

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)

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**BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)**

**General Overview/Discussion**

This report quantifies the radioactive gaseous, liquid, solid radwaste releases, and summarizes the local meteorological data for the period from January 01, 2014 through December 31, 2014. This report has been prepared utilizing the methodology and parameters specified in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents found in Braidwood's Offsite Dose Calculation Manual (ODCM). It has been formatted consistent with Exelon Procedure CY-AA-170-2000 and exceeds the requirements specified in Regulatory Guide 1.21 revision 1, "MEASURING, EVALUATING, AND REPORTING RADIOACTIVITY IN SOLID WASTES AND RELEASES OF RADIOACTIVE MATERIALS IN LIQUID AND GASEOUS EFFLUENTS FROM LIGHT-WATER-COOLED NUCLEAR POWER PLANTS."

The quantity of radioactive material released from Braidwood Nuclear Power Plant was determined from in-house and vendor laboratory analysis of continuous on-line sampling media and batch sample media from all ODCM specified effluent pathways. These pathways include the Unit 1 and 2 Station Vent Stacks, Exelon Pond remediation, Turbine Building Remediation, Vacuum Breaker number one remediation, Condensate Polisher Sump, Waste Water Treatment facility, and Circulating Water Blowdown.

The volume and quantity of radioactive waste shipped offsite from Braidwood Nuclear Power Plant for processing and disposal were determined from data maintained in the radwaste shipping database. Radwaste processed for shipment was in accordance with Exelon procedure RW-AA-100, "PROCESS CONTROL PROGRAM FOR RADIOACTIVE WASTES" and consistent with the UFSAR.

Meteorological data was obtained from the 320 foot meteorological tower located on the Braidwood Station premises.

**Gaseous Effluents**

Gaseous radioactive releases for the 2014 timeframe are captured in the tables titled, "Summation of All Releases" for Unit 1 and 2, respectively. Radioactive noble gases released for the timeframe totaled 3.42E-01 Curies. Releases of radioiodines and particulates with a half-life greater than eight days totaled 3.88E-04 Curies. Gaseous tritium releases totaled 2.71E+02 Curies. Gaseous C-14 was calculated to total 8.61E+00 Curies. No gross alpha was detected in gaseous effluents.

Noble gases released in gaseous effluents resulted in a maximum total body dose of 2.36E-05 mrem, with a corresponding skin dose of 1.71E-03 mrem. The release of radioactive particulates, C-14, tritium, and radioiodines in gaseous effluents during the reporting period resulted in a total body dose to the maximally exposed hypothetical individual of 5.25E-01 mrem. The maximum hypothetical dose to any organ from radioactive particulates, C-14, tritium, and radioiodines was 2.31E+00 mrem.

**Liquid Effluents**

Liquid radioactive releases for the 2014 timeframe are captured in the table titled, "Liquid Effluents Supplemental Release Information" and in Appendix C, "Unit Specific Annual Effluent Summaries." One hundred and four (104) liquid batch releases occurred during the reporting period. Additionally, radioactive liquid effluents were continually being released through Circulating Water Blowdown. These discharges contained 3.01E+03 Curies of tritium and 9.48E-02 Curies of fission and activation products. The resultant maximum total body dose was 4.26E-02 mrem, with a corresponding organ dose of 8.60E-02 mrem.

## 40CFR190 Compliance

The Braidwood ODCM defines the total dose for the uranium fuel cycle as the sum of doses due to radioactivity in airborne and liquid effluents and the doses due to direct radiation from contained sources at the nuclear power station. The total dose,  $D^{TOT}$ , in the unrestricted area to a member of the public due to plant operations is given by:  $D^{TOT} = D^{Ex} + D_{aj}^{Liq} + D_{aj}^{NNG}$

Where:

$D^{TOT}$  Total Dose to Member of Public [mrem]

Total off-site dose to a member of public due to plant operations.

$D^{Ex}$  Total External Total Body Dose [mrem]

Total body dose due to external exposure to noble gases, N-16 skyshine and on-site storage facilities.

$D_{aj}^{Liq}$  Liquid Effluent Dose [mrem]

Dose due to liquid effluents to age group *a* and organ *j*. The age group and organ with the highest dose from liquid effluents is used.

$D_{aj}^{NNG}$  Non-Noble Gaseous Effluent Dose [mrem]

Dose due to non-noble gaseous effluents to age group *a* and organ *j*. The age group and organ with the highest dose from non-noble gas effluents is used.

Exposures measured on the Independent Spent Fuel Storage Installation (ISFSI) and Onsite Steam Generator Storage Facility (OSGSF) dosimeters are statistically indiscernible from natural background. N-16 skyshine is not applicable to Pressurized Water Reactors. The resultant 40CFR190 dose calculated for a member of the public is 2.88E+00 mrem.

## Meteorological Data

The Braidwood Station meteorological monitoring program produced 52,433 hours of valid data out of a possible 52,560 parameter hours during 2014 (365 days x 24 hours/day x 6 measured priority parameters), which represents an overall data recovery rate of 99.8%. Priority parameters are all parameters except dew point temperature and precipitation. For the year, winds measured at 34 ft. most frequently came from the West-Northwest (10.25%) and fell into the 3.6 - 7.5 mph wind speed class (41.34%). Calms (wind speeds at or below the sensor threshold) were measured 0.02% of the time and speeds greater than 24.5 mph were measured 0.04% of the time. Stability based on the 199 - 30 ft. differential temperature most frequently fell into the neutral classification (40.33%).

The following are the maximum annual calculated cumulative offsite doses resulting from Braidwood Station airborne releases in 2014 based on concurrent meteorological data:

### Unit 1:

<u>Dose</u>	<u>Maximum Value</u>	<u>Sector Affected</u>
gamma air <sup>(1)</sup>	8.780 x10-6 mrad	North
beta air <sup>(2)</sup>	1.060 x10-5 mrad	North
whole body <sup>(3)</sup>	2.680 x10-1 mrem	North
skin <sup>(4)</sup>	1.210 x 10-5 mrem	North
organ <sup>(5)</sup> (child-bone)	1.240 x10+0 mrem	North

### Unit 1 Compliance Status

<b>10 CFR 50 Appendix I</b>	<b>Yearly Objective</b>	<b>% of Appendix I</b>
gamma air	10.0 mrad	0.00E+00
beta air	20.0 mrad	0.00E+00
whole body	5.0 mrem	5.36E+00
skin	15.0 mrem	0.00E+00
organ	15.0 mrem	8.27E+00

### Unit 2:

<u>Dose</u>	<u>Maximum Value</u>	<u>Sector Affected</u>
gamma air <sup>(1)</sup>	2.900 x10-6 mrad	North
beta air <sup>(2)</sup>	6.470 x10-6 mrad	North
whole body <sup>(3)</sup>	2.710 x10-1 mrem	North
skin <sup>(4)</sup>	4.980 x10-6 mrem	North
organ <sup>(5)</sup> (child-bone)	1.160 x10+0 mrem	North

### Unit 2 Compliance Status

<b>10 CFR 50 Appendix I</b>	<b>Yearly Objective</b>	<b>% of Appendix I</b>
gamma air	10.0 mrad	0.00E+00
beta air	20.0 mrad	0.00E+00
whole body	5.0 mrem	5.42E+00
skin	15.0 mrem	0.00E+00
organ	15.0 mrem	7.73E+00

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(1) Gamma Air Dose – GASPAR II, NUREG-0597

(2) Beta Air Dose – GASPAR II, NUREG-0597

(3) Whole Body Dose – GASPAR II, NUREG-0597

(4) Skin Dose – GASPAR II, NUREG-0597

(5) Inhalation and Food Pathways Dose – GASPAR II, NUREG-0597

## Offsite Ambient Radiation Measurements

It is estimated that the average radiation dose received by an individual in the United States is about 360 mrem/yr and that nuclear power stations account for less than two parts in a thousand of this radiation. These figures are based on data in Table 8.1 of NCRP 93. The table includes the following data:

<u>Source</u>	<u>Average Individual Dose (mrem/yr)</u>
Natural sources (average in U.S.)	300
Medical (whole-body equivalent)	53
Nuclear fuel cycle	0.05
Other	<u>~7</u>
Total	About 360

The radiological effects of nuclear power station operation on the environment are characterized as "usually so small that they are masked by normal fluctuations in natural background sources and by the normal uncertainties of the measurement process." Review of the Braidwood Optically Stimulated Luminescent Dosimetry (OSLD) data yielded no measurable increase above the normal fluctuation in natural background levels.

## Radioactive Solid Waste Disposal

Radioactive wastes shipped offsite are captured in the table titled, "Solid Wastes Shipped Offsite for Burial or Disposal (Not irradiated fuel)." Approximately 8.58E+02 cubic meters of solid waste was shipped offsite containing approximately 2.22E+01 Curies during the 2014 reporting period.

# RADIOACTIVE EFFLUENT RELEASE REPORT

January - December 2014

Facility: BRAIDWOOD NUCLEAR POWER STATION

Licensee: EXELON GENERATION COMPANY, LLC

## 1. Regulatory Limits

### a. For Fission and Activation Gases:

#### Dose Rate

- 1) Less than 500 mrem/year to the whole body (instantaneous limit, per site).
- 2) Less than 3,000 mrem/year to the skin (instantaneous limit, per site).

#### Dose Gamma Radiation

- 1) Less than or equal to 5 mrad/quarter (per unit).
- 2) Less than or equal to 10 mrad/year (per unit).

#### Dose Beta Radiation

- 1) Less than or equal to 10 mrad/quarter (per unit).
- 2) Less than or equal to 20 mrad/year (per unit).

### b. Iodine: (summed with particulate, see below)

### c. Particulates with half-lives > 8 days:

#### Dose Rate

- 1) Less than 1,500 mrem/year to any organ (instantaneous limit, per site).

#### Dose

- 1) Less than or equal to 7.5 mrem/quarter to any organ (per unit).
- 2) Less than or equal to 15 mrem/year to any organ (per unit).

### d. Liquid Effluents

#### Dose

- 1) Less than or equal to 1.5 mrem to the whole body during any calendar quarter (per unit).

- 2) Less than or equal to 5 mrem to any organ during any calendar quarter (per unit).
- 3) Less than or equal to 3 mrem to the whole body during any calendar year (per unit).
- 4) Less than or equal to 10 mrem to any organ during any calendar year (per unit).

## 2. Effluent Concentration Limits

- a. Fission and Activation Gases: 10CFR20 Appendix B Table 2
- b. Iodine: 10CFR20 Appendix B Table 2
- c. Particulates: 10CFR20 Appendix B Table 2
- d. Liquid Effluents: 10 X 10CFR20 Appendix B Table 2

## 3. Average Energy

The ODCM limits the dose equivalent rates due to the release of noble gases to less than or equal to 500 mrem/yr to the total body, and less than or equal to 3,000 mrem/yr to the skin. Therefore, the average beta and gamma energies ( $\bar{E}$ ) for gaseous effluents as described in Regulatory Guide 1.21 are not applicable.

## 4. Measurements and Approximations of Total Radioactivity

### a. Fission and activation gases:

Before being discharged, containment batch releases are analyzed for noble gas via gamma spectroscopy. Gaseous decay tanks are analyzed for noble gases before being discharged via gamma spectroscopy. Released activity is normally calculated using volume of release, which is determined by change in tank or containment pressure.

The Auxiliary Building ventilation exhaust system is continually monitored for radioiodines and particulates. These samples are pulled every seven days and analyzed via gamma spectroscopy.

Noble gas samples are pulled and analyzed weekly by gamma spectroscopy. The average flow at the release points and nuclide specific activity concentrations are used to calculate the activity released.

Volumes and activities of effluents discharged from systems that are common to both units are divided between both units.

### b. Iodines:

Radioiodines in the Auxiliary Building ventilation exhaust system are continually being collected via activated charcoal cartridges in the diverted sample process flow. The iodine cartridges are pulled weekly and analyzed via gamma spectroscopy. Radioiodine concentrations greater than the LLD are multiplied by the volume of air discharged during the sampling timeframe.

Radioiodines are analyzed in liquid effluent streams through performance of batch release tank grab samples and weekly liquid effluent composite samples. The analyses are performed via gamma spectroscopy of the liquid samples.

Volumes and activities of effluents discharged from systems that are common to both units are divided between both units. Effluents that are unit specific are assigned to the appropriate unit.

c. Particulates, half-lives > 8 days:

Particulates in the Auxiliary Building ventilation exhaust system are continually being collected via filter media in the diverted sample process flow. Particulate filter media are pulled weekly and analyzed via gamma spectroscopy. Particulate concentrations greater than LLD are multiplied by the volume of air discharged during the sampling timeframe. A composite sample is created from 3 month's particulate sample media for Sr-89/90, Fe-55, and gross alpha analysis by an offsite vendor. The vendor supplied data are utilized in conjunction with the volume of air released through the Auxiliary Building ventilation to quantify Sr-89/90, Fe-55, and gross alpha releases.

Volumes and activities of effluents discharged from systems that are common to both units are divided between both units. Effluents that are unit specific are assigned to the appropriate unit.

d. Tritium:

Before being discharged, containment batch releases are analyzed for tritium via a liquid scintillation counter (LSC). Tritium is sampled using a flow-through bubbler system. Released activity is normally calculated using volume of release, which is determined by change in tank or containment pressure.

The Auxiliary Building ventilation exhaust system is monitored for tritium using a flow-through bubbler system. Tritium is sampled every seven days and analyzed by LSC.

The secondary side of both units contain tritium. Very small amounts of tritium are continually released to the atmosphere from secondary components through packing leaks, tank vents, the main condenser, etc. Bounding calculations have been performed to show that very large leaks (1000 gpd) for extended periods (1 month) at normal secondary tritium concentrations, would provide an insignificant increase ( $1.00\text{E-}5$  mrem) in offsite dose.

e. Gross alpha

Gross alpha is analyzed in both the gaseous and liquid effluent pathways. Weekly gaseous particulate media is composited for offsite vendor analysis. Gross alpha activity greater than vendor LLD values are assigned to the applicable timeframe and gaseous volume released. Liquid effluent gross alpha analysis is performed through compositing monthly discharges and gas flow proportional counting.

f. Carbon-14

Carbon-14 is assessed for continuous gaseous effluents through the use of Electric Power Research Institute's (EPRI) industry accepted production mechanism and production rate



study 1021106. C-14 production is a function of each unit's full power operation and gaseous volume released. C-14 is not evaluated through laboratory sample analysis.

g. Liquid effluents:

Liquid effluents are categorized as either batch release or continuous release. All liquid releases are analyzed for principal gamma emitters, radioiodines, dissolved and entrained gases, gross alpha, and tritium onsite via gamma spectroscopy, gas flow proportional counting, or liquid scintillation, as appropriate. An offsite laboratory analyzes liquid composites for Sr-89/90 and Fe-55. Vendor results are applied to the applicable volume of liquids discharged during the timeframe. Volumes and activities of effluents discharged from systems or locations are divided between both units.

h. Estimated Total Error Present

Estimated total error is calculated periodically and communicated as part of the Effluent and Waste Disposal Summaries.

i. Less than the lower limit of detection (<LLD)

Samples are analyzed such that the Offsite Dose Calculation Manual (ODCM) LLD requirements are met. When a nuclide is not detected during the quarter then <LLD is reported.

5. Batch Releases

a. Liquid

LIQUID EFFLUENTS  
SUPPLEMENTAL RELEASE INFORMATION

UNIT COMMON

A. Batch Release	1 <sup>st</sup> Qtr	2 <sup>nd</sup> Qtr	3 <sup>rd</sup> Qtr	4 <sup>th</sup> Qtr.	Total
1. Total Number of Batch Releases	2.00E+01	5.10E+01	1.80E+01	1.50E+01	1.04E+02
2. Total Time Period for Batch Releases (minutes)	7.99E+04	6.72E+04	5.51E+04	3.95E+04	2.42E+05
3. Maximum Time Period for a Batch Release (minutes)	7.94E+03	5.57E+03	8.22E+03	5.58E+03	8.22E+03
4. Average Time Period for a Batch Release (minutes)	4.00E+03	1.34E+03	2.90E+03	2.63E+03	2.72E+03
5. Minimum Time Period for a Batch Release (minutes)	1.36E+03	4.00E+00	9.95E+02	5.74E+02	4.00E+00
6. Average Stream Flow During Periods of Release of Effluent into a Flowing Stream (liters/min)	1.64E+07	1.54E+07	8.72E+06	9.77E+06	1.26E+07

b. Gaseous

**GASEOUS EFFLUENTS  
SUPPLEMENTAL RELEASE INFORMATION**

**UNIT COMMON**

A. Batch Release	1 <sup>st</sup> Qtr	2 <sup>nd</sup> Qtr	3 <sup>rd</sup> Qtr	4 <sup>th</sup> Qtr.	Total
1. Total Number of Batch Releases	3.00E+00	8.00E+00	1.00E+00	1.00E+00	1.30E+01
2. Total Time Period for Batch Releases (minutes)	3.08E+02	1.32E+03	6.10E+01	1.11E+02	1.80E+03
3. Maximum Time Period for a Batch Release (minutes)	1.22E+02	7.21E+02	6.10E+01	1.11E+02	7.21E+02
4. Average Time Period for a Batch Release (minutes)	1.03E+02	1.65E+02	6.10E+01	1.11E+02	1.10E+02
5. Minimum Time Period for a Batch Release (minutes)	8.60E+01	5.20E+01	6.10E+01	1.11E+02	5.20E+01

**UNIT ONE**

A. Batch Release	1 <sup>st</sup> Qtr	2 <sup>nd</sup> Qtr	3 <sup>rd</sup> Qtr	4 <sup>th</sup> Qtr.	Total
1. Total Number of Batch Releases	3.00E+01	2.60E+01	2.70E+01	2.60E+01	1.09E+02
2. Total Time Period for Batch Releases (minutes)	6.75E+03	6.51E+03	2.30E+03	2.33E+03	1.79E+04
3. Maximum Time Period for a Batch Release (minutes)	1.44E+03	5.56E+02	6.15E+02	4.63E+02	1.44E+03
4. Average Time Period for a Batch Release (minutes)	2.25E+02	2.50E+02	8.51E+01	8.97E+01	1.62E+02
5. Minimum Time Period for a Batch Release (minutes)	2.90E+01	2.50E+01	8.00E+00	1.70E+01	8.00E+00

**UNIT TWO**

A. Batch Release	1 <sup>st</sup> Qtr	2 <sup>nd</sup> Qtr	3 <sup>rd</sup> Qtr	4 <sup>th</sup> Qtr.	Total
1. Total Number of Batch Releases	2.30E+01	2.90E+01	2.20E+01	2.40E+01	9.80E+01
2. Total Time Period for Batch Releases (minutes)	2.06E+03	2.20E+04	7.77E+02	6.15E+03	3.10E+04
3. Maximum Time Period for a Batch Release (minutes)	9.93E+02	4.24E+03	4.80E+01	1.95E+03	4.24E+03
4. Average Time Period for a Batch Release (minutes)	8.95E+01	7.58E+02	3.53E+01	2.56E+02	2.85E+02
5. Minimum Time Period for a Batch Release (minutes)	2.10E+01	1.90E+01	2.00E+01	3.00E+01	1.90E+01

6. Abnormal Releases

a. Liquid

Number of abnormal releases	0
Total Activity (Ci) released	0

b. Gaseous

Number of abnormal releases	0
Total Activity (Ci) released	0

7. ODCM Revisions

No revisions were made to the ODCM in 2014.

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2014  
GAS RELEASES  
UNIT 1 (Docket Number 50-456)  
SUMMATION OF ALL RELEASES

Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Est. Total Error%
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**A. Fission and Activation Gas Releases**

1. Total Release Activity	Ci	1.15E-02	1.42E-01	<LLD	5.19E-02	7.59E+00
2. Average Release Rate	μCi/sec	1.48E-04	1.81E-02	<LLD	6.53E-03	
3. Percent of ODCM Limit – gamma	%	1.83E-06	1.00E-04	N/A	3.66E-06	
4. Percent of ODCM Limit - beta	%	4.43E-06	7.76E-05	N/A	2.12E-05	

**B. Iodine Releases**

1. Total Iodine	Ci	2.44E-05	8.19E-05	8.36E-07	6.05E-07	3.32E+01
2. Average Release Rate	μCi/sec	3.14E-06	1.04E-05	1.05E-07	7.61E-08	
3. Percent of ODCM Limit	%	1.17E-04	6.84E-05	6.08E-06	5.79E-06	

**C. Particulate (> 8 day half-life) Releases**

1. Particulates with half-lives > 8 days	Ci	<LLD	<LLD	<LLD	<LLD	1.98E+01
2. Average Release Rate	μCi/sec	<LLD	<LLD	<LLD	<LLD	
3. Percent of ODCM Limit	%	N/A	N/A	N/A	N/A	
4. Gross Alpha Radioactivity	Ci	<LLD	<LLD	<LLD	<LLD	

**D. Tritium Releases**

1. Total Release Activity	Ci	1.87E+01	2.92E+01	2.33E+01	2.16E+01	8.07E+00
2. Average Release Rate	μCi/sec	2.40E+00	3.70E+00	2.92E+00	2.70E+00	
3. Percent of ODCM Limit	%	5.33E-02	8.30E-02	6.62E-02	6.14E-02	

**E. Gross Alpha Releases**

1. Total Release Activity	Ci	<LLD	<LLD	<LLD	<LLD	1.98E+01
2. Average Release Rate	μCi/sec	<LLD	<LLD	<LLD	<LLD	
3. Percent of ODCM limit	%	N/A	N/A	N/A	N/A	

**F. Carbon-14 Releases**

1. Total Release Activity	Ci	1.10E+00	1.11E+00	1.12E+00	1.11E+00	
2. Average Release Rate	μCi/sec	1.41E-01	1.41E-01	1.41E-01	1.40E-01	

Note: LLD Values are included in Appendix A of this report.

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2014  
GAS RELEASES  
UNIT 1 (Docket Number 50-456)  
CONTINUOUS MODE AND BATCH MODE

Nuclides Released		Continuous Mode				Batch Mode			
	Unit	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4
A. Fission Gases									
Ar-41	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	1.61E-02	<LLD	<LLD
Kr-85	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-85m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-87	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-88	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-131m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	5.19E-02
Xe-133	Ci	<LLD	<LLD	<LLD	<LLD	1.15E-02	1.05E-01	<LLD	<LLD
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	2.54E-03	<LLD	<LLD
Xe-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	1.80E-02	<LLD	<LLD
Xe-135m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-138	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Total for Period	Ci	<LLD	<LLD	<LLD	<LLD	1.15E-02	1.42E-01	<LLD	5.19E-02
B. Iodines									
I-131	Ci	1.17E-06	3.04E-07	<LLD	<LLD	2.11E-06	1.17E-06	1.73E-07	1.68E-07
I-132	Ci	<LLD	<LLD	<LLD	<LLD	5.97E-07	3.92E-05	2.55E-08	<LLD
I-133	Ci	8.66E-06	3.52E-05	<LLD	<LLD	6.98E-06	4.40E-06	6.37E-07	4.37E-07
I-134	Ci	<LLD	<LLD	<LLD	<LLD	9.88E-07	<LLD	<LLD	<LLD
I-135	Ci	<LLD	<LLD	<LLD	<LLD	3.92E-06	1.62E-06	<LLD	<LLD
Total for Period	Ci	9.83E-06	3.55E-05	<LLD	<LLD	1.46E-05	4.64E-05	8.36E-07	6.05E-07
C. Particulates									
Cr-51	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Mn-54	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Co-57	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Co-58	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Co-60	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Zn-65	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-89	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Mo-99	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Tc-99m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2014  
GAS RELEASES  
UNIT 1 (Docket Number 50-456)  
CONTINUOUS MODE AND BATCH MODE

Nuclides Released	Unit	Continuous Mode				Batch Mode			
		Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Sn-117m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ba-140	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
La-140	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-141	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-144	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Nd-147	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Total for Period	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
D. Tritium	Ci	1.65E+01	2.67E+01	2.23E+01	2.04E+01	2.20E+00	2.44E+00	9.28E-01	1.13E+00
E. Gross Alpha	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
F. Carbon-14	Ci	1.10E+00	1.11E+00	1.12E+00	1.11E+00	N/A	N/A	N/A	N/A

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2014  
GAS RELEASES  
UNIT 2 (Docket Number 50-457)  
SUMMATION OF ALL RELEASES

Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Est. Total Error%
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**A. Fission and Activation Gas Releases**

1. Total Activity Released	Ci	1.15E-02	1.25E-01	<LLD	<LLD	7.59E+00
2. Average Release Rate	μCi/sec	1.48E-03	1.59E-02	<LLD	<LLD	
3. Percent of ODCM Limit - gamma	%	1.83E-06	3.27E-05	N/A	N/A	
4. Percent of ODCM Limit - beta	%	4.43E-06	5.83E-05	N/A	N/A	

**B. Iodine Releases**

1. Total Iodine	Ci	<LLD	1.65E-04	<LLD	<LLD	3.32E+01
2. Average Release Rate	μCi/sec	<LLD	2.10E-05	<LLD	<LLD	
3. Percent of ODCM Limit	%	N/A	1.26E-05	N/A	N/A	

**C. Particulate (> 8 day half-life) Releases**

1. Particulates with half-lives > 8 days	Ci	<LLD	1.15E-04	<LLD	<LLD	1.98E+01
2. Average Release Rate	μCi/sec	<LLD	1.46E-05	<LLD	<LLD	
3. Percent of ODCM Limit	%	N/A	6.25E-04	N/A	N/A	
4. Gross Alpha Radioactivity	Ci	<LLD	<LLD	<LLD	<LLD	

**D. Tritium Releases**

1. Total Release Activity	Ci	3.24E+01	6.12E+01	4.45E+01	3.95E+01	8.07E+00
2. Average Release Rate	μCi/sec	4.17E+00	7.79E+00	5.60E+00	4.97E+00	
3. Percent of ODCM Limit	%	9.19E-02	1.73E-01	1.26E-01	1.12E-01	

**E. Gross Alpha Releases**

1. Total Release Activity	Ci	<LLD	<LLD	<LLD	<LLD	1.98E+01
2. Average Release Rate	μCi/sec	<LLD	<LLD	<LLD	<LLD	
3. Percent of ODCM Limit	%	N/A	N/A	N/A	N/A	

**F. Carbon-14 Releases**

1. Total Release Activity	Ci	1.10E+00	8.35E-01	1.12E+00	1.11E+00	
2. Average Release Rate	μCi/sec	1.41E-01	1.06E-01	1.41E-01	1.40E-01	

Note: LLD Values are included in Appendix A of this report.

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2014  
GAS RELEASES  
UNIT 2 (Docket Number 50-457)  
CONTINUOUS MODE AND BATCH MODE

Nuclides Released	Unit	Continuous Mode				Batch Mode			
		Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4
<b>1. Fission Gases</b>									
Ar-41	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-85	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-85m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-87	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-88	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-131m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-133	Ci	<LLD	<LLD	<LLD	<LLD	1.15E-02	1.05E-01	<LLD	<LLD
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	2.54E-03	<LLD	<LLD
Xe-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	1.80E-02	<LLD	<LLD
Xe-135m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-138	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Total for Period	Ci	<LLD	<LLD	<LLD	<LLD	1.15E-02	1.26E-01	<LLD	<LLD
<b>2. Iodines</b>									
I-131	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	2.84E-07	<LLD	<LLD
I-132	Ci	<LLD	1.30E-04	<LLD	<LLD	<LLD	3.46E-05	<LLD	<LLD
I-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
I-134	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
I-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Total for Period	Ci	<LLD	1.30E-04	<LLD	<LLD	<LLD	3.48E-05	<LLD	<LLD
<b>3. Particulates</b>									
Cr-51	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Mn-54	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Co-57	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Co-58	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Co-60	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Zn-65	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-89	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Mo-99	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Tc-99m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD



BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2014  
GAS RELEASES  
UNIT 2 (Docket Number 50-457)  
CONTINUOUS MODE AND BATCH MODE

Nuclides Released	Unit	Continuous Mode				Batch Mode			
		Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Sn-117m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ba-140	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
La-140	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-141	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-144	Ci	<LLD	1.15E-04	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Nd-147	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Te-132	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sn-113	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Total for Period	Ci	<LLD	1.15E-04	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
4. Tritium	Ci	3.22E+01	5.88E+01	4.45E+01	3.93E+01	1.48E-01	2.37E+00	3.53E-02	2.03E-01
5. Gross Alpha	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
6. Carbon-14	Ci	1.10E+00	8.35E-01	1.12E+00	1.11E+00	N/A	N/A	N/A	N/A

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2014  
LIQUID RELEASES  
UNIT 1 (Docket Number 50-456)  
SUMMATION OF ALL RELEASES

Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Est. Total Error %
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**A. Fission and Activation Products**

1. Total Release	Ci	2.28E-03	3.52E-02	8.18E-03	1.74E-03	2.64E+00
2. Average Diluted Concentration	μCi/ml	1.38E-10	6.46E-09	5.48E-10	1.17E-10	
3. Percent of applicable limit	%	*	*	*	*	

**B. Tritium**

1. Total Release	Ci	4.23E+02	7.05E+02	1.80E+02	1.96E+02	5.85E+00
2. Average Diluted Concentration	μCi/ml	2.56E-05	1.29E-04	1.21E-05	1.32E-05	
3. % of Limit (1E-2 μCi/ml)	%	2.56E-01	1.29E+00	1.21E-01	1.32E-01	

**C. Dissolved Noble Gases**

1. Total Release	Ci	<LLD	<LLD	3.84E-06	<LLD	2.64E+00
2. Average Diluted Concentration	μCi/ml	<LLD	<LLD	2.57E-13	<LLD	
3. % of Limit (2E-4 μCi/ml)	%	N/A	N/A	1.29E-07	N/A	

**D. Gross Alpha**

A. Total Release	Ci	<LLD	<LLD	<LLD	<LLD	1.47E+01
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<b>E. Volume of Waste Released</b> (prior to dilution)	liters	9.47E+05	1.41E+06	7.69E+05	5.84E+05
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<b>F. Volume of Dilution Water</b>	liters	1.65E+10	5.45E+09	1.49E+10	1.49E+10
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Note: LLD Values are included in Appendix A of this report.

Note: % Limit Values are included in Appendix C of this report.

\*This limit is equal to 10 times the concentration values in Appendix B, Table 2, Column 2 to 10CFR20.1001-20.2402, except for Dissolved Noble Gases. The limits for Dissolved Noble Gases are found the Braidwood Station ODCM, Table C-6 of ODCM Appendix C for Noble Gases.

