



10 CFR 50.36a (a)(2)

April 30, 2013

SVPLTR #13-0015

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

Dresden Nuclear Power Station, Units 1, 2, and 3
Facility Operating License No. DPR-2
Renewed Facility Operating License Nos. DPR-19 and DPR-25
NRC Docket Nos. 50-010, 50-237 and 50-249

Subject: Dresden Nuclear Power Station 2012 Radioactive Effluent Release Report and Offsite Dose Calculation Manual

The Radioactive Effluent Release Report for January through December 2012 for Dresden Nuclear Power Station (DNPS) is submitted in accordance with Sections 6.9.A.4 and 5.6.3, "Radioactive Effluent Release Report," of the DNPS Unit 1 and Units 2 and 3 Technical Specifications, respectively and 10 CFR 50.36a(a)(2), "Technical specifications on effluents from nuclear power reactors."

A copy of the DNPS Offsite Dose Calculation Manual (ODCM), current as of December 31, 2012, is also submitted in accordance with Sections 6.14 and 5.5.1, "Offsite Dose Calculation Manual (ODCM)," of the DNPS Unit 1 and Units 2 and 3 Technical Specifications, respectively. Changes made to the ODCM during 2012 are summarized in an attachment to the 2012 Radioactive Effluent Release Report.

Should you have any questions concerning this letter, please contact Hal Dodd, Regulatory Assurance Manager, at (815) 416-2800.

Respectfully,

For
David M. Czufin
Site Vice President
Dresden Nuclear Power Station

Attachments: DNPS 2012 Annual Radioactive Effluent Release Report
DNPS Offsite Dose Calculation Manual
DNPS Offsite Dose Calculation Manual Changes Made in 2012

cc: Regional Administrator - NRC Region III
NRC Senior Resident - Dresden Nuclear Power Station (w/o Enclosures)

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**DNPS 2012 Annual Radioactive Effluent
Release Report**

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
DOCKET NUMBERS: 50-010/50-237/50-249

EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT, SUPPLEMENTAL INFORMATION

Facility: Dresden Nuclear Power Station Units 1,2,3

Licensee: Exelon Nuclear

1. Regulatory Limits

a. Fission and activation gases:

Dose Rate (site)

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

Gamma Air Dose (each unit)

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

Beta Air Dose (each unit)

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

b.,c. Iodine-131, Iodine-133, and all radionuclides in particulate form with half-lives greater than 8 days:

Dose Rate (site)

- 1) Less than 1500 mrem/year.

Dose (each unit)

- 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. Liquid effluents (each unit):

- 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.

e. 40CFR190 and 10CFR72 (all uranium fuel cycle operations in the region):

- 1) Less than or equal to 25 mrem annual whole body dose.
- 2) Less than or equal to 75 mrem annual thyroid dose.
- 3) Less than or equal to 25 mrem annual dose to any other critical organ.

2. Maximum Permissible Concentrations

Dose rates, rather than effluent concentrations, are used to calculate permissible release rates for gaseous effluents. The maximum permissible dose rates for gaseous releases are defined in Dresden Offsite Dose Calculation Manual (ODCM) Radiological Effluent Control (REC) 12.4.1.

Liquid effluent concentrations are limited per ODCM REC 12.3.1 to 10 times the concentration specified in 10CFR20 Appendix B, Table 2, Column 2 for radionuclides other than dissolved or entrained noble gases and $2.00E-04$ $\mu\text{Ci/ml}$ total activity for all dissolved or entrained noble gases.

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Facility: Dresden Nuclear Power Station Units 1,2,3

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3. Average Energy

The ODCM limits dose rates at or beyond the site boundary due to the release of noble gases to less than or equal to 500 mrem per year to the total body and less than or equal to 3,000 mrem per year to the skin, and average energy is not used to determine dose to the public. Compliance with these limits is demonstrated based on dose calculations using measured isotopic concentrations of effluent streams and not based on gross count rate measuring systems. Therefore, the average beta and gamma energies (\bar{E}) for gaseous effluents as described in Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants," are not applicable.

4. Measurement and Approximations of Total Radioactivity

- a. Fission and Activation Gases:
- b. Iodines:
- c. Particulates:
- d. Tritium:
- e. Gross Alpha

The 1 Chimney, 2/3 Chimney, 2/3 Reactor Building Vent, and Chemical Cleaning Building effluents are continuously sampled for iodines and particulates. These samples are changed weekly and analyzed by gamma spectroscopy. The particulate filters are composited and sent to a vendor for gross alpha, Sr-89, Sr-90, and Fe-55 analysis. Noble gas grab samples of the 2/3 Chimney and 2/3 Reactor Building Vent are obtained weekly and analyzed by gamma spectroscopy. Contributing streams of the 2/3 Chimney and 2/3 Reactor Building Vent are also sampled and analyzed by gamma spectroscopy. Tritium samples of the 2/3 Chimney and 2/3 Reactor Building Vent are obtained monthly and analyzed by liquid scintillation.

For the 2/3 Chimney and 2/3 Reactor Building Vent effluents, measured flow at the release points is used to calculate the curies released. For the 1 Chimney and Chemical Cleaning Building effluents, the design basis flows are used to calculate curies released.

- f. Carbon-14:

Carbon-14 activity released is estimated using Electric Power Research Institute Technical Report 1021106 Boiling Water Reactor proxy values (5.1 Ci per GWth year, Section 3.7) and the rated thermal capacity maintained for the entire calendar year. Resultant dose is calculated using approved methodologies.

- g. Liquid Effluents:

The river discharge tank is analyzed for gamma-emitting nuclides by gamma spectroscopy and for tritium by liquid scintillation prior to discharge. A representative portion of this sample is saved and composited with other discharges that occur during the calendar month. The composite is sent to a vendor for analyses of gross alpha, Sr-89, Sr-90, and Fe-55. The tank volumes and activities are used to calculate the diluted activity released at the discharge point from batch discharges.

Containment Cooling Service Water (CCSW) is sampled from the Low Pressure Coolant Injection (LPCI) heat exchangers monthly and analyzed for gamma-emitting nuclides by gamma spectroscopy. These samples are composited quarterly and analyzed for tritium, gross alpha, Sr-89, Sr-90, and Fe-55. Batch release volume is based on LPCI heat exchanger volume.

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Licensee: Exelon Nuclear

h. Estimated Total Errors:

The estimated total errors were calculated as the square root of the sum of the squares of significant errors present in the sampling and analysis process.

i. Less than the Lower Limit of Detection (<LLD)

Samples are analyzed such that the ODCM LLD requirements are met. When a nuclide is not detected, then <LLD is reported.

5. Batch Releases (does not include Abnormal / Unmonitored Releases described below)

a. Liquid - Radwaste Liquid Effluents - None

b. Liquid - Containment Cooling Service Water (LPCI)

1. Number of batch releases: 3
2. Total time period for batch releases: 3.72E+00 minutes
3. Maximum time period for a batch release: 1.24E+00 minutes
4. Average time period for a batch release: 1.24E+00 minutes
5. Minimum time period for a batch release: 1.24E+00 minutes
6. Average stream flow during periods of release of effluent into a flowing stream: 1.24E+06 lpm

c. Gaseous - None

6. Abnormal Releases*

a. Liquid

1. Number of releases: 0
2. Total activity released: 0.00E+00 Ci

b. Gaseous

1. Number of releases: 0
2. Total activity released: 0.00E+00 Ci

7. Summary of Offsite Dose Calculation Manual (ODCM) Changes by Dresden Nuclear Power Station (DNPS) in 2012:

Revision 12 of the ODCM was issued on April 8, 2012. The revision was issued with the implementation of an Engineering Change to the Service Water Rad Monitors which added a backflush feature to improve monitor reliability. Changes were made to Page I-12.2-1, REC 12.2.1 ACTIONS by adding Note 4 which states "When Radioactive Liquid Effluent Monitoring Instrumentation is inoperative due to system backwash or purge, entry into the associated Conditions and Required Actions may be delayed for up to 2 hours."

Revision 12 of the ODCM also included a change to page II.2-2, Section 2.1.2.1, Units 2 & 3 Service Water Effluent Monitors, that states "The monitors continuously monitor the service water effluent of each unit. No automatic isolation or trip functions are associated with the monitors."

* These releases are included in the Effluents Summation of all Releases Tables and in the Radiological Impact on Man.

DRESDEN NUCLEAR POWER STATION
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Facility: Dresden Nuclear Power Station Units 1,2,3

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8. Unmonitored Releases *

a. Liquid

1. Number of releases: 2
2. Total activity released: 4.86E-03 Ci

b. Gaseous

1. Number of releases: 5
2. Total activity released: 1.42E-04 Ci

a.1 Water in on-site storm sewers is routinely sampled and analyzed for tritium content. The highest storm drain concentrations measured during each calendar quarter of 2012 was used to calculate the released activity for each month. The total activity released is based on an estimated typical discharge flow of 10 gallons per minute. Tritium was detected in the storm sewers in two of the four quarters. An estimated 4.86E-03 Ci of tritium was released to the environment during 2012.

b.1 The Unit 1 Main Turbine Floor is used as an area to work on contaminated equipment. The ventilation system is no longer operational and the floor is at ambient pressure with the outside environment. With radiological work activities being performed on the Unit 1 Main Turbine Floor, the potential exists for airborne activity to be released to the environment through various points. Based on the work normally performed in this area, an estimated 3.60E-05 Ci of Cs-137 was released from this area during 2012.

b.2 The Chemistry Laboratory Ventilation System exhausts directly into the environment and is not monitored. Based on an evaluation of activities performed in the area, the estimated activity released to the environment from the laboratory in 2012 is 6.88E-05 Ci of noble gases and 7.24E-06 Ci of iodines and particulates.

b.3 The access door on a 2/3 Chimney duct was found ajar on August 14, 2009. The door was closed on the same day, but a small amount of leakage (<100 scfm) continued until March 2, 2012. The activity released in 2012 was determined using the duration of the leakage, estimated flow of 100 scfm, and measurements of activity released from the 2/3 Chimney. An estimated 1.04E-09 Ci tritium, 2.98E-09 Ci of noble gases and 9.15E-13 Ci of iodines and particulates, for a total of 4.02E-09 Ci was released to the environment during 2012.

b.4 Past radiological surveys have identified low-level contamination in the East Turbine Building Ventilation ductwork. This system vents directly to the environment and is not monitored. Based on the highest activities detected during a survey of the system and the estimated area of the system surface, an estimated 2.35E-05 Ci Co-60 was released to the environment from this system during 2012.

b.5 The Unit 2/3 Heating Steam System has been contaminated in the past. The system continues to contain low-level tritium contamination. During normal operation, the condensate is converted to steam, a portion of which gets vented to the atmosphere. An estimated 6.19E-06 Ci of activity was released to the environment during 2012.

9. Errata:

Corrections to pages 5 of 120 in the 2011 Annual Radioactive Effluent Release Report have been made and are included at the end of this report. The corrections on these pages included the removal of C-14 from totals in Section C., Particulates, of the tables on these pages. C-14 was incorrectly include in the 2011 Particulates totals.

* These releases are included in the Effluents Summation of all Releases Tables and in the Radiological Impact on Man.

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
January through December 2012

EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012

GASEOUS EFFLUENTS – SUMMATION OF ALL RELEASES

DOCKET NUMBERS: 50-010/50-237/50-249

Units	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	Est. Total Error, %
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A. Fission & activation gases

1. Total release	Ci	1.27E+01	1.14E+01	1.20E+01	3.28E+01	1.31E+01
2. Average release rate for period	μCi/sec	1.61E+00	1.44E+00	1.52E+00	4.16E+00	
3. Percent of ODCM dose limit	%γ	1.11E-02	1.09E-02	1.18E-02	1.30E-02	
	%β	2.31E-04	2.14E-04	2.34E-04	3.47E-04	

B. Iodines

1. Total iodine-131	Ci	4.20E-04	5.22E-04	6.08E-04	3.04E-04	2.60E+01
2. Average release rate for period (I-131)	μCi/sec	5.33E-05	6.61E-05	7.72E-05	3.85E-05	
3. Percent of ODCM dose limit *	%	3.59E-01	4.33E-01	5.12E-01	2.74E-01	

C. Particulates

1. Particulates with half-lives > 8 days	Ci	9.36E-04	8.03E-04	9.90E-04	9.34E-04	2.94E+01
2. Average release rate for period	μCi/sec	1.20E-04	1.02E-04	1.25E-04	1.17E-04	
3. Percent of ODCM dose limit *	%	3.59E-01	4.33E-01	5.12E-01	2.74E-01	

D. Tritium

1. Total release	Ci	4.56E+00	6.28E+00	5.92E+00	4.27E+00	7.56E+00
2. Average release rate for period	μCi/sec	5.79E-01	7.96E-01	7.51E-01	5.42E-01	
3. Percent of ODCM dose limit *	%	3.59E-01	4.33E-01	5.12E-01	2.74E-01	

E. Gross Alpha

1. Total release	Ci	<LLD	<LLD	<LLD	<LLD	2.94E+01
2. Average release rate for period	μCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
3. Percent of ODCM dose limit	%	N/A	N/A	N/A	N/A	

F. Carbon-14

1. Total release	Ci	7.56E+00	7.56E+00	7.56E+00	7.56E+00	
2. Average release rate for period	μCi/sec	9.72E-01	9.62E-01	9.51E-01	9.51E-01	

* Percent of ODCM dose limit indicates combined total of Iodines, Particulates, and Tritium

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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012

GASEOUS EFFLUENTS – SUMMATION OF ALL RELEASES

DOCKET NUMBERS: 50-010/50-237/50-249

TABLE OF LOWER LIMITS OF DETECTABILITY
 FOR GASEOUS EFFLUENTS

1.	FISSION / ACTIVATION GASES	μCi/cc
	Kr-87	1.00E-04
	Kr-88	1.00E-04
	Xe-133	1.00E-04
	Xe-133m	1.00E-04
	Xe-135	1.00E-04
	Xe-138	1.00E-04
2.	IODINES	μCi/cc
	I-131	1.00E-12
	I-133	1.00E-10
3.	PARTICULATES	μCi/cc
	Sr-89	1.00E-11
	Sr-90	1.00E-11
	Mn-54	1.00E-11
	Co-58	1.00E-11
	Fe-59	1.00E-11
	Co-60	1.00E-11
	Zn-65	1.00E-11
	Mo-99	1.00E-11
	Cs-134	1.00E-11
	Cs-137	1.00E-11
	Ce-141	1.00E-11
	Ce-144	1.00E-11
4.	OTHER	μCi/cc
	H-3	1.00E-06
	Gross Alpha	1.00E-11

The above values are the ODCM-required LLDs. The actual analyses always met the required LLDs.

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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012

UNIT 1 MAIN CHIMNEY

GASEOUS EFFLUENTS

DOCKET NUMBER: 50-010

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ELEVATED RELEASES **CONTINUOUS MODE**

Nuclides Released	Unit	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL
1. Fission and Activation Gases						
Ar-41	Ci	N/A	N/A	N/A	N/A	N/A
Kr-85	Ci	N/A	N/A	N/A	N/A	N/A
Kr-85m	Ci	N/A	N/A	N/A	N/A	N/A
Kr-87	Ci	N/A	N/A	N/A	N/A	N/A
Kr-88	Ci	N/A	N/A	N/A	N/A	N/A
Xe-133	Ci	N/A	N/A	N/A	N/A	N/A
Xe-133m	Ci	N/A	N/A	N/A	N/A	N/A
Xe-135	Ci	N/A	N/A	N/A	N/A	N/A
Xe-135m	Ci	N/A	N/A	N/A	N/A	N/A
Xe-138	Ci	N/A	N/A	N/A	N/A	N/A
Total for period	Ci	None*	None*	None*	None*	None*
2. Iodines						
I-131	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
I-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
I-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	None	None	None	None	None
3. Particulates						
Fe-55	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-89	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cr-51	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Mn-54	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Co-58	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Co-60	Ci	6.05E-07	3.52E-07	<LLD	1.49E-06	2.45E-06
Zn-65	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Mo-99	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ba-140	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-141	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-144	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	6.05E-07	3.52E-07	<LLD	1.49E-06	2.45E-06
4. Tritium						
Total for period	Ci	None*	None*	None*	None*	None*

* Analysis not required per Dresden Station ODCM

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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012

UNIT 1 MAIN CHIMNEY

GASEOUS EFFLUENTS

DOCKET NUMBER: 50-010

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ELEVATED RELEASES **BATCH MODE**

Nuclides Released	Unit	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL
1. Fission and Activation Gases						
Ar-41	Ci					
Kr-85	Ci					
Kr-85m	Ci					
Kr-87	Ci					
Kr-88	Ci					
Xe-133	Ci					
Xe-133m	Ci					
Xe-135	Ci					
Xe-135m	Ci					
Xe-138	Ci					
Total for period	Ci	None*	None*	None*	None*	None*
2. Iodines						
I-131	Ci					
I-133	Ci					
I-135	Ci					
Total for period	Ci	None*	None*	None*	None*	None*
3. Particulates						
Fe-55	Ci					
Sr-89	Ci					
Sr-90	Ci					
Cr-51	Ci					
Mn-54	Ci					
Co-58	Ci					
Fe-59	Ci					
Co-60	Ci					
Zn-65	Ci					
Mo-99	Ci					
Ag-110m	Ci					
Cs-134	Ci					
Cs-137	Ci					
Ba-140	Ci					
Ce-141	Ci					
Ce-144	Ci					
Total for period	Ci	None*	None*	None*	None*	None*
4. Tritium						
Total for period	Ci	None*	None*	None*	None*	None*

* No batch releases via this release path

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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012

UNITS 2/3 REACTOR BUILDING VENT

GASEOUS EFFLUENTS

DOCKET NUMBERS: 50-237/50-249

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MIXED-MODE RELEASES **CONTINUOUS MODE**

Nuclides Released	Unit	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL
1. Fission and Activation Gases						
Ar-41	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-85	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-85m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-87	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-88	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-133	Ci	<LLD	<LLD	<LLD	1.05E-08	1.05E-08
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-135m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-138	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
2. Iodines						
I-131	Ci	<LLD	<LLD	1.20E-05	5.85E-06	1.79E-05
I-133	Ci	<LLD	<LLD	3.83E-07	7.11E-06	7.49E-06
I-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	<LLD	<LLD	1.24E-05	1.30E-05	2.53E-05
3. Particulates						
Fe-55	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-89	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cr-51	Ci	<LLD	<LLD	<LLD	5.59E-06	5.59E-06
Mn-54	Ci	<LLD	4.58E-06	<LLD	1.69E-05	2.15E-05
Co-58	Ci	<LLD	3.41E-06	1.33E-06	6.62E-06	1.14E-05
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Co-60	Ci	3.11e-4	2.07E-05	3.43E-05	7.25E-05	4.38E-04
Zn-65	Ci	<LLD	4.48E-06	<LLD	1.02E-04	1.06E-04
Mo-99	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	Ci	<LLD	<LLD	<LLD	0<LLD	<LLD
Ba-140	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-141	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-144	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	3.11E-04	3.31E-05	3.56E-05	2.03E-04	5.83E-04
4. Tritium						
Total for period	Ci	4.63E-01	3.70E-01	5.18E-01	8.01E-01	2.15E+00

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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012

UNITS 2/3 REACTOR BUILDING VENT

GASEOUS EFFLUENTS

DOCKET NUMBERS: 50-237/50-249

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MIXED-MODE RELEASES **BATCH MODE**

Nuclides Released	Unit	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL
1. Fission and Activation Gases						
Ar-41	Ci					
Kr-85	Ci					
Kr-85m	Ci					
Kr-87	Ci					
Kr-88	Ci					
Xe-133	Ci					
Xe-133m	Ci					
Xe-135	Ci					
Xe-135m	Ci					
Xe-138	Ci					
Total for period	Ci	None*	None*	None*	None*	None*
2. Iodines						
I-131	Ci					
I-133	Ci					
I-135	Ci					
Total for period	Ci	None*	None*	None*	None*	None*
3. Particulates						
Fe-55	Ci					
Sr-89	Ci					
Sr-90	Ci					
Cr-51	Ci					
Mn-54	Ci					
Co-58	Ci					
Fe-59	Ci					
Co-60	Ci					
Zn-65	Ci					
Mo-99	Ci					
Ag-110m	Ci					
Cs-134	Ci					
Cs-137	Ci					
Ba-140	Ci					
Ce-141	Ci					
Ce-144	Ci					
Total for period	Ci	None*	None*	None*	None*	None*
4. Tritium						
Total for period	Ci	None*	None*	None*	None*	None*

* No batch releases via this release path

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
January through December 2012

EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012

UNITS 2/3 MAIN CHIMNEY

GASEOUS EFFLUENTS

DOCKET NUMBERS: 50-237/50-249

XX

ELEVATED RELEASES

CONTINUOUS MODE

Nuclides Released	Unit	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL
1. Fission and Activation Gases						
Ar-41	Ci	1.12E+00	1.17E+00	9.11E-01	1.36E+00	4.55E+00
Kr-85	Ci	<LLD	1.26E-01	<LLD	<LLD	1.26E-01
Kr-85m	Ci	3.36E-01	2.58E-01	3.42E-01	3.09E-01	1.25E+00
Kr-87	Ci	2.48E-01	2.42E-01	2.83E-01	2.51E-01	1.02E+00
Kr-88	Ci	2.25E-01	2.23E-01	2.62E-01	2.63E-01	9.73E-01
Xe-133	Ci	8.34E-01	9.94E-01	7.47E-01	2.05E+01	2.30E+01
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-135	Ci	2.09E+00	2.10E-01	2.40E-01	1.02E+00	3.56E+00
Xe-135m	Ci	1.54E+00	1.61E+00	1.81E+00	1.62E+00	6.58E+00
Xe-138	Ci	6.33E+00	6.53E+00	7.42E+00	6.77E+00	2.71E+01
Total for period	Ci	1.27E+01	1.14E+01	1.20E+01	3.21E+01	6.82E+01
2. Iodines						
I-131	Ci	4.20E-04	5.22E-04	5.96E-04	2.98E-04	1.84E-03
I-133	Ci	2.37E-03	2.84E-03	2.93E-03	1.28E-03	9.41E-03
I-135	Ci	2.14E-04	1.12E-03	3.07E-04	6.09E-04	2.25E-03
Total for period	Ci	3.00E-03	4.48E-03	3.83E-03	2.18E-03	1.35E-02
3. Particulates						
Fe-55	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-89	Ci	9.21E-05	6.00E-05	6.14E-05	8.72E-05	3.01E-04
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cr-51	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Mn-54	Ci	1.94E-05	3.95E-05	3.93E-05	3.61E-05	1.34E-04
Co-58	Ci	3.25E-06	5.81E-06	1.79E-05	1.69E-05	4.38E-05
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Co-60	Ci	2.32E-04	2.97E-04	3.18E-04	2.67E-04	1.11E-03
Zn-65	Ci	1.43E-04	1.20E-04	2.61E-04	1.38E-04	6.62E-04
Mo-99	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110m	Ci	2.42E-06	3.58E-06	<LLD	6.12E-06	1.21E-05
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	Ci	<LLD	<LLD	<LLD	2.67E-06	2.67E-06
Ba-140	Ci	1.23E-04	2.35E-04	2.45E-04	1.39E-04	7.41E-04
Ce-141	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-144	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	6.15E-04	7.60E-04	9.43E-04	6.93E-04	3.01E-03
4. Tritium						
Total for period	Ci	4.11E+00	5.80E+00	5.40E+00	3.48E+00	1.88E+01
5. Gross Alpha						
Total for period	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
6. Carbon-14						
Total for period	Ci	7.56E+00	7.56E+00	7.56E+00	7.56E+00	3.02E+01

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012

UNITS 2/3 MAIN CHIMNEY

GASEOUS EFFLUENTS

DOCKET NUMBERS: 50-237/50-249

XX

ELEVATED RELEASES

BATCH MODE

Nuclides Released	Unit	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL
1. Fission and Activation Gases						
Ar-41	Ci					
Kr-85	Ci					
Kr-85m	Ci					
Kr-87	Ci					
Kr-88	Ci					
Xe-133	Ci					
Xe-133m	Ci					
Xe-135	Ci					
Xe-135m	Ci					
Xe-138	Ci					
Total for period	Ci	None*	None*	None*	None*	None*
2. Iodines						
I-131	Ci					
I-133	Ci					
I-135	Ci					
Total for period	Ci	None*	None*	None*	None*	None*
3. Particulates						
Fe-55	Ci					
Sr-89	Ci					
Sr-90	Ci					
Cr-51	Ci					
Mn-54	Ci					
Co-58	Ci					
Fe-59	Ci					
Co-60	Ci					
Zn-65	Ci					
Mo-99	Ci					
Ag-110m	Ci					
Cs-134	Ci					
Cs-137	Ci					
Ba-140	Ci					
Ce-141	Ci					
Ce-144	Ci					
Total for period	Ci	None*	None*	None*	None*	None*
4. Tritium						
Total for period	Ci	None*	None*	None*	None*	None*
5. Gross Alpha						
Total for period	Ci	None*	None*	None*	None*	None*
6. Carbon-14						
Total for period	Ci	None*	None*	None*	None*	None*

* No batch releases via this effluent path

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012

CHEMICAL CLEANING BUILDING

GASEOUS EFFLUENTS

DOCKET NUMBERS: 50-010

XX

MIXED-MODE RELEASES CONTINUOUS MODE

Nuclides Released	Unit	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL
1. Fission and Activation Gases						
Ar-41	Ci	N/A	N/A	N/A	N/A	N/A
Kr-85	Ci	N/A	N/A	N/A	N/A	N/A
Kr-85m	Ci	N/A	N/A	N/A	N/A	N/A
Kr-87	Ci	N/A	N/A	N/A	N/A	N/A
Kr-88	Ci	N/A	N/A	N/A	N/A	N/A
Xe-133	Ci	N/A	N/A	N/A	N/A	N/A
Xe-133m	Ci	N/A	N/A	N/A	N/A	N/A
Xe-135	Ci	N/A	N/A	N/A	N/A	N/A
Xe-135m	Ci	N/A	N/A	N/A	N/A	N/A
Xe-138	Ci	N/A	N/A	N/A	N/A	N/A
Total for period	Ci	None*	None*	None*	None*	None*
2. Iodines						
I-131	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
I-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
I-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
3. Particulates						
Fe-55	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-89	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cr-51	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Mn-54	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Co-58	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Co-60	Ci	2.41E-07	<LLD	2.18E-07	1.91E-06	2.37E-06
Zn-65	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Mo-99	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ba-140	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-141	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-144	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	2.41E-07	<LLD	2.18E-07	1.91E-06	2.37E-06
4. Tritium						
Total for period	Ci	None*	None*	None*	None*	None*

* Analysis not required per Dresden Station ODCM

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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012

CHEMICAL CLEANING BUILDING

GASEOUS EFFLUENTS

DOCKET NUMBERS: 50-010

XX

MIXED-MODE RELEASES **BATCH MODE**

Nuclides Released	Unit	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL
1. Fission and Activation Gases						
Ar-41	Ci					
Kr-85	Ci					
Kr-85m	Ci					
Kr-87	Ci					
Kr-88	Ci					
Xe-133	Ci					
Xe-133m	Ci					
Xe-135	Ci					
Xe-135m	Ci					
Xe-138	Ci					
Total for period	Ci	None*	None*	None*	None*	None*
2. Iodines						
I-131	Ci					
I-133	Ci					
I-135	Ci					
Total for period	Ci	None*	None*	None*	None*	None*
3. Particulates						
Fe-55	Ci					
Sr-89	Ci					
Sr-90	Ci					
Cr-51	Ci					
Mn-54	Ci					
Co-58	Ci					
Fe-59	Ci					
Co-60	Ci					
Zn-65	Ci					
Mo-99	Ci					
Ag-110m	Ci					
Cs-134	Ci					
Cs-137	Ci					
Ba-140	Ci					
Ce-141	Ci					
Ce-144	Ci					
Total for period	Ci	None*	None*	None*	None*	None*
4. Tritium						
Total for period	Ci	None*	None*	None*	None*	None*

* No batch releases via this effluent path

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
January through December 2012

EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

DOCKET NUMBERS: 50-010/50-237/50-249

Units	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	Est. Total Error, %
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A. Fission and activation products

1. Total release (not including H-3, gases, alpha)	Ci	<LLD	<LLD	<LLD	3.22E-05	1.95E+01
2. Average diluted concentration during period	μCi/ml	<LLD	<LLD	<LLD	7.01E-15	
3. Percent of applicable dose limit	Organ	<LLD	<LLD	<LLD	4.98E-06	
	WB	<LLD	<LLD	<LLD	3.12E-06	

B. Tritium

1. Total release	Ci	1.17E-03	<LLD	<LLD	3.70E-03	2.37E+00
2. Average diluted concentration during period	μCi/ml	4.92E-13	<LLD	<LLD	8.06E-13	
3. Percent of release concentration limit (3.0E-03)	%	1.64E-08	N/A	N/A	2.69E-08	

C. Dissolved and entrained gases

1. Total release	Ci	<LLD	<LLD	<LLD	<LLD	2.03E+01
2. Average diluted concentration during period	μCi/ml	<LLD	<LLD	<LLD	<LLD	
3. Percent of release concentration limit (2.0E-04)	%	N/A	N/A	N/A	N/A	

D. Gross alpha activity

1. Total release	Ci	<LLD	<LLD	<LLD	<LLD	2.00E+01
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E. Volume of waste released (prior to dilution)	Liters	5.31E+06	6.08E+05	1.64E+04	5.06E+06
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F. Volume of dilution water used during period	Liters	2.37E+12	2.38E+12	2.34E+12	4.59E+12
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DRESDEN NUCLEAR POWER STATION
 2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
 January through December 2012

EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012
 LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

DOCKET NUMBERS: 50-010/50-237/50-249

TABLE OF LOWER LIMITS OF DETECTABILITY
 FOR LIQUID EFFLUENTS

1.	FISSION/ACTIVATION GASES	μCi/ml
	Kr-87	1.00E-05
	Kr-88	1.00E-05
	Xe-133	1.00E-05
	Xe-133m	1.00E-05
	Xe-135	1.00E-05
	Xe-138	1.00E-05
2.	IODINES	μCi/ml
	I-131	1.00E-06
3.	PARTICULATES	μCi/ml
	Fe-55	1.00E-06
	Sr-89	5.00E-08
	Sr-90	5.00E-08
	Mn-54	5.00E-07
	Co-58	5.00E-07
	Fe-59	5.00E-07
	Co-60	5.00E-07
	Zn-65	5.00E-07
	Mo-99	5.00E-07
	Cs-134	5.00E-07
	Cs-137	5.00E-07
	Ce-141	5.00E-07
	Ce-144	5.00E-06
4.	OTHER	μCi/ml
	H-3	1.00E-05
	Gross Alpha	1.00E-07

The above values are the ODCM-required LLDs. The actual analyses always met the required LLDs.

DRESDEN NUCLEAR POWER STATION
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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012

UNITS 2/3 RADWASTE LIQUID EFFLUENTS

DOCKET NUMBERS: 50-237/50-249

BATCH MODE

	Unit	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	Total
Fe-55	Ci					
Sr-89	Ci					
Sr-90	Ci					
I-131	Ci					
I-133	Ci					
I-135	Ci					
Cr-51	Ci					
Mn-54	Ci					
Co-58	Ci					
Fe-59	Ci					
Co-60	Ci					
Zn-65	Ci					
Zr-95	Ci					
Mo-99	Ci					
Tc-99m	Ci					
Ru-103	Ci					
Ag-110m	Ci					
Sb-125	Ci					
Cs-134	Ci					
Cs-136	Ci					
Cs-137	Ci					
Ba-140	Ci					
Ce-141	Ci					
Total	Ci	None*	None*	None*	None*	None*

H-3	Ci					
Kr-87	Ci					
Kr-88	Ci					
Xe-133	Ci					
Xe-133m	Ci					
Xe-135	Ci					
Xe-138	Ci					
Total	Ci	None*	None*	None*	None*	None*

* No batch releases via this effluent path

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012

UNITS 2/3 RADWASTE LIQUID EFFLUENTS

DOCKET NUMBERS: 50-237/50-249

CONTINUOUS MODE

	Unit	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	Total
Fe-55	Ci					
Sr-89	Ci					
Sr-90	Ci					
I-131	Ci					
I-133	Ci					
I-135	Ci					
Cr-51	Ci					
Mn-54	Ci					
Co-58	Ci					
Fe-59	Ci					
Co-60	Ci					
Zn-65	Ci					
Zr-95	Ci					
Mo-99	Ci					
Tc-99m	Ci					
Ru-103	Ci					
Ag-110m	Ci					
Sb-124	Ci					
Cs-134	Ci					
Cs-136	Ci					
Cs-137	Ci					
Ba-140	Ci					
Ce-141	Ci					
Total	Ci	None*	None*	None*	None*	None*
H-3	Ci					
Kr-87	Ci					
Kr-88	Ci					
Xe-133	Ci					
Xe-133m	Ci					
Xe-135	Ci					
Xe-138	Ci					
Total	Ci	None*	None*	None*	None*	None*

* No continuous releases via this effluent path

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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012

UNITS 2/3 CONTAINMENT COOLING SERVICE WATER

DOCKET NUMBERS: 50-237/50-249

<u>BATCH MODE</u>						
	Unit	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	Total
Fe-55	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-89	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
I-131	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
I-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
I-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cr-51	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Mn-54	Ci	<LLD	<LLD	<LLD	5.14E-06	5.14E-06
Co-58	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Co-60	Ci	<LLD	<LLD	<LLD	2.70E-05	2.70E-05
Zn-65	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Zr-95	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Mo-99	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Tc-99m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ru-103	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sb-124	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-136	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ba-140	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-141	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Total	Ci	<LLD	<LLD	<LLD	3.22E-05	3.22E-05
H-3	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-87	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-88	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-138	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Total	Ci	<LLD	<LLD	<LLD	<LLD	<LLD

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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012

UNITS 2/3 CONTAINMENT COOLING SERVICE WATER

DOCKET NUMBERS: 50-237/50-249

CONTINUOUS MODE

	Unit	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	Total
Fe-55	Ci					
Sr-89	Ci					
Sr-90	Ci					
I-131	Ci					
I-133	Ci					
I-135	Ci					
Cr-51	Ci					
Mn-54	Ci					
Co-58	Ci					
Fe-59	Ci					
Co-60	Ci					
Zn-65	Ci					
Zr-95	Ci					
Mo-99	Ci					
Tc-99m	Ci					
Ru-103	Ci					
Ag-110m	Ci					
Sb-124	Ci					
Cs-134	Ci					
Cs-136	Ci					
Cs-137	Ci					
Ba-140	Ci					
Ce-141	Ci					
Total	Ci	None*	None*	None*	None*	None*

H-3	Ci					
Kr-87	Ci					
Kr-88	Ci					
Xe-133	Ci					
Xe-135	Ci					
Xe-138	Ci					
Total	Ci	None*	None*	None*	None*	None*

* No continuous releases via this effluent path

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not irradiated fuel)

1. Type of Waste	Unit	12-month Period	Est. Total Error, %
a. Spent resins, filter sludges / filters, evaporator bottoms, etc.	m ³	5.11E+01	+/- 2.50E+01
	Ci	2.16E+02	
b. Dry compressible waste, contaminated equipment, LP Turbine casing and Rotors, etc.	m ³	1.60E+03	+/- 2.50E+01
	Ci	7.41E-01	
c. Irradiated components, control rods, etc.	m ³	0.00E+00	N/A
	Ci	0.00E+00	
d. Other (describe) - None	m ³	0.00E+00	N/A
	Ci	0.00E+00	

2. Estimate of Major (i.e., ≥1%) Nuclide Composition (by type of waste)

a. Spent resins, filters / filter sludges, evaporator bottoms, etc.

	<u>Percent %</u>	<u>Curies</u>
Fe-55	7.37E+01	1.59E+02
Co-60	2.01E+01	4.34E+01
Mn-54	2.09E+00	4.52E+00
Zn-65	2.27E+00	4.90E+00

Shipment type: LSA, Type A, Type B
Solidification agent or absorbent: None

b. Dry compressible waste, contaminated equipment, etc.

	<u>Percent %</u>	<u>Curies</u>
Fe-55	1.25E+01	9.26E-02
Co-60	6.32E+01	4.68E-01
Mn-54	1.58E+01	1.17E-01
Zn-65	4.67E+00	3.46E-02
Ni-63	1.09E+00	8.04E-03

Shipment type: LSA
Solidification agent or absorbent: None

c. Irradiated components, control rods, etc.

	<u>Percent %</u>	<u>Curies</u>
NONE	0.00E+00	0.00E+00

d. Other - Contaminated Oil, Combined Packages, Pump Impeller

	<u>Percent %</u>	<u>Curies</u>
NONE	0.00E+00	0.00E+00

2. Solid Waste Disposition

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
33	Motor freight (exclusive use only)	Energy Solutions - Bear Creek Road, Oak Ridge, TN
9	Motor freight (exclusive use only)	Energy Solutions - Clive, UT
5	Motor freight (exclusive use only)	Energy Solutions - Gallaher Road, Kingston, TN
14	Rail freight	Energy Solutions - Clive, UT

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2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
January through December 2012

EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2012
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

B. IRRADIATED FUEL SHIPMENTS (Disposition)

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
None	(NA)	(NA)

C. CHANGES TO THE PROCESS CONTROL PROGRAM (PCP)

The following is a summary of the changes made in Revision 8:

- Step 4.1.8 was added and states "An Exelon Nuclear plant may store waste at another Exelon Nuclear plant, provided formal NRC approval has been RECEIVED for the transfer of waste.
- Step 4.2.8 was modified by adding the words "in the pool or loading the processed activated hardware into the Dry Cask storage system."
- Step 4.4.4. was added to state "Shipments sent for offsite storage shall MEET the storage site's waste acceptance criteria."

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

RADIOLOGICAL IMPACT ON MAN

DOCKET NUMBERS: 50-010/50-237/50-249

1. Liquid Dose to a Member of the Public for 2012
Total Body: 5.10E-08 mrem
Organ: 2.52E-07 mrem
2. Gaseous Dose to a Member of the Public for 2012
Total Body: 1.55E-03 mrem
Skin: 2.64E-03 mrem
Organ (Particulate/Iodine): 1.18E-01 mrem
3. Direct Radiation Dose to a Member of the Public for 2012
Total Body: 8.42E+00 mrem
This is 33.7 % of 40CFR190 Limit of 25 mrem/year (Whole Body and Organ). Thyroid dose is 0.79 % of 40CFR190 Limit (75 mrem).
4. Total Body Doses to the Population and Average Doses to Individuals in the Population from All Receiving-Water-Related-Pathways: Not applicable for DNPS. No downstream drinking water pathway exist within the specified distance of 10 kilometers (6.2miles).
5. Total Body Doses to the Population and Average Doses to Individuals in the Population from Gaseous Effluents to a Distance of 50 Miles: Not applicable for DNPS.
6. Doses From Liquid and Gaseous Effluent to Members of the Public Due to Their Activities Inside the Site Boundary for the Report Period: Not applicable for DNPS. Any member of the public that is onsite for a significant period will be issued a Optical Stimulated Luminescent Dosimeter (OSLD).
7. Liquid and Gaseous Effluent Radiation Monitors and Instrumentation Unavailability for the Period Beyond the Requirements of the ODCM, Including Sampling Deviation:
No ODCM required monitors were unavailable beyond requirements of the ODCM in 2012.
8. 40CFR190 / 10CFR72 Compliance
The General Electric Hitachi Nuclear Energy Morris Operation (GE-Hitachi Morris Operation) facility is physically located near Dresden Station and, in addition to evolutions performed at Dresden station, is considered in the evaluation of the uranium fuel cycle on members of the public in the general environment for 40CFR190 compliance.

Dresden decommissioning activities (Unit 1) and operations (Units 2 and 3) resulted in a maximum 1.18E-01 mrem organ dose and 8.42E+00 mrem total body dose. Radiological Environmental Monitoring Program (REMP) direct radiation monitoring at or near the site boundary demonstrates that total body dose calculations are conservative.

No effluents were released from the Dresden Independent Spent Fuel Storage Installations (ISFSIs) during 2012. REMP direct radiation monitoring at or near the site boundary demonstrates that the ISFSIs do not result in measurable dose to the public.

Per the 2012 GE-Hitachi Morris Operation 10CFR72.44(d)(3) report, maximum dose at their site boundary from direct radiation exposure was 5.21E-01 mrem and maximum organ dose was 1.32E-02 mrem for 2012.

Maximum total body dose from Dresden and GE-Hitachi Morris Operation activities is 8.94+00 mrem during 2012, which is 35.7 % of the 40CFR190 limit of 25 mrem.

Maximum organ dose from Dresden and GE-Hitachi Morris Operation activities is 1.31E-01 mrem during 2012. This is 0.52 % of the 40CFR190 limit of 25 mrem to any organ. The thyroid dose is 0.79 % of the 40CFR190 limit of 75 mrem.

