

Exelon Generation Company, LLC  
Braidwood Station  
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April 29, 2011  
BW110044

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D.C. 20555-0001

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

Subject: 2010 Radioactive Effluent Release Report

The attached document includes the Radioactive Effluent Release Report for Braidwood Station. This report is being submitted in accordance with 10 CFR 50.36a, "Technical specifications on effluents from nuclear power reactors," and Technical Specification 5.6.3, "Radioactive Effluent Release Report," and includes a summary of radiological liquid and gaseous effluents and solid waste released from the site from January 2010 through December 2010. In addition, a copy of the Braidwood Station Offsite Dose Calculation Manual is included in accordance with Technical Specification 5.5.1, "Offsite Dose Calculation Manual (ODCM)."

If you have any questions regarding this information, please contact Chris VanDenburgh Regulatory Assurance Manager, at (815) 417-2800.

Respectfully,



Daniel J. Enright  
Site Vice President  
Braidwood Station

cc: (without attachments)  
US NRC Regional Administrator, Region III  
US NRC Senior Resident Inspector - Braidwood Station  
NRR Project Manager - Braidwood Station  
Illinois Emergency Management Agency - Division of Nuclear Safety

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# RADIOACTIVE EFFLUENT RELEASE REPORT

January - December 2010

Facility: BRAIDWOOD NUCLEAR POWER STATION

Licensee: EXELON GENERATION COMPANY, LLC

## 1. Regulatory Limits

### a. For Noble Gases:

#### Dose Rate

- 1) Less than 500 mrem/year to the whole body.
- 2) Less than 3000 mrem/year to the skin.

#### Dose Gamma Radiation

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

#### Dose Beta Radiation

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

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

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

#### Dose Rate

- 1) Less than 1500 mrem/year to any organ.

#### Dose

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

### d. For Liquid

#### Dose

- 1) Less than or equal to 1.5 mrem to the whole body during any calendar quarter.
- 2) Less than or equal to 5 mrem to any organ during any calendar quarter.
- 3) Less than or equal to 3 mrem to the whole body during any calendar year.
- 4) Less than or equal to 10 mrem to any organ during any calendar year.

2. Maximum Permissible Concentration

- 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

This item is not applicable. Release rates are calculated using an isotopic mix rather than average energy.

4. Measurements and Approximations of Total Radioactivity

a. Fission and Activation Gases, Iodines, and Particulates

Containment batch releases are analyzed for noble gas and tritium before being discharged by gamma isotopic and scintillation, respectively. Gaseous decay tanks are analyzed for noble gas before being discharged by gamma isotopic. 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 iodines and particulates. These samples are pulled every 7 days and analyzed by gamma isotopic. The particulate samples are also analyzed quarterly for gross alpha and Sr-89/90.

Noble gas and tritium grab samples are pulled and analyzed weekly by gamma isotopic and scintillation, respectively. The average flow at the release points are used to calculate the curies released.

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

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 (1E-5 mrem) in offsite dose.

No gaseous effluent radiation instrumentation was inoperable beyond the time allowed in the ODCM during 2010.

The calculated offsite dose to the public from station gaseous effluents remains low and a small percentage of the quarterly and annual Offsite Dose Calculation Manual (ODCM) limits.

b. Liquid Effluents

The liquid release tanks are analyzed before discharge by gamma isotopic and for tritium. A representative portion of this sample is saved. This is composited, every 31 days, with other discharges that occurred and is analyzed for tritium and gross alpha. The batch composites are composited quarterly and sent to a vendor for Sr-89/90 and Fe-55 analysis. Circulating Water Blowdown, Condensate Polisher Sump and Waste Water Treatment are analyzed weekly by gamma isotopic and for tritium. These weekly samples are composited monthly. The monthly composites are then composited quarterly and sent to a vendor for Sr-89/90 and Fe-55 analysis.

Tank volumes and activities are used to calculate the curies released for the tanks released. The total volume of water released and the measured activity is used to calculate the diluted activity released at the discharge point from batch discharges.

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

On 3/29/10, the Exelon Pond composite sampler had collected a sample volume that was too small for valid analysis. Investigation showed that the pond pump had been secured 11 hours after the last composite sample had been collected. This may have contributed to the low sample volume. Sample line plugging may have also contributed to the low sample volume. This issue has been entered into the Corrective Action Program as IR 1049841.

On 4/19/10, the Exelon Pond composite sampler had collected a sample volume that was too small for valid analysis. Investigation showed that the pond pump had been started and then secured a short time later. This did not allow for enough time for collection of a valid sample. Due to these issues, appropriate changes were initiated to the Operations procedures for starting and stopping the Exelon Pond pump to reduce the chances of short run times during a sampling period. This issue has been entered into the Corrective Action Program as IR 1067027.

On 5/17/10, the Exelon Pond composite sampler had collected a sample volume that was too small for valid analysis. In this case, sampler was checked mid-week and found with a small volume in the sample bottle, as expected since the Exelon Pond pump had just been started. However, at the end of the week, the sample volume was too small and a work order was created due to sample line plugging. The sample line solenoid valve was then cleaned and flushed. This issue has been entered into the Corrective Action Program as IR 1073527.

On 6/28/10, the Exelon Pond composite sampler had collected no sample for the previous week although the pond pump had discharged for approximately 21 hours during the week. This should have been enough time for collection of an adequate sample volume. Because the pond pump was secured at the time of the investigation into this issue, the Environmental Supervisor could not verify a reason for the lack of sample. Actions were assigned for monitoring the next startup and subsequent pump operations to verify proper sampling occurred. This issue has been entered into the Corrective Action Program as IR 1085200.

On 10/4/10, the Exelon Pond composite sampler had no sample for the previous week. The pond pump had discharged for only 11 hours during the week. A request for a work order to clean the sample line solenoid valve and to flush the sample line was created from this issue. Because the Exelon Pond pump was run for only this 11 hour period during this week and was not run again during October, there was no sample to analyze for an October monthly composite. This issue has been entered into the Corrective Action Program as IR 1135050.

Exelon Pond remediation is not affected by the lack of samples in these instances. There have been no indications of additional contamination since the start of the Exelon Pond remediation and the review of results of Exelon Pond analyses indicate the tritium concentration of the pond has been and remains below the level of detectability for the values described in the ODCM. Thus, the lack of sample analyses in these cases has not affected calculated offsite dose.

On 10/30/10, it was discovered that the ODCM sampling for 2RE-PR002 has not been completed as required. Because of a human performance error, sampling required to be completed on a twelve hour frequency was not done between 07:51 on 10/29/10 and 10:19 on 10/30/10. A chemistry technician incorrectly removed the sampling communications for the 2RE-PR002 from the technician's turnover. Quick Human Performance Investigation was performed and actions to prevent recurrence of this error were initiated. This issue has been entered into the Corrective Action Program as IR 1132998.

The calculated offsite dose to the public from station liquid effluents remains low and a small percentage of the quarterly and annual Offsite Dose Calculation Manual (ODCM) limits.

4. c. 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.

- d. Errata for Previous Annual Radioactive Effluent Release Reports

None.

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2010  
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	7.21E-02	6.46E-02	3.48E-01	3.71E-02	7.59
2. Average Release Rate	μCi/sec	9.27E-03	8.22E-03	4.38E-02	4.67E-03	
3. Percent of ODCM Limit - gamma	%	1.15E-05	1.04E-05	7.73E-05	6.12E-06	
4. Percent of ODCM Limit - beta	%	2.79E-05	2.50E-05	1.44E-04	1.45E-05	

**B. Iodine Releases**

1. Total I-131 Activity	Ci	0.00E+00	0.00E+00	0.00E+00	3.23E-05	33.20
2. Average Release Rate	μCi/sec	0.00E+00	0.00E+00	0.00E+00	4.06E-06	
3. Percent of ODCM Limit - gamma	%	0.00E+00	0.00E+00	0.00E+00	3.14E+00	

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

1. Gross Activity	Ci	5.40E-06	0.00E+00	0.00E+00	0.00E+00	19.80
2. Average Release Rate	μCi/sec	6.94E-07	0.00E+00	0.00E+00	0.00E+00	
3. Percent of ODCM Limit	%	3.07E+00	0.00E+00	0.00E+00	0.00E+00	

**D. Tritium Releases**

1. Total Release Activity	Ci	6.81E+01	5.37E+01	9.82E+01	3.77E+01	8.07
2. Average Release Rate	μCi/sec	8.76E+00	6.83E+00	1.24E+01	4.74E+00	
3. Percent of ODCM Limit	%	3.07E+00	3.11E+00	3.14E+00	3.14E+00	

**E. Gross Alpha Releases**

1. Total Release Activity	Ci	<LLD	<LLD	<LLD	<LLD	19.80
2. Average Release Rate	μCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
3. Percent of ODCM limit	%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	

**F. Carbon-14 Releases**

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

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

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2010  
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
<b>1. Fission Gases</b>									
Ar-41	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	3.26E-03	<LLD
Kr-85	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-85m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	3.62E-04	<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	7.21E-02	6.45E-02	3.29E-01	3.68E-02
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	3.50E-03	<LLD
Xe-135	Ci	<LLD	<LLD	<LLD	<LLD	7.64E-06	9.74E-05	1.21E-02	3.05E-04
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	7.21E-02	6.46E-02	3.48E-01	3.71E-02
<b>2. Iodines</b>									
I-131	Ci	<LLD	<LLD	<LLD	3.23E-05	<LLD	<LLD	<LLD	<LLD
I-132	Ci	<LLD	<LLD	<LLD	8.60E-05	<LLD	<LLD	<LLD	<LLD
I-133	Ci	<LLD	<LLD	<LLD	1.24E-06	<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	<LLD	<LLD	1.20E-04	<LLD	<LLD	<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
Br-82	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 2010  
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	5.40E-06	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Te-132	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sn-113		<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Total for Period	Ci	5.40E-06	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
<b>4. Tritium</b>	Ci	6.76E+01	5.33E+01	9.79E+01	3.52E+01	5.02E-01	3.91E-01	3.12E-01	2.45+00
<b>5. Gross Alpha</b>	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
<b>6. Carbon-14</b>	Ci	1.10E+00	1.11E+00	1.12E+00	1.12E+00	N/A	N/A	N/A	N/A



BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2010  
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	5.31E-02	4.97E-02	3.48E-01	3.71E-02	7.59
2. Average Release Rate	μCi/sec	6.83E-03	6.32E-03	4.38E-02	4.67E-03	
3. Percent of ODCM Limit - gamma	%	8.47E-06	7.99E-06	7.73E-05	6.12E-06	
4. Percent of ODCM Limit - beta	%	2.05E-05	1.92E-05	1.44E-04	1.45E-05	

**B. Iodine Releases**

1. Total I-131 Activity	Ci	0.00E+00	0.00E+00	0.00E+00	3.34E-05	33.20
2. Average Release Rate	μCi/sec	0.00E+00	0.00E+00	0.00E+00	4.20E-06	
3. Percent of ODCM Limit	%	0.00E+00	0.00E+00	0.00E+00	3.15E+00	

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

1. Gross Activity	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	19.80
2. Average Release Rate	μCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
3. Percent of ODCM Limit	%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	

**D. Tritium Releases**

1. Total Release Activity	Ci	1.78E+00	1.29E+01	3.64E+01	3.44E+01	8.07
2. Average Release Rate	μCi/sec	2.29E-01	1.64E+00	4.58E+00	4.33E+00	
3. Percent of ODCM Limit	%	3.08E+00	3.11E+00	3.14E+00	3.15E+00	

**E. Gross Alpha Releases**

1. Total Release Activity	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	19.80
2. Average Release Rate	μCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
3. Percent of ODCM Limit	%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	

**F. Carbon-14 Releases**

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

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

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2010  
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	3.26E-03	<LLD
Kr-85	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-85m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	3.62E-04	<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	5.31E-02	4.96E-02	3.29E-01	3.68E-02
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	3.50E-03	<LLD
Xe-135	Ci	<LLD	<LLD	<LLD	<LLD	7.64E-06	9.74E-05	1.21E-02	3.05E-04
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	5.31E-02	4.97E-02	3.48E-01	3.71E-02
<b>2. Iodines</b>									
I-131	Ci	<LLD	<LLD	<LLD	3.34E-05	<LLD	<LLD	<LLD	<LLD
I-132	Ci	<LLD	<LLD	<LLD	2.63E-04	<LLD	<LLD	<LLD	<LLD
I-133	Ci	<LLD	<LLD	<LLD	9.70E-06	<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	<LLD	<LLD	3.06E-04	<LLD	<LLD	<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
Br-82	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 2010  
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	<LLD	<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	<LLD	4.10E-06	<LLD	<LLD	<LLD	<LLD	<LLD
<b>4. Tritium</b>	Ci	1.50E+00	1.27E+01	3.61E+01	3.41E+01	2.81E-01	2.18E-01	3.52E-01	3.54E-01
<b>5. Gross Alpha</b>	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
<b>6. Carbon-14</b>	Ci	1.10E+00	1.11E+00	1.12E+00	1.12E+00	N/A	N/A	N/A	N/A

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2010  
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 Activity Released	Ci	1.51E-03	4.04E-03	1.70E-03	6.24E-03	2.64
2. Average Concentration Released	μCi/ml	2.48E-10	1.00E-09	4.27E-10	2.30E-09	
3. Percent of limit	%	*	*	*	*	

**B. Tritium**

1. Total Activity Released	Ci	3.49E+01	1.09E+02	1.16E+02	1.35E+02	5.85
2. Average Concentration Released	μCi/ml	5.74E-06	2.71E-05	2.92E-05	4.97E-05	
3. % of Limit (1E-2 μCi/ml)	%	5.74E-02	2.71E-01	2.92E-01	4.97E-01	

**C. Dissolved Noble Gases**

1. Total Activity Released	Ci	0.00E+00	0.00E+00	0.00E+00	5.16E-06	2.64
2. Average Concentration Released	μCi/ml	0.00E+00	0.00E+00	0.00E+00	1.90E-12	
3. % of Limit (2E-4 μCi/ml)	%	0.00E+00	0.00E+00	0.00E+00	9.51E-07	

**D. Gross Alpha**

1. Total Activity Released	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	14.70
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**E. Volume of Releases**

1. Volume of Liquid Waste to Discharge	liters	9.43E+04	1.50E+05	2.23E+05	2.10E+05	
2. Volume of Dilution Water	liters	6.08E+09	4.02E+09	3.98E+09	2.71E+09	

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

Note: % Limit Values are included in Appendix B 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.