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2014  
LIQUID RELEASES  
UNIT 1 (Docket Numbers 50-456)  
CONTINUOUS MODE & BATCH MODE

Nuclides Released	Unit	Continuous Mode				Batch Mode			
		Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Cr-51	Ci	<LLD	<LLD	<LLD	<LLD	1.56E-05	1.83E-03	<LLD	<LLD
Mn-54	Ci	<LLD	<LLD	<LLD	<LLD	2.06E-05	6.41E-04	6.97E-05	9.70E-06
Fe-55	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	5.72E-03	<LLD	6.59E-04
Co-57	Ci	<LLD	<LLD	<LLD	<LLD	4.54E-06	1.01E-04	1.16E-05	2.67E-06
Co-58	Ci	<LLD	<LLD	<LLD	<LLD	6.31E-04	1.15E-02	6.58E-04	1.96E-04
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	1.39E-04	<LLD	<LLD
Co-60	Ci	<LLD	<LLD	<LLD	<LLD	9.16E-04	1.10E-02	2.31E-03	7.34E-04
Ni-63	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	8.97E-04	5.80E-04	<LLD
Zn-65	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	8.68E-05	<LLD	<LLD
Nb-95	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	8.49E-04	1.49E-05	<LLD
Zr-95	Ci	<LLD	<LLD	<LLD	<LLD	7.05E-06	3.90E-04	<LLD	<LLD
Nb-97	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	3.38E-04	5.10E-05	1.30E-05
Zr-97	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110m	Ci	<LLD	<LLD	<LLD	<LLD	1.19E-05	2.42E-04	<LLD	9.50E-06
Sn-113	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	2.55E-04	<LLD	1.82E-06
Sb-125	Ci	<LLD	<LLD	<LLD	<LLD	6.47E-04	1.22E-03	2.04E-04	1.10E-04
I-134	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-144	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Te-123m	Ci	<LLD	<LLD	<LLD	<LLD	2.48E-06	3.56E-06	2.33E-04	<LLD
H-3	Ci	1.88E+01	3.96E-01	1.76E+01	2.60E+01	4.05E+02	7.04E+02	1.62E+02	1.70E+02
La-140	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sb-124	Ci	<LLD	<LLD	<LLD	<LLD	2.32E-05	7.95E-06	<LLD	<LLD
Ba-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ar-41	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-133	Ci	<LLD	<LLD	3.84E-06	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-135m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-91	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Te-125m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	4.07E-03	<LLD
I-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	9.90E-07	<LLD	<LLD

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2014  
LIQUID RELEASES  
UNIT 1 (Docket Numbers 50-456)  
CONTINUOUS MODE & BATCH MODE

Nuclides Released	Unit	Continuous Mode				Batch Mode			
		Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Te-132	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
W-187	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Te-129m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	1.88E+01	3.96E-01	1.76E+01	2.60E+01	4.05E+02	7.04E+02	1.62E+02	1.70E+02

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2014  
LIQUID RELEASES  
UNIT 2 (Docket Number 50-457)  
SUMMATION OF ALL RELEASES

Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Est. Total Error %
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**A. Fission and Activation Products**

1. Total Release	Ci	2.28E-03	3.52E-02	8.18E-03	1.74E-03	2.64E+00
2. Average Diluted Concentration	μCi/ml	1.38E-10	6.46E-09	5.48E-10	1.17E-10	
3. Percent of applicable limit	%	*	*	*	*	

**B. Tritium**

1. Total Release	Ci	4.23E+02	7.05E+02	1.80E+02	1.96E+02	5.85E+00
2. Average Diluted Concentration	μCi/ml	2.56E-05	1.29E-04	1.21E-05	1.32E-05	
3. % of Limit (1E-2 μCi/ml)	%	2.56E-01	1.29E+00	1.21E-01	1.32E-01	

**C. Dissolved Noble Gases**

1. Total Activity Released	Ci	<LLD	<LLD	3.84E-06	<LLD	2.64E+00
2. Average Diluted Concentration	μCi/ml	<LLD	<LLD	2.57E-13	<LLD	
3. % of Limit (2E-4 μCi/ml)	%	N/A	N/A	1.29E-07	N/A	

**D. Gross Alpha**

1. Total Release	Ci	<LLD	<LLD	<LLD	<LLD	1.47E+01
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<b>E. Volume of Waste Released</b> (prior to dilution)	liters	9.47E+05	1.41E+06	7.69E+05	5.84E+05
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<b>F. Volume of Dilution Water</b>	liters	1.65E+10	5.45E+09	1.49E+10	1.49E+10
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Note: LLD Values are included in Appendix A of this report.

Note: % Limit Values are included in Appendix C of this report.

\*This limit is equal to 10 times the concentration values in Appendix B, Table 2, Column 2 to 10CFR20.1001-2402, except for Dissolved Noble Gases. The limits for Dissolved Noble Gases are found the Braidwood Station ODCM, Table C-6 of ODCM Appendix C for Noble Gases.

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2014  
LIQUID RELEASES  
UNIT 2 (Docket Numbers 50-457)  
CONTINUOUS MODE & BATCH MODE

Nuclides Released	Unit	Continuous Mode				Batch Mode			
		Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Cr-51	Ci	<LLD	<LLD	<LLD	<LLD	1.56E-05	1.83E-03	<LLD	<LLD
Mn-54	Ci	<LLD	<LLD	<LLD	<LLD	2.06E-05	6.41E-04	6.97E-05	9.70E-06
Fe-55	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	5.72E-03	<LLD	6.59E-04
Co-57	Ci	<LLD	<LLD	<LLD	<LLD	4.54E-06	1.01E-04	1.16E-05	2.67E-06
Co-58	Ci	<LLD	<LLD	<LLD	<LLD	6.31E-04	1.15E-02	6.58E-04	1.96E-04
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	1.39E-04	<LLD	<LLD
Co-60	Ci	<LLD	<LLD	<LLD	<LLD	9.16E-04	1.10E-02	2.31E-03	7.34E-04
Ni-63	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	8.97E-04	5.80E-04	<LLD
Zn-65	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	8.68E-05	<LLD	<LLD
Nb-95	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	8.49E-04	1.49E-05	<LLD
Zr-95	Ci	<LLD	<LLD	<LLD	<LLD	7.05E-06	3.90E-04	<LLD	<LLD
Nb-97	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	3.38E-04	5.10E-05	1.30E-05
Zr-97	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110m	Ci	<LLD	<LLD	<LLD	<LLD	1.19E-05	2.42E-04	<LLD	9.50E-06
Sn-113	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	2.55E-04	<LLD	1.82E-06
Sb-125	Ci	<LLD	<LLD	<LLD	<LLD	6.47E-04	1.22E-03	2.04E-04	1.10E-04
I-134	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-144	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Te-123m	Ci	<LLD	<LLD	<LLD	<LLD	2.48E-06	3.56E-06	2.33E-04	<LLD
H-3	Ci	1.88E+01	3.96E-01	1.76E+01	2.60E+01	4.05E+02	7.04E+02	1.62E+02	1.70E+02
La-140	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sb-124	Ci	<LLD	<LLD	<LLD	<LLD	2.32E-05	7.95E-06	<LLD	<LLD
Ba-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ar-41	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-133	Ci	<LLD	<LLD	3.84E-06	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-135m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-91	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Te-125m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	4.07E-03	<LLD
I-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	9.90E-07	<LLD	<LLD

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2014  
LIQUID RELEASES  
UNIT 2 (Docket Numbers 50-456)  
CONTINUOUS MODE & BATCH MODE

Nuclides Released	Unit	Continuous Mode				Batch Mode			
		Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Te-132	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
W-187	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Te-129m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	1.88E+01	3.96E-01	1.76E+01	2.60E+01	4.05E+02	7.04E+02	1.62E+02	1.70E+02

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
SOLID RADIOACTIVE WASTE  
UNIT 1 AND 2 COMBINED (Docket Numbers 50-456 and 50-457)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS



BRAIDWOOD NUCLEAR POWER STATION  
 RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
 SOLID RADIOACTIVE WASTE  
 UNIT 1 AND 2 COMBINED (Docket Numbers 50-456 and 50-457)

A. Solid Waste Shipped Offsite for Burial or Disposal (Not irradiated fuel)

1. Types of Waste

Types of Waste	Total Quantity (m <sup>3</sup> )	Total Activity (Ci)	Period	Est. Total Error %
a. Spent resins, filter sludges, evaporator bottoms, etc	7.02E+01	2.02E+01	Jan - Dec 2014	25
b. Dry compressible waste, contaminated equip, etc	2.57E+02	2.02E+00	Jan - Dec 2014	25
c. Irradiated components, control rods, etc	0.00E+00	0.00E+00	Jan - Dec 2014	25
d. Other (oil, reverse osmosis reject water, soil, Lagoon sediment)	5.31E+02	1.38E-02	Jan - Dec 2014	25

2. Estimate of major nuclide composition (by waste type)

Major Nuclide Composition		%
a.	H-3	3.35E+01
	Ni-63	1.70E+01
	Cr-51	1.49E+01
	Co-58	9.91E+00
	Co-60	8.08E+00
	Fe-55	5.35E+00
	Fe-59	3.03E+00
	Sb-125	1.66E+00
	Ru-103	1.37E+00
	Cs-134	1.03E+00
	Cs-137	9.71E-01
	Mn-54	9.32E-01

BRAIDWOOD NUCLEAR POWER STATION  
 RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
 SOLID RADIOACTIVE WASTE  
 UNIT 1 AND 2 COMBINED (Docket Numbers 50-456 and 50-457)

2. Estimate of major nuclide composition (by waste type) (cont.)

Major Nuclide Composition		%
b.	Fe-55	2.98E+01
	Ni-63	2.59E+01
	Co-60	1.69E+01
	Co-58	1.16E+01
	H-3	7.23E+00
	Cs-137	2.70E+00
	Mn-54	1.45E+00
	Nb-95	7.50E-01
c.	N/A	N/A
d.	H-3	5.37E+01
	Ni-63	4.58E+01

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
4	Hittman Transportation	Energy Solutions Services - Gallaher Rd
7	Hittman Transportation	Energy Solutions-Bear Creek
3	Hittman Transportation	Energy Solutions-CWF
34	Visionary Solutions, LLC	Toxco Materials Management Center

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
SOLID RADIOACTIVE WASTE  
UNIT 1 AND 2 COMBINED (Docket Numbers 50-456 and 50-457)

SHIPMENT NUMBER	DATE SHIPPED	DESTINATION	WASTE CLASS	TYPE OF CONTAINER	REMARKS
RWS14-001	2/11/14	Energy Solutions-CWF, Clive, UT	AU	General Design	Resin Liner PO634200-3 in Cask 14-215H-1
RWS14-002	2/27/14	ES -Gallaher Rd, Kingston, TN	AU	General Design	8 B-25 Boxes of CP Resin
RWS14-003	3/13/14	ES-Gallaher Rd, Kingston, TN	AU	General Design	4 B-25s-CP Resin/Seavan ESUU200826-SGBD Resin
RWS14-004	4/24/14	ES-Bear Creek Rd, Oak Ridge, TN	AU	General Design	Seavans ESUU200341 & ESUU200732 of DAW
RWS14-005	4/30/14	ES-Gallaher Rd, Kingston, TN	AU	General Design	Seavans ESUU200251 & ESUU200524 (Resin/W. Lagoon Sludge)
RWS14-006	5/16/14	Energy Solutions-CWF, Clive, UT	AU	General Design	Resin Liner PO636588-16 in Cask 14-215H-8
RWS14-007	6/10/14	ES-Bear Creek Rd, Oak Ridge, TN	AU	General Design	DAW Seavans ESUU200301, ESUU200836
RWS14-008	7/9/14	ES-Bear Creek Rd, Oak Ridge, TN	AU	General Design	DAW Liner PO634199-13 in Cask 14-195H-8
RWS14-009	6/24/14	ES-Bear Creek Rd, Oak Ridge, TN	AU	General Design	Shielded Seavan ESUU600095 of DAW
RWS14-010	6/27/14	ES-Gallaher Rd, Kingston, TN	AU	General Design	Seavan ESUU20184(SGBD Rsn), 4 B-25 boxes Resin
RWS14-011	8/4/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002231 of E. Lagoon Sediment
RWS14-012	8/4/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU001800 of E. Lagoon Sediment
RWS14-013	8/6/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU001547 of E. Lagoon Sediment
RWS14-014	8/8/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002026 of E. Lagoon Sediment
RWS14-015	8/8/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002369 of E. Lagoon Sediment
RWS14-016	8/11/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002406 of E. Lagoon Sediment
RWS14-017	8/11/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002164 of E. Lagoon Sediment
RWS14-018	8/13/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002349 of E. Lagoon Sediment
RWS14-019	8/13/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU001750 of E. Lagoon Sediment
RWS14-020	8/15/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002371 of E. Lagoon Sediment
RWS14-021	8/18/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002369 of E. Lagoon Sediment
RWS14-022	8/20/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002406 of E. Lagoon Sediment
RWS14-023	8/15/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal WTPU000042 of E. Lagoon Sediment
RWS14-024	8/18/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002054 of E. Lagoon Sediment

SHIPMENT NUMBER	DATE SHIPPED	DESTINATION	WASTE CLASS	TYPE OF CONTAINER	REMARKS
RWS14-025	8/20/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU001566 of E. Lagoon Sediment
RWS14-026	8/22/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002068 of E. Lagoon Sediment
RWS14-027	9/10/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002378 of E. Lagoon Sediment
RWS14-028	9/10/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002231 of E. Lagoon Sediment
RWS14-029	9/12/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002054 of E. Lagoon Sediment
RWS14-030	9/12/14	ES-Bear Creek Rd, Oak Ridge, TN	AU	General Design	DAW Seavans ESUU200606, ESUU200707
RWS14-031	9/12/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002026 of E. Lagoon Sediment
RWS14-032	9/15/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002406 of E. Lagoon Sediment
RWS14-033	9/15/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002369 of E. Lagoon Sediment
RWS14-034	9/17/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002371 of E. Lagoon Sediment
RWS14-035	9/17/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU001800 of E. Lagoon Sediment
RWS14-036	9/19/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU001750 of E. Lagoon Sediment
RWS14-037	9/19/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002349 of E. Lagoon Sediment
RWS14-038	9/22/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU001247 of E. Lagoon Sediment
RWS14-039	9/22/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002068 of E. Lagoon Sediment
RWS14-040	9/24/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002378 of E. Lagoon Sediment
RWS14-041	9/24/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002231 of E. Lagoon Sediment
RWS14-042	9/26/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002369 of E. Lagoon Sediment
RWS14-043	9/26/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002406 of E. Lagoon Sediment
RWS14-044	9/29/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002026 of E. Lagoon Sediment
RWS14-045	9/29/14	Toxco MMC, Oak Ridge, TN	AU	General Design	Intermodal MHFU002054 of E. Lagoon Sediment
RWS14-046	9/30/14	Energy Solutions-CWF, Clive, UT	AU	General Design	Resin liner PO644962-13 in Cask 14-215H-3
RWS14-047	12/5/14	ES-Bear Creek Road, Oak Ridge, TN	AU	General Design	14 Legacy DAW drums in 14-215H-3 cask
RWS14-048	12/19/14	ES-Bear Creek Road, Oak Ridge, TN	AU	General Design	DAW seavans ESUU200612 and ESUU200825

BRAIDWOOD NUCLEAR POWER STATION  
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B. Irradiated Fuel Shipments (disposition)

No irradiated fuel shipments for January through December, 2014.

C. Changes to the Process Control Program (PCP)

The Process Control Program was revised in 2014. On 8/11/2014, RW-AA-100, Revision 10, "Process Control Program of Radioactive Wastes" was implemented. The substantial changes to the PCP allowed for concentration averaging and encapsulation of radioactive wastes in accordance with the NRC's Branch Technical Position of Concentration Averaging and Encapsulation-January 1995. Further, the revision allowed for blending of routine low level radioactive waste (LLRW) such as resins and filter media in accordance with the NRC's Branch Technical Position on Concentration Averaging and Encapsulation as further clarified in Commission Paper (SECY) 2010-0043. Predicted releases of radioactive materials and expected maximum exposures did not differ from the implementation of these changes to the PCP. The changes did not reduce the overall conformance of solidified waste product to the existing criteria for solid wastes. The revised PCP has been included in Attachment 2.

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)

Wind Direction and Stability Classes

# Braidwood Generating Station

Period of Record: January - March 2014

Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)

Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	2	0	0	0	0	2
ESE	0	2	1	0	0	0	3
SE	0	1	5	2	0	0	8
SSE	0	2	2	2	0	0	6
S	0	1	3	2	0	0	6
SSW	0	2	7	0	0	0	9
SW	0	0	0	1	0	0	1
WSW	0	0	3	4	0	0	7
W	0	2	5	1	0	0	8
WNW	0	6	16	0	0	0	22
NW	0	3	14	1	0	0	18
NNW	0	0	9	1	0	0	10
Variable	0	0	0	0	0	0	0
Total	0	21	65	14	0	0	100

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 3

# Braidwood Generating Station

Period of Record: January - March 2014

Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)

Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	2	0	0	0	2
NNE	0	0	0	0	0	0	0
NE	0	0	0	2	0	0	2
ENE	0	1	0	0	0	0	1
E	0	0	0	0	0	0	0
ESE	0	1	0	0	0	0	1
SE	0	3	3	0	0	0	6
SSE	0	0	3	2	0	0	5
S	0	1	2	1	0	0	4
SSW	0	1	1	0	0	1	3
SW	0	1	1	0	0	0	2
WSW	0	0	1	1	3	0	5
W	0	2	9	1	0	0	12
WNW	0	5	9	2	0	0	16
NW	0	6	4	0	0	0	10
NNW	0	2	3	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	0	23	38	9	3	1	74

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 3



# Braidwood Generating Station

Period of Record: January - March 2014  
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	2	0	0	0	2
NNE	0	0	4	0	0	0	4
NE	0	0	0	0	0	0	0
ENE	0	2	0	0	0	0	2
E	0	2	0	0	0	0	2
ESE	0	1	0	0	0	0	1
SE	0	0	0	1	0	0	1
SSE	0	0	2	2	0	0	4
S	0	1	3	2	0	0	6
SSW	0	1	2	2	2	0	7
SW	0	3	8	5	0	0	16
WSW	0	3	9	0	1	0	13
W	0	2	11	1	0	0	14
WNW	0	9	8	1	0	0	18
NW	0	7	5	1	0	0	13
NNW	0	4	8	1	0	0	13
Variable	0	0	0	0	0	0	0
Total	0	35	62	16	3	0	116

Hours of calm in this stability class: 0  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 3

# Braidwood Generating Station

Period of Record: January - March 2014  
 Stability Class - Neutral - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	14	34	15	0	0	63
NNE	1	7	21	3	0	0	32
NE	3	25	27	9	0	0	64
ENE	5	33	12	0	0	0	50
E	8	5	0	0	0	0	13
ESE	0	11	6	0	0	0	17
SE	0	13	14	2	0	0	29
SSE	1	39	24	17	0	0	81
S	0	15	28	42	14	0	99
SSW	0	5	10	17	10	0	42
SW	0	8	27	30	4	0	69
WSW	2	16	17	12	4	0	51
W	2	32	42	17	0	0	93
WNW	3	38	63	18	0	0	122
NW	6	36	18	6	0	0	66
NNW	2	25	39	6	0	0	72
Variable	0	0	0	0	0	0	0
Total	33	322	382	194	32	0	963

Hours of calm in this stability class: 0  
 Hours of missing wind measurements in this stability class: 35  
 Hours of missing stability measurements in all stability classes: 3

# Braidwood Generating Station

Period of Record: January - March 2014  
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	4	3	1	0	0	0	8
NNE	1	8	4	1	0	0	14
NE	6	8	2	7	0	0	23
ENE	7	10	0	0	0	0	17
E	9	10	0	0	0	0	19
ESE	7	10	2	0	0	0	19
SE	3	26	5	1	0	0	35
SSE	1	25	20	5	0	0	51
S	1	10	14	18	6	0	49
SSW	1	6	14	17	7	0	45
SW	1	19	31	4	0	0	55
WSW	5	47	11	2	1	0	66
W	11	44	7	1	0	0	63
WNW	19	59	29	2	0	0	109
NW	14	24	5	0	0	0	43
NNW	6	15	8	0	0	0	29
Variable	0	0	0	0	0	0	0
Total	96	324	153	58	14	0	645

Hours of calm in this stability class: 4  
 Hours of missing wind measurements in this stability class: 2  
 Hours of missing stability measurements in all stability classes: 3

# Braidwood Generating Station

Period of Record: January - March 2014

Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)

Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	4	0	0	0	0	0	4
NNE	3	1	0	0	0	0	4
NE	6	1	0	0	0	0	7
ENE	9	0	0	0	0	0	9
E	8	0	0	0	0	0	8
ESE	4	1	1	0	0	0	6
SE	4	2	0	0	0	0	6
SSE	3	2	0	0	0	0	5
S	1	2	0	0	0	0	3
SSW	0	1	1	0	0	0	2
SW	2	6	2	0	0	0	10
WSW	2	12	0	0	0	0	14
W	17	14	0	0	0	0	31
WNW	23	8	0	0	0	0	31
NW	9	0	0	0	0	0	9
NNW	5	1	0	0	0	0	6
Variable	1	0	0	0	0	0	1
Total	101	51	4	0	0	0	156

Hours of calm in this stability class: 8

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 3

# Braidwood Generating Station

Period of Record: January - March 2014  
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	0	0	0	0	0	2
NNE	3	0	0	0	0	0	3
NE	4	0	0	0	0	0	4
ENE	6	0	0	0	0	0	6
E	2	0	0	0	0	0	2
ESE	2	0	0	0	0	0	2
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	1	0	0	0	0	0	1
SW	3	0	0	0	0	0	3
WSW	0	2	0	0	0	0	2
W	5	0	0	0	0	0	5
WNW	13	0	0	0	0	0	13
NW	1	0	0	0	0	0	1
NNW	3	0	0	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	45	2	0	0	0	0	47

Hours of calm in this stability class: 7  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 3

# Braidwood Generating Station

Period of Record: January - March 2014

Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)

Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	1	0	0	0	1
ESE	0	2	1	1	0	0	4
SE	0	1	2	1	1	0	5
SSE	0	1	1	3	2	0	7
S	0	1	0	0	3	1	5
SSW	0	0	9	3	0	0	12
SW	0	0	0	1	0	0	1
WSW	0	0	1	3	2	0	6
W	0	1	1	1	1	0	4
WNW	0	1	5	10	9	0	25
NW	0	0	9	7	4	1	21
NNW	0	0	3	6	0	0	9
Variable	0	0	0	0	0	0	0
Total	0	7	33	36	22	2	100

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 3

# Braidwood Generating Station

Period of Record: January - March 2014  
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	2	0	0	0	2
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	2	0	2
ENE	0	0	0	0	0	0	0
E	0	1	0	0	0	0	1
ESE	0	0	1	0	0	0	1
SE	0	1	3	2	0	0	6
SSE	0	0	0	2	0	0	2
S	0	0	1	1	3	0	5
SSW	0	1	1	2	0	1	5
SW	0	0	1	1	0	0	2
WSW	0	0	0	1	1	3	5
W	0	0	4	4	0	0	8
WNW	0	3	6	4	4	1	18
NW	0	1	9	0	2	0	12
NNW	0	0	2	3	0	0	5
Variable	0	0	0	0	0	0	0
Total	0	7	30	20	12	5	74

Hours of calm in this stability class: 0  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 3

# Braidwood Generating Station

Period of Record: January - March 2014  
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	1	1	0	0	2
NNE	0	0	1	3	0	0	4
NE	0	0	0	0	0	0	0
ENE	0	1	1	0	0	0	2
E	0	0	2	0	0	0	2
ESE	0	0	1	0	0	0	1
SE	0	0	0	0	1	0	1
SSE	0	0	0	1	1	1	3
S	0	0	1	5	1	0	7
SSW	0	2	0	2	1	2	7
SW	0	1	4	4	5	0	14
WSW	0	1	6	4	0	1	12
W	0	3	6	6	0	0	15
WNW	0	2	10	1	5	0	18
NW	0	1	9	4	1	1	16
NNW	0	4	2	5	1	0	12
Variable	0	0	0	0	0	0	0
Total	0	15	44	36	16	5	116

Hours of calm in this stability class: 0  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 3



# Braidwood Generating Station

Period of Record: January - March 2014

Stability Class - Neutral - 199Ft-30Ft Delta-T (F)

Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	5	24	27	11	0	67
NNE	0	4	14	22	3	0	43
NE	0	8	17	25	10	0	60
ENE	2	14	21	13	0	0	50
E	2	8	6	2	0	0	18
ESE	1	0	9	5	3	0	18
SE	0	2	6	17	3	1	29
SSE	0	7	23	11	12	4	57
S	0	6	25	23	36	26	116
SSW	0	1	7	14	12	16	50
SW	0	2	18	17	19	8	64
WSW	3	5	21	8	10	9	56
W	1	14	19	21	11	6	72
WNW	0	8	23	38	46	16	131
NW	1	15	28	30	10	12	96
NNW	1	5	21	36	6	2	71
Variable	0	0	0	0	0	0	0
Total	11	104	282	309	192	100	998

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 3

# Braidwood Generating Station

Period of Record: January - March 2014

Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)

Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	4	10	2	0	0	17
NNE	0	4	6	3	2	0	15
NE	1	2	8	3	3	3	20
ENE	3	5	10	0	0	0	18
E	1	3	7	2	0	0	13
ESE	1	3	7	8	2	0	21
SE	0	4	11	15	0	0	30
SSE	2	3	16	15	3	2	41
S	0	0	11	26	13	9	59
SSW	1	2	5	14	16	20	58
SW	5	4	11	21	9	0	50
WSW	1	10	24	23	1	2	61
W	0	7	27	15	4	0	53
WNW	0	4	32	58	11	1	106
NW	2	4	25	19	3	1	54
NNW	1	7	19	8	0	0	35
Variable	0	0	0	0	0	0	0
Total	19	66	229	232	67	38	651

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 3

# Braidwood Generating Station

Period of Record: January - March 2014

Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)

Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	5	0	0	0	6
NNE	0	3	5	0	0	0	8
NE	1	3	5	0	0	0	9
ENE	1	4	5	0	0	0	10
E	0	2	2	0	0	0	4
ESE	0	1	1	0	0	0	2
SE	0	2	2	4	0	0	8
SSE	0	5	4	0	0	0	9
S	2	0	5	0	0	0	7
SSW	0	0	0	1	0	0	1
SW	3	1	2	3	0	0	9
WSW	0	4	3	7	0	0	14
W	1	1	6	7	0	0	15
WNW	2	2	11	9	0	0	24
NW	0	8	20	2	0	0	30
NNW	0	1	7	0	0	0	8
Variable	0	0	0	0	0	0	0
Total	10	38	83	33	0	0	164

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 3

# Braidwood Generating Station

Period of Record: January - March 2014

Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)

Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	1	0	0	0	3
NNE	1	3	1	0	0	0	5
NE	1	1	1	0	0	0	3
ENE	1	1	2	0	0	0	4
E	0	0	0	0	0	0	0
ESE	0	2	0	0	0	0	2
SE	1	1	0	0	0	0	2
SSE	1	3	0	0	0	0	4
S	0	3	0	0	0	0	3
SSW	0	2	0	0	0	0	2
SW	2	0	0	0	0	0	2
WSW	0	0	0	1	0	0	1
W	0	0	2	1	0	0	3
WNW	2	1	2	0	0	0	5
NW	0	0	1	0	0	0	1
NNW	0	1	9	2	0	0	12
Variable	0	0	0	0	0	0	0
Total	9	20	19	4	0	0	52

Hours of calm in this stability class: 2

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 3

# Braidwood Generating Station

Period of Record: April - June 2014

Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)  
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	3	0	0	0	3
NNE	0	1	4	0	0	0	5
NE	0	11	2	0	0	0	13
ENE	2	19	6	0	0	0	27
E	2	11	10	0	0	0	23
ESE	0	6	1	1	0	0	8
SE	1	10	5	3	0	0	19
SSE	0	13	6	8	0	0	27
S	0	8	16	4	0	0	28
SSW	0	3	10	1	0	0	14
SW	0	0	12	2	0	0	14
WSW	0	0	5	7	2	0	14
W	0	6	7	4	0	0	17
WNW	0	5	9	0	0	0	14
NW	0	6	6	0	0	0	12
NNW	0	2	16	0	0	0	18
Variable	0	0	0	0	0	0	0
Total	5	101	118	30	2	0	256

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0

# Braidwood Generating Station

Period of Record: April - June 2014

Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)

Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	0	0	0	0	1
NNE	0	2	0	0	0	0	2
NE	0	5	0	0	0	0	5
ENE	0	4	2	0	0	0	6
E	1	2	1	0	0	0	4
ESE	0	2	0	0	0	0	2
SE	0	4	2	1	0	0	7
SSE	1	6	4	0	0	0	11
S	0	6	7	1	0	0	14
SSW	0	2	7	2	0	0	11
SW	0	4	6	1	0	0	11
WSW	0	2	4	2	0	0	8
W	1	7	1	3	0	0	12
WNW	0	7	0	0	0	0	7
NW	0	5	2	0	0	0	7
NNW	2	2	5	1	0	0	10
Variable	0	0	0	0	0	0	0
Total	5	61	41	11	0	0	118

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0

# Braidwood Generating Station

Period of Record: April - June 2014

Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)

Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	5	1	0	0	0	6
NNE	0	2	4	0	0	0	6
NE	1	4	6	0	0	0	11
ENE	1	7	5	0	0	0	13
E	0	2	2	0	0	0	4
ESE	0	0	1	0	0	0	1
SE	0	6	1	2	0	0	9
SSE	0	4	8	1	0	0	13
S	0	7	3	1	0	0	11
SSW	0	4	2	5	3	0	14
SW	0	3	5	0	0	0	8
WSW	0	3	4	0	1	0	8
W	0	0	2	0	0	0	2
WNW	0	5	2	0	0	0	7
NW	0	6	1	0	0	0	7
NNW	0	1	2	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	2	59	49	9	4	0	123

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0

# Braidwood Generating Station

Period of Record: April - June 2014

Stability Class - Neutral - 199Ft-30Ft Delta-T (F)

Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	12	12	0	0	0	26
NNE	5	17	18	0	0	0	40
NE	7	48	35	0	0	0	90
ENE	10	49	24	0	0	0	83
E	8	13	18	0	0	0	39
ESE	2	9	3	0	0	0	14
SE	1	17	4	1	0	0	23
SSE	0	17	12	2	0	0	31
S	1	11	34	8	0	0	54
SSW	0	8	22	21	5	2	58
SW	0	12	38	18	1	0	69
WSW	3	14	31	8	3	0	59
W	5	16	20	12	0	0	53
WNW	4	18	6	0	0	0	28
NW	6	13	4	0	0	0	23
NNW	2	15	27	2	0	0	46
Variable	0	0	0	0	0	0	0
Total	56	289	308	72	9	2	736

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0



# Braidwood Generating Station

Period of Record: April - June 2014

Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)

Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	7	7	3	0	0	0	17
NNE	9	13	3	1	0	0	26
NE	20	29	5	1	0	0	55
ENE	30	32	6	0	0	0	68
E	24	28	8	0	0	0	60
ESE	7	34	10	0	0	0	51
SE	3	48	26	0	0	0	77
SSE	3	53	18	2	0	0	76
S	4	30	53	22	0	0	109
SSW	2	6	26	15	5	0	54
SW	2	11	17	2	0	0	32
WSW	9	23	5	1	0	0	38
W	8	16	1	2	0	0	27
WNW	12	14	1	0	0	0	27
NW	10	17	2	0	0	0	29
NNW	3	20	6	0	0	0	29
Variable	0	0	0	0	0	0	0
Total	153	381	190	46	5	0	775

Hours of calm in this stability class: 8

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0

# Braidwood Generating Station

Period of Record: April - June 2014

Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)

Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	1	0	0	0	0	2
NNE	3	1	0	0	0	0	4
NE	1	0	0	0	0	0	1
ENE	11	0	0	0	0	0	11
E	11	0	0	0	0	0	11
ESE	10	1	0	0	0	0	11
SE	1	3	0	0	0	0	4
SSE	2	6	0	0	0	0	8
S	1	3	0	0	0	0	4
SSW	1	9	0	0	0	0	10
SW	1	0	0	0	0	0	1
WSW	3	3	0	0	0	0	6
W	8	5	0	0	0	0	13
WNW	9	1	0	0	0	0	10
NW	7	0	0	0	0	0	7
NNW	1	2	0	0	0	0	3
Variable	1	0	0	0	0	0	1
Total	72	35	0	0	0	0	107

Hours of calm in this stability class: 12

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0

# Braidwood Generating Station

Period of Record: April - June 2014

Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)

Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	0	0	0	0	0	1
NNE	0	0	0	0	0	0	0
NE	1	0	0	0	0	0	1
ENE	6	0	0	0	0	0	6
E	4	0	0	0	0	0	4
ESE	1	1	0	0	0	0	2
SE	3	0	0	0	0	0	3
SSE	1	0	0	0	0	0	1
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	5	1	0	0	0	0	6
WNW	2	0	0	0	0	0	2
NW	2	0	0	0	0	0	2
NNW	2	0	0	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	28	2	0	0	0	0	30

Hours of calm in this stability class: 19

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0

# Braidwood Generating Station

Period of Record: April - June 2014

Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)  
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	0	1	0	0	2
NNE	0	0	1	5	0	0	6
NE	0	1	6	1	0	0	8
ENE	0	9	10	6	0	0	25
E	1	10	6	6	3	0	26
ESE	0	6	2	0	2	1	11
SE	0	7	5	2	0	0	14
SSE	0	3	9	2	13	0	27
S	0	6	8	10	2	1	27
SSW	0	2	8	10	0	1	21
SW	0	0	5	2	1	0	8
WSW	0	0	4	5	3	0	12
W	0	0	9	2	5	6	22
WNW	0	1	6	4	3	0	14
NW	0	2	5	10	1	0	18
NNW	0	0	3	12	0	0	15
Variable	0	0	0	0	0	0	0
Total	1	48	87	78	33	9	256

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0

# Braidwood Generating Station

Period of Record: April - June 2014

Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)

Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	2	0	0	0	0	3
NNE	0	3	0	0	0	0	3
NE	0	1	2	0	0	0	3
ENE	0	3	3	1	0	0	7
E	0	2	0	2	0	0	4
ESE	0	0	3	0	0	0	3
SE	0	2	4	0	2	0	8
SSE	0	1	1	2	0	0	4
S	1	5	5	3	0	1	15
SSW	0	1	6	5	1	0	13
SW	0	3	2	5	1	0	11
WSW	0	0	5	2	1	0	8
W	0	2	4	2	2	0	10
WNW	0	4	6	0	1	0	11
NW	0	3	2	2	0	0	7
NNW	0	0	7	1	0	0	8
Variable	0	0	0	0	0	0	0
Total	2	32	50	25	8	1	118

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0

# Braidwood Generating Station

Period of Record: April - June 2014

Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)

Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	0	1	0	0	3
NNE	0	1	2	1	0	0	4
NE	0	1	3	4	0	0	8
ENE	0	5	4	4	0	0	13
E	0	4	3	1	0	1	9
ESE	0	1	0	0	2	0	3
SE	0	0	4	1	2	0	7
SSE	0	2	5	3	1	0	11
S	0	2	5	1	3	0	11
SSW	0	2	5	1	3	4	15
SW	0	1	3	3	1	0	8
WSW	0	2	5	2	0	0	9
W	0	0	2	0	1	1	4
WNW	0	2	2	1	0	0	5
NW	0	2	6	1	0	0	9
NNW	0	1	2	1	0	0	4
Variable	0	0	0	0	0	0	0
Total	0	28	51	25	13	6	123

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0

# Braidwood Generating Station

Period of Record: April - June 2014

Stability Class - Neutral - 199Ft-30Ft Delta-T (F)

Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	12	6	9	0	0	27
NNE	2	4	9	8	0	0	23
NE	2	4	31	37	2	0	76
ENE	4	21	36	27	1	0	89
E	0	15	19	10	4	0	48
ESE	0	3	4	2	10	3	22
SE	0	3	9	3	3	0	18
SSE	0	4	11	12	5	0	32
S	1	1	13	22	8	0	45
SSW	0	0	8	18	19	11	56
SW	0	5	20	28	18	3	74
WSW	1	5	15	24	8	0	53
W	0	9	9	18	3	6	45
WNW	2	12	12	19	8	4	57
NW	2	8	11	5	0	0	26
NNW	0	10	10	19	6	0	45
Variable	0	0	0	0	0	0	0
Total	14	116	223	261	95	27	736

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0

# Braidwood Generating Station

Period of Record: April - June 2014

Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)

Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	4	7	3	0	0	14
NNE	1	6	10	5	3	0	25
NE	0	6	21	7	0	0	34
ENE	1	23	37	16	2	0	79
E	1	12	33	9	9	1	65
ESE	0	1	5	18	7	1	32
SE	0	3	26	30	7	0	66
SSE	1	1	22	43	8	0	75
S	1	4	27	47	20	4	103
SSW	1	0	14	35	25	12	87
SW	0	3	9	16	4	1	33
WSW	3	8	18	10	0	0	39
W	1	5	18	5	4	0	33
WNW	0	3	14	9	0	0	26
NW	0	9	23	9	0	0	41
NNW	0	3	22	6	0	0	31
Variable	0	0	0	0	0	0	0
Total	10	91	306	268	89	19	783

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0



# Braidwood Generating Station

Period of Record: April - June 2014

Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)

Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	1	1	0	0	2
NNE	0	1	3	0	0	0	4
NE	1	3	0	0	0	0	4
ENE	0	1	4	0	0	0	5
E	3	3	6	1	0	0	13
ESE	0	1	5	6	0	0	12
SE	1	1	4	1	0	0	7
SSE	0	0	3	2	0	0	5
S	0	0	3	2	0	0	5
SSW	0	1	5	6	0	0	12
SW	0	3	1	2	0	0	6
WSW	0	0	1	0	0	0	1
W	1	2	5	1	0	0	9
WNW	0	5	8	3	0	0	16
NW	0	2	7	1	0	0	10
NNW	0	2	5	1	0	0	8
Variable	0	0	0	0	0	0	0
Total	6	25	61	27	0	0	119

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0

# Braidwood Generating Station

Period of Record: April - June 2014

Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)  
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	2	1	0	0	0	4
NNE	0	1	1	0	0	0	2
NE	0	0	1	0	0	0	1
ENE	1	1	0	0	0	0	2
E	2	0	0	1	0	0	3
ESE	0	0	2	3	0	0	5
SE	0	2	6	0	0	0	8
SSE	1	3	1	0	0	0	5
S	3	0	0	0	0	0	3
SSW	0	1	0	0	0	0	1
SW	2	0	0	0	0	0	2
WSW	0	1	0	0	0	0	1
W	0	0	0	0	0	0	0
WNW	1	1	1	0	0	0	3
NW	0	1	3	0	0	0	4
NNW	1	1	3	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	12	14	19	4	0	0	49

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0

# Braidwood Generating Station

Period of Record: July - September 2014

Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)

Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	3	6	0	0	0	9
NNE	1	4	4	0	0	0	9
NE	1	21	3	0	0	0	25
ENE	1	24	0	0	0	0	25
E	1	19	0	0	0	0	20
ESE	5	9	2	0	0	0	16
SE	6	15	0	0	0	0	21
SSE	4	21	4	0	0	0	29
S	3	25	7	0	0	0	35
SSW	2	17	16	8	0	0	43
SW	0	11	13	6	0	0	30
WSW	2	16	13	2	0	0	33
W	4	20	13	0	0	0	37
WNW	0	26	14	0	0	0	40
NW	2	23	6	0	0	0	31
NNW	4	5	1	0	0	0	10
Variable	0	0	0	0	0	0	0
Total	36	259	102	16	0	0	413

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 4

Hours of missing stability measurements in all stability classes: 2

# Braidwood Generating Station

Period of Record: July - September 2014

Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)

Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	5	2	0	0	0	7
NNE	1	4	1	0	0	0	6
NE	1	3	1	0	0	0	5
ENE	5	2	0	0	0	0	7
E	3	3	0	0	0	0	6
ESE	1	2	0	0	0	0	3
SE	5	0	0	0	0	0	5
SSE	0	3	1	0	0	0	4
S	3	6	0	0	0	0	9
SSW	0	4	7	1	0	0	12
SW	1	7	5	4	0	0	17
WSW	1	4	2	0	0	0	7
W	1	4	3	0	0	0	8
WNW	3	9	2	0	0	0	14
NW	3	1	2	0	0	0	6
NNW	0	5	4	0	0	0	9
Variable	0	0	0	0	0	0	0
Total	28	62	30	5	0	0	125

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 3

Hours of missing stability measurements in all stability classes: 2

# Braidwood Generating Station

Period of Record: July - September 2014

Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)

Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	3	0	0	0	0	5
NNE	0	8	1	0	0	0	9
NE	0	4	1	0	0	0	5
ENE	4	3	0	0	0	0	7
E	1	0	0	0	0	0	1
ESE	1	1	0	0	0	0	2
SE	2	1	0	0	0	0	3
SSE	2	4	0	0	0	0	6
S	0	4	1	0	0	0	5
SSW	0	4	4	1	1	0	10
SW	0	1	5	1	0	0	7
WSW	0	4	3	0	0	0	7
W	1	4	2	0	0	0	7
WNW	2	7	1	0	0	0	10
NW	3	4	3	0	0	0	10
NNW	3	7	5	0	0	0	15
Variable	0	0	0	0	0	0	0
Total	21	59	26	2	1	0	109

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 2

Hours of missing stability measurements in all stability classes: 2

# Braidwood Generating Station

Period of Record: July - September 2014  
 Stability Class - Neutral - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	13	27	6	0	0	0	46
NNE	6	26	9	0	0	0	41
NE	13	28	6	0	0	0	47
ENE	16	11	0	0	0	0	27
E	9	6	0	0	0	0	15
ESE	10	4	0	0	0	0	14
SE	5	10	2	0	0	0	17
SSE	3	22	5	0	0	0	30
S	2	23	24	3	0	0	52
SSW	1	6	30	8	0	0	45
SW	2	20	25	9	0	0	56
WSW	5	19	2	1	0	0	27
W	8	19	6	1	0	0	34
WNW	11	22	0	0	0	0	33
NW	5	17	9	0	0	0	31
NNW	9	26	15	1	0	0	51
Variable	0	0	0	0	0	0	0
Total	118	286	139	23	0	0	566

Hours of calm in this stability class: 1  
 Hours of missing wind measurements in this stability class: 10  
 Hours of missing stability measurements in all stability classes: 2

# Braidwood Generating Station

Period of Record: July - September 2014  
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	14	1	0	0	0	18
NNE	9	6	3	0	0	0	18
NE	10	9	0	0	0	0	19
ENE	44	4	0	0	0	0	48
E	40	3	0	0	0	0	43
ESE	21	8	0	0	0	0	29
SE	14	34	0	0	0	0	48
SSE	27	52	3	0	0	0	82
S	7	46	21	0	0	0	74
SSW	4	13	7	1	0	0	25
SW	1	14	10	0	0	0	25
WSW	8	12	1	0	0	0	21
W	16	12	1	0	0	0	29
WNW	27	12	1	0	0	0	40
NW	11	0	0	0	0	0	11
NNW	9	7	1	0	0	0	17
Variable	0	0	0	0	0	0	0
Total	251	246	49	1	0	0	547

Hours of calm in this stability class: 8  
 Hours of missing wind measurements in this stability class: 6  
 Hours of missing stability measurements in all stability classes: 2

# Braidwood Generating Station

Period of Record: July - September 2014  
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	6	0	0	0	0	0	6
NNE	1	1	0	0	0	0	2
NE	5	0	0	0	0	0	5
ENE	12	0	0	0	0	0	12
E	35	1	0	0	0	0	36
ESE	35	5	0	0	0	0	40
SE	14	3	0	0	0	0	17
SSE	8	2	0	0	0	0	10
S	4	0	0	0	0	0	4
SSW	6	2	0	0	0	0	8
SW	9	2	0	0	0	0	11
WSW	20	5	0	0	0	0	25
W	26	2	0	0	0	0	28
WNW	12	0	0	0	0	0	12
NW	1	1	0	0	0	0	2
NNW	5	0	0	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	199	24	0	0	0	0	223

Hours of calm in this stability class: 24  
 Hours of missing wind measurements in this stability class: 3  
 Hours of missing stability measurements in all stability classes: 2



# Braidwood Generating Station

Period of Record: July - September 2014  
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	0	0	0	0	0	3
NNE	3	0	0	0	0	0	3
NE	11	0	0	0	0	0	11
ENE	13	0	0	0	0	0	13
E	17	0	0	0	0	0	17
ESE	6	0	0	0	0	0	6
SE	3	0	0	0	0	0	3
SSE	0	0	0	0	0	0	0
S	1	0	0	0	0	0	1
SSW	0	0	0	0	0	0	0
SW	2	0	0	0	0	0	2
WSW	8	0	0	0	0	0	8
W	13	0	0	0	0	0	13
WNW	4	0	0	0	0	0	4
NW	2	0	0	0	0	0	2
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	86	0	0	0	0	0	86

Hours of calm in this stability class: 76  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 2

# Braidwood Generating Station

Period of Record: July - September 2014

Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)

Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	3	2	0	0	6
NNE	1	3	0	1	0	0	5
NE	1	10	11	4	1	0	27
ENE	0	13	12	0	0	0	25
E	1	10	11	2	0	0	24
ESE	3	8	3	5	0	0	19
SE	1	11	6	1	0	0	19
SSE	2	13	7	2	0	0	24
S	2	10	14	4	1	0	31
SSW	1	14	15	10	2	0	42
SW	0	12	9	11	3	0	35
WSW	2	5	10	8	1	0	26
W	4	16	15	6	0	0	41
WNW	0	12	19	19	3	0	53
NW	1	7	14	8	0	0	30
NNW	1	4	3	1	0	0	9
Variable	0	0	0	0	0	0	0
Total	20	149	152	84	11	0	416

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 1

Hours of missing stability measurements in all stability classes: 2

# Braidwood Generating Station

Period of Record: July - September 2014

Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)

Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	5	0	0	0	7
NNE	0	2	2	0	0	0	4
NE	0	0	3	1	1	0	5
ENE	2	4	2	0	0	0	8
E	1	3	2	0	0	0	6
ESE	2	1	1	0	0	0	4
SE	1	2	0	0	0	0	3
SSE	0	3	2	0	0	0	5
S	1	2	4	1	0	0	8
SSW	2	3	2	4	0	0	11
SW	0	5	5	7	2	0	19
WSW	0	4	2	0	0	0	6
W	1	6	1	1	0	0	9
WNW	1	7	3	4	1	0	16
NW	0	1	0	2	1	0	4
NNW	0	4	8	1	0	0	13
Variable	0	0	0	0	0	0	0
Total	11	49	42	21	5	0	128

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 2

# Braidwood Generating Station

Period of Record: July - September 2014

Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)

Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	3	0	0	0	5
NNE	1	5	0	0	0	0	6
NE	1	3	2	2	0	0	8
ENE	0	5	1	0	0	0	6
E	0	2	1	0	0	0	3
ESE	0	2	0	0	0	0	2
SE	1	2	0	0	0	0	3
SSE	1	1	3	0	0	0	5
S	1	2	3	1	0	0	7
SSW	0	1	2	1	1	1	6
SW	0	1	3	3	0	0	7
WSW	0	2	2	3	0	0	7
W	0	4	1	3	1	0	9
WNW	2	5	4	1	0	0	12
NW	3	5	2	2	1	0	13
NNW	0	5	5	2	0	0	12
Variable	0	0	0	0	0	0	0
Total	10	47	32	18	3	1	111

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 2

# Braidwood Generating Station

Period of Record: July - September 2014

Stability Class - Neutral - 199Ft-30Ft Delta-T (F)

Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	4	16	13	3	0	0	36
NNE	3	14	15	3	0	0	35
NE	6	8	24	13	0	0	51
ENE	5	14	15	0	0	0	34
E	0	8	9	0	0	0	17
ESE	4	2	5	0	0	0	11
SE	3	6	6	0	1	0	16
SSE	2	5	11	6	1	0	25
S	0	6	23	20	3	0	52
SSW	0	3	4	23	13	0	43
SW	1	8	14	29	6	1	59
WSW	2	9	21	4	1	0	37
W	1	10	9	6	2	1	29
WNW	2	5	20	6	0	0	33
NW	3	6	16	16	3	0	44
NNW	5	10	27	12	0	1	55
Variable	0	0	0	0	0	0	0
Total	41	130	232	141	30	3	577

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 2

# Braidwood Generating Station

Period of Record: July - September 2014

Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)

Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	3	14	1	0	0	20
NNE	1	6	6	2	0	0	15
NE	1	6	9	3	0	0	19
ENE	1	14	22	1	0	0	38
E	1	15	39	0	0	0	55
ESE	0	3	12	0	0	0	15
SE	0	9	21	5	0	0	35
SSE	0	10	35	11	0	0	56
S	0	10	53	34	0	0	97
SSW	1	13	22	22	2	0	60
SW	0	1	19	9	1	0	30
WSW	0	6	12	2	0	0	20
W	0	3	13	4	0	0	20
WNW	0	5	23	7	1	0	36
NW	2	8	16	2	0	0	28
NNW	0	5	11	1	0	0	17
Variable	0	0	0	0	0	0	0
Total	9	117	327	104	4	0	561

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 2

# Braidwood Generating Station

Period of Record: July - September 2014  
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	2	6	0	0	0	9
NNE	1	2	4	0	0	0	7
NE	2	1	0	0	0	0	3
ENE	2	5	2	0	0	0	9
E	1	3	9	1	0	0	14
ESE	3	3	16	11	0	0	33
SE	0	8	24	5	0	0	37
SSE	0	9	9	0	0	0	18
S	2	7	6	0	0	0	15
SSW	0	4	4	0	0	0	8
SW	0	8	3	0	0	0	11
WSW	1	6	8	1	0	0	16
W	2	5	14	0	0	0	21
WNW	0	6	18	0	0	0	24
NW	1	9	8	0	0	0	18
NNW	1	3	3	0	0	0	7
Variable	0	0	0	0	0	0	0
Total	17	81	134	18	0	0	250

Hours of calm in this stability class: 0  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 2

# Braidwood Generating Station

Period of Record: July - September 2014

Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)

Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	0	2	0	0	0	3
NNE	1	1	0	0	0	0	2
NE	0	2	1	0	0	0	3
ENE	0	3	1	0	0	0	4
E	0	2	3	1	0	0	6
ESE	0	3	7	5	0	0	15
SE	2	12	5	0	0	0	19
SSE	4	12	0	0	0	0	16
S	2	9	0	0	0	0	11
SSW	9	8	1	0	0	0	18
SW	6	5	0	0	0	0	11
WSW	4	6	5	0	0	0	15
W	1	2	5	0	0	0	8
WNW	2	2	4	0	0	0	8
NW	0	9	4	0	0	0	13
NNW	1	3	5	0	0	0	9
Variable	0	0	0	0	0	0	0
Total	33	79	43	6	0	0	161

Hours of calm in this stability class: 1

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 2



# Braidwood Generating Station

Period of Record: October - December 2014  
 Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	1	0	0	0	1
NNE	0	0	1	0	0	0	1
NE	0	2	2	0	0	0	4
ENE	0	3	0	0	0	0	3
E	0	1	0	0	0	0	1
ESE	0	1	0	0	0	0	1
SE	0	5	0	0	0	0	5
SSE	0	0	1	0	0	0	1
S	0	0	3	0	0	0	3
SSW	0	0	1	0	0	0	1
SW	0	0	1	0	0	0	1
WSW	0	0	7	0	0	0	7
W	0	0	8	14	0	0	22
WNW	0	5	8	2	0	0	15
NW	0	6	5	0	0	0	11
NNW	0	0	1	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	0	23	39	16	0	0	78

Hours of calm in this stability class: 0  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 5

# Braidwood Generating Station

Period of Record: October - December 2014  
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	2	0	1	0	3
NNE	0	1	1	0	0	0	2
NE	1	1	0	0	0	0	2
ENE	1	0	0	0	0	0	1
E	1	0	0	0	0	0	1
ESE	0	1	0	0	0	0	1
SE	0	3	0	0	0	0	3
SSE	0	0	2	1	0	0	3
S	0	0	2	1	0	0	3
SSW	0	1	2	2	0	0	5
SW	0	2	6	2	0	0	10
WSW	0	0	2	1	0	0	3
W	0	3	3	1	0	0	7
WNW	0	4	2	0	0	0	6
NW	0	0	1	0	0	0	1
NNW	0	0	2	0	2	0	4
Variable	0	0	0	0	0	0	0
Total	3	16	25	8	3	0	55

Hours of calm in this stability class: 0  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 5

# Braidwood Generating Station

Period of Record: October - December 2014  
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	3	0	0	0	4
NNE	0	0	1	0	0	0	1
NE	0	3	0	0	0	0	3
ENE	0	2	0	0	0	0	2
E	1	1	0	0	0	0	2
ESE	0	1	1	0	0	0	2
SE	1	0	0	0	0	0	1
SSE	0	0	3	1	0	0	4
S	0	2	0	0	0	0	2
SSW	0	6	4	4	0	0	14
SW	0	1	3	5	0	0	9
WSW	0	2	3	0	0	0	5
W	0	8	9	2	0	0	19
WNW	0	5	5	2	0	0	12
NW	0	2	5	0	0	0	7
NNW	0	1	1	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	2	35	38	14	0	0	89

Hours of calm in this stability class: 0  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 5

# Braidwood Generating Station

Period of Record: October - December 2014  
 Stability Class - Neutral - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	4	21	20	10	2	0	57
NNE	2	22	9	0	0	0	33
NE	6	20	1	0	0	0	27
ENE	4	4	0	0	0	0	8
E	13	11	0	0	0	0	24
ESE	3	31	4	0	0	0	38
SE	1	16	22	0	0	0	39
SSE	1	42	30	0	0	0	73
S	1	27	76	6	0	0	110
SSW	0	13	27	36	5	0	81
SW	3	30	58	18	0	0	109
WSW	3	26	16	5	2	0	52
W	6	32	60	32	2	0	132
WNW	15	87	77	9	0	0	188
NW	12	43	22	1	0	0	78
NNW	4	52	36	18	0	0	110
Variable	0	0	0	0	0	0	0
Total	78	477	458	135	11	0	1159

Hours of calm in this stability class: 0  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 5

# Braidwood Generating Station

Period of Record: October - December 2014  
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	8	6	1	0	0	0	15
NNE	5	16	0	0	0	0	21
NE	6	1	0	0	0	0	7
ENE	13	0	0	0	0	0	13
E	19	1	0	0	0	0	20
ESE	10	10	3	0	0	0	23
SE	2	19	12	0	0	0	33
SSE	4	22	25	0	0	0	51
S	2	38	68	5	0	0	113
SSW	4	12	36	18	1	0	71
SW	4	34	16	0	0	0	54
WSW	4	44	8	0	0	0	56
W	21	33	10	0	0	0	64
WNW	22	35	1	0	0	0	58
NW	8	4	0	0	0	0	12
NNW	13	4	1	0	0	0	18
Variable	0	0	0	0	0	0	0
Total	145	279	181	23	1	0	629

Hours of calm in this stability class: 5  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 5

# Braidwood Generating Station

Period of Record: October - December 2014  
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	7	0	0	0	0	0	7
NNE	4	1	0	0	0	0	5
NE	3	0	0	0	0	0	3
ENE	3	0	0	0	0	0	3
E	17	0	0	0	0	0	17
ESE	12	3	0	0	0	0	15
SE	0	0	0	0	0	0	0
SSE	2	0	0	0	0	0	2
S	1	0	0	0	0	0	1
SSW	1	4	1	0	0	0	6
SW	0	4	0	0	0	0	4
WSW	4	17	0	0	0	0	21
W	25	8	0	0	0	0	33
WNW	8	0	0	0	0	0	8
NW	6	1	0	0	0	0	7
NNW	3	0	0	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	96	38	1	0	0	0	135

Hours of calm in this stability class: 9  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 5

# Braidwood Generating Station

Period of Record: October - December 2014  
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	0	0	0	0	0	2
NNE	7	0	0	0	0	0	7
NE	0	0	0	0	0	0	0
ENE	3	0	0	0	0	0	3
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	1	0	0	0	0	0	1
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	3	0	0	0	0	0	3
W	3	0	0	0	0	0	3
WNW	4	0	0	0	0	0	4
NW	4	0	0	0	0	0	4
NNW	2	0	0	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	29	0	0	0	0	0	29

Hours of calm in this stability class: 15  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 5

# Braidwood Generating Station

Period of Record: October - December 2014  
 Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	2	0	0	2
NE	0	0	1	1	0	0	2
ENE	0	4	1	0	0	0	5
E	0	1	0	0	0	0	1
ESE	0	0	0	0	0	0	0
SE	0	0	6	0	0	0	6
SSE	0	0	0	1	0	0	1
S	0	0	0	2	0	0	2
SSW	0	0	1	1	0	0	2
SW	0	0	0	1	0	0	1
WSW	0	0	0	4	0	0	4
W	0	0	0	8	13	0	21
WNW	0	0	4	6	7	2	19
NW	0	0	7	4	0	0	11
NNW	0	0	1	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	0	5	21	30	20	2	78

Hours of calm in this stability class: 0  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 5



# Braidwood Generating Station

Period of Record: October - December 2014  
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	1	0	0	1	2
NNE	0	0	2	1	0	0	3
NE	0	1	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	1	0	0	0	0	0	1
ESE	0	1	1	0	0	0	2
SE	0	0	2	1	0	0	3
SSE	0	0	0	0	1	0	1
S	0	1	0	2	3	0	6
SSW	0	0	1	1	1	1	4
SW	0	0	2	4	2	0	8
WSW	0	0	2	3	0	0	5
W	0	1	3	1	2	0	7
WNW	0	1	2	1	3	0	7
NW	0	0	0	1	0	0	1
NNW	0	0	2	0	0	2	4
Variable	0	0	0	0	0	0	0
Total	1	5	18	15	12	4	55

Hours of calm in this stability class: 0  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 5

# Braidwood Generating Station

Period of Record: October - December 2014  
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	3	1	0	0	4
NNE	0	0	0	1	0	0	1
NE	0	1	2	0	0	0	3
ENE	0	2	0	0	0	0	2
E	0	0	0	0	0	0	0
ESE	1	0	1	1	0	0	3
SE	0	1	0	0	0	0	1
SSE	0	1	0	3	0	0	4
S	0	2	1	0	0	1	4
SSW	0	0	5	0	3	1	9
SW	0	4	3	4	2	0	13
WSW	0	1	0	1	0	0	2
W	0	5	3	5	1	0	14
WNW	0	5	1	7	5	2	20
NW	0	0	0	6	2	0	8
NNW	0	1	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	1	23	19	29	13	4	89

Hours of calm in this stability class: 0  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 5

# Braidwood Generating Station

Period of Record: October - December 2014  
 Stability Class - Neutral - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	4	19	13	7	5	50
NNE	1	5	20	4	0	0	30
NE	1	4	19	2	0	0	26
ENE	0	9	3	0	0	0	12
E	3	12	3	0	0	0	18
ESE	0	9	19	15	0	0	43
SE	0	7	9	22	2	0	40
SSE	0	8	21	20	6	0	55
S	0	9	34	70	5	1	119
SSW	1	3	9	30	36	10	89
SW	0	8	41	31	16	2	98
WSW	4	7	33	10	1	2	57
W	3	16	18	32	33	9	111
WNW	0	19	42	87	38	7	193
NW	4	15	33	43	9	1	105
NNW	3	9	49	34	12	6	113
Variable	0	0	0	0	0	0	0
Total	22	144	372	413	165	43	1159

Hours of calm in this stability class: 0  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 5

# Braidwood Generating Station

Period of Record: October - December 2014  
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	3	8	1	0	0	15
NNE	1	5	16	0	0	0	22
NE	0	3	5	1	0	0	9
ENE	0	5	3	0	0	0	8
E	0	7	13	0	0	0	20
ESE	0	5	10	5	0	0	20
SE	1	2	7	29	1	0	40
SSE	1	2	10	12	8	0	33
S	1	6	21	49	14	0	91
SSW	0	2	23	44	33	1	103
SW	1	17	23	18	2	0	61
WSW	1	10	27	14	0	0	52
W	0	1	27	21	0	0	49
WNW	1	4	34	22	0	0	61
NW	3	14	14	8	0	0	39
NNW	3	2	5	1	0	0	11
Variable	0	0	0	0	0	0	0
Total	16	88	246	225	58	1	634

Hours of calm in this stability class: 0  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 5

# Braidwood Generating Station

Period of Record: October - December 2014  
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	2	0	0	0	4
NNE	0	1	4	2	0	0	7
NE	0	2	4	2	0	0	8
ENE	1	3	1	0	0	0	5
E	0	3	2	0	0	0	5
ESE	0	1	5	14	0	0	20
SE	0	1	4	5	0	0	10
SSE	0	2	0	0	0	0	2
S	1	0	1	0	0	0	2
SSW	0	2	0	0	0	0	2
SW	0	1	2	1	0	0	4
WSW	1	2	6	6	0	0	15
W	0	4	6	14	0	0	24
WNW	1	2	10	4	0	0	17
NW	0	5	4	3	0	0	12
NNW	0	2	5	0	0	0	7
Variable	0	0	0	0	0	0	0
Total	4	33	56	51	0	0	144

Hours of calm in this stability class: 0  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 5

# Braidwood Generating Station

Period of Record: October - December 2014  
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	3	2	0	0	0	5
NNE	1	1	3	1	0	0	6
NE	0	1	1	1	0	0	3
ENE	2	1	1	0	0	0	4
E	1	2	1	0	0	0	4
ESE	1	0	0	0	0	0	1
SE	2	1	0	0	0	0	3
SSE	0	0	0	0	0	0	0
S	0	2	0	0	0	0	2
SSW	0	4	0	0	0	0	4
SW	0	1	0	0	0	0	1
WSW	1	2	0	0	0	0	3
W	1	0	0	1	0	0	2
WNW	0	1	0	0	0	0	1
NW	1	0	1	1	0	0	3
NNW	0	0	2	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	10	19	11	4	0	0	44

Hours of calm in this stability class: 0  
 Hours of missing wind measurements in this stability class: 0  
 Hours of missing stability measurements in all stability classes: 5

BRAIDWOOD NUCLEAR POWER STATION  
 RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
 UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)  
 WIND STABILITY CLASSES

**Table C-4**

**Atmospheric Stability Classes**

<u>Description</u>	<u>Pasquill Stability Class</u>	<u><math>\sigma_\theta</math>(degrees)</u>	<u>Temperature Change with Height(<math>^{\circ}\text{C}/100\text{ m}</math>)</u>
Extremely Unstable	A	>22.5	< -1.9
Moderately Unstable	B	17.5 to 22.5	-1.9 to -1.7
Slightly Unstable	C	12.5 to 17.5	-1.7 to -1.5
Neutral	D	7.5 to 12.5	-1.5 to -0.5
Slightly Stable	E	3.8 to 7.5	-0.5 to 1.5
Moderately Stable	F	2.1 to 3.8	1.5 to 4.0
Extremely Stable	G	0 to 2.1	>4.0

$\sigma_\theta$  is the standard deviation of horizontal wind direction fluctuation over a period of 15 minutes to 1 hour.