DRESDEN NUCLEAR POWER STATION
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METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
Period:: Months Jan - Mar for years 2012 - 2012
All Stabilities

Elevations:: Winds 35ft		Stability 150ft										Total
Wind		Wind Speed Range (m/s)										
Direction		0.5-	1.1-	1.6-	2.1-	3.1-	4.1-	5.1-	6.1-	8.1-	>10.00	
Sector	<0.50	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0		
N	0	3	12	7	14	9	11	4	0	1	0	61
NNE	0	8	9	10	18	11	2	8	2	0	0	68
NE	0	8	8	10	30	32	21	4	4	0	0	117
ENE	0	5	4	6	27	29	5	0	0	0	0	76
E	0	1	13	12	26	22	4	0	0	0	0	78
ESE	0	1	2	8	15	32	10	9	7	0	0	84
SE	0	5	6	5	13	19	18	14	35	4	0	119
SSE	1	4	11	10	40	17	34	39	37	5	1	199
S	0	0	6	11	30	33	30	28	34	25	12	209
SSW	0	1	9	7	26	26	13	27	25	19	13	166
SW	0	3	10	14	38	27	27	6	5	4	4	138
WSW	0	3	13	10	36	27	18	8	11	4	0	130
W	0	2	10	12	35	62	44	37	59	17	1	279
WNW	0	1	16	14	30	30	41	36	44	13	2	227
NW	0	3	8	13	16	16	21	10	44	4	0	135
NNW	0	2	6	8	11	20	16	9	12	8	0	92
Tot	1	50	143	157	405	412	315	239	319	104	33	2178
Hours of Calm				0								0
Hours of Variable Direction				0								0
Hours of Valid Data				2178								2178
Hours of Missing Data				6								6
Hours in Period				2184								2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jan - Mar for years 2012 - 2012
 Stability Class A Extremely Unstable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	1	2	5	3	2	0	0	0	13
NNE	0	0	0	0	4	5	0	2	0	0	0	11
NE	0	0	0	1	4	2	4	0	0	0	0	11
ENE	0	0	0	0	3	2	2	0	0	0	0	7
E	0	0	1	0	2	1	0	0	0	0	0	4
ESE	0	0	0	0	1	4	2	0	0	0	0	7
SE	0	0	0	0	0	0	3	4	2	0	0	9
SSE	0	0	0	1	0	0	3	8	1	1	1	15
S	0	0	0	0	0	2	3	4	4	1	0	14
SSW	0	0	1	0	0	3	4	5	7	8	2	30
SW	0	0	0	0	0	4	2	0	0	1	2	9
WSW	0	0	0	1	7	7	8	1	4	2	0	30
W	0	0	0	1	3	3	9	2	1	2	0	21
WNW	0	0	0	2	4	2	15	18	13	3	1	58
NW	0	0	0	0	5	3	4	1	10	1	0	24
NNW	0	0	0	1	2	1	3	5	2	0	0	14
Tot	0	0	2	8	37	44	65	52	44	19	6	277
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												277
Hours of Missing Data												6
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jan - Mar for years 2012 - 2012
 Stability Class B Moderately Unstable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Wind Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	1	0	0	0	0	0	0	1
NNE	0	0	0	0	0	0	0	0	0	0	0	0
NE	0	0	1	0	0	1	0	0	0	0	0	2
ENE	0	0	0	0	0	0	1	0	0	0	0	1
E	0	0	0	0	0	1	1	0	0	0	0	2
ESE	0	0	0	0	0	1	0	0	0	0	0	1
SE	0	0	0	1	0	1	0	0	0	0	0	2
SSE	0	0	1	0	0	2	1	2	3	0	0	9
S	0	0	0	0	0	0	1	2	1	0	0	4
SSW	0	0	0	0	1	0	1	0	2	2	2	8
SW	0	0	0	0	1	0	1	0	0	1	1	4
WSW	0	0	0	0	0	1	0	0	0	0	0	1
W	0	0	0	0	0	0	0	1	0	1	0	2
WNW	0	0	0	0	1	1	3	3	0	0	0	8
NW	0	0	0	0	0	0	0	0	2	0	0	2
NNW	0	0	0	0	0	0	1	2	0	0	0	3
Tot	0	0	2	1	4	8	10	10	8	4	3	50
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												50
Hours of Missing Data												6
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jan - Mar for years 2012 - 2012
 Stability Class C Slightly Unstable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Direction Sector	Wind Speed Range (m/s)										Total	
	<0.50	0.5- 1.0	1.1- 1.5	1.6- 2.0	2.1- 3.0	3.1- 4.0	4.1- 5.0	5.1- 6.0	6.1- 8.0	8.1- 10.0		>10.00
N	0	0	0	0	0	0	0	1	0	0	0	1
NNE	0	0	0	0	0	0	0	0	0	0	0	0
NE	0	0	0	0	0	2	2	0	0	0	0	4
ENE	0	0	0	0	3	2	0	0	0	0	0	5
E	0	0	0	0	1	2	0	0	0	0	0	3
ESE	0	0	0	0	0	1	0	0	0	0	0	1
SE	0	0	0	0	0	0	0	1	0	0	0	1
SSE	0	0	0	0	0	0	1	0	1	2	0	4
S	0	0	0	0	0	0	2	2	1	0	2	7
SSW	0	0	0	0	1	0	0	2	1	1	0	5
SW	0	0	0	2	0	0	0	0	1	0	0	3
WSW	0	0	0	0	0	0	3	0	0	0	0	3
W	0	0	0	0	0	1	1	0	1	0	1	4
WNW	0	0	0	0	0	0	1	2	2	1	0	6
NW	0	0	1	0	0	0	0	0	5	0	0	6
NNW	0	0	0	0	0	0	0	1	0	0	0	1
Tot	0	0	1	2	5	8	10	9	12	4	3	54
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												54
Hours of Missing Data												6
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
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METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jan - Mar for years 2012 - 2012
 Stability Class D Neutral based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	4	2	5	3	8	1	0	1	0	24
NNE	0	0	1	6	6	5	2	6	2	0	0	28
NE	0	1	1	4	15	24	14	4	4	0	0	67
ENE	0	0	0	1	15	22	0	0	0	0	0	38
E	0	0	2	8	9	6	0	0	0	0	0	25
ESE	0	0	0	1	3	3	3	3	1	0	0	14
SE	0	0	2	1	1	4	1	3	15	1	0	28
SSE	0	0	0	0	4	5	10	7	9	1	0	36
S	0	0	0	0	10	3	4	10	10	9	5	51
SSW	0	0	1	3	4	6	1	3	7	4	5	34
SW	0	0	0	3	4	2	7	2	1	1	1	21
WSW	0	0	0	1	9	7	5	5	2	2	0	31
W	0	0	2	2	8	25	21	27	42	14	0	141
WNW	0	0	3	1	3	14	12	10	26	7	1	77
NW	0	0	1	3	3	3	4	4	25	3	0	46
NNW	0	0	0	3	4	12	7	0	5	8	0	39
Tot	0	1	17	39	103	144	99	85	149	51	12	700
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												700
Hours of Missing Data												6
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
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METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station

Period:: Months Jan - Mar for years 2012 - 2012

Stability Class E Slightly Stable based on Lapse Rate

Elevations:: Winds 35ft Stability 150ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	2	4	2	6	0	0	0	0	0	0	14
NNE	0	4	4	4	7	1	0	0	0	0	0	20
NE	0	3	2	3	11	3	1	0	0	0	0	23
ENE	0	2	1	5	6	3	2	0	0	0	0	19
E	0	0	7	2	13	12	3	0	0	0	0	37
ESE	0	0	0	4	7	19	4	6	6	0	0	46
SE	0	0	2	1	6	12	13	6	18	3	0	61
SSE	0	0	2	5	22	9	19	22	23	1	0	103
S	0	0	3	5	13	22	19	10	18	15	5	110
SSW	0	0	0	1	5	15	7	17	8	4	4	61
SW	0	0	3	3	12	8	5	3	3	1	0	38
WSW	0	1	2	1	5	9	1	2	5	0	0	26
W	0	0	2	4	18	33	13	7	15	0	0	92
WNW	0	1	3	10	19	12	10	3	3	2	0	63
NW	0	0	3	9	8	10	13	5	2	0	0	50
NNW	0	1	4	1	5	7	5	1	5	0	0	29
Tot	0	14	42	60	163	175	115	82	106	26	9	792

Hours of Calm 0
Hours of Variable Direction 0
Hours of Valid Data 792
Hours of Missing Data 6
Hours in Period 2184

DRESDEN NUCLEAR POWER STATION
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METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jan - Mar for years 2012 - 2012
 Stability Class F Moderately Stable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Wind Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	1	4	1	0	1	0	0	0	0	0	7
NNE	0	3	3	0	1	0	0	0	0	0	0	7
NE	0	2	1	0	0	0	0	0	0	0	0	3
ENE	0	3	2	0	0	0	0	0	0	0	0	5
E	0	1	1	2	1	0	0	0	0	0	0	5
ESE	0	0	2	3	2	4	1	0	0	0	0	12
SE	0	3	2	2	6	1	1	0	0	0	0	15
SSE	0	3	8	3	13	1	0	0	0	0	0	28
S	0	0	3	6	7	6	1	0	0	0	0	23
SSW	0	0	3	1	12	2	0	0	0	0	0	18
SW	0	1	5	3	13	9	12	1	0	0	0	44
WSW	0	1	6	5	12	3	1	0	0	0	0	28
W	0	1	4	4	5	0	0	0	0	0	0	14
WNW	0	0	9	1	3	1	0	0	0	0	0	14
NW	0	2	3	1	0	0	0	0	0	0	0	6
NNW	0	1	1	1	0	0	0	0	0	0	0	3
Tot	0	22	57	33	75	28	16	1	0	0	0	232
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												232
Hours of Missing Data												6
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
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METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jan - Mar for years 2012 - 2012
 Stability Class G Extremely Stable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	1	0	0	0	0	0	0	0	1
NNE	0	1	1	0	0	0	0	0	0	0	0	2
NE	0	2	3	2	0	0	0	0	0	0	0	7
ENE	0	0	1	0	0	0	0	0	0	0	0	1
E	0	0	2	0	0	0	0	0	0	0	0	2
ESE	0	1	0	0	2	0	0	0	0	0	0	3
SE	0	2	0	0	0	1	0	0	0	0	0	3
SSE	1	1	0	1	1	0	0	0	0	0	0	4
S	0	0	0	0	0	0	0	0	0	0	0	0
SSW	0	1	4	2	3	0	0	0	0	0	0	10
SW	0	2	2	3	8	4	0	0	0	0	0	19
WSW	0	1	5	2	3	0	0	0	0	0	0	11
W	0	1	2	1	1	0	0	0	0	0	0	5
WNW	0	0	1	0	0	0	0	0	0	0	0	1
NW	0	1	0	0	0	0	0	0	0	0	0	1
NNW	0	0	1	2	0	0	0	0	0	0	0	3
Tot	1	13	22	14	18	5	0	0	0	0	0	73
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												73
Hours of Missing Data												6
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
Period:: Months Jan - Mar for years 2012 - 2012
All Stabilities

Elevations:: Winds 150ft		Stability 150ft										Total
Wind		Wind Speed Range (m/s)										
Direction		0.5-	1.1-	1.6-	2.1-	3.1-	4.1-	5.1-	6.1-	8.1-	>10.00	
Sector	<0.50	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0		
N	0	1	3	6	13	9	11	9	2	1	2	57
NNE	0	1	2	9	25	11	10	7	8	4	0	77
NE	0	1	3	6	10	25	15	7	9	1	0	77
ENE	0	3	11	5	21	23	30	10	0	0	0	103
E	0	0	3	9	21	26	24	6	3	0	0	92
ESE	0	1	4	6	10	14	17	16	14	9	0	91
SE	0	2	3	1	9	13	21	17	24	15	3	108
SSE	0	0	0	2	5	11	22	20	59	31	4	154
S	0	0	2	1	8	22	34	37	55	30	28	217
SSW	0	1	4	1	12	16	21	19	45	22	37	178
SW	0	0	0	5	12	15	21	25	30	6	16	130
WSW	0	1	2	4	14	20	22	34	17	13	5	132
W	0	1	3	2	13	31	49	42	43	41	16	241
WNW	0	0	2	3	19	23	30	57	69	35	33	271
NW	0	1	7	2	18	16	17	19	25	32	9	146
NNW	0	0	0	1	16	12	16	17	19	16	9	106
Tot	0	13	49	63	226	287	360	342	422	256	162	2180
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												2180
Hours of Missing Data												4
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jan - Mar for years 2012 - 2012
 Stability Class A Extremely Unstable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind		Wind Speed Range (m/s)											Total
Direction	Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N		0	0	0	1	2	2	4	4	0	0	0	13
NNE		0	0	0	1	3	2	3	1	2	0	0	12
NE		0	0	0	1	1	6	0	1	0	0	0	9
ENE		0	0	0	0	2	1	4	1	0	0	0	8
E		0	0	1	0	1	1	1	1	0	0	0	5
ESE		0	0	1	0	1	5	1	1	0	0	0	9
SE		0	0	0	0	0	0	0	4	2	0	0	6
SSE		0	0	0	0	0	0	0	6	10	0	1	17
S		0	0	0	1	0	1	3	1	4	2	1	13
SSW		0	0	0	0	0	1	3	4	9	4	5	26
SW		0	0	0	0	0	2	2	1	0	1	7	13
WSW		0	0	0	0	3	2	8	7	2	3	2	27
W		0	0	0	0	3	6	3	2	1	0	1	16
WNW		0	0	0	0	3	2	3	15	23	5	8	59
NW		0	0	0	0	4	2	4	3	6	6	1	26
NNW		0	0	0	0	4	1	1	3	6	3	0	18
Tot		0	0	2	4	27	34	40	55	65	24	26	277
Hours of Calm													0
Hours of Variable Direction													0
Hours of Valid Data													277
Hours of Missing Data													4
Hours in Period													2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jan - Mar for years 2012 - 2012
 Stability Class B Moderately Unstable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Direction	Wind Speed Range (m/s)										Total	
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	0	0	0	0	0	0	0
NNE	0	0	0	0	0	1	0	0	0	0	0	1
NE	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	0	0	1	0	0	2	0	0	0	0	3
E	0	0	0	0	0	1	1	0	0	0	0	2
ESE	0	0	0	0	0	0	1	0	0	0	0	1
SE	0	0	1	0	1	1	0	0	0	0	0	3
SSE	0	0	0	0	0	1	2	0	5	0	0	8
S	0	0	0	0	0	0	0	2	2	0	0	4
SSW	0	0	0	0	0	1	1	0	0	1	4	7
SW	0	0	0	0	1	0	0	0	0	1	2	4
WSW	0	0	0	0	0	1	1	0	0	0	0	2
W	0	0	0	0	0	0	0	0	0	0	1	1
WNW	0	0	0	0	0	1	1	3	3	0	0	8
NW	0	0	0	0	0	0	0	0	1	0	1	2
NNW	0	0	0	0	0	0	1	0	3	0	0	4
Tot	0	0	1	1	2	7	10	5	14	2	8	50
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												50
Hours of Missing Data												4
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jan - Mar for years 2012 - 2012
 Stability Class C Slightly Unstable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	0	0	0	1	0	0	1
NNE	0	0	0	0	0	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	2	0	0	0	0	2
ENE	0	0	0	0	2	1	3	1	0	0	0	7
E	0	0	0	0	0	1	2	0	0	0	0	3
ESE	0	0	0	0	0	1	0	0	0	0	0	1
SE	0	0	0	0	0	0	0	0	1	0	0	1
SSE	0	0	0	0	0	0	0	0	0	2	1	3
S	0	0	0	0	0	0	1	2	3	0	2	8
SSW	0	0	0	0	0	1	0	1	1	1	1	5
SW	0	0	0	0	0	0	0	0	0	1	0	1
WSW	0	0	0	1	1	0	0	3	0	0	0	5
W	0	0	0	0	0	0	2	0	0	1	1	4
WNW	0	0	0	0	0	0	0	1	2	2	1	6
NW	0	0	1	0	0	0	0	0	0	4	0	5
NNW	0	0	0	0	0	0	0	0	1	1	0	2
Tot	0	0	1	1	3	4	10	8	9	12	6	54
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												54
Hours of Missing Data												4
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jan - Mar for years 2012 - 2012
 Stability Class D Neutral based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	2	0	5	4	5	5	1	1	2	25
NNE	0	0	1	3	12	3	3	6	6	4	0	38
NE	0	0	2	2	3	12	11	6	8	1	0	45
ENE	0	0	1	0	6	14	17	7	0	0	0	45
E	0	0	0	3	10	11	8	1	0	0	0	33
ESE	0	0	0	1	5	3	4	3	4	0	0	20
SE	0	0	2	0	3	3	3	0	8	6	0	25
SSE	0	0	0	0	0	4	4	6	9	9	1	33
S	0	0	0	0	3	5	3	5	17	7	9	49
SSW	0	0	1	0	4	4	4	0	7	5	12	37
SW	0	0	0	3	3	4	1	5	5	1	4	26
WSW	0	0	0	0	1	6	4	4	4	1	2	22
W	0	0	1	1	2	10	19	14	28	29	12	116
WNW	0	0	2	1	4	1	10	15	24	24	20	101
NW	0	0	1	1	4	1	5	3	5	20	6	46
NNW	0	0	0	0	2	5	9	4	3	7	9	39
Tot	0	0	13	15	67	90	110	84	129	115	77	700
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												700
Hours of Missing Data												4
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station

Period:: Months Jan - Mar for years 2012 - 2012

Stability Class E Slightly Stable based on Lapse Rate

Elevations:: Winds 150ft Stability 150ft

Direction	Wind Speed Range (m/s)										Total	
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	1	1	3	5	3	2	0	0	0	0	15
NNE	0	0	0	5	8	3	2	0	0	0	0	18
NE	0	0	1	1	4	6	1	0	1	0	0	14
ENE	0	1	5	1	8	7	4	1	0	0	0	27
E	0	0	1	3	7	10	12	4	3	0	0	40
ESE	0	0	1	2	1	5	10	11	10	9	0	49
SE	0	0	0	0	2	4	13	9	11	9	3	51
SSE	0	0	0	0	3	5	11	7	34	20	1	81
S	0	0	1	0	4	12	16	18	28	21	16	116
SSW	0	0	2	0	3	5	9	8	26	11	15	79
SW	0	0	0	1	2	4	9	10	11	0	3	40
WSW	0	1	2	0	3	3	7	7	3	7	1	30
W	0	0	1	0	1	1	14	19	14	11	1	62
WNW	0	0	0	2	6	17	14	21	17	4	4	85
NW	0	0	2	1	5	7	7	12	13	2	1	50
NNW	0	0	0	0	6	4	5	10	6	5	0	36
Tot	0	3	17	19	68	96	132	137	177	99	45	793
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												793
Hours of Missing Data												4
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jan - Mar for years 2012 - 2012
 Stability Class F Moderately Stable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind		Wind Speed Range (m/s)										Total	
Direction	Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0		>10.00
N		0	0	0	2	1	0	0	0	0	0	0	3
NNE		0	0	1	0	0	1	1	0	0	0	0	3
NE		0	1	0	2	2	1	1	0	0	0	0	7
ENE		0	0	4	2	2	0	0	0	0	0	0	8
E		0	0	1	3	2	2	0	0	0	0	0	8
ESE		0	0	1	1	2	0	0	1	0	0	0	5
SE		0	0	0	1	3	5	5	3	1	0	0	18
SSE		0	0	0	2	2	1	5	1	1	0	0	12
S		0	0	1	0	1	3	10	8	1	0	0	24
SSW		0	0	1	1	4	3	3	5	2	0	0	19
SW		0	0	0	0	4	0	9	9	12	2	0	36
WSW		0	0	0	2	5	3	2	6	6	2	0	26
W		0	1	1	1	7	10	10	6	0	0	0	36
WNW		0	0	0	0	4	1	2	2	0	0	0	9
NW		0	1	2	0	3	5	1	1	0	0	0	13
NNW		0	0	0	1	3	2	0	0	0	0	0	6
Tot		0	3	12	18	45	37	49	42	23	4	0	233
Hours of Calm						0							0
Hours of Variable Direction						0							0
Hours of Valid Data						233							233
Hours of Missing Data						4							4
Hours in Period						2184							2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jan - Mar for years 2012 - 2012
 Stability Class G Extremely Stable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	0	0	0	0	0	0	0
NNE	0	1	0	0	2	1	1	0	0	0	0	5
NE	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	2	1	1	1	0	0	0	0	0	0	5
E	0	0	0	0	1	0	0	0	0	0	0	1
ESE	0	1	1	2	1	0	1	0	0	0	0	6
SE	0	2	0	0	0	0	0	1	1	0	0	4
SSE	0	0	0	0	0	0	0	0	0	0	0	0
S	0	0	0	0	0	1	1	1	0	0	0	3
SSW	0	1	0	0	1	1	1	1	0	0	0	5
SW	0	0	0	1	2	5	0	0	2	0	0	10
WSW	0	0	0	1	1	5	4	7	2	0	0	20
W	0	0	0	0	0	4	1	1	0	0	0	6
WNW	0	0	0	0	2	1	0	0	0	0	0	3
NW	0	0	1	0	2	1	0	0	0	0	0	4
NNW	0	0	0	0	1	0	0	0	0	0	0	1
Tot	0	7	3	5	14	19	9	11	5	0	0	73
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												73
Hours of Missing Data												4
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station