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2010  
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
H-3	Ci	1.08E+01	6.88E+01	2.00E+01	2.40E+01	2.41E+01	3.98E+01	9.63E+01	1.11E+02
Gross Alpha	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ar-41	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	5.16E-06
Cr-51	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	1.32E-04
Mn-54	Ci	<LLD	<LLD	<LLD	<LLD	1.71E-05	1.02E-04	5.11E-05	6.97E-05
Fe-55	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Co-57	Ci	<LLD	<LLD	<LLD	<LLD	6.23E-06	3.28E-05	8.11E-06	3.01E-05
Co-58	Ci	<LLD	<LLD	<LLD	<LLD	5.86E-04	7.99E-04	2.99E-04	2.03E-03
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	4.49E-05
Co-60	Ci	<LLD	<LLD	<LLD	<LLD	1.97E-04	2.09E-03	1.18E-03	1.06E-03
Ni-65	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Zn-65	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-85	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
Sr-89	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Nb-95	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	2.83E-05	<LLD	4.50E-05
Zr-95	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	1.83E-05
Nb-97	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	5.47E-07
Zr-97	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Tc-99m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Mo-99	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ru-103	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sn-113	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sn-117m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sb-122	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Te-123m	Ci	<LLD	<LLD	<LLD	<LLD	9.32E-06	<LLD	<LLD	9.28E-06
Sb-124	Ci	<LLD	<LLD	<LLD	<LLD	4.18E-05	1.03E-05	<LLD	<LLD
Sb-125	Ci	<LLD	<LLD	<LLD	<LLD	6.52E-04	9.62E-04	1.29E-04	2.02E-04
Te-125m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	2.57E-03
Xe-131m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
I-131	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
I-132	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	7.32E-06
Te-132	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	8.85E-06

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2010  
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
Ba-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
I-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	4.51E-06	6.55E-06	1.20E-05	2.74E-06
Xe-135	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
Cs-136	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	7.24E-06	2.98E-05	8.64E-06
Cs-138	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-138	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ba-139	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
Np-239	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	1.08E+01	6.88E+01	2.00E+01	2.40E+01	2.41E+01	3.98E+01	9.63E+01	1.11E+02

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2010  
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 Activity Released	Ci	1.51E-03	4.04E-03	1.70E-03	6.24E-03	2.64
2. Average Concentration Released	μCi/ml	2.48E-10	1.00E-09	4.27E-10	2.30E-09	
3. Percent of Limit	%	*	*	*	*	

**B. Tritium**

1. Total Activity Released	Ci	3.49E+01	1.09E+02	1.16E+02	1.35E+02	5.85
2. Average Concentration Released	μCi/ml	5.74E-06	2.71E-05	2.92E-05	4.97E-05	
3. % of Limit (1E-3 μCi/ml)	%	5.74E-02	2.71E-01	2.92E-01	4.97E-01	

**C. Dissolved Noble Gases**

1. Total Activity Released	Ci	0.00E+00	0.00E+00	0.00E+00	5.16E-06	2.64
2. Average Concentration Released	μCi/ml	0.00E+00	0.00E+00	0.00E+00	1.90E-12	
3. % of Limit (2E-4 μCi/ml)	%	0.00E+00	0.00E+00	0.00E+00	9.51E-07	

**D. Gross Alpha**

1. Total Activity Released	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	14.70
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**E. Volume of Releases**

1. Volume of Liquid Waste to Discharge	liters	9.43E+04	1.50E+05	2.23E+05	2.10E+05
2. Volume of Dilution Water	liters	6.08E+09	4.02E+09	3.98E+09	2.71E+09

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

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

\*This limit is equal to 10 times the concentration values in Appendix B, Table 2, Column 2 to 10CFR20.1001-2402.

BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2010  
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
H-3	Ci	1.08E+01	6.88E+01	2.00E+01	2.40E+01	2.41E+01	3.98E+01	9.63E+01	1.11E+02
Gross Alpha	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ar-41	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	5.16E-06
Cr-51	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	1.32E-04
Mn-54	Ci	<LLD	<LLD	<LLD	<LLD	1.71E-05	1.02E-04	5.11E-05	6.97E-05
Fe-55	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Co-57	Ci	<LLD	<LLD	<LLD	<LLD	6.23E-06	3.28E-05	8.11E-06	3.01E-05
Co-58	Ci	<LLD	<LLD	<LLD	<LLD	5.86E-04	7.99E-04	2.99E-04	2.03E-03
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	4.49E-05
Co-60	Ci	<LLD	<LLD	<LLD	<LLD	1.97E-04	2.09E-03	1.18E-03	1.06E-03
Ni-65	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Zn-65	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-85	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
Sr-89	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Nb-95	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	2.83E-05	<LLD	4.50E-05
Zr-95	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	1.83E-05
Nb-97	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	5.47E-07
Zr-97	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Tc-99m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Mo-99	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ru-103	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sn-113	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sn-117m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sb-122	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Te-123m	Ci	<LLD	<LLD	<LLD	<LLD	9.32E-06	<LLD	<LLD	9.28E-06
Sb-124	Ci	<LLD	<LLD	<LLD	<LLD	4.18E-05	1.03E-05	<LLD	<LLD
Sb-125	Ci	<LLD	<LLD	<LLD	<LLD	6.52E-04	9.62E-04	1.29E-04	2.02E-04
Te-125m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	2.57E-03
Xe-131m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
I-131	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
I-132	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	7.32E-06
Te-132	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	8.85E-06



BRAIDWOOD NUCLEAR POWER STATION  
ANNUAL EFFLUENT REPORT FOR 2010  
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
Ba-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
I-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	4.51E-06	6.55E-06	1.20E-05	2.74E-06
Xe-135	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
Cs-136	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	7.24E-06	2.98E-05	8.64E-06
Cs-138	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-138	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ba-139	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
Np-239	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	1.08E+01	6.88E+01	2.00E+01	2.40E+01	2.41E+01	3.98E+01	9.63E+01	1.11E+02

BRAIDWOOD NUCLEAR POWER STATION  
 RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2010  
 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	1.08E+02	3.30E+01	Jan - Dec 2010	25
b. Dry compressible waste, contaminated equip, etc	3.63E+02	1.01E+00	Jan - Dec 2010	25
c. Irradiated components, control rods, etc	1.75E-01	4.81E-02	Jan - Dec 2010	N/A
d. Other (oil, reverse osmosis reject water, soil, Lagoon sediment)	1.13E+02	1.08E-02	Jan - Dec 2010	25

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

Major Nuclide Composition		%
a.	H-3	27.22
	Ni-63	24.00
	Fe-55	16.29
	Cs-137	10.44
	Cs-134	10.00
	Co-60	6.39
	Co-58	3.66
	Mn-54	0.89

BRAIDWOOD NUCLEAR POWER STATION  
 RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2010  
 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	41.70
	H-3	22.69
	Ni-63	14.47
	Co-60	12.04
	Co-58	4.66
	Mn-54	1.69
	Cs-137	0.82
c.	Co-60	89.80
	Fe-55	6.06
	Ni-63	3.98
	C-14	0.11
d.	Fe-55	45.46
	Co-58	17.45
	Ni-63	10.92
	Co-60	10.38
	H-3	10.19
	Mn-54	1.41
	Cs-137	0.97

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
2	Hittman Transportation	Clive Disposal Facility (bulk) - Clive, UT
7	Hittman Transportation	Clive Disposal Facility (containerized), Clive, UT
10	Hittman Transportation	Duratek, Oak Ridge, TN
16	Hittman Transportation	Duratek, Kingston, TN

B. Irradiated Fuel Shipments (disposition)

No irradiated fuel shipments for January through December, 2010.

C. Changes to the Process Control Program

There were no changes to the process control program in 2010.

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2010  
UNIT 1 AND 2 COMBINED (Docket Numbers 50-456 and 50-457)

1. In 2010, there were no changes to the Process Control Program.
2. In 2010, there were no changes to the station's radioactive waste systems.
3. There were no liquid release tanks or gas decay tanks which exceeded the limits addressed in the ODCM 2010.
4. There were no abnormal liquid releases in 2010 resulting in offsite discharge.

One abnormal gaseous release occurred in 2010 and is described below.

On August 16, 2010, following a trip of Unit 1, steam containing tritium was released to the atmosphere through a Main Steam line safety relief valve. The release took place over approximately 27 hours. At the time of the release, Unit 1 secondary system tritium concentration was  $3.64E-05$   $\mu\text{Ci/cc}$ . A conservative release permit was performed in the Radioactive Effluent Dose Tracking and Dose Assessment Software (RETDAS). This permit #2010201, was used to calculate the offsite dose from the gaseous release. Condensation of the steam reached the ground near the gaseous release. This condensation was limited to a small area and did not reach offsite. Previously installed site groundwater monitoring wells will be used to monitor the potential migration of this material. This issue has been entered into the Corrective Action Program as IR 1102248.

5. The following effluent monitoring instruments exceeded their specified inoperability time.

Liquid Radwaste Effluent Line Loop WX001 (flow instrument 0F-WX001) exceeded its inoperability time on 4/27/07. At that time, required surveillances for this effluent instrument were taken to "suspend" and were not performed because the effluent flow path was no longer in use at Braidwood Station. A design change and modification to this flow path and this instrument were started in October 2010, and was in progress with final testing incomplete as of 12/31/10. Testing includes effluent releases through the flow path following the requirements described in the ODCM for effluent releases with the instrument inoperable. This issue has been entered into the Corrective Action Program as IR 723658.

Liquid Radwaste Effluent Line Radiation Monitor, 0RE-PR001, exceeded its inoperability time on 11/7/10. The instrument was removed from service for modification related to the installation of an additional Liquid Radwaste Effluent Line Radiation Monitor, 0RE-PR090. Modification testing was in progress with final testing incomplete as of 12/31/10. Testing includes effluent releases through the flow path. Those releases were performed in accordance with the requirements described in the ODCM for effluent releases with the instrument inoperable. This issue has been entered into the Corrective Action Program as IR 1136983.

Liquid Radwaste Effluent Line Radiation Monitor, 0RE-PR090, was installed in October 2010 during modification work on the liquid radwaste effluent path. This rad monitor exceeded its inoperability time on 12/28/10 due to continued installation and modification testing. The testing was incomplete as of 12/31/10. Testing includes effluent releases through the flow path. Those releases were performed in accordance with the requirements described in the ODCM for effluent releases with the instrument inoperable. This issue has been entered into the Corrective Action Program as IR 1206147.

6. The ODCM was changed in 2010 to include the installation of a new liquid radwaste effluent radiation monitor, 0RE-PR090. The ODCM change also included several editorial and administrative changes to correct spelling, font and format discrepancies, and to include commitments as required by Exelon procedures. An administrative change was made to the sampling frequency of Radiological Environmental Monitoring Program (REMP) air iodine from bi-weekly to weekly. No changes were made to the manner in which offsite dose is calculated.