From Regulatory Guide 1.21, Table 4B.

Atmospheric Stability Classes, Table C-4 from Braidwood ODCM.

**BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)**

Braidwood Generating Station  
34 ft. Wind Speed and Direction  
Number of Observations = 2102  
Values are Percent Occurrence

January-March, 2014  
199Ft-30Ft Delta-T (F)

	CLASS	N	NNE	NE	SPEED	WIND DIRECTION CLASSES												TOTAL	EU	MU	STABILITY CLASSES				ES	TOTAL
					ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW				SU	N	SS	MS		
C A L M	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00	0.00	0.00		
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05							
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00
1.00 - 3.00	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.57	4.57	4.76	
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	N	0.00	0.05	0.14	0.24	0.38	0.00	0.00	0.05	0.00	0.00	0.00	0.10	0.10	0.14	0.29	0.10	1.57	4.57							
	SS	0.19	0.05	0.29	0.33	0.43	0.33	0.14	0.05	0.05	0.05	0.05	0.24	0.52	0.90	0.67	0.29	4.57	4.76							
	MS	0.19	0.14	0.29	0.43	0.38	0.19	0.19	0.14	0.05	0.00	0.10	0.10	0.81	1.09	0.43	0.24	4.76	2.14							
	ES	0.10	0.14	0.19	0.29	0.10	0.10	0.00	0.00	0.00	0.05	0.14	0.00	0.24	0.62	0.05	0.14	2.14	0.00							
4.00 - 7.00	EU	0.00	0.00	0.00	0.00	0.10	0.10	0.05	0.10	0.05	0.10	0.00	0.00	0.10	0.29	0.14	0.00	1.00	1.00	1.00	1.09	1.67	15.32	15.41		
	MU	0.00	0.00	0.00	0.05	0.00	0.05	0.14	0.00	0.05	0.05	0.05	0.00	0.10	0.24	0.29	0.10	1.09	1.09							
	SU	0.00	0.00	0.00	0.10	0.10	0.05	0.00	0.00	0.05	0.05	0.14	0.14	0.10	0.43	0.33	0.19	1.67	1.67							
	N	0.67	0.33	1.19	1.57	0.24	0.52	0.62	1.86	0.71	0.24	0.38	0.76	1.52	1.81	1.71	1.19	15.32	15.41							
	SS	0.14	0.38	0.38	0.48	0.48	0.48	1.24	1.19	0.48	0.29	0.90	2.24	2.09	2.81	1.14	0.71	15.41	2.43							
	MS	0.00	0.05	0.05	0.00	0.00	0.05	0.10	0.10	0.10	0.05	0.29	0.57	0.67	0.38	0.00	0.05	2.43	0.10							
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.10	0.00							
																								37.01		



		SPEED					WIND DIRECTION CLASSES										STABILITY CLASSES											
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL		
8.00 -	EU	0.00	0.00	0.00	0.00	0.00	0.05	0.24	0.10	0.14	0.33	0.00	0.14	0.24	0.76	0.67	0.43	3.09	3.09									
	MU	0.10	0.00	0.00	0.00	0.00	0.00	0.14	0.14	0.10	0.05	0.05	0.05	0.43	0.43	0.19	0.14	1.81		1.81								
	SU	0.10	0.19	0.00	0.00	0.00	0.00	0.00	0.10	0.14	0.10	0.38	0.43	0.52	0.38	0.24	0.38	2.95			2.95							
	N	1.62	1.00	1.28	0.57	0.00	0.29	0.67	1.14	1.33	0.48	1.28	0.81	2.00	3.00	0.86	1.86	18.17				18.17						
1.00	SS	0.05	0.19	0.10	0.00	0.00	0.10	0.24	0.95	0.67	0.67	1.47	0.52	0.33	1.38	0.24	0.38	7.28					7.28					
2.00	MS	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.10	0.00	0.00	0.00	0.00	0.00	0.19						0.19				
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00			
																										33.49		
1.00 3.00 - 1.00 8.00	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10	0.10	0.00	0.05	0.19	0.05	0.00	0.05	0.05	0.67	0.67									
	MU	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.10	0.05	0.00	0.00	0.05	0.05	0.10	0.00	0.00	0.43		0.43								
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10	0.10	0.10	0.24	0.00	0.05	0.05	0.05	0.05	0.76			0.76							
	N	0.71	0.14	0.43	0.00	0.00	0.00	0.10	0.81	2.00	0.81	1.43	0.57	0.81	0.86	0.29	0.29	9.23				9.23						
	SS	0.00	0.05	0.33	0.00	0.00	0.00	0.05	0.24	0.86	0.81	0.19	0.10	0.05	0.10	0.00	0.00	2.76					2.76					
	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00				
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00			
																										13.84		

Braidwood Generating Station  
34 ft. Wind Speed and Direction  
January-March, 2014  
199Ft-30Ft Delta-T (F)

		SPEED				WIND DIRECTION CLASSES										STABILITY CLASSES											
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL	
1.00	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.14	0.14	1.52	0.67	0.00	0.00	
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.14									
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.05	0.00	0.00	0.00	0.00	0.14									
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.48	0.19	0.19	0.00	0.00	0.00	0.00	1.52									
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.33	0.00	0.05	0.00	0.00	0.00	0.00	0.67									
2.00	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.33	0.00	0.05	0.00	0.00	0.00	0.00	0.67									
4.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
																									0.00	2.47	
G T	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05									
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									
2.00	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00				
4.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00		0.05	
	TOT	3.85	2.71	4.76	4.04	2.19	2.33	4.04	7.23	7.94	5.19	7.42	7.52	10.75	15.75	7.61	6.57	99.95	4.76	3.52	5.52	45.81	30.69	7.42	2.24	99.99	

Braidwood Generating Station  
 203 ft. Wind Speed and Direction  
 Number of Observations = 2155  
 Values are Percent Occurrence

January-March, 2014  
 199Ft-30Ft Delta-T (F)

		SPEED ----- WIND DIRECTION CLASSES -----																----- STABILITY CLASSES -----								
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
C A L M	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00				
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00			
	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00	0.00
1.00 - 3.00	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	N	0.00	0.00	0.00	0.09	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.14	0.05	0.00	0.05	0.05	0.51	0.00	0.00		0.51				
	SS	0.05	0.00	0.05	0.14	0.05	0.05	0.00	0.09	0.00	0.05	0.23	0.05	0.00	0.00	0.09	0.05	0.88	0.00	0.00			0.88			
	MS	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.14	0.00	0.05	0.09	0.00	0.00	0.46	0.00	0.00				0.46		
	ES	0.00	0.05	0.05	0.05	0.00	0.00	0.05	0.05	0.00	0.00	0.09	0.00	0.00	0.09	0.00	0.00	0.42	0.00	0.00					0.42	2.27
4.00 - 7.00	EU	0.00	0.00	0.00	0.00	0.00	0.09	0.05	0.05	0.05	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.32	0.32							
	MU	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.05	0.00	0.00	0.00	0.14	0.05	0.00	0.32	0.32	0.32						
	SU	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.09	0.05	0.05	0.14	0.09	0.05	0.19	0.70	0.00	0.00	0.70					
	N	0.23	0.19	0.37	0.65	0.37	0.00	0.09	0.32	0.28	0.05	0.09	0.23	0.65	0.37	0.70	0.23	4.83	0.00	0.00		4.83				
	SS	0.19	0.19	0.09	0.23	0.14	0.14	0.19	0.14	0.00	0.09	0.19	0.46	0.32	0.19	0.19	0.32	3.06	0.00	0.00			3.06			
	MS	0.05	0.14	0.14	0.19	0.09	0.05	0.09	0.23	0.00	0.00	0.05	0.19	0.05	0.09	0.37	0.05	1.76	0.00	0.00				1.76		
	ES	0.09	0.14	0.05	0.05	0.00	0.09	0.05	0.14	0.14	0.09	0.00	0.00	0.00	0.05	0.00	0.05	0.93	0.00	0.00					0.93	11.93

		SPEED				WIND DIRECTION CLASSES												STABILITY CLASSES								
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
8.00 -	EU	0.00	0.00	0.00	0.00	0.05	0.05	0.09	0.05	0.00	0.42	0.00	0.05	0.05	0.23	0.42	0.14	1.53	1.53							
	MU	0.09	0.00	0.00	0.00	0.00	0.05	0.14	0.00	0.05	0.05	0.05	0.00	0.19	0.28	0.42	0.09	1.39		1.39						
	SU	0.05	0.05	0.00	0.05	0.09	0.05	0.00	0.00	0.05	0.00	0.19	0.28	0.28	0.46	0.42	0.09	2.04			2.04					
	N	1.11	0.65	0.79	0.97	0.28	0.42	0.28	1.07	1.16	0.32	0.84	0.97	0.88	1.07	1.30	0.97	13.09				13.09				
	SS	0.46	0.28	0.37	0.46	0.32	0.32	0.51	0.74	0.51	0.23	0.51	1.11	1.25	1.48	1.16	0.88	10.63					10.63			
1.00	MS	0.23	0.23	0.23	0.23	0.09	0.05	0.09	0.19	0.23	0.00	0.09	0.14	0.28	0.51	0.93	0.32	3.85						3.85		
2.00	ES	0.05	0.05	0.05	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.05	0.42	0.88							0.88	
																										33.41
1.00 3.00 -	EU	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.14	0.00	0.14	0.05	0.14	0.05	0.46	0.32	0.28	1.67	1.67							
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.05	0.09	0.05	0.05	0.19	0.19	0.00	0.14	0.93		0.93						
	SU	0.05	0.14	0.00	0.00	0.00	0.00	0.00	0.05	0.23	0.09	0.19	0.19	0.28	0.05	0.19	0.23	1.67			1.67					
	N	1.25	1.02	1.16	0.60	0.09	0.23	0.79	0.51	1.07	0.65	0.79	0.37	0.97	1.76	1.39	1.67	14.34				14.34				
	SS	0.09	0.14	0.14	0.00	0.09	0.37	0.70	0.70	1.21	0.65	0.97	1.07	0.70	2.69	0.88	0.37	10.77					10.77			
1.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.05	0.14	0.32	0.32	0.42	0.09	0.00	1.53						1.53		
8.00	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.09	0.19							0.19	
																										31.09

Braidwood Generating Station  
203 ft. Wind Speed and Direction

January-March, 2014  
199Ft-30Ft Delta-T (F)

		SPEED				WIND DIRECTION CLASSES										STABILITY CLASSES										
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
1.00 9.00 - 2.00 4.00	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.09	0.14	0.00	0.00	0.09	0.05	0.42	0.19	0.00	1.02	1.02	0.56	0.74	8.91	3.11	0.00	0.00	14.34
	MU	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.05	0.00	0.19	0.09	0.00	0.56							
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.23	0.00	0.00	0.23	0.05	0.05	0.05	0.74								
	N	0.51	0.14	0.46	0.00	0.00	0.14	0.14	0.56	1.67	0.56	0.88	0.46	0.51	2.13	0.46	0.28	8.91								
	SS	0.00	0.09	0.14	0.00	0.00	0.09	0.00	0.14	0.60	0.74	0.42	0.05	0.19	0.51	0.14	0.00	3.11								
G T  2.00 4.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.23	4.64	1.76	0.00	0.00	6.96
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.09	0.09							
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.14	0.00	0.05	0.00	0.23								
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.09	0.00	0.05	0.00	0.00	0.05	0.00	0.23							
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.19	1.21	0.74	0.37	0.42	0.28	0.74	0.56	0.09	4.64		0.23	4.64	1.76	0.00	0.00	6.96	
	SS	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.09	0.42	0.93	0.00	0.09	0.00	0.05	0.05	0.00	1.76								
	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	TOT	4.50	3.48	4.36	3.90	1.81	2.27	3.76	5.71	9.37	6.26	6.59	7.19	7.89	15.17	10.67	7.05	100.00	4.64							3.43

Wind Direction by  
Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
0.00	0.00	0.00	0.00	0.05	0.19	0.23	0.32	0.23	0.56	0.05	0.28	0.19	1.16	0.97	0.42	4.64	Extremely Unstable
0.09	0.00	0.09	0.00	0.05	0.05	0.28	0.09	0.23	0.23	0.09	0.23	0.37	0.84	0.56	0.23	3.43	Moderately Unstable
0.09	0.19	0.00	0.09	0.09	0.05	0.05	0.14	0.32	0.32	0.65	0.56	0.70	0.84	0.74	0.56	5.38	Slightly Unstable
3.11	2.00	2.78	2.32	0.84	0.84	1.35	2.65	5.38	2.32	2.97	2.60	3.34	6.08	4.45	3.29	46.31	Neutral
0.79	0.70	0.93	0.84	0.60	0.97	1.39	1.90	2.74	2.69	2.32	2.83	2.46	4.92	2.51	1.62	30.21	Slightly Stable
0.28	0.37	0.42	0.46	0.19	0.09	0.37	0.42	0.32	0.05	0.42	0.65	0.70	1.11	1.39	0.37	7.61	Moderately Stable
0.14	0.23	0.14	0.19	0.00	0.09	0.09	0.19	0.14	0.09	0.09	0.05	0.14	0.23	0.05	0.56	2.41	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CALM
0.05	0.05	0.14	0.32	0.14	0.09	0.05	0.14	0.09	0.05	0.46	0.19	0.09	0.19	0.14	0.09	2.27	< 3.50 mph
0.56	0.65	0.65	1.16	0.65	0.37	0.51	0.88	0.46	0.37	0.37	0.93	1.21	0.97	1.35	0.84	11.93	- 7.50 mph
2.00	1.25	1.44	1.81	0.84	0.93	1.11	2.04	2.00	1.02	1.67	2.55	3.02	4.13	4.69	2.92	33.41	- 12.50 mph
1.39	1.30	1.30	0.60	0.19	0.65	1.81	1.48	2.55	1.67	2.18	2.18	2.55	5.57	2.88	2.78	31.09	- 18.50 mph
0.51	0.23	0.70	0.00	0.00	0.23	0.23	0.84	2.60	1.35	1.53	0.65	0.74	3.48	0.93	0.32	14.34	- 24.50 mph
0.00	0.00	0.14	0.00	0.00	0.00	0.05	0.32	1.67	1.81	0.37	0.70	0.28	0.84	0.70	0.09	6.96	> 24.50 mph

Braidwood Generating Station  
 34 ft. Wind Speed and Direction  
 Number of Observations = 2146  
 Values are Percent Occurrence

April-June, 2014  
 199Ft-30Ft Delta-T (F)

		SPEED ----- WIND DIRECTION CLASSES -----																STABILITY CLASSES -----								
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
C A L M	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00				
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00			
	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.05		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00	0.05
1.00 - 3.00	EU	0.00	0.00	0.00	0.09	0.09	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.23							
	MU	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.09	0.23		0.23						
	SU	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09			0.09					
	N	0.09	0.23	0.33	0.47	0.37	0.09	0.05	0.00	0.05	0.00	0.00	0.14	0.23	0.19	0.28	0.09	2.61				2.61				
	SS	0.33	0.42	0.93	1.40	1.12	0.33	0.14	0.14	0.19	0.09	0.09	0.42	0.37	0.56	0.47	0.14	7.13					7.13			
	MS	0.05	0.14	0.05	0.51	0.51	0.47	0.05	0.09	0.05	0.05	0.05	0.14	0.37	0.42	0.33	0.05	3.31						3.31	1.30	
	ES	0.05	0.00	0.05	0.28	0.19	0.05	0.14	0.05	0.00	0.00	0.00	0.00	0.23	0.09	0.09	0.09	1.30								14.91
4.00 - 7.00	EU	0.00	0.05	0.51	0.89	0.51	0.28	0.47	0.61	0.37	0.14	0.00	0.00	0.28	0.23	0.28	0.09	4.71	4.71							
	MU	0.05	0.09	0.23	0.19	0.09	0.09	0.19	0.28	0.28	0.09	0.19	0.09	0.33	0.33	0.23	0.09	2.84		2.84						
	SU	0.23	0.09	0.19	0.33	0.09	0.00	0.28	0.19	0.33	0.19	0.14	0.14	0.00	0.23	0.28	0.05	2.75			2.75					
	N	0.56	0.79	2.24	2.28	0.61	0.42	0.79	0.79	0.51	0.37	0.56	0.65	0.75	0.84	0.61	0.70	13.47				13.47				
	SS	0.33	0.61	1.35	1.49	1.30	1.58	2.24	2.47	1.40	0.28	0.51	1.07	0.75	0.65	0.79	0.93	17.75					17.75			
	MS	0.05	0.05	0.00	0.00	0.00	0.05	0.14	0.28	0.14	0.42	0.00	0.14	0.23	0.05	0.00	0.09	1.63						1.63	0.09	
	ES	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.09								43.24

		SPEED ----- WIND DIRECTION CLASSES -----																----- STABILITY CLASSES -----									
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL	
8.00 - 1.00 2.00	EU	0.14	0.19	0.09	0.28	0.47	0.05	0.23	0.28	0.75	0.47	0.56	0.23	0.33	0.42	0.28	0.75	5.50	5.50								
	MU	0.00	0.00	0.00	0.09	0.05	0.00	0.09	0.19	0.33	0.33	0.28	0.19	0.05	0.00	0.09	0.23	1.91		1.91							
	SU	0.05	0.19	0.28	0.23	0.09	0.05	0.05	0.37	0.14	0.09	0.23	0.19	0.09	0.09	0.05	0.09	2.28			2.28						
	N	0.56	0.84	1.63	1.12	0.84	0.14	0.19	0.56	1.58	1.03	1.77	1.44	0.93	0.28	0.19	1.26	14.35				14.35					
	SS	0.14	0.14	0.23	0.28	0.37	0.47	1.21	0.84	2.47	1.21	0.79	0.23	0.05	0.05	0.09	0.28	8.85					8.85				
	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
																								32.90			
1.00 3.00 - 1.00 8.00	EU	0.00	0.00	0.00	0.00	0.00	0.05	0.14	0.37	0.19	0.05	0.09	0.33	0.19	0.00	0.00	0.00	1.40	1.40								
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.09	0.05	0.09	0.14	0.00	0.00	0.05	0.51		0.51							
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05	0.05	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.42			0.42						
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.09	0.37	0.98	0.84	0.37	0.56	0.00	0.00	0.09	3.36				3.36					
	SS	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.09	1.03	0.70	0.09	0.05	0.09	0.00	0.00	0.00	2.14					2.14				
	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
																								7.83			

Braidwood Generating Station  
34 ft. Wind Speed and Direction

April-June, 2014  
199Ft-30Ft Delta-T (F)

					SPEED	WIND DIRECTION CLASSES												STABILITY CLASSES													
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL					
1.00 9.00 -	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.09	0.09	0.00	0.19	0.42	0.23	0.00	0.00						
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00												
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.05	0.00	0.00	0.00	0.00	0.19												
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.05	0.14	0.00	0.00	0.00	0.00	0.42												
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.23												
2.00 4.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00												
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00							
																									0.00	0.93					
G T	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00						
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00												
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00												
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.09												
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00												
2.00 4.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00												
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00							
																									0.00	0.09					
TOT		2.61	3.87	8.20	9.97	6.76	4.15	6.62	7.78	10.25	7.50	6.29	6.20	6.06	4.43	4.05	5.17	99.95	11.93	5.50	5.73	34.30	36.11	4.99	1.40	99.95					
Wind Direction by Stability																															
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-													
0.14	0.23	0.61	1.26	1.07	0.37	0.89	1.26	1.30	0.65	0.65	0.65	0.79	0.65	0.56	0.84	11.93	Extremely Unstable														
0.05	0.09	0.23	0.28	0.19	0.09	0.33	0.51	0.65	0.51	0.51	0.37	0.56	0.33	0.33	0.47	5.50	Moderately Unstable														
0.28	0.28	0.51	0.61	0.19	0.05	0.42	0.61	0.51	0.65	0.37	0.37	0.09	0.33	0.33	0.14	5.73	Slightly Unstable														
1.21	1.86	4.19	3.87	1.82	0.65	1.07	1.44	2.52	2.70	3.22	2.75	2.47	1.30	1.07	2.14	34.30	Neutral														
0.79	1.21	2.56	3.17	2.80	2.38	3.59	3.54	5.08	2.52	1.49	1.77	1.26	1.26	1.35	1.35	36.11	Slightly Stable														
0.09	0.19	0.05	0.51	0.51	0.51	0.19	0.37	0.19	0.47	0.05	0.28	0.61	0.47	0.33	0.14	4.99	Moderately Stable														
0.05	0.00	0.05	0.28	0.19	0.09	0.14	0.05	0.00	0.00	0.00	0.00	0.28	0.09	0.09	0.09	1.40	Extremely Stable														
Wind Direction by Wind Speed																															
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-													
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	CALM														
0.51	0.79	1.40	2.80	2.33	0.93	0.42	0.33	0.28	0.14	0.14	0.70	1.26	1.26	1.16	0.47	14.91	<	3.50	mph												
1.21	1.68	4.52	5.17	2.61	2.47	4.10	4.61	3.03	1.49	1.40	2.10	2.38	2.33	2.19	1.96	43.24	3.60	-	7.50	mph											
0.89	1.35	2.24	2.00	1.82	0.70	1.77	2.24	5.27	3.12	3.63	2.28	1.44	0.84	0.70	2.61	32.90	7.60	-	12.50	mph											
0.00	0.05	0.05	0.00	0.00	0.05	0.33	0.61	1.68	2.05	1.07	0.84	0.98	0.00	0.00	0.14	7.83	12.60	-	18.50	mph											
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.05	0.28	0.00	0.00	0.00	0.00	0.93	18.60	-	24.50	mph											
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.09	>	24.50	mph												



Braidwood Generating Station  
 203 ft. Wind Speed and Direction  
 Number of Observations = 2184  
 Values are Percent Occurrence

April-June, 2014  
 199Ft-30Ft Delta-T (F)

		SPEED				WIND DIRECTION CLASSES												STABILITY CLASSES									
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL	
C A L M	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
																									0.00		
1.00 - 3.00	EU	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.09	0.00	0.64	0.46	0.27	0.55		
	MU	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09								
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	N	0.00	0.09	0.09	0.18	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05	0.00	0.09	0.09	0.00	0.64	0.64								
	SS	0.00	0.05	0.00	0.05	0.05	0.00	0.00	0.05	0.05	0.05	0.00	0.14	0.05	0.00	0.00	0.00	0.46	0.46								
	MS	0.00	0.00	0.05	0.00	0.14	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.27	0.27								
	ES	0.05	0.00	0.00	0.05	0.09	0.00	0.00	0.05	0.14	0.00	0.09	0.00	0.00	0.05	0.00	0.05	0.55	0.55								
																									2.06		
4.00 - 7.00	EU	0.05	0.00	0.05	0.41	0.46	0.27	0.32	0.14	0.27	0.09	0.00	0.00	0.00	0.05	0.09	0.00	2.20	2.20	1.47	1.28	5.31	4.17	1.14	0.64		
	MU	0.09	0.14	0.05	0.14	0.09	0.00	0.09	0.05	0.23	0.05	0.14	0.00	0.09	0.18	0.14	0.00	1.47	1.47								
	SU	0.09	0.05	0.05	0.23	0.18	0.05	0.00	0.09	0.09	0.09	0.05	0.09	0.00	0.09	0.09	0.05	1.28	1.28								
	N	0.55	0.18	0.18	0.96	0.69	0.14	0.14	0.18	0.05	0.00	0.23	0.23	0.41	0.55	0.37	0.46	5.31	5.31								
	SS	0.18	0.27	0.27	1.05	0.55	0.05	0.14	0.05	0.18	0.00	0.14	0.37	0.23	0.14	0.41	0.14	4.17	4.17								
	MS	0.00	0.05	0.14	0.05	0.14	0.05	0.05	0.00	0.00	0.05	0.14	0.00	0.09	0.23	0.09	0.09	1.14	1.14								
	ES	0.09	0.05	0.00	0.05	0.00	0.00	0.09	0.14	0.00	0.05	0.00	0.05	0.00	0.05	0.05	0.05	0.64	0.64								
																									16.21		

		SPEED				WIND DIRECTION CLASSES												STABILITY CLASSES									
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL	
8.00	EU	0.00	0.05	0.27	0.46	0.27	0.09	0.23	0.41	0.37	0.37	0.23	0.18	0.41	0.27	0.23	0.14	3.98	3.98								
	MU	0.00	0.00	0.09	0.14	0.00	0.14	0.18	0.05	0.23	0.27	0.09	0.23	0.18	0.27	0.09	0.32	2.29		2.29							
	SU	0.00	0.09	0.14	0.18	0.14	0.00	0.18	0.23	0.23	0.23	0.14	0.23	0.09	0.09	0.27	0.09	2.34			2.34						
	-	0.27	0.41	1.42	1.65	0.87	0.18	0.41	0.50	0.60	0.37	0.92	0.69	0.41	0.55	0.50	0.46	10.21				10.21					
	1.00	SS	0.32	0.46	0.96	1.69	1.51	0.23	1.19	1.01	1.24	0.64	0.41	0.82	0.82	0.64	1.05	1.01	14.01					14.01			
2.00	MS	0.05	0.14	0.00	0.18	0.27	0.23	0.18	0.14	0.14	0.23	0.05	0.05	0.23	0.37	0.32	0.23	2.79						2.79			
	ES	0.05	0.05	0.05	0.00	0.00	0.09	0.27	0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.14	0.14	0.87							0.87		
36.49																											
1.00	EU	0.05	0.23	0.05	0.27	0.27	0.00	0.09	0.09	0.46	0.46	0.09	0.23	0.09	0.18	0.46	0.55	3.57	3.57								
	MU	0.00	0.00	0.00	0.05	0.09	0.00	0.00	0.09	0.14	0.23	0.23	0.09	0.09	0.00	0.09	0.05	1.14		1.14							
	SU	0.05	0.05	0.18	0.18	0.05	0.00	0.05	0.14	0.05	0.05	0.14	0.09	0.00	0.05	0.05	0.05	1.14			1.14						
	-	0.41	0.37	1.69	1.24	0.46	0.09	0.14	0.55	1.01	0.82	1.28	1.10	0.82	0.87	0.23	0.87	11.95				11.95					
	1.00	SS	0.14	0.23	0.32	0.73	0.41	0.82	1.37	1.97	2.15	1.60	0.73	0.46	0.23	0.41	0.41	0.27	12.27					12.27			
8.00	MS	0.05	0.00	0.00	0.00	0.05	0.27	0.05	0.09	0.09	0.27	0.09	0.00	0.05	0.14	0.05	0.05	1.24						1.24			
	ES	0.00	0.00	0.00	0.00	0.05	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18							0.18		
31.50																											

Braidwood Generating Station  
203 ft. Wind Speed and Direction

April-June, 2014  
199Ft-30Ft Delta-T (F)

		SPEED				WIND DIRECTION CLASSES											STABILITY CLASSES									
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
1.00	EU	0.00	0.00	0.00	0.00	0.14	0.09	0.00	0.60	0.09	0.00	0.05	0.14	0.23	0.14	0.05	0.00	1.51	1.51							
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.05	0.05	0.05	0.09	0.05	0.00	0.00	0.37		0.37						
	SU	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.05	0.14	0.14	0.05	0.00	0.05	0.00	0.00	0.00	0.60			0.60					
	-	N	0.00	0.00	0.09	0.05	0.18	0.46	0.14	0.23	0.37	0.87	0.82	0.37	0.14	0.37	0.00	0.27	4.35				4.35			
	2.00	SS	0.00	0.14	0.00	0.09	0.41	0.32	0.32	0.37	0.92	1.14	0.18	0.00	0.18	0.00	0.00	0.00	4.08					4.08		
4.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																										10.90
G	EU	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05	0.05	0.00	0.00	0.27	0.00	0.00	0.00	0.41	0.41							
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05		0.05						
	SU	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.05	0.00	0.00	0.00	0.27			0.27					
	-	N	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.50	0.14	0.00	0.27	0.18	0.00	0.00	1.24				1.24			
	2.00	SS	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.18	0.55	0.05	0.00	0.00	0.00	0.00	0.00	0.87					0.87		
4.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																										2.84
TOT		2.52	3.07	6.14	10.07	7.69	4.03	5.86	7.28	9.57	9.39	6.50	5.63	5.63	6.04	5.27	5.31	100.00	11.72	5.40	5.63	33.70	35.85	5.45	2.24	100.00

Wind Direction by  
Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
0.09	0.27	0.37	1.14	1.19	0.50	0.64	1.24	1.24	0.96	0.37	0.55	1.01	0.64	0.82	0.69	11.72	Extremely Unstable
0.14	0.14	0.14	0.32	0.18	0.14	0.37	0.18	0.69	0.60	0.50	0.37	0.46	0.50	0.32	0.37	5.40	Moderately Unstable
0.14	0.18	0.37	0.60	0.41	0.14	0.32	0.50	0.50	0.69	0.37	0.41	0.18	0.23	0.41	0.18	5.63	Slightly Unstable
1.24	1.05	3.48	4.08	2.20	1.01	0.82	1.47	2.06	2.56	3.39	2.43	2.06	2.61	1.19	2.06	33.70	Neutral
0.64	1.14	1.56	3.62	2.98	1.47	3.02	3.43	4.72	3.98	1.51	1.79	1.51	1.19	1.88	1.42	35.85	Slightly Stable
0.09	0.18	0.18	0.23	0.60	0.55	0.32	0.23	0.23	0.55	0.27	0.05	0.41	0.73	0.46	0.37	5.45	Moderately Stable
0.18	0.09	0.05	0.09	0.14	0.23	0.37	0.23	0.14	0.05	0.09	0.05	0.00	0.14	0.18	0.23	2.24	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CALM
0.09	0.14	0.14	0.27	0.32	0.00	0.05	0.09	0.27	0.05	0.09	0.18	0.09	0.14	0.09	0.05	2.06	< 3.50 mph
1.05	0.73	0.73	2.88	2.11	0.55	0.82	0.64	0.82	0.32	0.69	0.73	0.82	1.28	1.24	0.78	16.21	3.60 - 7.50 mph
0.69	1.19	2.93	4.30	3.07	0.96	2.66	2.38	2.79	2.11	1.83	2.20	2.15	2.24	2.61	2.38	36.49	7.60 - 12.50 mph
0.69	0.87	2.24	2.47	1.37	1.33	1.69	2.93	3.89	3.43	2.56	1.97	1.28	1.65	1.28	1.83	31.50	12.60 - 18.50 mph
0.00	0.14	0.09	0.14	0.73	0.96	0.64	1.24	1.51	2.20	1.14	0.55	0.69	0.55	0.05	0.27	10.90	18.60 - 24.50 mph
0.00	0.00	0.00	0.00	0.09	0.23	0.00	0.00	0.27	1.28	0.18	0.00	0.60	0.18	0.00	0.00	2.84	> 24.50 mph

