

**DNPS 2011 Annual Radioactive Effluent  
Release Report**

DRESDEN NUCLEAR POWER STATION  
2011 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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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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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: 7
2. Total time period for batch releases: 8.68E+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 2011:

Revision 11 of the ODCM was issued on April 14, 2011. The revision was issued to implement the dose calculation methodology specified in NUREG 0133. The use of new dose calculation software, OpenEMS, was also implemented at that time. OpenEMS was utilized to prepare the 2011 ARERR. Additionally, the revision updates meteorological parameters.

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

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8. Unmonitored Releases \*
- a. Liquid
    - 1. Number of releases: 2
    - 2. Total activity released: 5.01E-03 Ci
  - b. Gaseous
    - 1. Number of releases: 5
    - 2. Total activity released: 2.01E-02 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 month of 2011 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 only during the months of June and October. An estimated 5.01E-03 Ci of tritium was released to the environment during 2011.
- 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 2011.
- 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 2011 is 6.93E-05 Ci of noble gases and 2.86E-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) continues. Released activity was determined using the duration of the leakage (the entire year), 100 scfm, and measurements of activity released from the 2/3 Chimney. An estimated 5.36E-03 Ci tritium, 6.99E-08 Ci of noble gases and 2.55E-06 Ci of iodines and particulates, for a total of 5.36E-03Ci was released to the environment during 2011.
- 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 3.17E-06 Ci Co-60 and 2.40E-06 Ci of Cs-137, for a total of 5.57E-06 Ci was released to the environment from this system during 2011.
- 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 1.46E-02 Ci tritium was released to the environment during 2011.

9. Errata

Corrections to pages 5 and 11 of 123 of the 2010 Annual Radioactive Effluent Release Report have been made and are included at the end of this report. The corrections on these pages included the addition of Carbon-14 to the tables.

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

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January through December 2011

EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2011  
GASEOUS EFFLUENTS – SUMMATION OF ALL RELEASES

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Units	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> 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	7.56E+00	7.56E+00	7.56E+00	7.56E+00	2.94E+01
2. Average release rate for period	μCi/sec	9.59E-01	9.59E-01	9.59E-01	9.59E-01	
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

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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2011  
 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 2011

UNIT 1 MAIN CHIMNEY

GASEOUS EFFLUENTS

DOCKET NUMBER: 50-010

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ELEVATED RELEASES CONTINUOUS MODE

Nuclides Released	Unit	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter	TOTAL
<b>1. Fission and Activation Gases</b>						
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*
<b>2. Iodines</b>						
I-131	Ci	1.54E-06**	1.19E-06**	<LLD	<LLD	2.73E-06**
I-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
I-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	1.54E-06**	1.19E-06**	<LLD	<LLD	2.73E-06**
<b>3. Particulates</b>						
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	5.04E-07	1.10E-06	6.37E-07	<LLD	2.24E-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	5.04E-07	1.10E-06	6.37E-07	<LLD	2.24E-06
<b>4. Tritium</b>						
Total for period	Ci	None*	None*	None*	None*	None*

\* Analysis not required per Dresden Station ODCM

\*\* I-131 detected as a result of fallout from Fukushima Daiichi plant emissions



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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2011

UNIT 1 MAIN CHIMNEY

GASEOUS EFFLUENTS

DOCKET NUMBER: 50-010

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ELEVATED RELEASES **BATCH MODE**

Nuclides Released	Unit	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter	TOTAL
<b>1. Fission and Activation Gases</b>						
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*
<b>2. Iodines</b>						
I-131	Ci					
I-133	Ci					
I-135	Ci					
Total for period	Ci	None*	None*	None*	None*	None*
<b>3. Particulates</b>						
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*
<b>4. Tritium</b>						
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 2011

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 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter	TOTAL
<b>1. Fission and Activation Gases</b>						
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	<LLD	<LLD
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-135	Ci	<LLD	<LLD	<LLD	6.12E-06	6.12E-06
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
<b>2. Iodines</b>						
I-131	Ci	7.76E-06	4.64E-06	<LLD	6.84E-07	1.31E-05
I-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
I-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	7.76E-06	4.64E-06	<LLD	6.84E-07	1.31E-05
<b>3. Particulates</b>						
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	2.33E-06	2.33E-06
Mn-54	Ci	3.25E-06	<LLD	<LLD	1.88E-05	2.21E-05
Co-58	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Co-60	Ci	1.89E-05	4.32E-06	1.14E-05	8.40E-05	1.19E-04
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	2.22E-05	4.32E-06	1.14E-05	1.05E-04	1.43E-04
<b>4. Tritium</b>						
Total for period	Ci	5.87E-01	1.61E+00	3.07E-01	5.82E-01	3.09E+00

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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2011

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 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter	TOTAL
<b>1. Fission and Activation Gases</b>						
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*
<b>2. Iodines</b>						
I-131	Ci					
I-133	Ci					
I-135	Ci					
Total for period	Ci	None*	None*	None*	None*	None*
<b>3. Particulates</b>						
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*
<b>4. Tritium</b>						
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 2011

UNITS 2/3 MAIN CHIMNEY

GASEOUS EFFLUENTS

DOCKET NUMBERS: 50-237/50-249

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ELEVATED RELEASES

CONTINUOUS MODE

Nuclides Released	Unit	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter	TOTAL
<b>1. Fission and Activation Gases</b>						
Ar-41	Ci	7.95e-01	7.19E-01	7.84E-01	9.47E-01	3.25E+00
Kr-85	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-85m	Ci	1.53E-01	1.27E-01	1.87E-01	2.25E-01	6.92E-01
Kr-87	Ci	2.21E-01	2.28E-01	2.60E-01	1.52E-01	8.61E-01
Kr-88	Ci	1.75E-01	1.39E-01	1.71E-01	1.35E-01	6.20E-01
Xe-133	Ci	6.43E-01	3.15E-01	4.97E-01	5.92E-01	2.05E+00
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-135	Ci	2.61E-01	1.66E-01	2.07E-01	1.42E-01	7.75E-01
Xe-135m	Ci	1.04E+00	1.24E+00	1.45E+00	9.51E-01	4.68E+00
Xe-138	Ci	4.31E+00	5.02E+00	5.70E+00	3.81E+00	1.88E+01
Total for period	Ci	7.60E+00	7.95E+00	9.25E+00	6.96E+00	3.18E+01
<b>2. Iodines</b>						
I-131	Ci	1.72E-04	2.29E-04	3.08E-04	3.56E-04	1.07E-03
I-133	Ci	5.81E-04	8.89E-04	1.34E-03	1.78E-03	4.59E-03
I-135	Ci	<LLD	<LLD	2.42E-05	2.80E-05	5.22E-05
Total for period	Ci	7.53E-04	1.12E-03	1.67E-03	2.17E-03	5.71E-03
<b>3. Particulates</b>						
Fe-55	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-89	Ci	4.76E-05	5.46E-05	5.37E-05	9.76E-05	2.54E-04
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cr-51	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Mn-54	Ci	1.58E-5	1.95E-05	4.62E-05	1.05E-04	1.87E-04
Co-58	Ci	<LLD	7.03E-07	1.03E-05	3.43E-05	4.53E-05
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Co-60	Ci	3.02E-05	7.45E-05	2.07E-04	3.78E-04	6.90E-04
Zn-65	Ci	<LLD	3.90E-05	1.08E-04	1.99E-04	3.45E-04
Mo-99	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110m	Ci	<LLD	<LLD	2.39E-06	<LLD	2.39E-06
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	Ci	<LLD	<LLD	1.95E-06	<LLD	1.95E-06
Ba-140	Ci	5.85E-05	4.36E-05	1.35E-04	1.21E-04	3.58E-04
Ce-141	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-144	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	1.52E-04	2.32E-04	5.64E-04	9.35E-04	1.88E-03
<b>4. Tritium</b>						
Total for period	Ci	5.03E+00	5.73E+00	2.31E+00	3.04E+00	1.61E+01
<b>5. Gross Alpha</b>						
Total for period	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
<b>6. Carbon-14</b>						
Total for period	Ci	7.56E+00	7.56E+00	7.56E+00	7.56E+00	3.02E+01

