-05	8.860E-05	7.859E-05	6.465E-05	5.339E-05
0.052	0.097	0.102	2.133	4.415	6.471	6.496	7.023	12.013	13.291
0.00476	0.00883	0.00932	0.19455	0.40264	0.59016	0.59244	0.64046	1.09553	1.21215
4.920E-05	4.786E-05	4.469E-05	3.616E-05	3.389E-05	2.752E-05	2.430E-05	2.295E-05	2.248E-05	2.178E-05
15.623	16.551	16.626	20.914	21.190	25.327	33.101	34.856	34.881	40.999
1.42482	1.50943	1.51629	1.90733	1.93248	2.30980	3.01869	3.17877	3.18105	3.73902
1.878E-05	1.753E-05	1.568E-05	1.371E-05	1.178E-05	1.142E-05	1.055E-05	9.685E-06	9.474E-06	8.088E-06
45.136	47.167	49.374	57.047	59.153	66.726	66.751	73.922	74.323	80.015
4.11634	4.30157	4.50280	5.20255	5.39464	6.08524	6.08753	6.74154	6.77813	7.29722
8.029E-06	6.076E-06	5.368E-06	4.886E-06	4.069E-06	4.041E-06	3.858E-06	3.240E-06	3.096E-06	2.706E-06
80.316	85.281	86.510	87.764	87.789	89.243	89.318	90.497	90.647	91.174
7.32466	7.77744	7.88949	8.00383	8.00612	8.13875	8.14561	8.25309	8.26681	8.31483
2.070E-06	2.033E-06	1.990E-06	1.634E-06	1.558E-06	1.250E-06	1.044E-06	7.840E-07	6.656E-07	6.303E-07
91.876	92.478	92.553	92.678	93.756	94.734	95.336	95.787	95.863	95.938
8.37886	8.43374	8.44060	8.45204	8.55037	8.63955	8.69443	8.73559	8.74246	8.74932
4.919E-07	3.289E-07	2.476E-07	1.985E-07	1.658E-07	1.246E-07	1.001E-07			
96.013	96.565	97.467	98.295	99.223	99.975	100.000			
8.75618	8.80648	8.88881	8.96427	9.04888	9.11748	9.11977			

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.194
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.589
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   1.094
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   3.016
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   3.736
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   6.081
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   6.738
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   7.321
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE(10)=   7.774

 K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
14  1      -7.71082 -11.85185  -1.06105
14  2      -8.78838 -12.45509  -1.26998
14  3      -9.25677 -13.59902  -1.72421
14  4      -9.64651 -15.06723  -2.36469
14  5     -10.62522 -12.76027  -1.13659
14  6     -10.73463 -15.64805  -2.75693
14  7     -11.38039 -16.24626  -3.14337
14  8     -11.54497 -18.02086  -4.32991
14  9     -11.73251 -24.43790  -8.74843
14 10     -12.01110     NUMXQ(K)= 10
   1.948E-04              0.091              1.000
   1.328E-04              0.274              3.000
   1.070E-04              0.456              5.000
   7.279E-05              0.912             10.000
   5.281E-05              1.368             15.000
   4.025E-05              1.824             20.000
   3.235E-05              2.280             25.000
   2.690E-05              2.736             30.000
   2.362E-05              3.192             35.000
   2.206E-05              3.648             40.000
   1.934E-05              4.104             45.000
   1.687E-05              4.560             50.000
   1.486E-05              5.016             55.000
   1.322E-05              5.472             60.000
   1.184E-05              5.928             65.000
   1.058E-05              6.384             70.000
   9.375E-06              6.840             75.000
   8.101E-06              7.296             80.000
   6.171E-06              7.752             85.000

   1.027E-04              0.5                5.48

ANNUAL AVERAGE =   1.12E-06

K= 14     FIVEXQ(K)= 1.027E-04     FIVEPR(K)= 5.483
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	3.0	1.05	1810.	0.	0.	320.1	1000.0	320.1	3.294E-07	3.289E-07	3.289E-07
A	4.0	1.49	1810.	0.	0.	320.1	1000.0	320.1	2.480E-07	2.476E-07	2.476E-07
A	5.0	2.25	1810.	0.	0.	320.1	1000.0	320.1	1.988E-07	1.985E-07	1.985E-07
A	6.0	0.69	1810.	0.	0.	320.1	1000.0	320.1	1.660E-07	1.658E-07	1.658E-07
A	8.0	0.54	1810.	0.	0.	320.1	1000.0	320.1	1.247E-07	1.246E-07	1.246E-07
B	1.5	0.04	1810.	0.	0.	240.7	209.6	240.7	4.107E-06	4.069E-06	4.069E-06
B	2.0	0.18	1810.	0.	0.	240.7	209.6	240.7	3.125E-06	3.096E-06	3.096E-06
B	3.0	1.02	1810.	0.	0.	240.7	209.6	240.7	2.089E-06	2.070E-06	2.070E-06
B	4.0	1.56	1810.	0.	0.	240.7	209.6	240.7	1.573E-06	1.558E-06	1.558E-06
B	5.0	1.02	1810.	0.	0.	240.7	209.6	240.7	1.261E-06	1.250E-06	1.250E-06
B	6.0	0.73	1810.	0.	0.	240.7	209.6	240.7	1.053E-06	1.044E-06	1.044E-06
B	8.0	0.15	1810.	0.	0.	240.7	209.6	240.7	7.912E-07	7.840E-07	7.840E-07
C	1.5	0.07	1810.	0.	0.	182.8	104.9	182.8	1.081E-05	1.055E-05	1.055E-05
C	2.0	0.18	1810.	0.	0.	182.8	104.9	182.8	8.223E-06	8.029E-06	8.029E-06
C	3.0	1.74	1810.	0.	0.	182.8	104.9	182.8	5.498E-06	5.368E-06	5.368E-06
C	4.0	1.85	1810.	0.	0.	182.8	104.9	182.8	4.139E-06	4.041E-06	4.041E-06
C	5.0	1.82	1810.	0.	0.	182.8	104.9	182.8	3.318E-06	3.240E-06	3.240E-06
C	6.0	0.80	1810.	0.	0.	182.8	104.9	182.8	2.771E-06	2.706E-06	2.706E-06
C	8.0	0.25	1810.	0.	0.	182.8	104.9	182.8	2.082E-06	2.033E-06	2.033E-06
D	1.0	0.54	1810.	0.	0.	128.7	47.4	190.3	3.389E-05	4.657E-05	3.389E-05
D	1.5	2.62	1810.	0.	0.	128.7	47.4	190.3	2.295E-05	3.154E-05	2.295E-05
D	2.0	4.83	1810.	0.	0.	128.7	47.4	189.6	1.753E-05	2.400E-05	1.753E-05
D	3.0	11.73	1810.	0.	0.	128.7	47.4	162.1	1.371E-05	1.605E-05	1.371E-05
D	4.0	10.13	1810.	0.	0.	128.7	47.4	146.5	1.142E-05	1.208E-05	1.142E-05
D	5.0	7.01	1810.	0.	0.	128.7	47.4	136.2	9.848E-06	9.685E-06	9.685E-06
D	6.0	2.47	1810.	0.	0.	128.7	47.4	128.8	8.699E-06	8.088E-06	8.088E-06
D	8.0	1.74	1810.	0.	0.	128.7	47.4	128.7	6.538E-06	6.076E-06	6.076E-06
D	9.9	0.07	1810.	0.	0.	128.7	47.4	128.7	5.257E-06	4.886E-06	4.886E-06
E	0.4	0.01	1810.	0.	0.	91.5	32.3	179.1	1.568E-04	2.653E-04	1.568E-04
E	1.0	1.71	1810.	0.	0.	91.5	32.3	179.1	5.339E-05	9.030E-05	5.339E-05
E	1.5	4.72	1810.	0.	0.	91.5	32.3	179.1	3.616E-05	6.115E-05	3.616E-05
E	2.0	6.25	1810.	0.	0.	91.5	32.3	179.1	2.752E-05	4.654E-05	2.752E-05
E	3.0	6.65	1810.	0.	0.	91.5	32.3	135.6	2.430E-05	3.112E-05	2.430E-05

E	4.0	4.72	1810.	0.	0.	91.5	32.3	113.9	2.178E-05	2.342E-05	2.178E-05
E	5.0	2.22	1810.	0.	0.	91.5	32.3	100.8	1.973E-05	1.878E-05	1.878E-05
E	5.9	0.84	1810.	0.	0.	91.5	32.3	92.0	1.805E-05	1.568E-05	1.568E-05
E	7.9	0.69	1810.	0.	0.	91.5	32.3	91.5	1.363E-05	1.178E-05	1.178E-05
F	0.4	0.06	1810.	0.	0.	63.2	21.0	153.8	2.804E-04	5.061E-04	2.804E-04
F	1.0	2.87	1810.	0.	0.	63.2	21.0	153.8	9.546E-05	1.723E-04	9.546E-05
F	1.5	4.14	1810.	0.	0.	63.2	21.0	153.8	6.465E-05	1.167E-04	6.465E-05
F	2.0	1.60	1810.	0.	0.	63.2	21.0	153.8	4.920E-05	8.879E-05	4.920E-05
F	3.0	0.36	1810.	0.	0.	63.2	21.0	105.7	4.786E-05	5.937E-05	4.786E-05
F	4.0	0.04	1810.	0.	0.	63.2	21.0	83.8	4.545E-05	4.469E-05	4.469E-05
G	0.4	0.07	1810.	0.	0.	43.6	13.7	147.9	4.480E-04	8.550E-04	4.480E-04
G	1.0	2.80	1810.	0.	0.	43.6	13.7	147.9	1.525E-04	2.911E-04	1.525E-04
G	1.5	1.42	1810.	0.	0.	43.6	13.7	147.9	1.033E-04	1.971E-04	1.033E-04
G	2.0	0.18	1810.	0.	0.	43.6	13.7	147.9	7.859E-05	1.500E-04	7.859E-05
G	3.0	0.07	1810.	0.	0.	43.6	13.7	87.7	8.860E-05	1.003E-04	8.860E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

SE SECTOR BOUNDARY DISTANCE = 1810.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.480E-04	2.804E-04	1.568E-04	1.525E-04	1.033E-04	9.546E-05	8.860E-05	7.859E-05	6.465E-05	5.339E-05
0.072	0.134	0.141	2.938	4.355	7.225	7.297	7.479	11.620	13.327
0.00452	0.00845	0.00890	0.18498	0.27416	0.45481	0.45939	0.47082	0.73151	0.83899
4.920E-05	4.786E-05	4.469E-05	3.616E-05	3.389E-05	2.752E-05	2.430E-05	2.295E-05	2.178E-05	1.878E-05
14.926	15.289	15.325	20.048	20.593	26.841	33.488	36.104	40.826	43.042
0.93961	0.96247	0.96476	1.26204	1.29634	1.68966	2.10814	2.27279	2.57007	2.70956
1.753E-05	1.568E-05	1.371E-05	1.178E-05	1.142E-05	1.055E-05	9.685E-06	8.088E-06	8.029E-06	6.076E-06
47.873	48.708	60.442	61.132	71.267	71.339	78.350	80.820	81.002	82.745
3.01370	3.06629	3.80492	3.84837	4.48637	4.49095	4.93229	5.08779	5.09922	5.20899
5.368E-06	4.886E-06	4.069E-06	4.041E-06	3.240E-06	3.096E-06	2.706E-06	2.070E-06	2.033E-06	1.558E-06
84.489	84.562	84.598	86.451	88.267	88.448	89.248	90.265	90.519	92.081
5.31875	5.32333	5.32561	5.44224	5.55657	5.56801	5.61832	5.68235	5.69835	5.79668
1.250E-06	1.044E-06	7.840E-07	3.289E-07	2.476E-07	1.985E-07	1.658E-07	1.246E-07		
93.098	93.825	93.970	95.023	96.513	98.765	99.455	100.000		
5.86071	5.90645	5.91560	5.98191	6.07567	6.21745	6.26090	6.29520		

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

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

```
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.185
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.454
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.731
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   2.270
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.567
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   4.483
HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   4.929
```

K	I	XQSAVE(K,I)	XQINT(K,I)	XQSLOP(K,I)
15	1	-7.71082	-11.87959	-1.06482
15	2	-8.78838	-13.40987	-1.59195
15	3	-9.25677	-15.34572	-2.33399
15	4	-9.64651	-15.38022	-2.34812
15	5	-10.68199	-12.69557	-1.00636
15	6	-10.73463	-15.74110	-2.56934
15	7	-11.38039	-17.53360	-3.62548
15	8	-11.54497	NUMXQ(K)= 8	

2.149E-04	0.063	1.000
1.509E-04	0.189	3.000
1.162E-04	0.315	5.000
7.329E-05	0.630	10.000
5.189E-05	0.944	15.000
4.016E-05	1.259	20.000
3.269E-05	1.574	25.000
2.750E-05	1.889	30.000
2.367E-05	2.203	35.000
2.197E-05	2.518	40.000
1.954E-05	2.833	45.000
1.734E-05	3.148	50.000
1.554E-05	3.462	55.000
1.403E-05	3.777	60.000
1.276E-05	4.092	65.000
1.167E-05	4.407	70.000
1.045E-05	4.721	75.000
8.847E-05	0.5	7.94

ANNUAL AVERAGE = 8.41E-07

K= 15 FIVEXQ(K)= 8.847E-05 FIVEPR(K)= 7.943

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	2.0	0.12	1810.	0.	0.	320.1	1000.0	320.1	4.927E-07	4.919E-07	4.919E-07
A	3.0	0.56	1810.	0.	0.	320.1	1000.0	320.1	3.294E-07	3.289E-07	3.289E-07
A	4.0	1.98	1810.	0.	0.	320.1	1000.0	320.1	2.480E-07	2.476E-07	2.476E-07
A	5.0	2.34	1810.	0.	0.	320.1	1000.0	320.1	1.988E-07	1.985E-07	1.985E-07
A	6.0	0.77	1810.	0.	0.	320.1	1000.0	320.1	1.660E-07	1.658E-07	1.658E-07
A	8.0	0.32	1810.	0.	0.	320.1	1000.0	320.1	1.247E-07	1.246E-07	1.246E-07
B	1.0	0.04	1810.	0.	0.	240.7	209.6	240.7	6.064E-06	6.008E-06	6.008E-06
B	1.5	0.04	1810.	0.	0.	240.7	209.6	240.7	4.107E-06	4.069E-06	4.069E-06
B	2.0	0.04	1810.	0.	0.	240.7	209.6	240.7	3.125E-06	3.096E-06	3.096E-06
B	3.0	1.09	1810.	0.	0.	240.7	209.6	240.7	2.089E-06	2.070E-06	2.070E-06
B	4.0	1.25	1810.	0.	0.	240.7	209.6	240.7	1.573E-06	1.558E-06	1.558E-06
B	5.0	1.33	1810.	0.	0.	240.7	209.6	240.7	1.261E-06	1.250E-06	1.250E-06
B	6.0	0.69	1810.	0.	0.	240.7	209.6	240.7	1.053E-06	1.044E-06	1.044E-06
B	8.0	0.28	1810.	0.	0.	240.7	209.6	240.7	7.912E-07	7.840E-07	7.840E-07
C	2.0	0.36	1810.	0.	0.	182.8	104.9	182.8	8.223E-06	8.029E-06	8.029E-06
C	3.0	1.13	1810.	0.	0.	182.8	104.9	182.8	5.498E-06	5.368E-06	5.368E-06
C	4.0	1.65	1810.	0.	0.	182.8	104.9	182.8	4.139E-06	4.041E-06	4.041E-06
C	5.0	1.33	1810.	0.	0.	182.8	104.9	182.8	3.318E-06	3.240E-06	3.240E-06
C	6.0	0.48	1810.	0.	0.	182.8	104.9	182.8	2.771E-06	2.706E-06	2.706E-06
C	8.0	0.32	1810.	0.	0.	182.8	104.9	182.8	2.082E-06	2.033E-06	2.033E-06
D	1.0	0.65	1810.	0.	0.	128.7	47.4	190.3	3.389E-05	4.657E-05	3.389E-05
D	1.5	1.57	1810.	0.	0.	128.7	47.4	190.3	2.295E-05	3.154E-05	2.295E-05
D	2.0	3.67	1810.	0.	0.	128.7	47.4	189.6	1.753E-05	2.400E-05	1.753E-05
D	3.0	11.14	1810.	0.	0.	128.7	47.4	162.1	1.371E-05	1.605E-05	1.371E-05
D	4.0	8.60	1810.	0.	0.	128.7	47.4	146.5	1.142E-05	1.208E-05	1.142E-05
D	5.0	8.35	1810.	0.	0.	128.7	47.4	136.2	9.848E-06	9.685E-06	9.685E-06
D	6.0	5.61	1810.	0.	0.	128.7	47.4	128.8	8.699E-06	8.088E-06	8.088E-06
D	8.0	3.59	1810.	0.	0.	128.7	47.4	128.7	6.538E-06	6.076E-06	6.076E-06
D	9.9	0.85	1810.	0.	0.	128.7	47.4	128.7	5.257E-06	4.886E-06	4.886E-06
D	24.3	0.12	1810.	0.	0.	128.7	47.4	128.7	2.141E-06	1.990E-06	1.990E-06
E	0.4	0.01	1810.	0.	0.	91.5	32.3	179.1	1.568E-04	2.653E-04	1.568E-04
E	1.0	1.49	1810.	0.	0.	91.5	32.3	179.1	5.339E-05	9.030E-05	5.339E-05
E	1.5	3.31	1810.	0.	0.	91.5	32.3	179.1	3.616E-05	6.115E-05	3.616E-05