Braidwood Generating Station  
 34 ft. Wind Speed and Direction  
 Number of Observations = 2069  
 Values are Percent Occurrence

July-September, 2014  
 199Ft-30Ft Delta-T (F)

		SPEED ----- WIND DIRECTION CLASSES -----																----- STABILITY CLASSES -----								
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
C A L M	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00						
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00					
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00				
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																										0.00
1.00 - 3.00	EU	0.00	0.05	0.05	0.05	0.05	0.24	0.29	0.19	0.14	0.10	0.00	0.10	0.19	0.00	0.10	0.19	1.74	1.74							
	MU	0.00	0.05	0.05	0.24	0.14	0.05	0.24	0.00	0.14	0.00	0.05	0.05	0.05	0.14	0.14	0.00	1.35		1.35						
	SU	0.10	0.00	0.00	0.19	0.05	0.05	0.10	0.10	0.00	0.00	0.00	0.00	0.05	0.10	0.14	0.14	1.01			1.01					
	N	0.63	0.29	0.63	0.77	0.43	0.48	0.24	0.14	0.10	0.05	0.10	0.24	0.39	0.53	0.24	0.43	5.70				5.70				
	SS	0.14	0.43	0.48	2.13	1.93	1.01	0.68	1.30	0.34	0.19	0.05	0.39	0.77	1.30	0.53	0.43	12.13					12.13			
	MS	0.29	0.05	0.24	0.58	1.69	1.69	0.68	0.39	0.19	0.29	0.43	0.97	1.26	0.58	0.05	0.24	9.62						9.62		
	ES	0.14	0.14	0.53	0.63	0.82	0.29	0.14	0.00	0.05	0.00	0.10	0.39	0.63	0.19	0.10	0.00	4.16							4.16	
																										35.72
4.00 - 7.00	EU	0.14	0.19	1.01	1.16	0.92	0.43	0.72	1.01	1.21	0.82	0.53	0.77	0.97	1.26	1.11	0.24	12.52	12.52							
	MU	0.24	0.19	0.14	0.10	0.14	0.10	0.00	0.14	0.29	0.19	0.34	0.19	0.19	0.43	0.05	0.24	3.00		3.00						
	SU	0.14	0.39	0.19	0.14	0.00	0.05	0.05	0.19	0.19	0.19	0.05	0.19	0.19	0.34	0.19	0.34	2.85			2.85					
	N	1.30	1.26	1.35	0.53	0.29	0.19	0.48	1.06	1.11	0.29	0.97	0.92	0.92	1.06	0.82	1.26	13.82				13.82				
	SS	0.68	0.29	0.43	0.19	0.14	0.39	1.64	2.51	2.22	0.63	0.68	0.58	0.58	0.58	0.00	0.34	11.89					11.89			
	MS	0.00	0.05	0.00	0.00	0.05	0.24	0.14	0.10	0.00	0.10	0.10	0.24	0.10	0.00	0.05	0.00	1.16						1.16		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																										45.24

		SPEED				WIND DIRECTION CLASSES												STABILITY CLASSES								
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
8.00	EU	0.29	0.19	0.14	0.00	0.00	0.10	0.00	0.19	0.34	0.77	0.63	0.63	0.63	0.68	0.29	0.05	4.93	4.93							
	MU	0.10	0.05	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.34	0.24	0.10	0.14	0.10	0.10	0.19	1.45		1.45						
	SU	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.19	0.24	0.14	0.10	0.05	0.14	0.24	1.26			1.26					
	-	0.29	0.43	0.29	0.00	0.00	0.00	0.00	0.10	0.24	1.16	1.45	1.21	0.10	0.29	0.00	0.43	0.72	6.72				6.72			
	1.00	SS	0.05	0.14	0.00	0.00	0.00	0.00	0.00	0.14	1.01	0.34	0.48	0.05	0.05	0.05	0.00	0.05	2.37					2.37		
2.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
16.72																										
1.00	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.29	0.10	0.00	0.00	0.00	0.00	0.77	0.77							
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.19	0.00	0.00	0.00	0.00	0.00	0.24		0.24						
	3.00	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.10			0.10					
	-	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.39	0.43	0.05	0.05	0.00	0.05	1.11				1.11				
	1.00	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.05					0.05			
8.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
2.27																										

Braidwood Generating Station  
34 ft. Wind Speed and Direction

July-September, 2014  
199Ft-30Ft Delta-T (F)

		SPEED					WIND DIRECTION CLASSES											STABILITY CLASSES									
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL	
1.00 9.00 -	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00		
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00								
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
2.00	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00				
4.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
																									0.05		
G T	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
2.00	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00				
4.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
																									0.00		
																									0.00		
TOT		4.54	4.25	5.65	6.72	6.67	5.32	5.51	7.78	8.70	6.91	7.15	6.19	7.54	7.39	4.49	5.17	100.00	19.96	6.04	5.27	27.36	26.44	10.78	4.16	100.00	

Wind Direction by  
Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
0.43	0.43	1.21	1.21	0.97	0.77	1.01	1.40	1.69	2.08	1.45	1.59	1.79	1.93	1.50	0.48	19.96	Extremely Unstable
0.34	0.29	0.24	0.34	0.29	0.14	0.24	0.19	0.43	0.58	0.82	0.34	0.39	0.68	0.29	0.43	6.04	Moderately Unstable
0.24	0.43	0.24	0.34	0.05	0.10	0.14	0.29	0.24	0.48	0.34	0.34	0.34	0.48	0.48	0.72	5.27	Slightly Unstable
2.22	1.98	2.27	1.30	0.72	0.68	0.82	1.45	2.51	2.17	2.71	1.30	1.64	1.59	1.50	2.46	27.36	Neutral
0.87	0.87	0.92	2.32	2.08	1.40	2.32	3.96	3.58	1.21	1.21	1.01	1.40	1.93	0.53	0.82	26.44	Slightly Stable
0.29	0.10	0.24	0.58	1.74	1.93	0.82	0.48	0.19	0.39	0.53	1.21	1.35	0.58	0.10	0.24	10.78	Moderately Stable
0.14	0.14	0.53	0.63	0.82	0.29	0.14	0.00	0.05	0.00	0.10	0.39	0.63	0.19	0.10	0.00	4.16	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-			
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CALM			
1.30	1.01	1.98	4.59	5.12	3.82	2.37	2.13	0.97	0.63	0.72	2.13	3.33	2.85	1.30	1.45	35.72	<	3.50	mph	
2.51	2.37	3.14	2.13	1.55	1.40	3.04	5.03	5.03	2.22	2.66	2.90	2.95	3.67	2.22	2.42	45.24	3.60	-	7.50	mph
0.72	0.87	0.53	0.00	0.00	0.10	0.10	0.63	2.56	3.09	2.80	1.01	1.21	0.87	0.97	1.26	16.72	7.60	-	12.50	mph
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.92	0.97	0.14	0.05	0.00	0.00	0.05	2.27	12.60	-	18.50	mph
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05	18.60	-	24.50	mph
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		>	24.50	mph

July-September, 2014  
199Ft-30Ft Delta-T (F)

		SPEED												WIND DIRECTION CLASSES						STABILITY CLASSES									
CLASS		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL			
C A L M	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
1.00 - 3.00	EU	0.00	0.05	0.05	0.00	0.05	0.14	0.05	0.09	0.09	0.05	0.00	0.09	0.18	0.00	0.05	0.05	0.91	0.91	0.50	0.45	1.86	0.41	0.77	1.50	6.40			
	MU	0.00	0.00	0.00	0.09	0.05	0.09	0.05	0.00	0.05	0.09	0.00	0.00	0.05	0.05	0.00	0.00	0.50	0.50	0.50									
	SU	0.00	0.05	0.05	0.00	0.00	0.00	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.09	0.14	0.00	0.45	0.45										
	N	0.18	0.14	0.27	0.23	0.00	0.18	0.14	0.09	0.00	0.00	0.05	0.09	0.05	0.09	0.14	0.00	0.45	0.45										
	SS	0.09	0.05	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.41	0.41										
	MS	0.05	0.05	0.09	0.09	0.05	0.14	0.00	0.00	0.09	0.00	0.00	0.05	0.09	0.00	0.05	0.05	0.77	0.77										
	ES	0.05	0.05	0.00	0.00	0.00	0.00	0.09	0.18	0.09	0.41	0.27	0.18	0.05	0.09	0.00	0.05	1.50	1.50										
4.00 - 7.00	EU	0.05	0.14	0.45	0.59	0.45	0.36	0.50	0.59	0.45	0.64	0.54	0.23	0.73	0.54	0.32	0.18	6.76	6.76	2.22	2.13	5.90	5.31	3.68	3.58	29.58			
	MU	0.09	0.09	0.00	0.18	0.14	0.05	0.09	0.14	0.09	0.14	0.23	0.18	0.27	0.32	0.05	0.18	2.22	2.22	2.22									
	SU	0.09	0.23	0.14	0.23	0.09	0.09	0.09	0.05	0.09	0.05	0.05	0.09	0.18	0.23	0.23	0.23	2.13	2.13										
	N	0.73	0.64	0.36	0.64	0.36	0.09	0.27	0.23	0.27	0.14	0.36	0.41	0.45	0.23	0.27	0.45	5.90	5.90										
	SS	0.14	0.27	0.27	0.64	0.68	0.14	0.41	0.45	0.45	0.59	0.05	0.27	0.14	0.23	0.36	0.23	5.31	5.31										
	MS	0.09	0.09	0.05	0.23	0.14	0.14	0.36	0.41	0.32	0.18	0.36	0.27	0.23	0.27	0.41	0.14	3.68	3.68										
	ES	0.00	0.05	0.09	0.14	0.09	0.14	0.54	0.54	0.41	0.36	0.23	0.27	0.09	0.09	0.41	0.14	3.58	3.58										

		SPEED				WIND DIRECTION CLASSES												STABILITY CLASSES									
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL	
8.00	EU	0.14	0.00	0.50	0.54	0.50	0.14	0.27	0.32	0.64	0.68	0.41	0.45	0.68	0.86	0.64	0.14	6.90	6.90	1.91	1.45	10.53	14.84	6.08	1.95		
	MU	0.23	0.09	0.14	0.09	0.09	0.05	0.00	0.09	0.18	0.09	0.23	0.09	0.05	0.14	0.00	0.36	1.91									
	SU	0.14	0.00	0.09	0.05	0.05	0.00	0.00	0.14	0.14	0.09	0.14	0.09	0.05	0.18	0.09	0.23	1.45									
	-	N	0.59	0.68	1.09	0.68	0.41	0.23	0.27	0.50	1.04	0.18	0.64	0.95	0.41	0.91	0.73	1.23	10.53								
	1.00	SS	0.64	0.27	0.41	1.00	1.77	0.54	0.95	1.59	2.40	1.00	0.86	0.54	0.59	1.04	0.73	0.50	14.84								
2.00	MS	0.27	0.18	0.00	0.09	0.41	0.73	1.09	0.41	0.27	0.18	0.14	0.36	0.64	0.82	0.36	0.14	6.08									
	ES	0.09	0.00	0.05	0.05	0.14	0.32	0.23	0.00	0.00	0.05	0.00	0.23	0.23	0.18	0.18	0.23	1.95									
43.65																											
1.00	EU	0.09	0.05	0.18	0.00	0.09	0.23	0.05	0.09	0.18	0.45	0.50	0.36	0.27	0.86	0.36	0.05	3.81	3.81	0.95	0.82	6.40	4.72	0.82	0.27		
	MU	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.18	0.32	0.00	0.05	0.18	0.09	0.05	0.95									
	SU	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.14	0.14	0.14	0.05	0.09	0.09	0.82									
	-	N	0.14	0.14	0.59	0.00	0.00	0.00	0.00	0.27	0.91	1.04	1.32	0.18	0.27	0.27	0.73	0.54	6.40								
	1.00	SS	0.05	0.09	0.14	0.05	0.00	0.00	0.23	0.50	1.54	1.00	0.41	0.09	0.18	0.32	0.09	0.05	4.72								
8.00	MS	0.00	0.00	0.00	0.00	0.05	0.50	0.23	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.82									
	ES	0.00	0.00	0.00	0.00	0.05	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27									
17.79																											



Braidwood Generating Station  
203 ft. Wind Speed and Direction

July-September, 2014  
199Ft-30Ft Delta-T (F)

		SPEED				WIND DIRECTION CLASSES												STABILITY CLASSES									
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL	
1.00 9.00 -	EU	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.09	0.14	0.05	0.00	0.14	0.00	0.00	0.50	0.50	0.23	0.14	1.36	0.18	0.00	0.00	2.40	
	MU	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.05	0.05	0.00	0.23									
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05	0.00	0.05	0.00	0.14									
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.14	0.59	0.27	0.05	0.09	0.00	0.14	0.00	1.36									
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05	0.00	0.00	0.05	0.00	0.00	0.00	0.18								
2.00 4.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00					0.00				
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
																										2.40	
G T	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.14	0.00	0.00	0.00	0.18	
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05								
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.05	0.14									
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
2.00 4.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00				
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
																										0.18	
TOT		3.90	3.36	5.26	5.63	5.67	4.49	5.99	6.76	10.03	8.53	7.80	5.76	6.22	8.26	6.81	5.54	100.00	18.87	5.81	5.04	26.18	25.45	11.34	7.30	100.00	

Wind Direction by  
Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
0.27	0.23	1.23	1.13	1.09	0.86	0.86	1.09	1.41	1.91	1.59	1.18	1.86	2.40	1.36	0.41	18.87	Extremely Unstable
0.32	0.18	0.23	0.36	0.27	0.18	0.14	0.23	0.36	0.50	0.86	0.27	0.41	0.73	0.18	0.59	5.81	Moderately Unstable
0.23	0.27	0.36	0.27	0.14	0.09	0.14	0.23	0.32	0.27	0.32	0.32	0.41	0.54	0.59	0.54	5.04	Slightly Unstable
1.63	1.59	2.31	1.54	0.77	0.50	0.73	1.13	2.36	1.95	2.68	1.68	1.32	1.50	2.00	2.50	26.18	Neutral
0.91	0.68	0.86	1.72	2.50	0.68	1.59	2.54	4.40	2.72	1.36	0.91	0.91	1.63	1.27	0.77	25.45	Slightly Stable
0.41	0.32	0.14	0.41	0.64	1.50	1.68	0.82	0.68	0.36	0.50	0.73	0.95	1.09	0.82	0.32	11.34	Moderately Stable
0.14	0.09	0.14	0.18	0.27	0.68	0.86	0.73	0.50	0.82	0.50	0.68	0.36	0.36	0.59	0.41	7.30	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CALM
0.36	0.36	0.50	0.45	0.18	0.54	0.36	0.41	0.36	0.59	0.32	0.41	0.41	0.32	0.45	0.36	6.40	< 3.50 mph
1.18	1.50	1.36	2.63	1.95	1.00	2.27	2.40	2.09	2.09	1.81	1.72	2.09	1.91	2.04	1.54	29.58	3.60 - 7.50 mph
2.09	1.23	2.27	2.50	3.36	2.00	2.81	3.04	4.67	2.27	2.40	2.72	2.63	4.13	2.72	2.81	43.65	7.60 - 12.50 mph
0.27	0.27	1.04	0.05	0.18	0.95	0.50	0.86	2.72	2.72	2.68	0.82	0.91	1.68	1.36	0.77	17.79	12.60 - 18.50 mph
0.00	0.00	0.09	0.00	0.00	0.00	0.05	0.05	0.18	0.82	0.54	0.09	0.14	0.23	0.23	0.00	2.40	18.60 - 24.50 mph
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.05	0.00	0.00	0.05	0.18	> 24.50 mph

Braidwood Generating Station  
 34 ft. Wind Speed and Direction  
 Number of Observations = 2174  
 Values are Percent Occurrence

October-December, 2014  
 199Ft-30Ft Delta-T (F)

		SPEED ----- WIND DIRECTION CLASSES -----																----- STABILITY CLASSES -----								
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
C A L M	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00						
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00					
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00				
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	0.00
																										0.00
1.00 - 3.00	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	MU	0.00	0.00	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14		0.14						
	SU	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09			0.09					
	N	0.18	0.09	0.28	0.18	0.60	0.14	0.05	0.05	0.05	0.00	0.14	0.14	0.28	0.69	0.55	0.18	3.59				3.59				
	SS	0.37	0.23	0.28	0.60	0.87	0.46	0.09	0.18	0.09	0.18	0.18	0.18	0.97	1.01	0.37	0.60	6.67					6.67			
	MS	0.32	0.18	0.14	0.14	0.78	0.55	0.00	0.09	0.05	0.05	0.00	0.18	1.15	0.37	0.28	0.14	4.42						4.42		
	ES	0.09	0.32	0.00	0.14	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.14	0.14	0.18	0.18	0.09	1.33							1.33	16.24
4.00 - 7.00	EU	0.00	0.00	0.09	0.14	0.05	0.05	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.28	0.00	1.06	1.06							
	MU	0.00	0.05	0.05	0.00	0.00	0.05	0.14	0.00	0.00	0.05	0.09	0.00	0.14	0.18	0.00	0.00	0.74		0.74						
	SU	0.05	0.00	0.14	0.09	0.05	0.05	0.00	0.00	0.09	0.28	0.05	0.09	0.37	0.23	0.09	0.05	1.61			1.61					
	N	0.97	1.01	0.92	0.18	0.51	1.43	0.74	1.93	1.24	0.60	1.38	1.20	1.47	4.00	1.98	2.39	21.94				21.94				
	SS	0.28	0.74	0.05	0.00	0.05	0.46	0.87	1.01	1.75	0.55	1.56	2.02	1.52	1.61	0.18	0.18	12.83					12.83			
	MS	0.00	0.05	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.18	0.18	0.78	0.37	0.00	0.05	0.00	1.75						1.75		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	39.93

		SPEED				WIND DIRECTION CLASSES												STABILITY CLASSES									
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL	
8.00 -	EU	0.05	0.05	0.09	0.00	0.00	0.00	0.00	0.05	0.14	0.05	0.05	0.32	0.37	0.37	0.23	0.05	1.79	1.79	1.15	1.75	21.07	8.33	0.05	0.00		
	MU	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.09	0.28	0.09	0.14	0.09	0.05	0.09	1.15									
	SU	0.14	0.05	0.00	0.00	0.00	0.05	0.00	0.14	0.00	0.18	0.14	0.14	0.41	0.23	0.23	0.05	1.75									
	N	0.92	0.41	0.05	0.00	0.00	0.18	1.01	1.38	3.50	1.24	2.67	0.74	2.76	3.54	1.01	1.66	21.07									
1.00	SS	0.05	0.00	0.00	0.00	0.00	0.14	0.55	1.15	3.13	1.66	0.74	0.37	0.46	0.05	0.00	0.05	8.33					8.33				
2.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05						0.05			
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00		
																										34.13	
1.00 3.00 -	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.09	0.00	0.00	0.74	0.74	0.37	0.64	6.21	1.06	0.00	0.00		
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.09	0.09	0.05	0.05	0.00	0.00	0.00	0.37									
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.18	0.23	0.00	0.09	0.09	0.00	0.00	0.64									
	N	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	1.66	0.83	0.23	1.47	0.41	0.05	0.83	6.21								
1.00	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.83	0.00	0.00	0.00	0.00	0.00	0.00	1.06					1.06				
8.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00			
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00		
																										9.02	

Braidwood Generating Station  
34 ft. Wind Speed and Direction

October-December, 2014  
199Ft-30Ft Delta-T (F)

		SPEED				WIND DIRECTION CLASSES											STABILITY CLASSES									
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
1.00 9.00 -	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.51	0.05	0.00	0.69	
	MU	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.14								
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	N	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.09	0.09	0.00	0.00	0.00	0.51								
	2.00	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05							
4.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
G T	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	2.00	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
4.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
TOT		4.09	3.22	2.12	1.52	2.99	3.68	3.73	6.21	10.67	8.19	8.60	6.76	12.88	13.39	5.52	6.44	100.00	3.59	2.53	4.09	53.31	28.93	6.21	1.33	100.00

Wind Direction by  
Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
0.05	0.05	0.18	0.14	0.05	0.05	0.23	0.05	0.14	0.05	0.05	0.32	1.01	0.69	0.51	0.05	3.59	Extremely Unstable
0.14	0.09	0.09	0.05	0.05	0.05	0.14	0.14	0.14	0.23	0.46	0.14	0.32	0.28	0.05	0.18	2.53	Moderately Unstable
0.18	0.05	0.14	0.09	0.09	0.09	0.05	0.18	0.09	0.64	0.41	0.23	0.87	0.55	0.32	0.09	4.09	Slightly Unstable
2.62	1.52	1.24	0.37	1.10	1.75	1.79	3.36	5.06	3.73	5.01	2.39	6.07	8.65	3.59	5.06	53.31	Neutral
0.69	0.97	0.32	0.60	0.92	1.06	1.52	2.35	5.20	3.27	2.48	2.58	2.94	2.67	0.55	0.83	28.93	Slightly Stable
0.32	0.23	0.14	0.14	0.78	0.69	0.00	0.09	0.05	0.28	0.18	0.97	1.52	0.37	0.32	0.14	6.21	Moderately Stable
0.09	0.32	0.00	0.14	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.14	0.14	0.18	0.18	0.09	1.33	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CALM
0.97	0.83	0.74	1.10	2.35	1.15	0.18	0.37	0.18	0.23	0.32	0.64	2.53	2.25	1.38	1.01	16.24	< 3.50 mph
1.29	1.84	1.24	0.41	0.64	2.16	1.98	2.94	3.08	1.66	3.27	4.09	3.86	6.26	2.58	2.62	39.93	- 7.50 mph
1.24	0.55	0.14	0.00	0.00	0.37	1.56	2.81	6.85	3.27	3.86	1.66	4.14	4.28	1.52	1.89	34.13	- 12.50 mph
0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.55	2.76	1.15	0.28	2.25	0.60	0.05	0.83	9.02	- 18.50 mph
0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.00	0.09	0.09	0.00	0.00	0.09	0.69	- 24.50 mph
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	> 24.50 mph

Braidwood Generating Station  
 203 ft. Wind Speed and Direction  
 Number of Observations = 2203  
 Values are Percent Occurrence

October-December, 2014  
 199Ft-30Ft Delta-T (F)

		SPEED				WIND DIRECTION CLASSES										STABILITY CLASSES											
		CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
C A L M	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00				
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00			
	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00	
0.00																											
1.00 - 3.00	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	MU	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05							
	SU	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05						
	N	0.09	0.05	0.05	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.18	0.14	0.00	0.18	0.14	1.00				1.00				
	SS	0.14	0.05	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.05	0.00	0.05	0.05	0.00	0.05	0.14	0.14	0.73					0.73			
	MS	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.18						0.18		
	ES	0.00	0.05	0.00	0.09	0.05	0.05	0.09	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.05	0.00	0.45							0.45	
2.45																											
4.00 - 7.00	EU	0.00	0.00	0.00	0.18	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.23							
	MU	0.00	0.00	0.05	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.23		0.23						
	SU	0.00	0.00	0.05	0.09	0.00	0.00	0.05	0.05	0.05	0.09	0.00	0.18	0.05	0.23	0.23	0.00	0.05	1.04			1.04					
	N	0.18	0.23	0.18	0.41	0.54	0.41	0.32	0.36	0.41	0.14	0.36	0.32	0.73	0.86	0.68	0.41	6.54					6.54				
	SS	0.14	0.23	0.14	0.23	0.32	0.23	0.09	0.09	0.27	0.09	0.77	0.45	0.05	0.18	0.64	0.09	3.99						3.99			
	MS	0.09	0.05	0.09	0.14	0.14	0.05	0.05	0.09	0.00	0.09	0.05	0.09	0.18	0.09	0.23	0.09	1.50							1.50		
	ES	0.14	0.05	0.05	0.05	0.09	0.00	0.05	0.00	0.09	0.18	0.05	0.09	0.00	0.05	0.00	0.00	0.86								0.86	
14.39																											

		SPEED				WIND DIRECTION CLASSES												STABILITY CLASSES									
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL	
8.00	EU	0.00	0.00	0.05	0.05	0.00	0.00	0.27	0.00	0.00	0.05	0.00	0.00	0.00	0.18	0.32	0.05	0.95	0.95								
	MU	0.05	0.09	0.00	0.00	0.00	0.05	0.09	0.00	0.00	0.05	0.09	0.09	0.14	0.09	0.00	0.09	0.82		0.82							
	SU	0.14	0.00	0.09	0.00	0.00	0.05	0.00	0.00	0.05	0.23	0.14	0.00	0.14	0.05	0.00	0.00	0.86			0.86						
	-	N	0.86	0.91	0.86	0.14	0.14	0.86	0.41	0.95	1.54	0.41	1.86	1.50	0.82	1.91	1.50	2.22	16.89				16.89				
1.00	SS	0.36	0.73	0.23	0.14	0.59	0.45	0.32	0.45	0.95	1.04	1.04	1.23	1.23	1.54	0.64	0.23	11.17					11.17				
2.00	MS	0.09	0.18	0.18	0.05	0.09	0.23	0.18	0.00	0.05	0.00	0.09	0.27	0.27	0.45	0.18	0.23	2.54						2.54			
	ES	0.09	0.14	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.09	0.50						0.50			
33.73																											
1.00	EU	0.00	0.09	0.05	0.00	0.00	0.00	0.00	0.05	0.09	0.05	0.05	0.18	0.36	0.27	0.18	0.00	1.36	1.36								
	MU	0.00	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.09	0.05	0.18	0.14	0.05	0.05	0.05	0.00	0.68		0.68							
	SU	0.05	0.05	0.00	0.00	0.00	0.05	0.00	0.14	0.00	0.00	0.18	0.05	0.23	0.32	0.27	0.00	1.32			1.32						
	-	N	0.59	0.18	0.09	0.00	0.00	0.68	1.00	0.91	3.18	1.36	1.41	0.45	1.45	3.95	1.95	1.54	18.75				18.75				
1.00	SS	0.05	0.00	0.05	0.00	0.00	0.23	1.32	0.54	2.22	2.00	0.82	0.64	0.95	1.00	0.36	0.05	10.21					10.21				
8.00	MS	0.00	0.09	0.09	0.00	0.00	0.64	0.23	0.00	0.00	0.00	0.05	0.27	0.64	0.18	0.14	0.00	2.32						2.32			
	ES	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.18						0.18			
34.82																											

Braidwood Generating Station  
203 ft. Wind Speed and Direction

October-December, 2014  
199Ft-30Ft Delta-T (F)

		SPEED				WIND DIRECTION CLASSES												STABILITY CLASSES									
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL	
1.00 9.00 - 2.00 4.00	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59	0.32	0.00	0.00	0.91	0.91	0.54	0.59	7.49	2.63	0.00	0.00		
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.14	0.05	0.09	0.00	0.09	0.14	0.00	0.00	0.54								
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.09	0.00	0.05	0.23	0.09	0.00	0.59									
	N	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.27	0.23	1.63	0.73	0.05	1.50	1.72	0.41	0.54	7.49								
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.36	0.64	1.50	0.09	0.00	0.00	0.00	0.00	0.00	2.63								
MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00				
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00	12.17		
G T - 2.00 4.00	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.09	0.09	0.18	0.18	1.95	0.05	0.00	2.45		
	MU	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.09	0.18									
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.09	0.00	0.00	0.18									
	N	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.45	0.09	0.09	0.41	0.32	0.05	0.27	1.95								
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05								
MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00				
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00	2.45		
TOT		3.63	3.22	2.36	1.63	2.22	4.04	4.68	4.36	10.26	9.67	8.44	6.26	10.35	14.43	8.13	6.31	100.00	3.54	2.50	4.04	52.61	28.78	6.54	2.00	100.00	

Wind Direction by  
Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
0.00	0.09	0.09	0.23	0.05	0.00	0.27	0.05	0.09	0.09	0.05	0.18	0.95	0.86	0.50	0.05	3.54	Extremely Unstable
0.09	0.14	0.05	0.00	0.05	0.09	0.14	0.05	0.27	0.18	0.36	0.23	0.32	0.32	0.05	0.18	2.50	Moderately Unstable
0.18	0.05	0.14	0.09	0.00	0.14	0.05	0.18	0.18	0.41	0.59	0.09	0.64	0.91	0.36	0.05	4.04	Slightly Unstable
2.27	1.36	1.18	0.54	0.82	1.95	1.82	2.50	5.40	4.04	4.45	2.59	5.04	8.76	4.77	5.13	52.61	Neutral
0.68	1.00	0.41	0.36	0.91	0.91	1.82	1.50	4.13	4.68	2.77	2.36	2.22	2.77	1.77	0.50	28.78	Slightly Stable
0.18	0.32	0.36	0.23	0.23	0.91	0.45	0.09	0.09	0.09	0.18	0.68	1.09	0.77	0.54	0.32	6.54	Moderately Stable
0.23	0.27	0.14	0.18	0.18	0.05	0.14	0.00	0.09	0.18	0.05	0.14	0.09	0.05	0.14	0.09	2.00	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CALM
0.23	0.14	0.05	0.14	0.23	0.09	0.14	0.05	0.09	0.05	0.05	0.32	0.18	0.09	0.36	0.27	2.45	< 3.50 mph
0.54	0.54	0.54	1.09	1.13	0.73	0.54	0.59	0.91	0.50	1.41	1.00	1.23	1.45	1.54	0.64	14.39	3.60 - 7.50 mph
1.59	2.04	1.45	0.41	0.86	1.63	1.27	1.41	2.59	1.77	3.22	3.09	2.59	4.22	2.68	2.91	33.73	7.60 - 12.50 mph
0.68	0.50	0.32	0.00	0.00	1.59	2.59	1.63	5.58	3.45	2.68	1.72	3.72	5.76	3.00	1.59	34.82	12.60 - 18.50 mph
0.32	0.00	0.00	0.00	0.00	0.00	0.14	0.68	1.00	3.31	1.00	0.05	2.22	2.41	0.50	0.54	12.17	18.60 - 24.50 mph
0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.59	0.09	0.09	0.41	0.50	0.05	0.36	2.45	> 24.50 mph

Braidwood Generating Station  
34 ft. Wind Speed and Direction  
Number of Observations = 8491  
Values are Percent Occurrence

January-December, 2014  
199Ft-30Ft Delta-T (F)