Period:: Months Jan - Mar for years 2012 - 2012

All Stabilities

Elevations:: Winds 300ft

Stability 300ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	4	1	1	6	17	4	11	10	0	2	56
NNE	0	0	5	5	17	17	13	7	10	1	0	75
NE	0	0	2	2	11	17	15	16	14	6	1	84
ENE	0	0	5	3	24	20	41	15	2	0	0	110
E	0	1	3	3	13	16	12	15	10	2	0	75
ESE	0	1	1	4	8	10	4	8	19	11	7	73
SE	0	1	3	2	4	10	8	16	36	21	18	119
SSE	0	0	1	1	3	5	8	23	40	49	22	152
S	0	2	0	0	3	6	11	20	58	61	52	213
SSW	0	3	2	2	10	11	17	16	34	42	54	191
SW	0	0	2	4	10	8	12	16	37	22	22	133
WSW	0	1	1	3	5	22	14	26	21	20	13	126
W	0	0	3	2	7	8	28	38	69	47	45	247
WNW	0	1	3	2	7	14	20	36	82	44	57	266
NW	0	0	1	3	10	11	16	19	30	36	24	150
NNW	0	0	3	3	5	12	12	17	26	13	14	105
Tot	0	14	36	40	143	204	235	299	498	375	331	2175
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												2175
Hours of Missing Data												9
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station

Period:: Months Jan - Mar for years 2012 - 2012

Stability Class A Extremely Unstable based on Lapse Rate

Elevations:: Winds 300ft Stability 300ft

Direction Sector	Wind Speed Range (m/s)											Total	
	<0.50	0.5- 1.0	1.1- 1.5	1.6- 2.0	2.1- 3.0	3.1- 4.0	4.1- 5.0	5.1- 6.0	6.1- 8.0	8.1- 10.0	>10.00		
N	0	0	0	0	0	0	0	0	0	0	0	0	0
NNE	0	0	0	0	0	1	1	0	2	0	0	0	4
NE	0	0	0	0	0	4	0	0	0	0	0	0	4
ENE	0	0	0	0	1	0	0	0	0	0	0	0	1
E	0	0	0	0	0	0	0	1	0	0	0	0	1
ESE	0	0	0	0	0	0	0	1	0	0	0	0	1
SE	0	0	0	0	0	0	0	3	4	0	0	0	7
SSE	0	0	0	0	0	0	0	1	3	0	0	0	4
S	0	0	0	0	0	0	2	2	3	0	3	3	10
SSW	0	0	0	0	0	0	0	0	2	3	2	2	7
SW	0	0	0	0	1	0	1	2	0	0	3	3	7
WSW	0	0	0	0	0	1	2	1	1	2	1	1	8
W	0	0	0	0	2	1	2	2	0	0	0	0	7
WNW	0	0	0	0	2	1	3	4	9	4	4	4	27
NW	0	0	0	0	1	0	1	0	1	4	1	1	8
NNW	0	0	0	0	2	0	0	0	3	0	0	0	5
Tot	0	0	0	0	9	8	12	17	28	13	14	14	101
Hours of Calm													0
Hours of Variable Direction													0
Hours of Valid Data													101
Hours of Missing Data													9
Hours in Period													2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jan - Mar for years 2012 - 2012
 Stability Class B Moderately Unstable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Wind		Wind Speed Range (m/s)										Total	
Direction	Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0		>10.00
N		0	0	0	0	0	2	1	0	0	0	0	3
NNE		0	0	0	0	3	1	0	0	0	0	0	4
NE		0	0	0	1	0	2	0	0	0	0	0	3
ENE		0	0	0	0	0	1	3	0	0	0	0	4
E		0	0	0	0	0	0	0	1	0	0	0	1
ESE		0	0	0	0	0	1	0	0	0	0	0	1
SE		0	0	0	0	0	0	0	0	0	0	0	0
SSE		0	0	0	0	0	0	0	1	3	0	1	5
S		0	0	0	0	0	0	0	1	2	0	3	6
SSW		0	0	0	0	0	1	3	1	2	1	5	13
SW		0	0	0	0	0	0	1	0	0	0	0	1
WSW		0	0	0	0	0	2	1	2	1	0	0	6
W		0	0	0	0	1	1	0	1	1	0	0	4
WNW		0	0	0	1	0	1	0	5	7	3	4	21
NW		0	0	0	0	1	0	0	0	1	0	0	2
NNW		0	0	0	0	0	0	0	1	1	1	0	3
Tot		0	0	0	2	5	12	9	13	18	5	13	77
Hours of Calm													0
Hours of Variable Direction													0
Hours of Valid Data													77
Hours of Missing Data													9
Hours in Period													2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jan - Mar for years 2012 - 2012
 Stability Class C Slightly Unstable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Wind		Wind Speed Range (m/s)										Total
Direction		0.5- 1.0	1.1- 1.5	1.6- 2.0	2.1- 3.0	3.1- 4.0	4.1- 5.0	5.1- 6.0	6.1- 8.0	8.1- 10.0	>10.00	
N		0	0	0	0	1	2	1	2	0	0	6
NNE		0	0	0	0	0	2	0	0	0	0	2
NE		0	0	0	1	0	0	0	0	0	0	1
ENE		0	0	0	0	1	3	1	0	0	0	5
E		0	0	0	1	1	1	1	0	0	0	4
ESE		0	0	0	1	2	1	0	0	0	0	4
SE		0	0	0	0	0	0	1	1	0	0	2
SSE		0	0	0	0	0	1	1	6	1	3	12
S		0	0	0	0	0	2	0	1	2	2	7
SSW		0	0	1	0	0	0	2	4	3	5	15
SW		0	0	1	1	1	0	0	0	0	4	7
WSW		0	0	0	0	2	2	2	2	1	1	10
W		0	0	0	0	0	0	1	0	0	1	2
WNW		0	0	0	0	0	1	3	4	5	4	17
NW		0	0	0	1	3	1	3	0	3	1	12
NNW		0	0	1	0	0	1	1	2	1	0	6
Tot		0	0	3	5	11	17	17	22	16	21	112
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												112
Hours of Missing Data												9
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station

Period:: Months Jan - Mar for years 2012 - 2012

Stability Class D Neutral based on Lapse Rate

Elevations:: Winds 300ft Stability 300ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	1	0	1	5	6	1	8	7	0	2	31
NNE	0	0	4	5	11	6	7	4	8	1	0	46
NE	0	0	0	1	8	6	13	13	13	6	1	61
ENE	0	0	3	1	11	11	32	13	2	0	0	73
E	0	0	0	1	5	10	6	8	3	2	0	35
ESE	0	0	1	2	5	4	3	6	7	6	4	38
SE	0	0	2	1	1	6	3	3	12	14	16	58
SSE	0	0	0	0	0	5	5	10	13	26	10	69
S	0	0	0	0	2	5	3	7	17	24	17	75
SSW	0	1	0	0	3	5	6	6	9	10	24	64
SW	0	0	0	3	3	3	6	7	15	4	4	45
WSW	0	0	0	1	2	8	6	11	4	5	6	43
W	0	0	1	0	2	5	17	13	30	35	41	144
WNW	0	0	3	1	2	4	6	13	29	20	45	123
NW	0	0	0	1	5	1	1	7	13	20	22	70
NNW	0	0	0	0	2	4	5	13	16	10	14	64
Tot	0	2	14	18	67	89	120	142	198	183	206	1039
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												1039
Hours of Missing Data												9
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jan - Mar for years 2012 - 2012
 Stability Class E Slightly Stable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	2	1	0	1	2	0	1	1	0	0	8
NNE	0	0	1	0	2	7	0	2	0	0	0	12
NE	0	0	2	0	2	4	2	2	0	0	0	12
ENE	0	0	1	2	9	5	3	1	0	0	0	21
E	0	0	1	2	5	4	4	4	6	0	0	26
ESE	0	1	0	1	1	3	0	1	12	5	2	26
SE	0	1	1	0	1	3	5	8	19	4	2	44
SSE	0	0	1	1	3	0	0	9	13	22	8	57
S	0	0	0	0	1	1	4	9	31	33	27	106
SSW	0	1	1	0	4	3	3	4	14	20	18	68
SW	0	0	0	0	1	1	3	5	17	10	8	45
WSW	0	1	1	1	1	6	1	6	6	7	5	35
W	0	0	0	1	1	1	3	14	31	9	3	63
WNW	0	0	0	0	2	6	7	8	31	12	0	66
NW	0	0	0	0	1	5	10	7	13	9	0	45
NNW	0	0	3	2	1	4	4	2	4	1	0	21
Tot	0	6	13	10	36	55	49	83	198	132	73	655
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												655
Hours of Missing Data												9
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jan - Mar for years 2012 - 2012
 Stability Class F Moderately Stable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Wind Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	1	0	0	0	5	0	1	0	0	0	7
NNE	0	0	0	0	1	1	2	1	0	0	0	5
NE	0	0	0	0	0	1	0	1	1	0	0	3
ENE	0	0	1	0	2	2	0	0	0	0	0	5
E	0	1	1	0	2	0	1	0	1	0	0	6
ESE	0	0	0	0	1	0	0	0	0	0	1	2
SE	0	0	0	1	1	0	0	1	0	2	0	5
SSE	0	0	0	0	0	0	2	1	2	0	0	5
S	0	1	0	0	0	0	0	1	2	2	0	6
SSW	0	1	1	1	2	2	5	2	3	4	0	21
SW	0	0	2	0	1	2	0	1	4	8	3	21
WSW	0	0	0	1	2	1	1	4	7	5	0	21
W	0	0	2	1	1	0	6	7	7	3	0	27
WNW	0	1	0	0	1	2	3	3	2	0	0	12
NW	0	0	1	2	1	2	3	2	2	0	0	13
NNW	0	0	0	0	0	3	2	0	0	0	0	5
Tot	0	5	8	6	15	21	25	25	31	24	4	164

Hours of Calm 0
 Hours of Variable Direction 0
 Hours of Valid Data 164
 Hours of Missing Data 9
 Hours in Period 2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jan - Mar for years 2012 - 2012
 Stability Class G Extremely Stable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	1	0	0	0	0	0	1
NNE	0	0	0	0	0	1	1	0	0	0	0	2
NE	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	0	0	0	1	0	0	0	0	0	0	1
E	0	0	1	0	0	1	0	0	0	0	0	2
ESE	0	0	0	1	0	0	0	0	0	0	0	1
SE	0	0	0	0	1	1	0	0	0	1	0	3
SSE	0	0	0	0	0	0	0	0	0	0	0	0
S	0	1	0	0	0	0	0	0	2	0	0	3
SSW	0	0	0	0	1	0	0	1	0	1	0	3
SW	0	0	0	0	3	1	1	1	1	0	0	7
WSW	0	0	0	0	0	2	1	0	0	0	0	3
W	0	0	0	0	0	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0	0	0	0	0	0
NNW	0	0	0	0	0	1	0	0	0	0	0	1
Tot	0	1	1	1	6	8	3	2	3	2	0	27
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												27
Hours of Missing Data												9
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
Period:: Months Apr - Jun for years 2012 - 2012
All Stabilities

Elevations:: Winds 35ft

Stability 150ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	4	12	8	14	18	7	8	0	0	71
NNE	0	0	5	5	29	27	17	21	12	2	0	118
NE	0	3	6	5	53	57	48	38	17	0	0	227
ENE	0	1	11	18	57	30	7	1	0	0	0	125
E	0	1	1	10	40	59	19	13	7	0	0	150
ESE	0	3	9	10	29	26	13	8	9	0	0	107
SE	0	1	4	4	29	36	26	18	1	0	0	119
SSE	0	8	11	16	50	45	21	7	10	5	1	174
S	0	6	11	15	27	41	33	17	36	7	1	194
SSW	0	5	6	15	21	24	35	36	43	16	2	203
SW	0	4	19	19	30	14	10	7	23	4	1	131
WSW	0	2	9	19	23	17	25	12	4	0	2	113
W	0	5	10	9	27	11	10	6	5	4	0	87
WNW	0	1	11	9	40	21	15	12	4	5	0	118
NW	0	2	9	19	17	22	13	7	8	5	0	102
NNW	0	2	11	14	30	31	25	13	15	0	0	141
Tot	0	44	137	199	510	475	335	223	202	48	7	2180
Hours of Calm												1
Hours of Variable Direction												2
Hours of Valid Data												2183
Hours of Missing Data												1
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class A Extremely Unstable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	3	5	4	1	3	0	0	16
NNE	0	0	1	0	4	12	7	3	4	1	0	32
NE	0	0	1	0	14	19	17	17	8	0	0	76
ENE	0	0	1	3	13	10	2	1	0	0	0	30
E	0	0	0	2	3	12	7	1	4	0	0	29
ESE	0	0	0	3	1	1	0	2	5	0	0	12
SE	0	0	0	2	4	3	8	5	0	0	0	22
SSE	0	0	0	0	6	7	5	2	2	0	0	22
S	0	0	0	4	2	3	8	3	16	0	0	36
SSW	0	0	0	0	5	5	11	16	18	5	0	60
SW	0	0	0	1	7	6	2	5	6	0	0	27
WSW	0	0	1	6	14	8	12	8	4	0	0	53
W	0	0	0	1	5	0	3	1	2	1	0	13
WNW	0	0	1	0	6	3	9	11	1	4	0	35
NW	0	0	0	1	4	1	6	6	4	5	0	27
NNW	0	0	0	2	3	6	3	4	10	0	0	28
Tot	0	0	5	25	94	101	104	86	87	16	0	518
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												518
Hours of Missing Data												1
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class B Moderately Unstable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Wind Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	1	1	0	0	0	0	2
NNE	0	0	0	0	0	1	0	1	0	0	0	2
NE	0	0	0	0	1	3	2	1	0	0	0	7
ENE	0	0	0	0	1	1	1	0	0	0	0	3
E	0	0	0	0	1	0	2	0	0	0	0	3
ESE	0	0	0	0	0	0	0	0	1	0	0	1
SE	0	0	0	0	0	0	0	2	0	0	0	2
SSE	0	0	0	0	1	1	2	0	2	1	0	7
S	0	0	0	0	0	2	1	0	1	1	0	5
SSW	0	0	0	0	1	0	0	1	1	0	0	3
SW	0	0	0	0	1	0	0	0	0	0	0	1
WSW	0	0	0	3	0	1	2	1	0	0	0	7
W	0	0	1	0	0	2	0	0	1	0	0	4
WNW	0	0	0	0	0	1	0	0	0	0	0	1
NW	0	0	0	2	0	0	0	0	1	0	0	3
NNW	0	0	0	0	0	0	2	2	0	0	0	4
Tot	0	0	1	5	6	13	13	8	7	2	0	55
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												55
Hours of Missing Data												1
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class C Slightly Unstable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	0	1	0	0	0	0	1
NNE	0	0	0	0	2	0	0	0	1	0	0	3
NE	0	0	0	0	0	2	1	1	2	0	0	6
ENE	0	0	0	0	1	0	0	0	0	0	0	1
E	0	0	0	0	2	3	3	0	0	0	0	8
ESE	0	0	0	0	0	1	0	1	0	0	0	2
SE	0	0	0	0	0	1	1	1	0	0	0	3
SSE	0	0	0	0	0	1	0	0	0	1	0	2
S	0	0	0	0	1	1	1	1	1	1	0	6
SSW	0	0	0	0	0	0	1	1	4	1	0	7
SW	0	0	0	0	1	0	1	0	4	0	0	6
WSW	0	0	0	1	0	1	1	1	0	0	0	4
W	0	0	1	0	0	0	2	0	0	1	0	4
WNW	0	0	1	1	0	2	1	0	0	0	0	5
NW	0	0	0	0	0	2	0	0	1	0	0	3
NNW	0	0	0	0	1	0	0	0	1	0	0	2
Tot	0	0	2	2	8	14	13	6	14	4	0	63
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												63
Hours of Missing Data												1
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class D Neutral based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Wind Direction Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	Total
N	0	0	0	2	2	2	1	3	3	0	0	13
NNE	0	0	1	2	4	1	4	4	3	0	0	19
NE	0	0	2	0	8	12	15	9	5	0	0	51
ENE	0	0	1	1	13	8	3	0	0	0	0	26
E	0	1	0	2	2	8	5	9	2	0	0	29
ESE	0	0	1	1	3	2	8	4	3	0	0	22
SE	0	0	0	0	3	0	3	4	0	0	0	10
SSE	0	1	0	0	4	11	4	3	4	2	0	29
S	0	0	1	0	3	7	2	4	5	1	0	23
SSW	0	0	0	1	6	4	9	7	10	7	2	46
SW	0	0	0	2	1	3	1	0	8	2	0	17
WSW	0	0	2	2	5	1	3	2	0	0	2	17
W	0	0	0	0	5	3	1	3	2	2	0	16
WNW	0	0	0	2	6	4	1	0	2	1	0	16
NW	0	0	1	0	1	5	1	0	1	0	0	9
NNW	0	0	2	2	3	2	7	5	4	0	0	25
Tot	0	2	11	17	69	73	68	57	52	15	4	368
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												368
Hours of Missing Data												1
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class E Slightly Stable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Wind		Wind Speed Range (m/s)										Total
Direction		0.5- 1.0	1.1- 1.5	1.6- 2.0	2.1- 3.0	3.1- 4.0	4.1- 5.0	5.1- 6.0	6.1- 8.0	8.1- 10.0	>10.00	
N	0	0	1	4	2	6	11	3	2	0	0	29
NNE	0	0	1	3	14	13	6	13	4	1	0	55
NE	0	1	0	4	28	20	13	10	2	0	0	78
ENE	0	0	5	13	29	11	1	0	0	0	0	59
E	0	0	0	3	28	36	2	3	1	0	0	73
ESE	0	1	3	1	10	19	5	1	0	0	0	40
SE	0	0	2	2	9	11	5	3	1	0	0	33
SSE	0	0	2	4	15	16	9	2	2	1	1	52
S	0	0	4	6	12	24	18	9	13	4	1	91
SSW	0	0	1	7	6	10	14	11	10	3	0	62
SW	0	1	1	3	4	5	3	2	5	2	1	27
WSW	0	0	2	5	2	5	6	0	0	0	0	20
W	0	1	5	5	12	5	3	2	0	0	0	33
WNW	0	0	2	3	21	9	4	1	1	0	0	41
NW	0	0	1	6	5	11	6	1	1	0	0	31
NNW	0	0	3	2	14	12	13	2	0	0	0	46
Tot	0	4	33	71	211	213	119	63	42	11	3	770
Hours of Calm				0								
Hours of Variable Direction				1								
Hours of Valid Data				771								
Hours of Missing Data				1								
Hours in Period				2184								

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class F Moderately Stable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Direction	Wind Speed Range (m/s)										Total	
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	2	6	1	0	0	0	0	0	0	9
NNE	0	0	1	0	5	0	0	0	0	0	0	6
NE	0	1	3	1	2	1	0	0	0	0	0	8
ENE	0	1	3	1	0	0	0	0	0	0	0	5
E	0	0	1	3	4	0	0	0	0	0	0	8
ESE	0	1	2	4	14	2	0	0	0	0	0	23
SE	0	0	1	0	11	19	9	3	0	0	0	43
SSE	0	4	7	9	21	9	1	0	0	0	0	51
S	0	1	3	4	8	4	3	0	0	0	0	23
SSW	0	3	2	3	3	3	0	0	0	0	0	14
SW	0	1	6	8	5	0	2	0	0	0	0	22
WSW	0	1	1	2	2	1	1	0	0	0	0	8
W	0	1	2	3	5	1	1	0	0	0	0	13
WNW	0	0	4	3	7	2	0	0	0	0	0	16
NW	0	0	4	7	6	3	0	0	0	0	0	20
NNW	0	1	1	7	9	11	0	0	0	0	0	29
Tot	0	15	43	61	103	56	17	3	0	0	0	298
Hours of Calm												0
Hours of Variable Direction												1
Hours of Valid Data												299
Hours of Missing Data												1
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class G Extremely Stable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Wind Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	1	0	0	0	0	0	0	0	0	1
NNE	0	0	1	0	0	0	0	0	0	0	0	1
NE	0	1	0	0	0	0	0	0	0	0	0	1
ENE	0	0	1	0	0	0	0	0	0	0	0	1
E	0	0	0	0	0	0	0	0	0	0	0	0
ESE	0	1	3	1	1	1	0	0	0	0	0	7
SE	0	1	1	0	2	2	0	0	0	0	0	6
SSE	0	3	2	3	3	0	0	0	0	0	0	11
S	0	5	3	1	1	0	0	0	0	0	0	10
SSW	0	2	3	4	0	2	0	0	0	0	0	11
SW	0	2	12	5	11	0	1	0	0	0	0	31
WSW	0	1	3	0	0	0	0	0	0	0	0	4
W	0	3	1	0	0	0	0	0	0	0	0	4
WNW	0	1	3	0	0	0	0	0	0	0	0	4
NW	0	2	3	3	1	0	0	0	0	0	0	9
NNW	0	1	5	1	0	0	0	0	0	0	0	7
Tot	0	23	42	18	19	5	1	0	0	0	0	108
Hours of Calm				1								
Hours of Variable Direction				0								
Hours of Valid Data				109								
Hours of Missing Data				1								
Hours in Period				2184								