DRESDEN NUCLEAR POWER STATION  
2011 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT  
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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2011

UNITS 2/3 MAIN CHIMNEY

GASEOUS EFFLUENTS

DOCKET NUMBERS: 50-237/50-249

XX

ELEVATED RELEASES

**BATCH MODE**

Nuclides Released	Unit	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter	TOTAL
<b>1. Fission and Activation Gases</b>						
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*
<b>2. Iodines</b>						
I-131	Ci					
I-133	Ci					
I-135	Ci					
Total for period	Ci	None*	None*	None*	None*	None*
<b>3. Particulates</b>						
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*
<b>4. Tritium</b>						
Total for period	Ci	None*	None*	None*	None*	None*
<b>5. Gross Alpha</b>						
Total for period	Ci	None*	None*	None*	None*	None*
<b>6. Carbon-14</b>						
Total for period	Ci	None*	None*	None*	None*	None*

\* No batch releases via this effluent path

DRESDEN NUCLEAR POWER STATION  
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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2011

CHEMICAL CLEANING BUILDING

GASEOUS EFFLUENTS

DOCKET NUMBERS: 50-010

XX

MIXED-MODE RELEASES CONTINUOUS MODE

Nuclides Released	Unit	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter	TOTAL
<b>1. Fission and Activation Gases</b>						
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*
<b>2. Iodines</b>						
I-131	Ci	1.93E-06**	1.15E-06**	<LLD	<LLD	3.08E-06**
I-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
I-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	1.93E-06**	1.15E-06**	<LLD	<LLD	3.08E-06**
<b>3. Particulates</b>						
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	5.22E-07	6.37E-07	2.21E-07	1.15E-07	1.50E-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	5.22E-07	6.37E-07	2.21E-07	1.15E-07	1.50E-06
<b>4. Tritium</b>						
Total for period	Ci	None*	None*	None*	None*	None*

\* Analysis not required per Dresden Station ODCM

\*\* I-131 detected as a result of fallout from Fukushima Daiichi plant emissions

DRESDEN NUCLEAR POWER STATION  
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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2011

CHEMICAL CLEANING BUILDING

GASEOUS EFFLUENTS

DOCKET NUMBERS: 50-010

XX

MIXED-MODE RELEASES **BATCH MODE**

Nuclides Released	Unit	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter	TOTAL
<b>1. Fission and Activation Gases</b>						
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*
<b>2. Iodines</b>						
I-131	Ci					
I-133	Ci					
I-135	Ci					
Total for period	Ci	None*	None*	None*	None*	None*
<b>3. Particulates</b>						
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*
<b>4. Tritium</b>						
Total for period	Ci	None*	None*	None*	None*	None*

\* No batch releases via this effluent path

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

EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2011  
 LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

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

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

1. Total release (not including H-3, gases, alpha)	Ci	7.93E-07	<LLD	9.23E-07	1.04E-05	1.95E+01
2. Average diluted concentration during period	μCi/ml	3.46E-16	<LLD	3.94E-16	4.38E-15	
3. Percent of applicable dose limit	Organ	1.00E-09	N/A	2.07E-10	4.16E-07	
	WB	5.61E-10	N/A	6.94E-14	8.79E-07	

B. Tritium

1. Total release	Ci	<LLD	1.64E-03	<LLD	3.38E-03	2.37E+00
2. Average diluted concentration during period	μCi/ml	<LLD	6.85E-13	<LLD	1.42E-12	
3. Percent of release concentration limit (3.0E-03)	%	N/A	2.28E-08	N/A	4.73E-08	

C. Dissolved and entrained gases

1. Total release	Ci	<LLD	<LLD	<LLD	3.82E-04	2.03E+01
2. Average diluted concentration during period	μCi/ml	<LLD	<LLD	<LLD	1.60E-13	
3. Percent of release concentration limit (2.0E-04)	%	N/A	N/A	N/A	8.00E-08	

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	1.64E+04	1.64E+06	3.29E+04	1.70E+06
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F. Volume of dilution water used during period	Liters	2.29E+12	2.39E+12	2.34E+12	2.38E+12
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DRESDEN NUCLEAR POWER STATION  
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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2011  
 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.

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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2011

UNITS 2/3 RADWASTE LIQUID EFFLUENTS

DOCKET NUMBERS: 50-237/50-249

BATCH MODE

Unit		1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> 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  
2011 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT  
January through December 2011

EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2011

UNITS 2/3 RADWASTE LIQUID EFFLUENTS

DOCKET NUMBERS: 50-237/50-249

CONTINUOUS MODE

Unit		1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> 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 2011

UNITS 2/3 CONTAINMENT COOLING SERVICE WATER

DOCKET NUMBERS: 50-237/50-249

BATCH MODE

	Unit	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> 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	1.55E-06	<LLD	<LLD	7.03E-06	8.57E-06
Co-58	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Co-60	Ci	1.68E-06	<LLD	<LLD	4.17E-05	4.34E-05
Zn-65	Ci	4.00E-06	<LLD	<LLD	<LLD	4.00E-06
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	7.22E-06	<LLD	<LLD	4.87E-05	5.60E-05

H-3	Ci	<LLD	<LLD	<LLD	5.19E-03	5.19E-03
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	5.19E-03	5.19E-03