		SPEED				WIND DIRECTION CLASSES												STABILITY CLASSES										
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL		
C A L M	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									
	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									
1.00 - 3.00	EU	0.00	0.01	0.01	0.04	0.04	0.06	0.08	0.05	0.04	0.02	0.00	0.02	0.05	0.00	0.02	0.05	0.48	0.48	0.42	0.29	3.36	7.60	5.49	2.21	19.86		
	MU	0.00	0.01	0.02	0.07	0.06	0.01	0.06	0.01	0.04	0.00	0.01	0.01	0.02	0.04	0.04	0.02	0.42	0.42									
	SU	0.02	0.00	0.01	0.06	0.02	0.01	0.04	0.02	0.00	0.00	0.00	0.00	0.01	0.02	0.04	0.04	0.29	0.29									
	N	0.22	0.16	0.34	0.41	0.45	0.18	0.08	0.06	0.05	0.01	0.06	0.15	0.25	0.39	0.34	0.20	3.36	3.36									
	SS	0.26	0.28	0.49	1.11	1.08	0.53	0.26	0.41	0.16	0.13	0.09	0.31	0.66	0.94	0.51	0.37	7.60	7.60									
	MS	0.21	0.13	0.18	0.41	0.84	0.72	0.22	0.18	0.08	0.09	0.14	0.34	0.90	0.61	0.27	0.16	5.49	5.49									
	ES	0.09	0.15	0.19	0.33	0.27	0.11	0.07	0.02	0.01	0.01	0.06	0.13	0.31	0.27	0.11	0.08	2.21	2.21									
4.00 - 7.00	EU	0.04	0.06	0.40	0.54	0.39	0.21	0.37	0.42	0.40	0.26	0.13	0.19	0.33	0.49	0.45	0.08	4.76	4.76	1.91	2.21	16.18	14.49	1.74	0.05	41.34		
	MU	0.07	0.08	0.11	0.08	0.06	0.07	0.12	0.11	0.15	0.09	0.16	0.07	0.19	0.29	0.14	0.11	1.91	1.91									
	SU	0.11	0.12	0.13	0.16	0.06	0.04	0.08	0.09	0.16	0.18	0.09	0.14	0.16	0.31	0.22	0.15	2.21	2.21									
	N	0.87	0.85	1.43	1.14	0.41	0.65	0.66	1.41	0.90	0.38	0.82	0.88	1.17	1.94	1.28	1.39	16.18	16.18									
	SS	0.35	0.51	0.55	0.54	0.49	0.73	1.50	1.79	1.46	0.44	0.92	1.48	1.24	1.41	0.53	0.54	14.49	14.49									
	MS	0.01	0.05	0.01	0.00	0.01	0.12	0.09	0.12	0.06	0.19	0.14	0.44	0.34	0.11	0.02	0.04	1.74	1.74									
	ES	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.05	0.05									



		SPEED				WIND DIRECTION CLASSES												STABILITY CLASSES									
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL	
8.00	EU	0.12	0.11	0.08	0.07	0.12	0.05	0.12	0.15	0.34	0.40	0.31	0.33	0.39	0.55	0.37	0.32	3.82	3.82	1.58	2.06	15.16	6.75	0.06	0.00		
	MU	0.07	0.02	0.01	0.02	0.01	0.00	0.06	0.12	0.13	0.20	0.21	0.11	0.19	0.15	0.11	0.16	1.58									
	SU	0.07	0.12	0.08	0.06	0.02	0.02	0.01	0.15	0.08	0.14	0.25	0.22	0.28	0.19	0.16	0.19	2.06									
	N	0.85	0.67	0.81	0.42	0.21	0.15	0.49	0.84	1.91	1.05	1.74	0.78	1.51	1.72	0.62	1.38	15.16									
1.00	SS	0.07	0.12	0.08	0.07	0.09	0.18	0.51	0.78	1.84	0.98	0.87	0.29	0.22	0.38	0.08	0.19	6.75									
2.00	MS	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.06									
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									
29.42																											
1.00	EU	0.00	0.00	0.00	0.00	0.00	0.01	0.06	0.12	0.07	0.11	0.11	0.15	0.22	0.02	0.01	0.01	0.90	0.90	0.39	0.48	4.99	1.51	0.00	0.00		
	MU	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.04	0.04	0.06	0.08	0.05	0.06	0.02	0.00	0.01	0.39									
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05	0.04	0.14	0.13	0.00	0.04	0.04	0.01	0.01	0.48									
	N	0.29	0.04	0.11	0.00	0.00	0.00	0.04	0.22	0.69	0.97	0.88	0.31	0.73	0.32	0.08	0.32	4.99									
1.00	SS	0.00	0.02	0.09	0.00	0.00	0.00	0.01	0.08	0.53	0.60	0.07	0.04	0.04	0.02	0.00	0.00	1.51									
8.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									
8.27																											

Braidwood Generating Station  
34 ft. Wind Speed and Direction

January-December, 2014  
199Ft-30Ft Delta-T (F)

		SPEED				WIND DIRECTION CLASSES										STABILITY CLASSES														
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL				
1.00 9.00 - 2.00 4.00	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.02	0.02	0.07	0.09	0.61	0.24	0.00	0.00					
	MU	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.02	0.07												
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.02	0.00	0.00	0.00	0.00	0.09												
	N	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.24	0.06	0.11	0.02	0.00	0.00	0.00	0.61											
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.15	0.00	0.01	0.00	0.00	0.00	0.00	0.24											
G T  2.00 4.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.01	0.00	0.02	0.00	0.00	0.00					
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00												
	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01											
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.02	0.00	0.00	0.00					
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00												
	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00												
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00												
	TOT	3.77	3.51	5.17	5.55	4.64	3.86	4.97	7.24	9.41	6.96	7.37	6.67	9.33	10.25	5.42	5.84	99.98	9.98	4.38						5.15	40.33	30.57	7.31	2.26

Wind Direction by  
Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
0.15	0.18	0.49	0.65	0.54	0.33	0.62	0.74	0.85	0.79	0.54	0.72	0.99	1.07	0.85	0.46	9.98	Extremely Unstable
0.15	0.12	0.16	0.18	0.13	0.08	0.25	0.27	0.35	0.37	0.47	0.27	0.46	0.51	0.28	0.33	4.38	Moderately Unstable
0.20	0.24	0.22	0.28	0.11	0.07	0.16	0.32	0.28	0.53	0.47	0.39	0.49	0.55	0.44	0.39	5.15	Slightly Unstable
2.26	1.72	2.69	1.98	1.07	0.98	1.27	2.53	3.71	2.66	3.57	2.23	3.67	4.37	2.33	3.29	40.33	Neutral
0.68	0.93	1.22	1.72	1.67	1.44	2.27	3.06	4.06	2.30	1.96	2.13	2.16	2.76	1.12	1.10	30.57	Slightly Stable
0.22	0.18	0.19	0.41	0.85	0.85	0.32	0.29	0.14	0.31	0.31	0.78	1.24	0.72	0.29	0.20	7.31	Moderately Stable
0.09	0.15	0.19	0.33	0.27	0.12	0.07	0.02	0.01	0.01	0.06	0.15	0.32	0.27	0.11	0.08	2.26	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	CALM
0.81	0.75	1.25	2.43	2.76	1.61	0.81	0.75	0.38	0.27	0.37	0.97	2.19	2.27	1.32	0.92	19.86	< 3.50 mph
1.45	1.66	2.63	2.47	1.43	1.83	2.81	3.95	3.13	1.53	2.27	3.23	3.44	4.56	2.65	2.31	41.34	3.60 - 7.50 mph
1.18	1.04	1.07	0.65	0.46	0.41	1.19	2.04	4.30	2.79	3.40	1.73	2.59	2.99	1.34	2.24	29.42	7.60 - 12.50 mph
0.29	0.06	0.22	0.00	0.00	0.01	0.15	0.51	1.37	1.87	1.27	0.54	1.08	0.42	0.11	0.35	8.27	12.60 - 18.50 mph
0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.46	0.06	0.20	0.02	0.00	0.00	0.02	1.04	18.60 - 24.50 mph
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.04	> 24.50 mph

Braidwood Generating Station  
 203 ft. Wind Speed and Direction  
 Number of Observations = 8746  
 Values are Percent Occurrence

January-December, 2014  
 199Ft-30Ft Delta-T (F)

		SPEED				WIND DIRECTION CLASSES										STABILITY CLASSES											
CLASS		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL	
C A L M	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
0.00																											
1.00 - 3.00	EU	0.00	0.01	0.01	0.00	0.02	0.03	0.01	0.02	0.02	0.01	0.00	0.02	0.05	0.00	0.01	0.01	0.24	0.24								
	MU	0.01	0.00	0.00	0.02	0.02	0.02	0.01	0.00	0.02	0.02	0.00	0.00	0.01	0.01	0.00	0.00	0.16		0.16							
	SU	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.02	0.03	0.00	0.13			0.13						
	N	0.07	0.07	0.10	0.13	0.06	0.06	0.03	0.02	0.01	0.01	0.01	0.11	0.06	0.05	0.11	0.10	1.01				1.01					
	SS	0.07	0.03	0.02	0.06	0.03	0.01	0.01	0.05	0.02	0.03	0.07	0.06	0.01	0.01	0.08	0.05	0.62					0.62				
	MS	0.01	0.01	0.05	0.05	0.05	0.03	0.01	0.00	0.06	0.00	0.03	0.02	0.05	0.03	0.01	0.01	0.42						0.42			
	ES	0.02	0.03	0.01	0.05	0.03	0.01	0.06	0.07	0.06	0.10	0.11	0.06	0.02	0.06	0.01	0.02	0.73							0.73		
3.30																											
4.00 - 7.00	EU	0.02	0.03	0.13	0.30	0.24	0.18	0.22	0.19	0.19	0.18	0.14	0.06	0.19	0.16	0.10	0.05	2.39	2.39								
	MU	0.05	0.06	0.02	0.08	0.07	0.02	0.06	0.05	0.09	0.06	0.09	0.05	0.10	0.17	0.06	0.05	1.06		1.06							
	SU	0.05	0.07	0.06	0.15	0.07	0.03	0.03	0.05	0.07	0.06	0.08	0.07	0.14	0.16	0.09	0.13	1.29			1.29						
	N	0.42	0.31	0.27	0.66	0.49	0.16	0.21	0.27	0.25	0.08	0.26	0.30	0.56	0.50	0.50	0.39	5.65				5.65					
	SS	0.16	0.24	0.19	0.54	0.42	0.14	0.21	0.18	0.23	0.19	0.29	0.39	0.18	0.18	0.40	0.19	4.14					4.14				
	MS	0.06	0.08	0.10	0.15	0.13	0.07	0.14	0.18	0.08	0.08	0.15	0.14	0.14	0.17	0.27	0.09	2.02						2.02			
	ES	0.08	0.07	0.05	0.07	0.05	0.06	0.18	0.21	0.16	0.17	0.07	0.10	0.02	0.06	0.11	0.06	1.51							1.51		
18.07																											

		SPEED				WIND DIRECTION CLASSES												STABILITY CLASSES									
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL	
8.00	EU	0.03	0.01	0.21	0.26	0.21	0.07	0.22	0.19	0.25	0.38	0.16	0.17	0.29	0.39	0.40	0.11	3.35	3.35								
	MU	0.09	0.05	0.06	0.06	0.02	0.07	0.10	0.03	0.11	0.11	0.11	0.10	0.14	0.19	0.13	0.22	1.60	1.60								
	SU	0.08	0.03	0.08	0.07	0.07	0.02	0.05	0.09	0.11	0.14	0.15	0.15	0.14	0.19	0.19	0.10	1.67			1.67						
	-	N	0.71	0.66	1.04	0.86	0.42	0.42	0.34	0.75	1.09	0.32	1.06	1.03	0.63	1.11	1.01	1.22	12.68				12.68				
	1.00	SS	0.45	0.43	0.49	0.82	1.05	0.39	0.74	0.95	1.28	0.73	0.71	0.93	0.97	1.18	0.89	0.65	12.67					12.67			
2.00	MS	0.16	0.18	0.10	0.14	0.22	0.31	0.39	0.18	0.17	0.10	0.09	0.21	0.35	0.54	0.45	0.23	3.82						3.82			
	ES	0.07	0.06	0.05	0.05	0.05	0.10	0.13	0.01	0.00	0.01	0.00	0.06	0.08	0.08	0.10	0.22	1.05							1.05		
																									36.84		
1.00	EU	0.03	0.09	0.07	0.07	0.09	0.07	0.05	0.09	0.18	0.27	0.17	0.23	0.19	0.45	0.33	0.22	2.61	2.61								
	MU	0.00	0.01	0.01	0.01	0.02	0.00	0.03	0.05	0.08	0.14	0.19	0.07	0.09	0.10	0.06	0.06	0.93		0.93							
	3.00	SU	0.03	0.06	0.07	0.05	0.01	0.01	0.01	0.08	0.08	0.05	0.16	0.11	0.16	0.11	0.15	0.09	1.23			1.23					
	-	N	0.59	0.42	0.88	0.46	0.14	0.25	0.48	0.56	1.54	0.97	1.20	0.53	0.88	1.72	1.07	1.15	12.85				12.85				
	1.00	SS	0.08	0.11	0.16	0.19	0.13	0.35	0.90	0.93	1.78	1.31	0.73	0.56	0.51	1.10	0.43	0.18	9.48					9.48			
8.00	MS	0.01	0.02	0.02	0.00	0.02	0.35	0.17	0.02	0.02	0.08	0.07	0.16	0.25	0.18	0.07	0.01	1.47						1.47			
	ES	0.00	0.01	0.01	0.00	0.02	0.09	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.01	0.02	0.21							0.21		
																									28.78		

Braidwood Generating Station  
203 ft. Wind Speed and Direction

January-December, 2014  
199Ft-30Ft Delta-T (F)

		SPEED				WIND DIRECTION CLASSES										STABILITY CLASSES										
	CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
1.00 9.00 - 2.00 4.00	EU	0.00	0.00	0.01	0.00	0.03	0.02	0.01	0.17	0.07	0.02	0.05	0.07	0.22	0.25	0.06	0.00	0.98	0.98	0.42	0.51	5.51	2.49	0.00	0.00	
	MU	0.00	0.00	0.03	0.00	0.00	0.00	0.02	0.01	0.07	0.02	0.06	0.02	0.05	0.10	0.03	0.00	0.42								
	SU	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.02	0.05	0.09	0.09	0.00	0.03	0.11	0.05	0.01	0.51								
	N	0.21	0.03	0.14	0.01	0.05	0.15	0.10	0.27	0.59	0.91	0.67	0.23	0.56	1.05	0.25	0.27	5.51								
	SS	0.00	0.06	0.03	0.02	0.10	0.10	0.09	0.22	0.54	0.87	0.18	0.01	0.09	0.14	0.03	0.00	2.49								
G T 2.00 4.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	EU	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.01	0.00	0.00	0.07	0.02	0.01	0.00	0.15	0.15	0.11	0.18	1.98	0.66	0.00	0.00	
	MU	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.03	0.00	0.01	0.00	0.02	0.11								
SU	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.09	0.00	0.01	0.01	0.02	0.01	0.00	0.18									
N	0.06	0.00	0.00	0.00	0.00	0.03	0.01	0.05	0.31	0.42	0.16	0.13	0.25	0.31	0.15	0.10	1.98									
SS	0.00	0.00	0.03	0.00	0.01	0.01	0.00	0.02	0.15	0.38	0.01	0.02	0.00	0.01	0.01	0.00	0.66									
2.00 4.00	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	TOT	3.64	3.28	4.53	5.31	4.36	3.72	5.08	6.03	9.81	8.47	7.34	6.21	7.52	10.97	7.71	6.05	100.00	9.72	4.29	5.02	39.68	30.06	7.74	3.50	100.00

Wind Direction by  
Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
0.09	0.15	0.42	0.63	0.59	0.39	0.50	0.67	0.74	0.88	0.51	0.55	1.01	1.27	0.91	0.39	9.72	Extremely Unstable
0.16	0.11	0.13	0.17	0.14	0.11	0.23	0.14	0.39	0.38	0.46	0.27	0.39	0.59	0.27	0.34	4.29	Moderately Unstable
0.16	0.17	0.22	0.26	0.16	0.10	0.14	0.26	0.33	0.42	0.48	0.34	0.48	0.63	0.53	0.33	5.02	Slightly Unstable
2.06	1.50	2.44	2.12	1.15	1.07	1.18	1.93	3.80	2.72	3.37	2.32	2.94	4.73	3.10	3.25	39.68	Neutral
0.75	0.88	0.94	1.64	1.75	1.01	1.96	2.34	4.00	3.52	1.99	1.97	1.77	2.62	1.85	1.07	30.06	Slightly Stable
0.24	0.30	0.27	0.33	0.41	0.77	0.71	0.39	0.33	0.26	0.34	0.53	0.79	0.93	0.80	0.34	7.74	Moderately Stable
0.17	0.17	0.11	0.16	0.15	0.26	0.37	0.29	0.22	0.29	0.18	0.23	0.15	0.19	0.24	0.32	3.50	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CALM
0.18	0.17	0.21	0.30	0.22	0.18	0.15	0.17	0.21	0.18	0.23	0.27	0.19	0.18	0.26	0.19	3.30	< 3.50 mph
0.83	0.86	0.82	1.94	1.46	0.66	1.04	1.13	1.07	0.82	1.07	1.10	1.34	1.41	1.54	0.95	18.07	3.60 - 7.50 mph
1.59	1.43	2.02	2.25	2.04	1.38	1.97	2.22	3.02	1.80	2.29	2.64	2.60	3.68	3.17	2.76	36.84	7.60 - 12.50 mph
0.75	0.73	1.22	0.78	0.43	1.13	1.65	1.73	3.69	2.82	2.53	1.67	2.12	3.66	2.13	1.74	28.78	12.60 - 18.50 mph
0.21	0.09	0.22	0.03	0.18	0.30	0.26	0.70	1.31	1.92	1.05	0.33	0.95	1.66	0.42	0.29	9.92	18.60 - 24.50 mph
0.07	0.00	0.03	0.00	0.02	0.06	0.01	0.08	0.50	0.93	0.17	0.19	0.33	0.38	0.18	0.13	3.09	> 24.50 mph

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)

APPENDIX A

LLD Tables

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)  
LLD VALUES FOR GASEOUS RELEASES

<u>Isotope</u>	<u>LLD (uCi/mL)</u>
Gross Alpha	6.23E-15
H-3	1.03E-06
Mn-54	1.59E-12
Co-58	1.56E-12
Fe-59	3.62E-12
Co-60	9.00E-13
Zn-65	5.11E-12
Kr-87	8.51E-06
Kr-88	1.09E-05
Sr-89	5.19E-14
Sr-90	3.68E-15
Mo-99	1.36E-12
I-131	9.75E-13
I-133	1.56E-12
Xe-133	9.42E-06
Xe-133m	2.80E-05
Cs-134	1.61E-12
Xe-135	3.22E-06
Cs-137	2.21E-12
Xe-138	4.51E-05
Ce-144	8.76E-12
Ce-141	2.17E-12

NOTE: LLD Value for total activity released is based on LLD values for individual isotopes used in the calculation.

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)  
LLD VALUES FOR LIQUID RELEASES

<u>Isotope</u>	<u>LLD (uCi/mL)</u>
Gross Alpha	3.75E-08
H-3	1.03E-06
Mn-54	7.28E-08
Fe-55	9.50E-07
Co-58	6.61E-08
Fe-59	1.27E-07
Co-60	7.60E-08
Ni-63	4.76E-07
Zn-65	1.90E-07
Kr-87	1.81E-07
Kr-88	2.26E-07
Sr-89	4.96E-08
Sr-90	9.74E-09
Nb-95	5.23E-08
Zr-95	1.17E-07
Mo-99	4.85E-07
I-131	1.28E-07
Xe-133	1.76E-07
Xe-133m	4.28E-07
Cs-134	6.01E-08
Xe-135	5.44E-08
Cs-137	6.42E-08
Xe-138	5.26E-06
Ba-140	2.24E-07
La-140	6.58E-08
Ce-141	1.05E-07
Ce-144	4.07E-07

NOTE: LLD Value for Total Activity Released is based on LLD Values for individual isotopes used in the calculation.



BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)

APPENDIX B

Supplemental Information

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)

**Instrument and sampling Issues**

1. On 09/02/2014 while preparing the shipment of Unit 1 and Unit 2 PR28J and PR29J air particulate filter samples, it was discovered that a single filter paper from Unit 2 was missing. The missing filter was used to sample Unit 2 effluents during the time period from 05/14/2014 through 05/21/2014. Immediately upon learning of the missing sample, a thorough search was conducted of the storage container that housed the samples during the second quarter 2014 prior to shipment. A review of the gamma spectroscopy analysis performed on the missing sample at Briadwood prior to shipment indicated that the particulate nuclides were all less than LLD. Based on sampling history and process knowledge of this location, it is reasonable to assume the missing sample was void of difficult to measure (DTM) isotopes. This issue was documented as issue report IR 1699084.
2. On 07/28/2014, it was found that the flow totalizer for remediation well number 7 (RW-7) for vacuum breaker number one (VB-1) wasn't working properly. The remediation pump was running and water could be collected from the compositor, but the flow totalizer was not measuring flow. This issue is included in the 2014 ARERR to document that water from RW-7 was being composited, collected and analyzed even though the flow totalizer was not accurately measuring flow. Even though a total discharge volume could not be calculated due to the malfunctioning totalizer, an estimated throughput could be calculated based on time the pump had been running and the design discharge flowrate (i.e. 45 gallons per minute). An issue report was written to document this in IR 1686320.

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)  
KANKAKEE RIVER FLOW

DATE	CFS	DATE	CFS	DATE	CFS
1/1/14	3,880	2/1/14	3,496	3/1/14	13,800
1/2/14	3,140	2/2/14	1,683	3/2/14	29,800
1/3/14	3,880	2/3/14	2,022	3/3/14	24,500
1/4/14	3,370	2/4/14	3,138	3/4/14	7,080
1/5/14	3,110	2/5/14	1,959	3/5/14	4,790
1/6/14	6,680	2/6/14	2,884	3/6/14	4,000
1/7/14	6,400	2/7/14	2,594	3/7/14	3,600
1/8/14	7,080	2/8/14	2,133	3/8/14	4,380
1/9/14	6,980	2/9/14	2,038	3/9/14	4,340
1/10/14	5,700	2/10/14	1,675	3/10/14	7,230
1/11/14	7,330	2/11/14	2,366	3/11/14	17,300
1/12/14	13,100	2/12/14	2,259	3/12/14	15,400
1/13/14	17,900	2/13/14	2,451	3/13/14	13,100
1/14/14	20,600	2/14/14	7,950	3/14/14	12,300
1/15/14	22,300	2/15/14	7,630	3/15/14	18,900
1/16/14	23,000	2/16/14	7,530	3/16/14	17,100
1/17/14	22,400	2/17/14	5,340	3/17/14	14,400
1/18/14	23,000	2/18/14	4,710	3/18/14	12,100
1/19/14	22,800	2/19/14	4,710	3/19/14	11,900
1/20/14	18,100	2/20/14	4,830	3/20/14	13,600
1/21/14	16,500	2/21/14	26,000	3/21/14	12,000
1/22/14	3,350	2/22/14	18,170	3/22/14	11,000
1/23/14	5,540	2/23/14	24,261	3/23/14	10,100
1/24/14	3,942	2/24/14	21,851	3/24/14	9,410
1/25/14	3,595	2/25/14	21,354	3/25/14	8,810
1/26/14	2,410	2/26/14	18,889	3/26/14	8,160
1/27/14	2,504	2/27/14	16,013	3/27/14	7,890
1/28/14	3,068	2/28/14	13,327	3/28/14	8,210
1/29/14	2,362			3/29/14	8,320
1/30/14	2,846			3/30/14	7,950
1/31/14	3,697			3/31/14	7,690
TOTAL	290,564	TOTAL	233,263	TOTAL	349,160
AVG	9,373	AVG	8,331	AVG	11,263
Historical Avg 1941-1976 4586 cfs		Historical Avg 1941-1976 5579 cfs		Historical Avg 1941-1976 6625 cfs	

Note-Kankakee River Flows obtained from US Geological Survey website at noon local time.

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)  
KANKAKEE RIVER FLOW

DATE	CFS	DATE	CFS	DATE	CFS
4/1/14	7,130	5/1/14	5,260	6/1/14	5,000
4/2/14	6,730	5/2/14	5,080	6/2/14	4,500
4/3/14	7,950	5/3/14	4,870	6/3/14	4,090
4/4/14	13,800	5/4/14	4,540	6/4/14	3,920
4/5/14	15,400	5/5/14	4,540	6/5/14	3,920
4/6/14	15,500	5/6/14	4,420	6/6/14	3,960
4/7/14	14,700	5/7/14	4,260	6/7/14	4,210
4/8/14	12,700	5/8/14	4,210	6/8/14	4,620
4/9/14	10,800	5/9/14	1,660	6/9/14	6,400
4/10/14	9,790	5/10/14	6,070	6/10/14	6,400
4/11/14	9,090	5/11/14	5,650	6/11/14	15,500
4/12/14	8,430	5/12/14	11,200	6/12/14	16,400
4/13/14	7,790	5/13/14	13,600	6/13/14	15,100
4/14/14	7,280	5/14/14	16,400	6/14/14	13,600
4/15/14	6,830	5/15/14	16,400	6/15/14	11,500
4/16/14	6,350	5/16/14	17,300	6/16/14	8,810
4/17/14	5,880	5/17/14	18,000	6/17/14	6,830
4/18/14	5,520	5/18/14	16,800	6/18/14	5,810
4/19/14	5,170	5/19/14	15,500	6/19/14	4,790
4/20/14	4,910	5/20/14	13,600	6/20/14	13,800
4/21/14	4,710	5/21/14	11,200	6/21/14	16,100
4/22/14	4,750	5/22/14	9,140	6/22/14	20,800
4/23/14	4,580	5/23/14	7,530	6/23/14	18,200
4/24/14	4,540	5/24/14	6,590	6/24/14	14,200
4/25/14	4,460	5/25/14	5,930	6/25/14	17,100
4/26/14	4,380	5/26/14	5,480	6/26/14	19,800
4/27/14	4,260	5/27/14	5,520	6/27/14	20,100
4/28/14	4,380	5/28/14	5,520	6/28/14	18,800
4/29/14	4,910	5/29/14	5,040	6/29/14	16,200
4/30/14	5,340	5/30/14	4,830	6/30/14	14,300
		5/31/14	5,170		
TOTAL	228,060	TOTAL	261,310	TOTAL	334,760
AVG	7,602	AVG	8,429	AVG	11,159
Historical Avg 1941-1976 7463 cfs		Historical Avg 1941-1976 6608 cfs		Historical Avg 1941-1976 4847 cfs	

Note-Kankakee River Flows obtained from US Geological Survey website at noon local time.

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)  
KANKAKEE RIVER FLOW

DATE	CFS	DATE	CFS	DATE	CFS
7/1/14	17,000	8/1/14	1,760	9/1/14	5,880
7/2/14	17,500	8/2/14	1,570	9/2/14	7,530
7/3/14	14,400	8/3/14	1,620	9/3/14	7,890
7/4/14	12,100	8/4/14	1,570	9/4/14	7,480
7/5/14	9,680	8/5/14	1,570	9/5/14	6,210
7/6/14	7,890	8/6/14	1,520	9/6/14	5,340
7/7/14	6,930	8/7/14	1,420	9/7/14	4,830
7/8/14	6,110	8/8/14	1,370	9/8/14	4,500
7/9/14	5,170	8/9/14	1,230	9/9/14	4,420
7/10/14	4,830	8/10/14	1,140	9/10/14	5,480
7/11/14	4,380	8/11/14	1,140	9/11/14	9,680
7/12/14	5,430	8/12/14	1,270	9/12/14	10,800
7/13/14	10,600	8/13/14	1,270	9/13/14	11,500
7/14/14	10,700	8/14/14	1,250	9/14/14	11,300
7/15/14	8,980	8/15/14	1,270	9/15/14	10,300
7/16/14	8,110	8/16/14	1,250	9/16/14	9,030
7/17/14	6,980	8/17/14	1,210	9/17/14	7,890
7/18/14	5,970	8/18/14	1,160	9/18/14	7,330
7/19/14	5,040	8/19/14	1,180	9/19/14	6,590
7/20/14	4,260	8/20/14	1,140	9/20/14	5,700
7/21/14	3,720	8/21/14	1,050	9/21/14	5,840
7/22/14	3,330	8/22/14	1,210	9/22/14	5,610
7/23/14	3,030	8/23/14	2,420	9/23/14	5,480
7/24/14	2,580	8/24/14	3,220	9/24/14	5,650
7/25/14	2,510	8/25/14	4,170	9/25/14	5,480
7/26/14	2,420	8/26/14	5,740	9/26/14	5,080
7/27/14	2,320	8/27/14	5,790	9/27/14	4,620
7/28/14	2,170	8/28/14	5,520	9/28/14	4,170
7/29/14	2,040	8/29/14	5,430	9/29/14	3,840
7/30/14	1,960	8/30/14	5,340	9/30/14	3,520
7/31/14	1,840	8/31/14	5,130		
TOTAL	199,980	TOTAL	71,930	TOTAL	198,970
AVG	6,451	AVG	2,320	AVG	6,632
Historical Avg 1941-1976 3094 cfs		Historical Avg 1941-1976 1613 cfs		Historical Avg 1941-1976 1353 cfs	

Note-Kankakee River Flows obtained from US Geological Survey website at noon local time.

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)  
KANKAKEE RIVER FLOW

DATE	CFS	DATE	CFS	DATE	CFS
10/1/14	3,330	11/1/14	3,520	12/1/14	7,630
10/2/14	3,220	11/2/14	3,370	12/2/14	7,030
10/3/14	5,170	11/3/14	3,330	12/3/14	6,350
10/4/14	12,900	11/4/14	3,370	12/4/14	5,840
10/5/14	13,500	11/5/14	3,440	12/5/14	5,260
10/6/14	13,100	11/6/14	3,440	12/6/14	4,790
10/7/14	12,600	11/7/14	3,480	12/7/14	4,460
10/8/14	11,300	11/8/14	3,480	12/8/14	4,300
10/9/14	9,840	11/9/14	3,600	12/9/14	4,260
10/10/14	8,640	11/10/14	3,560	12/10/14	4,260
10/11/14	8,110	11/11/14	3,370	12/11/14	4,300
10/12/14	7,480	11/12/14	3,440	12/12/14	4,340
10/13/14	6,830	11/13/14	3,330	12/13/14	4,300
10/14/14	6,590	11/14/14	3,220	12/14/14	4,090
10/15/14	8,920	11/15/14	3,030	12/15/14	3,880
10/16/14	11,200	11/16/14	2,960	12/16/14	3,840
10/17/14	11,400	11/17/14	2,780	12/17/14	3,840
10/18/14	10,300	11/18/14	2,290	12/18/14	3,720
10/19/14	9,090	11/19/14	2,820	12/19/14	3,680
10/20/14	7,950	11/20/14	2,750	12/20/14	3,600
10/21/14	7,180	11/21/14	2,960	12/21/14	3,560
10/22/14	6,440	11/22/14	3,000	12/22/14	3,520
10/23/14	5,790	11/23/14	2,920	12/23/14	3,960
10/24/14	5,210	11/24/14	4,000	12/24/14	5,260
10/25/14	4,750	11/25/14	10,700	12/25/14	6,440
10/26/14	4,420	11/26/14	11,600	12/26/14	7,740
10/27/14	4,130	11/27/14	10,800	12/27/14	7,950
10/28/14	4,050	11/28/14	9,680	12/28/14	7,430
10/29/14	3,960	11/29/14	8,590	12/29/14	6,930
10/30/14	3,800	11/30/14	7,950	12/30/14	6,300
10/31/14	3,520			12/31/14	5,650
TOTAL	234,720	TOTAL	136,780	TOTAL	158,510
AVG	7,572	AVG	4,559	AVG	5,113
Historical Avg 1941-1976 1836 cfs		Historical Avg 1941-1976 2547 cfs		Historical Avg 1941-1976 3379 cfs	

Note-Kankakee River Flows obtained from US Geological Survey website at noon local time.