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
Period:: Months Apr - Jun for years 2012 - 2012
All Stabilities

Elevations:: Winds 150ft		Stability 150ft										Total
Wind		Wind Speed Range (m/s)										
Direction		0.5-	1.1-	1.6-	2.1-	3.1-	4.1-	5.1-	6.1-	8.1-	>10.00	
Sector	<0.50	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0		
N	0	0	2	4	16	14	18	12	19	5	0	90
NNE	0	0	0	0	13	20	16	19	36	14	2	120
NE	0	0	2	9	21	43	36	33	44	6	0	194
ENE	0	0	0	7	36	40	23	13	3	0	0	122
E	0	1	0	2	8	26	43	34	25	9	0	148
ESE	0	0	0	3	7	12	24	29	19	3	0	97
SE	0	0	0	4	13	23	40	35	30	1	0	146
SSE	0	1	2	3	18	29	38	33	22	9	9	164
S	0	0	2	8	14	21	31	36	50	27	9	198
SSW	0	0	1	8	14	21	17	31	59	31	24	206
SW	0	0	2	11	17	24	19	12	17	11	12	125
WSW	0	0	2	7	14	28	14	18	24	4	1	112
W	0	0	3	5	19	21	20	13	8	4	5	98
WNW	0	1	1	0	10	20	22	24	21	2	8	109
NW	0	0	2	3	5	18	20	22	14	6	6	96
NNW	0	1	1	3	8	21	20	27	30	9	0	120
Tot	0	4	20	77	233	381	401	391	421	141	76	2145
Hours of Calm												0
Hours of Variable Direction												2
Hours of Valid Data												2147
Hours of Missing Data												37
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class A Extremely Unstable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	1	2	3	5	2	4	1	0	18
NNE	0	0	0	0	2	5	6	9	3	6	1	32
NE	0	0	1	0	8	15	12	14	20	1	0	71
ENE	0	0	0	2	3	7	6	3	2	0	0	23
E	0	0	0	1	4	4	9	3	6	3	0	30
ESE	0	0	0	0	1	2	0	0	6	1	0	10
SE	0	0	0	0	5	4	4	8	3	0	0	24
SSE	0	0	0	1	1	7	6	4	1	2	0	22
S	0	0	1	2	2	1	4	5	9	12	0	36
SSW	0	0	0	1	4	2	4	13	17	13	6	60
SW	0	0	1	2	7	5	6	3	6	3	0	33
WSW	0	0	0	0	10	11	4	8	10	3	0	46
W	0	0	0	0	6	0	2	5	1	1	2	17
WNW	0	0	0	0	3	4	1	5	16	0	6	35
NW	0	0	0	1	1	4	0	2	10	2	5	25
NNW	0	0	0	0	1	6	3	0	8	6	0	24
Tot	0	0	3	11	60	80	72	84	122	54	20	506
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												506
Hours of Missing Data												37
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class B Moderately Unstable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	2	0	1	1	0	0	0	4
NNE	0	0	0	0	0	1	0	0	1	0	0	2
NE	0	0	0	0	1	1	3	1	1	0	0	7
ENE	0	0	0	0	1	0	0	1	1	0	0	3
E	0	0	0	0	0	1	1	1	0	0	0	3
ESE	0	0	0	0	0	0	0	0	0	1	0	1
SE	0	0	0	0	0	0	1	0	2	0	0	3
SSE	0	0	0	0	1	1	1	0	0	2	2	7
S	0	0	0	0	0	0	2	1	1	0	0	4
SSW	0	0	0	0	1	0	0	0	1	1	0	3
SW	0	0	0	1	0	1	0	0	0	0	0	2
WSW	0	0	0	2	0	0	0	3	1	0	0	6
W	0	0	0	1	0	1	1	0	0	1	0	4
WNW	0	0	0	0	0	0	1	0	0	0	0	1
NW	0	0	0	0	0	0	0	1	0	0	1	2
NNW	0	0	0	0	0	0	0	0	3	0	0	3
Tot	0	0	0	4	6	6	11	9	11	5	3	55
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												55
Hours of Missing Data												37
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class C Slightly Unstable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind		Wind Speed Range (m/s)										Total
Direction		0.5- 1.0	1.1- 1.5	1.6- 2.0	2.1- 3.0	3.1- 4.0	4.1- 5.0	5.1- 6.0	6.1- 8.0	8.1- 10.0	>10.00	
N	0	0	1	0	0	0	0	0	1	0	0	2
NNE	0	0	0	0	2	0	0	0	0	1	0	3
NE	0	0	0	0	0	0	1	0	1	2	0	4
ENE	0	0	0	0	0	0	1	0	0	0	0	1
E	0	0	0	0	1	0	1	5	0	0	0	7
ESE	0	0	0	0	0	1	1	1	1	0	0	4
SE	0	0	0	0	0	0	2	0	0	0	0	2
SSE	0	0	0	0	0	1	0	0	0	0	1	2
S	0	0	0	0	1	0	1	1	2	1	1	7
SSW	0	0	0	0	0	0	0	1	3	2	1	7
SW	0	0	0	0	0	1	0	0	0	3	1	5
WSW	0	0	0	1	0	0	1	0	2	0	0	4
W	0	0	0	1	0	0	1	2	0	0	1	5
WNW	0	0	0	0	0	1	0	1	0	0	0	2
NW	0	0	0	0	0	0	2	0	0	2	0	4
NNW	0	0	0	1	0	1	0	0	0	0	0	2
Tot	0	0	1	3	4	5	11	11	10	11	5	61
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												61
Hours of Missing Data												37
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class D Neutral based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Direction	Wind Speed Range (m/s)										Total	
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	1	2	1	1	2	3	3	0	13
NNE	0	0	0	0	3	3	1	2	11	3	0	23
NE	0	0	0	3	3	2	8	9	11	2	0	38
ENE	0	0	0	1	5	8	4	5	0	0	0	23
E	0	1	0	1	0	2	8	4	13	3	0	32
ESE	0	0	0	1	0	2	2	4	9	1	0	19
SE	0	0	0	1	1	3	0	4	4	0	0	13
SSE	0	1	0	0	1	8	5	4	3	4	2	28
S	0	0	0	1	2	4	6	2	4	5	1	25
SSW	0	0	0	0	2	7	1	7	11	4	11	43
SW	0	0	0	1	2	1	3	1	2	3	6	19
WSW	0	0	1	2	3	3	0	2	5	1	1	18
W	0	0	1	0	2	3	4	2	2	2	2	18
WNW	0	0	0	0	4	2	5	1	0	0	2	14
NW	0	0	1	0	0	1	4	2	0	1	0	9
NNW	0	0	1	1	2	3	1	6	7	3	0	24
Tot	0	2	4	13	32	53	53	57	85	35	25	359
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												359
Hours of Missing Data												37
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class E Slightly Stable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	1	1	3	4	9	7	11	1	0	37
NNE	0	0	0	0	3	8	9	7	21	4	1	53
NE	0	0	0	3	5	21	11	9	11	1	0	61
ENE	0	0	0	0	19	25	12	4	0	0	0	60
E	0	0	0	0	2	17	24	20	6	3	0	72
ESE	0	0	0	0	4	4	13	19	3	0	0	43
SE	0	0	0	1	5	7	11	8	6	1	0	39
SSE	0	0	1	1	6	5	7	13	12	1	4	50
S	0	0	0	3	5	7	11	21	28	9	7	91
SSW	0	0	1	4	3	3	7	6	25	11	6	66
SW	0	0	0	1	2	3	2	3	6	1	5	23
WSW	0	0	0	0	1	3	2	3	6	0	0	15
W	0	0	2	1	5	10	8	3	4	0	0	33
WNW	0	1	0	0	2	9	11	12	5	2	0	42
NW	0	0	1	0	2	6	8	12	4	1	0	34
NNW	0	0	0	0	2	6	10	11	8	0	0	37
Tot	0	1	6	15	69	138	155	158	156	35	23	756
Hours of Calm												0
Hours of Variable Direction												1
Hours of Valid Data												757
Hours of Missing Data												37
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class F Moderately Stable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	5	6	2	0	0	0	0	13
NNE	0	0	0	0	1	3	0	1	0	0	0	5
NE	0	0	1	2	2	4	1	0	0	0	0	10
ENE	0	0	0	3	6	0	0	0	0	0	0	9
E	0	0	0	0	1	2	0	1	0	0	0	4
ESE	0	0	0	2	2	3	7	5	0	0	0	19
SE	0	0	0	2	2	7	17	12	14	0	0	54
SSE	0	0	1	1	9	4	15	11	6	0	0	47
S	0	0	1	1	1	6	6	6	5	0	0	26
SSW	0	0	0	1	2	3	3	3	1	0	0	13
SW	0	0	0	3	1	9	2	3	2	1	0	21
WSW	0	0	1	1	0	4	2	2	0	0	0	10
W	0	0	0	0	3	3	4	1	1	0	0	12
WNW	0	0	0	0	1	3	4	5	0	0	0	13
NW	0	0	0	1	2	6	5	5	0	0	0	19
NNW	0	1	0	0	0	4	5	10	4	0	0	24
Tot	0	1	4	17	38	67	73	65	33	1	0	299
Hours of Calm												0
Hours of Variable Direction												1
Hours of Valid Data												300
Hours of Missing Data												37
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class G Extremely Stable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	1	2	0	0	0	0	0	0	3
NNE	0	0	0	0	2	0	0	0	0	0	0	2
NE	0	0	0	1	2	0	0	0	0	0	0	3
ENE	0	0	0	1	2	0	0	0	0	0	0	3
E	0	0	0	0	0	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	1	0	0	0	0	1
SE	0	0	0	0	0	2	5	3	1	0	0	11
SSE	0	0	0	0	0	3	4	1	0	0	0	8
S	0	0	0	1	3	3	1	0	1	0	0	9
SSW	0	0	0	2	2	6	2	1	1	0	0	14
SW	0	0	1	3	5	4	6	2	1	0	0	22
WSW	0	0	0	1	0	7	5	0	0	0	0	13
W	0	0	0	2	3	4	0	0	0	0	0	9
WNW	0	0	1	0	0	1	0	0	0	0	0	2
NW	0	0	0	1	0	1	1	0	0	0	0	3
NNW	0	0	0	1	3	1	1	0	0	0	0	6
Tot	0	0	2	14	24	32	26	7	4	0	0	109
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												109
Hours of Missing Data												37
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
Period:: Months Apr - Jun for years 2012 - 2012
All Stabilities

Elevations:: Winds 300ft		Stability 300ft										Total
Wind		Wind Speed Range (m/s)										
Direction		0.5-	1.1-	1.6-	2.1-	3.1-	4.1-	5.1-	6.1-	8.1-	>10.00	
Sector	<0.50	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0		
N	0	0	0	2	4	8	11	11	37	27	1	101
NNE	0	0	2	2	4	10	24	13	30	13	3	101
NE	0	2	1	3	9	19	26	29	70	36	9	204
ENE	0	0	2	4	32	52	47	23	16	0	0	176
E	0	0	0	1	10	14	21	27	40	18	2	133
ESE	0	0	0	1	8	10	6	15	36	22	4	102
SE	0	0	0	1	4	8	8	17	50	19	0	107
SSE	0	0	1	1	6	20	26	28	54	15	2	153
S	0	1	0	2	10	12	15	13	58	53	30	194
SSW	0	0	0	4	11	14	14	23	65	63	43	237
SW	0	0	1	5	7	19	12	9	32	28	19	132
WSW	0	0	4	3	20	19	15	13	31	8	2	115
W	0	0	4	5	10	13	7	18	17	16	9	99
WNW	0	0	2	4	8	11	23	17	41	9	9	124
NW	0	0	4	0	5	11	14	17	34	6	11	102
NNW	0	0	1	3	5	7	7	14	42	21	3	103
Tot	0	3	22	41	153	247	276	287	653	354	147	2183
Hours of Calm				0								
Hours of Variable Direction				1								
Hours of Valid Data				2184								
Hours of Missing Data				0								
Hours in Period				2184								

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class A Extremely Unstable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	1	0	1	2	0	0	0	0	4
NNE	0	0	0	0	0	3	3	2	1	1	0	10
NE	0	0	0	1	0	3	2	3	13	4	1	27
ENE	0	0	0	2	7	9	6	2	1	0	0	27
E	0	0	0	0	2	2	4	4	3	4	0	19
ESE	0	0	0	0	2	2	2	0	0	3	0	9
SE	0	0	0	0	0	2	0	0	1	0	0	3
SSE	0	0	0	0	1	3	7	4	2	0	0	17
S	0	0	0	1	1	2	2	0	2	6	2	16
SSW	0	0	0	1	0	1	1	4	5	11	4	27
SW	0	0	0	0	2	3	1	0	6	4	0	16
WSW	0	0	0	0	9	6	2	3	11	1	0	32
W	0	0	0	0	0	1	0	0	1	0	0	2
WNW	0	0	0	0	2	0	0	3	6	2	3	16
NW	0	0	1	0	0	1	0	0	11	1	3	17
NNW	0	0	1	0	0	2	2	0	0	1	1	7
Tot	0	0	2	6	26	41	34	25	63	38	14	249
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												249
Hours of Missing Data												0
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class B Moderately Unstable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Wind Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	3	2	0	1	2	0	8
NNE	0	0	0	0	1	1	4	1	1	3	1	12
NE	0	0	0	0	1	4	1	3	5	2	2	18
ENE	0	0	0	1	0	1	4	0	2	0	0	8
E	0	0	0	0	0	2	1	1	2	1	0	7
ESE	0	0	0	0	1	0	0	1	1	2	0	5
SE	0	0	0	0	0	2	1	3	2	0	0	8
SSE	0	0	0	0	1	1	1	1	2	0	0	6
S	0	0	0	0	1	1	0	1	0	2	2	7
SSW	0	0	0	0	0	0	0	2	7	1	2	12
SW	0	0	0	3	0	0	1	0	2	2	1	9
WSW	0	0	0	0	1	2	2	2	4	0	0	11
W	0	0	0	0	3	0	1	1	0	1	1	7
WNW	0	0	0	1	2	1	1	0	3	0	1	9
NW	0	0	0	0	1	2	0	1	3	0	5	12
NNW	0	0	0	0	0	0	2	1	2	4	1	10
Tot	0	0	0	5	12	20	21	18	37	20	16	149
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												149
Hours of Missing Data												0
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class C Slightly Unstable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	1	2	1	4	1	0	9
NNE	0	0	0	1	2	2	1	1	3	0	0	10
NE	0	0	0	0	1	2	3	2	8	2	0	18
ENE	0	0	0	0	3	2	5	1	1	0	0	12
E	0	0	0	0	0	0	2	1	1	0	0	4
ESE	0	0	0	0	1	0	0	2	0	1	0	4
SE	0	0	0	0	1	0	0	1	3	0	0	5
SSE	0	0	0	0	0	3	3	3	2	2	0	13
S	0	0	0	0	2	0	2	1	5	1	4	15
SSW	0	0	0	0	0	0	3	3	6	1	2	15
SW	0	0	1	0	1	2	1	0	3	1	2	11
WSW	0	0	0	1	4	1	2	0	2	1	0	11
W	0	0	1	0	2	0	0	0	2	0	3	8
WNW	0	0	0	0	0	2	1	1	2	1	1	8
NW	0	0	0	0	1	0	0	2	1	1	1	6
NNW	0	0	0	2	0	1	0	0	3	2	1	9
Tot	0	0	2	4	18	16	25	19	46	14	14	158
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												158
Hours of Missing Data												0
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class D Neutral based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Wind Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	1	3	2	1	6	13	10	1	37
NNE	0	0	0	0	1	3	2	1	11	7	0	25
NE	0	1	1	1	6	8	14	13	32	20	6	102
ENE	0	0	2	1	9	26	20	13	11	0	0	82
E	0	0	0	1	4	3	5	12	21	12	1	59
ESE	0	0	0	1	0	3	2	5	15	10	4	40
SE	0	0	0	1	1	0	2	2	7	4	0	17
SSE	0	0	1	1	2	6	6	6	6	5	1	34
S	0	0	0	1	1	6	4	3	5	12	10	42
SSW	0	0	0	1	5	4	5	9	13	15	23	75
SW	0	0	0	1	2	4	4	1	6	11	12	41
WSW	0	0	1	2	1	5	1	2	6	3	2	23
W	0	0	3	4	4	8	1	2	5	6	5	38
WNW	0	0	0	0	2	6	9	7	6	2	3	35
NW	0	0	1	0	1	3	6	6	4	0	1	22
NNW	0	0	0	1	1	2	0	5	14	8	0	31
Tot	0	1	9	17	43	89	82	93	175	125	69	703
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												703
Hours of Missing Data												0
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class E Slightly Stable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	1	3	4	14	6	0	28
NNE	0	0	0	1	0	1	11	7	9	2	2	33
NE	0	1	0	0	0	2	5	8	10	8	0	34
ENE	0	0	0	0	9	13	12	7	1	0	0	42
E	0	0	0	0	4	5	6	8	13	1	1	38
ESE	0	0	0	0	3	4	2	7	18	5	0	39
SE	0	0	0	0	2	1	5	7	19	10	0	44
SSE	0	0	0	0	2	5	8	8	24	6	1	54
S	0	1	0	0	1	3	5	8	30	22	12	82
SSW	0	0	0	0	4	4	3	4	28	34	12	89
SW	0	0	0	1	1	4	2	7	3	6	4	28
WSW	0	0	1	0	3	3	2	1	4	2	0	16
W	0	0	0	1	0	3	5	6	4	8	0	27
WNW	0	0	0	2	0	2	7	3	23	2	1	40
NW	0	0	2	0	2	3	6	7	12	4	1	37
NNW	0	0	0	0	0	1	1	5	19	3	0	29
Tot	0	2	3	5	31	55	83	97	231	119	34	660
Hours of Calm												0
Hours of Variable Direction												1
Hours of Valid Data												661
Hours of Missing Data												0
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Apr - Jun for years 2012 - 2012
 Stability Class F Moderately Stable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	1	0	1	0	4	8	0	14
NNE	0	0	2	0	0	0	3	1	5	0	0	11
NE	0	0	0	0	0	0	1	0	2	0	0	3
ENE	0	0	0	0	3	1	0	0	0	0	0	4
E	0	0	0	0	0	2	3	1	0	0	0	6
ESE	0	0	0	0	1	1	0	0	2	1	0	5
SE	0	0	0	0	0	3	0	4	15	5	0	27
SSE	0	0	0	0	0	2	1	6	15	2	0	26
S	0	0	0	0	4	0	2	0	16	9	0	31
SSW	0	0	0	2	2	4	1	1	6	1	0	17
SW	0	0	0	0	1	6	2	1	7	3	0	20
WSW	0	0	2	0	2	2	6	4	3	0	0	19
W	0	0	0	0	0	1	0	7	5	1	0	14
WNW	0	0	2	0	0	0	3	0	1	2	0	8
NW	0	0	0	0	0	2	2	1	3	0	0	8
NNW	0	0	0	0	1	1	2	3	4	3	0	14
Tot	0	0	6	2	15	25	27	29	88	35	0	227
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												227
Hours of Missing Data												0
Hours in Period												2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station