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2010  
UNIT 1 AND 2 COMBINED (Docket Numbers 50-456 and 50-457)

7. NUREG-0543, Methods for Demonstrating LWR Compliance with the EPA Uranium Fuel Cycle Standard (40 CFR Part 190) states in section IV, "As long as a nuclear plant site operates at a level below the Appendix I reporting requirements, no extra analysis is required to demonstrate compliance with the 40 CFR Part 190." The organ and whole body doses reported on pages 28 through 47 are determined using 10 CFR 50 Appendix I methodology. The doses are below the limits of Appendix I.

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2010  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)

APPENDIX A

LLD Tables

BRAIDWOOD NUCLEAR POWER STATION  
 RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2009  
 UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)  
 LLD VALUES FOR GASEOUS RELEASES

<u>Isotope</u>	<u>LLD (Ci/ml)</u>
Alpha	7.11E-19
H-3	8.03E-14
Ar-41	7.63E-13
Mn-54	1.89E-18
Co-57	1.02E-18
Co-58	5.67E-19
Fe-59	3.64E-18
Co-60	8.94E-19
Zn-65	4.80E-18
Br-82	7.44E-19
Kr-85	5.83E-11
Kr-85m	7.03E-13
Kr-87	7.59E-13
Kr-88	3.18E-12
Sr-89	1.41E-20
Sr-90	2.71E-21
Mo-99	9.37E-19
I-131	8.96E-19
I-132	2.38E-17
I-133	1.17E-18
Xe-131m	1.82E-11
Xe-133	1.27E-12
Xe-133m	4.87E-12
Cs-134	2.25E-18
I-135	2.88E-18
Xe-135	5.17E-13
Xe-135m	1.48E-11
Cs-137	2.18E-18
Xe-138	4.65E-11
Ba-139	1.04E-15
Ba-140	4.45E-18
La-140	3.64E-18
Ce-141	1.78E-18
Ce-144	7.93E-18

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 2010  
 UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)  
 LLD VALUES FOR LIQUID RELEASES

<u>Isotope</u>	<u>LLD (Ci/ml)</u>
Alpha	4.90E-14
H-3	8.00E-12
Ar-41	3.73E-14
Cr-51	4.46E-13
Mn-54	1.56E-14
Fe-55	6.99E-13
Co-57	4.64E-14
Co-58	4.39E-14
Fe-59	3.94E-14
Co-60	9.40E-14
Zn-65	4.04E-14
Sr-89	4.00E-14
Sr-90	9.23E-15
Nb-95	1.64E-14
Zr-95	1.22E-13
Nb-97	1.51E-13
Mo-99	2.94E-13
Tc-99m	3.00E-13
Ag-110m	7.89E-14
Sb-124	5.43E-14
Sb-125	1.87E-13
Te-125m	1.62E-11
I-131	1.36E-13
Xe-133	1.41E-13
Cs-134	5.02E-14
Cs-137	6.50E-14
Ba-139	3.57E-13
Ba-140	1.50E-13
La-140	5.89E-13
Ce-141	9.35E-14
Ce-144	3.48E-13
Kr-85	9.29E-12
Nb-95	1.64E-14
Sb-122	4.32E-13
Te-123m	4.92E-14
Te-132	2.28E-13
I-132	5.93E-14
I-133	2.37E-11
Cs-136	9.72E-14
Xe-133m	3.81E-13
Xe-131m	1.72E-12
Np-239	1.64E-12
Ba-133	6.31E-14
Xe-135	2.43E-13

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 2010  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)

APPENDIX B

Supplemental Information

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2010  
UNIT COMMON

GASEOUS EFFLUENTS  
SUPPLEMENTAL RELEASE INFORMATION

A. Batch Release	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
1. Total Number of Batch Releases	3	7	7	5	22
2. Total Time Period for Batch Releases (minutes)	2,914	2,704	1,363	752	7,733
3. Maximum Time Period for a Batch Release (minutes)	2,590	1,580	665	206	N/A
4. Average Time Period for a Batch Release (minutes)	971	386	195	150	N/A
5. Minimum Time Period for a Batch Release (minutes)	1	129	47	91	N/A
<b>B. Abnormal Releases</b>					
1. Number of Releases	0	0	0	0	0
2. Total Activity Released (Ci)	0	0	0	0	0

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2010  
UNIT 1 (Docket Number 50-456)

GASEOUS EFFLUENTS  
SUPPLEMENTAL RELEASE INFORMATION

A. Batch Release	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
1. Total Number of Batch Releases	20	18	20	23	81
2. Total Time Period for Batch Releases (minutes)	1,158	984	778	35,138	38,058
3. Maximum Time Period for a Batch Release (minutes)	305	414	103	14,400	N/A
4. Average Time Period for a Batch Release (minutes)	58	55	39	1,528	N/A
5. Minimum Time Period for a Batch Release (minutes)	20	22	21	22	N/A
<b>B. Abnormal Releases</b>					
1. Number of Releases	0	0	1	0	1
2. Total Activity Released (Ci)	0	0	4.31E+04	0	0

BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2010  
UNIT 2 (Docket Number 50-457)

GASEOUS EFFLUENTS  
SUPPLEMENTAL RELEASE INFORMATION

A. Batch Release	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
1. Total Number of Batch Releases	22	18	22	23	87
2. Total Time Period for Batch Releases (minutes)	978	537	671	1,721	3,970
3. Maximum Time Period for a Batch Release (minutes)	286	58	41	961	N/A
4. Average Time Period for a Batch Release (minutes)	44	30	31	75	N/A
5. Minimum Time Period for a Batch Release (minutes)	13	7	16	17	N/A
<b>B. Abnormal Releases</b>					
1. Number of Releases	0	0	0	0	0
2. Total Activity Released (Ci)	0	0	0	0	0

BRAIDWOOD NUCLEAR POWER STATION  
 RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2010  
 UNIT 1 AND 2 COMBINED (Docket Numbers 50-456 and 50-457)  
 BRAIDWOOD NUCLEAR POWER STATION

LIQUID EFFLUENTS

SUPPLEMENTAL RELEASE INFORMATION

A. Batch Release	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
1. Total Number of Batch Releases	5	8	12	14	<b>39</b>
2. Total Time Period for Batch Releases (minutes)	1,123	1,921	2,713	3,374	<b>9,131</b>
3. Maximum Time Period for a Batch Release (minutes)	236	287	260	327	<b>N/A</b>
4. Average Time Period for a Batch Release	225	240	226	241	<b>N/A</b>
5. Minimum Time Period for a Batch Release (minutes)	211	220	192	10	<b>N/A</b>
6. Average Stream Flow During Periods of Release of Effluent into a Flowing Stream (liters/min)	1.36E+07	1.48E+07	3.51E+06	2.40E+06	<b>N/A</b>
<b>B. Abnormal Releases</b>					
1. Number of Releases	0	0	0	0	<b>0</b>
2. Total Activity Released (Ci)	0.00+00	0.00+00	0.00+00	0.00E+00	<b>0.00E+00</b>

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

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2010 00:00  
 Period End Date.....: 01/01/2011 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 1

=== RELEASE DATA =====  
 Total Release Duration (minutes)..... 9.500E+05  
 Total Release Volume (cf)..... 1.401E+11  
 Average Release Flowrate (cfm)..... 1.474E+05  
 Average Period Flowrate (cfm)..... 2.665E+05

=== NUCLIDE DATA =====

Nuclide	uCi	Average uCi/cc	ECrcent Ratio	EC
AR-41	3.26E+03	8.23E-13	8.23E-05	1.00E-08
KR-85M	3.62E+02	9.12E-14	9.12E-07	1.00E-07
XE-133M	3.50E+03	8.83E-13	1.47E-06	6.00E-07
XE-131M	0.00E+00	0.00E+00	0.00E+00	2.00E-06
XE-135	1.25E+04	3.15E-12	4.50E-05	7.00E-08
XE-133	5.02E+05	1.27E-10	2.53E-04	5.00E-07
F&AG	5.22E+05	1.32E-10	3.83E-04	
I-131	3.23E+01	8.14E-15	4.07E-05	2.00E-10
I-132	8.60E+01	2.17E-14	1.08E-06	2.00E-08
I-133	1.24E+00	3.13E-16	3.13E-07	1.00E-09
Iodine	1.20E+02	3.01E-14	4.21E-05	
H-3	2.58E+08	6.50E-08	6.50E-01	1.00E-07
H-3	2.58E+08	6.50E-08	6.50E-01	
C-14	4.44E+06	1.12E-09	3.74E-01	3.00E-09
ND-147	5.40E+00	1.36E-15	1.36E-06	1.00E-09
P>=8	4.44E+06	1.12E-09	3.74E-01	
Total	2.63E+08	6.62E-08	1.02E+00	

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

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2010 00:00  
 Period End Date.....: 01/01/2011 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 1  
 Receptor.....: 5 Composite Crit. Receptor - IP  
 Distance (meters)....: 0.0  
 Compass Point.....: 0.0

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

Age/Path	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
AGPD	3.71E-07	3.71E-07	3.71E-07	3.71E-07	3.71E-07	3.71E-07	0.00E+00	3.71E-07
AINHL	2.98E-03	7.37E-03	7.39E-03	7.37E-03	7.37E-03	7.37E-03	0.00E+00	7.37E-03
AVEG	1.47E-01	4.15E-02	4.21E-02	4.15E-02	4.15E-02	4.15E-02	0.00E+00	4.15E-02
ACMEAT	5.45E-02	1.27E-02	1.27E-02	1.27E-02	1.27E-02	1.27E-02	0.00E+00	1.27E-02
ACMILK	5.94E-02	1.60E-02	1.83E-02	1.60E-02	1.60E-02	1.60E-02	0.00E+00	1.60E-02
TGPD	3.71E-07	3.71E-07	3.71E-07	3.71E-07	3.71E-07	3.71E-07	0.00E+00	3.71E-07
TINHL	4.25E-03	7.67E-03	7.69E-03	7.67E-03	7.67E-03	7.67E-03	0.00E+00	7.67E-03
TVEG	2.37E-01	6.16E-02	6.21E-02	6.16E-02	6.16E-02	6.16E-02	0.00E+00	6.16E-02
TCMEAT	4.60E-02	1.02E-02	1.03E-02	1.02E-02	1.02E-02	1.02E-02	0.00E+00	1.02E-02
TCMILK	1.10E-01	2.73E-02	3.10E-02	2.73E-02	2.73E-02	2.73E-02	0.00E+00	2.73E-02
CGPD	3.71E-07	3.71E-07	3.71E-07	3.71E-07	3.71E-07	3.71E-07	0.00E+00	3.71E-07
CINHL	5.87E-03	7.17E-03	7.19E-03	7.17E-03	7.17E-03	7.17E-03	0.00E+00	7.17E-03
CVEG	5.73E-01	1.36E-01	1.37E-01	1.36E-01	1.36E-01	1.36E-01	0.00E+00	1.36E-01
CCMEAT	8.65E-02	1.86E-02	1.87E-02	1.86E-02	1.86E-02	1.86E-02	0.00E+00	1.86E-02
CCMILK	2.70E-01	6.24E-02	6.96E-02	6.24E-02	6.23E-02	6.23E-02	0.00E+00	6.23E-02
IGPD	3.71E-07	3.71E-07	3.71E-07	3.71E-07	3.71E-07	3.71E-07	0.00E+00	3.71E-07
IINHL	4.33E-03	4.36E-03	4.38E-03	4.36E-03	4.36E-03	4.36E-03	0.00E+00	4.36E-03
ICMILK	5.28E-01	1.26E-01	1.43E-01	1.26E-01	1.26E-01	1.26E-01	0.00E+00	1.26E-01

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

Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
ADULT	2.64E-01	7.75E-02	8.06E-02	7.76E-02	7.75E-02	7.75E-02	0.00E+00	7.75E-02
TEEN	3.97E-01	1.07E-01	1.11E-01	1.07E-01	1.07E-01	1.07E-01	0.00E+00	1.07E-01
CHILD	9.35E-01	2.25E-01	2.33E-01	2.25E-01	2.25E-01	2.25E-01	0.00E+00	2.25E-01
INFANT	5.33E-01	1.30E-01	1.48E-01	1.30E-01	1.30E-01	1.30E-01	0.00E+00	1.30E-01

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

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2010 00:00  
 Period End Date.....: 01/01/2011 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 1  
 Receptor.....: 5 Composite Crit. Receptor - IP  
 Distance (meters)....: 0.0  
 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	9.35E-01	31-day	2.25E-01	4.15E+02	3.00E-01	3.12E+02
Qrtr->End	CHILD	BONE	9.35E-01	Quarter	5.63E+00	1.66E+01	7.50E+00	1.25E+01
Year->End	CHILD	BONE	9.35E-01	Annual	1.13E+01	8.31E+00	1.50E+01	6.23E+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
I-131	2.66E-03
I-132	6.69E-06
I-133	1.68E-06
ND-147	2.80E-06