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)

APPENDIX C

Unit Specific Annual Effluent Summaries

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT  
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2014 00:00  
 Period End Date.....: 01/01/2015 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 1

=== RELEASE DATA ===  
 Total Release Duration (minutes)..... 5.441E+05  
 Total Release Volume (cf)..... 8.248E+10  
 Average Release Flowrate (cfm)..... 1.516E+05  
 Average Period Flowrate (cfm)..... 1.569E+05

=== NUCLIDE DATA ===

Nuclide	uCi	Average uCi/cc	ECrcent Ratio	EC
AR-41	1.61E+04	6.88E-12	6.88E-04	1.00E-08
KR-85M	0.00E+00	0.00E+00	0.00E+00	1.00E-07
KR-85	0.00E+00	0.00E+00	0.00E+00	7.00E-07
KR-87	0.00E+00	0.00E+00	0.00E+00	2.00E-08
XE-133M	2.54E+03	1.09E-12	1.81E-06	6.00E-07
KR-89	0.00E+00	0.00E+00	0.00E+00	1.00E-09
KR-83M	0.00E+00	0.00E+00	0.00E+00	5.00E-05
KR-88	0.00E+00	0.00E+00	0.00E+00	9.00E-09
XE-131M	5.19E+04	2.22E-11	1.11E-05	2.00E-06
XE-135	1.80E+04	7.72E-12	1.10E-04	7.00E-08
XE-133	1.16E+05	4.98E-11	9.96E-05	5.00E-07
F&AG	2.05E+05	8.77E-11	9.11E-04	
I-131	5.09E+00	2.18E-15	1.09E-05	2.00E-10
I-132	3.98E+01	1.70E-14	8.52E-07	2.00E-08
I-133	5.64E+01	2.41E-14	2.41E-05	1.00E-09
I-134	9.88E-01	4.23E-16	7.05E-09	6.00E-08
I-135	5.55E+00	2.37E-15	3.96E-07	6.00E-09
Iodine	1.08E+02	4.61E-14	3.63E-05	
C-14	4.45E+06	1.90E-09	6.34E-01	3.00E-09
Other	4.45E+06	1.90E-09	6.34E-01	



GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT  
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types  
Period Start Date....: 01/01/2014 00:00  
Period End Date.....: 01/01/2015 00:00  
Period Duration (min): 5.256E+05  
Coefficient Type.....: Historical  
Unit.....: 1

## === NUCLIDE DATA =====

Nuclide	uCi	Average uCi/cc	ECrcent Ratio	EC
H-3	9.28E+07	3.97E-08	3.97E-01	1.00E-07
H-3	9.28E+07	3.97E-08	3.97E-01	
CO-60	0.00E+00	0.00E+00	0.00E+00	5.00E-11
P>=8	0.00E+00	0.00E+00	0.00E+00	
Total	9.74E+07	4.17E-08	1.03E+00	

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT  
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2014 00:00  
 Period End Date.....: 01/01/2015 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 1  
 Receptor.....: 5 Composite Crit. Receptor - IP  
 Distance (meters)....: 610  
 Compass Point.....: 0.0

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=== PERIOD DOSE BY AGEGROUP, PATHWAY, ORGAN (mrem) =====
Age/Path Bone      Liver      Thyroid    Kidney     Lung      GI-Lli     Skin      TB
-----
AGPD      1.51E-07  1.51E-07  1.51E-07  1.51E-07  1.51E-07  1.51E-07  0.00E+00  1.51E-07
AINHL     2.98E-03  3.01E-03  3.02E-03  3.01E-03  3.01E-03  3.01E-03  0.00E+00  3.01E-03
AVEG      1.47E-01  3.37E-02  3.38E-02  3.37E-02  3.37E-02  3.37E-02  0.00E+00  3.37E-02
AGMILK    4.40E-03  3.91E-03  4.39E-03  3.92E-03  3.91E-03  3.91E-03  0.00E+00  3.91E-03
ACMEAT    5.45E-02  1.15E-02  1.15E-02  1.15E-02  1.15E-02  1.15E-02  0.00E+00  1.15E-02
ACMILK    5.94E-02  1.34E-02  1.38E-02  1.34E-02  1.34E-02  1.34E-02  0.00E+00  1.34E-02
TGPD      1.51E-07  1.51E-07  1.51E-07  1.51E-07  1.51E-07  1.51E-07  0.00E+00  1.51E-07
TINHL     4.25E-03  3.27E-03  3.28E-03  3.27E-03  3.27E-03  3.27E-03  0.00E+00  3.27E-03
TVEG      2.37E-01  5.26E-02  5.27E-02  5.26E-02  5.26E-02  5.26E-02  0.00E+00  5.26E-02
TGMILK    7.95E-03  5.53E-03  6.29E-03  5.54E-03  5.53E-03  5.53E-03  0.00E+00  5.53E-03
TCMEAT    4.60E-02  9.57E-03  9.58E-03  9.57E-03  9.57E-03  9.57E-03  0.00E+00  9.57E-03
TCMILK    1.10E-01  2.39E-02  2.45E-02  2.39E-02  2.39E-02  2.39E-02  0.00E+00  2.39E-02
CGPD      1.51E-07  1.51E-07  1.51E-07  1.51E-07  1.51E-07  1.51E-07  0.00E+00  1.51E-07
CINHL     5.87E-03  3.29E-03  3.30E-03  3.29E-03  3.29E-03  3.29E-03  0.00E+00  3.29E-03
CVEG      5.73E-01  1.23E-01  1.23E-01  1.23E-01  1.23E-01  1.23E-01  0.00E+00  1.23E-01
CGMILK    2.55E-01  6.01E-02  6.16E-02  6.01E-02  6.01E-02  6.01E-02  0.00E+00  6.01E-02
CCMEAT    8.65E-02  1.78E-02  1.78E-02  1.78E-02  1.78E-02  1.78E-02  0.00E+00  1.78E-02
CCMILK    2.70E-01  5.69E-02  5.82E-02  5.69E-02  5.69E-02  5.69E-02  0.00E+00  5.69E-02
IGPD      1.51E-07  1.51E-07  1.51E-07  1.51E-07  1.51E-07  1.51E-07  0.00E+00  1.51E-07
IINHL     4.34E-03  2.13E-03  2.14E-03  2.13E-03  2.13E-03  2.13E-03  0.00E+00  2.13E-03
IGMILK    5.28E-01  1.22E-01  1.26E-01  1.22E-01  1.22E-01  1.22E-01  0.00E+00  1.22E-01
ICMILK    5.28E-01  1.17E-01  1.20E-01  1.17E-01  1.17E-01  1.17E-01  0.00E+00  1.17E-01
  
```

```

=== PERIOD DOSE BY AGEGROUP, ORGAN (mrem) =====
Agegroup Bone      Liver      Thyroid    Kidney     Lung      GI-Lli     Skin      TB
-----
ADULT     2.68E-01  6.55E-02  6.65E-02  6.55E-02  6.55E-02  6.55E-02  0.00E+00  6.55E-02
TEEN      4.05E-01  9.49E-02  9.64E-02  9.49E-02  9.49E-02  9.49E-02  0.00E+00  9.49E-02
CHILD     1.19E+00  2.61E-01  2.64E-01  2.61E-01  2.61E-01  2.61E-01  0.00E+00  2.61E-01
INFANT    1.06E+00  2.42E-01  2.48E-01  2.42E-01  2.42E-01  2.42E-01  0.00E+00  2.42E-01
  
```

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT  
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2014 00:00  
 Period End Date.....: 01/01/2015 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 1  
 Receptor.....: 5 Composite Crit. Receptor - IP  
 Distance (meters)....: 610  
 Compass Point.....: 0.0

=== MAXIMUM PERIOD DOSE TO LIMIT (Any Organ) ===

Dose	Age		Dose	Limit	Admin	Admin %	T.Spec	T.Spec %
Period	Group	Organ	(mrem)	Period	Limit	of Limit	Limit	of Limit
Strt->End	CHILD	BONE	1.19E+00	31-day	2.25E-01	5.29E+02	3.00E-01	3.97E+02
Qrtr->End	CHILD	BONE	1.19E+00	Quarter	5.63E+00	2.12E+01	7.50E+00	1.59E+01
Year->End	CHILD	BONE	1.19E+00	Annual	1.13E+01	1.06E+01	1.50E+01	7.93E+00

Critical Pathway.....: 2 Vegetation (VEG)  
 Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
H-3	0.00E+00
C-14	1.00E+02
CO-60	0.00E+00
I-131	6.79E-04
I-132	2.43E-06
I-133	1.11E-04
I-134	2.29E-08
I-135	7.42E-07

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT  
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2014 00:00  
 Period End Date.....: 01/01/2015 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 1

=== MAXIMUM PERIOD DOSE TO LIMIT (Tot Body) ===

Dose Period	Age Group	Organ	Dose (mrem)	Limit Period	Admin Limit	Admin % of Limit	T.Spec Limit	T.Spec % of Limit
Stprt->End	CHILD	TBODY	2.61E-01	31-day	1.50E-01	1.74E+02	2.00E-01	1.30E+02
Qrtr->End	CHILD	TBODY	2.61E-01	Quarter	5.25E+00	4.96E+00	7.50E+00	3.47E+00
Year->End	CHILD	TBODY	2.61E-01	Annual	1.05E+01	2.48E+00	1.50E+01	1.74E+00

Critical Pathway.....: 2 Vegetation (VEG)  
 Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
H-3	7.60E+00
C-14	9.25E+01
CO-60	0.00E+00
I-131	1.78E-03
I-132	1.10E-05
I-133	2.52E-04
I-134	1.02E-07
I-135	3.30E-06

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT  
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2014 00:00  
 Period End Date.....: 01/01/2015 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 1  
 Receptor.....: 4 Composite Crit. Receptor - NG  
 Distance (meters)....: 610  
 Compass Point.....: 0.0

=== MAXIMUM PERIOD NG DOSE TO LIMIT (Gamma) =====

Dose	Dose	Limit	Admin	Admin %	T.Spec	T.Spec %	
Period	Dose Type	(mrad)	Period	Limit	of Limit	Limit	of Limit
-----	-----	-----	-----	-----	-----	-----	-----
Strt->End	Gamma	5.28E-06	31-day	1.50E-01	3.52E-03	2.00E-01	2.64E-03
Qrtr->End	Gamma	5.28E-06	Quarter	3.75E+00	1.41E-04	5.00E+00	1.06E-04
Year->End	Gamma	5.28E-06	Annual	7.50E+00	7.04E-05	1.00E+01	5.28E-05

Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
-----	-----
AR-41	6.38E+01
KR-85M	0.00E+00
KR-85	0.00E+00
KR-87	0.00E+00
XE-133M	3.55E-01
KR-89	0.00E+00
KR-83M	0.00E+00
KR-88	0.00E+00
XE-131M	3.46E+00
XE-135	1.48E+01
XE-133	1.75E+01

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT  
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2014 00:00  
 Period End Date.....: 01/01/2015 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 1

=== MAXIMUM PERIOD NG DOSE TO LIMIT (Beta) =====

Dose	Dose	Limit	Admin	Admin %	T.Spec	T.Spec %	
Period	Dose Type	(mrad)	Period	Limit	of Limit	Limit	of Limit
-----	-----	-----	-----	-----	-----	-----	-----
Strt->End Beta		1.03E-05	31-day	3.00E-01	3.44E-03	4.00E-01	2.58E-03
Qrtr->End Beta		1.03E-05	Quarter	7.50E+00	1.38E-04	1.00E+01	1.03E-04
Year->End Beta		1.03E-05	Annual	1.50E+01	6.89E-05	2.00E+01	5.16E-05

Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
-----	-----
AR-41	1.88E+01
KR-85M	0.00E+00
KR-85	0.00E+00
KR-87	0.00E+00
XE-133M	1.34E+00
KR-89	0.00E+00
KR-83M	0.00E+00
KR-88	0.00E+00
XE-131M	2.05E+01
XE-135	1.58E+01
XE-133	4.35E+01

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT  
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2014 00:00  
 Period End Date.....: 01/01/2015 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 2

=== RELEASE DATA ===

Total Release Duration (minutes)..... 5.570E+05  
 Total Release Volume (cf)..... 6.836E+10  
 Average Release Flowrate (cfm)..... 1.227E+05

Average Period Flowrate (cfm)..... 1.301E+05

=== NUCLIDE DATA ===

Nuclide	uCi	Average uCi/cc	ECrcent Ratio	EC
AR-41	0.00E+00	0.00E+00	0.00E+00	1.00E-08
KR-85M	0.00E+00	0.00E+00	0.00E+00	1.00E-07
KR-85	0.00E+00	0.00E+00	0.00E+00	7.00E-07
KR-87	0.00E+00	0.00E+00	0.00E+00	2.00E-08
XE-133M	2.54E+03	1.31E-12	2.19E-06	6.00E-07
KR-89	0.00E+00	0.00E+00	0.00E+00	1.00E-09
KR-88	0.00E+00	0.00E+00	0.00E+00	9.00E-09
XE-131M	0.00E+00	0.00E+00	0.00E+00	2.00E-06
XE-135	1.80E+04	9.32E-12	1.33E-04	7.00E-08
XE-133	1.16E+05	6.01E-11	1.20E-04	5.00E-07
F&AG	1.37E+05	7.07E-11	2.56E-04	
I-131	2.84E-01	1.47E-16	7.33E-07	2.00E-10
I-132	1.65E+02	8.52E-14	4.26E-06	2.00E-08
Iodine	1.65E+02	8.54E-14	4.99E-06	
C-14	4.17E+06	2.15E-09	7.17E-01	3.00E-09
Other	4.17E+06	2.15E-09	7.17E-01	

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT  
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types  
Period Start Date....: 01/01/2014 00:00  
Period End Date.....: 01/01/2015 00:00  
Period Duration (min): 5.256E+05  
Coefficient Type.....: Historical  
Unit.....: 2

## === NUCLIDE DATA =====

Nuclide	uCi	Average uCi/cc	ECrcent Ratio	EC
H-3	1.78E+08	9.17E-08	9.17E-01	1.00E-07
H-3	1.78E+08	9.17E-08	9.17E-01	
CO-60	0.00E+00	0.00E+00	0.00E+00	5.00E-11
CE-144	1.15E+02	5.96E-14	2.98E-03	2.00E-11
P>=8	1.15E+02	5.96E-14	2.98E-03	
Total	1.82E+08	9.40E-08	1.64E+00	



GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT  
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2014 00:00  
 Period End Date.....: 01/01/2015 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 2  
 Receptor.....: 5 Composite Crit. Receptor - IP  
 Distance (meters)....: 610  
 Compass Point.....: 0.0

```

=== PERIOD DOSE BY AGEGROUP, PATHWAY, ORGAN (mrem) =====
Age/Path Bone      Liver      Thyroid    Kidney     Lung      GI-Lli     Skin      TB
-----
AGPD      4.29E-06  4.29E-06  4.29E-06  4.29E-06  4.29E-06  4.29E-06  0.00E+00  4.29E-06
AINHL     2.81E-03  5.22E-03  5.22E-03  5.22E-03  5.25E-03  5.22E-03  0.00E+00  5.22E-03
AVEG      1.38E-01  3.59E-02  3.59E-02  3.59E-02  3.59E-02  3.65E-02  0.00E+00  3.59E-02
AGMILK    4.12E-03  6.63E-03  6.65E-03  6.63E-03  6.63E-03  6.63E-03  0.00E+00  6.63E-03
ACMEAT    5.11E-02  1.14E-02  1.14E-02  1.14E-02  1.14E-02  1.15E-02  0.00E+00  1.14E-02
ACMILK    5.57E-02  1.40E-02  1.40E-02  1.40E-02  1.40E-02  1.40E-02  0.00E+00  1.40E-02
TGPD      4.29E-06  4.29E-06  4.29E-06  4.29E-06  4.29E-06  4.29E-06  0.00E+00  4.29E-06
TINHL     4.01E-03  5.49E-03  5.48E-03  5.49E-03  5.54E-03  5.49E-03  0.00E+00  5.48E-03
TVEG      2.22E-01  5.43E-02  5.43E-02  5.43E-02  5.43E-02  5.51E-02  0.00E+00  5.43E-02
TGMILK    7.45E-03  9.04E-03  9.08E-03  9.04E-03  9.04E-03  9.04E-03  0.00E+00  9.04E-03
TCMEAT    4.31E-02  9.34E-03  9.34E-03  9.34E-03  9.34E-03  9.36E-03  0.00E+00  9.34E-03
TCMILK    1.03E-01  2.42E-02  2.43E-02  2.42E-02  2.42E-02  2.43E-02  0.00E+00  2.42E-02
CGPD      4.29E-06  4.29E-06  4.29E-06  4.29E-06  4.29E-06  4.29E-06  0.00E+00  4.29E-06
CINHL     5.53E-03  5.22E-03  5.22E-03  5.22E-03  5.27E-03  5.22E-03  0.00E+00  5.22E-03
CVEG      5.37E-01  1.22E-01  1.22E-01  1.22E-01  1.22E-01  1.23E-01  0.00E+00  1.22E-01
CGMILK    2.39E-01  6.24E-02  6.25E-02  6.24E-02  6.24E-02  6.24E-02  0.00E+00  6.24E-02
CCMEAT    8.11E-02  1.71E-02  1.71E-02  1.71E-02  1.71E-02  1.71E-02  0.00E+00  1.71E-02
CCMILK    2.53E-01  5.63E-02  5.64E-02  5.63E-02  5.63E-02  5.63E-02  0.00E+00  5.63E-02
IGPD      4.29E-06  4.29E-06  4.29E-06  4.29E-06  4.29E-06  4.29E-06  0.00E+00  4.29E-06
IINHL     4.08E-03  3.23E-03  3.22E-03  3.22E-03  3.26E-03  3.22E-03  0.00E+00  3.22E-03
IGMILK    4.95E-01  1.24E-01  1.24E-01  1.24E-01  1.24E-01  1.24E-01  0.00E+00  1.24E-01
ICMILK    4.95E-01  1.15E-01  1.15E-01  1.15E-01  1.15E-01  1.15E-01  0.00E+00  1.15E-01
  
```