DRESDEN NUCLEAR POWER STATION  
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EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2011

UNITS 2/3 CONTAINMENT COOLING SERVICE WATER

DOCKET NUMBERS: 50-237/50-249

CONTINUOUS MODE

	Unit	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> 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  
2011 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT  
January through December 2011

EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2011  
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 <sup>3</sup>	9.68E+01	2.50E+01
	Ci	2.58E+02	
b. Dry compressible waste, contaminated equipment, etc. (includes some contaminated liquids)	m <sup>3</sup>	1.91E+03	2.50E+01
	Ci	1.57E+00	
c. Irradiated components, control rods, etc.	m <sup>3</sup>	0.00E+00	2.50E+01
	Ci	0.00E+00	
d. Other (describe) - Contaminated Oil, Combined Packages, Pump Impeller	m <sup>3</sup>	8.56E+01	2.50E+01
	Ci	6.11E-01	

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	7.67E+01	1.98E+02
Co-60	1.46E+01	3.77E+01
Mn-54	3.53E+00	9.13E+00
Zn-65	3.06E+00	7.91E+00
Cs-137	1.26E+00	3.26E+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	5.47E+01	8.61E-01
Co-60	1.93E+01	3.04E-01
Mn-54	1.59E+01	2.51E-01
Zn-65	5.29E+00	8.33E-02
Ni-63	1.41E+00	2.21E-02
Cs-137	1.15E+00	1.81E-02

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>
Fe-55	4.59E+01	2.81E-01
Zn-65	2.63E+01	1.61E-01
Co-60	1.60E+01	9.81E-02
Mn-54	4.43E+00	2.71E-02
CR-51	4.36E+00	2.67E-02
Co-58	2.43E+00	1.49E-02

Shipment type: Limited Quantity, LSA  
Solidification agent or absorbent: None

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

EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2011  
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

2. Solid Waste Disposition

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

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)

No changes were made to the DNPS radioactive liquid, gaseous, or solid waste treatment systems in 2011.

DRESDEN NUCLEAR POWER STATION  
2011 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 2011  
Total Body: 1.32E-06 mrem  
Organ: 2.08E-06 mrem
2. Gaseous Dose to a Member of the Public for 2011  
Total Body: 1.82E-02 mrem  
Skin: 2.00E-04 mrem  
Organ (Particulate/Iodine): 8.32E-02 mrem
3. Direct Radiation Dose to a Member of the Public for 2011  
Total Body: 8.36E+00 mrem  
This is 33.4 % of 40CFR190 Limit of 25 mrem/year (Whole Body and Organ). Thyroid dose is 0.03 % 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 Thermo Luminescent Dosimeter (TLD).
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 2011.
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 8.32E-02 mrem organ dose and 8.36E+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 2011. 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 2011 GE-Hitachi Morris Operation 10CFR72.44(d)(3) report, maximum dose at their site boundary from direct radiation exposure was 1.07E+00 mrem and maximum organ dose was 1.35E-02 mrem for 2011.

Maximum total body dose from Dresden and GE-Hitachi Morris Operation activities is 9.43E+00 mrem during 2011, which is 37.7 % of the 40CFR190 limit of 25 mrem.

Maximum organ dose from Dresden and GE-Hitachi Morris Operation activities is 9.67E-02 mrem during 2011. This is 0.39 % of the 40CFR190 limit of 25 mrem to any organ. The thyroid dose is 0.13 % of the 40CFR190 limit of 75 mrem.



DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

All Stabilities

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	1	9	23	17	13	14	27	1	0	106
NNE	0	3	7	4	28	11	14	2	8	2	3	82
NE	0	2	5	11	52	51	19	12	11	3	2	168
ENE	0	2	3	6	46	51	17	2	1	0	0	128
E	0	1	6	6	32	47	35	9	5	0	0	141
ESE	0	1	7	6	22	16	32	15	2	0	0	101
SE	0	0	1	3	8	11	12	18	13	0	0	66
SSE	0	1	6	13	17	24	10	10	15	0	0	96
S	0	6	7	14	40	45	25	13	24	4	0	178
SSW	1	3	12	17	31	35	25	15	16	3	0	158
SW	0	2	9	6	34	22	21	13	8	1	0	116
WSW	0	1	5	16	27	19	10	7	11	1	0	97
W	0	0	10	14	36	35	28	19	22	10	0	174
WNW	0	2	6	12	34	56	42	23	14	1	0	190
NW	0	4	5	9	47	43	32	43	17	1	0	201
NNW	0	3	7	11	26	30	21	21	12	5	1	137
Tot	1	32	97	157	503	513	356	236	206	32	6	2139

Hours of Calm . . . . . 2  
Hours of Variable Direction . . . . . 1  
Hours of Valid Data . . . . . 2142  
Hours of Missing Data . . . . . 18  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class A Extremely 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	2	6	4	2	0	0	0	0	14
NNE	0	0	0	0	5	0	1	0	0	0	0	6
NE	0	0	0	1	11	11	5	5	0	0	0	33
ENE	0	0	0	2	8	5	3	1	0	0	0	19
E	0	0	0	1	4	6	5	1	1	0	0	18
ESE	0	0	0	0	1	0	5	0	0	0	0	6
SE	0	0	0	0	0	0	1	2	2	0	0	5
SSE	0	0	0	0	0	0	0	0	0	0	0	0
S	0	0	0	0	1	0	1	0	0	0	0	2
SSW	0	0	0	0	0	0	1	0	2	0	0	3
SW	0	0	1	1	2	0	1	1	0	0	0	6
WSW	0	0	0	2	1	1	3	3	2	0	0	12
W	0	0	0	0	1	2	3	0	5	0	0	11
WNW	0	0	0	1	1	3	4	3	4	1	0	17
NW	0	0	0	0	3	5	1	6	3	0	0	18
NNW	0	0	0	0	3	1	0	4	1	0	0	9
Tot	0	0	1	10	47	38	36	26	20	1	0	179

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 179  
Hours of Missing Data . . . . . 18  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	1	1	2	1	0	0	6
NNE	0	0	0	0	1	0	0	0	0	0	0	1
NE	0	0	0	1	3	1	1	0	0	0	0	6
ENE	0	0	0	0	1	1	1	0	0	0	0	3
E	0	0	0	0	0	0	2	0	0	0	0	2
ESE	0	0	0	0	0	1	1	0	0	0	0	2
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	0	0	0	0	1	0	0	1
SSW	0	0	0	0	0	1	0	0	3	0	0	4
SW	0	0	1	0	0	0	0	3	0	1	0	5
WSW	0	0	0	1	0	0	0	0	0	0	0	1
W	0	0	0	0	0	0	2	3	0	2	0	7
WNW	0	0	1	0	2	1	4	2	0	0	0	10
NW	0	0	0	0	1	4	1	1	3	0	0	10
NNW	0	0	0	0	1	0	0	0	0	0	0	1
Tot	0	0	2	2	10	10	13	11	9	3	0	60