=== 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	2.25E-01	31-day	1.50E-01	1.50E+02	2.00E-01	1.12E+02
Qrtr->End	CHILD	TBODY	2.25E-01	Quarter	5.25E+00	4.28E+00	7.50E+00	2.99E+00
Year->End	CHILD	TBODY	2.25E-01	Annual	1.05E+01	2.14E+00	1.50E+01	1.50E+00

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

Nuclide	Percentage
H-3	1.67E+01
C-14	8.33E+01
I-131	6.41E-03
I-132	2.75E-05
I-133	3.66E-06
ND-147	1.07E-05



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

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2010 00:00  
 Period End Date.....: 01/01/2011 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 1  
 Receptor.....: 4 Composite Crit. Receptor - NG  
 Distance (meters)....: 0.0  
 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	5.26E-06	31-day	1.50E-01	3.51E-03	2.00E-01	2.63E-03
Qrtr->End	Gamma	5.26E-06	Quarter	3.75E+00	1.40E-04	5.00E+00	1.05E-04
Year->End	Gamma	5.26E-06	Annual	7.50E+00	7.02E-05	1.00E+01	5.26E-05

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

Nuclide	Percentage
AR-41	1.30E+01
KR-85M	1.91E-01
XE-133M	4.91E-01
XE-131M	0.00E+00
XE-135	1.03E+01
XE-133	7.60E+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	2.11E-05	31-day	3.00E-01	7.05E-03	4.00E-01	5.29E-03
Qrtr->End	Beta	2.11E-05	Quarter	7.50E+00	2.82E-04	1.00E+01	2.11E-04
Year->End	Beta	2.11E-05	Annual	1.50E+01	1.41E-04	2.00E+01	1.06E-04

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

Nuclide	Percentage
AR-41	1.86E+00
KR-85M	1.24E-01
XE-133M	9.02E-01
XE-131M	0.00E+00
XE-135	5.35E+00
XE-133	9.18E+01

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

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2010 00:00  
 Period End Date.....: 01/01/2011 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 2

=== RELEASE DATA ===  
 Total Release Duration (minutes)..... 7.511E+05  
 Total Release Volume (cf)..... 6.123E+10  
 Average Release Flowrate (cfm)..... 8.152E+04  
 Average Period Flowrate (cfm)..... 1.165E+05

=== NUCLIDE DATA ===

Nuclide	uCi	Average uCi/cc	ECrcent Ratio	EC
AR-41	3.26E+03	1.88E-12	1.88E-04	1.00E-08
KR-85M	3.62E+02	2.09E-13	2.09E-06	1.00E-07
XE-133M	3.50E+03	2.02E-12	3.37E-06	6.00E-07
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	1.25E+04	7.21E-12	1.03E-04	7.00E-08
XE-133	4.68E+05	2.70E-10	5.40E-04	5.00E-07
F&AG	4.88E+05	2.81E-10	8.37E-04	
I-131	3.34E+01	1.92E-14	9.62E-05	2.00E-10
I-132	2.63E+02	1.52E-13	7.59E-06	2.00E-08
I-133	9.70E+00	5.60E-15	5.60E-06	1.00E-09
Iodine	3.06E+02	1.77E-13	1.09E-04	
H-3	8.55E+07	4.93E-08	4.93E-01	1.00E-07
H-3	8.55E+07	4.93E-08	4.93E-01	
BA-139	4.10E+01	2.37E-14	5.92E-07	4.00E-08
P<8	4.10E+01	2.37E-14	5.92E-07	
C-14	4.45E+06	2.57E-09	8.55E-01	3.00E-09
P>=8	4.45E+06	2.57E-09	8.55E-01	
Total	9.05E+07	5.22E-08	1.35E+00	

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

Release ID.....: 1 All Gas Release Types  
Period Start Date....: 01/01/2010 00:00  
Period End Date.....: 01/01/2011 00:00  
Period Duration (min): 5.256E+05  
Coefficient Type.....: Historical  
Unit.....: 2

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

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2010 00:00  
 Period End Date.....: 01/01/2011 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 2  
 Receptor.....: 5 Composite Crit. Receptor - IP  
 Distance (meters)....: 0.0  
 Compass Point.....: 0.0

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

Age/Path	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
AGPD	4.84E-07	4.84E-07	4.84E-07	4.84E-07	4.84E-07	4.84E-07	0.00E+00	4.84E-07
AINHL	2.98E-03	2.82E-03	2.84E-03	2.82E-03	2.82E-03	2.82E-03	0.00E+00	2.82E-03
AVEG	1.47E-01	3.34E-02	3.40E-02	3.34E-02	3.34E-02	3.34E-02	0.00E+00	3.34E-02
ACMEAT	5.45E-02	1.15E-02	1.16E-02	1.15E-02	1.15E-02	1.15E-02	0.00E+00	1.15E-02
ACMILK	5.94E-02	1.33E-02	1.57E-02	1.33E-02	1.33E-02	1.33E-02	0.00E+00	1.33E-02
TGPD	4.84E-07	4.84E-07	4.84E-07	4.84E-07	4.84E-07	4.84E-07	0.00E+00	4.84E-07
TINHL	4.26E-03	3.08E-03	3.10E-03	3.08E-03	3.08E-03	3.08E-03	0.00E+00	3.08E-03
TVEG	2.37E-01	5.23E-02	5.28E-02	5.23E-02	5.23E-02	5.23E-02	0.00E+00	5.23E-02
TCMEAT	4.60E-02	9.55E-03	9.61E-03	9.55E-03	9.55E-03	9.55E-03	0.00E+00	9.55E-03
TCMILK	1.10E-01	2.37E-02	2.75E-02	2.37E-02	2.37E-02	2.37E-02	0.00E+00	2.37E-02
CGPD	4.84E-07	4.84E-07	4.84E-07	4.84E-07	4.84E-07	4.84E-07	0.00E+00	4.84E-07
CINHL	5.88E-03	3.12E-03	3.14E-03	3.12E-03	3.12E-03	3.12E-03	0.00E+00	3.12E-03
CVEG	5.73E-01	1.22E-01	1.23E-01	1.22E-01	1.22E-01	1.22E-01	0.00E+00	1.22E-01
CCMEAT	8.66E-02	1.78E-02	1.79E-02	1.78E-02	1.78E-02	1.78E-02	0.00E+00	1.78E-02
CCMILK	2.70E-01	5.67E-02	6.42E-02	5.67E-02	5.67E-02	5.67E-02	0.00E+00	5.67E-02
IGPD	4.84E-07	4.84E-07	4.84E-07	4.84E-07	4.84E-07	4.84E-07	0.00E+00	4.84E-07
IINHL	4.34E-03	2.03E-03	2.05E-03	2.03E-03	2.03E-03	2.03E-03	0.00E+00	2.03E-03
ICMILK	5.29E-01	1.17E-01	1.35E-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	2.64E-01	6.09E-02	6.41E-02	6.10E-02	6.09E-02	6.09E-02	0.00E+00	6.09E-02
TEEN	3.97E-01	8.87E-02	9.31E-02	8.87E-02	8.86E-02	8.86E-02	0.00E+00	8.87E-02
CHILD	9.36E-01	2.00E-01	2.08E-01	2.00E-01	2.00E-01	2.00E-01	0.00E+00	2.00E-01
INFANT	5.33E-01	1.19E-01	1.38E-01	1.19E-01	1.19E-01	1.19E-01	0.00E+00	1.19E-01

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

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2010 00:00  
 Period End Date.....: 01/01/2011 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 2  
 Receptor.....: 5 Composite Crit. Receptor - IP  
 Distance (meters)....: 0.0  
 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	9.36E-01	31-day	2.25E-01	4.16E+02	3.00E-01	3.12E+02
Qrtr->End	CHILD	BONE	9.36E-01	Quarter	5.63E+00	1.66E+01	7.50E+00	1.25E+01
Year->End	CHILD	BONE	9.36E-01	Annual	1.13E+01	8.32E+00	1.50E+01	6.24E+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
I-131	2.76E-03
I-132	2.04E-05
I-133	1.31E-05
BA-139	2.43E-07

=== 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	2.00E-01	31-day	1.50E-01	1.33E+02	2.00E-01	9.98E+01
Qrtr->End	CHILD	TBODY	2.00E-01	Quarter	5.25E+00	3.80E+00	7.50E+00	2.66E+00
Year->End	CHILD	TBODY	2.00E-01	Annual	1.05E+01	1.90E+00	1.50E+01	1.33E+00

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

Nuclide	Percentage
H-3	6.26E+00
C-14	9.37E+01
I-131	7.46E-03
I-132	9.47E-05
I-133	3.22E-05
BA-139	1.13E-06

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

Release ID.....: 1 All Gas Release Types  
 Period Start Date.....: 01/01/2010 00:00  
 Period End Date.....: 01/01/2011 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 2  
 Receptor.....: 4 Composite Crit. Receptor - NG  
 Distance (meters).....: 0.0  
 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	4.99E-06	31-day	1.50E-01	3.33E-03	2.00E-01	2.50E-03
Qrtr->End	Gamma	4.99E-06	Quarter	3.75E+00	1.33E-04	5.00E+00	9.99E-05
Year->End	Gamma	4.99E-06	Annual	7.50E+00	6.66E-05	1.00E+01	4.99E-05

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

Nuclide	Percentage
AR-41	1.37E+01
KR-85M	2.01E-01
XE-133M	5.18E-01
KR-88	0.00E+00
XE-131M	0.00E+00
XE-135	1.09E+01
XE-133	7.47E+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	1.98E-05	31-day	3.00E-01	6.61E-03	4.00E-01	4.96E-03
Qrtr->End	Beta	1.98E-05	Quarter	7.50E+00	2.64E-04	1.00E+01	1.98E-04
Year->End	Beta	1.98E-05	Annual	1.50E+01	1.32E-04	2.00E+01	9.92E-05

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

Nuclide	Percentage
AR-41	1.99E+00
KR-85M	1.32E-01
XE-133M	9.62E-01
KR-88	0.00E+00
XE-131M	0.00E+00
XE-135	5.71E+00
XE-133	9.12E+01

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

Release ID.....: 1 All Liquid Release Types  
 Period Start Date.....: 01/01/2010 00:00  
 Period End Date.....: 01/01/2011 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)..... 1.536E+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 7.71E+01  
 NB-97 5.47E-01  
 SB-124 5.20E+01  
 SB-125 1.95E+03  
 TE-123M 1.86E+01  
 CR-51 1.31E+02  
 MN-54 2.40E+02  
 FE-59 4.50E+01  
 CO-58 3.72E+03  
 CO-60 4.52E+03  
 ZR-95 1.83E+01  
 NB-95 7.34E+01  
 TE-125M 2.57E+03  
 TE-132 8.85E+00  
 I-132 7.32E+00  
 CS-134 2.58E+01  
 CS-137 4.57E+01  
 -----  
 Gamma 1.35E+04  
  
 AR-41 5.16E+00  
 -----  
 D&EG 5.16E+00  
  
 H-3 3.95E+08  
 -----  
 Beta 3.95E+08

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

Release ID.....: 1 All Liquid Release Types  
Period Start Date.....: 01/01/2010 00:00  
Period End Date.....: 01/01/2011 00:00  
Period Duration (mins): 5.256E+05

=== NUCLIDE DATA =====

Nuclide	uCi
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Total	3.95E+08



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

Release ID.....: 1 All Liquid Release Types  
 Period Start Date.....: 01/01/2010 00:00  
 Period End Date.....: 01/01/2011 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	1.70E-06	7.88E-03	7.87E-03	7.88E-03	7.87E-03	7.91E-03	0.00E+00	7.88E-03
AFWFSp	8.42E-04	4.51E-03	3.32E-03	4.36E-03	3.39E-03	7.77E-03	0.00E+00	4.19E-03
TPWtr	1.67E-06	5.55E-03	5.55E-03	5.55E-03	5.55E-03	5.57E-03	0.00E+00	5.55E-03
TFWFSp	8.95E-04	3.79E-03	2.56E-03	2.90E-03	2.65E-03	5.75E-03	0.00E+00	3.08E-03
CPWtr	4.91E-06	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	0.00E+00	1.07E-02
CFWFSp	1.12E-03	3.21E-03	2.14E-03	2.41E-03	2.19E-03	3.26E-03	0.00E+00	2.39E-03
IPWtr	5.91E-06	1.05E-02	1.05E-02	1.05E-02	1.05E-02	1.05E-02	0.00E+00	1.05E-02