Period:: Months Apr - Jun for years 2012 - 2012

Stability Class G Extremely Stable based on Lapse Rate

Elevations:: Winds 300ft Stability 300ft

Wind		Wind Speed Range (m/s)										Total
Direction		0.5- 1.0	1.1- 1.5	1.6- 2.0	2.1- 3.0	3.1- 4.0	4.1- 5.0	5.1- 6.0	6.1- 8.0	8.1- 10.0	>10.00	
Sector	<0.50											
N	0	0	0	0	0	0	0	0	1	0	0	1
NNE	0	0	0	0	0	0	0	0	0	0	0	0
NE	0	0	0	1	1	0	0	0	0	0	0	2
ENE	0	0	0	0	1	0	0	0	0	0	0	1
E	0	0	0	0	0	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0	0	3	0	0	3
SSE	0	0	0	0	0	0	0	0	3	0	0	3
S	0	0	0	0	0	0	0	0	0	1	0	1
SSW	0	0	0	0	0	1	1	0	0	0	0	2
SW	0	0	0	0	0	0	1	0	5	1	0	7
WSW	0	0	0	0	0	0	0	1	1	1	0	3
W	0	0	0	0	1	0	0	2	0	0	0	3
WNW	0	0	0	1	2	0	2	3	0	0	0	8
NW	0	0	0	0	0	0	0	0	0	0	0	0
NNW	0	0	0	0	3	0	0	0	0	0	0	3
Tot	0	0	0	2	8	1	4	6	13	3	0	37
Hours of Calm				0								0
Hours of Variable Direction				0								0
Hours of Valid Data				37								37
Hours of Missing Data				0								0
Hours in Period				2184								2184

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
Period:: Months Jul - Sep for years 2012 - 2012
All Stabilities

Elevations:: Winds 35ft Stability 150ft
Wind Wind Speed Range (m/s)

Direction	0.5-	1.1-	1.6-	2.1-	3.1-	4.1-	5.1-	6.1-	8.1-	>10.00	Total
Sector	<0.50	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	
N	0	1	7	8	19	22	12	8	9	1	88
NNE	0	0	8	19	18	14	15	5	7	0	86
NE	0	1	3	10	46	30	31	7	2	0	130
ENE	0	4	7	20	58	18	2	0	0	0	109
E	0	4	6	16	41	17	3	1	0	0	88
ESE	0	8	11	8	15	15	5	1	0	0	63
SE	0	8	7	14	33	35	15	0	0	0	112
SSE	0	11	34	32	51	33	16	1	0	0	178
S	0	18	37	24	49	40	11	9	5	4	197
SSW	0	16	50	34	42	38	14	11	10	2	217
SW	0	16	34	41	56	17	9	7	7	1	188
WSW	0	9	23	18	59	19	11	6	2	0	147
W	0	11	34	17	30	20	14	4	0	0	130
WNW	0	13	22	19	31	26	8	7	1	0	127
NW	0	10	31	29	36	32	12	11	4	1	166
NNW	0	5	14	20	40	33	38	13	7	0	170
Tot	0	135	328	329	624	409	216	91	54	9	2196
Hours of Calm											4
Hours of Variable Direction											5
Hours of Valid Data											2205
Hours of Missing Data											3
Hours in Period											2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class A Extremely Unstable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	9	7	4	2	6	0	0	28
NNE	0	0	1	5	4	1	2	2	4	0	0	19
NE	0	0	0	1	11	16	13	2	0	0	0	43
ENE	0	0	0	4	9	7	1	0	0	0	0	21
E	0	0	0	2	2	3	1	0	0	0	0	8
ESE	0	0	1	1	3	1	1	0	0	0	0	7
SE	0	0	0	3	5	11	7	0	0	0	0	26
SSE	0	0	1	5	11	15	7	1	0	0	0	40
S	0	0	0	1	13	15	6	6	0	2	0	43
SSW	0	0	0	2	16	13	8	7	6	1	0	53
SW	0	0	2	5	16	4	6	5	6	1	0	45
WSW	0	0	1	5	36	17	7	4	1	0	0	71
W	0	0	3	2	21	13	10	2	0	0	0	51
WNW	0	0	1	3	15	18	8	6	0	0	0	51
NW	0	0	1	5	6	12	6	9	3	1	0	43
NNW	0	0	0	4	7	11	14	4	6	0	0	46
Tot	0	0	11	48	184	164	101	50	32	5	0	595
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												595
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class B Moderately Unstable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Wind		Wind Speed Range (m/s)										Total
Direction	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	2	0	0	1	0	0	3
NNE	0	0	0	0	0	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	1	0	0	0	0	1
ENE	0	0	0	0	0	2	0	0	0	0	0	2
E	0	0	0	0	1	0	0	0	0	0	0	1
ESE	0	0	0	1	0	0	0	0	0	0	0	1
SE	0	0	1	0	1	0	0	0	0	0	0	2
SSE	0	0	0	0	1	0	1	0	0	0	0	2
S	0	0	0	0	0	1	1	0	0	0	0	2
SSW	0	0	1	1	1	2	1	2	0	0	0	8
SW	0	0	0	0	4	1	0	0	0	0	0	5
WSW	0	0	1	1	0	0	1	1	0	0	0	4
W	0	0	0	0	0	1	0	0	0	0	0	1
WNW	0	0	0	2	1	2	0	0	0	0	0	5
NW	0	0	0	0	1	0	0	0	0	0	0	1
NNW	0	0	0	1	0	1	3	0	0	0	0	5
Tot	0	0	3	6	10	12	8	3	1	0	0	43
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												43
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class C Slightly Unstable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	0	0	1	1	0	0	2
NNE	0	0	0	1	0	0	1	0	0	0	0	2
NE	0	0	0	0	0	2	2	0	0	0	0	4
ENE	0	0	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0	0	0	0	0	0
ESE	0	0	0	0	1	3	0	0	0	0	0	4
SE	0	0	0	2	0	1	0	0	0	0	0	3
SSE	0	0	0	2	3	2	0	0	0	0	0	7
S	0	0	1	0	0	1	0	0	0	0	0	2
SSW	0	0	1	1	0	1	0	0	1	0	0	4
SW	0	0	0	2	5	1	0	0	0	0	0	8
WSW	0	0	0	0	4	0	1	0	0	0	0	5
W	0	0	0	0	1	1	0	1	0	0	0	3
WNW	0	0	0	0	1	1	0	0	0	0	0	2
NW	0	0	0	0	0	2	0	0	0	0	0	2
NNW	0	0	0	0	2	1	2	1	0	0	0	6
Tot	0	0	2	8	17	16	6	3	2	0	0	54
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												54
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class D Neutral based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	1	1	2	4	5	2	1	0	1	17
NNE	0	0	0	0	2	1	3	3	3	0	0	12
NE	0	0	0	3	9	4	6	5	1	0	0	28
ENE	0	0	0	2	13	3	0	0	0	0	0	18
E	0	1	1	1	7	4	2	0	0	0	0	16
ESE	0	0	1	2	1	2	1	0	0	0	0	7
SE	0	0	1	1	5	1	1	0	0	0	0	9
SSE	0	1	2	1	5	3	5	0	0	0	0	17
S	0	0	3	1	5	5	1	2	0	2	0	19
SSW	0	1	2	5	5	9	2	1	1	1	0	27
SW	0	0	0	3	5	7	1	1	1	0	0	18
WSW	0	0	2	2	10	2	2	1	1	0	0	20
W	0	0	1	2	2	2	2	1	0	0	0	10
WNW	0	0	0	2	4	2	0	0	0	0	0	8
NW	0	0	5	0	4	3	2	0	1	0	0	15
NNW	0	0	1	0	6	4	2	5	1	0	0	19
Tot	0	3	20	26	85	56	35	21	10	3	1	260
Hours of Calm												0
Hours of Variable Direction												1
Hours of Valid Data												261
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class E Slightly Stable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	3	5	6	9	3	3	0	1	0	30
NNE	0	0	2	9	10	12	9	0	0	0	0	42
NE	0	0	2	3	26	8	8	0	1	0	0	48
ENE	0	0	4	12	34	6	1	0	0	0	0	57
E	0	1	4	11	30	10	0	1	0	0	0	57
ESE	0	0	3	2	9	7	3	1	0	0	0	25
SE	0	2	2	4	8	5	6	0	0	0	0	27
SSE	0	0	8	9	16	12	3	0	0	0	0	48
S	0	2	9	4	9	5	1	1	5	0	0	36
SSW	0	2	5	5	9	8	1	1	2	0	0	33
SW	0	3	6	4	9	3	2	1	0	0	0	28
WSW	0	2	3	4	5	0	0	0	0	0	0	14
W	0	0	3	4	4	3	2	0	0	0	0	16
WNW	0	1	5	5	9	3	0	1	1	0	0	25
NW	0	1	7	9	13	12	4	1	0	0	0	47
NNW	0	1	3	6	15	14	17	3	0	0	0	59
Tot	0	15	69	96	212	117	60	13	9	1	0	592
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												592
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class F Moderately Stable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	1	2	2	2	0	0	0	0	0	0	7
NNE	0	0	3	4	2	0	0	0	0	0	0	9
NE	0	1	1	3	0	0	1	0	0	0	0	6
ENE	0	3	1	2	2	0	0	0	0	0	0	8
E	0	1	0	2	1	0	0	0	0	0	0	4
ESE	0	7	5	2	1	2	0	0	0	0	0	17
SE	0	5	0	4	12	17	1	0	0	0	0	39
SSE	0	9	15	14	15	1	0	0	0	0	0	54
S	0	12	14	13	20	13	2	0	0	0	0	74
SSW	0	4	16	14	10	5	2	0	0	0	0	51
SW	0	10	10	14	7	1	0	0	0	0	0	42
WSW	0	2	6	4	3	0	0	0	0	0	0	15
W	0	7	18	9	2	0	0	0	0	0	0	36
WNW	0	5	10	7	1	0	0	0	0	0	0	23
NW	0	4	5	9	12	3	0	1	0	0	0	34
NNW	0	2	6	8	10	2	0	0	0	0	0	28
Tot	0	73	112	111	100	44	6	1	0	0	0	447
Hours of Calm				2								
Hours of Variable Direction				4								
Hours of Valid Data			453									
Hours of Missing Data			3									
Hours in Period			2208									

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class G Extremely Stable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	1	0	0	0	0	0	0	0	0	1
NNE	0	0	2	0	0	0	0	0	0	0	0	2
NE	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	1	2	0	0	0	0	0	0	0	0	3
E	0	1	1	0	0	0	0	0	0	0	0	2
ESE	0	1	1	0	0	0	0	0	0	0	0	2
SE	0	1	3	0	2	0	0	0	0	0	0	6
SSE	0	1	8	1	0	0	0	0	0	0	0	10
S	0	4	10	5	2	0	0	0	0	0	0	21
SSW	0	9	25	6	1	0	0	0	0	0	0	41
SW	0	3	16	13	10	0	0	0	0	0	0	42
WSW	0	5	10	2	1	0	0	0	0	0	0	18
W	0	4	9	0	0	0	0	0	0	0	0	13
WNW	0	7	6	0	0	0	0	0	0	0	0	13
NW	0	5	13	6	0	0	0	0	0	0	0	24
NNW	0	2	4	1	0	0	0	0	0	0	0	7
Tot	0	44	111	34	16	0	0	0	0	0	0	205
Hours of Calm												2
Hours of Variable Direction												0
Hours of Valid Data												207
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
Period:: Months Jul - Sep for years 2012 - 2012
All Stabilities

Elevations:: Winds 150ft		Stability 150ft										Total
Wind		Wind Speed Range (m/s)										
Direction	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
Sector												
N	0	2	6	4	19	21	23	17	14	4	1	111
NNE	0	1	2	15	24	8	15	17	11	3	1	97
NE	0	2	2	4	30	28	33	22	19	2	0	142
ENE	0	0	4	6	35	38	15	4	0	0	0	102
E	0	3	8	1	13	31	32	12	3	0	0	103
ESE	0	6	6	5	17	13	8	8	4	0	0	67
SE	0	0	4	10	18	29	29	26	6	0	0	122
SSE	0	2	0	10	42	42	29	23	2	0	0	150
S	0	3	6	9	23	56	38	21	15	5	4	180
SSW	0	1	4	10	44	48	44	17	29	7	2	206
SW	0	2	6	10	55	42	24	15	14	5	1	174
WSW	0	3	4	15	57	56	23	12	9	0	1	180
W	0	3	4	12	30	49	8	15	7	0	0	128
WNW	0	3	5	12	27	34	28	6	15	1	0	131
NW	0	4	7	8	29	30	28	20	12	4	3	145
NNW	0	2	3	3	21	32	36	36	27	4	0	164
Tot	0	37	71	134	484	557	413	271	187	35	13	2202
Hours of Calm					0							
Hours of Variable Direction					3							
Hours of Valid Data					2205							
Hours of Missing Data					3							
Hours in Period					2208							

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class A Extremely Unstable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	2	5	4	6	4	4	4	0	29
NNE	0	0	0	4	8	0	2	2	6	1	0	23
NE	0	0	0	0	8	4	13	12	3	0	0	40
ENE	0	0	0	2	5	7	6	1	0	0	0	21
E	0	0	1	1	1	2	1	1	1	0	0	8
ESE	0	0	0	0	3	2	0	1	0	0	0	6
SE	0	0	0	3	6	10	11	3	0	0	0	33
SSE	0	0	0	1	9	14	5	5	1	0	0	35
S	0	0	0	1	4	17	8	5	3	0	2	40
SSW	0	0	0	3	11	12	13	3	10	3	1	56
SW	0	0	1	2	10	5	4	6	7	4	1	40
WSW	0	0	0	5	16	30	8	6	7	0	0	72
W	0	0	1	2	7	21	6	8	3	0	0	48
WNW	0	0	2	1	10	14	15	3	11	0	0	56
NW	0	0	1	0	7	9	7	3	12	3	2	44
NNW	0	0	0	2	6	7	10	10	5	4	0	44
Tot	0	0	6	29	116	158	115	73	73	19	6	595
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												595
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class B Moderately Unstable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind Direction	Wind Speed Range (m/s)										Total	
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	0	2	0	1	0	0	3
NNE	0	0	0	1	0	0	0	0	0	0	0	1
NE	0	0	0	0	0	0	0	1	0	0	0	1
ENE	0	0	0	0	0	0	2	0	0	0	0	2
E	0	0	0	0	1	0	0	0	0	0	0	1
ESE	0	0	0	0	1	0	0	0	0	0	0	1
SE	0	0	1	0	0	0	0	0	0	0	0	1
SSE	0	0	0	0	2	0	0	1	0	0	0	3
S	0	0	0	0	0	1	0	1	0	0	0	2
SSW	0	0	0	2	1	1	1	1	2	0	0	8
SW	0	0	0	0	2	1	1	0	0	0	0	4
WSW	0	0	0	0	2	0	0	1	1	0	0	4
W	0	0	0	1	0	0	0	1	0	0	0	2
WNW	0	0	0	0	1	1	2	0	0	0	0	4
NW	0	0	0	1	0	1	0	0	0	0	0	2
NNW	0	0	0	0	0	0	2	2	0	0	0	4
Tot	0	0	1	5	10	5	10	8	4	0	0	43
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												43
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class C Slightly Unstable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	0	0	0	2	0	0	2
NNE	0	0	0	1	0	0	0	1	0	0	0	2
NE	0	0	0	0	0	0	2	0	2	0	0	4
ENE	0	0	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	0	0	1	0	0	0	0	1
ESE	0	0	0	0	1	1	1	0	0	0	0	3
SE	0	0	0	0	3	0	1	0	0	0	0	4
SSE	0	0	0	2	1	2	1	0	0	0	0	6
S	0	0	0	1	0	1	0	0	0	0	0	2
SSW	0	0	1	1	0	0	1	0	0	1	0	4
SW	0	0	0	0	3	2	0	1	0	0	0	6
WSW	0	0	0	2	3	1	0	1	0	0	0	7
W	0	0	0	0	0	1	0	1	1	0	0	3
WNW	0	0	0	0	1	0	0	1	0	0	0	2
NW	0	0	0	0	0	0	2	0	0	0	0	2
NNW	0	0	0	0	1	2	0	1	2	0	0	6
Tot	0	0	1	7	13	10	9	6	7	1	0	54
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												54
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class D Neutral based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	4	1	3	7	3	0	1	19
NNE	0	0	0	1	1	0	2	3	4	2	0	13
NE	0	0	0	1	5	8	3	1	10	1	0	29
ENE	0	0	1	0	3	9	2	0	0	0	0	15
E	0	0	0	0	0	7	6	3	1	0	0	17
ESE	0	0	1	1	2	1	0	2	0	0	0	7
SE	0	0	2	1	1	6	1	1	0	0	0	12
SSE	0	1	0	1	4	2	1	4	0	0	0	13
S	0	0	2	1	2	3	6	1	1	0	2	18
SSW	0	0	2	2	5	6	7	2	3	0	1	28
SW	0	0	1	1	6	2	6	2	2	1	0	21
WSW	0	0	0	1	7	2	3	3	1	0	1	18
W	0	0	1	0	3	2	0	1	1	0	0	8
WNW	0	0	2	1	0	5	2	0	2	0	0	12
NW	0	0	1	2	1	3	2	3	0	0	1	13
NNW	0	0	1	1	0	4	2	3	6	0	0	17
Tot	0	1	14	14	44	61	46	36	34	4	6	260
Hours of Calm												0
Hours of Variable Direction												1
Hours of Valid Data												261
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class E Slightly Stable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind		Wind Speed Range (m/s)										Total	
Direction	Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0		>10.00
N		0	0	0	2	2	10	10	6	4	0	0	34
NNE		0	0	0	4	9	4	9	11	1	0	1	39
NE		0	1	0	1	15	12	14	8	3	1	0	55
ENE		0	0	1	2	24	22	5	3	0	0	0	57
E		0	0	2	0	10	17	23	7	1	0	0	60
ESE		0	0	1	0	10	5	7	4	4	0	0	31
SE		0	0	0	2	3	4	6	5	3	0	0	23
SSE		0	0	0	2	9	10	12	12	1	0	0	46
S		0	1	1	2	7	7	7	4	0	5	0	34
SSW		0	0	0	1	10	6	5	5	4	3	0	34
SW		0	0	1	1	4	8	5	1	4	0	0	24
WSW		0	1	0	1	2	6	2	1	0	0	0	13
W		0	0	1	3	3	5	1	4	2	0	0	19
WNW		0	1	1	4	3	7	3	2	2	1	0	24
NW		0	2	1	2	7	5	11	12	0	0	0	40
NNW		0	0	2	0	10	7	10	17	13	0	0	59
Tot		0	6	11	27	128	135	130	102	42	10	1	592
Hours of Calm					0								0
Hours of Variable Direction					0								0
Hours of Valid Data					592								592
Hours of Missing Data					3								3
Hours in Period					2208								2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class F Moderately Stable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	2	1	0	5	5	2	0	0	0	0	15
NNE	0	1	1	2	3	4	2	0	0	0	0	13
NE	0	1	2	2	2	4	1	0	1	0	0	13
ENE	0	0	0	2	2	0	0	0	0	0	0	4
E	0	3	3	0	1	4	1	1	0	0	0	13
ESE	0	4	2	3	0	4	0	1	0	0	0	14
SE	0	0	1	3	4	8	9	16	3	0	0	44
SSE	0	0	0	4	9	14	9	1	0	0	0	37
S	0	2	0	2	8	22	16	9	10	0	0	69
SSW	0	1	0	1	13	17	12	5	10	0	0	59
SW	0	1	0	1	19	14	5	2	1	0	0	43
WSW	0	1	1	1	8	11	3	0	0	0	0	25
W	0	0	0	4	7	11	1	0	0	0	0	23
WNW	0	0	0	4	5	6	6	0	0	0	0	21
NW	0	1	2	2	9	9	6	2	0	1	0	32
NNW	0	1	0	0	3	8	11	3	1	0	0	27
Tot	0	18	13	31	98	141	84	40	26	1	0	452
Hours of Calm												0
Hours of Variable Direction												1
Hours of Valid Data												453
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class G Extremely Stable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind		Wind Speed Range (m/s)										Total	
Direction	Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0		>10.00
N		0	0	5	0	3	1	0	0	0	0	0	9
NNE		0	0	1	2	3	0	0	0	0	0	0	6
NE		0	0	0	0	0	0	0	0	0	0	0	0
ENE		0	0	2	0	1	0	0	0	0	0	0	3
E		0	0	2	0	0	1	0	0	0	0	0	3
ESE		0	2	2	1	0	0	0	0	0	0	0	5
SE		0	0	0	1	1	1	1	1	0	0	0	5
SSE		0	1	0	0	8	0	1	0	0	0	0	10
S		0	0	3	2	2	5	1	1	1	0	0	15
SSW		0	0	1	0	4	6	5	1	0	0	0	17
SW		0	1	3	5	11	10	3	3	0	0	0	36
WSW		0	1	3	5	19	6	7	0	0	0	0	41
W		0	3	1	2	10	9	0	0	0	0	0	25
WNW		0	2	0	2	7	1	0	0	0	0	0	12
NW		0	1	2	1	5	3	0	0	0	0	0	12
NNW		0	1	0	0	1	4	1	0	0	0	0	7
Tot		0	12	25	21	75	47	19	6	1	0	0	206
Hours of Calm					0								0
Hours of Variable Direction					1								1
Hours of Valid Data					207								207
Hours of Missing Data					3								3
Hours in Period					2208								2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
Period:: Months Jul - Sep for years 2012 - 2012
All Stabilities