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 1  
Hours of Valid Data . . . . . 61  
Hours of Missing Data . . . . . 18  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class C Slightly 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	2	0	1	0	0	0	0	0	3
NNE	0	0	0	0	2	2	0	0	0	0	0	4
NE	0	0	0	1	1	0	1	1	1	0	0	5
ENE	0	0	0	0	1	1	0	0	0	0	0	2
E	0	0	0	0	0	3	0	0	1	0	0	4
ESE	0	0	0	0	1	1	0	0	0	0	0	2
SE	0	0	0	1	0	0	0	0	0	0	0	1
SSE	0	0	0	0	1	0	0	0	1	0	0	2
S	0	0	0	0	0	1	1	1	2	0	0	5
SSW	0	0	0	0	0	2	0	0	0	1	0	3
SW	0	0	0	0	1	0	2	0	0	0	0	3
WSW	0	0	1	1	1	1	1	0	0	0	0	5
W	0	0	0	0	0	1	1	1	2	1	0	6
WNW	0	0	0	0	0	1	0	1	0	0	0	2
NW	0	0	0	0	1	2	0	3	3	0	0	9
NNW	0	0	1	0	2	0	0	1	0	0	0	4
Tot	0	0	2	5	11	16	6	8	10	2	0	60

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 60  
Hours of Missing Data . . . . . 18  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class D Neutral 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	3	5	6	9	12	26	0	0	61
NNE	0	0	2	1	9	3	8	2	8	0	0	33
NE	0	0	1	4	17	27	9	6	10	3	1	78
ENE	0	0	0	2	15	35	13	1	1	0	0	67
E	0	0	1	1	10	21	24	8	3	0	0	68
ESE	0	0	2	2	4	5	12	4	0	0	0	29
SE	0	0	0	0	1	4	5	11	10	0	0	31
SSE	0	0	0	3	9	16	8	6	9	0	0	51
S	0	2	0	6	22	27	12	2	8	1	0	80
SSW	1	0	2	1	11	11	11	11	5	2	0	55
SW	0	0	1	2	10	8	13	7	3	0	0	44
WSW	0	0	1	6	15	8	4	1	6	1	0	42
W	0	0	2	2	12	17	9	3	10	4	0	59
WNW	0	2	3	4	9	23	20	12	8	0	0	81
NW	0	2	2	0	16	18	22	27	8	1	0	96
NNW	0	0	4	4	5	22	18	16	9	5	1	84
Tot	1	6	21	41	170	251	197	129	124	17	2	959

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 959  
Hours of Missing Data . . . . . 18  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class E Slightly 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	1	1	11	5	1	0	0	1	0	21
NNE	0	2	4	3	11	6	5	0	0	2	3	36
NE	0	2	4	4	20	12	3	0	0	0	1	46
ENE	0	2	3	2	21	9	0	0	0	0	0	37
E	0	1	5	4	18	17	4	0	0	0	0	49
ESE	0	0	4	4	13	8	14	11	2	0	0	56
SE	0	0	1	1	7	6	6	5	1	0	0	27
SSE	0	1	4	7	7	8	2	4	4	0	0	37
S	0	3	4	4	10	14	11	10	13	3	0	72
SSW	0	3	5	11	11	20	13	4	6	0	0	73
SW	0	1	3	2	8	10	4	2	4	0	0	34
WSW	0	1	2	3	5	6	2	3	3	0	0	25
W	0	0	5	7	21	15	13	12	5	3	0	81
WNW	0	0	1	6	21	28	14	5	2	0	0	77
NW	0	2	1	7	23	14	8	6	0	0	0	61
NNW	0	0	1	6	14	7	3	0	2	0	0	33
Tot	0	19	48	72	221	185	103	62	42	9	4	765

Hours of Calm . . . . . 1  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 766  
Hours of Missing Data . . . . . 18  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	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	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	1	1	0	3	1	0	0	0	0	0	6
SE	0	0	0	1	0	1	0	0	0	0	0	2
SSE	0	0	2	3	0	0	0	0	0	0	0	5
S	0	0	2	4	6	3	0	0	0	0	0	15
SSW	0	0	4	5	9	1	0	0	0	0	0	19
SW	0	1	1	1	12	4	1	0	1	0	0	21
WSW	0	0	1	3	4	3	0	0	0	0	0	11
W	0	0	3	5	2	0	0	0	0	0	0	10
WNW	0	0	1	1	1	0	0	0	0	0	0	3
NW	0	0	2	2	3	0	0	0	0	0	0	7
NNW	0	3	1	1	1	0	0	0	0	0	0	6
Tot	0	6	19	27	41	13	1	0	1	0	0	108

Hours of Calm . . . . . 1  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 109  
Hours of Missing Data . . . . . 18  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	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	0	0	0	0
S	0	1	1	0	1	0	0	0	0	0	0	3
SSW	0	0	1	0	0	0	0	0	0	0	0	1
SW	0	0	2	0	1	0	0	0	0	0	0	3
WSW	0	0	0	0	1	0	0	0	0	0	0	1
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	1	4	0	3	0	0	0	0	0	0	8

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 8  
Hours of Missing Data . . . . . 18  
Hours in Period . . . . . 2160



DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	6	11	18	11	11	37	8	3	108
NNE	0	0	0	1	13	18	11	13	10	6	5	77
NE	0	0	4	8	27	46	45	22	12	6	4	174
ENE	0	0	6	8	21	40	48	25	8	0	0	156
E	0	2	4	0	12	19	26	33	17	5	0	118
ESE	0	1	3	6	6	11	15	23	29	4	0	98
SE	0	0	1	2	4	6	12	12	29	7	0	73
SSE	0	0	0	2	7	26	22	9	15	10	0	91
S	0	2	2	0	22	29	37	22	28	12	6	160
SSW	0	0	0	4	17	30	31	30	31	9	4	156
SW	0	1	1	3	22	21	15	27	27	4	4	125
WSW	0	1	1	5	23	15	21	13	8	7	8	102
W	0	0	7	6	9	30	39	29	38	28	14	200
WNW	0	1	2	5	18	31	38	33	60	7	1	196
NW	0	2	3	2	15	25	40	30	57	12	4	190
NNW	0	0	1	6	17	25	26	19	21	3	3	121
Tot	0	11	37	64	244	390	437	351	427	128	56	2145