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

Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
ADULT	8.43E-04	1.24E-02	1.12E-02	1.22E-02	1.13E-02	1.57E-02	0.00E+00	1.21E-02
TEEN	8.97E-04	9.34E-03	8.11E-03	8.44E-03	8.20E-03	1.13E-02	0.00E+00	8.63E-03
CHILD	1.13E-03	1.39E-02	1.28E-02	1.31E-02	1.28E-02	1.39E-02	0.00E+00	1.30E-02
INFANT	5.91E-06	1.05E-02	1.05E-02	1.05E-02	1.05E-02	1.05E-02	0.00E+00	1.05E-02

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

Release ID.....: 1 All Liquid Release Types  
 Period Start Date.....: 01/01/2010 00:00  
 Period End Date.....: 01/01/2011 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	1.57E-02	31-day	1.50E-01	1.05E+01	2.00E-01	7.84E+00
Qrtr->End	ADULT	GILLI	1.57E-02	Quarter	3.75E+00	4.18E-01	5.00E+00	3.14E-01
Year->End	ADULT	GILLI	1.57E-02	Annual	7.50E+00	2.09E-01	1.00E+01	1.57E-01

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

Nuclide Percentage

H-3	7.08E+01
CR-51	7.20E-03
MN-54	5.46E-01
FE-59	6.31E-02
CO-58	1.19E+00
CO-60	3.83E+00
ZR-95	1.25E-03
NB-95	1.87E+01
TE-125M	4.47E+00
TE-132	1.11E-01
I-132	5.18E-06
CS-134	5.41E-02
CS-137	7.78E-02

=== 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	1.30E-02	31-day	4.50E-02	2.90E+01	6.00E-02	2.17E+01
Qrtr->End	CHILD	TBODY	1.30E-02	Quarter	1.13E+00	1.16E+00	1.50E+00	8.70E-01
Year->End	CHILD	TBODY	1.30E-02	Annual	2.25E+00	5.80E-01	3.00E+00	4.35E-01

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

Nuclide Percentage

H-3	9.73E+01
CR-51	3.82E-05
MN-54	4.41E-02
FE-59	9.96E-03
CO-58	1.79E-01

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

Release ID.....: 1 All Liquid Release Types  
Period Start Date.....: 01/01/2010 00:00  
Period End Date.....: 01/01/2011 00:00  
Period Duration (mins): 5.256E+05

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

Nuclide	Percentage
-----	-----
CO-60	6.14E-01
ZR-95	5.24E-07
NB-95	2.20E-03
TE-125M	2.52E-01
TE-132	3.08E-03
I-132	1.55E-05
CS-134	6.68E-01
CS-137	6.74E-01

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

Release ID.....: 1 All Liquid Release Types  
 Period Start Date.....: 01/01/2010 00:00  
 Period End Date.....: 01/01/2011 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)..... 1.536E+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 7.71E+01  
 NB-97 5.47E-01  
 SB-124 5.20E+01  
 SB-125 1.95E+03  
 TE-123M 1.86E+01  
 CR-51 1.31E+02  
 MN-54 2.40E+02  
 FE-59 4.50E+01  
 CO-58 3.72E+03  
 CO-60 4.52E+03  
 ZR-95 1.83E+01  
 NB-95 7.34E+01  
 TE-125M 2.57E+03  
 TE-132 8.85E+00  
 I-132 7.32E+00  
 CS-134 2.58E+01  
 CS-137 4.57E+01  
 -----  
 Gamma 1.35E+04  
  
 AR-41 5.16E+00  
 -----  
 D&EG 5.16E+00  
  
 H-3 3.95E+08  
 -----  
 Beta 3.95E+08

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

Release ID.....: 1 All Liquid Release Types  
Period Start Date.....: 01/01/2010 00:00  
Period End Date.....: 01/01/2011 00:00  
Period Duration (mins): 5.256E+05

=== NUCLIDE DATA =====

Nuclide	uCi
-----	-----
-----	-----
Total	3.95E+08

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

Release ID.....: 1 All Liquid Release Types  
 Period Start Date.....: 01/01/2010 00:00  
 Period End Date.....: 01/01/2011 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	1.70E-06	7.88E-03	7.87E-03	7.88E-03	7.87E-03	7.91E-03	0.00E+00	7.88E-03
AFWFSp	8.42E-04	4.51E-03	3.32E-03	4.36E-03	3.39E-03	7.77E-03	0.00E+00	4.19E-03
TPWtr	1.67E-06	5.55E-03	5.55E-03	5.55E-03	5.55E-03	5.57E-03	0.00E+00	5.55E-03
TFWFSp	8.95E-04	3.79E-03	2.56E-03	2.90E-03	2.65E-03	5.75E-03	0.00E+00	3.08E-03
CPWtr	4.91E-06	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	0.00E+00	1.07E-02
CFWFSp	1.12E-03	3.21E-03	2.14E-03	2.41E-03	2.19E-03	3.26E-03	0.00E+00	2.39E-03
IPWtr	5.91E-06	1.05E-02	1.05E-02	1.05E-02	1.05E-02	1.05E-02	0.00E+00	1.05E-02

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

Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
ADULT	8.43E-04	1.24E-02	1.12E-02	1.22E-02	1.13E-02	1.57E-02	0.00E+00	1.21E-02
TEEN	8.97E-04	9.34E-03	8.11E-03	8.44E-03	8.20E-03	1.13E-02	0.00E+00	8.63E-03
CHILD	1.13E-03	1.39E-02	1.28E-02	1.31E-02	1.28E-02	1.39E-02	0.00E+00	1.30E-02
INFANT	5.91E-06	1.05E-02	1.05E-02	1.05E-02	1.05E-02	1.05E-02	0.00E+00	1.05E-02

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

Release ID.....: 1 All Liquid Release Types  
 Period Start Date.....: 01/01/2010 00:00  
 Period End Date.....: 01/01/2011 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	1.57E-02	31-day	1.50E-01	1.05E+01	2.00E-01	7.84E+00
Qrtr->End	ADULT	GILLI	1.57E-02	Quarter	3.75E+00	4.18E-01	5.00E+00	3.14E-01
Year->End	ADULT	GILLI	1.57E-02	Annual	7.50E+00	2.09E-01	1.00E+01	1.57E-01

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

Nuclide	Percentage
H-3	7.08E+01
CR-51	7.20E-03
MN-54	5.46E-01
FE-59	6.31E-02
CO-58	1.19E+00
CO-60	3.83E+00
ZR-95	1.25E-03
NB-95	1.87E+01
TE-125M	4.47E+00
TE-132	1.11E-01
I-132	5.18E-06
CS-134	5.41E-02
CS-137	7.78E-02

=== 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	1.30E-02	31-day	4.50E-02	2.90E+01	6.00E-02	2.17E+01
Qrtr->End	CHILD	TBODY	1.30E-02	Quarter	1.13E+00	1.16E+00	1.50E+00	8.70E-01
Year->End	CHILD	TBODY	1.30E-02	Annual	2.25E+00	5.80E-01	3.00E+00	4.35E-01

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

Nuclide	Percentage
H-3	9.73E+01
CR-51	3.82E-05
MN-54	4.41E-02
FE-59	9.96E-03
CO-58	1.79E-01

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

Release ID.....: 1 All Liquid Release Types  
 Period Start Date.....: 01/01/2010 00:00  
 Period End Date.....: 01/01/2011 00:00  
 Period Duration (mins): 5.256E+05

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

Nuclide	Percentage
CO-60	6.14E-01
ZR-95	5.24E-07
NB-95	2.20E-03
TE-125M	2.52E-01
TE-132	3.08E-03
I-132	1.55E-05
CS-134	6.68E-01
CS-137	6.74E-01



**BRAIDWOOD NUCLEAR POWER STATION  
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2010  
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)**

**ATTACHMENT 1**

**Tables 7-11  
Wind Direction and Stability Classes**

Braidwood Generating Station

Period of Record: January - March 2010  
 Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	1	0	0	0	0	2
NNE	0	1	2	1	0	0	4
NE	0	2	4	0	0	0	6
ENE	0	4	1	0	0	0	5
E	0	2	0	0	0	0	2
ESE	0	3	2	0	0	0	5
SE	0	0	1	0	0	0	1
SSE	0	0	0	0	0	0	0
S	0	0	5	5	0	0	10
SSW	0	0	0	1	0	0	1
SW	0	0	1	0	0	0	1
WSW	0	2	6	0	0	0	8
W	0	14	10	1	0	0	25
WNW	0	8	19	0	0	0	27
NW	1	13	24	2	0	0	40
NNW	0	2	3	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	2	52	78	10	0	0	142

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: 1

Braidwood Generating Station

Period of Record: January - March 2010  
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	3	0	0	0	0	3
NNE	0	3	2	2	0	0	7
NE	0	0	2	0	0	0	2
ENE	2	2	0	0	0	0	4
E	1	4	1	0	0	0	6
ESE	0	3	1	0	0	0	4
SE	0	2	2	0	0	0	4
SSE	0	0	0	0	0	0	0
S	0	0	0	1	0	0	1
SSW	0	2	0	0	0	0	2
SW	0	0	2	0	0	0	2
WSW	0	6	2	0	0	0	8
W	0	5	6	1	0	0	12
WNW	0	5	2	0	0	0	7
NW	0	2	8	0	0	0	10
NNW	0	2	6	0	0	0	8
Variable	0	0	0	0	0	0	0
Total	3	39	34	4	0	0	80

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: 1

Braidwood Generating Station

Period of Record: January - March 2010  
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	4	1	0	0	0	6
NNE	0	2	4	1	0	0	7
NE	2	4	3	0	0	0	9
ENE	0	1	0	0	0	0	1
E	1	3	0	0	0	0	4
ESE	2	2	1	0	0	0	5
SE	0	1	0	0	0	0	1
SSE	0	0	1	0	0	0	1
S	0	0	2	1	0	0	3
SSW	0	5	1	2	0	0	8
SW	0	1	0	2	0	0	3
WSW	0	2	3	0	0	0	5
W	0	5	4	2	0	0	11
WNW	0	4	3	0	0	0	7
NW	0	5	6	0	0	0	11
NNW	1	1	3	1	0	0	6
Variable	0	0	0	0	0	0	0
Total	7	40	32	9	0	0	88

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: 1

Braidwood Generating Station

Period of Record: January - March 2010  
 Stability Class - Neutral - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	4	21	10	0	0	0	35
NNE	2	16	46	39	0	0	103
NE	7	23	48	10	0	0	88
ENE	9	26	2	0	0	0	37
E	10	31	14	0	0	0	55
ESE	1	15	2	0	0	0	18
SE	1	25	15	0	0	0	41
SSE	1	12	8	3	0	0	24
S	3	3	7	6	1	0	20
SSW	2	5	5	13	1	0	26
SW	1	14	27	6	0	0	48
WSW	4	19	20	8	0	0	51
W	5	74	34	12	0	0	125
WNW	8	54	25	0	0	0	87
NW	7	43	23	4	0	0	77
NNW	5	29	24	3	0	0	61
Variable	2	0	0	0	0	0	2
Total	72	410	310	104	2	0	898

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: 1

Braidwood Generating Station

Period of Record: January - March 2010  
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	10	27	2	0	0	0	39
NNE	4	33	23	0	0	0	60
NE	10	24	18	2	0	0	54
ENE	9	27	2	0	0	0	38
E	20	17	0	0	0	0	37
ESE	8	28	9	0	0	0	45
SE	2	11	27	1	0	0	41
SSE	2	14	8	0	0	0	24
S	2	2	17	1	0	0	22
SSW	3	0	12	9	0	0	24
SW	7	13	3	0	0	0	23
WSW	7	18	5	0	0	0	30
W	17	50	0	0	0	0	67
WNW	22	53	3	1	0	0	79
NW	20	39	2	0	0	0	61
NNW	15	24	2	0	0	0	41
Variable	1	0	0	0	0	0	1
Total	159	380	133	14	0	0	686

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: 1

Braidwood Generating Station

Period of Record: January - March 2010  
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	6	0	0	0	0	0	6
NNE	2	0	0	0	0	0	2
NE	3	0	0	0	0	0	3
ENE	11	1	0	0	0	0	12
E	19	1	0	0	0	0	20
ESE	3	6	0	0	0	0	9
SE	1	5	0	0	0	0	6
SSE	0	0	0	0	0	0	0
S	0	1	0	0	0	0	1
SSW	0	0	1	0	0	0	1
SW	2	1	0	0	0	0	3
WSW	6	22	0	0	0	0	28
W	24	35	0	0	0	0	59
WNW	23	8	0	0	0	0	31
NW	23	0	0	0	0	0	23
NNW	9	2	0	0	0	0	11
Variable	0	0	0	0	0	0	0
Total	132	82	1	0	0	0	215

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: 1

Braidwood Generating Station

Period of Record: January - March 2010  
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	2	0	0	0	0	0	2
ENE	2	0	0	0	0	0	2
E	2	0	0	0	0	0	2
ESE	1	0	0	0	0	0	1
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	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	1	4	0	0	0	0	5
W	4	1	0	0	0	0	5
WNW	13	0	0	0	0	0	13
NW	5	0	0	0	0	0	5
NNW	1	0	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	31	5	0	0	0	0	36