Direction Sector	Stability 300ft Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	2	2	9	14	11	22	19	37	20	1	137
NNE	0	1	0	5	11	6	7	13	25	5	2	75
NE	0	3	2	8	9	18	20	29	50	7	2	148
ENE	0	0	4	5	32	46	27	11	4	0	0	129
E	0	1	2	2	13	16	16	21	19	2	0	92
ESE	0	2	2	4	13	12	13	17	16	4	0	83
SE	0	1	4	8	12	13	23	16	18	2	0	97
SSE	0	2	7	6	19	26	24	27	37	6	0	154
S	0	0	7	4	16	25	31	25	33	13	5	159
SSW	0	2	8	9	22	25	30	26	56	23	11	212
SW	0	0	1	6	18	21	31	35	28	15	1	156
WSW	0	1	1	6	36	46	32	33	26	2	5	188
W	0	0	3	8	13	47	35	24	20	1	0	151
WNW	0	3	5	2	25	26	28	22	26	2	0	139
NW	0	2	3	7	17	14	23	26	24	5	5	126
NNW	0	2	4	3	12	21	22	22	52	17	1	156
Tot	0	22	55	92	282	373	384	366	471	124	33	2202
Hours of Calm												0
Hours of Variable Direction												3
Hours of Valid Data												2205
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class A Extremely Unstable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Wind Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	3	1	2	0	0	3	0	9
NNE	0	0	0	0	2	0	0	0	1	0	0	3
NE	0	0	0	0	2	1	3	6	6	1	0	19
ENE	0	0	0	0	4	4	7	0	0	0	0	15
E	0	0	0	1	0	0	0	0	2	0	0	3
ESE	0	0	0	0	0	1	0	0	0	0	0	1
SE	0	0	0	0	1	1	6	2	0	0	0	10
SSE	0	0	0	0	1	7	3	5	0	0	0	16
S	0	0	0	0	2	4	5	1	3	0	1	16
SSW	0	0	0	0	5	5	3	4	3	1	1	22
SW	0	0	1	0	2	1	0	4	3	0	0	11
WSW	0	0	0	1	7	16	6	2	4	0	3	39
W	0	0	0	0	2	11	7	2	4	0	0	26
WNW	0	0	0	0	6	7	9	4	8	0	0	34
NW	0	0	0	0	1	1	4	0	8	1	2	17
NNW	0	0	0	0	2	3	6	2	2	1	0	16
Tot	0	0	1	2	40	63	61	32	44	7	7	257
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												257
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class B Moderately Unstable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	1	0	2	2	3	3	0	11
NNE	0	0	0	0	2	1	0	0	0	1	1	5
NE	0	0	0	0	1	1	1	4	1	1	0	9
ENE	0	0	0	0	4	1	1	1	1	0	0	8
E	0	0	0	0	2	1	0	0	0	0	0	3
ESE	0	0	0	0	2	0	0	0	0	0	0	2
SE	0	0	0	2	2	0	3	0	0	0	0	7
SSE	0	0	0	0	2	1	2	3	0	0	0	8
S	0	0	0	0	2	2	2	2	1	0	0	9
SSW	0	0	0	1	2	3	3	2	2	2	1	16
SW	0	0	0	2	2	1	0	2	4	1	0	12
WSW	0	0	0	1	4	5	1	1	3	1	0	16
W	0	0	0	1	4	5	2	0	0	0	0	12
WNW	0	0	0	0	2	3	2	1	3	0	0	11
NW	0	0	0	0	3	3	1	3	1	2	1	14
NNW	0	0	0	1	1	2	2	2	3	0	0	11
Tot	0	0	0	8	36	29	22	23	22	11	3	154
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												154
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class C Slightly Unstable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	1	3	0	2	5	1	6	2	0	20
NNE	0	0	0	1	3	0	0	1	1	1	0	7
NE	0	0	0	1	1	1	0	2	1	1	0	7
ENE	0	0	0	1	1	1	3	1	0	0	0	7
E	0	0	0	0	2	1	0	0	0	0	0	3
ESE	0	0	0	0	1	0	0	1	0	0	0	2
SE	0	0	1	0	0	2	4	0	0	0	0	7
SSE	0	0	0	1	3	3	2	1	0	0	0	10
S	0	0	1	3	1	5	0	1	1	0	0	12
SSW	0	0	0	0	1	5	4	2	1	3	0	16
SW	0	0	0	0	4	3	0	0	2	1	0	10
WSW	0	0	0	0	2	2	0	3	2	0	0	9
W	0	0	0	1	1	3	0	2	1	0	0	8
WNW	0	0	1	0	3	1	1	2	1	0	0	9
NW	0	0	0	1	0	0	2	2	1	0	0	6
NNW	0	0	0	0	0	3	1	5	2	3	0	14
Tot	0	0	4	12	23	32	22	24	19	11	0	147
Hours of Calm												0
Hours of Variable Direction												1
Hours of Valid Data												148
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class D Neutral based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Wind Direction Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	Total
N	0	1	0	3	5	5	3	8	11	9	1	46
NNE	0	0	0	2	4	0	3	4	12	2	0	27
NE	0	0	0	3	3	8	9	8	23	4	1	59
ENE	0	0	1	3	11	25	9	5	3	0	0	57
E	0	0	0	0	2	7	10	11	4	1	0	35
ESE	0	0	2	0	4	3	8	3	3	0	0	23
SE	0	0	0	1	6	3	1	3	0	0	0	14
SSE	0	1	0	2	8	7	4	1	5	1	0	29
S	0	0	1	0	4	5	5	4	3	0	1	23
SSW	0	0	4	6	6	7	12	6	6	1	5	53
SW	0	0	0	3	4	4	8	2	0	4	0	25
WSW	0	1	1	2	8	7	3	6	5	1	2	36
W	0	0	1	3	4	4	4	4	4	0	0	24
WNW	0	0	1	1	6	5	7	3	3	1	0	27
NW	0	0	1	2	3	4	4	6	3	0	2	25
NNW	0	0	2	1	1	4	5	3	25	6	0	47
Tot	0	3	14	32	79	98	95	77	110	30	12	550
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												550
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class E Slightly Stable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	1	2	3	1	6	6	8	1	0	28
NNE	0	1	0	1	0	4	4	4	7	0	1	22
NE	0	1	0	0	1	3	6	8	15	0	1	35
ENE	0	0	0	0	12	14	6	4	0	0	0	36
E	0	0	1	0	4	7	5	10	11	1	0	39
ESE	0	0	0	3	3	7	5	10	10	4	0	42
SE	0	0	2	3	2	6	7	9	10	2	0	41
SSE	0	0	1	1	4	4	7	12	27	3	0	59
S	0	0	2	1	2	6	14	9	12	4	3	53
SSW	0	1	1	0	4	3	7	7	21	5	1	50
SW	0	0	0	0	1	7	5	6	5	5	1	30
WSW	0	0	0	2	4	5	11	7	5	0	0	34
W	0	0	2	1	1	8	6	5	4	1	0	28
WNW	0	1	0	0	5	3	4	6	4	1	0	24
NW	0	0	1	2	6	3	7	12	7	2	0	40
NNW	0	0	1	0	3	6	3	7	13	3	1	37
Tot	0	4	12	16	55	87	103	122	159	32	8	598
Hours of Calm												0
Hours of Variable Direction												1
Hours of Valid Data												599
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class F Moderately Stable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Wind Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	1	0	1	1	1	4	2	9	1	0	20
NNE	0	0	0	1	0	1	0	4	4	1	0	11
NE	0	2	2	4	1	4	1	1	4	0	0	19
ENE	0	0	2	1	0	1	1	0	0	0	0	5
E	0	1	1	1	3	0	1	0	2	0	0	9
ESE	0	2	0	1	2	1	0	3	3	0	0	12
SE	0	0	1	1	0	1	2	2	8	0	0	15
SSE	0	1	5	0	1	4	6	5	5	2	0	29
S	0	0	3	0	3	2	4	8	13	9	0	42
SSW	0	1	2	2	1	2	1	4	21	8	3	45
SW	0	0	0	0	5	3	16	14	12	4	0	54
WSW	0	0	0	0	8	8	8	12	4	0	0	40
W	0	0	0	2	0	10	8	8	5	0	0	33
WNW	0	2	2	1	3	4	2	4	7	0	0	25
NW	0	2	1	1	2	3	5	3	4	0	0	21
NNW	0	2	1	0	2	3	5	2	7	4	0	26
Tot	0	14	20	16	32	48	64	72	108	29	3	406
Hours of Calm												0
Hours of Variable Direction												1
Hours of Valid Data												407
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Jul - Sep for years 2012 - 2012
 Stability Class G Extremely Stable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	1	1	0	0	0	1	0	3
NNE	0	0	0	0	0	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	0	1	0	0	0	0	0	0	0	0	1
E	0	0	0	0	0	0	0	0	0	0	0	0
ESE	0	0	0	0	1	0	0	0	0	0	0	1
SE	0	1	0	1	1	0	0	0	0	0	0	3
SSE	0	0	1	2	0	0	0	0	0	0	0	3
S	0	0	0	0	2	1	1	0	0	0	0	4
SSW	0	0	1	0	3	0	0	1	2	3	0	10
SW	0	0	0	1	0	2	2	7	2	0	0	14
WSW	0	0	0	0	3	3	3	2	3	0	0	14
W	0	0	0	0	1	6	8	3	2	0	0	20
WNW	0	0	1	0	0	3	3	2	0	0	0	9
NW	0	0	0	1	2	0	0	0	0	0	0	3
NNW	0	0	0	1	3	0	0	1	0	0	0	5
Tot	0	1	4	6	17	16	17	16	9	4	0	90
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												90
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station

Period:: Months Oct - Dec for years 2012 - 2012

All Stabilities

Elevations:: Winds 35ft

Stability 150ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	3	5	7	22	31	28	8	4	0	0	108
NNE	0	4	7	5	21	25	10	7	13	5	0	97
NE	0	5	2	8	29	12	5	5	5	0	0	71
ENE	0	2	4	12	18	2	0	0	0	0	0	38
E	1	1	6	10	21	14	9	7	1	0	0	70
ESE	0	7	11	21	52	12	5	4	4	0	0	116
SE	1	9	8	4	43	27	14	3	5	1	0	115
SSE	0	5	9	16	63	59	28	16	11	6	0	213
S	1	8	20	24	76	52	40	42	61	16	8	348
SSW	0	5	12	23	25	19	16	12	24	22	4	162
SW	1	6	12	13	18	10	10	4	10	6	1	91
WSW	0	2	9	11	21	8	3	4	8	1	0	67
W	0	2	8	9	56	44	26	13	17	1	0	176
WNW	0	5	9	12	35	43	26	23	13	11	3	180
NW	0	5	11	12	27	32	29	18	19	12	2	167
NNW	0	2	4	14	39	56	35	12	11	8	0	181
Tot	4	71	137	201	566	446	284	178	206	89	18	2200
Hours of Calm												5
Hours of Variable Direction												0
Hours of Valid Data												2205
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class A Extremely Unstable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Wind		Wind Speed Range (m/s)										Total
Direction		0.5- 1.0	1.1- 1.5	1.6- 2.0	2.1- 3.0	3.1- 4.0	4.1- 5.0	5.1- 6.0	6.1- 8.0	8.1- 10.0	>10.00	
N	0	0	0	0	1	4	8	2	3	0	0	18
NNE	0	0	0	1	0	2	0	1	5	0	0	9
NE	0	0	1	0	4	0	2	4	1	0	0	12
ENE	0	0	0	0	2	0	0	0	0	0	0	2
E	0	0	0	0	2	3	0	0	0	0	0	5
ESE	0	0	0	1	3	1	0	0	0	0	0	5
SE	0	0	0	0	1	0	2	0	0	0	0	3
SSE	0	0	0	0	1	2	3	2	1	1	0	10
S	0	0	1	1	6	3	1	2	3	0	0	17
SSW	0	0	0	0	0	0	1	0	11	4	0	16
SW	0	0	0	0	0	1	0	0	1	4	0	6
WSW	0	0	0	1	4	2	0	0	5	0	0	12
W	0	0	0	0	6	6	1	1	0	0	0	14
WNW	0	0	0	1	3	6	4	1	4	0	0	19
NW	0	0	0	0	1	3	5	3	6	4	0	22
NNW	0	0	0	0	0	1	3	0	0	2	0	6
Tot	0	0	2	5	34	34	30	16	40	15	0	176
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												176
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class B Moderately Unstable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	1	1	0	0	0	0	2
NNE	0	0	0	0	0	2	0	0	0	0	0	2
NE	0	0	0	0	1	0	0	0	0	0	0	1
ENE	0	0	0	0	1	0	0	0	0	0	0	1
E	0	0	0	1	1	0	0	0	0	0	0	2
ESE	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	0	0	0	2	0	0	0	0	0	0	2
SSE	0	0	0	0	1	1	1	0	0	1	0	4
S	0	0	0	0	3	0	0	1	0	3	0	7
SSW	0	0	0	0	0	0	0	0	1	2	0	3
SW	0	0	0	0	1	0	1	1	1	0	0	4
WSW	0	0	0	0	3	0	0	0	0	0	0	3
W	0	0	0	0	0	1	0	0	0	0	0	1
WNW	0	0	0	0	0	2	0	0	1	0	0	3
NW	0	0	0	1	1	1	0	1	0	0	0	4
NNW	0	0	0	1	0	0	0	0	0	2	0	3
Tot	0	0	0	3	14	8	3	3	3	8	0	42
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												42
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class C Slightly Unstable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	1	1	1	2	0	0	0	0	5
NNE	0	1	0	0	0	0	0	0	0	0	0	1
NE	0	0	0	0	2	2	0	0	0	0	0	4
ENE	0	0	0	0	1	0	0	0	0	0	0	1
E	0	0	0	0	1	0	0	0	0	0	0	1
ESE	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	0	0	0	0	1	0	0	0	0	0	1
SSE	0	0	0	0	1	1	0	1	1	0	0	4
S	0	0	0	1	2	1	1	0	3	1	0	9
SSW	0	0	0	0	0	0	2	1	2	1	0	6
SW	0	0	0	0	1	0	0	0	0	0	0	1
WSW	0	0	1	0	2	0	0	0	0	0	0	3
W	0	0	0	0	0	1	0	0	1	1	0	3
WNW	0	0	0	0	0	2	1	1	1	0	0	5
NW	0	0	0	0	0	1	3	0	0	0	0	4
NNW	0	0	0	1	0	1	0	1	1	0	0	4
Tot	0	1	1	3	11	11	9	4	9	3	0	52
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												52
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class D Neutral based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Direction	Wind Speed Range (m/s)										Total	
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	1	2	3	4	10	7	3	1	0	0	31
NNE	0	0	0	1	6	8	10	2	7	5	0	39
NE	0	1	0	5	10	4	1	1	4	0	0	26
ENE	0	0	1	3	6	2	0	0	0	0	0	12
E	1	0	0	3	10	5	8	3	0	0	0	30
ESE	0	2	3	2	3	5	1	3	1	0	0	20
SE	0	0	1	1	3	5	4	1	0	1	0	16
SSE	0	0	1	3	10	14	10	7	4	1	0	50
S	0	0	3	2	8	15	10	8	18	6	2	72
SSW	0	0	1	2	4	8	8	2	6	7	2	40
SW	0	1	1	2	6	2	3	0	5	2	1	23
WSW	0	0	1	2	6	3	0	0	2	1	0	15
W	0	0	1	3	15	17	16	10	12	0	0	74
WNW	0	3	2	1	8	14	15	18	5	7	1	74
NW	0	1	3	2	10	10	15	9	9	7	0	66
NNW	0	0	3	3	12	24	13	3	0	4	0	62
Tot	1	9	23	38	121	146	121	70	74	41	6	650
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												650
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class E Slightly Stable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Wind		Wind Speed Range (m/s)										Total
Direction		0.5- 1.0	1.1- 1.5	1.6- 2.0	2.1- 3.0	3.1- 4.0	4.1- 5.0	5.1- 6.0	6.1- 8.0	8.1- 10.0	>10.00	
Sector	<0.50											
N	0	0	1	2	16	14	10	3	0	0	0	46
NNE	0	0	4	3	15	12	0	4	1	0	0	39
NE	0	1	1	3	12	6	2	0	0	0	0	25
ENE	0	0	1	9	7	0	0	0	0	0	0	17
E	0	0	1	4	6	6	1	4	1	0	0	23
ESE	0	0	4	2	14	5	3	1	3	0	0	32
SE	0	2	4	3	22	14	7	2	5	0	0	59
SSE	0	2	2	8	38	38	14	6	5	3	0	116
S	0	3	4	5	36	28	28	31	37	6	6	184
SSW	0	1	2	12	11	9	5	9	4	8	2	63
SW	1	1	6	4	4	7	6	3	3	0	0	35
WSW	0	2	6	5	5	3	3	4	1	0	0	29
W	0	2	5	6	31	19	9	2	4	0	0	78
WNW	0	1	6	10	20	18	6	3	2	4	2	72
NW	0	0	2	8	11	15	6	5	4	1	2	54
NNW	0	0	0	7	22	25	18	8	10	0	0	90
Tot	1	15	49	91	270	219	118	85	80	22	12	962
Hours of Calm				0								
Hours of Variable Direction				0								
Hours of Valid Data				962								
Hours of Missing Data				3								
Hours in Period				2208								

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class F Moderately Stable based on Lapse Rate
 Elevations:: Winds 35ft Stability 150ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	1	0	1	0	0	0	0	0	0	0	2
NNE	0	1	1	0	0	1	0	0	0	0	0	3
NE	0	3	0	0	0	0	0	0	0	0	0	3
ENE	0	2	2	0	1	0	0	0	0	0	0	5
E	0	0	5	2	1	0	0	0	0	0	0	8
ESE	0	2	2	13	26	1	1	0	0	0	0	45
SE	0	2	3	0	15	7	1	0	0	0	0	28
SSE	0	3	5	3	12	3	0	0	0	0	0	26
S	0	2	8	14	20	5	0	0	0	0	0	49
SSW	0	1	6	8	10	2	0	0	0	0	0	27
SW	0	2	2	4	5	0	0	0	0	0	0	13
WSW	0	0	1	2	1	0	0	0	0	0	0	4
W	0	0	1	0	4	0	0	0	0	0	0	5
WNW	0	1	0	0	4	1	0	0	0	0	0	6
NW	0	2	3	1	4	2	0	0	0	0	0	12
NNW	0	2	1	2	5	5	1	0	0	0	0	16
Tot	0	24	40	50	108	27	3	0	0	0	0	252
Hours of Calm												3
Hours of Variable Direction												0
Hours of Valid Data												255
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station

Period:: Months Oct - Dec for years 2012 - 2012

Stability Class G Extremely Stable based on Lapse Rate

Elevations:: Winds 35ft Stability 150ft

Wind		Wind Speed Range (m/s)										Total
Direction		0.5- 1.0	1.1- 1.5	1.6- 2.0	2.1- 3.0	3.1- 4.0	4.1- 5.0	5.1- 6.0	6.1- 8.0	8.1- 10.0	>10.00	
N	0	1	2	0	0	1	0	0	0	0	0	4
NNE	0	2	2	0	0	0	0	0	0	0	0	4
NE	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0	0	0	0	0	0
E	0	1	0	0	0	0	0	0	0	0	0	1
ESE	0	3	2	3	6	0	0	0	0	0	0	14
SE	1	5	0	0	0	0	0	0	0	0	0	6
SSE	0	0	1	2	0	0	0	0	0	0	0	3
S	1	3	4	1	1	0	0	0	0	0	0	10
SSW	0	3	3	1	0	0	0	0	0	0	0	7
SW	0	2	3	3	1	0	0	0	0	0	0	9
WSW	0	0	0	1	0	0	0	0	0	0	0	1
W	0	0	1	0	0	0	0	0	0	0	0	1
WNW	0	0	1	0	0	0	0	0	0	0	0	1
NW	0	2	3	0	0	0	0	0	0	0	0	5
NNW	0	0	0	0	0	0	0	0	0	0	0	0
Tot	2	22	22	11	8	1	0	0	0	0	0	66
Hours of Calm												2
Hours of Variable Direction												0
Hours of Valid Data												68
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station

Period:: Months Oct - Dec for years 2012 - 2012

All Stabilities

Elevations:: Winds 150ft

Stability 150ft

Wind Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	1	2	3	15	25	30	33	21	1	0	131
NNE	0	0	2	1	7	23	21	16	13	11	5	99
NE	0	2	1	6	13	19	15	6	8	3	0	73
ENE	0	1	2	4	28	7	1	1	0	0	0	44
E	0	1	1	3	18	14	9	9	9	3	0	67
ESE	0	1	1	6	16	11	9	7	7	3	1	62
SE	0	0	1	3	14	24	63	19	5	6	0	135
SSE	0	0	2	5	21	45	59	32	24	7	6	201
S	0	0	2	8	30	29	67	46	59	53	24	318
SSW	0	0	1	4	19	38	42	30	31	26	26	217
SW	0	2	5	4	15	16	22	12	15	12	7	110
WSW	0	2	3	3	18	17	7	4	7	8	1	70
W	0	3	3	8	17	32	32	30	21	13	3	162
WNW	0	3	4	6	9	33	35	39	35	15	14	193
NW	0	0	0	8	14	23	25	29	29	15	19	162
NNW	0	0	4	5	12	19	40	34	29	10	8	161
Tot	0	16	34	77	266	375	477	347	313	186	114	2205
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												2205
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class A Extremely Unstable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	4	5	6	2	1	0	18
NNE	0	0	0	1	0	0	2	0	3	5	0	11
NE	0	0	1	0	0	3	0	2	4	0	0	10
ENE	0	0	0	0	4	0	0	0	0	0	0	4
E	0	0	0	0	0	3	2	0	0	0	0	5
ESE	0	0	0	1	1	3	0	0	0	0	0	5
SE	0	0	0	0	0	1	0	2	0	0	0	3
SSE	0	0	0	0	1	1	3	2	1	1	1	10
S	0	0	0	0	5	1	1	1	2	2	0	12
SSW	0	0	0	1	2	1	0	2	3	9	3	21
SW	0	0	0	0	0	1	0	0	0	1	4	6
WSW	0	0	0	0	2	5	0	0	1	4	0	12
W	0	0	0	0	5	2	6	0	1	0	0	14
WNW	0	0	0	0	2	2	6	2	3	3	0	18
NW	0	0	0	0	1	1	2	4	5	4	5	22
NNW	0	0	0	0	0	0	2	1	0	0	2	5
Tot	0	0	1	3	23	28	29	22	25	30	15	176
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												176
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution.