E	2.0	3.59	1810.	0.	0.	91.5	32.3	179.1	2.752E-05	4.654E-05	2.752E-05
E	3.0	8.68	1810.	0.	0.	91.5	32.3	135.6	2.430E-05	3.112E-05	2.430E-05
E	4.0	6.17	1810.	0.	0.	91.5	32.3	113.9	2.178E-05	2.342E-05	2.178E-05
E	5.0	3.43	1810.	0.	0.	91.5	32.3	100.8	1.973E-05	1.878E-05	1.878E-05
E	5.9	1.21	1810.	0.	0.	91.5	32.3	92.0	1.805E-05	1.568E-05	1.568E-05
E	7.9	0.93	1810.	0.	0.	91.5	32.3	91.5	1.363E-05	1.178E-05	1.178E-05
E	24.1	0.08	1810.	0.	0.	91.5	32.3	91.5	4.464E-06	3.858E-06	3.858E-06
F	0.4	0.05	1810.	0.	0.	63.2	21.0	153.8	2.804E-04	5.061E-04	2.804E-04
F	1.0	2.10	1810.	0.	0.	63.2	21.0	153.8	9.546E-05	1.723E-04	9.546E-05
F	1.5	2.74	1810.	0.	0.	63.2	21.0	153.8	6.465E-05	1.167E-04	6.465E-05
F	2.0	1.13	1810.	0.	0.	63.2	21.0	153.8	4.920E-05	8.879E-05	4.920E-05
F	3.0	0.48	1810.	0.	0.	63.2	21.0	105.7	4.786E-05	5.937E-05	4.786E-05
F	5.0	0.04	1810.	0.	0.	63.2	21.0	71.4	4.275E-05	3.583E-05	3.583E-05
G	0.4	0.07	1810.	0.	0.	43.6	13.7	147.9	4.480E-04	8.550E-04	4.480E-04
G	1.0	2.66	1810.	0.	0.	43.6	13.7	147.9	1.525E-04	2.911E-04	1.525E-04
G	1.5	1.13	1810.	0.	0.	43.6	13.7	147.9	1.033E-04	1.971E-04	1.033E-04
G	2.0	0.36	1810.	0.	0.	43.6	13.7	147.9	7.859E-05	1.500E-04	7.859E-05
G	3.0	0.04	1810.	0.	0.	43.6	13.7	87.7	8.860E-05	1.003E-04	8.860E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

LOW POPULATION ZONE CALCULATIONS:

SSE SECTOR BOUNDARY DISTANCE = 1810.0 METERS

LATERAL PLUME MEANDER/BUILDING WAKE CREDIT ALLOWED
AS A FUNCTION OF DOWNWIND DISTANCE.
MEANDER CREDIT IS FOR WINDSPEEDS LESS THAN 6 MPS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.480E-04	2.804E-04	1.568E-04	1.525E-04	1.033E-04	9.546E-05	8.860E-05	7.859E-05	6.465E-05	5.339E-05
0.068	0.114	0.120	2.784	3.914	6.012	6.052	6.416	9.160	10.653
0.00388	0.00646	0.00681	0.15774	0.22177	0.34068	0.34297	0.36355	0.51905	0.60366
4.920E-05	4.786E-05	3.616E-05	3.583E-05	3.389E-05	2.752E-05	2.430E-05	2.295E-05	2.178E-05	1.878E-05
11.783	12.267	15.576	15.617	16.262	19.854	28.530	30.104	36.279	39.709
0.66769	0.69513	0.88264	0.88493	0.92152	1.12504	1.61669	1.70588	2.05575	2.25012
1.753E-05	1.568E-05	1.371E-05	1.178E-05	1.142E-05	9.685E-06	8.088E-06	8.029E-06	6.076E-06	6.008E-06
43.381	44.592	55.730	56.658	65.254	73.608	79.217	79.580	83.172	83.212
2.45822	2.52682	3.15797	3.21056	3.69764	4.17100	4.48886	4.50944	4.71296	4.71525
5.368E-06	4.886E-06	4.069E-06	4.041E-06	3.858E-06	3.240E-06	3.096E-06	2.706E-06	2.070E-06	2.033E-06
84.342	85.190	85.230	86.884	86.965	88.297	88.337	88.822	89.911	90.234
4.77928	4.82730	4.82959	4.92335	4.92792	5.00338	5.00567	5.03311	5.09485	5.11315
1.990E-06	1.558E-06	1.250E-06	1.044E-06	7.840E-07	4.919E-07	3.289E-07	2.476E-07	1.985E-07	1.658E-07
90.355	91.606	92.938	93.624	93.906	94.027	94.592	96.570	98.910	99.677
5.12001	5.19090	5.26636	5.30523	5.32124	5.32810	5.36012	5.47217	5.60480	5.64825
1.246E-07									
100.000									
5.66654									

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

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

                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 2)=   0.158
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   0.340
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=   0.518
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 5)=   1.615
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 6)=   2.054
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 7)=   3.155
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 8)=   3.694
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 9)=   4.168
                                                HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE(10)=   4.506

 K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
16  1      -7.71082 -11.97163  -1.07813
16  2      -8.78838 -14.40194  -1.90125
16  3      -9.25677 -16.63657  -2.72699
16  4      -9.64651 -15.58311  -2.31601
16  5     -10.62522 -13.01781  -1.11767
16  6     -10.73463 -15.86353  -2.51071
16  7     -11.19742 -15.97478  -2.57057
16  8     -11.38039 -16.65777  -2.95270
16  9     -11.54497 -20.37233  -5.09791
16 10     -11.73251     NUMXQ(K)= 10
   2.114E-04              0.057              1.000
   1.459E-04              0.170              3.000
   1.071E-04              0.283              5.000
   6.023E-05              0.567             10.000
   4.299E-05              0.850             15.000
   3.350E-05              1.133             20.000
   2.743E-05              1.417             25.000
   2.375E-05              1.700             30.000
   2.214E-05              1.983             35.000
   1.966E-05              2.267             40.000
   1.733E-05              2.550             45.000
   1.546E-05              2.833             50.000
   1.391E-05              3.117             55.000
   1.259E-05              3.400             60.000
   1.147E-05              3.683             65.000
   1.038E-05              3.967             70.000
   9.260E-06              4.250             75.000

   6.697E-05              0.5                8.82

ANNUAL AVERAGE =   6.65E-07

K= 16     FIVEXQ(K)= 6.697E-05     FIVEPR(K)= 8.824
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

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

STABILITY CLASS	WINDSPEED METER/SEC AT 10.0 METERS	FREQUENCY PERCENT	DISTANCE METERS	TERRAIN HT METERS	EFF PLUME HT METERS	SIGMA-Y METERS	SIGMA-Z METERS	MEANDER-SY METERS	** CHI/Q VALUES (SEC/CUBIC METER) MEANDER	BLDG WAKE CA=1459.SQ.METERS	USED
A	1.5	0.03	1810.	0.	0.	320.1	1000.0	320.1	6.474E-07	6.465E-07	6.465E-07
A	2.0	0.26	1810.	0.	0.	320.1	1000.0	320.1	4.927E-07	4.919E-07	4.919E-07
A	3.0	1.20	1810.	0.	0.	320.1	1000.0	320.1	3.294E-07	3.289E-07	3.289E-07
A	4.0	1.24	1810.	0.	0.	320.1	1000.0	320.1	2.480E-07	2.476E-07	2.476E-07
A	5.0	1.06	1810.	0.	0.	320.1	1000.0	320.1	1.988E-07	1.985E-07	1.985E-07
A	6.0	0.51	1810.	0.	0.	320.1	1000.0	320.1	1.660E-07	1.658E-07	1.658E-07
A	8.0	0.34	1810.	0.	0.	320.1	1000.0	320.1	1.247E-07	1.246E-07	1.246E-07
A	9.9	0.03	1810.	0.	0.	320.1	1000.0	320.1	1.003E-07	1.001E-07	1.001E-07
A	24.3	0.03	1810.	0.	0.	320.1	1000.0	320.1	4.085E-08	4.079E-08	4.079E-08
B	1.0	0.00	1810.	0.	0.	240.7	209.6	240.7	6.064E-06	6.008E-06	6.008E-06
B	1.5	0.07	1810.	0.	0.	240.7	209.6	240.7	4.107E-06	4.069E-06	4.069E-06
B	2.0	0.27	1810.	0.	0.	240.7	209.6	240.7	3.125E-06	3.096E-06	3.096E-06
B	3.0	1.00	1810.	0.	0.	240.7	209.6	240.7	2.089E-06	2.070E-06	2.070E-06
B	4.0	0.87	1810.	0.	0.	240.7	209.6	240.7	1.573E-06	1.558E-06	1.558E-06
B	5.0	0.70	1810.	0.	0.	240.7	209.6	240.7	1.261E-06	1.250E-06	1.250E-06
B	6.0	0.40	1810.	0.	0.	240.7	209.6	240.7	1.053E-06	1.044E-06	1.044E-06
B	8.0	0.25	1810.	0.	0.	240.7	209.6	240.7	7.912E-07	7.840E-07	7.840E-07
B	9.9	0.04	1810.	0.	0.	240.7	209.6	240.7	6.361E-07	6.303E-07	6.303E-07
B	24.3	0.01	1810.	0.	0.	240.7	209.6	240.7	2.591E-07	2.567E-07	2.567E-07
C	1.0	0.01	1810.	0.	0.	182.8	104.9	182.8	1.596E-05	1.558E-05	1.558E-05
C	1.5	0.13	1810.	0.	0.	182.8	104.9	182.8	1.081E-05	1.055E-05	1.055E-05
C	2.0	0.50	1810.	0.	0.	182.8	104.9	182.8	8.223E-06	8.029E-06	8.029E-06
C	3.0	1.29	1810.	0.	0.	182.8	104.9	182.8	5.498E-06	5.368E-06	5.368E-06
C	4.0	1.19	1810.	0.	0.	182.8	104.9	182.8	4.139E-06	4.041E-06	4.041E-06
C	5.0	0.88	1810.	0.	0.	182.8	104.9	182.8	3.318E-06	3.240E-06	3.240E-06
C	6.0	0.49	1810.	0.	0.	182.8	104.9	182.8	2.771E-06	2.706E-06	2.706E-06
C	8.0	0.35	1810.	0.	0.	182.8	104.9	182.8	2.082E-06	2.033E-06	2.033E-06
C	9.9	0.05	1810.	0.	0.	182.8	104.9	182.8	1.674E-06	1.634E-06	1.634E-06
C	24.3	0.02	1810.	0.	0.	182.8	104.9	182.8	6.818E-07	6.656E-07	6.656E-07
D	1.0	0.42	1810.	0.	0.	128.7	47.4	128.7	5.011E-05	4.657E-05	4.657E-05
D	1.5	1.85	1810.	0.	0.	128.7	47.4	128.7	3.394E-05	3.154E-05	3.154E-05
D	2.0	3.20	1810.	0.	0.	128.7	47.4	128.7	2.582E-05	2.400E-05	2.400E-05
D	3.0	8.25	1810.	0.	0.	128.7	47.4	128.7	1.727E-05	1.605E-05	1.605E-05
D	4.0	7.24	1810.	0.	0.	128.7	47.4	128.7	1.300E-05	1.208E-05	1.208E-05

D	5.0	6.01	1810.	0.	0.	128.7	47.4	128.7	1.042E-05	9.685E-06	9.685E-06
D	6.0	4.15	1810.	0.	0.	128.7	47.4	128.7	8.703E-06	8.088E-06	8.088E-06
D	8.0	3.43	1810.	0.	0.	128.7	47.4	128.7	6.538E-06	6.076E-06	6.076E-06
D	9.9	0.87	1810.	0.	0.	128.7	47.4	128.7	5.257E-06	4.886E-06	4.886E-06
D	24.3	0.15	1810.	0.	0.	128.7	47.4	128.7	2.141E-06	1.990E-06	1.990E-06
E	0.4	0.01	1810.	0.	0.	91.5	32.3	91.5	3.069E-04	2.653E-04	2.653E-04
E	1.0	1.65	1810.	0.	0.	91.5	32.3	91.5	1.045E-04	9.030E-05	9.030E-05
E	1.5	3.96	1810.	0.	0.	91.5	32.3	91.5	7.075E-05	6.115E-05	6.115E-05
E	2.0	4.85	1810.	0.	0.	91.5	32.3	91.5	5.384E-05	4.654E-05	4.654E-05
E	3.0	9.56	1810.	0.	0.	91.5	32.3	91.5	3.600E-05	3.112E-05	3.112E-05
E	4.0	7.23	1810.	0.	0.	91.5	32.3	91.5	2.710E-05	2.342E-05	2.342E-05
E	5.0	4.72	1810.	0.	0.	91.5	32.3	91.5	2.173E-05	1.878E-05	1.878E-05
E	5.9	2.72	1810.	0.	0.	91.5	32.3	91.5	1.815E-05	1.568E-05	1.568E-05
E	7.9	2.33	1810.	0.	0.	91.5	32.3	91.5	1.363E-05	1.178E-05	1.178E-05
E	9.8	0.61	1810.	0.	0.	91.5	32.3	91.5	1.096E-05	9.474E-06	9.474E-06
E	24.1	0.20	1810.	0.	0.	91.5	32.3	91.5	4.464E-06	3.858E-06	3.858E-06
F	0.4	0.05	1810.	0.	0.	63.2	21.0	63.2	6.829E-04	5.061E-04	5.061E-04
F	1.0	2.10	1810.	0.	0.	63.2	21.0	63.2	2.325E-04	1.723E-04	1.723E-04
F	1.5	2.76	1810.	0.	0.	63.2	21.0	63.2	1.574E-04	1.167E-04	1.167E-04
F	2.0	2.07	1810.	0.	0.	63.2	21.0	63.2	1.198E-04	8.879E-05	8.879E-05
F	3.0	1.90	1810.	0.	0.	63.2	21.0	63.2	8.010E-05	5.937E-05	5.937E-05
F	4.0	0.49	1810.	0.	0.	63.2	21.0	63.2	6.030E-05	4.469E-05	4.469E-05
F	5.0	0.16	1810.	0.	0.	63.2	21.0	63.2	4.834E-05	3.583E-05	3.583E-05
F	5.9	0.02	1810.	0.	0.	63.2	21.0	63.2	4.038E-05	2.992E-05	2.992E-05
F	7.9	0.01	1810.	0.	0.	63.2	21.0	63.2	3.033E-05	2.248E-05	2.248E-05
F	9.8	0.03	1810.	0.	0.	63.2	21.0	63.2	2.439E-05	1.807E-05	1.807E-05
F	24.1	0.04	1810.	0.	0.	63.2	21.0	63.2	9.933E-06	7.361E-06	7.361E-06
G	0.4	0.04	1810.	0.	0.	43.6	13.7	43.6	1.519E-03	8.550E-04	8.550E-04
G	1.0	1.69	1810.	0.	0.	43.6	13.7	43.6	5.172E-04	2.911E-04	2.911E-04
G	1.5	1.11	1810.	0.	0.	43.6	13.7	43.6	3.503E-04	1.971E-04	1.971E-04
G	2.0	0.48	1810.	0.	0.	43.6	13.7	43.6	2.666E-04	1.500E-04	1.500E-04
G	3.0	0.37	1810.	0.	0.	43.6	13.7	43.6	1.782E-04	1.003E-04	1.003E-04
G	4.0	0.03	1810.	0.	0.	43.6	13.7	43.6	1.342E-04	7.549E-05	7.549E-05
G	5.0	0.01	1810.	0.	0.	43.6	13.7	43.6	1.076E-04	6.053E-05	6.053E-05

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:
DIRECTION-INDEPENDENT (S.R.P 2.3.4) MODEL.
MINIMUM BOUNDARY DISTANCE = 1810.0 METERS.
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