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: 1



Braidwood Generating Station

Period of Record: January - March 2010  
 Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	1	0	0	0	0	2
NNE	0	0	0	2	1	0	3
NE	0	3	0	4	0	0	7
ENE	0	0	3	1	0	0	4
E	0	1	1	1	0	0	3
ESE	0	0	5	1	0	0	6
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	5	5	0	10
SSW	0	0	0	1	0	0	1
SW	0	0	1	0	0	0	1
WSW	0	1	6	0	0	0	7
W	0	9	8	5	0	0	22
WNW	0	1	17	12	0	0	30
NW	0	2	13	24	3	0	42
NNW	0	1	2	1	0	0	4
Variable	0	0	0	0	0	0	0
Total	1	19	56	57	9	0	142

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: 1

Braidwood Generating Station

Period of Record: January - March 2010  
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	1	0	0	0	2
NNE	0	3	0	3	2	0	8
NE	0	1	0	1	0	0	2
ENE	1	1	1	0	0	0	3
E	2	2	2	1	0	0	7
ESE	0	3	0	1	0	0	4
SE	0	0	3	1	0	0	4
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	1	1
SSW	0	1	1	0	0	0	2
SW	0	0	0	1	0	0	1
WSW	0	2	2	1	0	0	5
W	0	6	4	1	0	0	11
WNW	0	1	8	1	1	0	11
NW	0	1	2	9	0	0	12
NNW	0	0	3	4	0	0	7
Variable	0	0	0	0	0	0	0
Total	3	22	27	24	3	1	80

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: 1

Braidwood Generating Station

Period of Record: January - March 2010  
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	1	2	0	0	5
NNE	0	2	1	0	2	0	5
NE	0	4	1	3	0	0	8
ENE	0	0	2	0	0	0	2
E	0	4	0	0	0	0	4
ESE	0	3	0	1	0	0	4
SE	0	0	1	0	0	0	1
SSE	0	1	1	0	0	0	2
S	0	1	1	1	1	0	4
SSW	0	4	0	1	2	0	7
SW	0	1	0	0	2	0	3
WSW	0	0	1	2	0	0	3
W	0	3	6	1	2	0	12
WNW	0	0	5	3	0	0	8
NW	1	3	3	5	0	0	12
NNW	2	2	2	1	1	0	8
Variable	0	0	0	0	0	0	0
Total	3	30	25	20	10	0	88

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: 1

Braidwood Generating Station

Period of Record: January - March 2010  
 Stability Class - Neutral - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	9	16	5	0	0	31
NNE	2	8	16	39	31	7	103
NE	2	7	17	36	17	0	79
ENE	3	10	14	4	0	0	31
E	2	11	22	7	0	0	42
ESE	1	2	16	5	0	0	24
SE	0	5	22	9	4	0	40
SSE	1	1	12	8	2	1	25
S	1	4	2	4	5	3	19
SSW	1	3	0	8	12	1	25
SW	2	6	23	10	4	0	45
WSW	2	16	11	14	2	0	45
W	4	22	43	27	14	4	114
WNW	3	15	41	40	6	0	105
NW	1	19	26	29	11	0	86
NNW	0	13	24	17	2	0	56
Variable	2	0	0	0	0	0	2
Total	28	151	305	262	110	16	872

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 27

Hours of missing stability measurements in all stability classes: 1

Braidwood Generating Station

Period of Record: January - March 2010  
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	3	9	28	3	0	0	43
NNE	1	5	27	27	1	0	61
NE	2	5	20	19	5	1	52
ENE	0	14	20	3	0	0	37
E	2	5	30	3	0	0	40
ESE	0	3	17	16	5	2	43
SE	1	5	8	15	13	0	42
SSE	0	1	9	8	5	0	23
S	0	3	6	13	7	0	29
SSW	4	1	0	9	11	1	26
SW	1	11	6	5	0	0	23
WSW	2	8	2	13	0	0	25
W	1	6	28	7	0	0	42
WNW	0	6	46	27	2	0	81
NW	0	12	40	15	2	0	69
NNW	1	17	19	13	0	0	50
Variable	0	1	0	0	0	0	1
Total	18	112	306	196	51	4	687

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: 1

Braidwood Generating Station

Period of Record: January - March 2010  
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	3	11	1	0	0	15
NNE	0	3	3	0	0	0	6
NE	1	1	3	0	0	0	5
ENE	3	7	1	0	0	0	11
E	1	1	6	3	0	0	11
ESE	1	3	5	4	0	0	13
SE	0	1	4	3	0	0	8
SSE	0	2	5	1	0	0	8
S	0	0	0	1	0	0	1
SSW	0	0	0	1	0	0	1
SW	0	1	0	0	0	0	1
WSW	1	0	1	1	0	0	3
W	1	3	21	11	0	0	36
WNW	0	6	30	20	0	0	56
NW	2	5	14	3	0	0	24
NNW	2	0	17	2	0	0	21
Variable	0	0	0	0	0	0	0
Total	12	36	121	51	0	0	220

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: 1

Braidwood Generating Station

Period of Record: January - March 2010  
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	3	3	0	0	0	6
NNE	0	4	1	0	0	0	5
NE	0	3	0	0	0	0	3
ENE	0	1	0	0	0	0	1
E	0	0	2	2	0	0	4
ESE	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	1	4	0	0	5
WNW	0	0	3	3	0	0	6
NW	0	0	2	3	0	0	5
NNW	0	0	1	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	0	11	13	12	0	0	36

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: 1

Braidwood Generating Station

Period of Record: April - June 2010  
 Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	6	5	1	0	0	13
NNE	0	11	18	0	0	0	29
NE	1	13	13	0	0	0	27
ENE	1	11	0	0	0	0	12
E	2	12	3	0	0	0	17
ESE	2	9	5	0	0	0	16
SE	0	8	9	0	0	0	17
SSE	1	10	2	1	0	0	14
S	0	11	6	3	3	0	23
SSW	0	7	8	2	6	0	23
SW	0	3	8	11	0	0	22
WSW	1	3	14	5	0	0	23
W	2	5	23	4	0	0	34
WNW	1	15	22	0	0	0	38
NW	0	8	11	0	0	0	19
NNW	0	16	4	3	0	0	23
Variable	0	1	0	0	0	0	1
Total	12	149	151	30	9	0	351

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: April - June 2010  
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	0	0	0	0	2
NNE	1	3	5	1	0	0	10
NE	2	3	3	0	0	0	8
ENE	0	6	1	0	0	0	7
E	2	5	1	0	0	0	8
ESE	0	2	0	0	0	0	2
SE	1	1	2	0	0	0	4
SSE	0	9	0	0	0	0	9
S	2	7	0	2	3	0	14
SSW	1	6	4	4	5	0	20
SW	0	1	1	5	0	0	7
WSW	0	3	3	0	0	0	6
W	0	4	8	0	0	0	12
WNW	0	0	3	0	0	0	3
NW	0	4	1	0	0	0	5
NNW	0	2	2	0	0	0	4
Variable	1	0	0	0	0	0	1
Total	10	58	34	12	8	0	122

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: April - June 2010  
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	2	0	0	0	4
NNE	0	5	3	2	0	0	10
NE	1	3	5	0	0	0	9
ENE	4	7	0	0	0	0	11
E	3	5	0	0	0	0	8
ESE	2	5	3	0	0	0	10
SE	2	5	2	0	0	0	9
SSE	0	5	0	1	0	0	6
S	0	2	3	0	0	0	5
SSW	0	2	2	3	1	0	8
SW	0	0	4	4	0	0	8
WSW	1	2	2	2	0	0	7
W	0	10	3	1	0	0	14
WNW	0	2	2	0	0	0	4
NW	1	2	4	0	0	0	7
NNW	1	2	4	0	0	0	7
Variable	1	0	0	0	0	0	1
Total	16	59	39	13	1	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: 5

Braidwood Generating Station

Period of Record: April - June 2010  
 Stability Class - Neutral - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	8	6	1	0	0	17
NNE	1	26	24	5	0	0	56
NE	6	53	20	1	0	0	80
ENE	13	47	9	0	0	0	69
E	12	24	8	0	0	0	44
ESE	6	18	14	1	0	0	39
SE	3	27	17	1	0	0	48
SSE	1	19	9	3	0	0	32
S	2	10	14	6	9	0	41
SSW	1	8	17	13	6	0	45
SW	1	16	33	10	1	0	61
WSW	1	15	18	2	0	0	36
W	2	18	19	8	0	0	47
WNW	3	17	11	4	0	0	35
NW	5	9	7	0	0	0	21
NNW	3	10	16	0	0	0	29
Variable	0	0	0	0	0	0	0
Total	62	325	242	55	16	0	700

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: April - June 2010  
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	9	13	1	0	0	0	23
NNE	10	17	2	0	0	0	29
NE	15	10	1	0	0	0	26
ENE	29	22	2	0	0	0	53
E	29	25	1	0	0	0	55
ESE	13	43	8	0	0	0	64
SE	2	26	17	0	0	0	45
SSE	2	35	17	0	0	0	54
S	2	32	45	13	1	0	93
SSW	4	7	19	11	3	0	44
SW	1	15	14	1	0	0	31
WSW	8	33	8	0	0	0	49
W	6	23	3	1	0	0	33
WNW	16	16	1	0	0	0	33
NW	8	6	1	0	0	0	15
NNW	6	9	3	0	0	0	18
Variable	0	0	0	0	0	0	0
Total	160	332	143	26	4	0	665

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: April - June 2010  
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	7	3	0	0	0	0	10
NNE	3	0	0	0	0	0	3
NE	0	0	0	0	0	0	0
ENE	10	0	0	0	0	0	10
E	6	0	0	0	0	0	6
ESE	11	2	0	0	0	0	13
SE	5	5	0	0	0	0	10
SSE	2	3	0	0	0	0	5
S	2	0	0	0	0	0	2
SSW	0	0	7	0	0	0	7
SW	4	0	0	0	0	0	4
WSW	5	11	0	0	0	0	16
W	10	3	0	0	0	0	13
WNW	16	1	0	0	0	0	17
NW	5	0	0	0	0	0	5
NNW	7	1	0	0	0	0	8
Variable	0	0	0	0	0	0	0
Total	93	29	7	0	0	0	129

Hours of calm in this stability class: 18

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: April - June 2010  
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	3	0	0	0	0	0	3
NNE	1	0	0	0	0	0	1
NE	1	0	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	2	0	0	0	0	0	2
ESE	2	2	0	0	0	0	4
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	0	2	0	0	0	0	2
SW	1	0	0	0	0	0	1
WSW	2	4	0	0	0	0	6
W	9	0	0	0	0	0	9
WNW	6	0	0	0	0	0	6
NW	6	0	0	0	0	0	6
NNW	1	0	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	34	8	0	0	0	0	42

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: April - June 2010  
 Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	3	8	1	0	0	12
NNE	1	1	12	11	0	0	25
NE	1	5	9	12	0	0	27
ENE	1	11	3	0	0	0	15
E	1	8	6	4	0	0	19
ESE	0	4	6	6	3	0	19
SE	1	2	5	4	1	0	13
SSE	0	6	6	1	0	1	14
S	0	4	10	3	2	4	23
SSW	0	6	4	3	2	7	22
SW	1	2	6	6	7	0	22
WSW	0	1	6	12	4	0	23
W	1	3	7	14	3	0	28
WNW	0	6	11	20	2	0	39
NW	0	11	4	5	9	0	29
NNW	0	5	7	6	2	0	20
Variable	0	1	0	0	0	0	1
Total	7	79	110	108	35	12	351

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: April - June 2010  
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	0	0	0	0	1
NNE	0	0	3	3	2	0	8
NE	2	3	1	3	0	0	9
ENE	0	3	2	1	0	0	6
E	0	5	2	1	0	0	8
ESE	0	1	0	2	0	0	3
SE	0	1	2	1	0	0	4
SSE	0	1	7	0	0	0	8
S	2	4	3	0	1	5	15
SSW	0	3	4	6	1	4	18
SW	0	1	2	0	2	0	5
WSW	0	2	3	2	2	0	9
W	0	2	3	3	0	0	8
WNW	0	1	0	5	2	0	8
NW	0	3	0	0	1	0	4
NNW	1	4	1	1	0	0	7
Variable	1	0	0	0	0	0	1
Total	6	35	33	28	11	9	122