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class B Moderately Unstable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind		Wind Speed Range (m/s)										Total
Direction		0.5- 1.0	1.1- 1.5	1.6- 2.0	2.1- 3.0	3.1- 4.0	4.1- 5.0	5.1- 6.0	6.1- 8.0	8.1- 10.0	>10.00	
Sector	<0.50											
N	0	0	0	0	0	1	0	1	0	0	0	2
NNE	0	0	0	0	0	0	2	0	0	0	0	2
NE	0	0	0	0	1	0	0	0	0	0	0	1
ENE	0	0	0	0	1	0	0	0	0	0	0	1
E	0	0	0	0	1	1	0	0	0	0	0	2
ESE	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	0	0	0	2	0	0	0	0	0	0	2
SSE	0	0	0	0	0	1	1	0	0	0	1	3
S	0	0	0	0	2	0	0	0	0	1	0	3
SSW	0	0	0	0	1	1	0	0	1	2	2	7
SW	0	0	0	0	1	0	0	1	1	1	1	5
WSW	0	0	0	0	2	1	0	0	0	0	0	3
W	0	0	0	0	0	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	3	0	0	1	0	4
NW	0	0	0	1	1	0	1	0	1	0	0	4
NNW	0	0	0	0	1	0	0	0	0	0	2	3
Tot	0	0	0	1	13	5	7	2	3	5	6	42
Hours of Calm				0								0
Hours of Variable Direction				0								0
Hours of Valid Data				42								42
Hours of Missing Data				3								3
Hours in Period				2208								2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class C Slightly Unstable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	1	0	1	1	2	1	0	0	6
NNE	0	0	1	0	0	0	0	0	0	0	0	1
NE	0	0	0	0	0	2	2	0	0	0	0	4
ENE	0	0	0	0	1	0	0	0	0	0	0	1
E	0	0	0	0	0	0	0	0	0	0	0	0
ESE	0	0	0	0	1	0	0	0	0	0	0	1
SE	0	0	0	0	0	0	1	0	0	0	0	1
SSE	0	0	0	0	1	1	0	0	1	1	0	4
S	0	0	0	0	3	1	0	1	1	2	0	8
SSW	0	0	0	0	0	0	0	3	2	2	0	7
SW	0	0	0	0	2	0	0	0	0	0	0	2
WSW	0	0	0	1	1	0	0	0	0	0	0	2
W	0	0	0	0	0	1	0	0	0	1	1	3
WNW	0	0	0	0	0	0	2	1	1	1	0	5
NW	0	0	0	0	0	0	1	3	0	0	0	4
NNW	0	0	0	0	1	0	1	0	1	0	0	3
Tot	0	0	1	2	10	6	8	10	7	7	1	52
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												52
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class D Neutral based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	1	1	2	8	4	12	6	5	0	0	39
NNE	0	0	1	0	3	8	4	9	3	6	5	39
NE	0	1	0	1	9	3	3	2	3	3	0	25
ENE	0	0	0	1	10	3	1	0	0	0	0	15
E	0	1	0	1	4	5	4	4	8	0	0	27
ESE	0	0	1	3	6	4	3	1	4	1	0	23
SE	0	0	0	1	1	3	4	4	1	1	0	15
SSE	0	0	1	0	3	10	11	7	8	1	3	44
S	0	0	0	4	3	9	13	12	11	12	6	70
SSW	0	0	0	1	3	6	8	6	4	6	11	45
SW	0	0	1	1	6	2	4	0	2	6	2	24
WSW	0	1	0	0	4	5	1	0	0	2	1	14
W	0	1	1	2	8	8	12	13	15	10	1	71
WNW	0	0	2	1	0	9	11	16	21	5	9	74
NW	0	0	0	5	3	10	7	10	14	7	9	65
NNW	0	0	2	2	6	7	17	15	7	0	4	60
Tot	0	5	10	25	77	96	115	105	106	60	51	650
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												650
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class E Slightly Stable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	6	9	11	16	11	0	0	53
NNE	0	0	0	0	3	14	13	5	7	0	0	42
NE	0	0	0	2	3	10	10	2	1	0	0	28
ENE	0	0	0	2	12	4	0	1	0	0	0	19
E	0	0	0	0	7	5	3	5	1	3	0	24
ESE	0	0	0	1	1	2	4	2	3	2	1	16
SE	0	0	0	2	1	7	24	8	3	5	0	50
SSE	0	0	0	5	4	19	36	22	14	4	1	105
S	0	0	1	2	11	13	36	27	43	36	18	187
SSW	0	0	0	0	9	8	15	9	21	7	10	79
SW	0	0	1	0	4	7	2	7	12	4	0	37
WSW	0	0	1	2	7	5	4	4	6	2	0	31
W	0	2	1	6	4	19	12	17	5	2	1	69
WNW	0	1	1	5	7	22	10	17	10	5	5	83
NW	0	0	0	2	9	11	11	7	9	4	5	58
NNW	0	0	0	1	3	11	19	18	19	10	0	81
Tot	0	3	5	30	91	166	210	167	165	84	41	962
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												962
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class F Moderately Stable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Wind Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	1	0	0	6	1	2	2	0	0	12
NNE	0	0	0	0	0	1	0	1	0	0	0	2
NE	0	0	0	2	0	1	0	0	0	0	0	3
ENE	0	0	1	1	0	0	0	0	0	0	0	2
E	0	0	0	2	6	0	0	0	0	0	0	8
ESE	0	0	0	0	6	2	2	4	0	0	0	14
SE	0	0	1	0	8	12	30	3	1	0	0	55
SSE	0	0	1	0	11	9	6	1	0	0	0	28
S	0	0	1	0	4	4	17	5	2	0	0	33
SSW	0	0	0	0	3	13	17	8	0	0	0	41
SW	0	2	1	2	1	4	11	4	0	0	0	25
WSW	0	0	0	0	1	1	2	0	0	0	0	4
W	0	0	1	0	0	1	2	0	0	0	0	4
WNW	0	1	1	0	0	0	3	3	0	0	0	8
NW	0	0	0	0	0	1	3	5	0	0	0	9
NNW	0	0	1	2	1	0	1	0	2	0	0	7
Tot	0	3	9	9	41	55	95	36	7	0	0	255
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												255
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class G Extremely Stable based on Lapse Rate
 Elevations:: Winds 150ft Stability 150ft

Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	1	0	0	0	0	0	0	1
NNE	0	0	0	0	1	0	0	1	0	0	0	2
NE	0	1	0	1	0	0	0	0	0	0	0	2
ENE	0	1	1	0	0	0	0	0	0	0	0	2
E	0	0	1	0	0	0	0	0	0	0	0	1
ESE	0	1	0	1	1	0	0	0	0	0	0	3
SE	0	0	0	0	2	1	4	2	0	0	0	9
SSE	0	0	0	0	1	4	2	0	0	0	0	7
S	0	0	0	2	2	1	0	0	0	0	0	5
SSW	0	0	1	2	1	9	2	2	0	0	0	17
SW	0	0	2	1	1	2	5	0	0	0	0	11
WSW	0	1	2	0	1	0	0	0	0	0	0	4
W	0	0	0	0	0	1	0	0	0	0	0	1
WNW	0	1	0	0	0	0	0	0	0	0	0	1
NW	0	0	0	0	0	0	0	0	0	0	0	0
NNW	0	0	1	0	0	1	0	0	0	0	0	2
Tot	0	5	8	7	11	19	13	5	0	0	0	68
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												68
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
Period:: Months Oct - Dec for years 2012 - 2012
All Stabilities

Wind Direction Sector	Stability 300ft Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	2	3	11	13	15	26	42	36	5	153
NNE	0	1	2	4	6	11	12	25	29	18	4	112
NE	0	1	1	2	7	10	13	11	17	10	3	75
ENE	0	0	0	3	25	17	9	1	2	0	0	57
E	0	0	0	0	5	15	8	5	16	3	3	55
ESE	0	0	0	2	13	10	11	5	5	8	3	57
SE	0	1	1	3	3	10	6	11	17	8	6	66
SSE	0	0	1	4	4	19	36	53	80	13	9	219
S	0	0	1	5	20	17	25	50	68	44	61	291
SSW	0	0	2	1	13	14	14	37	74	63	39	257
SW	0	0	0	3	11	16	17	19	36	21	18	141
WSW	0	0	4	4	13	13	14	9	9	11	4	81
W	0	1	4	3	17	18	21	15	32	16	8	135
WNW	0	1	1	2	11	17	33	29	59	29	18	200
NW	0	0	0	4	12	18	22	18	44	33	28	179
NNW	0	0	2	1	8	12	19	22	29	19	15	127
Tot	0	5	21	44	179	230	275	336	559	332	224	2205
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												2205
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class A Extremely Unstable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	1	0	2	0	0	0	3
NNE	0	0	0	0	0	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0	1	4	0	0	5
ENE	0	0	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	1	2	0	1	0	0	0	4
ESE	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0	1	0	0	0	1
SSE	0	0	0	0	0	0	0	0	0	0	1	1
S	0	0	0	0	0	0	0	0	1	0	0	1
SSW	0	0	0	0	0	0	0	0	0	1	1	2
SW	0	0	0	0	0	0	0	0	0	4	3	7
WSW	0	0	0	0	0	1	0	0	0	2	0	3
W	0	0	0	0	0	0	2	0	1	0	0	3
WNW	0	0	0	0	0	0	0	0	0	0	1	1
NW	0	0	0	0	0	0	0	2	1	0	1	4
NNW	0	0	0	0	0	0	0	0	0	0	0	0
Tot	0	0	0	0	1	4	2	7	7	7	7	35
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												35
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class B Moderately Unstable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Wind Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	2	0	6	1	0	1	10
NNE	0	0	0	0	0	0	0	0	1	2	0	3
NE	0	0	0	0	0	0	1	0	0	0	0	1
ENE	0	0	0	0	3	0	0	0	0	0	0	3
E	0	0	0	0	0	0	1	0	0	0	0	1
ESE	0	0	0	0	0	1	0	0	0	0	0	1
SE	0	0	0	0	0	0	0	1	0	0	0	1
SSE	0	0	0	0	0	0	0	1	1	0	1	3
S	0	0	0	0	0	0	1	0	1	1	0	3
SSW	0	0	0	0	0	0	0	0	0	3	2	5
SW	0	0	0	0	0	0	0	0	0	1	3	4
WSW	0	0	0	0	0	0	0	0	0	0	1	1
W	0	0	0	0	2	2	3	0	1	0	0	8
WNW	0	0	0	0	2	1	5	2	1	3	0	14
NW	0	0	0	0	0	0	0	1	3	2	0	6
NNW	0	0	0	0	0	0	0	0	0	0	1	1
Tot	0	0	0	0	7	6	11	11	9	12	9	65
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												65
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class C Slightly Unstable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Direction Sector	Wind Speed Range (m/s)											Total
	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	1	2	3	1	0	1	8
NNE	0	0	0	0	0	0	0	0	0	4	0	4
NE	0	0	1	1	1	0	0	0	2	2	0	7
ENE	0	0	0	0	2	1	1	0	0	0	0	4
E	0	0	0	0	0	0	0	0	0	0	0	0
ESE	0	0	0	0	3	1	0	0	0	0	0	4
SE	0	0	0	0	0	0	0	0	0	0	0	0
SSE	0	0	0	0	2	0	4	0	1	0	2	9
S	0	0	0	0	3	0	0	1	0	2	1	7
SSW	0	0	0	0	0	1	0	3	6	0	6	16
SW	0	0	0	0	1	0	1	0	0	0	2	4
WSW	0	0	0	0	1	1	1	1	0	1	0	5
W	0	0	0	1	2	1	1	0	0	0	0	5
WNW	0	0	0	0	0	0	1	2	1	1	0	5
NW	0	0	0	0	0	1	2	0	2	1	4	10
NNW	0	0	0	0	0	0	0	0	0	0	0	0
Tot	0	0	1	2	15	7	13	10	13	11	16	88
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												88
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class D Neutral based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	2	3	10	7	12	11	15	1	2	63
NNE	0	1	2	3	4	8	11	13	10	9	4	65
NE	0	1	0	1	5	10	9	8	0	7	3	44
ENE	0	0	0	3	15	12	6	1	2	0	0	39
E	0	0	0	0	2	7	2	3	13	2	3	32
ESE	0	0	0	2	9	3	7	1	4	6	2	34
SE	0	0	0	2	2	4	2	3	5	2	6	26
SSE	0	0	0	2	0	13	11	15	22	8	5	76
S	0	0	1	3	12	7	14	22	28	19	33	139
SSW	0	0	0	0	7	5	10	14	17	28	22	103
SW	0	0	0	1	3	7	6	1	2	10	9	39
WSW	0	0	2	1	6	7	4	0	4	3	2	29
W	0	1	3	1	9	11	8	12	24	12	7	88
WNW	0	0	1	1	5	10	20	18	33	19	17	124
NW	0	0	0	2	8	14	9	11	20	23	22	109
NNW	0	0	1	1	5	11	14	19	24	10	13	98
Tot	0	3	12	26	102	136	145	152	223	159	150	1108
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												1108
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class E Slightly Stable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	0	1	3	22	28	0	54
NNE	0	0	0	1	0	2	1	12	12	3	0	31
NE	0	0	0	0	0	0	3	2	11	1	0	17
ENE	0	0	0	0	4	4	2	0	0	0	0	10
E	0	0	0	0	2	3	3	1	3	1	0	13
ESE	0	0	0	0	1	4	3	3	1	2	1	15
SE	0	0	1	0	0	4	1	3	9	3	0	21
SSE	0	0	0	1	0	4	15	28	34	5	0	87
S	0	0	0	2	3	5	5	16	35	21	27	114
SSW	0	0	1	0	2	6	2	17	38	21	8	95
SW	0	0	0	0	2	6	5	9	22	6	1	51
WSW	0	0	1	2	3	3	9	5	4	5	1	33
W	0	0	0	0	4	3	7	2	6	4	1	27
WNW	0	0	0	1	4	6	7	6	21	5	0	50
NW	0	0	0	1	3	3	11	4	14	4	1	41
NNW	0	0	0	0	1	1	5	3	5	9	1	25
Tot	0	0	3	8	29	54	80	114	237	118	41	684
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												684
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class F Moderately Stable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Wind Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	1	2	0	1	3	7	1	15
NNE	0	0	0	0	2	1	0	0	6	0	0	9
NE	0	0	0	0	1	0	0	0	0	0	0	1
ENE	0	0	0	0	1	0	0	0	0	0	0	1
E	0	0	0	0	0	3	2	0	0	0	0	5
ESE	0	0	0	0	0	1	1	1	0	0	0	3
SE	0	1	0	1	1	2	3	3	3	3	0	17
SSE	0	0	1	1	2	2	6	9	21	0	0	42
S	0	0	0	0	1	5	4	8	3	1	0	22
SSW	0	0	1	1	2	2	2	0	10	9	0	27
SW	0	0	0	2	0	2	3	6	6	0	0	19
WSW	0	0	1	1	0	0	0	3	1	0	0	6
W	0	0	1	1	0	1	0	1	0	0	0	4
WNW	0	1	0	0	0	0	0	1	3	1	0	6
NW	0	0	0	1	1	0	0	0	4	3	0	9
NNW	0	0	1	0	2	0	0	0	0	0	0	3
Tot	0	2	5	8	14	21	21	33	60	24	1	189
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												189
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2012 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

METEOROLOGICAL DATA

DOCKET NUMBERS: 50-010/50-237/50-249

Joint Frequency Distribution

Site:: Dresden Generating Station
 Period:: Months Oct - Dec for years 2012 - 2012
 Stability Class G Extremely Stable based on Lapse Rate
 Elevations:: Winds 300ft Stability 300ft

Direction	Wind Speed Range (m/s)											Total
Sector	<0.50	0.5-1.0	1.1-1.5	1.6-2.0	2.1-3.0	3.1-4.0	4.1-5.0	5.1-6.0	6.1-8.0	8.1-10.0	>10.00	
N	0	0	0	0	0	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0	0	1	0	0	1
S	0	0	0	0	1	0	1	3	0	0	0	5
SSW	0	0	0	0	2	0	0	3	3	1	0	9
SW	0	0	0	0	5	1	2	3	6	0	0	17
WSW	0	0	0	0	3	1	0	0	0	0	0	4
W	0	0	0	0	0	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0	0	0	0	0	0
Tot	0	0	0	0	11	2	3	9	10	1	0	36
Hours of Calm												0
Hours of Variable Direction												0
Hours of Valid Data												36
Hours of Missing Data												3
Hours in Period												2208

DRESDEN NUCLEAR POWER STATION
2011 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
January through December 2011

EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2011

UNITS 2/3 MAIN CHIMNEY

GASEOUS EFFLUENTS

DOCKET NUMBERS: 50-237/50-249

CORRECTED PAGE 5 of 121 of 2011 report

Units	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	Est. Total Error, %
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A. Fission & activation gases

1. Total release	Ci	7.60E+00	7.95E+00	9.25E+00	6.96E+00	1.31E+01
2. Average release rate for period	μCi/sec	9.64E-01	1.01E+00	1.17E+00	8.83E-01	
3. Percent of ODCM dose limit	%γ	7.34E-03	8.06E-03	9.15E-03	6.76E-03	
	%β	1.46E-04	1.60E-04	1.82E-04	1.31E-04	

B. Iodines

1. Total iodine-131	Ci	1.84E-04	2.36E-04	3.08E-04	3.57E-04	2.60E+01
2. Average release rate for period (I-131)	μCi/sec	2.33E-05	3.00E-05	3.91E-05	4.53E-05	
3. Percent of ODCM dose limit *	%	2.71E-01	2.71E-01	2.73E-01	2.95E-01	

C. Particulates

1. Particulates with half-lives > 8 days	Ci	1.53E-04	2.33E-04	5.65E-04	9.35E-04	2.94E+01
2. Average release rate for period	μCi/sec	1.92E-05	2.93E-05	7.11E-05	1.11E-04	
3. Percent of ODCM dose limit *	%	2.71E-01	2.71E-01	2.73E-01	2.95E-01	

D. Tritium

1. Total release	Ci	5.62E+00	7.34E+00	2.62E+00	3.64E+00	7.56E+00
2. Average release rate for period	μCi/sec	7.12E-01	9.32E-01	3.33E-01	4.61E-01	
3. Percent of ODCM dose limit *	%	2.71E-01	2.71E-01	2.73E-01	2.95E-01	

E. Gross Alpha

1. Total release	Ci	<LLD	<LLD	<LLD	<LLD	2.94E+01
2. Average release rate for period	μCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
3. Percent of ODCM dose limit	%	N/A	N/A	N/A	N/A	

F. Carbon-14

1. Total release	Ci	7.56E+00	7.56E+00	7.56E+00	7.56E+00
2. Average release rate for period	μCi/sec	9.59E-01	9.59E-01	9.59E-01	9.59E-01

* Percent of ODCM dose limit indicates combined total of Iodines, Particulates, and Tritium