8.550E-04	5.061E-04	2.911E-04	2.653E-04	1.971E-04	1.723E-04	1.500E-04	1.167E-04	1.003E-04	9.030E-05
0.043	0.089	1.781	1.788	2.897	5.001	5.484	8.246	8.619	10.265
0.04345	0.08918	1.78139	1.78825	2.89732	5.00114	5.48365	8.24606	8.61880	10.26526
8.879E-05	7.549E-05	6.115E-05	6.053E-05	5.937E-05	4.657E-05	4.654E-05	4.469E-05	3.583E-05	3.154E-05
12.337	12.367	16.325	16.332	18.230	18.649	23.499	23.988	24.144	25.996
12.33707	12.36680	16.32518	16.33204	18.23005	18.64853	23.49874	23.98811	24.14361	25.99589
3.112E-05	2.992E-05	2.400E-05	2.342E-05	2.248E-05	1.878E-05	1.807E-05	1.605E-05	1.568E-05	1.558E-05
35.559	35.582	38.779	46.012	46.019	50.734	50.762	59.010	61.729	61.738
35.55911	35.58198	38.77887	46.01189	46.01875	50.73405	50.76149	59.00983	61.72879	61.73794
1.208E-05	1.178E-05	1.055E-05	9.685E-06	9.474E-06	8.088E-06	8.029E-06	7.361E-06	6.076E-06	6.008E-06
68.976	71.306	71.434	77.448	78.061	82.214	82.717	82.758	86.193	86.197
68.97553	71.30574	71.43380	77.44798	78.06084	82.21358	82.71667	82.75784	86.19255	86.19712
5.368E-06	4.886E-06	4.069E-06	4.041E-06	3.858E-06	3.240E-06	3.096E-06	2.706E-06	2.070E-06	2.033E-06
87.491	88.358	88.427	89.618	89.822	90.704	90.970	91.464	92.465	92.820
87.49142	88.35811	88.42671	89.61811	89.82163	90.70432	90.96959	91.46353	92.46513	92.81958
1.990E-06	1.634E-06	1.558E-06	1.250E-06	1.044E-06	7.840E-07	6.656E-07	6.465E-07	6.303E-07	4.919E-07
92.966	93.014	93.888	94.583	94.987	95.241	95.264	95.298	95.335	95.593
92.96593	93.01395	93.88750	94.58267	94.98743	95.24126	95.26412	95.29842	95.33501	95.59342
3.289E-07	2.567E-07	2.476E-07	1.985E-07	1.658E-07	1.246E-07	1.001E-07	4.079E-08		
96.789	96.799	98.038	99.097	99.607	99.945	99.973	100.000		
96.78940	96.79855	98.03797	99.09674	99.60669	99.94513	99.97257	100.00000		

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

PERCENT OF TIME CHI/Q IS EQUALED OR EXCEEDED

CHI/Q SEC/CUBIC METER	WITH RESPECT TO THE TOTAL TIME	WHEN THE WIND BLOWS INTO THIS SECTOR ONLY
3.546E-04	1.000	1.000
2.260E-04	3.000	3.000
1.723E-04	5.000	5.000
1.050E-04	10.000	10.000
7.411E-05	15.000	15.000
5.552E-05	20.000	20.000
4.413E-05	25.000	25.000
3.740E-05	30.000	30.000
3.207E-05	35.000	35.000
2.773E-05	40.000	40.000
2.409E-05	45.000	45.000
2.118E-05	50.000	50.000
1.866E-05	55.000	55.000
1.641E-05	60.000	60.000
1.433E-05	65.000	65.000
1.240E-05	70.000	70.000
1.061E-05	75.000	75.000
8.921E-06	80.000	80.000
6.820E-06	85.000	85.000
4.446E-06	90.000	90.000
1.723E-04	5.0	5.00

K= 17 FIVEXQ(K)= 1.723E-04 FIVEPR(K)= 5.000

ERROR IN NORMAL TRANSFORMATION FOR A(68)= 100.00000
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(3)= 4.997
HANDCHECK GRAPH: SLOPE LT -1.0 FOR LOW PERCENTAGES. XSAVE(4)= 12.335

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood METEOROLOGICAL INSTRUMENTATION
DATA PERIOD: WIND SENSORS HEIGHT: 10.4 meters
TYPE OF RELEASE: Ground Release DELTA-T HEIGHTS: 61.9-10.4 meters
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

LOW POPULATION ZONE CALCULATIONS:

FIVE PERCENT OVERALL SITE LIMIT
BUILDING WAKE CREDIT ALLOWED: C= 0.5 A= 2917. D= 60.7
CORRECTION FACTORS USED IN THE ANNUAL AVERAGE CALCULATIONS.

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

4.480E-04	2.804E-04	1.568E-04	1.525E-04	1.033E-04	9.546E-05	8.860E-05	7.859E-05	7.549E-05	6.465E-05
0.043	0.089	0.096	1.788	2.897	5.001	5.374	5.856	5.886	8.649
0.04345	0.08918	0.09604	1.78825	2.89732	5.00114	5.37389	5.85639	5.88612	8.64852
6.053E-05	5.339E-05	4.920E-05	4.786E-05	4.469E-05	3.616E-05	3.583E-05	3.389E-05	2.992E-05	2.752E-05
8.655	10.302	12.374	14.272	14.761	18.719	18.875	19.293	19.316	24.166
8.65538	10.30185	12.37366	14.27167	14.76103	18.71941	18.87491	19.29338	19.31625	24.16647
2.430E-05	2.295E-05	2.248E-05	2.178E-05	1.878E-05	1.807E-05	1.753E-05	1.568E-05	1.558E-05	1.371E-05
33.730	35.582	35.589	42.822	47.537	47.565	50.761	53.480	53.490	61.738
33.72970	35.58197	35.58883	42.82185	47.53716	47.56460	50.76148	53.48045	53.48959	61.73793
1.178E-05	1.142E-05	1.055E-05	9.685E-06	9.474E-06	8.088E-06	8.029E-06	7.361E-06	6.076E-06	6.008E-06
64.068	71.306	71.434	77.448	78.061	82.214	82.717	82.758	86.193	86.197
64.06815	71.30573	71.43377	77.44796	78.06081	82.21355	82.71664	82.75780	86.19251	86.19709
5.368E-06	4.886E-06	4.069E-06	4.041E-06	3.858E-06	3.240E-06	3.096E-06	2.706E-06	2.070E-06	2.033E-06
87.491	88.358	88.427	89.618	89.822	90.704	90.970	91.464	92.465	92.820
87.49139	88.35807	88.42668	89.61810	89.82161	90.70431	90.96957	91.46352	92.46511	92.81956
1.990E-06	1.634E-06	1.558E-06	1.250E-06	1.044E-06	7.840E-07	6.656E-07	6.465E-07	6.303E-07	4.919E-07
92.966	93.014	93.888	94.583	94.987	95.241	95.264	95.298	95.335	95.593
92.96591	93.01394	93.88748	94.58265	94.98741	95.24124	95.26411	95.29840	95.33498	95.59338
3.289E-07	2.567E-07	2.476E-07	1.985E-07	1.658E-07	1.246E-07	1.001E-07	4.079E-08		
96.789	96.799	98.038	99.097	99.607	99.945	99.973	100.000		
96.78935	96.79850	98.03793	99.09669	99.60664	99.94508	99.97251	99.99995		

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

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

                                                   HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 3)=   4.997
                                                   HANDCHECK GRAPH:  SLOPE LT -1.0 FOR LOW PERCENTAGES.  XSAVE( 4)=  14.271

  K  I   XQSAVE(K,I)  XQINT(K,I) XQSLOP(K,I)
 18  1      -7.71082 -10.62810  -0.87604
 18  2      -8.78838 -10.95057  -1.02960
 18  3      -9.25677 -11.22605  -1.19705
 18  4      -9.94734 -11.06343  -1.04482
 18  5     -10.62522 -10.81734  -0.45808
 18  6     -10.73463 -10.89166  -0.86968
 18  7     -11.38039 -10.89735  -0.85955
 18  8     -11.54497 -10.79936  -0.98961
 18  9     -11.73251 -10.08712  -1.74494
 18 10     -16.11664     NUMXQ(K)= 10
    1.860E-04              1.000              1.000
    1.217E-04              3.000              3.000
    9.547E-05              5.000              5.000
    6.179E-05             10.000             10.000
    4.629E-05             15.000             15.000
    3.776E-05             20.000             20.000
    3.171E-05             25.000             25.000
    2.710E-05             30.000             30.000
    2.391E-05             35.000             35.000
    2.251E-05             40.000             40.000
    2.076E-05             45.000             45.000
    1.861E-05             50.000             50.000
    1.669E-05             55.000             55.000
    1.494E-05             60.000             60.000
    1.332E-05             65.000             65.000
    1.180E-05             70.000             70.000
    1.037E-05             75.000             75.000
    8.877E-06             80.000             80.000
    6.820E-06             85.000             85.000
    4.445E-06             90.000             90.000

    9.547E-05              5.0                5.00

K= 18     FIVEXQ(K)= 9.547E-05     FIVEPR(K)= 5.000

  K         HIGHPR            PR       GRNDVT(K)
  1       -2.82155        0.23897        4.22800
  2       -1.78309        3.72857        5.26942
  3       -2.79697        0.25793        6.10231
  4       -2.67453        0.37417        5.98233
  5       -2.57624        0.49942        5.25961
  6       -2.80156        0.25429        4.65728
```

7	-2.99512	0.13717	4.98165
8	-3.11882	0.09080	6.51959
9	-3.20989	0.06640	6.53955
10	-3.21065	0.06622	7.74017
11	-3.13149	0.08697	5.87912
12	-2.84197	0.22418	7.24032
13	-2.78209	0.27006	8.51913
14	-2.63026	0.42660	9.11977
15	-2.69806	0.34873	6.29520
16	-2.78093	0.27102	5.66654

K	HOURS(K)	TOTHRS
1	20.93350	20.93350
2	326.62310	347.55660
3	22.59442	370.15100
4	32.77713	402.92820
5	43.74879	446.67690
6	22.27539	468.95230
7	12.01645	480.96880
8	7.95371	488.92250
9	5.81660	494.73910
10	5.80094	500.54000
11	7.61850	508.15850
12	19.63861	527.79710
13	23.65697	551.45410
14	37.36984	588.82400
15	30.54865	619.37260
16	23.74155	643.11420

K	FIVEXQ	SVANN	SLTIME	TIMINT	I	TIME	XQT
1	6.377E-05	5.718E-07	-0.5622	-9.2705			
					1	8.0	-10.43961
					2	16.0	-10.82932
					3	72.0	-11.67496
					4	624.0	-12.88909
2	5.453E-05	6.058E-07	-0.5367	-9.4447			
					1	8.0	-10.56070
					2	16.0	-10.93269
					3	72.0	-11.73988
					4	624.0	-12.89880
3	7.205E-05	7.697E-07	-0.5413	-9.1629			
					1	8.0	-10.28857
					2	16.0	-10.66380
					3	72.0	-11.47801
					4	624.0	-12.64702
4	9.396E-05	1.021E-06	-0.5393	-8.8989			
					1	8.0	-10.02028
					2	16.0	-10.39408
					3	72.0	-11.20518
					4	624.0	-12.36974
5	1.100E-04	1.095E-06	-0.5498	-8.7336			

```
                                        1    8.0    -9.87689
                                        2   16.0   -10.25798
                                        3   72.0   -11.08493
                                        4  624.0   -12.27222
 6 8.103E-05 7.787E-07   -0.5540   -9.0367
                                        1    8.0   -10.18863
                                        2   16.0   -10.57260
                                        3   72.0   -11.40579
                                        4  624.0   -12.60205
 7 5.921E-05 5.805E-07   -0.5516   -9.3520
                                        1    8.0   -10.49898
                                        2   16.0   -10.88130
                                        3   72.0   -11.71091
                                        4  624.0   -12.90202
 8 4.761E-05 5.721E-07   -0.5273   -9.5870
                                        1    8.0   -10.68347
                                        2   16.0   -11.04896
                                        3   72.0   -11.84206
                                        4  624.0   -12.98076
 9 3.895E-05 4.593E-07   -0.5296   -9.7861
                                        1    8.0   -10.88724
                                        2   16.0   -11.25430
                                        3   72.0   -12.05079
                                        4  624.0   -13.19437
10 4.840E-05 5.213E-07   -0.5404   -9.5614
                                        1    8.0   -10.68508
                                        2   16.0   -11.05963
                                        3   72.0   -11.87238
                                        4  624.0   -13.03928
11 4.344E-05 4.623E-07   -0.5418   -9.6686
                                        1    8.0   -10.79522
                                        2   16.0   -11.17075
                                        3   72.0   -11.98563
                                        4  624.0   -13.15560
12 8.324E-05 7.667E-07   -0.5590   -9.0063
                                        1    8.0   -10.16877
                                        2   16.0   -10.55625
                                        3   72.0   -11.39705
                                        4  624.0   -12.60422
13 8.583E-05 9.623E-07   -0.5356   -8.9920
                                        1    8.0   -10.10565
                                        2   16.0   -10.47687
                                        3   72.0   -11.28241
                                        4  624.0   -12.43896
14 1.027E-04 1.116E-06   -0.5394   -8.8095
                                        1    8.0    -9.93102
                                        2   16.0   -10.30487
                                        3   72.0   -11.11610
                                        4  624.0   -12.28083
15 8.847E-05 8.407E-07   -0.5553   -8.9479
                                        1    8.0   -10.10263
```

```
                                        2   16.0   -10.48754
                                        3   72.0   -11.32276
                                        4  624.0   -12.52193
16 6.697E-05 6.650E-07   -0.5501   -9.2299
                                        1    8.0   -10.37375
                                        2   16.0   -10.75502
                                        3   72.0   -11.58237
                                        4  624.0   -12.77023
17 1.723E-04 1.116E-06   -0.6010   -8.2496
                                        1    8.0    -9.49940
                                        2   16.0    -9.91600
                                        3   72.0   -10.81999
                                        4  624.0   -12.11790
18 9.547E-05 1.116E-06   -0.5306   -8.8889
                                        1    8.0    -9.99224
                                        2   16.0   -10.36003
                                        3   72.0   -11.15810
                                        4  624.0   -12.30394
```

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PLANT NAME: Braidwood
DATA PERIOD:
TYPE OF RELEASE: Ground Release
SOURCE OF DATA:
COMMENTS: Braidwood, 94-98 met (r3), 11 ws cats, 34' wind, 30'-199' Delta T
PROGRAM: PAVAN, 10/76, 8/79 REVISION, IMPLEMENTATION OF REGULATORY GUIDE 1.145

METEOROLOGICAL INSTRUMENTATION
WIND SENSORS HEIGHT: 10.4 meters
DELTA-T HEIGHTS: 61.9-10.4 meters

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

DOWNWIND SECTOR	DISTANCE (METERS)	0-2 HOURS	0-8 HOURS	8-24 HOURS	1-4 DAYS	4-30 DAYS	ANNUAL AVERAGE	HOURS PER YEAR MAX 0-2 HR X/Q IS EXCEEDED IN SECTOR	DOWNWIND SECTOR
S	1810.	6.38E-05	2.93E-05	1.98E-05	8.50E-06	2.53E-06	5.72E-07	20.9	S
SSW	1810.	5.45E-05	2.59E-05	1.79E-05	7.97E-06	2.50E-06	6.06E-07	326.6	SSW
SW	1810.	7.21E-05	3.40E-05	2.34E-05	1.04E-05	3.22E-06	7.70E-07	22.6	SW
WSW	1810.	9.40E-05	4.45E-05	3.06E-05	1.36E-05	4.25E-06	1.02E-06	32.8	WSW
W	1810.	1.10E-04	5.13E-05	3.51E-05	1.53E-05	4.68E-06	1.09E-06	43.7	W
WNW	1810.	8.10E-05	3.76E-05	2.56E-05	1.11E-05	3.37E-06	7.79E-07	22.3	WNW
NW	1810.	5.92E-05	2.76E-05	1.88E-05	8.20E-06	2.49E-06	5.81E-07	12.0	NW
NNW	1810.	4.76E-05	2.29E-05	1.59E-05	7.20E-06	2.30E-06	5.72E-07	8.0	NNW
N	1810.	3.90E-05	1.87E-05	1.30E-05	5.84E-06	1.86E-06	4.59E-07	5.8	N
NNE	1810.	4.84E-05	2.29E-05	1.57E-05	6.98E-06	2.17E-06	5.21E-07	5.8	NNE
NE	1810.	4.34E-05	2.05E-05	1.41E-05	6.23E-06	1.93E-06	4.62E-07	7.6	NE
ENE	1810.	8.32E-05	3.83E-05	2.60E-05	1.12E-05	3.36E-06	7.67E-07	19.6	ENE
E	1810.	8.58E-05	4.08E-05	2.82E-05	1.26E-05	3.96E-06	9.62E-07	23.7	E
ESE	1810.	1.03E-04	4.86E-05	3.35E-05	1.49E-05	4.64E-06	1.12E-06	37.4	ESE
SE	1810.	8.85E-05	4.10E-05	2.79E-05	1.21E-05	3.65E-06	8.41E-07	30.5	SE
SSE	1810.	6.70E-05	3.12E-05	2.13E-05	9.33E-06	2.84E-06	6.65E-07	23.7	SSE
MAX X/Q		1.10E-04				TOTAL HOURS AROUND SITE:		643.1	
SRP 2.3.4	1810.	1.72E-04	7.49E-05	4.94E-05	2.00E-05	5.46E-06	1.12E-06		
SITE LIMIT		9.55E-05	4.58E-05	3.17E-05	1.43E-05	4.53E-06	1.12E-06		

THE FIVE-PERCENT-FOR-THE-ENTIRE-SITE X/Q IS LIMITING.

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

USNRC COMPUTER CODE-PAVAN, VERSION 2.0 RUN DATE: 04/05/09

PRINTOUT OF INPUT CARDS