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: April - June 2010  
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	0	2	0	0	4
NNE	0	4	2	2	1	1	10
NE	0	2	2	4	0	0	8
ENE	1	7	3	0	0	0	11
E	0	4	2	1	0	0	7
ESE	3	4	1	3	1	0	12
SE	0	5	2	1	1	0	9
SSE	0	2	3	0	0	1	6
S	0	0	3	2	0	0	5
SSW	0	1	1	2	0	3	7
SW	0	1	1	1	2	2	7
WSW	1	0	4	2	2	0	9
W	0	2	6	2	1	1	12
WNW	0	2	1	1	1	0	5
NW	0	2	3	2	3	0	10
NNW	1	1	1	2	0	0	5
Variable	1	0	0	0	0	0	1
Total	7	39	35	27	12	8	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: 5

Braidwood Generating Station

Period of Record: April - June 2010  
 Stability Class - Neutral - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	4	7	5	1	0	17
NNE	1	9	16	19	6	0	51
NE	2	12	29	20	5	0	68
ENE	2	14	39	14	1	0	70
E	1	10	17	17	2	0	47
ESE	3	4	8	16	5	6	42
SE	1	3	18	17	4	0	43
SSE	1	3	13	6	5	1	29
S	0	3	11	9	11	10	44
SSW	0	1	12	13	10	12	48
SW	0	5	23	25	2	3	58
WSW	1	4	16	11	2	0	34
W	2	4	12	10	8	4	40
WNW	0	7	10	10	10	5	42
NW	0	8	6	13	1	0	28
NNW	0	2	9	13	0	0	24
Variable	0	0	0	0	0	0	0
Total	14	93	246	218	73	41	685

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 15

Hours of missing stability measurements in all stability classes: 5

Braidwood Generating Station

Period of Record: April - June 2010  
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	3	14	3	0	0	21
NNE	1	9	16	5	0	0	31
NE	1	10	20	4	0	0	35
ENE	0	10	34	4	0	0	48
E	1	10	30	12	2	0	55
ESE	0	3	13	31	5	0	52
SE	0	4	17	25	1	0	47
SSE	0	3	12	32	7	0	54
S	0	3	15	30	28	8	84
SSW	0	2	8	25	14	8	57
SW	0	9	13	19	1	0	42
WSW	0	5	17	5	0	0	27
W	1	1	26	15	1	0	44
WNW	1	2	23	9	0	0	35
NW	3	3	11	7	0	0	24
NNW	0	3	9	5	0	0	17
Variable	0	0	0	0	0	0	0
Total	9	80	278	231	59	16	673

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: 5

Braidwood Generating Station

Period of Record: April - June 2010  
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	3	6	2	0	0	12
NNE	0	6	5	3	0	0	14
NE	0	3	2	0	0	0	5
ENE	0	7	1	0	0	0	8
E	1	0	3	0	0	0	4
ESE	1	0	6	1	0	0	8
SE	0	0	4	2	0	0	6
SSE	0	2	5	3	0	0	10
S	0	3	5	1	0	0	9
SSW	0	1	1	2	0	0	4
SW	0	1	1	3	2	0	7
WSW	1	2	0	2	0	0	5
W	1	5	13	7	0	0	26
WNW	1	7	3	0	0	0	11
NW	0	3	8	1	0	0	12
NNW	1	1	4	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	7	44	67	27	2	0	147

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: April - June 2010  
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	1	2	0	0	0	4
NNE	2	0	0	2	0	0	4
NE	0	3	0	0	0	0	3
ENE	1	2	0	0	0	0	3
E	0	0	0	0	0	0	0
ESE	1	2	0	0	0	0	3
SE	0	0	1	0	0	0	1
SSE	0	3	2	0	0	0	5
S	1	2	0	0	0	0	3
SSW	0	2	0	0	0	0	2
SW	0	0	3	0	0	0	3
WSW	0	1	2	0	0	0	3
W	0	2	2	4	0	0	8
WNW	0	3	2	1	0	0	6
NW	0	0	1	1	0	0	2
NNW	1	3	3	0	0	0	7
Variable	0	0	0	0	0	0	0
Total	7	24	18	8	0	0	57

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: July - September 2010  
 Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	7	10	1	0	0	19
NNE	1	9	3	0	0	0	13
NE	1	23	3	0	0	0	27
ENE	3	11	0	0	0	0	14
E	1	9	0	0	0	0	10
ESE	2	12	0	0	0	0	14
SE	0	11	1	0	0	0	12
SSE	1	17	3	0	0	0	21
S	0	20	28	4	0	0	52
SSW	1	14	21	13	2	0	51
SW	0	5	14	10	0	0	29
WSW	2	8	14	7	2	0	33
W	0	26	13	7	0	0	46
WNW	3	40	13	0	0	0	56
NW	8	24	14	0	0	0	46
NNW	2	16	14	0	0	0	32
Variable	1	0	0	0	0	0	1
Total	27	252	151	42	4	0	476

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 2010  
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	4	1	0	0	0	6
NNE	0	4	0	0	0	0	4
NE	4	3	0	0	0	0	7
ENE	2	4	0	0	0	0	6
E	3	1	0	0	0	0	4
ESE	2	5	0	0	0	0	7
SE	0	0	0	0	0	0	0
SSE	1	4	1	0	0	0	6
S	0	3	4	0	0	0	7
SSW	1	2	5	1	0	0	9
SW	0	5	2	2	0	0	9
WSW	1	5	1	0	0	0	7
W	1	3	0	1	0	0	5
WNW	2	4	2	0	0	0	8
NW	1	0	1	0	0	0	2
NNW	1	5	2	0	0	0	8
Variable	1	0	0	0	0	0	1
Total	21	52	19	4	0	0	96

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 2010  
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	2	0	0	0	0	3
NNE	1	4	1	0	0	0	6
NE	2	4	1	0	0	0	7
ENE	1	0	0	0	0	0	1
E	0	1	0	0	0	0	1
ESE	1	1	0	0	0	0	2
SE	3	7	0	0	0	0	10
SSE	1	9	0	0	0	0	10
S	1	5	9	0	0	0	15
SSW	0	4	4	3	0	0	11
SW	0	3	5	2	2	0	12
WSW	0	6	2	0	0	0	8
W	2	6	2	2	0	0	12
WNW	2	3	0	0	0	0	5
NW	1	2	3	0	0	0	6
NNW	1	4	1	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	17	61	28	7	2	0	115

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 2010  
 Stability Class - Neutral - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	9	4	0	0	0	14
NNE	2	17	6	0	0	0	25
NE	10	21	0	0	0	0	31
ENE	7	5	0	0	0	0	12
E	9	6	0	0	0	0	15
ESE	7	8	0	0	0	0	15
SE	3	24	0	0	0	0	27
SSE	5	27	1	0	0	0	33
S	3	21	22	2	0	0	48
SSW	1	7	22	6	5	0	41
SW	2	11	27	8	3	0	51
WSW	0	19	12	2	0	0	33
W	1	16	7	3	0	0	27
WNW	4	11	6	0	0	0	21
NW	4	20	0	0	0	0	24
NNW	4	11	3	0	0	0	18
Variable	2	0	0	0	0	0	2
Total	65	233	110	21	8	0	437

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 2010  
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	15	15	3	0	0	0	33
NNE	12	13	0	0	0	0	25
NE	26	2	0	0	0	0	28
ENE	26	10	0	0	0	0	36
E	28	5	0	0	0	0	33
ESE	23	20	0	0	0	0	43
SE	14	40	0	0	0	0	54
SSE	13	56	4	0	0	0	73
S	15	100	34	2	0	0	151
SSW	2	15	12	12	2	0	43
SW	4	23	13	1	0	0	41
WSW	6	21	3	0	0	0	30
W	21	19	2	0	0	0	42
WNW	11	17	1	0	0	0	29
NW	11	8	2	0	0	0	21
NNW	12	17	2	0	0	0	31
Variable	0	0	0	0	0	0	0
Total	239	381	76	15	2	0	713

Hours of calm in this stability class: 4

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 2010  
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	20	1	0	0	0	0	21
NNE	8	2	0	0	0	0	10
NE	7	0	0	0	0	0	7
ENE	7	0	0	0	0	0	7
E	26	2	0	0	0	0	28
ESE	17	6	0	0	0	0	23
SE	11	8	0	0	0	0	19
SSE	4	4	0	0	0	0	8
S	5	0	0	0	0	0	5
SSW	9	7	0	0	0	0	16
SW	5	4	2	0	0	0	11
WSW	10	17	0	0	0	0	27
W	27	2	0	0	0	0	29
WNW	18	0	0	0	0	0	18
NW	6	1	0	0	0	0	7
NNW	5	0	0	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	185	54	2	0	0	0	241

Hours of calm in this stability class: 13

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 2010  
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	0	0	0	0	0	2
NNE	3	0	0	0	0	0	3
NE	3	0	0	0	0	0	3
ENE	2	0	0	0	0	0	2
E	5	0	0	0	0	0	5
ESE	2	0	0	0	0	0	2
SE	1	0	0	0	0	0	1
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	2	0	0	0	0	0	2
WSW	10	8	0	0	0	0	18
W	14	5	0	0	0	0	19
WNW	12	0	0	0	0	0	12
NW	5	0	0	0	0	0	5
NNW	4	0	0	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	65	13	0	0	0	0	78

Hours of calm in this stability class: 33

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 2010  
 Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	5	7	5	0	0	18
NNE	0	1	7	0	0	0	8
NE	1	6	21	1	0	0	29
ENE	0	9	3	0	0	0	12
E	3	3	6	0	0	0	12
ESE	0	5	8	1	0	0	14
SE	0	5	6	0	0	0	11
SSE	1	10	12	0	0	0	23
S	0	9	23	19	4	0	55
SSW	0	4	22	8	10	4	48
SW	0	3	12	10	4	0	29
WSW	0	6	8	8	4	3	29
W	0	10	12	7	7	2	38
WNW	4	23	28	15	1	0	71
NW	3	18	16	12	0	0	49
NNW	2	8	13	6	0	0	29
Variable	1	0	0	0	0	0	1
Total	16	125	204	92	30	9	476

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 2010  
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	4	1	0	0	0	7
NNE	0	5	0	0	0	0	5
NE	1	2	2	0	0	0	5
ENE	2	4	1	0	0	0	7
E	1	5	0	0	0	0	6
ESE	1	1	3	0	0	0	5
SE	1	0	0	1	0	0	2
SSE	0	1	3	0	0	0	4
S	0	1	3	2	0	0	6
SSW	0	3	3	3	1	0	10
SW	0	1	4	1	1	1	8
WSW	0	3	2	1	0	0	6
W	1	2	0	0	0	1	4
WNW	2	4	1	3	0	0	10
NW	0	3	3	1	1	0	8
NNW	1	0	0	1	0	0	2
Variable	1	0	0	0	0	0	1
Total	13	39	26	13	3	2	96

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 2010  
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	1	0	0	0	2
NNE	1	2	2	0	0	0	5
NE	1	4	2	1	0	0	8
ENE	1	1	0	0	0	0	2
E	0	1	1	0	0	0	2
ESE	0	2	0	0	0	0	2
SE	0	7	2	0	0	0	9
SSE	1	2	4	0	0	0	7
S	0	2	6	6	0	0	14
SSW	0	4	4	4	2	0	14
SW	0	2	3	4	2	2	13
WSW	0	1	5	2	0	0	8
W	1	5	2	1	1	0	10
WNW	1	1	3	1	1	1	8
NW	0	2	0	3	0	0	5
NNW	1	1	3	1	0	0	6
Variable	0	0	0	0	0	0	0
Total	7	38	38	23	6	3	115

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 2010  
 Stability Class - Neutral - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	4	8	3	0	0	17
NNE	1	4	8	3	0	0	16
NE	3	8	20	4	0	0	35
ENE	3	5	5	0	0	0	13
E	0	8	5	0	0	0	13
ESE	3	4	4	2	0	0	13
SE	3	8	12	5	0	0	28
SSE	4	4	23	2	0	0	33
S	1	3	12	19	3	3	41
SSW	0	6	11	21	9	8	55
SW	1	1	14	13	7	3	39
WSW	0	8	15	12	3	0	38
W	0	7	11	3	5	1	27
WNW	1	5	6	4	6	0	22
NW	4	5	13	5	0	0	27
NNW	0	6	9	3	0	0	18
Variable	2	0	0	0	0	0	2
Total	28	86	176	99	33	15	437

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 2010  
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	3	8	17	3	0	0	31
NNE	0	7	13	0	0	0	20
NE	1	13	13	0	0	0	27
ENE	0	22	14	1	0	0	37
E	1	7	25	1	0	0	34
ESE	0	15	17	2	0	0	34
SE	1	6	37	5	0	0	49
SSE	0	10	30	30	0	0	70
S	1	7	36	89	9	1	143
SSW	2	8	23	30	3	12	78
SW	2	8	19	10	1	0	40
WSW	1	5	14	7	0	0	27
W	0	2	14	10	0	0	26
WNW	2	8	14	16	0	0	40
NW	0	6	12	7	0	0	25
NNW	1	6	26	3	0	0	36
Variable	0	0	0	0	0	0	0
Total	15	138	324	214	13	13	717