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 2145  
Hours of Missing Data . . . . . 15  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class A Extremely Unstable 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	0	1	4	3	3	1	0	0	0	12
NNE	0	0	0	0	4	4	1	0	0	0	0	9
NE	0	0	0	1	5	12	6	6	4	0	0	34
ENE	0	0	0	2	7	3	2	2	2	0	0	18
E	0	0	0	0	2	2	7	3	1	1	0	16
ESE	0	0	0	0	0	0	1	4	2	0	0	7
SE	0	0	0	0	0	0	0	0	2	0	0	2
SSE	0	0	0	0	0	0	0	0	0	0	0	0
S	0	0	0	0	0	1	1	1	1	0	0	4
SSW	0	0	0	0	1	0	0	0	1	1	0	3
SW	0	0	0	0	0	2	1	2	1	0	0	6
WSW	0	0	0	0	4	0	2	0	2	0	2	10
W	0	0	1	0	0	1	3	4	3	6	2	20
WNW	0	0	0	0	1	5	1	1	3	0	0	11
NW	0	0	0	0	3	3	0	1	5	3	0	15
NNW	0	0	0	0	3	3	1	0	5	0	0	12
Tot	0	0	1	4	34	39	29	25	32	11	4	179

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 179  
Hours of Missing Data . . . . . 15  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class B Moderately Unstable 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	0	0	0	1	1	0	2	0	0	4
NNE	0	0	0	0	2	0	0	0	0	0	0	2
NE	0	0	0	1	1	3	1	0	0	0	0	6
ENE	0	0	0	0	1	0	1	1	0	0	0	3
E	0	0	0	0	0	0	0	2	0	0	0	2
ESE	0	0	0	0	0	0	1	1	0	0	0	2
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	0	0	0	0	0	1	0	1
SSW	0	0	0	0	0	0	1	0	3	1	1	6
SW	0	0	0	0	0	0	0	1	1	0	0	2
WSW	0	0	0	0	1	0	0	0	0	0	0	1
W	0	0	2	0	1	0	1	1	3	0	2	10
WNW	0	0	0	0	1	1	1	4	2	0	0	9
NW	0	0	0	0	1	3	2	0	2	2	0	10
NNW	0	0	0	0	1	0	0	0	1	0	0	2
Tot	0	0	2	1	9	8	9	10	15	4	3	61

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 61  
Hours of Missing Data . . . . . 15  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class C Slightly Unstable 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	0	1	0	2	1	0	0	0	0	4
NNE	0	0	0	0	0	0	2	0	0	0	0	2
NE	0	0	0	0	3	0	0	1	2	0	0	6
ENE	0	0	0	0	0	3	0	0	0	0	0	3
E	0	0	0	0	0	0	1	0	0	1	0	2
ESE	0	0	0	0	0	2	0	0	0	0	0	2
SE	0	0	0	1	0	0	0	0	0	0	0	1
SSE	0	0	0	0	0	1	0	0	1	0	0	2
S	0	0	0	0	0	2	0	1	3	0	0	6
SSW	0	0	0	0	0	1	0	0	0	0	1	2
SW	0	0	0	0	1	0	1	3	0	0	0	5
WSW	0	0	1	1	1	0	0	0	0	0	0	3
W	0	0	0	0	0	0	1	1	1	2	1	6
WNW	0	0	0	0	0	0	1	0	2	0	0	3
NW	0	0	0	0	0	2	1	0	4	2	0	9
NNW	0	0	0	2	0	2	0	0	0	0	0	4
Tot	0	0	1	5	5	15	8	6	13	5	2	60

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 60  
Hours of Missing Data . . . . . 15  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class D Neutral 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	3	2	3	1	9	35	8	0	62
NNE	0	0	0	1	4	8	3	7	6	6	1	36
NE	0	0	1	2	6	14	28	12	6	6	4	79
ENE	0	0	0	0	8	15	29	18	5	0	0	75
E	0	0	1	0	4	5	7	20	15	3	0	55
ESE	0	1	1	3	2	3	5	7	7	1	0	30
SE	0	0	0	0	1	1	4	7	15	7	0	35
SSE	0	0	0	1	5	18	15	7	5	3	0	54
S	0	1	0	0	17	15	20	8	8	4	1	74
SSW	0	0	0	2	7	12	8	12	12	3	1	57
SW	0	1	0	2	6	6	6	5	10	0	1	37
WSW	0	0	0	2	12	9	8	8	0	4	5	48
W	0	0	2	5	2	12	15	6	12	10	4	68
WNW	0	1	0	4	6	10	19	9	31	7	1	88
NW	0	1	2	2	5	7	16	18	38	5	4	98
NNW	0	0	1	3	7	9	13	14	15	1	3	66
Tot	0	5	9	30	94	147	197	167	220	68	25	962

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 962  
Hours of Missing Data . . . . . 15  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class E Slightly 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	1	1	0	4	8	5	1	0	0	3	23
NNE	0	0	0	0	3	6	5	6	4	0	4	28
NE	0	0	2	4	12	17	10	3	0	0	0	48
ENE	0	0	4	5	5	19	16	4	1	0	0	54
E	0	1	1	0	6	12	11	8	1	0	0	40
ESE	0	0	2	2	4	6	5	10	20	3	0	52
SE	0	0	1	1	3	5	8	4	12	0	0	34
SSE	0	0	0	1	2	7	7	2	8	7	0	34
S	0	1	1	0	4	6	14	10	15	7	5	63
SSW	0	0	0	2	8	12	13	16	14	4	1	70
SW	0	0	1	1	10	9	3	6	10	4	2	46
WSW	0	1	0	2	2	0	7	3	4	3	1	23
W	0	0	2	0	4	13	17	17	19	10	5	87
WNW	0	0	1	1	5	13	16	19	22	0	0	77
NW	0	1	0	0	6	9	18	11	8	0	0	53
NNW	0	0	0	1	5	10	11	5	0	2	0	34
Tot	0	5	16	20	83	152	166	125	138	40	21	766

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 766  
Hours of Missing Data . . . . . 15  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	0	1	1	1	0	0	0	0	0	3
NNE	0	0	0	0	0	0	0	0	0	0	0	0
NE	0	0	1	0	0	0	0	0	0	0	0	1
ENE	0	0	2	1	0	0	0	0	0	0	0	3
E	0	1	2	0	0	0	0	0	0	0	0	3
ESE	0	0	0	1	0	0	3	1	0	0	0	5
SE	0	0	0	0	0	0	0	1	0	0	0	1
SSE	0	0	0	0	0	0	0	0	0	0	0	0
S	0	0	1	0	1	5	2	2	1	0	0	12
SSW	0	0	0	0	1	5	9	2	1	0	0	18
SW	0	0	0	0	4	3	4	9	5	0	1	26
WSW	0	0	0	0	1	4	3	2	2	0	0	12
W	0	0	0	1	2	4	2	0	0	0	0	9
WNW	0	0	1	0	5	2	0	0	0	0	0	8
NW	0	0	1	0	0	1	3	0	0	0	0	5
NNW	0	0	0	0	1	1	1	0	0	0	0	3
Tot	0	1	8	4	16	26	27	17	9	0	1	109