```
1     00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000
```

ATTACHMENT 4

Braidwood and Byron Stations
Measurement Uncertainty Recapture Technical Evaluation

Response to NRC Acceptance Review Questions

Calculation No. BYR04-050, BRW-04-0044-M, Minor Rev. 1B, Appendix BB-1: "Byron Joint Frequency Distribution"

Byron

Joint Frequency Distribution
1994-1998 (Rev. 4)
30 ft wind
250-30 ft Delta T

	Wind Speed Category[1]	Wind Direction Category N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Total	Calms	Total
1 (A)	2	1	2	0	2	2	0	0	0	0	1	0	0	0	0	1	1	10	0	
	3	0	0	0	0	0	3	3	1	1	3	2	6	1	1	2	0	23		
	4	2	2	1	2	3	2	2	1	0	1	5	4	4	3	3	1	36		
	5	16	9	10	7	14	8	4	15	7	11	19	10	10	16	8	13	177		
	6	39	21	11	9	25	14	7	21	8	12	20	9	14	30	28	18	286		
	7	19	21	7	12	18	9	10	21	17	19	28	23	18	32	49	18	321		
	8	10	18	5	8	1	4	9	10	9	20	19	15	27	19	45	20	239		
	9	14	7	3	16	2	6	7	25	32	33	29	25	26	46	34	14	319		
	10	0	2	0	6	0	0	0	5	10	13	7	3	10	4	2	1	63		
	11	0	0	0	0	0	0	0	1	2	4	2	1	1	0	0	0	11		1485
2 (B)	2	0	2	0	2	2	0	0	1	0	0	0	0	0	1	1	0	9	0	
	3	3	3	0	1	3	3	2	1	2	1	0	1	1	1	2	4	28		
	4	5	5	1	0	3	5	3	1	0	3	2	5	4	1	3	5	46		
	5	19	8	5	9	14	16	9	12	9	13	22	6	11	7	18	16	194		
	6	22	20	8	7	21	12	22	12	20	23	29	13	16	20	34	16	295		
	7	39	20	9	4	15	13	15	20	12	21	31	25	28	27	42	22	343		
	8	13	16	3	5	4	7	10	9	14	27	22	13	21	32	27	16	239		
	9	10	3	8	14	2	1	4	13	17	24	14	10	19	26	23	9	197		
	10	2	1	0	4	0	1	5	6	5	6	4	6	10	9	3	1	63		
	11	3	0	0	0	0	0	0	1	3	2	3	2	0	2	0	0	16		1430
3 (C)	2	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	5	0	
	3	2	1	1	1	4	2	2	1	2	2	10	2	3	3	4	4	44		
	4	6	14	9	4	10	9	13	7	8	7	6	8	5	5	4	10	125		
	5	21	10	13	12	49	25	33	12	23	41	36	19	25	29	44	25	417		
	6	36	26	16	9	29	14	20	26	41	36	45	22	40	40	58	35	493		
	7	35	17	13	17	11	12	23	31	33	38	48	33	27	45	47	34	464		
	8	18	12	10	7	5	2	10	25	22	28	28	13	27	41	44	16	308		
	9	12	9	4	10	2	3	5	8	28	30	19	23	33	43	33	14	276		
	10	2	2	2	1	0	2	5	2	7	7	4	7	10	17	5	0	73		
	11	2	0	0	0	0	0	0	5	0	3	4	4	3	2	0	1	24		2229
4 (D)	2	18	25	16	17	22	13	18	6	10	16	21	29	26	32	26	15	310	4	
	3	32	40	52	45	59	49	38	34	33	33	49	50	46	64	58	65	747		
	4	109	85	72	53	107	79	47	48	64	68	74	75	82	107	98	95	1263		
	5	271	186	165	158	294	162	164	184	227	225	264	212	241	312	364	303	3732		
	6	327	175	136	188	223	120	159	225	255	205	242	221	285	359	388	287	3795		
	7	372	211	141	272	171	115	152	227	215	190	243	227	328	371	299	272	3806		
	8	220	133	121	191	71	62	77	164	196	156	164	154	253	314	205	127	2608		
	9	197	185	217	232	35	79	84	202	188	221	153	191	403	318	142	103	2950		
	10	40	36	85	37	1	30	27	56	58	76	39	81	142	136	22	17	883		
	11	16	4	16	0	0	7	1	21	2	14	27	44	98	32	0	0	282		20380
5 (E)	2	30	27	30	27	37	20	27	27	28	35	43	44	62	65	73	44	619	7	
	3	50	34	31	43	94	47	44	42	60	71	95	75	104	103	105	57	1055		
	4	45	50	30	43	154	81	50	55	90	90	123	108	98	116	185	87	1405		
	5	152	122	86	128	329	171	201	221	257	208	216	180	251	218	192	199	3131		
	6	120	87	91	137	149	109	169	245	242	172	174	147	189	128	130	99	2388		
	7	46	28	51	110	40	71	113	190	219	159	132	103	154	65	44	30	1555		
	8	14	10	37	62	16	35	51	134	138	148	54	31	51	20	11	9	821		
	9	6	4	8	36	7	39	24	105	143	142	44	21	38	8	3	5	633		
	10	0	0	0	1	0	16	10	17	20	49	6	2	8	1	0	0	130		
	11	0	0	0	0	0	6	1	6	1	1	0	0	0	4	0	0	19		11763
6 (F)	2	24	21	18	9	15	14	10	21	21	30	46	54	70	89	95	39	576	5	
	3	31	12	7	11	54	34	30	42	66	73	66	69	113	78	126	64	876		
	4	20	19	9	13	102	63	44	53	96	102	51	50	63	25	66	64	840		
	5	39	32	14	26	116	160	212	275	234	86	43	16	37	18	15	42	1365		
	6	15	6	4	22	22	97	107	200	116	38	3	6	3	1	0	0	640		
	7	1	1	0	8	1	20	20	100	41	4	2	2	2	0	0	0	202		
	8	0	0	0	0	0	2	1	12	12	1	0	1	0	0	0	0	29		
	9	0	0	0	1	0	0	0	4	1	0	0	0	0	0	0	0	6		
	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		4539

7 (G)	2	25	9	8	15	17	10	11	15	25	43	50	52	73	94	110	68	625	11
	3	7	3	2	8	29	30	14	35	54	42	27	30	39	23	78	48	469	
	4	5	1	1	3	35	28	17	19	69	34	6	4	9	6	13	10	260	
	5	9	1	0	2	30	54	62	60	83	7	1	2	2	1	0	0	314	
	6	1	0	0	3	6	31	30	32	18	0	0	0	0	0	0	0	121	
	7	0	0	0	2	0	3	5	14	3	0	0	0	0	0	0	0	27	
	8	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	
	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1829
																			43655

Notes:
(1) Wind Speed Categories defined as follows:

Category	Wind Speed (mph)
Calm	<0.8
2	≥ 0.80 - <2.35
3	≥ 2.35 - <3.47
4	≥ 3.47 - <4.56
5	≥ 4.56 - <6.82
6	≥ 6.82 - <9.06
7	≥ 9.06 - <11.30
8	≥ 11.30 - <13.53
9	≥ 13.53 - <18.01
10	≥ 18.01 - <22.40
11	≥22.40

Byron

Joint Frequency Distribution
1994-1998 (Rev. 4)
30 ft wind
250-30 ft Delta T

	Wind Speed Category[1]	Wind Direction Category 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total	Calms	Total
1 (A)	2	0.00229	0.00458	0.00000	0.00458	0.00458	0.00000	0.00000	0.00000	0.00000	0.00229	0.00000	0.00000	0.00000	0.00000	0.00229	0.00229	0.02291	0.00000	
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00687	0.00687	0.00229	0.00229	0.00687	0.00458	0.01374	0.00229	0.00229	0.00458	0.00000	0.05269		
	4	0.00458	0.00458	0.00229	0.00458	0.00687	0.00458	0.00458	0.00229	0.00000	0.00229	0.01145	0.00916	0.00916	0.00687	0.00687	0.00229	0.08246		
	5	0.03665	0.02062	0.02291	0.01603	0.03207	0.01833	0.00916	0.03438	0.01603	0.02520	0.04352	0.02291	0.02291	0.03665	0.01833	0.02978	0.40545		
	6	0.08934	0.04810	0.02520	0.02062	0.05727	0.03207	0.01603	0.04810	0.01833	0.02749	0.04581	0.02062	0.03207	0.06872	0.06414	0.04123	0.65514		
	7	0.04352	0.04810	0.01603	0.02749	0.04123	0.02062	0.02291	0.04810	0.03894	0.04352	0.06414	0.05269	0.04123	0.07330	0.11224	0.04123	0.73531		
	8	0.02291	0.04123	0.01145	0.01833	0.00229	0.00916	0.02062	0.02291	0.02062	0.04581	0.04352	0.03436	0.06185	0.04352	0.10308	0.04581	0.54747		
	9	0.03207	0.01603	0.00687	0.03665	0.00458	0.01374	0.01603	0.05727	0.07330	0.07559	0.06643	0.05727	0.05956	0.10537	0.07788	0.03207	0.73073		
	10	0.00000	0.00458	0.00000	0.01374	0.00000	0.00000	0.00000	0.01145	0.02291	0.02978	0.01603	0.00687	0.02291	0.00916	0.00458	0.00229	0.14431		
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00229	0.00458	0.00916	0.00458	0.00229	0.00229	0.00000	0.00000	0.00000	0.02520		3.401672
2 (B)	2	0.00000	0.00458	0.00000	0.00458	0.00458	0.00000	0.00000	0.00229	0.00000	0.00000	0.00000	0.00000	0.00000	0.00229	0.00229	0.00000	0.02062	0.00000	
	3	0.00687	0.00687	0.00000	0.00229	0.00687	0.00687	0.00458	0.00229	0.00458	0.00229	0.00000	0.00229	0.00229	0.00229	0.00458	0.00916	0.06414		
	4	0.01145	0.01145	0.00229	0.00000	0.00687	0.01145	0.00687	0.00229	0.00000	0.00687	0.00458	0.01145	0.00916	0.00229	0.00687	0.01145	0.10537		
	5	0.04352	0.01833	0.01145	0.02062	0.03207	0.03665	0.02062	0.02749	0.02062	0.02978	0.05040	0.01374	0.02520	0.01603	0.04123	0.03665	0.44439		
	6	0.05040	0.04581	0.01833	0.01603	0.04810	0.02749	0.05040	0.02749	0.04581	0.05269	0.06643	0.02978	0.03665	0.04581	0.07788	0.03665	0.67575		
	7	0.08934	0.04581	0.02062	0.00916	0.03436	0.02978	0.03436	0.04581	0.02749	0.04810	0.07101	0.05727	0.06414	0.06185	0.09621	0.05040	0.78571		
	8	0.02978	0.03665	0.00687	0.01145	0.00916	0.01603	0.02291	0.02062	0.03207	0.06185	0.05040	0.02978	0.04810	0.07330	0.06185	0.03665	0.54747		
	9	0.02291	0.00687	0.01833	0.03207	0.00458	0.00229	0.00916	0.02978	0.03894	0.05498	0.03207	0.02291	0.04352	0.05956	0.05269	0.02062	0.45127		
	10	0.00458	0.00229	0.00000	0.00916	0.00000	0.00229	0.01145	0.01374	0.01145	0.01374	0.00916	0.01374	0.02291	0.02062	0.00687	0.00229	0.14431		
	11	0.00687	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00229	0.00687	0.00458	0.00687	0.00458	0.00000	0.00458	0.00000	0.00000	0.03665		3.275684
3 (C)	2	0.00458	0.00229	0.00000	0.00000	0.00229	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00229	0.01145	0.00000	
	3	0.00458	0.00229	0.00229	0.00229	0.00916	0.00458	0.00458	0.00229	0.00458	0.00458	0.02291	0.00458	0.00687	0.00687	0.00916	0.00916	0.10079		
	4	0.01374	0.03207	0.02062	0.00916	0.02291	0.02062	0.02978	0.01603	0.01833	0.01603	0.01374	0.01833	0.01145	0.01145	0.00916	0.02291	0.28634		
	5	0.04810	0.02291	0.02978	0.02749	0.11224	0.05727	0.07559	0.02749	0.05269	0.09392	0.08246	0.04352	0.05727	0.06643	0.10079	0.05727	0.95522		
	6	0.08246	0.05956	0.03665	0.02062	0.06643	0.03207	0.04581	0.05956	0.09392	0.08246	0.10308	0.05040	0.09163	0.09163	0.13286	0.08017	1.12931		
	7	0.08017	0.03894	0.02978	0.03894	0.02520	0.02749	0.05269	0.07101	0.07559	0.08705	0.10995	0.07559	0.06185	0.10308	0.10766	0.07788	1.06288		
	8	0.04123	0.02749	0.02291	0.01603	0.01145	0.00458	0.02291	0.05727	0.05040	0.06414	0.06414	0.02978	0.06185	0.09392	0.10079	0.03665	0.70553		
	9	0.02749	0.02062	0.00916	0.02291	0.00458	0.00687	0.01145	0.01833	0.06414	0.06872	0.04352	0.05269	0.07559	0.09850	0.07559	0.03207	0.63223		
	10	0.00458	0.00458	0.00458	0.00229	0.00000	0.00458	0.01145	0.00458	0.01603	0.01603	0.00916	0.01603	0.02291	0.03894	0.01145	0.00000	0.16722		
	11	0.00458	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01145	0.00000	0.00687	0.00916	0.00916	0.00687	0.00458	0.00000	0.00229	0.05498		5.105944
4 (D)	2	0.04123	0.05727	0.03665	0.03894	0.05040	0.02978	0.04123	0.01374	0.02291	0.03665	0.04810	0.06643	0.05956	0.07330	0.05956	0.03436	0.71011	0.00916	
	3	0.07330	0.09163	0.11912	0.10308	0.13515	0.11224	0.08705	0.07788	0.07559	0.07559	0.11224	0.11453	0.10537	0.14660	0.13286	0.14889	1.71114		
	4	0.24969	0.19471	0.16493	0.12141	0.24510	0.18096	0.10766	0.10995	0.14660	0.15577	0.16951	0.17180	0.18784	0.24510	0.22449	0.21762	2.89314		
	5	0.62078	0.42607	0.37796	0.36193	0.67346	0.37109	0.37567	0.42149	0.51999	0.51540	0.60474	0.48563	0.55206	0.71469	0.83381	0.69408	8.54885		
	6	0.74906	0.40087	0.31153	0.43065	0.51082	0.27488	0.36422	0.51540	0.58413	0.46959	0.55435	0.50624	0.65285	0.82236	0.88879	0.65743	8.69316		
	7	0.85214	0.48334	0.32299	0.62307	0.39171	0.26343	0.34818	0.51999	0.49250	0.43523	0.55664	0.51999	0.75135	0.84985	0.68492	0.62307	8.71836		
	8	0.50395	0.30466	0.27717	0.43752	0.16264	0.14202	0.17638	0.37567	0.44897	0.35735	0.37567	0.35277	0.57954	0.71928	0.46959	0.29092	5.97412		
	9	0.45127	0.42378	0.49708	0.53144	0.08017	0.18096	0.19242	0.46272	0.43065	0.50624	0.35048	0.43752	0.92315	0.72844	0.32528	0.23594	6.75753		
	10	0.09163	0.08246	0.19471	0.08476	0.00229	0.06872	0.06185	0.12828	0.13286	0.17409	0.08934	0.18555	0.32528	0.31153	0.05040	0.03894	2.02268		
	11	0.03665	0.00916	0.03665	0.00000	0.00000	0.01603	0.00229	0.04810	0.00458	0.03207	0.06185	0.10079	0.22449	0.07330	0.00000	0.00000	0.64597		46.68423
5 (E)	2	0.06872	0.06185	0.06872	0.06185	0.08476	0.04581	0.06185	0.06185	0.06414	0.08017	0.09850	0.10079	0.14202	0.14889	0.16722	0.10079	1.41794	0.01603	
	3	0.11453	0.07788	0.07101	0.09850	0.21532	0.10766	0.10079	0.09621	0.13744	0.16264	0.21762	0.17180	0.23823	0.23594	0.24052	0.13057	2.41668		
	4	0.10308	0.11453	0.06872	0.09850	0.35277	0.18555	0.11453	0.12599	0.20616	0.20616	0.28175	0.24739	0.22449	0.26572	0.42378	0.19929	3.21842		
	5	0.34818	0.27946	0.19700	0.29321	0.75364	0.39171	0.46043	0.50624	0.58871	0.47646	0.49479	0.41232	0.57496	0.49937	0.43981	0.45585	7.17215		
	6	0.27488	0.19929	0.20845	0.31382	0.34131	0.24969	0.38713	0.56122	0.55435	0.39400	0.39858	0.33673	0.43294	0.29321	0.29779	0.22678	5.47016		
	7	0.10537	0.06414	0.11683	0.25198	0.09163	0.16264	0.25885	0.43523	0.50166	0.36422	0.30237	0.23594	0.35277	0.14889	0.10079	0.06872	3.56202		
	8	0.03207	0.02291	0.08476	0.14202	0.03665	0.08017	0.11683	0.30695	0.31611	0.33902	0.12370	0.07101	0.11683	0.04581	0.02520	0.02062	1.88066		
	9	0.01374	0.00916	0.01833	0.08246	0.01603	0.08934	0.05498	0.24052	0.32757	0.32528	0.10079	0.04810	0.08705	0.01833	0.00687	0.01145	1.45001		
	10	0.00000	0.00000	0.00000	0.00229	0.00000	0.03665	0.02291	0.03894	0.04581	0.11224	0.01374	0.00458	0.01833	0.00229	0.00000	0.00000	0.29779		