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 2010  
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	5	0	0	0	7
NNE	1	5	11	0	0	0	17
NE	1	3	5	0	0	0	9
ENE	0	5	4	0	0	0	9
E	0	3	9	4	0	0	16
ESE	0	2	15	8	0	0	25
SE	1	2	9	5	0	0	17
SSE	1	6	4	1	0	0	12
S	2	7	5	1	0	0	15
SSW	0	5	6	0	0	0	11
SW	0	11	5	3	0	0	19
WSW	0	6	9	2	0	0	17
W	0	0	11	7	0	0	18
WNW	2	5	17	5	0	0	29
NW	2	4	20	3	0	0	29
NNW	0	2	1	1	0	0	4
Variable	0	0	0	0	0	0	0
Total	10	68	136	40	0	0	254

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 2010  
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	2	7	0	0	0	11
NNE	1	0	1	0	0	0	2
NE	0	0	10	0	0	0	10
ENE	0	2	3	0	0	0	5
E	1	0	1	0	0	0	2
ESE	3	0	3	0	0	0	6
SE	0	3	0	0	0	0	3
SSE	1	4	0	0	0	0	5
S	0	4	0	0	0	0	4
SSW	1	2	0	0	0	0	3
SW	1	1	0	0	0	0	2
WSW	1	4	4	7	0	0	16
W	0	0	3	2	0	0	5
WNW	1	8	8	1	0	0	18
NW	1	9	2	0	0	0	12
NNW	0	7	0	0	0	0	7
Variable	0	0	0	0	0	0	0
Total	13	46	42	10	0	0	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: October - December 2010  
 Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	1	3	0	0	4
NNE	0	2	0	0	0	0	2
NE	0	1	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	0	6	0	0	0	0	6
ESE	0	0	0	0	0	0	0
SE	0	1	0	0	0	0	1
SSE	0	1	1	0	0	0	2
S	0	0	0	0	0	0	0
SSW	0	0	3	3	0	0	6
SW	0	0	1	2	0	0	3
WSW	0	2	9	3	0	0	14
W	0	6	7	3	0	0	16
WNW	0	5	14	0	0	0	19
NW	0	8	8	0	0	0	16
NNW	0	7	5	4	0	0	16
Variable	0	0	0	0	0	0	0
Total	0	39	49	18	0	0	106

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: October - December 2010  
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	1	0	0	0	1
NNE	0	2	3	0	0	0	5
NE	0	3	0	0	0	0	3
ENE	0	5	0	0	0	0	5
E	0	4	0	0	0	0	4
ESE	0	2	0	0	0	0	2
SE	1	0	0	0	0	0	1
SSE	0	0	4	0	0	0	4
S	0	0	1	0	1	0	2
SSW	0	0	1	2	4	0	7
SW	0	1	1	1	0	0	3
WSW	0	0	9	6	0	0	15
W	0	4	1	2	0	0	7
WNW	0	5	2	0	0	0	7
NW	0	1	3	0	0	0	4
NNW	0	2	1	2	0	0	5
Variable	0	0	0	0	0	0	0
Total	1	29	27	13	5	0	75

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: October - December 2010  
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	5	1	0	0	7
NNE	2	1	5	1	0	0	9
NE	0	0	0	0	0	0	0
ENE	1	1	0	0	0	0	2
E	0	0	0	0	0	0	0
ESE	0	2	0	0	0	0	2
SE	0	0	0	0	0	0	0
SSE	0	0	3	0	0	0	3
S	0	2	2	0	0	0	4
SSW	0	3	6	3	0	0	12
SW	0	6	5	4	2	0	17
WSW	1	1	7	2	0	0	11
W	0	6	2	1	0	0	9
WNW	0	4	1	1	0	0	6
NW	0	5	3	0	0	0	8
NNW	0	2	3	3	0	0	8
Variable	0	0	0	0	0	0	0
Total	4	34	42	16	2	0	98

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: October - December 2010  
 Stability Class - Neutral - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	6	16	28	5	1	0	56
NNE	1	9	6	0	0	0	16
NE	5	7	0	0	0	0	12
ENE	7	17	1	0	0	0	25
E	6	24	0	0	0	0	30
ESE	1	26	12	1	0	0	40
SE	2	9	20	10	0	0	41
SSE	0	4	35	11	0	0	50
S	1	1	24	9	4	0	39
SSW	2	10	17	14	5	0	48
SW	2	16	14	19	8	0	59
WSW	2	24	19	26	1	1	73
W	2	19	36	28	0	0	85
WNW	4	41	48	4	0	0	97
NW	6	16	9	0	0	0	31
NNW	2	17	38	7	11	0	75
Variable	0	0	0	0	0	0	0
Total	49	256	307	134	30	1	777

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: October - December 2010  
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	14	16	14	0	0	0	44
NNE	7	14	3	0	0	0	24
NE	8	4	0	0	0	0	12
ENE	15	14	1	0	0	0	30
E	4	4	0	0	0	0	8
ESE	4	3	3	0	0	0	10
SE	3	11	21	1	0	0	36
SSE	1	40	31	10	1	0	83
S	3	35	46	11	1	0	96
SSW	0	12	24	15	2	0	53
SW	0	22	16	8	0	0	46
WSW	1	20	12	0	1	0	34
W	5	22	9	4	0	0	40
WNW	7	33	14	0	0	0	54
NW	14	20	0	0	0	0	34
NNW	9	29	19	0	0	0	57
Variable	0	0	0	0	0	0	0
Total	95	299	213	49	5	0	661

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: October - December 2010  
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	8	3	0	0	0	0	11
NNE	5	3	0	0	0	0	8
NE	10	0	0	0	0	0	10
ENE	16	0	0	0	0	0	16
E	18	0	0	0	0	0	18
ESE	9	1	0	0	0	0	10
SE	6	10	0	0	0	0	16
SSE	4	13	0	0	0	0	17
S	4	10	0	0	0	0	14
SSW	2	16	9	0	0	0	27
SW	3	6	6	0	0	0	15
WSW	6	31	0	0	0	0	37
W	9	16	0	0	0	0	25
WNW	17	10	0	0	0	0	27
NW	13	5	0	0	0	0	18
NNW	6	4	0	0	0	0	10
Variable	0	0	0	0	0	0	0
Total	136	128	15	0	0	0	279

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: 2

Braidwood Generating Station

Period of Record: October - December 2010  
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 34 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	9	1	0	0	0	0	10
NNE	4	1	0	0	0	0	5
NE	4	0	0	0	0	0	4
ENE	10	0	0	0	0	0	10
E	12	0	0	0	0	0	12
ESE	4	1	0	0	0	0	5
SE	1	0	0	0	0	0	1
SSE	0	0	0	0	0	0	0
S	0	1	0	0	0	0	1
SSW	11	1	3	0	0	0	15
SW	5	1	0	0	0	0	6
WSW	8	17	0	0	0	0	25
W	37	2	0	0	0	0	39
WNW	36	0	0	0	0	0	36
NW	12	1	0	0	0	0	13
NNW	8	0	0	0	0	0	8
Variable	3	0	0	0	0	0	3
Total	164	26	3	0	0	0	193

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: 2

Braidwood Generating Station

Period of Record: October - December 2010  
 Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	1	2	1	0	4
NNE	0	0	1	0	0	0	1
NE	0	0	2	0	0	0	2
ENE	0	0	0	0	0	0	0
E	0	0	5	1	0	0	6
ESE	0	0	0	0	0	0	0
SE	0	1	0	0	0	0	1
SSE	0	0	1	1	0	0	2
S	0	0	0	0	0	0	0
SSW	0	0	3	1	2	0	6
SW	0	1	0	1	0	1	3
WSW	0	1	6	4	2	0	13
W	0	0	6	5	4	0	15
WNW	0	3	7	10	0	0	20
NW	0	5	6	11	0	0	22
NNW	0	1	3	7	0	0	11
Variable	0	0	0	0	0	0	0
Total	0	12	41	43	9	1	106

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: October - December 2010  
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	1	0	0	0	1
NNE	0	2	1	3	0	0	6
NE	0	0	1	0	0	0	1
ENE	0	3	2	0	0	0	5
E	0	1	4	0	0	0	5
ESE	0	0	0	1	0	0	1
SE	0	1	0	0	0	0	1
SSE	0	0	1	3	0	0	4
S	0	0	0	1	0	1	2
SSW	0	0	0	2	0	5	7
SW	0	1	1	1	0	0	3
WSW	0	0	4	3	4	0	11
W	0	1	3	4	2	0	10
WNW	0	1	4	3	0	0	8
NW	0	1	1	3	0	0	5
NNW	0	2	1	1	1	0	5
Variable	0	0	0	0	0	0	0
Total	0	13	24	25	7	6	75

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: October - December 2010  
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	1	4	0	0	7
NNE	0	1	1	3	1	0	6
NE	0	0	0	0	0	0	0
ENE	1	2	0	0	0	0	3
E	0	0	0	0	0	0	0
ESE	0	2	0	0	0	0	2
SE	0	0	0	0	0	0	0
SSE	0	0	0	3	0	0	3
S	0	0	3	1	0	0	4
SSW	0	1	6	3	3	0	13
SW	0	2	5	3	2	2	14
WSW	0	3	6	0	2	0	11
W	0	3	6	1	1	0	11
WNW	0	0	3	1	1	0	5
NW	0	3	4	3	0	0	10
NNW	0	0	2	4	3	0	9
Variable	0	0	0	0	0	0	0
Total	1	19	37	26	13	2	98

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: October - December 2010  
 Stability Class - Neutral - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	7	14	23	2	2	48
NNE	2	3	8	3	0	0	16
NE	1	4	5	1	0	0	11
ENE	2	12	11	1	0	0	26
E	1	7	16	6	0	0	30
ESE	2	5	11	19	4	0	41
SE	0	3	4	14	15	6	42
SSE	1	2	4	18	25	0	50
S	0	4	2	15	8	9	38
SSW	1	4	14	11	12	7	49
SW	1	6	15	10	13	6	51
WSW	1	5	14	23	17	5	65
W	3	13	12	17	28	1	74
WNW	1	9	35	42	24	0	111
NW	2	9	16	20	3	0	50
NNW	2	5	18	30	7	13	75
Variable	0	0	0	0	0	0	0
Total	20	98	199	253	158	49	777

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: October - December 2010  
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	10	15	21	0	0	46
NNE	1	2	10	6	0	0	19
NE	0	3	10	3	0	0	16
ENE	1	5	17	3	0	0	26
E	1	1	7	0	0	0	9
ESE	1	3	2	3	1	0	10
SE	0	5	2	11	15	0	33
SSE	0	1	17	21	22	9	70
S	0	1	18	45	24	3	91
SSW	0	2	18	33	18	10	81
SW	0	2	10	22	0	2	36
WSW	0	0	18	18	1	1	38
W	0	1	15	10	2	0	28
WNW	0	3	19	29	4	0	55
NW	0	4	14	22	0	0	40
NNW	0	11	25	25	2	0	63
Variable	0	0	0	0	0	0	0
Total	4	54	217	272	89	25	661

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: October - December 2010  
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	3	6	3	0	0	12
NNE	0	7	4	4	0	0	15
NE	0	6	6	1	0	0	13
ENE	1	8	5	0	0	0	14
E	0	2	13	5	0	0	20
ESE	0	1	5	2	0	0	8
SE	0	3	2	3	0	0	8
SSE	0	1	3	10	0	0	14
S	0	4	11	1	0	0	16
SSW	2	1	13	5	0	0	21
SW	0	5	12	16	0	0	33
WSW	0	3	3	16	0	0	22
W	0	3	8	16	0	0	27
WNW	0	2	9	9	0	0	20
NW	0	4	11	11	0	0	26
NNW	0	5	7	3	0	0	15
Variable	0	0	0	0	0	0	0
Total	3	58	118	105	0	0	284

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: October - December 2010  
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)  
 Winds Measured at 203 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	6	7	5	0	0	19
NNE	0	2	3	0	0	0	5
NE	3	3	1	0	0	0	7
ENE	1	1	4	0	0	0	6
E	1	3	3	0	0	0	7
ESE	4	3	2	2	0	0	11
SE	1	7	1	1	0	0	10
SSE	1	4	0	1	0	0	6
S	0	4	1	0	0	0	5
SSW	3	2	0	1	0	0	6
SW	0	4	1	3	0	0	8
WSW	1	3	5	7	0	0	16
W	1	6	11	11	0	0	29
WNW	0	0	17	13	0	0	30
NW	0	2	21	5	0	0	28
NNW	2	3	6	1	0	0	12
Variable	0	0	0	0	0	0	0
Total	19	53	83	50	0	0	205

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