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 109  
Hours of Missing Data . . . . . 15  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class G Extremely 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	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	0	0	0	0
S	0	0	0	0	0	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0	0	0	0	0	0
SW	0	0	0	0	1	1	0	1	0	0	0	3
WSW	0	0	0	0	2	2	1	0	0	0	0	5
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	3	3	1	1	0	0	0	8

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 8  
Hours of Missing Data . . . . . 15  
Hours in Period . . . . . 2160



DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

All Stabilities

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	2	2	4	4	11	8	21	30	27	1	110
NNE	0	0	1	3	6	12	8	9	9	12	5	65
NE	0	0	1	5	18	31	30	25	26	8	11	155
ENE	0	1	2	8	26	34	66	32	13	1	2	185
E	0	0	0	5	13	16	21	31	40	10	3	139
ESE	0	0	4	2	3	7	7	15	20	15	0	73
SE	0	1	0	1	3	5	5	17	31	22	4	89
SSE	0	0	1	0	5	4	13	11	20	16	2	72
S	0	1	0	0	5	24	29	27	20	23	21	150
SSW	0	1	0	2	15	9	24	25	36	25	10	147
SW	0	0	0	1	9	21	17	25	49	17	6	145
WSW	0	1	3	5	14	15	15	16	10	11	13	103
W	0	0	1	3	10	13	16	27	37	25	23	155
WNW	0	2	2	5	11	12	16	33	57	37	12	187
NW	0	1	2	2	7	21	34	35	82	40	0	224
NNW	0	1	1	4	17	10	21	27	39	12	11	143
Tot	0	11	20	50	166	245	330	376	519	301	124	2142

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 2142  
Hours of Missing Data . . . . . 18  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	1	1	1	0	0	0	0	0	3
NNE	0	0	0	0	1	2	2	0	0	0	0	5
NE	0	0	0	0	4	4	4	2	1	0	0	15
ENE	0	0	0	0	4	5	2	1	3	0	0	15
E	0	0	0	1	4	1	5	3	1	1	0	16
ESE	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0	1	1	0	0	2
SSE	0	0	0	0	0	0	0	0	0	0	0	0
S	0	0	0	0	0	1	0	1	0	0	0	2
SSW	0	0	0	0	0	0	0	1	1	1	0	3
SW	0	0	0	0	0	0	0	0	1	0	0	1
WSW	0	0	0	0	0	1	1	0	2	0	0	4
W	0	0	0	0	0	1	0	0	0	2	0	3
WNW	0	0	0	0	0	1	0	0	1	2	1	5
NW	0	0	0	0	0	0	0	0	0	0	0	0
NNW	0	0	0	0	1	0	0	0	2	0	0	3
Tot	0	0	0	2	15	17	14	9	13	6	1	77

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 77  
Hours of Missing Data . . . . . 18  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	2	1	0	0	0	0	0	3
NNE	0	0	0	1	0	1	0	0	0	0	0	2
NE	0	0	0	1	3	2	1	0	1	0	0	8
ENE	0	0	0	0	1	2	2	1	0	0	0	6
E	0	0	0	0	1	1	0	1	1	0	0	4
ESE	0	0	0	0	0	0	0	1	0	0	0	1
SE	0	0	0	0	0	0	0	1	2	1	0	4
SSE	0	0	0	0	0	0	0	0	1	0	0	1
S	0	0	0	0	0	0	0	0	2	0	0	2
SSW	0	0	0	0	0	0	0	0	0	1	1	2
SW	0	0	0	0	0	1	0	1	0	0	0	2
WSW	0	0	0	0	2	0	1	0	2	0	2	7
W	0	0	0	0	0	0	1	1	0	2	0	4
WNW	0	0	0	0	1	0	0	1	3	1	2	8
NW	0	0	0	0	1	0	3	1	6	1	0	12
NNW	0	0	0	0	2	0	0	0	0	1	0	3
Tot	0	0	0	2	13	8	8	8	18	7	5	69

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 69  
Hours of Missing Data . . . . . 18  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class C Slightly 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	1	0	1	1	2	2	0	0	7
NNE	0	0	0	0	2	2	0	1	1	0	0	6
NE	0	0	0	0	3	4	1	1	2	0	0	11
ENE	0	0	0	1	2	2	2	2	1	0	0	10
E	0	0	0	0	0	0	0	2	1	1	1	5
ESE	0	0	0	0	0	0	1	2	1	0	0	4
SE	0	0	0	0	0	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0	0	0	2	0	2
S	0	0	0	0	0	2	0	1	0	1	0	4
SSW	0	0	0	0	0	1	1	3	1	3	0	9
SW	0	0	0	0	1	0	3	3	2	0	1	10
WSW	0	0	1	0	1	1	1	2	0	0	0	6
W	0	0	0	0	0	0	1	2	1	0	4	8
WNW	0	0	1	0	1	2	2	2	4	1	0	13
NW	0	0	0	0	2	3	1	1	2	5	0	14
NNW	0	0	0	0	1	0	1	0	2	0	1	5
Tot	0	0	2	2	13	18	15	24	20	13	7	114

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 114  
Hours of Missing Data . . . . . 18  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	2	1	5	4	11	23	25	1	74
NNE	0	0	0	1	2	7	3	5	3	12	5	38
NE	0	0	1	4	3	16	20	17	16	8	11	96
ENE	0	0	1	1	11	20	56	26	9	1	2	127
E	0	0	0	1	2	11	12	22	35	8	2	93
ESE	0	0	2	2	1	4	3	7	10	12	0	41
SE	0	1	0	1	1	2	1	9	14	13	4	46
SSE	0	0	0	0	1	3	13	9	14	13	2	55
S	0	1	0	0	5	16	28	22	8	9	8	97
SSW	0	0	0	0	13	7	12	11	11	6	3	63
SW	0	0	0	1	8	13	8	8	12	3	2	55
WSW	0	1	1	5	8	8	7	7	3	1	6	47
W	0	0	1	3	6	7	11	11	18	16	11	84
WNW	0	2	0	5	6	6	11	22	24	20	8	104
NW	0	0	2	1	4	12	18	20	44	29	0	130
NNW	0	1	1	3	10	7	16	18	25	11	10	102
Tot	0	6	11	30	82	144	223	225	269	187	75	1252