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.01374	0.00229	0.01374	0.00229	0.00229	0.00000	0.00000	0.00000	0.00916	0.00000	0.00000	0.04352		26.94537
6 (F)	2	0.05498	0.04810	0.04123	0.02062	0.03436	0.03207	0.02291	0.04810	0.04810	0.06872	0.10537	0.12370	0.16035	0.20387	0.21762	0.08934	1.31944	0.01145	
	3	0.07101	0.02749	0.01603	0.02520	0.12370	0.07788	0.06872	0.09621	0.15119	0.16722	0.15119	0.15806	0.25885	0.17867	0.28863	0.14660	2.00664		
	4	0.04581	0.04352	0.02062	0.02978	0.23365	0.14431	0.10079	0.12141	0.21991	0.23365	0.11683	0.11453	0.14431	0.05727	0.15119	0.14660	1.92418		
	5	0.08934	0.07330	0.03207	0.05956	0.26572	0.36651	0.48563	0.62994	0.53602	0.19700	0.09850	0.03665	0.08476	0.04123	0.03436	0.09621	3.12679		
	6	0.03436	0.01374	0.00916	0.05040	0.05040	0.22220	0.24510	0.45814	0.26572	0.08705	0.00687	0.01374	0.00687	0.00229	0.00000	0.00000	1.46604		
	7	0.00229	0.00229	0.00000	0.01833	0.00229	0.04581	0.04581	0.22907	0.09392	0.00916	0.00458	0.00458	0.00458	0.00000	0.00000	0.00000	0.46272		
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00458	0.00229	0.02749	0.02749	0.00229	0.00000	0.00229	0.00000	0.00000	0.00000	0.00000	0.06643		
	9	0.00000	0.00000	0.00000	0.00229	0.00000	0.00000	0.00000	0.00916	0.00229	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01374		
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		10.39743

7 (G)	2	0.05727	0.02062	0.01833	0.03436	0.03894	0.02291	0.02520	0.03436	0.05727	0.09850	0.11453	0.11912	0.16722	0.21532	0.25198	0.15577	1.43168	0.02520	
	3	0.01603	0.00687	0.00458	0.01833	0.06643	0.06872	0.03207	0.08017	0.12370	0.09621	0.06185	0.06872	0.08934	0.05269	0.17867	0.10995	1.07433		
	4	0.01145	0.00229	0.00229	0.00687	0.08017	0.06414	0.03894	0.04352	0.15806	0.07788	0.01374	0.00916	0.02062	0.01374	0.02978	0.02291	0.59558		
	5	0.02062	0.00229	0.00000	0.00458	0.06872	0.12370	0.14202	0.13744	0.19013	0.01603	0.00229	0.00458	0.00458	0.00229	0.00000	0.00000	0.71928		
	6	0.00229	0.00000	0.00000	0.00687	0.01374	0.07101	0.06872	0.07330	0.04123	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.27717		
	7	0.00000	0.00000	0.00000	0.00458	0.00000	0.00687	0.01145	0.03207	0.00687	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.06185		
	8	0.00000	0.00000	0.00000	0.00000	0.00229	0.00000	0.00000	0.00229	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00458		
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		4.189669
																		99.93815		100

Notes:
(1) Wind Speed Categories defined as follows:

Category	Wind Speed (mph)
Calm	<0.8
2	≥ 0.80 - <2.35
3	≥ 2.35 - <3.47
4	≥ 3.47 - <4.56
5	≥ 4.56 - <6.82
6	≥ 6.82 - <9.06
7	≥ 9.06 - <11.30
8	≥ 11.30 - <13.53
9	≥ 13.53 - <18.01
10	≥ 18.01 - <22.40
11	≥22.40

Byron

Joint Frequency Distribution
1994-1998 (Rev. 4)
250 ft wind
250-30 ft Delta T

		Wind Direction Category																		
	Wind Speed Category[1]	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Total	Calms	Total
1 (A)	2	0	0	1	0	1	0	0	0	0	0	1	1	0	0	0	2	6	0	
	3	1	1	1	0	1	1	2	1	1	0	1	3	1	0	0	1	15		
	4	2	2	0	0	1	2	2	1	0	3	7	3	2	0	3	0	28		
	5	2	2	4	6	6	2	2	3	6	3	9	8	8	4	7	5	77		
	6	22	13	3	8	14	7	7	8	7	13	16	6	5	17	10	12	168		
	7	26	19	13	4	20	4	6	20	7	13	12	14	11	23	20	14	226		
	8	15	16	5	3	15	13	5	13	12	12	20	16	18	16	25	13	217		
	9	19	17	11	9	14	8	14	19	21	31	36	19	31	36	71	28	384		
	10	7	5	1	12	2	8	7	16	20	21	15	17	19	38	38	12	238		
	11	0	2	0	8	2	2	2	11	21	18	17	7	13	11	11	1	126		1485
2 (B)	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	3	0	
	3	2	1	1	0	2	3	3	2	1	0	0	1	2	1	0	1	20		
	4	2	2	0	0	3	3	2	2	0	0	2	0	2	3	3	2	26		
	5	11	7	5	5	7	5	2	5	3	5	13	6	5	3	6	12	100		
	6	16	6	4	6	17	10	9	11	14	21	18	5	8	9	14	13	181		
	7	18	16	8	2	14	10	18	15	8	13	16	11	14	13	25	12	213		
	8	18	21	8	4	10	11	9	14	13	16	23	25	23	27	23	18	263		
	9	25	19	8	4	11	11	14	14	22	32	33	18	26	41	51	23	352		
	10	7	3	8	10	3	3	7	7	16	15	9	10	19	16	17	12	162		
	11	4	1	0	9	0	4	5	7	13	9	8	9	16	15	8	2	110		1430
3 (C)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	
	3	2	1	1	0	0	0	1	0	1	2	3	1	1	1	1	3	18		
	4	8	3	2	2	3	4	5	5	6	2	8	7	4	3	5	3	70		
	5	13	4	17	9	20	28	25	12	14	22	17	12	8	15	18	15	249		
	6	17	11	8	9	33	14	7	15	23	29	26	11	32	33	29	22	319		
	7	27	27	11	6	19	8	16	23	25	30	40	19	18	34	42	26	371		
	8	21	16	5	8	15	5	19	14	30	22	26	29	19	32	42	22	325		
	9	23	20	14	13	12	12	20	33	28	42	46	24	39	66	62	34	488		
	10	11	8	7	8	4	3	3	10	22	24	20	19	17	30	22	9	217		
	11	3	2	3	2	1	5	9	10	14	12	14	16	17	31	16	7	162		2220
4 (D)	2	6	10	9	9	4	3	3	6	9	6	6	9	7	12	10	2	111	2	
	3	25	16	22	26	29	17	20	9	20	21	16	19	25	29	19	27	340		
	4	38	32	33	31	44	30	34	21	24	31	34	47	43	30	48	51	571		
	5	136	104	87	101	137	92	76	80	103	107	122	108	128	146	143	142	1812		
	6	166	133	99	84	178	99	87	110	119	128	148	158	168	174	210	152	2213		
	7	206	163	82	119	175	98	75	127	155	168	167	150	189	233	278	236	2621		
	8	192	182	91	120	169	74	64	100	131	133	141	186	232	273	265	195	2548		
	9	408	286	166	283	269	135	151	244	263	248	289	301	459	523	417	299	4741		
	10	180	157	160	173	108	85	129	171	199	202	194	174	324	304	184	130	2874		
	11	99	134	192	154	57	94	122	239	178	197	173	147	310	251	73	28	2448		20281
5 (E)	2	5	3	6	5	7	5	1	3	2	3	7	10	8	12	10	1	88	2	
	3	6	14	25	15	21	8	8	5	8	8	9	3	7	8	13	14	172		
	4	19	15	15	9	26	10	16	10	14	8	6	9	7	11	20	18	213		
	5	43	35	37	54	89	37	27	33	19	28	39	43	41	37	38	52	652		
	6	55	40	53	66	125	54	46	34	37	67	75	60	67	96	83	67	1025		
	7	71	55	61	56	166	58	52	42	86	80	111	108	118	162	169	105	1500		
	8	107	59	52	73	140	68	71	58	86	107	131	145	169	158	191	125	1740		
	9	126	147	105	153	167	143	163	186	266	338	313	241	363	247	254	168	3380		
	10	31	28	34	90	57	119	152	199	260	319	223	99	85	59	32	23	1810		
	11	1	2	6	20	11	95	91	228	239	275	95	16	32	8	4	1	1124		11706
6 (F)	2	1	1	1	5	4	5	3	4	0	0	2	2	5	2	2	3	40	1	
	3	4	4	6	7	9	4	1	4	2	3	3	8	1	6	2	9	73		
	4	6	3	8	6	7	6	1	8	6	5	5	4	11	4	5	7	92		
	5	19	16	19	22	26	14	16	12	19	14	8	15	17	22	20	20	279		
	6	40	24	20	13	31	26	23	24	31	21	23	27	18	31	28	28	408		
	7	36	18	11	17	49	20	24	35	38	40	37	35	46	75	68	49	598		
	8	29	29	30	10	44	23	41	36	52	52	71	44	58	80	63	60	722		
	9	53	49	28	15	37	82	133	90	173	163	145	75	61	63	68	72	1307		
	10	5	7	1	5	11	94	113	132	181	154	37	10	3	2	2	3	760		
	11	0	0	0	0	0	25	33	74	90	17	1	2	0	0	0	0	242		4522

7 (G)	2	4	5	1	3	2	3	1	0	5	1	4	5	7	4	3	4	52	1
	3	7	6	4	3	4	2	3	1	3	1	4	3	3	3	2	8	57	
	4	3	3	8	7	8	2	2	1	2	6	3	2	3	3	5	5	63	
	5	10	13	25	32	18	7	5	3	7	11	8	6	12	17	25	19	218	
	6	22	15	19	11	10	11	10	10	13	15	10	12	24	9	15	31	237	
	7	25	18	10	1	9	7	18	11	25	10	15	10	17	18	20	31	245	
	8	12	11	7	1	8	11	13	19	22	16	25	15	21	21	27	27	256	
	9	23	15	6	1	3	28	58	56	51	51	52	19	21	12	38	24	458	
	10	1	4	0	1	5	29	44	33	32	25	9	0	1	0	0	0	184	
	11	0	0	0	0	1	13	13	17	9	5	1	0	0	0	0	0	59	1830
																			43474

Notes:
(1) Wind Speed Categories defined as follows:

Category	Wind Speed (mph)
Calm	<0.8
2	≥ 0.80 - <2.35
3	≥ 2.35 - <3.47
4	≥ 3.47 - <4.56
5	≥ 4.56 - <6.82
6	≥ 6.82 - <9.06
7	≥ 9.06 - <11.30
8	≥ 11.30 - <13.53
9	≥ 13.53 - <18.01
10	≥ 18.01 - <22.40
11	≥22.40

Byron

Joint Frequency Distribution
1994-1998 (Rev. 4)
250 ft wind
250-30 ft Delta T

	Wind Speed Category[1]	Wind Direction Category 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total	Calms	Total
1 (A)	2	0.00000	0.00000	0.00230	0.00000	0.00230	0.00000	0.00000	0.00000	0.00000	0.00000	0.00230	0.00230	0.00000	0.00000	0.00000	0.00460	0.01380	0.00000	
	3	0.00230	0.00230	0.00230	0.00000	0.00230	0.00230	0.00460	0.00230	0.00230	0.00000	0.00230	0.00690	0.00230	0.00000	0.00000	0.00230	0.03450		
	4	0.00460	0.00460	0.00000	0.00000	0.00230	0.00460	0.00460	0.00230	0.00000	0.00690	0.01610	0.00690	0.00460	0.00000	0.00690	0.00000	0.06441		
	5	0.00460	0.00460	0.00920	0.01380	0.01380	0.00460	0.00460	0.00690	0.01380	0.00690	0.02070	0.01840	0.01840	0.00920	0.01610	0.01150	0.17712		
	6	0.05060	0.02990	0.00690	0.01840	0.03220	0.01610	0.01610	0.01840	0.01610	0.02990	0.03680	0.01380	0.01150	0.03910	0.02300	0.02760	0.38644		
	7	0.05981	0.04370	0.02990	0.00920	0.04600	0.00920	0.01380	0.04600	0.01610	0.02990	0.02760	0.03220	0.02530	0.05291	0.04600	0.03220	0.51985		
	8	0.03450	0.03680	0.01150	0.00690	0.03450	0.02990	0.01150	0.02990	0.02760	0.02760	0.04600	0.03680	0.04140	0.03680	0.05751	0.02990	0.49915		
	9	0.04370	0.03910	0.02530	0.02070	0.03220	0.01840	0.03220	0.04370	0.04830	0.07131	0.08281	0.04370	0.07131	0.08281	0.16332	0.06441	0.88329		
	10	0.01610	0.01150	0.00230	0.02760	0.00460	0.01840	0.01610	0.03680	0.04600	0.04830	0.03450	0.03910	0.04370	0.08741	0.08741	0.02760	0.54745		
	11	0.00000	0.00460	0.00000	0.01840	0.00460	0.00460	0.00460	0.02530	0.04830	0.04140	0.03910	0.01610	0.02990	0.02530	0.02530	0.00230	0.28983		3.415835
2 (B)	2	0.00000	0.00000	0.00230	0.00230	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00230	0.00000	0.00690	0.00000	
	3	0.00460	0.00230	0.00230	0.00000	0.00460	0.00690	0.00690	0.00460	0.00230	0.00000	0.00000	0.00230	0.00460	0.00230	0.00000	0.00230	0.04600		
	4	0.00460	0.00460	0.00000	0.00000	0.00690	0.00690	0.00460	0.00460	0.00000	0.00000	0.00460	0.00000	0.00460	0.00690	0.00690	0.00460	0.05981		
	5	0.02530	0.01610	0.01150	0.01150	0.01610	0.01150	0.00460	0.01150	0.00690	0.01150	0.02990	0.01380	0.01150	0.00690	0.01380	0.02760	0.23002		
	6	0.03680	0.01380	0.00920	0.01380	0.03910	0.02300	0.02070	0.02530	0.03220	0.04830	0.04140	0.01150	0.01840	0.02070	0.03220	0.02990	0.41634		
	7	0.04140	0.03680	0.01840	0.00460	0.03220	0.02300	0.04140	0.03450	0.01840	0.02990	0.03680	0.02530	0.03220	0.02990	0.05751	0.02760	0.48995		
	8	0.04140	0.04830	0.01840	0.00920	0.02300	0.02530	0.02070	0.03220	0.02990	0.03680	0.05291	0.05751	0.05291	0.06211	0.05291	0.04140	0.60496		
	9	0.05751	0.04370	0.01840	0.00920	0.02530	0.02530	0.03220	0.03220	0.05060	0.07361	0.07591	0.04140	0.05981	0.09431	0.11731	0.05291	0.80968		
	10	0.01610	0.00690	0.01840	0.02300	0.00690	0.00690	0.01610	0.01610	0.03680	0.03450	0.02070	0.02300	0.04370	0.03680	0.03910	0.02760	0.37264		
	11	0.00920	0.00230	0.00000	0.02070	0.00000	0.00920	0.01150	0.01610	0.02990	0.02070	0.01840	0.02070	0.03680	0.03450	0.01840	0.00460	0.25302		3.289322
3 (C)	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00230	0.00000	0.00230	0.00000	
	3	0.00460	0.00230	0.00230	0.00000	0.00000	0.00000	0.00230	0.00000	0.00230	0.00460	0.00690	0.00230	0.00230	0.00230	0.00230	0.00690	0.04140		
	4	0.01840	0.00690	0.00460	0.00460	0.00690	0.00920	0.01150	0.01150	0.01380	0.00460	0.01840	0.01610	0.00920	0.00690	0.01150	0.00690	0.16102		
	5	0.02990	0.00920	0.03910	0.02070	0.04600	0.06441	0.05751	0.02760	0.03220	0.05060	0.03910	0.02760	0.01840	0.03450	0.04140	0.03450	0.57276		
	6	0.03910	0.02530	0.01840	0.02070	0.07591	0.03220	0.01610	0.03450	0.05291	0.06671	0.05981	0.02530	0.07361	0.07591	0.06671	0.05060	0.73377		
	7	0.06211	0.06211	0.02530	0.01380	0.04370	0.01840	0.03680	0.05291	0.05751	0.06901	0.09201	0.04370	0.04140	0.07821	0.09661	0.05981	0.85338		
	8	0.04830	0.03680	0.01150	0.01840	0.03450	0.01150	0.04370	0.03220	0.06901	0.05060	0.05981	0.06671	0.04370	0.07361	0.09661	0.05060	0.74757		
	9	0.05291	0.04600	0.03220	0.02990	0.02760	0.02760	0.04600	0.07591	0.06441	0.09661	0.10581	0.05521	0.08971	0.15181	0.14261	0.07821	1.12251		
	10	0.02530	0.01840	0.01610	0.01840	0.00920	0.00690	0.00690	0.02300	0.05060	0.05521	0.04600	0.04370	0.03910	0.06901	0.05060	0.02070	0.49915		
	11	0.00690	0.00460	0.00690	0.00460	0.00230	0.01150	0.02070	0.02300	0.03220	0.02760	0.03220	0.03680	0.03910	0.07131	0.03680	0.01610	0.37264		5.1065
4 (D)	2	0.01380	0.02300	0.02070	0.02070	0.00920	0.00690	0.00690	0.01380	0.02070	0.01380	0.01380	0.02070	0.01610	0.02760	0.02300	0.00460	0.25533	0.00460	
	3	0.05751	0.03680	0.05060	0.05981	0.06671	0.03910	0.04600	0.02070	0.04600	0.04830	0.03680	0.04370	0.05751	0.06671	0.04370	0.06211	0.78208		