```

=== PERIOD DOSE BY AGEGROUP, ORGAN (mrem) =====
Agegroup Bone      Liver      Thyroid    Kidney     Lung      GI-Lli     Skin      TB
-----
ADULT     2.51E-01  7.31E-02  7.32E-02  7.31E-02  7.32E-02  7.38E-02  0.00E+00  7.31E-02
TEEN      3.80E-01  1.02E-01  1.02E-01  1.02E-01  1.02E-01  1.03E-01  0.00E+00  1.02E-01
CHILD     1.12E+00  2.64E-01  2.64E-01  2.64E-01  2.64E-01  2.64E-01  0.00E+00  2.64E-01
INFANT    9.95E-01  2.42E-01  2.42E-01  2.42E-01  2.42E-01  2.42E-01  0.00E+00  2.42E-01
  
```

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT  
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2014 00:00  
 Period End Date.....: 01/01/2015 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 2  
 Receptor.....: 5 Composite Crit. Receptor - IP  
 Distance (meters)....: 610  
 Compass Point.....: 0.0

=== MAXIMUM PERIOD DOSE TO LIMIT (Any Organ) ===

Dose Period	Age Group	Organ	Dose (mrem)	Limit Period	Admin Limit	Admin % of Limit	T.Spec Limit	T.Spec % of Limit
Strt->End	CHILD	BONE	1.12E+00	31-day	2.25E-01	4.96E+02	3.00E-01	3.72E+02
Qrtr->End	CHILD	BONE	1.12E+00	Quarter	5.63E+00	1.98E+01	7.50E+00	1.49E+01
Year->End	CHILD	BONE	1.12E+00	Annual	1.13E+01	9.92E+00	1.50E+01	7.44E+00

Critical Pathway.....: 2 Vegetation (VEG)  
 Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
H-3	0.00E+00
C-14	1.00E+02
CO-60	0.00E+00
I-131	4.03E-05
I-132	1.08E-05
CE-144	3.66E-03

=== MAXIMUM PERIOD DOSE TO LIMIT (Tot Body) ===

Dose Period	Age Group	Organ	Dose (mrem)	Limit Period	Admin Limit	Admin % of Limit	T.Spec Limit	T.Spec % of Limit
Strt->End	CHILD	TBODY	2.64E-01	31-day	1.50E-01	1.76E+02	2.00E-01	1.32E+02
Qrtr->End	CHILD	TBODY	2.64E-01	Quarter	5.25E+00	5.02E+00	7.50E+00	3.51E+00
Year->End	CHILD	TBODY	2.64E-01	Annual	1.05E+01	2.51E+00	1.50E+01	1.76E+00

Critical Pathway.....: 2 Vegetation (VEG)  
 Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
H-3	1.43E+01
C-14	8.58E+01
CO-60	0.00E+00
I-131	9.79E-05
I-132	4.48E-05
CE-144	2.33E-03

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT  
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2014 00:00  
 Period End Date.....: 01/01/2015 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 2  
 Receptor.....: 4 Composite Crit. Receptor - NG  
 Distance (meters)....: 610  
 Compass Point.....: 0.0

=== MAXIMUM PERIOD NG DOSE TO LIMIT (Gamma) ===

Dose Period	Dose Type	Dose (mrad)	Limit Period	Admin Limit	Admin % of Limit	T.Spec Limit	T.Spec % of Limit
Strt->End	Gamma	1.73E-06	31-day	1.50E-01	1.15E-03	2.00E-01	8.64E-04
Qrtr->End	Gamma	1.73E-06	Quarter	3.75E+00	4.61E-05	5.00E+00	3.46E-05
Year->End	Gamma	1.73E-06	Annual	7.50E+00	2.30E-05	1.00E+01	1.73E-05

Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
AR-41	0.00E+00
KR-85M	0.00E+00
KR-85	0.00E+00
KR-87	0.00E+00
XE-133M	1.09E+00
KR-89	0.00E+00
KR-88	0.00E+00
XE-131M	0.00E+00
XE-135	4.53E+01
XE-133	5.37E+01

=== MAXIMUM PERIOD NG DOSE TO LIMIT (Beta) ===

Dose Period	Dose Type	Dose (mrad)	Limit Period	Admin Limit	Admin % of Limit	T.Spec Limit	T.Spec % of Limit
Strt->End	Beta	6.27E-06	31-day	3.00E-01	2.09E-03	4.00E-01	1.57E-03
Qrtr->End	Beta	6.27E-06	Quarter	7.50E+00	8.36E-05	1.00E+01	6.27E-05
Year->End	Beta	6.27E-06	Annual	1.50E+01	4.18E-05	2.00E+01	3.13E-05

Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
AR-41	0.00E+00
KR-85M	0.00E+00
KR-85	0.00E+00
KR-87	0.00E+00
XE-133M	2.21E+00
KR-89	0.00E+00
KR-88	0.00E+00
XE-131M	0.00E+00
XE-135	2.61E+01
XE-133	7.17E+01

LIQUID RELEASE AND DOSE SUMMARY REPORT  
----- (PERIOD BASIS - BY UNIT) -----

Release ID.....: 1 All Liquid Release Types  
Period Start Date.....: 01/01/2014 00:00  
Period End Date.....: 01/01/2015 00:00  
Period Duration (mins): 5.256E+05  
Unit.....: 1

=== MULTIPLE RELEASE POINT MESSAGE =====  
Undiluted and Diluted Flowrate(s) and Concentration(s) cannot be combined.

=== RELEASE DATA =====  
Total Release Duration (minutes)..... 1.630E+06  
Total Undiluted Volume Released (gallons)..... NA  
Average Undiluted Flowrate (gpm)..... NA  
  
Total Dilution Volume (gallons)..... NA  
Average Dilution Flowrate (gpm)..... NA

=== NUCLIDE DATA =====  
Nuclide      uCi  
-----  
CO-57      1.20E+02  
NB-97      4.01E+02  
SN-113      2.57E+02  
SB-124      3.12E+01  
SB-125      2.18E+03  
TE-123M      2.39E+02  
CR-51      1.85E+03  
MN-54      7.40E+02  
FE-59      1.39E+02  
CO-58      1.30E+04  
CO-60      1.49E+04  
ZN-65      8.71E+01  
ZR-95      3.97E+02  
NB-95      8.64E+02  
AG-110M      2.63E+02  
TE-125M      4.06E+03  
I-133      9.91E-01  
-----  
Gamma      3.95E+04  
  
XE-133      3.84E+00  
-----  
D&EG      3.84E+00

LIQUID RELEASE AND DOSE SUMMARY REPORT  
----- (PERIOD BASIS - BY UNIT) -----

Release ID.....: 1 All Liquid Release Types  
Period Start Date.....: 01/01/2014 00:00  
Period End Date.....: 01/01/2015 00:00  
Period Duration (mins): 5.256E+05

=== NUCLIDE DATA =====  
Nuclide uCi

H-3	1.50E+09
FE-55	6.37E+03
NI-63	1.48E+03
-----	-----
Beta	1.50E+09
-----	-----
-----	-----
Total	1.50E+09

LIQUID RELEASE AND DOSE SUMMARY REPORT  
 ----- (PERIOD BASIS - BY UNIT) -----

Release ID.....: 1 All Liquid Release Types  
 Period Start Date.....: 01/01/2014 00:00  
 Period End Date.....: 01/01/2015 00:00  
 Period Duration (mins): 5.256E+05  
 Unit.....: 1  
 Receptor.....: 0 Liquid Receptor

=== PERIOD DOSE BY AGEGROUP, PATHWAY, ORGAN (mrem) ===

Age/Path	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
APWtr	1.95E-05	1.29E-02	1.29E-02	1.29E-02	1.29E-02	1.30E-02	0.00E+00	1.29E-02
AFWFSp	1.07E-03	5.79E-03	5.41E-03	6.17E-03	5.39E-03	3.00E-02	0.00E+00	5.67E-03
TPWtr	1.86E-05	9.12E-03	9.11E-03	9.11E-03	9.12E-03	9.17E-03	0.00E+00	9.12E-03
TFWFSp	1.11E-03	4.55E-03	4.17E-03	4.21E-03	4.15E-03	2.16E-02	0.00E+00	4.44E-03
CPWtr	5.64E-05	1.75E-02	1.75E-02	1.75E-02	1.75E-02	1.75E-02	0.00E+00	1.75E-02
CFWFSp	1.44E-03	3.79E-03	3.48E-03	3.48E-03	3.44E-03	9.69E-03	0.00E+00	3.77E-03
IPWtr	4.48E-05	1.72E-02	1.72E-02	1.72E-02	1.72E-02	1.72E-02	0.00E+00	1.72E-02

=== PERIOD DOSE BY AGEGROUP, ORGAN (mrem) ===

Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
ADULT	1.09E-03	1.87E-02	1.84E-02	1.91E-02	1.83E-02	4.30E-02	0.00E+00	1.86E-02
TEEN	1.13E-03	1.37E-02	1.33E-02	1.33E-02	1.33E-02	3.08E-02	0.00E+00	1.36E-02
CHILD	1.50E-03	2.13E-02	2.10E-02	2.10E-02	2.09E-02	2.72E-02	0.00E+00	2.13E-02
INFANT	4.48E-05	1.72E-02	1.72E-02	1.72E-02	1.72E-02	1.72E-02	0.00E+00	1.72E-02

LIQUID RELEASE AND DOSE SUMMARY REPORT  
 ----- (PERIOD BASIS - BY UNIT) -----

Release ID.....: 1 All Liquid Release Types  
 Period Start Date.....: 01/01/2014 00:00  
 Period End Date.....: 01/01/2015 00:00  
 Period Duration (mins): 5.256E+05  
 Unit.....: 1  
 Receptor.....: 0 Liquid Receptor

=== MAXIMUM PERIOD DOSE TO LIMIT (Any Organ) =====

Dose Period	Age Group	Organ	Dose (mrem)	Limit Period	Admin Limit	Admin % of Limit	T.Spec Limit	T.Spec % of Limit
Strt->End	ADULT	GILLI	4.30E-02	31-day	1.50E-01	2.87E+01	2.00E-01	2.15E+01
Qrtr->End	ADULT	GILLI	4.30E-02	Quarter	3.75E+00	1.15E+00	5.00E+00	8.61E-01
Year->End	ADULT	GILLI	4.30E-02	Annual	7.50E+00	5.74E-01	1.00E+01	4.30E-01

Critical Pathway.....: 1 Fresh Water Fish - Sport (FFSP)  
 Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
H-3	4.25E+01
CR-51	2.35E-02
MN-54	3.93E-01
FE-55	6.67E-02
FE-59	4.53E-02
CO-58	9.62E-01
CO-60	2.95E+00
NI-63	2.67E-02
ZN-65	1.59E-01
ZR-95	6.32E-03
NB-95	5.11E+01
AG-110M	6.69E-03
TE-125M	1.65E+00
I-133	3.56E-06

LIQUID RELEASE AND DOSE SUMMARY REPORT  
 ----- (PERIOD BASIS - BY UNIT) -----

Release ID.....: 1 All Liquid Release Types  
 Period Start Date.....: 01/01/2014 00:00  
 Period End Date.....: 01/01/2015 00:00  
 Period Duration (mins): 5.256E+05

=== MAXIMUM PERIOD DOSE TO LIMIT (Tot Body) ===

Dose	Age		Dose	Limit	Admin	Admin %	T.Spec	T.Spec %
Period	Group	Organ	(mrem)	Period	Limit	of Limit	Limit	of Limit
Strt->End	CHILD	TBODY	2.13E-02	31-day	4.50E-02	4.73E+01	6.00E-02	3.55E+01
Qrtr->End	CHILD	TBODY	2.13E-02	Quarter	1.13E+00	1.89E+00	1.50E+00	1.42E+00
Year->End	CHILD	TBODY	2.13E-02	Annual	2.25E+00	9.46E-01	3.00E+00	7.10E-01

Critical Pathway.....: 0 Potable Water (PWtr)  
 Major Contributors.....: 0.0 % or greater to total  
 Nuclide            Percentage

H-3	9.82E+01
CR-51	2.10E-04
MN-54	5.35E-02
FE-55	7.89E-02
FE-59	1.21E-02
CO-58	2.44E-01
CO-60	7.94E-01
NI-63	1.77E-01
ZN-65	2.48E-01
ZR-95	4.46E-06
NB-95	1.01E-02
AG-110M	3.31E-05
TE-125M	1.56E-01
I-133	3.36E-06



LIQUID RELEASE AND DOSE SUMMARY REPORT  
----- (PERIOD BASIS - BY UNIT) -----

Release ID.....: 1 All Liquid Release Types  
Period Start Date.....: 01/01/2014 00:00  
Period End Date.....: 01/01/2015 00:00  
Period Duration (mins): 5.256E+05  
Unit.....: 2

=== MULTIPLE RELEASE POINT MESSAGE =====  
Undiluted and Diluted Flowrate(s) and Concentration(s) cannot be combined.

=== RELEASE DATA =====  
Total Release Duration (minutes)..... 1.630E+06  
Total Undiluted Volume Released (gallons)..... NA  
Average Undiluted Flowrate (gpm)..... NA  
  
Total Dilution Volume (gallons)..... NA  
Average Dilution Flowrate (gpm)..... NA

=== NUCLIDE DATA =====  
Nuclide      uCi  
-----  
CO-57      1.20E+02  
NB-97      4.01E+02  
SN-113      2.57E+02  
SB-124      3.12E+01  
SB-125      2.18E+03  
TE-123M      2.39E+02  
CR-51      1.85E+03  
MN-54      7.40E+02  
FE-59      1.39E+02  
CO-58      1.30E+04  
CO-60      1.49E+04  
ZN-65      8.71E+01  
ZR-95      3.97E+02  
NB-95      8.64E+02  
AG-110M      2.63E+02  
TE-125M      4.06E+03  
I-133      9.91E-01  
-----  
Gamma      3.95E+04

LIQUID RELEASE AND DOSE SUMMARY REPORT  
----- (PERIOD BASIS - BY UNIT) -----

Release ID.....: 1 All Liquid Release Types  
Period Start Date.....: 01/01/2014 00:00  
Period End Date.....: 01/01/2015 00:00  
Period Duration (mins): 5.256E+05

## === NUCLIDE DATA =====

Nuclide	uCi
-----	-----
XE-133	3.84E+00
-----	-----
D&EG	3.84E+00
-----	-----
H-3	1.50E+09
FE-55	6.37E+03
NI-63	1.48E+03
-----	-----
Beta	1.50E+09
-----	-----
Total	1.50E+09

LIQUID RELEASE AND DOSE SUMMARY REPORT  
 ----- (PERIOD BASIS - BY UNIT) -----

Release ID.....: 1 All Liquid Release Types  
 Period Start Date.....: 01/01/2014 00:00  
 Period End Date.....: 01/01/2015 00:00  
 Period Duration (mins): 5.256E+05  
 Unit.....: 2  
 Receptor.....: 0 Liquid Receptor

=== PERIOD DOSE BY AGEGROUP, PATHWAY, ORGAN (mrem) ===

Age/Path	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
APWtr	1.95E-05	1.29E-02	1.29E-02	1.29E-02	1.29E-02	1.30E-02	0.00E+00	1.29E-02
AFWFSp	1.07E-03	5.79E-03	5.41E-03	6.17E-03	5.39E-03	3.00E-02	0.00E+00	5.67E-03
TPWtr	1.86E-05	9.12E-03	9.11E-03	9.11E-03	9.12E-03	9.17E-03	0.00E+00	9.12E-03
TFWFSp	1.11E-03	4.55E-03	4.17E-03	4.21E-03	4.15E-03	2.16E-02	0.00E+00	4.44E-03
CPWtr	5.64E-05	1.75E-02	1.75E-02	1.75E-02	1.75E-02	1.75E-02	0.00E+00	1.75E-02
CFWFSp	1.44E-03	3.79E-03	3.48E-03	3.48E-03	3.44E-03	9.69E-03	0.00E+00	3.77E-03
IPWtr	4.48E-05	1.72E-02	1.72E-02	1.72E-02	1.72E-02	1.72E-02	0.00E+00	1.72E-02

=== PERIOD DOSE BY AGEGROUP, ORGAN (mrem) ===

Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
ADULT	1.09E-03	1.87E-02	1.84E-02	1.91E-02	1.83E-02	4.30E-02	0.00E+00	1.86E-02
TEEN	1.13E-03	1.37E-02	1.33E-02	1.33E-02	1.33E-02	3.08E-02	0.00E+00	1.36E-02
CHILD	1.50E-03	2.13E-02	2.10E-02	2.10E-02	2.09E-02	2.72E-02	0.00E+00	2.13E-02
INFANT	4.48E-05	1.72E-02	1.72E-02	1.72E-02	1.72E-02	1.72E-02	0.00E+00	1.72E-02

LIQUID RELEASE AND DOSE SUMMARY REPORT  
 ----- (PERIOD BASIS - BY UNIT) -----

Release ID.....: 1 All Liquid Release Types  
 Period Start Date.....: 01/01/2014 00:00  
 Period End Date.....: 01/01/2015 00:00  
 Period Duration (mins): 5.256E+05  
 Unit.....: 2  
 Receptor.....: 0 Liquid Receptor

=== MAXIMUM PERIOD DOSE TO LIMIT (Any Organ) =====

Dose Period	Age Group	Organ	Dose (mrem)	Limit Period	Admin Limit	Admin % of Limit	T.Spec Limit	T.Spec % of Limit
Strt->End	ADULT	GILLI	4.30E-02	31-day	1.50E-01	2.87E+01	2.00E-01	2.15E+01
Qrtr->End	ADULT	GILLI	4.30E-02	Quarter	3.75E+00	1.15E+00	5.00E+00	8.61E-01
Year->End	ADULT	GILLI	4.30E-02	Annual	7.50E+00	5.74E-01	1.00E+01	4.30E-01

Critical Pathway.....: 1 Fresh Water Fish - Sport (FFSP)  
 Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
H-3	4.25E+01
CR-51	2.35E-02
MN-54	3.93E-01
FE-55	6.67E-02
FE-59	4.53E-02
CO-58	9.62E-01
CO-60	2.95E+00
NI-63	2.67E-02
ZN-65	1.59E-01
ZR-95	6.32E-03
NB-95	5.11E+01
AG-110M	6.69E-03
TE-125M	1.65E+00
I-133	3.56E-06

LIQUID RELEASE AND DOSE SUMMARY REPORT  
 ----- (PERIOD BASIS - BY UNIT) -----

Release ID.....: 1 All Liquid Release Types  
 Period Start Date.....: 01/01/2014 00:00  
 Period End Date.....: 01/01/2015 00:00  
 Period Duration (mins): 5.256E+05

=== MAXIMUM PERIOD DOSE TO LIMIT (Tot Body)) =====

Dose Period	Age Group	Organ	Dose (mrem)	Limit Period	Admin Limit	Admin % of Limit	T.Spec Limit	T.Spec % of Limit
Strt->End	CHILD	TBODY	2.13E-02	31-day	4.50E-02	4.73E+01	6.00E-02	3.55E+01
Qrtr->End	CHILD	TBODY	2.13E-02	Quarter	1.13E+00	1.89E+00	1.50E+00	1.42E+00
Year->End	CHILD	TBODY	2.13E-02	Annual	2.25E+00	9.46E-01	3.00E+00	7.10E-01

Critical Pathway.....: 0 Potable Water (PWtr)  
 Major Contributors.....: 0.0 % or greater to total  
 Nuclide            Percentage

H-3	9.82E+01
CR-51	2.10E-04
MN-54	5.35E-02
FE-55	7.89E-02
FE-59	1.21E-02
CO-58	2.44E-01
CO-60	7.94E-01
NI-63	1.77E-01
ZN-65	2.48E-01
ZR-95	4.46E-06
NB-95	1.01E-02
AG-110M	3.31E-05
TE-125M	1.56E-01
I-133	3.36E-06

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)

ATTACHMENT 1

ERRATA CORRECTIONS FROM 2013 REPORT

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)

During a review of the 2013 ARERR, it was identified that the implementation date in the footer of every page of ODCM Revision 8 did not correctly reflect the implementation date of "July 2013." A corrected record is needed for the ODCM (CY-BR-170-301 Rev. 8) to correct the implementation date. This is an administrative change to Revision 8. There are no technical changes being made to the ODCM. Records Management has been contacted for concurrence. This issue was documented in IR 1653615.

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)

ATTACHMENT 2

Process Control Program for Radioactive Wastes



BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2014  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)

Braidwood Station's Process Control Program (PCP) is managed by procedure RW-AA-100, "Process Control Program of Radioactive Wastes." The purpose of the Process Control Program (PCP) is to:

1. Establish the process and boundary conditions for the preparation of specific procedures for processing, sampling, analysis, packaging, storage, and shipment of solid radwaste in accordance with local, state, and federal requirements. (CM-1)
2. Establish parameters which will provide reasonable assurance that all Low Level Radioactive Wastes (LLRW), processed by the in-plant waste process systems on-site OR by on-site vendor supplied waste processing systems, meet the acceptance criteria to a Licensed Burial Facility, as required by 10CFR Part 20, 10CFR Part 61, 10CFR Part 71, 49CFR Parts 171-172, "Technical Position on Waste Form (Revision 1)" [1/91], "Low-Level Waste Licensing Branch Technical Position on Radioactive Waste Classification" [5/83], and the Station Technical Specifications, as applicable.
3. Provide reasonable assurance that waste placed in "on-site storage" meets the requirements as addressed within the Safety Analysis Reports for the low level radwaste storage facilities for dry and/or processed wet waste.

The PCP was revised on 8/11/2014 with the issuance of RW-AA-100, Revision 10.

## **PROCESS CONTROL PROGRAM FOR RADIOACTIVE WASTES**

### **1. PURPOSE**

- 1.1. The purpose of the Process Control Program (PCP) is to:
  - 1.1.1. Establish the process and boundary conditions for the preparation of specific procedures for processing, sampling, analysis, packaging, storage, and shipment of solid radwaste in accordance with local, state, and federal requirements. (CM-1)
  - 1.1.2. Establish parameters which will provide reasonable assurance that all Low Level Radioactive Wastes (LLRW), processed by the in-plant waste process systems on-site OR by on-site vendor supplied waste processing systems, meet the acceptance criteria to a Licensed Burial Facility, as required by 10CFR Part 20, 10CFR Part 61, 10CFR Part 71, 49CFR Parts 171-172, "Technical Position on Waste Form (Revision 1)" [1/91], "Low-Level Waste Licensing Branch Technical Position on Radioactive Waste Classification" [5/83], and the Station Technical Specifications, as applicable.
  - 1.1.3. Provide reasonable assurance that waste placed in "on-site storage" meets the requirements as addressed within the Safety Analysis Reports for the low level radwaste storage facilities for dry and/or processed wet waste.

### **2. TERMS AND DEFINITIONS**

- 2.1. **Process Control Program (PCP):** The program which contains the current formulas, sampling, analysis, tests, and determinations to be made to ensure that processing and packaging of solid radioactive waste based on demonstrated processing of actual or simulated wet solid wastes will be accomplished in such a way as to assure the waste meets the stabilization criteria specified in 10CFR Parts 20, 61 and 71, state regulations, and burial site requirements.
- 2.2. **Solidification:** Liquid waste processed to either an unstable or stable form per 10CFR61 requirements. Waste solidified does not have to meet the 300-year free standing monolith criteria. Approved formulas, samples and tests do not have to meet NRC approval for wastes solidified in a container meeting stability criteria (e.g. High Integrity Container).
- 2.3. **Stabilization:** Liquid waste processed to a "stable state" per 10CFR61 Requirements. Established formulas, samples, and tests shall be approved by the NRC in order to meet solidification "stabilization" criteria. This processing method is currently not available, because the NRC recognizes that waste packed in a High Integrity Container meets the 300-year stabilization criteria. In the event that this processing method becomes an acceptable method, then the NRC shall approve the stabilization formulas, samples, tests, etc.

- 2.4. **Solidification Media:** An approved media (e.g. Barnwell - vinyl ester styrene, cement, bitumen) when waste containing nuclides with greater than 5-year half lives is solidified in a container with activity greater than 1 micro curie/cc. Waste solidified in a HIC is approved by the commission meeting the 10CFR61 stabilization criteria, including 1% free standing liquids by volume when the waste is packaged to a "stable" form and  $\leq 0.5\%$  when waste is packaged to an "unstable" form. The formulas, sampling, analysis, and test do not require NRC approval, because the HIC meets the stability criteria.
- 2.4.1. Solidification to an unstable or stable state is performed by vendors, when applicable. Liquid waste solidified to meet stabilization criteria (10CFR61 and 01-91 Branch Technical Requirements) shall have documentation available that demonstrates that the process is approved by the NRC or disposal facility.
- 2.5. **Dewatering:** The process of removing fluids from liquid waste streams to produce a waste form that meets the requirements of 10CFR Part 61 and applicable burial site criteria,  $\leq 0.5\%$  by volume when the waste is packaged to an "unstable" state, or  $\leq 1\%$  by volume when the waste is packaged to a "stable" form.
- 2.6. **High Integrity Container (HIC):** A disposable container that is approved to the Requirements of 10CFR61. The use of HIC's is an alternative to solidification or encapsulation in a steel container to meet burial stability. HIC's are used to package dewatered liquid wastes, (e.g. filter cartridges, filter media, resin, sludges, etc), or dry active waste.
- 2.7. **Liquid Waste Processing Systems:** In-plant or vendor supplied processing systems consisting of equipment utilized for evaporation, filtration, demineralization, dewatering, compression dewatering, solidification, or reverse osmosis (RO) for the treatment of liquid wastes (such as Floor Drains, Chemical Drains and Equipment Drain inputs).
- 2.8. **Incineration, RVR, and/or Glass Vitrification of Liquid or Solid:** Dry or wet waste processed via incineration and/or thermal processing where the volume is reduced by thermal means meets 10CFR61 requirements.
- 2.9. **Compaction:** When dry wastes such as paper, wood, plastic, cardboard, incinerator ash, and etc. are volume reduced through the use of a compactor.

- 2.10. **Waste Streams:** Consist of but are not limited to
- Filter media (powdered, bead resin and fiber),
  - Filter cartridges,
  - Pre-coat body feed material,
  - Contaminated charcoal,
  - Fuel pool activated hardware,
  - Oil Dry absorbent material added to a container to absorb liquids
  - Fuel Pool Crud
  - Sump and tank sludges,
  - High activity filter cartridges,
  - Concentrated liquids,
  - Contaminated waste oil,
  - Dried sewage or wastewater plant waste,
  - Dry Active Waste (DAW): Waste such as filters, air filters, low activity cartridge filters, paper, wood, glass, plastic, cardboard, hoses, cloth, and metals, etc, which have become contaminated as a consequence of normal operating, housekeeping and maintenance activities.
  - Other radioactive waste generated from cleanup of inadvertent contamination.
- 2.11. **Concentration Averaging:** Concentration averaging is either: a) the mathematical averaging of waste concentrations, based on the size, geometry, type of radioactive emission, and observed dose rates, or b) the combining of radioactive components in a single container and how their radioactivity may be averaged over the volume of the container. Concentration averaging is subject to constraints identified in the NRC's Branch Technical Position on Concentration Averaging and Encapsulation and may also be constrained by Agreement States or Disposal Facilities.
- 2.12. **Encapsulation:** Encapsulation is the surrounding of a radioactive source or component with a nonradioactive material. Encapsulation involves a radioactive core surrounded by a non-radioactive matrix.
- 2.13. **Blending:** The intentional mixing of different, but miscible waste streams (such as resins, filter media, etc.) from different batches or systems for the purpose of operational efficiency or ALARA. Blending applies to LLRW streams only. The addition of non-radioactive materials or fillers is not considered blending.

### 3. **RESPONSIBILITIES**

- 3.1. Implementation of this Process Control Program (PCP) is described in procedures at each station and is the responsibility of the each site to implement.

4. **MAIN BODY**

4.1. **Process Control Program Requirements**

- 4.1.1. A change to this PCP (Radioactive Waste Treatment Systems) may be made provided that the change is reported as part of the annual radioactive effluent release report, Regulatory Guide 1.21, and is approved by the Plant Operations Review Committee (PORC).
- 4.1.2. Changes become effective upon acceptance per station requirements.
- 4.1.3. A solidification media, approved by the burial site, may be **REQUIRED** when liquid radwaste is solidified to a stable/unstable state.
- 4.1.4. **When** processing liquid radwaste to meet solidification stability using a vendor supplied solidification system:
1. If the vendor has its own Quality Assurance (QA) Program, **then** the vendor shall **ADHERE** to its own QA Program and shall have **SUBMITTED** its process system topical report to the NRC or agreement state.
  2. If the vendor does **not HAVE** its own Quality Assurance Program, **then** the vendor shall **ADHERE** to an approved Quality Assurance Topical Report standard belonging to the Station or to another approved vendor.
- 4.1.5. The vendor processing system(s) is/are controlled per the following:
1. A commercial vendor supplied processing system(s) may be **USED** for the processing of LLRW streams.
  2. Vendors that process liquid LLRW at the sites shall **MEET** applicable Quality Assurance Topical Report and Augmented Quality Requirements.
- 4.1.6. Vendor processing system(s) operated at the site shall be **OPERATED and CONTROLLED** in accordance with vendor approved procedures or station procedures based upon vendor approved documents.
- 4.1.7. All waste streams processed for burial or long term on-site storage shall **MEET** the waste classification and characteristics specified in 10CFR Part 61.55, Part 61.56, the 5-83 Branch Technical Position for waste classification, and the applicable burial site acceptance criteria (for any burial site operating at the time the waste was processed).
- 4.1.8. An Exelon Nuclear plant may store waste at another Exelon Nuclear plant, provided formal NRC approval has been **RECEIVED** for the transfer of waste.

#### 4.2. General Waste Processing Requirements

NOTE: On-site resin processing involves tank mixing and settling, transferring to the station or vendor processing system via resin water slurry or vacuuming into approved waste containers, and, when applicable, dewatering for burial.

- 4.2.1. Vendor resin beds may be **USED** for decontamination of plant systems, such as, SFP (Spent Fuel Pool), RWCU (reactor water cleanup), and SDC (Shut Down Cooling). These resins are then **PROCESSED** via the station or vendor processing system.
- 4.2.2. Various drains and sump discharges will be **COLLECTED** in tanks or suitable containers for processing treatment. Water from these tanks may be **SENT** through a filter, demineralizer, concentrator or vendor supplied processing systems.
- 4.2.3. Process waste (e.g. filter media, sludges, resin, etc) will be periodically **DISCHARGED** to the station or vendor processing system for onsite waste treatment or **PACKAGED** in containers for shipment to offsite vendor for volume reduction processing.
- 4.2.4. Process water (e.g. chemical, floor drain, equipment drain, etc.) may be **SENT** to either the site waste processing systems or vendor waste processing systems for further filtration, demineralization for plant re-use, or discharge.
- 4.2.5. All dewatering and solidification/stabilization will be **PERFORMED** by either utility site personnel or by on-site vendors or will be **PACKAGED and SHIPPED** to an off-site vendor low-level radwaste processing facility.
- 4.2.6. Dry Active Waste (DAW) will be **HANDLED and PROCESSED** per the following:
  - 1. DAW will be **COLLECTED and SURVEYED** and may be **SORTED** for compactable and non-compactable wastes.
  - 2. DAW may be packaged in containers to facilitate on-site pre-compaction and/or off-site vendor contract requirements.
  - 3. DAW items may be **SURVEYED** for release onsite or offsite when applicable.
  - 4. Contaminated filter cartridges will be **PLACED** into a HIC or will be **ENCAPSULATED** in an in-situ liner for disposal or **SHIPPED** to an offsite waste processor in drums, boxes or steel liners per the vendor site criteria for processing and disposal.

- 4.2.7. Filtering devices using pre-coat media may be **USED** for the removal of suspended solids from liquid waste streams. The pre-coat material or cartridges from these devices may be routinely **REMOVED** from the filter vessel and discharged to a Filter Sludge Tank or Liner/HIC. Periodically, the filter sludge may be **DISCHARGED** to the vendor processing system for waste treatment onsite or **PACKAGED** in containers for shipment to offsite vendor for volume reduction processing.
- 4.2.8. Activated hardware stored in the Spent Fuel Pools will be **PROCESSED** periodically using remote handling equipment and may then be **PUT** into a container for shipment or storage in the pool or loading the processed activated hardware into the Dry Cask storage system.
- 4.2.9. High Integrity Containers (HIC):
1. For disposal at Barnwell, vendors supplying HIC's to the station shall **PROVIDE** a copy of the HIC Certificate of Compliance, which details specific limitations on use of the HIC.
  2. For disposal at Clive or WCS, vendors supplying HIC's to the station shall **PROVIDE** a copy of the HIC Certificate of Conformance, which details specific limitations on use of the HIC.
  3. Vendors supplying HIC's to the station shall **PROVIDE** a handling procedure which establishes guidelines for the utilization of the HIC. These guidelines serve to protect the integrity of the HIC and ensure the HIC is handled in accordance with the requirements of the Certificate of Compliance or Certificate of Conformance.
- 4.2.10. Lubricants and oils contaminated as a consequence of normal operating and maintenance activities may be **PROCESSED** on-site (by incineration, for oils meeting 10CFR20.2004 and applicable state requirements, or by an approved vendor process) or **SHIPPED** offsite (for incineration or other acceptable processing method).
- 4.2.11. Former in-plant systems GE or Stock Drum Transfer Cart and Drum Storage Areas may be **USED** for higher dose DAW storage at Clinton, Dresden, Quad Cities, Braidwood and Byron.
- 4.2.12. Certain waste, including flowable solids from holding pond, oily waste separator, cooling tower basin and emergency spray pond, may be disposed of onsite under the provisions of a 10CFR20.2002 permit. Specific requirements associated with the disposal shall be incorporated into station implementing procedures. (CM-2)

- 4.2.13. Concentration averaging may be **PERFORMED** to combine LLRW having different concentrations of radionuclides to form a homogeneous mixture in accordance with the guidance in the NRC's Branch Technical Position on Concentration Averaging and Encapsulation-1995:
- For homogeneous waste types such as resins and filter media, the concentration of the mixture for classification purposes may be based on either the highest radionuclide concentration in any of the individual waste types contributing to the mixture or the volumetric or weight-averaged nuclide concentrations in the mixture provided that the concentrations of the individual waste type contributors to the mixture are within a factor of 10 of the average concentration of the resulting mixture. (NOTE: a designed collection of homogeneous waste types (from different sources within a facility) is not considered 'mixing' and the concentration for classification purposes may be the average concentration of the combination).
  - For non-homogeneous waste types such as activated metals, cartridge filters or components incorporating radioactivity in their design, the concentration should be determined from the total weight or displaced volume (excluding major void spaces) of the component. Mixtures of components in a disposal container is permissible. Concentration averaging of a mixture of components of similar types can be performed in accordance with the NRC's Branch Technical Position on Concentration Averaging and Encapsulation and any State or Disposal Site specific requirements.
- 4.2.14. Blending may be **PERFORMED** for routine LLRW such as resins and filter media in accordance with the guidance in the NRC's Branch Technical Position on Concentration Averaging and Encapsulation as further clarified in SECY 2010-0043. The concentration of the mixture may be determined based on the total activity of all components in the mixture divided by the total volume or mass of the mixture. Reasonable effort should be made to mix blended LLRW so that activity is evenly distributed.
- 4.2.15. Encapsulation may be **PERFORMED** for routine wastes such as filters, filter cartridges, or sealed sources centered in an encapsulated mass, in accordance with the guidance in the NRC's Branch Technical Position on Concentration Averaging and Encapsulation. Classification may be based on the overall volume of the final solidified mass provided that:
- The minimum solidified volume or mass should be reasonably difficult to move by hand.
  - The maximum solidified volume or mass used for determining concentration for any single discrete source should be no more than 0.2 m<sup>3</sup> or 500Kg (typically 55-gallon drum).
  - The maximum amount of gamma-emitting radioactivity or radioactive material is <0.02 mrem/hr on the surface of the encapsulation over a 500-year decay period.



- The maximum amount of any radionuclide in a single encapsulation, when averaged over the waste and encapsulating media, does not exceed the maximum concentration limits for Class C waste.
- Written procedures should be established to ensure that the radiation source(s) is reasonably centered (or distributed) within the encapsulating media.
- All other disposal facility requirements for encapsulated material are met.

#### 4.3. Burial Site Requirements

- 4.3.1. Waste sent directly to burial shall **COMPLY** with the applicable parts of 49CFR171-172, 10CFR81, 10CFR71, and the acceptance criteria for the applicable burial site.

#### 4.4. Shipping and Inspection Requirements

- 4.4.1. All shipping/storage containers shall be **INSPECTED**, as required by station procedures, for compliance with applicable requirements (Department of Transportation (DOT), Nuclear Regulatory Commission (NRC), station, on-site storage, and/or burial site requirements) prior to use.
- 4.4.2. Containers of solidified liquid waste shall be **INSPECTED** for solidification quality and/or dewatering requirements per the burial site, offsite vendor acceptance, or station acceptance criteria, as applicable.
- 4.4.3. Shipments sent to an off site processor shall be **INSPECTED** to ensure that the applicable processor's waste acceptance criteria are being met.
- 4.4.4. Shipments sent for off site storage shall **MEET** the storage site's waste acceptance criteria.

#### 4.5. Inspection and Corrective Action

- 4.5.1. Inspection results that indicate non-compliance with applicable NRC, State, vendor, or site requirements shall be IDENTIFIED and TRACKED through the Corrective Action Program.
- 4.5.2. Administrative controls for preventing unsatisfactory waste forms from being released for shipment are described in applicable station procedures. If the provisions of the Process Control Program are not satisfied, then **SUSPEND** shipments of defectively packaged radioactive waste from the site. (CM-1)
- 4.5.3. If freestanding water or solidification **not** meeting program requirements is observed, then samples of the particular series of batches shall be **TAKEN** to determine the cause. Additional samples shall be **TAKEN**, as warranted, to ensure that **no** freestanding water is present and solidification requirements are maintained.

#### 4.6. Procedure and Process Reviews

- 4.6.1. The Exelon Nuclear Process Control Program and subsequent changes (other than editorial/minor changes) shall be **REVIEWED and APPROVED** in accordance with the station procedures, plant-specific Technical Specifications (Tech Spec), Technical Requirements Manual (T&RM), Operation Requirements Manual (ORM), as applicable, for the respective station and LS-AA-106. Changes to the Licensees Controlled Documents, UFSAR, ORM, or TRM are controlled by the provisions of 10CFR 50.59.
- 4.6.2. Any changes to the PCP shall be reviewed to determine if reportability is required in the Annual Radiological Effluent Release Report (ARERR). The Radwaste Specialist shall ensure correct information is **SUBMITTED** to the ODCM program owner prior to submittal of the ARERR.
- 4.6.3. Procedures shall be **IMPLEMENTED** as follows:
- Station processes or other vendor waste processing/operating procedures shall be technically reviewed and approved per RM-AA-102-1006.
  - Procedures related to waste manifests, shipment inspections, and container activity determinations are **CONTROLLED** by Radiation Protection Standard Procedures (RP-AA-800 Series).
  - Site waste processing **IS CONTROLLED** by site operating procedures.
  - Liquid processed by vendor equipment shall be **PERFORMED** in accordance with vendor procedures.
  - The dewatering procedures implemented by Vendor for the purpose of compliance to the Process Control Program **SHALL BE REVIEWED and APPROVED** in accordance with the plant specific TRM or ORM (either Current Technical Specifications (CTS) or Improved Technical Specifications (ITS), as applicable for the respective stations).

#### 4.7. Waste Types, Point of Generation, and Processing Method

Methods of processing and individual vendors may **CHANGE** due to changing financial and regulatory options. The table below is a representative sample. It is **not** intended be all encompassing.

WASTE STREAM	POINTS OF GENERATION	AVAILABLE WASTE PROCESSING METHODS
Bead Resin	Systems - Fuel Pool, Condensate, Reactor Water Cleanup, Blowdown, Equipment Drain, Chemical and Volume Control Systems, Floor Drain, Maximum Recycle, Blowdown, Boric Acid Recycling System, Vendor Supplied Processing Systems, and Portable Demin System	Dewatering, solidification to an unstable/stable state Thermal Processing Free Release to a Land Fill
Powdered Resin	Systems - (Condensate System, Floor Drain/Equipment Drain filtration, Fuel Pool)	Dewatering, solidification to an unstable/stable state Thermal Processing
Concentrated Waste	Waste generated from Site Evaporators resulting typically from the Floor Drain and Equipment Drain Systems	Solidification to an unstable/stable state Thermal Processing
Sludge	Sedimentation resulting from various sumps, condensers, tanks, cooling tower, emergency spray pond, holding pond, and oily waste separators	Dewatering, solidification to an unstable/stable state Thermal Processing Evaporation on-site or at an offsite processor On-site disposal per 10CFR20.2002 permit
Filter cartridges	Systems - Floor/Equipment Drains, Fuel Pool; cartridge filters are typically generated from clean up activities within the fuel pool, torus, etc	Dewatering, solidification to an unstable/stable state Processed by a vendor for volume reduction
Dry Active Waste	Paper, wood, plastic, rubber, glass, metal, and etc. resulting from daily plant activities	Decon/Sorting for Free Release Compaction/Super-compaction Thermal Processing by Incineration or glass vitrification Sorting for Free Release Metal melting to an ingot
Contaminated Oil	Oil contaminated with radioactive materials from any in-plant system.	Solidification unstable state Thermal Processing by Incineration Free Release for recycling
Drying Bed Sludge	Sewage Treatment and Waste Water Treatment Facilities	Free release to a landfill or burial
Metals	See DAW	See DAW
Irradiated Hardware	Fuel Pool, Reactor Components	Volume Reduction for packaging efficiencies

5. **DOCUMENTATION**

- 5.1. Records of reviews performed shall be retained for the duration of the unit operating license. This documentation shall contain:
1. Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change, and
  2. A determination which documents that the change will maintain the overall conformance of waste products to Federal (10CFR61 and the Branch Technical Position), State, or other applicable requirements, including applicable burial site criteria.

6. **REFERENCES**

- 6.1. Technical Specifications:
- 6.1.1. The details contained in Current Tech Specs (CTS) or Improved Technical Specifications (ITS), as applicable, in regard to the Process Control Program (PCP), are to be relocated to the Licensee Controlled Documents. Some facilities have elected to relocate these details into the Operational Requirements Manual (ORM). Relocation of the description of the PCP from the CTS or ITS does not affect the safe operation of the facility. Therefore, the relocation details are not required to be in the CTS or the ITS to provide adequate protection of the public health and safety.
- 6.2. Writers' References:
- 6.2.1. Code of Federal Regulations: 10 CFR Part 20, Part 61, Part 71, 49 CFR Parts 171-172
- 6.2.2. Low Level Waste Licensing Branch Technical Position on Radioactive Waste Classification, May 1983
- 6.2.3. Technical Position on Waste Form (Revision 1), January 1991
- 6.2.4. USNRC Branch Technical Position on Concentration Averaging and Encapsulation, January 1995
- 6.2.5. Regulatory Guide 1.21, Measuring Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants
- 6.2.6. I.E. Circular 80.18, 10CFR 50.59 Safety Evaluation for Changes to Radioactive Waste Treatment Systems
- 6.2.7. Amendment No. 202 to Facility Operating License No. NPF-11 and Amendment No. 189 to Facility Operating License (FOL) No. NPF-18 for the LaSalle County Station (LSCS), Units 1 and 2

6.2.8. NRC Branch Technical Position on Blending of Low-Level Radioactive Waste, SECY-10-0043

6.3. Users' References:

6.3.1. Quality Assurance Program (QATR)

6.3.2. LS-AA-106, Plant Operations Review Committee

6.3.3. RM-AA-102-1006, Processing Vendor Documents

6.3.4. RP-AA-600 Series, Radioactive Material/Waste Shipments

6.3.5. CY-AA-170-2000, Annual Radioactive Effluent Release Report

6.4. Station Commitments:

6.4.1. Peach Bottom

CM-1, T03819, Letter from G.A. Hunger, Jr., dated Sept. 29 1994, transmitting TSCR 93-16 (Improved Technical Specifications). (Step 1.1.1, 4.5.2)

6.4.2. Limerick

CM-2, T03896, 10CFR20.2002 permit granted to Limerick via letter dated July 10, 1996. (Step 4.2.12)

7. ATTACHMENTS - None