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 1252  
Hours of Missing Data . . . . . 18  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class E Slightly 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	3	3	7	2	0	0	16
NNE	0	0	0	1	1	0	2	2	5	0	0	11
NE	0	0	0	0	5	5	4	5	6	0	0	25
ENE	0	1	1	5	6	5	4	2	0	0	0	24
E	0	0	0	3	6	3	4	3	2	0	0	21
ESE	0	0	2	0	2	3	3	5	9	3	0	27
SE	0	0	0	0	2	3	3	5	13	8	0	34
SSE	0	0	1	0	4	1	0	2	5	0	0	13
S	0	0	0	0	0	4	1	2	10	13	13	43
SSW	0	1	0	2	2	1	11	10	21	13	6	67
SW	0	0	0	0	0	6	5	10	22	12	3	58
WSW	0	0	0	0	2	4	4	6	1	7	5	29
W	0	0	0	0	4	3	1	10	14	5	8	45
WNW	0	0	0	0	2	2	3	8	21	13	1	50
NW	0	1	0	0	0	6	12	13	28	5	0	65
NNW	0	0	0	1	2	3	4	9	5	0	0	24
Tot	0	4	4	12	38	52	64	99	164	79	36	552

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 552  
Hours of Missing Data . . . . . 18  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	0	0	1	3	2	0	7
NNE	0	0	1	0	0	0	1	1	0	0	0	3
NE	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0
SE	0	0	0	0	0	0	1	1	1	0	0	3
SSE	0	0	0	0	0	0	0	0	0	1	0	1
S	0	0	0	0	0	1	0	1	0	0	0	2
SSW	0	0	0	0	0	0	0	0	2	1	0	3
SW	0	0	0	0	0	1	1	3	11	2	0	18
WSW	0	0	1	0	1	1	1	1	2	3	0	10
W	0	0	0	0	0	2	2	3	4	0	0	11
WNW	0	0	1	0	1	1	0	0	4	0	0	7
NW	0	0	0	1	0	0	0	0	2	0	0	3
NNW	0	0	0	0	1	0	0	0	5	0	0	6
Tot	0	1	3	2	5	6	6	11	34	9	0	77

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 77  
Hours of Missing Data . . . . . 18  
Hours in Period . . . . . 2160

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class G Extremely 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	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	0	0	0	0
S	0	0	0	0	0	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0	0	1	0	0	1
WSW	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	1	0	0	1

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 1  
Hours of Missing Data . . . . . 18  
Hours in Period . . . . . 2160



DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

All Stabilities

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	7	8	13	14	14	11	5	8	0	0	80
NNE	0	2	4	11	25	22	31	29	36	12	1	173
NE	0	5	5	19	42	58	43	24	15	0	0	211
ENE	0	5	4	14	52	42	17	5	2	0	0	141
E	0	4	8	11	42	38	30	14	11	3	0	161
ESE	0	4	11	8	26	22	31	15	15	2	0	134
SE	0	7	7	5	18	30	32	32	14	5	2	152
SSE	0	7	9	9	37	24	16	12	13	2	3	132
S	0	2	11	4	34	34	25	19	31	6	4	170
SSW	0	4	6	19	22	21	21	19	19	13	7	151
SW	0	0	6	15	18	12	21	11	12	5	1	101
WSW	0	2	8	13	22	17	18	20	6	0	0	106
W	0	2	13	16	30	32	35	36	28	1	0	193
WNW	0	4	5	11	13	27	24	20	22	2	0	128
NW	0	2	6	6	9	14	18	15	6	1	0	77
NNW	0	1	7	17	16	6	3	3	0	0	0	53
Tot	0	58	118	191	420	413	376	279	238	52	18	2163

Hours of Calm . . . . . 1  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 2164  
Hours of Missing Data . . . . . 20  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class A Extremely 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	4	4	1	1	0	1	0	0	0	11
NNE	0	0	1	4	2	1	9	5	2	0	0	24
NE	0	0	0	2	5	13	14	12	8	0	0	54
ENE	0	0	1	0	3	7	1	0	0	0	0	12
E	0	0	0	1	2	11	7	0	0	0	0	21
ESE	0	0	0	0	5	4	2	1	1	0	0	13
SE	0	0	0	1	3	2	6	0	0	1	1	14
SSE	0	0	3	0	3	4	0	1	0	0	0	11
S	0	0	0	0	4	4	3	1	1	0	0	13
SSW	0	0	0	1	0	6	4	0	1	2	0	14
SW	0	0	0	2	0	2	0	0	0	0	0	4
WSW	0	0	1	1	2	3	0	4	3	0	0	14
W	0	0	0	1	3	3	5	6	10	0	0	28
WNW	0	0	0	2	0	2	5	7	6	0	0	22
NW	0	0	0	1	1	2	3	3	2	1	0	13
NNW	0	0	1	1	1	0	1	0	0	0	0	4
Tot	0	0	11	21	35	65	60	41	34	4	1	272

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 272  
Hours of Missing Data . . . . . 20  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	1	2	0	1	1	0	0	0	0	5
NNE	0	0	0	0	0	1	0	0	1	1	0	3
NE	0	0	0	0	1	2	2	1	0	0	0	6
ENE	0	0	0	0	2	1	0	0	0	0	0	3
E	0	0	0	1	3	1	1	0	0	0	0	6
ESE	0	0	0	0	1	1	0	0	1	0	0	3
SE	0	0	0	0	0	0	1	1	1	0	1	4
SSE	0	0	0	0	2	1	0	1	0	0	1	5
S	0	0	0	0	1	2	2	0	0	1	0	6
SSW	0	0	0	0	1	1	0	0	0	1	0	3
SW	0	0	0	1	0	0	2	0	1	0	0	4
WSW	0	0	0	1	0	3	2	2	2	0	0	10
W	0	0	0	0	2	0	3	2	0	0	0	7
WNW	0	0	0	0	1	2	3	4	0	0	0	10
NW	0	0	0	0	0	0	1	0	0	0	0	1
NNW	0	0	0	1	2	1	1	0	0	0	0	5
Tot	0	0	1	6	16	17	19	11	6	3	2	81

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 81  
Hours of Missing Data . . . . . 20  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class C Slightly 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	2	1	0	0	0	0	3
NNE	0	0	1	0	0	2	2	1	0	0	0	6
NE	0	0	0	0	0	2	1	1	1	0	0	5
ENE	0	0	1	0	2	0	2	0	0	0	0	5
E	0	0	1	0	1	5	2	0	0	0	0	9
ESE	0	0	0	0	0	0	0	0	2	0	0	2
SE	0	1	0	1	1	2	3	4	0	0	0	12
SSE	0	0	0	0	1	0	1	1	1	0	0	4
S	0	0	2	0	2	2	3	1	2	0	0	12
SSW	0	0	1	0	0	1	1	3	1	0	1	8
SW	0	0	0	0	0	0	1	1	0	1	1	4
WSW	0	0	0	1	1	0	1	2	0	0	0	5
W	0	0	0	0	0	3	2	2	4	0	0	11
WNW	0	0	0	0	1	0	1	0	0	0	0	2
NW	0	1	0	2	0	0	0	0	0	0	0	3
NNW	0	0	0	0	4	0	0	0	0	0	0	4
Tot	0	2	6	4	13	19	21	16	11	1	2	95