	4	0.08741	0.07361	0.07591	0.07131	0.10121	0.06901	0.07821	0.04830	0.05521	0.07131	0.07821	0.10811	0.09891	0.06901	0.11041	0.11731	1.31343		
	5	0.31283	0.23922	0.20012	0.23232	0.31513	0.21162	0.17482	0.18402	0.23692	0.24612	0.28063	0.24842	0.29443	0.33583	0.32893	0.32663	4.16801		
	6	0.38184	0.30593	0.22772	0.19322	0.40944	0.22772	0.20012	0.25302	0.27373	0.29443	0.34043	0.36344	0.38644	0.40024	0.48305	0.34963	5.09040		
	7	0.47385	0.37494	0.18862	0.27373	0.40254	0.22542	0.17252	0.29213	0.35653	0.38644	0.38414	0.34503	0.43474	0.53595	0.63946	0.54285	6.02889		
	8	0.44164	0.41864	0.20932	0.27603	0.38874	0.17022	0.14721	0.23002	0.30133	0.30593	0.32433	0.42784	0.53365	0.62796	0.60956	0.44854	5.86097		
	9	0.93849	0.65786	0.38184	0.65096	0.61876	0.31053	0.34733	0.56126	0.60496	0.57046	0.66477	0.69237	1.05580	1.20302	0.95919	0.68777	10.90537		
	10	0.41404	0.36114	0.36804	0.39794	0.24842	0.19552	0.29673	0.39334	0.45774	0.46465	0.44624	0.40024	0.74527	0.69927	0.42324	0.29903	6.61085		
	11	0.22772	0.30823	0.44164	0.35423	0.13111	0.21622	0.28063	0.54975	0.40944	0.45314	0.39794	0.33813	0.71307	0.57736	0.16792	0.06441	5.63095		46.65087
5 (E)	2	0.01150	0.00690	0.01380	0.01150	0.01610	0.01150	0.00230	0.00690	0.00460	0.00690	0.01610	0.02300	0.01840	0.02760	0.02300	0.00230	0.20242	0.00460	
	3	0.01380	0.03220	0.05751	0.03450	0.04830	0.01840	0.01840	0.01150	0.01840	0.01840	0.02070	0.00690	0.01610	0.01840	0.02990	0.03220	0.39564		
	4	0.04370	0.03450	0.03450	0.02070	0.05981	0.02300	0.03680	0.02300	0.03220	0.01840	0.01380	0.02070	0.01610	0.02530	0.04600	0.04140	0.48995		
	5	0.09891	0.08051	0.08511	0.12421	0.20472	0.08511	0.06211	0.07591	0.04370	0.06441	0.08971	0.09891	0.09431	0.08511	0.08741	0.11961	1.49975		
	6	0.12651	0.09201	0.12191	0.15181	0.28753	0.12421	0.10581	0.07821	0.08511	0.15412	0.17252	0.13801	0.15412	0.22082	0.19092	0.15412	2.35773		
	7	0.16332	0.12651	0.14031	0.12881	0.38184	0.13341	0.11961	0.09661	0.19782	0.18402	0.25533	0.24842	0.27143	0.37264	0.38874	0.24152	3.45034		
	8	0.24612	0.13571	0.11961	0.16792	0.32203	0.15642	0.16332	0.13341	0.19782	0.24612	0.30133	0.33353	0.38874	0.36344	0.43934	0.28753	4.00239		
	9	0.28983	0.33813	0.24152	0.35193	0.38414	0.32893	0.37494	0.42784	0.61186	0.77748	0.71997	0.55435	0.83498	0.56816	0.58426	0.38644	7.77476		
	10	0.07131	0.06441	0.07821	0.20702	0.13111	0.27373	0.34963	0.45774	0.59806	0.73377	0.51295	0.22772	0.19552	0.13571	0.07361	0.05291	4.16341		
	11	0.00230	0.00460	0.01380	0.04600	0.02530	0.21852	0.20932	0.52445	0.54975	0.63256	0.21852	0.03680	0.07361	0.01840	0.00920	0.00230	2.58545		26.92644
6 (F)	2	0.00230	0.00230	0.00230	0.01150	0.00920	0.01150	0.00690	0.00920	0.00000	0.00000	0.00460	0.00460	0.01150	0.00460	0.00460	0.00690	0.09201	0.00230	
	3	0.00920	0.00920	0.01380	0.01610	0.02070	0.00920	0.00230	0.00920	0.00460	0.00690	0.00690	0.01840	0.00230	0.01380	0.00460	0.02070	0.16792		
	4	0.01380	0.00690	0.01840	0.01380	0.01610	0.01380	0.00230	0.01840	0.01380	0.01150	0.01150	0.00920	0.02530	0.00920	0.01150	0.01610	0.21162		
	5	0.04370	0.03680	0.04370	0.05060	0.05981	0.03220	0.03680	0.02760	0.04370	0.03220	0.01840	0.03450	0.03910	0.05060	0.04600	0.04600	0.64176		
	6	0.09201	0.05521	0.04600	0.02990	0.07131	0.05981	0.05291	0.05521	0.07131	0.04830	0.05291	0.06211	0.04140	0.07131	0.06441	0.06441	0.93849		
	7	0.08281	0.04140	0.02530	0.03910	0.11271	0.04600	0.05521	0.08051	0.08741	0.09201	0.08511	0.08051	0.10581	0.17252	0.15642	0.11271	1.37553		
	8	0.06671	0.06671	0.06901	0.02300	0.10121	0.05291	0.09431	0.08281	0.11961	0.11961	0.16332	0.10121	0.13341	0.18402	0.14491	0.13801	1.66076		
	9	0.12191	0.11271	0.06441	0.03450	0.08511	0.18862	0.30593	0.20702	0.39794	0.37494	0.33353	0.17252	0.14031	0.14491	0.15642	0.16562	3.00639		
	10	0.01150	0.01610	0.00230	0.01150	0.02530	0.21622	0.25993	0.30363	0.41634	0.35423	0.08511	0.02300	0.00690	0.00460	0.00460	0.00690	1.74817		
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.05751	0.07591	0.17022	0.20702	0.03910	0.00230	0.00460	0.00000	0.00000	0.00000	0.00000	0.55665		10.40162

7 (G)	2	0.00920	0.01150	0.00230	0.00690	0.00460	0.00690	0.00230	0.00000	0.01150	0.00230	0.00920	0.01150	0.01610	0.00920	0.00690	0.00920	0.11961	0.00230	
	3	0.01610	0.01380	0.00920	0.00690	0.00920	0.00460	0.00690	0.00230	0.00690	0.00230	0.00920	0.00690	0.00690	0.00690	0.00460	0.01840	0.13111		
	4	0.00690	0.00690	0.01840	0.01610	0.01840	0.00460	0.00460	0.00230	0.00460	0.01380	0.00690	0.00460	0.00690	0.00690	0.01150	0.01150	0.14491		
	5	0.02300	0.02990	0.05751	0.07361	0.04140	0.01610	0.01150	0.00690	0.01610	0.02530	0.01840	0.01380	0.02760	0.03910	0.05751	0.04370	0.50145		
	6	0.05060	0.03450	0.04370	0.02530	0.02300	0.02530	0.02300	0.02300	0.02990	0.03450	0.02300	0.02760	0.05521	0.02070	0.03450	0.07131	0.54515		
	7	0.05751	0.04140	0.02300	0.00230	0.02070	0.01610	0.04140	0.02530	0.05751	0.02300	0.03450	0.02300	0.03910	0.04140	0.04600	0.07131	0.56356		
	8	0.02760	0.02530	0.01610	0.00230	0.01840	0.02530	0.02990	0.04370	0.05060	0.03680	0.05751	0.03450	0.04830	0.04830	0.06211	0.06211	0.58886		
	9	0.05291	0.03450	0.01380	0.00230	0.00690	0.06441	0.13341	0.12881	0.11731	0.11731	0.11961	0.04370	0.04830	0.02760	0.08741	0.05521	1.05350		
	10	0.00230	0.00920	0.00000	0.00230	0.01150	0.06671	0.10121	0.07591	0.07361	0.05751	0.02070	0.00000	0.00230	0.00000	0.00000	0.00000	0.42324		
	11	0.00000	0.00000	0.00000	0.00000	0.00230	0.02990	0.02990	0.03910	0.02070	0.01150	0.00230	0.00000	0.00000	0.00000	0.00000	0.00000	0.13571		4.209413
																		99.9862		100

Notes:
(1) Wind Speed Categories defined as follows:

Category	Wind Speed (mph)
Calm	<0.8
2	≥ 0.80 - <2.35
3	≥ 2.35 - <3.47
4	≥ 3.47 - <4.56
5	≥ 4.56 - <6.82
6	≥ 6.82 - <9.06
7	≥ 9.06 - <11.30
8	≥ 11.30 - <13.53
9	≥ 13.53 - <18.01
10	≥ 18.01 - <22.40
11	≥22.40

ATTACHMENT 5

Braidwood and Byron Stations
Measurement Uncertainty Recapture Technical Evaluation

Response to NRC Acceptance Review Questions

Calculation No. BYR04-050, BRW-04-0044-M, Minor Rev. 1B, Appendix BB-2: "Braidwood Joint Frequency Distribution"

Braidwood

Joint Frequency Distribution

1994-1998 (Rev. 3)
34 ft wind
199-30 ft Delta T

	Wind Speed Category[1]	Wind Direction Category																		
		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Total	Calms	Total
1 (A)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3	0	0	2	3	0	1	3	2	0	3	0	0	1	0	0	0	15		
	4	0	5	14	16	21	6	14	7	7	8	0	7	2	3	0	3	113		
	5	27	15	67	44	45	28	32	51	46	24	19	26	34	22	29	14	523		
	6	33	41	55	19	20	14	19	38	32	31	30	38	46	36	41	49	542		
	7	31	40	25	3	8	7	6	10	31	62	33	25	29	33	62	58	463		
	8	12	10	5	1	0	3	2	7	21	27	20	19	21	37	19	19	223		
	9	2	1	0	0	0	0	7	12	18	32	7	5	11	30	15	8	148		
	10	0	0	0	0	0	0	0	3	6	2	0	0	0	1	0	0	12		
	11	0	0	0	0	0	0	0	1	3	7	1	0	0	0	0	0	12		2051
2 (B)	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	
	3	0	1	4	6	6	1	1	3	4	0	0	0	1	1	1	1	30		
	4	3	3	9	15	20	12	10	11	5	4	4	6	2	6	5	1	116		
	5	21	17	31	35	29	27	32	29	21	21	20	19	53	28	28	27	438		
	6	23	26	34	14	15	10	12	19	19	27	18	27	21	43	43	31	382		
	7	10	20	13	4	4	1	7	15	20	28	28	24	30	39	28	33	304		
	8	9	12	3	3	0	0	0	8	22	20	18	13	8	24	20	17	177		
	9	2	0	1	0	0	0	5	11	9	17	18	7	12	18	4	7	111		
	10	0	0	0	0	0	0	0	1	6	2	0	0	4	3	0	0	16		
	11	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	4		1580
3 (C)	2	0	0	0	2	1	0	1	0	0	0	0	0	0	0	0	0	4	0	
	3	1	3	3	10	10	6	5	2	4	2	1	3	3	1	2	0	56		
	4	11	13	23	20	24	18	13	14	13	11	7	11	16	12	5	9	220		
	5	21	25	40	41	49	35	39	41	20	23	26	33	48	49	48	28	566		
	6	27	27	36	14	16	10	16	35	27	35	35	37	56	58	51	41	521		
	7	19	18	23	2	4	0	9	13	27	31	37	38	35	47	50	33	386		
	8	10	12	4	0	0	4	5	19	17	29	31	18	12	21	22	12	216		
	9	4	4	0	0	0	0	5	14	18	35	11	13	12	24	7	8	155		
	10	1	0	0	0	0	0	0	1	2	10	0	1	1	5	0	0	21		
	11	0	0	0	0	0	0	0	1	0	6	0	0	0	3	0	0	10		2155
4 (D)	2	9	21	15	36	23	7	4	4	3	1	6	4	8	11	15	16	183	0	
	3	31	51	90	131	128	43	24	19	12	12	19	28	41	70	72	39	810		
	4	71	70	129	195	164	93	66	54	35	40	33	58	85	81	133	91	1398		
	5	167	222	315	343	197	166	190	203	115	97	145	224	318	306	323	276	3607		
	6	166	196	262	203	106	89	132	217	128	150	228	228	266	302	279	213	3165		
	7	100	194	196	92	26	57	97	147	155	179	239	201	261	286	193	207	2630		
	8	71	148	111	20	3	32	81	133	143	179	154	115	192	227	68	139	1816		
	9	33	66	13	0	1	7	39	107	205	253	166	85	192	198	48	89	1502		
	10	10	1	0	0	0	0	0	18	60	111	33	22	51	50	2	21	379		
	11	0	0	0	0	0	0	0	3	13	16	15	1	10	3	0	3	64		15554
5 (E)	2	43	50	85	124	140	34	21	13	10	13	9	20	23	51	47	37	720	3	
	3	84	94	146	263	285	159	60	38	19	17	20	45	118	171	130	82	1731		
	4	99	125	156	235	201	192	125	105	55	32	50	140	180	165	172	89	2121		
	5	188	238	202	262	175	269	355	422	233	187	224	421	298	310	183	215	4182		
	6	125	129	153	97	56	88	254	317	319	350	299	249	200	244	130	153	3163		
	7	46	87	66	34	13	50	100	223	310	388	186	114	134	165	61	85	2062		
	8	39	52	47	15	2	25	37	136	216	264	79	61	75	88	23	30	1189		
	9	27	71	75	6	0	3	35	77	185	236	61	46	71	84	19	23	1019		
	10	14	14	3	0	0	0	2	5	81	44	19	27	43	16	0	0	268		
	11	1	0	0	0	0	0	0	10	12	10	15	13	23	3	0	2	89		16547
6 (F)	2	64	45	84	114	143	60	32	23	17	19	19	31	56	82	79	52	920	20	
	3	45	30	37	75	144	147	68	36	16	25	22	54	128	199	114	68	1208		
	4	45	24	10	11	28	150	77	44	21	27	37	103	164	93	44	28	906		
	5	21	9	4	4	6	49	71	72	43	62	43	259	128	37	10	12	830		
	6	0	0	1	0	0	1	5	27	17	73	36	37	13	3	1	0	214		
	7	0	0	0	0	0	0	1	1	7	47	10	0	1	0	0	1	68		
	8	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	10		
	9	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	3		
	10	0	4	8	0	0	0	0	0	0	0	0	0	0	0	0	0	12		
	11	0	0	0	0	0	0	0	0	0	0	0	17	1	0	0	0	18		4209

7 (G)	2	52	44	53	81	91	46	27	18	13	12	19	17	43	81	77	66	740
	3	18	20	10	14	65	48	15	4	9	9	11	31	73	91	39	28	485
	4	8	3	0	3	25	30	11	1	4	8	6	30	47	21	5	9	211
	5	1	1	0	1	0	6	5	3	2	6	1	111	22	1	2	1	163
	6	1	0	0	0	0	0	0	1	2	4	2	3	0	0	0	0	13
	7	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

19

1634
43730

Notes:
(1) Wind Speed Categories defined as follows:

Category	Wind Speed (mph)
Calm	<0.8
2	≥ 0.80 - <2.35
3	≥ 2.35 - <3.47
4	≥ 3.47 - <4.56
5	≥ 4.56 - <6.82
6	≥ 6.82 - <9.06
7	≥ 9.06 - <11.30
8	≥ 11.30 - <13.53
9	≥ 13.53 - <18.01
10	≥ 18.01 - <22.40
11	≥22.40

Braidwood

Joint Frequency Distribution

1994-1998 (Rev. 3)
34 ft wind
199-30 ft Delta T

	Wind Speed Category[1]	Wind Direction Category 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total	Calms	Total
1 (A)	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
	3	0.00000	0.00000	0.00457	0.00686	0.00000	0.00229	0.00686	0.00457	0.00000	0.00686	0.00000	0.00000	0.00229	0.00000	0.00000	0.00000	0.03430		
	4	0.00000	0.01143	0.03201	0.03659	0.04802	0.01372	0.03201	0.01601	0.01601	0.01829	0.00000	0.01601	0.00457	0.00686	0.00000	0.00686	0.25840		
	5	0.06174	0.03430	0.15321	0.10062	0.10290	0.06403	0.07318	0.11662	0.10519	0.05488	0.04345	0.05946	0.07775	0.05031	0.06632	0.03201	1.19598		
	6	0.07546	0.09376	0.12577	0.04345	0.04574	0.03201	0.04345	0.08690	0.07318	0.07089	0.06860	0.08690	0.10519	0.08232	0.09376	0.11205	1.23942		
	7	0.07089	0.09147	0.05717	0.00686	0.01829	0.01601	0.01372	0.02287	0.07089	0.14178	0.07546	0.05717	0.06632	0.07546	0.14178	0.13263	1.05877		
	8	0.02744	0.02287	0.01143	0.00229	0.00000	0.00686	0.00457	0.01601	0.04802	0.06174	0.04574	0.04345	0.04802	0.08461	0.04345	0.04345	0.50995		
	9	0.00457	0.00229	0.00000	0.00000	0.00000	0.00000	0.01601	0.02744	0.04116	0.07318	0.01601	0.01143	0.02515	0.06860	0.03430	0.01829	0.33844		
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00686	0.01372	0.00457	0.00000	0.00000	0.00000	0.00229	0.00000	0.00000	0.02744		
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00229	0.00686	0.01601	0.00229	0.00000	0.00000	0.00000	0.00000	0.00000	0.02744		4.690144
2 (B)	2	0.00000	0.00000	0.00229	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00229	0.00457	0.00000	
	3	0.00000	0.00229	0.00915	0.01372	0.01372	0.00229	0.00229	0.00686	0.00915	0.00000	0.00000	0.00000	0.00229	0.00229	0.00229	0.00229	0.06860		
	4	0.00686	0.00686	0.02058	0.03430	0.04574	0.02744	0.02287	0.02515	0.01143	0.00915	0.00915	0.01372	0.00457	0.01372	0.01143	0.00229	0.26526		
	5	0.04802	0.03887	0.07089	0.08004	0.06632	0.06174	0.07318	0.06632	0.04802	0.04802	0.04574	0.04345	0.12120	0.06403	0.06403	0.06174	1.00160		
	6	0.05260	0.05946	0.07775	0.03201	0.03430	0.02287	0.02744	0.04345	0.04345	0.06174	0.04116	0.06174	0.04802	0.09833	0.09833	0.07089	0.87354		
	7	0.02287	0.04574	0.02973	0.00915	0.00915	0.00229	0.01601	0.03430	0.04574	0.06403	0.06403	0.05488	0.06860	0.08918	0.06403	0.07546	0.69517		
	8	0.02058	0.02744	0.00686	0.00686	0.00000	0.00000	0.00000	0.01829	0.05031	0.04574	0.04116	0.02973	0.01829	0.05488	0.04574	0.03887	0.40476		
	9	0.00457	0.00000	0.00229	0.00000	0.00000	0.00000	0.01143	0.02515	0.02058	0.03887	0.04116	0.01601	0.02744	0.04116	0.00915	0.01601	0.25383		
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00229	0.01372	0.00457	0.00000	0.00000	0.00915	0.00686	0.00000	0.00000	0.03659		
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00229	0.00229	0.00457	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00915		3.61308
3 (C)	2	0.00000	0.00000	0.00000	0.00457	0.00229	0.00000	0.00229	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00915	0.00000	
	3	0.00229	0.00686	0.00686	0.02287	0.02287	0.01372	0.01143	0.00457	0.00915	0.00457	0.00229	0.00686	0.00686	0.00229	0.00457	0.00000	0.12806		
	4	0.02515	0.02973	0.05260	0.04574	0.05488	0.04116	0.02973	0.03201	0.02973	0.02515	0.01601	0.02515	0.03659	0.02744	0.01143	0.02058	0.50309		
	5	0.04802	0.05717	0.09147	0.09376	0.11205	0.08004	0.08918	0.09376	0.04574	0.05260	0.05946	0.07546	0.10976	0.11205	0.10976	0.06403	1.29431		
	6	0.06174	0.06174	0.08232	0.03201	0.03659	0.02287	0.03659	0.08004	0.06174	0.08004	0.08004	0.08461	0.12806	0.13263	0.11662	0.09376	1.19140		
	7	0.04345	0.04116	0.05260	0.00457	0.00915	0.00000	0.02058	0.02973	0.06174	0.07089	0.08461	0.08690	0.08004	0.10748	0.11434	0.07546	0.88269		
	8	0.02287	0.02744	0.00915	0.00000	0.00000	0.00915	0.01143	0.04345	0.03887	0.06632	0.07089	0.04116	0.02744	0.04802	0.05031	0.02744	0.49394		
	9	0.00915	0.00915	0.00000	0.00000	0.00000	0.00000	0.01143	0.03201	0.04116	0.08004	0.02515	0.02973	0.02744	0.05488	0.01601	0.01829	0.35445		
	10	0.00229	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00229	0.00457	0.02287	0.00000	0.00229	0.00229	0.01143	0.00000	0.00000	0.04802		
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00229	0.00000	0.01372	0.00000	0.00000	0.00000	0.00686	0.00000	0.00000	0.02287		4.927967
4 (D)	2	0.02058	0.04802	0.03430	0.08232	0.05260	0.01601	0.00915	0.00915	0.00686	0.00229	0.01372	0.00915	0.01829	0.02515	0.03430	0.03659	0.41848	0.00000	
	3	0.07089	0.11662	0.20581	0.29957	0.29271	0.09833	0.05488	0.04345	0.02744	0.02744	0.04345	0.06403	0.09376	0.16007	0.16465	0.08918	1.85228		
	4	0.16236	0.16007	0.29499	0.44592	0.37503	0.21267	0.15093	0.12349	0.08004	0.09147	0.07546	0.13263	0.19437	0.18523	0.30414	0.20810	3.19689		
	5	0.38189	0.50766	0.72033	0.78436	0.45049	0.37960	0.43448	0.46421	0.26298	0.22182	0.33158	0.51223	0.72719	0.69975	0.73862	0.63115	8.24834		
	6	0.37960	0.44820	0.59913	0.46421	0.24240	0.20352	0.30185	0.49623	0.29271	0.34301	0.52138	0.52138	0.60828	0.69060	0.63801	0.48708	7.23759		
	7	0.22868	0.44363	0.44820	0.21038	0.05946	0.13035	0.22182	0.33615	0.35445	0.40933	0.54654	0.45964	0.59684	0.65401	0.44134	0.47336	6.01418		
	8	0.16236	0.33844	0.25383	0.04574	0.00686	0.07318	0.18523	0.30414	0.32701	0.40933	0.35216	0.26298	0.43906	0.51909	0.15550	0.31786	4.15276		
	9	0.07546	0.15093	0.02973	0.00000	0.00229	0.01601	0.08918	0.24468	0.46879	0.57855	0.37960	0.19437	0.43906	0.45278	0.10976	0.20352	3.43471		
	10	0.02287	0.00229	0.00000	0.00000	0.00000	0.00000	0.00000	0.04116	0.13721	0.25383	0.07546	0.05031	0.11662	0.11434	0.00457	0.04802	0.86668		
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00686	0.02973	0.03659	0.03430	0.00229	0.02287	0.00686	0.00000	0.00686	0.14635		35.56826
5 (E)	2	0.09833	0.11434	0.19437	0.28356	0.32015	0.07775	0.04802	0.02973	0.02287	0.02973	0.02058	0.04574	0.05260	0.11662	0.10748	0.08461	1.64647	0.00686	
	3	0.19209	0.21496	0.33387	0.60142	0.65173	0.36359	0.13721	0.08690	0.04345	0.03887	0.04574	0.10290	0.26984	0.39104	0.29728	0.18751	3.95838		
	4	0.22639	0.28584	0.35673	0.53739	0.45964	0.43906	0.28584	0.24011	0.12577	0.07318	0.11434	0.32015	0.41162	0.37732	0.39332	0.20352	4.85022		
	5	0.42991	0.54425	0.46193	0.59913	0.40018	0.61514	0.81180	0.96501	0.53282	0.42762	0.51223	0.96273	0.68145	0.70890	0.41848	0.49165	9.56323		
	6	0.28584	0.29499	0.34987	0.22182	0.12806	0.20123	0.58084	0.72490	0.72948	0.80037	0.68374	0.56940	0.45735	0.55797	0.29728	0.34987	7.23302		
	7	0.10519	0.19895	0.15093	0.07775	0.02973	0.11434	0.22868	0.50995	0.70890	0.88726	0.42534	0.26069	0.30643	0.37732	0.13949	0.19437	4.71530		
	8	0.08918	0.11891	0.10748	0.03430	0.00457	0.05717	0.08461	0.31100	0.49394	0.60370	0.18065	0.13949	0.17151	0.20123	0.05260	0.06860	2.71896		
	9	0.06174	0.16236	0.17151	0.01372	0.00000	0.00686	0.08004	0.17608	0.42305	0.53968	0.13949	0.10519	0.16236	0.19209	0.04345	0.05260	2.33021		
	10	0.03201	0.03201	0.00686	0.00000	0.00000	0.00000	0.00457	0.01143	0.18523	0.10062	0.04345	0.06174	0.09833	0.03659	0.00000	0.00000	0.61285		
	11	0.00229	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02287	0.02744	0.02287	0.03430	0.02973	0.05260	0.00686	0.00000	0.00457	0.20352		37.83901
6 (F)	2	0.14635	0.10290	0.19209	0.26069	0.32701	0.13721	0.07318	0.05260	0.03887	0.04345	0.04345	0.07089	0.12806	0.18751	0.18065	0.11891	2.10382	0.04574	
	3	0.10290	0.06860	0.08461	0.17151	0.32929	0.33615	0.15550	0.08232	0.03659	0.05717	0.05031	0.12349	0.29271	0.45507	0.26069	0.15550	2.76241		
	4	0.10290	0.05488	0.02287	0.02515	0.06403	0.34301	0.17608	0.10062	0.04802	0.06174	0.08461	0.23554	0.37503	0.21267	0.10062	0.06403	2.07180		
	5	0.04802	0.02058	0.00915	0.00915	0.01372	0.11205	0.16236	0.16465	0.09833	0.14178	0.09833	0.59227	0.29271	0.08461	0.02287	0.02744	1.89801		
	6	0.00000	0.00000	0.00229	0.00000	0.00000	0.00229	0.01143	0.06174	0.03887	0.16693	0.08232	0.08461	0.02973	0.00686	0.00229	0.00000	0.48937		
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00229	0.00229	0.01601	0.10748	0.02287	0.00000	0.00229	0.00000	0.00000	0.00229	0.15550		
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02287	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02287		
	9	0.00000	0.00000	0.00229	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00229	0.00000	0.00000	0.00000	0.00229	0.00000	0.00000	0.00686		
	10	0.00000	0.00915	0.01829	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02744		
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.03887	0.00229	0.00000	0.00000	0.00000	0.04116		9.624971

7 (G)	2	0.11891	0.10062	0.12120	0.18523	0.20810	0.10519	0.06174	0.04116	0.02973	0.02744	0.04345	0.03887	0.09833	0.18523	0.17608	0.15093	1.69220	0.04345
	3	0.04116	0.04574	0.02287	0.03201	0.14864	0.10976	0.03430	0.00915	0.02058	0.02058	0.02515	0.07089	0.16693	0.20810	0.08918	0.06403	1.10908	
	4	0.01829	0.00686	0.00000	0.00686	0.05717	0.06860	0.02515	0.00229	0.00915	0.01829	0.01372	0.06860	0.10748	0.04802	0.01143	0.02058	0.48251	
	5	0.00229	0.00229	0.00000	0.00229	0.00000	0.01372	0.01143	0.00686	0.00457	0.01372	0.00229	0.25383	0.05031	0.00229	0.00457	0.00229	0.37274	
	6	0.00229	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00229	0.00457	0.00915	0.00457	0.00686	0.00000	0.00000	0.00000	0.00000	0.02973	
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00686	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00686	
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	3.736565
																		99.90396	100

Notes:
(1) Wind Speed Categories defined as follows:

Category	Wind Speed (mph)
Calm	<0.8
2	≥ 0.80 - <2.35
3	≥ 2.35 - <3.47
4	≥ 3.47 - <4.56
5	≥ 4.56 - <6.82
6	≥ 6.82 - <9.06
7	≥ 9.06 - <11.30
8	≥ 11.30 - <13.53
9	≥ 13.53 - <18.01
10	≥ 18.01 - <22.40
11	≥22.40

Braidwood

Joint Frequency Distribution

1994-1998 (Rev. 3)
203 ft wind
199-30 ft Delta T

	Wind Speed Category[1]	Wind Direction Category																		
		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Total	Calms	Total
1 (A)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2		
	4	0	0	3	17	6	4	7	2	2	1	0	1	2	3	0	1	49		
	5	12	13	26	16	22	14	12	14	19	16	6	12	14	2	6	7	211		
	6	19	9	25	27	18	20	17	40	30	13	17	15	30	21	18	10	329		
	7	30	20	33	25	25	14	12	28	25	24	18	26	40	14	29	31	394		
	8	16	24	31	12	16	6	11	10	22	21	24	21	20	19	36	31	320		
	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10	88	73	108	61	63	43	36	73	108	154	88	79	120	115	181	123	1513		
	11	0	0	0	0	1	1	6	10	26	28	4	0	0	17	16	0	109		2927
2 (B)	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	
	3	0	0	1	1	3	1	1	0	1	0	0	0	0	0	1	0	9		
	4	5	1	3	5	8	5	4	4	1	3	0	2	5	1	1	1	49		
	5	6	11	9	21	19	19	16	13	12	9	4	16	25	11	10	9	210		
	6	21	9	15	23	17	15	18	22	14	14	23	10	25	21	22	21	290		
	7	19	19	17	11	13	7	12	12	15	17	12	20	12	26	27	23	262		
	8	12	9	15	7	9	8	6	5	10	20	11	21	22	25	20	17	217		
	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10	56	49	62	40	43	30	32	50	74	98	80	66	76	114	122	89	1081		
	11	0	0	0	0	0	0	5	6	10	12	8	0	8	11	5	1	66		2186
3 (C)	2	0	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	4	0	
	3	0	1	1	3	5	2	3	0	1	2	0	0	2	0	1	1	22		
	4	3	13	5	10	12	9	10	7	8	6	6	4	4	4	0	3	104		
	5	22	19	18	17	24	23	26	22	16	14	15	16	37	24	18	18	329		
	6	18	15	25	24	22	17	20	17	16	12	19	30	28	40	31	17	351		
	7	15	16	13	18	27	13	15	17	17	23	24	36	34	28	32	32	360		
	8	17	13	26	5	3	8	6	12	18	17	23	22	24	43	36	27	300		
	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10	64	51	78	47	54	37	42	67	95	111	112	114	107	155	158	102	1394		
	11	1	0	0	0	0	0	9	7	11	38	3	5	6	24	5	3	112		2976
4 (D)	2	1	7	9	6	7	1	4	2	6	1	0	4	1	2	7	2	60	0	
	3	16	21	31	45	31	16	6	12	7	9	12	13	17	26	24	23	309		
	4	34	39	38	43	56	22	27	16	16	17	14	33	22	41	51	48	517		
	5	109	67	121	114	128	68	87	63	65	46	70	85	114	104	165	133	1539		
	6	91	95	145	189	166	81	85	107	56	51	117	119	158	159	174	155	1948		
	7	129	114	168	197	128	77	82	125	76	59	153	160	207	213	210	163	2261		
	8	92	107	156	134	102	73	81	103	93	86	161	137	154	178	188	122	1967		
	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10	440	582	856	708	481	339	418	548	596	608	784	642	929	1097	898	698	10624		
	11	13	14	27	9	8	42	71	92	194	371	99	50	142	230	66	70	1498		20723
5 (E)	2	3	4	8	8	5	1	1	1	2	1	2	1	4	9	5	5	60	1	
	3	13	17	16	16	12	11	7	6	5	4	5	10	11	12	16	16	177		
	4	26	17	22	27	24	16	13	16	10	8	10	12	22	9	18	17	267		
	5	83	58	100	119	88	48	53	48	44	23	65	65	44	73	82	61	1054		
	6	112	95	134	251	185	77	113	126	81	65	112	107	116	107	155	133	1969		
	7	144	126	207	241	318	125	172	175	132	106	142	208	170	211	175	183	2835		
	8	114	126	181	147	155	149	193	190	196	145	176	223	194	218	154	173	2734		
	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10	440	497	688	670	716	601	793	932	1126	1251	876	817	832	1004	710	600	12553		
	11	22	51	79	20	6	38	65	95	255	362	85	72	130	117	43	11	1451		23101
6 (F)	2	3	0	3	6	2	6	1	0	0	3	5	4	5	2	2	1	43	0	
	3	5	7	6	5	7	3	6	6	7	8	7	8	4	5	7	3	94		
	4	7	5	7	9	8	9	15	10	14	5	11	7	5	9	5	7	133		
	5	38	23	21	38	31	16	27	34	24	22	41	23	21	22	32	29	442		
	6	60	38	37	51	43	30	34	42	44	37	31	31	40	53	58	64	693		
	7	58	30	28	33	61	55	70	61	35	42	32	43	74	105	113	97	937		
	8	43	39	24	16	48	76	90	29	35	26	34	45	123	109	69	45	851		
	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10	144	101	77	79	158	274	267	150	142	130	206	192	385	351	248	183	3087		
	11	0	1	12	0	0	0	1	0	1	9	9	9	9	1	0	0	52		6332

7 (G)	2	5	7	5	7	3	4	4	2	3	6	6	4	4	4	4	4	72	2
	3	4	4	7	6	4	3	7	5	7	4	9	8	5	6	5	6	90	
	4	7	6	4	5	4	5	4	17	11	13	7	14	4	3	2	3	109	
	5	27	15	17	11	11	9	18	28	31	24	24	14	13	14	14	14	284	
	6	26	20	18	10	25	13	32	15	10	17	13	13	7	16	25	26	286	
	7	34	15	10	9	24	19	21	18	2	3	13	11	27	38	34	38	316	
	8	22	9	6	4	6	30	22	9	2	1	4	13	20	54	23	20	245	
	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10	70	40	28	19	46	78	78	38	8	12	31	48	121	161	92	70	940	
	11	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2345
																			60590

Notes:
(1) Wind Speed Categories defined as follows:

Category	Wind Speed (mph)
Calm	<0.8
2	≥ 0.80 - <2.35
3	≥ 2.35 - <3.47
4	≥ 3.47 - <4.56
5	≥ 4.56 - <6.82
6	≥ 6.82 - <9.06
7	≥ 9.06 - <11.30
8	≥ 11.30 - <13.53
9	≥ 13.53 - <18.01
10	≥ 18.01 - <22.40
11	≥22.40

Braidwood

Joint Frequency Distribution

1994-1998 (Rev. 3)
203 ft wind
199-30 ft Delta T

	Wind Speed Category[1]	Wind Direction Category 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total	Calms	Total
1 (A)	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
	3	0.00000	0.00000	0.00000	0.00165	0.00000	0.00000	0.00000	0.00000	0.00165	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00330		
	4	0.00000	0.00000	0.00495	0.02806	0.00990	0.00660	0.01155	0.00330	0.00330	0.00165	0.00000	0.00165	0.00330	0.00495	0.00000	0.00165	0.08087		
	5	0.01981	0.02146	0.04291	0.02641	0.03631	0.02311	0.01981	0.02311	0.03136	0.02641	0.00990	0.01981	0.02311	0.00330	0.00990	0.01155	0.34824		
	6	0.03136	0.01485	0.04126	0.04456	0.02971	0.03301	0.02806	0.06602	0.04951	0.02146	0.02806	0.02476	0.04951	0.03466	0.02971	0.01650	0.54299		
	7	0.04951	0.03301	0.05446	0.04126	0.04126	0.02311	0.01981	0.04621	0.04126	0.03961	0.02971	0.04291	0.06602	0.02311	0.04786	0.05116	0.65027		
	8	0.02641	0.03961	0.05116	0.01981	0.02641	0.00990	0.01815	0.01650	0.03631	0.03466	0.03961	0.03466	0.03301	0.03136	0.05942	0.05116	0.52814		
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		
	10	0.14524	0.12048	0.17825	0.10068	0.10398	0.07097	0.05942	0.12048	0.17825	0.25417	0.14524	0.13038	0.19805	0.18980	0.29873	0.20300	2.49711		
	11	0.00000	0.00000	0.00000	0.00000	0.00165	0.00165	0.00990	0.01650	0.04291	0.04621	0.00660	0.00000	0.00000	0.02806	0.02641	0.00000	0.17990		4.83083
2 (B)	2	0.00000	0.00000	0.00165	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00165	0.00330	0.00000	
	3	0.00000	0.00000	0.00165	0.00165	0.00495	0.00165	0.00165	0.00000	0.00165	0.00000	0.00000	0.00000	0.00000	0.00000	0.00165	0.00000	0.01485		
	4	0.00825	0.00165	0.00495	0.00825	0.01320	0.00825	0.00660	0.00660	0.00165	0.00495	0.00000	0.00330	0.00825	0.00165	0.00165	0.00165	0.08087		
	5	0.00990	0.01815	0.01485	0.03466	0.03136	0.03136	0.02641	0.02146	0.01981	0.01485	0.00660	0.02641	0.04126	0.01815	0.01650	0.01485	0.34659		
	6	0.03466	0.01485	0.02476	0.03796	0.02806	0.02476	0.02971	0.03631	0.02311	0.02311	0.03796	0.01650	0.04126	0.03466	0.03631	0.03466	0.47863		
	7	0.03136	0.03136	0.02806	0.01815	0.02146	0.01155	0.01981	0.01981	0.02476	0.02806	0.01981	0.03301	0.01981	0.04291	0.04456	0.03796	0.43241		
	8	0.01981	0.01485	0.02476	0.01155	0.01485	0.01320	0.00990	0.00825	0.01650	0.03301	0.01815	0.03466	0.03631	0.04126	0.03301	0.02806	0.35814		
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		
	10	0.09242	0.08087	0.10233	0.06602	0.07097	0.04951	0.05281	0.08252	0.12213	0.16174	0.13203	0.10893	0.12543	0.18815	0.20135	0.14689	1.78412		
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00825	0.00990	0.01650	0.01981	0.01320	0.00000	0.01320	0.01815	0.00825	0.00165	0.10893		3.607856
3 (C)	2	0.00000	0.00000	0.00000	0.00330	0.00165	0.00000	0.00000	0.00165	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00660	0.00000	
	3	0.00000	0.00165	0.00165	0.00495	0.00825	0.00330	0.00495	0.00000	0.00165	0.00330	0.00000	0.00000	0.00330	0.00000	0.00165	0.00165	0.03631		
	4	0.00495	0.02146	0.00825	0.01650	0.01981	0.01485	0.01650	0.01155	0.01320	0.00990	0.00990	0.00660	0.00660	0.00660	0.00000	0.00495	0.17165		
	5	0.03631	0.03136	0.02971	0.02806	0.03961	0.03796	0.04291	0.03631	0.02641	0.02311	0.02476	0.02641	0.06107	0.03961	0.02971	0.02971	0.54299		
	6	0.02971	0.02476	0.04126	0.03961	0.03631	0.02806	0.03301	0.02806	0.02641	0.01981	0.03136	0.04951	0.04621	0.06602	0.05116	0.02806	0.57930		
	7	0.02476	0.02641	0.02146	0.02971	0.04456	0.02146	0.02476	0.02806	0.02806	0.03796	0.03961	0.05942	0.05611	0.04621	0.05281	0.05281	0.59416		
	8	0.02806	0.02146	0.04291	0.00825	0.00495	0.01320	0.00990	0.01981	0.02971	0.02806	0.03796	0.03631	0.03961	0.07097	0.05942	0.04456	0.49513		
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		
	10	0.10563	0.08417	0.12873	0.07757	0.08912	0.06107	0.06932	0.11058	0.15679	0.18320	0.18485	0.18815	0.17660	0.25582	0.26077	0.16834	2.30071		
	11	0.00165	0.00000	0.00000	0.00000	0.00000	0.00000	0.01485	0.01155	0.01815	0.06272	0.00495	0.00825	0.00990	0.03961	0.00825	0.00495	0.18485		4.911702
4 (D)	2	0.00165	0.01155	0.01485	0.00990	0.01155	0.00165	0.00660	0.00330	0.00990	0.00165	0.00000	0.00660	0.00165	0.00330	0.01155	0.00330	0.09903	0.00000	
	3	0.02641	0.03466	0.05116	0.07427	0.05116	0.02641	0.00990	0.01981	0.01155	0.01485	0.01981	0.02146	0.02806	0.04291	0.03961	0.03796	0.50999		
	4	0.05611	0.06437	0.06272	0.07097	0.09242	0.03631	0.04456	0.02641	0.02641	0.02806	0.02311	0.05446	0.03631	0.06767	0.08417	0.07922	0.85328		
	5	0.17990	0.11058	0.19970	0.18815	0.21126	0.11223	0.14359	0.10398	0.10728	0.07592	0.11553	0.14029	0.18815	0.17165	0.27232	0.21951	2.54002		
	6	0.15019	0.15679	0.23931	0.31193	0.27397	0.13369	0.14029	0.17660	0.09242	0.08417	0.19310	0.19640	0.26077	0.26242	0.28718	0.25582	3.21505		
	7	0.21291	0.18815	0.27727	0.32514	0.21126	0.12708	0.13534	0.20630	0.12543	0.09738	0.25252	0.26407	0.34164	0.35154	0.34659	0.26902	3.73164		
	8	0.15184	0.17660	0.25747	0.22116	0.16834	0.12048	0.13369	0.17000	0.15349	0.14194	0.26572	0.22611	0.25417	0.29378	0.31028	0.20135	3.24641		
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		
	10	0.72619	0.96055	1.41277	1.16851	0.79386	0.55950	0.68988	0.90444	0.98366	1.00347	1.29394	1.05958	1.53326	1.81053	1.48209	1.15201	17.53425		
	11	0.02146	0.02311	0.04456	0.01485	0.01320	0.06932	0.11718	0.15184	0.32018	0.61231	0.16339	0.08252	0.23436	0.37960	0.10893	0.11553	2.47236		34.20201
5 (E)	2	0.00495	0.00660	0.01320	0.01320	0.00825	0.00165	0.00165	0.00165	0.00330	0.00165	0.00330	0.00165	0.00660	0.01485	0.00825	0.00825	0.09903	0.00165	
	3	0.02146	0.02806	0.02641	0.02641	0.01981	0.01815	0.01155	0.00990	0.00825	0.00660	0.00825	0.01650	0.01815	0.01981	0.02641	0.02641	0.29213		
	4	0.04291	0.02806	0.03631	0.04456	0.03961	0.02641	0.02146	0.02641	0.01650	0.01320	0.01650	0.01981	0.03631	0.01485	0.02971	0.02806	0.44067		
	5	0.13699	0.09573	0.16504	0.19640	0.14524	0.07922	0.08747	0.07922	0.07262	0.03796	0.10728	0.10728	0.07262	0.12048	0.13534	0.10068	1.73956		
	6	0.18485	0.15679	0.22116	0.41426	0.30533	0.12708	0.18650	0.20796	0.13369	0.10728	0.18485	0.17660	0.19145	0.17660	0.25582	0.21951	3.24971		
	7	0.23766	0.20796	0.34164	0.39776	0.52484	0.20630	0.28388	0.28883	0.21786	0.17495	0.23436	0.34329	0.28057	0.34824	0.28883	0.30203	4.67899		
	8	0.18815	0.20796	0.29873	0.24261	0.25582	0.24592	0.31853	0.31358	0.32349	0.23931	0.29048	0.36805	0.32018	0.35980	0.25417	0.28553	4.51230		
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		
	10	0.72619	0.82027	1.13550	1.10579	1.18171	0.99191	1.30880	1.53821	1.85839	2.06470	1.44578	1.34841	1.37316	1.65704	1.17181	0.99026	20.71794		
	11	0.03631	0.08417	0.13038	0.03301	0.00990	0.06272	0.10728	0.15679	0.42086	0.59746	0.14029	0.11883	0.21456	0.19310	0.07097	0.01815	2.39478		38.12675
6 (F)	2	0.00495	0.00000	0.00495	0.00990	0.00330	0.00990	0.00165	0.00000	0.00000	0.00495	0.00825	0.00660	0.00825	0.00330	0.00330	0.00165	0.07097	0.00000	
	3	0.00825	0.01155	0.00990	0.00825	0.01155	0.00495	0.00990	0.00990	0.01155	0.01320	0.01155	0.01320	0.00660	0.00825	0.01155	0.00495	0.15514		
	4	0.01155	0.00825	0.01155	0.01485	0.01320	0.01485	0.02476	0.01650	0.02311	0.00825	0.01815	0.01155	0.00825	0.01485	0.00825	0.01155	0.21951		
	5	0.06272	0.03796	0.03466	0.06272	0.05116	0.02641	0.04456	0.05611	0.03961	0.03631	0.06767	0.03796	0.03466	0.03631	0.05281	0.04786	0.72949		
	6	0.09903	0.06272	0.06107	0.08417	0.07097	0.04951	0.05611	0.06932	0.07262	0.06107	0.05116	0.05116	0.06602	0.08747	0.09573	0.10563	1.14375		
	7	0.09573	0.04951	0.04621	0.05446	0.10068	0.09077	0.11553	0.10068	0.05777	0.06932	0.05281	0.07097	0.12213	0.17330	0.18650	0.16009	1.54646		
	8	0.07097	0.06437	0.03961	0.02641	0.07922	0.12543	0.14854	0.04786	0.05777	0.04291	0.05611	0.07427	0.20300	0.17990	0.11388	0.07427	1.40452		
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		
	10	0.23766	0.16669	0.12708	0.13038	0.26077	0.45222	0.44067	0.24757	0.23436	0.21456	0.33999	0.31688	0.63542	0.57930	0.40931	0.30203	5.09490		
	11	0.00000	0.00165	0.01981	0.00000	0.00000	0.00000	0.00165	0.00000	0.00165	0.01485	0.01485	0.01485	0.01485	0.00165	0.00000	0.00000	0.08582		10.45057

7 (G)	2	0.00825	0.01155	0.00825	0.01155	0.00495	0.00660	0.00660	0.00330	0.00495	0.00990	0.00990	0.00660	0.00660	0.00660	0.00660	0.00660	0.11883	0.00330	
	3	0.00660	0.00660	0.01155	0.00990	0.00660	0.00495	0.01155	0.00825	0.01155	0.00660	0.01485	0.01320	0.00825	0.00990	0.00825	0.00990	0.14854		
	4	0.01155	0.00990	0.00660	0.00825	0.00660	0.00825	0.00660	0.02806	0.01815	0.02146	0.01155	0.02311	0.00660	0.00495	0.00330	0.00495	0.17990		
	5	0.04456	0.02476	0.02806	0.01815	0.01815	0.01485	0.02971	0.04621	0.05116	0.03961	0.03961	0.02311	0.02146	0.02311	0.02311	0.02311	0.46872		
	6	0.04291	0.03301	0.02971	0.01650	0.04126	0.02146	0.05281	0.02476	0.01650	0.02806	0.02146	0.02146	0.01155	0.02641	0.04126	0.04291	0.47203		
	7	0.05611	0.02476	0.01650	0.01485	0.03961	0.03136	0.03466	0.02971	0.00330	0.00495	0.02146	0.01815	0.04456	0.06272	0.05611	0.06272	0.52154		
	8	0.03631	0.01485	0.00990	0.00660	0.00990	0.04951	0.03631	0.01485	0.00330	0.00165	0.00660	0.02146	0.03301	0.08912	0.03796	0.03301	0.40436		
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		
	10	0.11553	0.06602	0.04621	0.03136	0.07592	0.12873	0.12873	0.06272	0.01320	0.01981	0.05116	0.07922	0.19970	0.26572	0.15184	0.11553	1.55141		
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00165	0.00000	0.00000	0.00000	0.00000	0.00000	0.00165		3.870276
																		99.99505		100

Notes:
(1) Wind Speed Categories defined as follows:

Category	*Wind Speed (mph)*
Calm	<0.8
2	≥ 0.80 - <2.35
3	≥ 2.35 - <3.47
4	≥ 3.47 - <4.56
5	≥ 4.56 - <6.82
6	≥ 6.82 - <9.06
7	≥ 9.06 - <11.30
8	≥ 11.30 - <13.53
9	≥ 13.53 - <18.01
10	≥ 18.01 - <22.40
11	≥22.40

ATTACHMENT 6

Braidwood and Byron Stations
Measurement Uncertainty Recapture Technical Evaluation

Response to NRC Acceptance Review Questions

CD "Meteorological Data Files"

File Name	File Size:
BRD94r3.met	317 KB
BRD95r3.met	317 KB
BRD96r3.met	318 KB
BRD97r3.met	317 KB
BRD98r3.met	317 KB
BYR94r4.met	317 KB
BYR95r4.met	317 KB
BYR96r4.met	318 KB
BYR97r4.met	317 KB
BYR98r4.met	317 KB

Sensitivity Level: Publically Available

Media: CD-R

Special Information: Data file format is .met which is used by ARCON96, the data file is to be kept in native-format and the CD-R copy can be submitted to the Public Document Room.

ATTACHMENT 7

Braidwood and Byron Stations
Measurement Uncertainty Recapture Technical Evaluation

Response to NRC Acceptance Review Questions

CD "PAVAN Input Files"

File Name:	File Size:
BRDr2_11.inp.txt	7 KB
BYRr2_11.inp.txt	7 KB

Sensitivity Level: Publically Available

Media: CD-R

Special Information: Data file format is .txt ASCII text which inputs into PAVAN, the data file is to be kept in native-format and the CD-R copy can be submitted to the Public Document Room.