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 95  
Hours of Missing Data . . . . . 20  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class D Neutral 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	0	0	3	2	3	4	6	0	0	19
NNE	0	2	0	3	6	7	9	15	28	7	1	78
NE	0	0	0	5	17	22	18	6	6	0	0	74
ENE	0	1	0	1	13	21	9	2	1	0	0	48
E	0	0	1	2	7	7	7	2	6	3	0	35
ESE	0	0	1	0	3	3	7	3	6	2	0	25
SE	0	0	0	1	1	5	7	8	7	4	0	33
SSE	0	0	1	1	8	5	10	5	5	1	2	38
S	0	0	2	1	6	10	5	5	9	3	1	42
SSW	0	0	0	3	3	1	7	8	12	5	2	41
SW	0	0	0	1	2	2	7	3	7	3	0	25
WSW	0	0	2	2	5	8	12	6	1	0	0	36
W	0	0	3	1	6	12	11	21	13	1	0	68
WNW	0	0	0	0	4	11	9	7	16	2	0	49
NW	0	0	0	1	1	4	7	10	3	0	0	26
NNW	0	0	0	3	4	2	1	3	0	0	0	13
Tot	0	4	10	25	89	122	129	108	126	31	6	650

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 650  
Hours of Missing Data . . . . . 20  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class E Slightly 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	2	0	5	9	8	6	0	2	0	0	32
NNE	0	0	1	4	13	11	11	8	5	4	0	57
NE	0	1	4	10	19	19	8	4	0	0	0	65
ENE	0	1	2	13	31	13	5	3	1	0	0	69
E	0	1	4	7	29	13	13	12	5	0	0	84
ESE	0	2	4	6	12	14	22	11	5	0	0	76
SE	0	2	4	1	12	17	15	19	6	0	0	76
SSE	0	2	3	8	18	13	5	4	7	1	0	61
S	0	1	2	1	17	15	12	12	19	2	3	84
SSW	0	1	4	4	11	8	7	8	5	5	4	57
SW	0	0	2	5	5	8	11	6	4	1	0	42
WSW	0	0	3	4	7	0	3	6	0	0	0	23
W	0	1	5	8	17	14	14	5	1	0	0	65
WNW	0	0	3	6	6	12	6	2	0	0	0	35
NW	0	1	3	1	7	8	7	2	1	0	0	30
NNW	0	1	3	6	5	3	0	0	0	0	0	18
Tot	0	16	47	89	218	176	145	102	61	13	7	874

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 874  
Hours of Missing Data . . . . . 20  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	3	2	1	1	0	0	0	0	0	0	7
NNE	0	0	1	0	3	0	0	0	0	0	0	4
NE	0	4	0	2	0	0	0	0	0	0	0	6
ENE	0	2	0	0	1	0	0	0	0	0	0	3
E	0	1	2	0	0	1	0	0	0	0	0	4
ESE	0	0	1	2	3	0	0	0	0	0	0	6
SE	0	3	1	0	1	4	0	0	0	0	0	9
SSE	0	5	2	0	5	1	0	0	0	0	0	13
S	0	0	4	2	4	1	0	0	0	0	0	11
SSW	0	3	1	9	6	4	2	0	0	0	0	25
SW	0	0	2	6	9	0	0	1	0	0	0	18
WSW	0	1	2	3	6	3	0	0	0	0	0	15
W	0	1	4	4	2	0	0	0	0	0	0	11
WNW	0	3	1	3	1	0	0	0	0	0	0	8
NW	0	0	2	1	0	0	0	0	0	0	0	3
NNW	0	0	2	4	0	0	0	0	0	0	0	6
Tot	0	26	27	37	42	14	2	1	0	0	0	149

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 149  
Hours of Missing Data . . . . . 20  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	1	1	1	0	0	0	0	0	0	0	3
NNE	0	0	0	0	1	0	0	0	0	0	0	1
NE	0	0	1	0	0	0	0	0	0	0	0	1
ENE	0	1	0	0	0	0	0	0	0	0	0	1
E	0	2	0	0	0	0	0	0	0	0	0	2
ESE	0	2	5	0	2	0	0	0	0	0	0	9
SE	0	1	2	1	0	0	0	0	0	0	0	4
SSE	0	0	0	0	0	0	0	0	0	0	0	0
S	0	1	1	0	0	0	0	0	0	0	0	2
SSW	0	0	0	2	1	0	0	0	0	0	0	3
SW	0	0	2	0	2	0	0	0	0	0	0	4
WSW	0	1	0	1	1	0	0	0	0	0	0	3
W	0	0	1	2	0	0	0	0	0	0	0	3
WNW	0	1	1	0	0	0	0	0	0	0	0	2
NW	0	0	1	0	0	0	0	0	0	0	0	1
NNW	0	0	1	2	0	0	0	0	0	0	0	3
Tot	0	10	16	9	7	0	0	0	0	0	0	42

Hours of Calm . . . . . 1  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 43  
Hours of Missing Data . . . . . 20  
Hours in Period . . . . . 2184



DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	1	7	11	14	13	22	22	8	2	101
NNE	0	1	2	7	16	20	26	24	45	23	12	176
NE	0	0	0	5	32	32	48	33	29	8	0	187
ENE	0	1	4	7	29	33	41	19	13	4	1	152
E	0	1	4	6	23	27	34	27	29	9	6	166
ESE	0	0	2	2	12	13	9	26	41	19	5	129
SE	0	0	2	2	15	16	26	31	41	12	8	153
SSE	0	1	0	6	16	28	26	21	17	12	6	133
S	0	0	5	2	19	17	29	30	29	28	14	173
SSW	0	2	2	5	3	14	27	15	32	16	15	131
SW	0	0	0	4	6	11	15	20	22	8	11	97
WSW	0	2	2	4	11	13	21	26	36	11	1	127
W	0	2	6	9	15	25	34	29	66	24	4	214
WNW	0	1	1	2	9	11	15	23	32	10	5	109
NW	0	0	3	3	12	10	5	15	18	4	0	70
NNW	0	1	5	8	14	9	4	1	2	0	1	45
Tot	0	13	39	79	243	293	373	362	474	196	91	2163

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 1  
Hours of Valid Data . . . . . 2164  
Hours of Missing Data . . . . . 20  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class A Extremely Unstable 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	0	3	3	1	0	5	1	0	0	13
NNE	0	0	1	2	3	3	4	7	6	4	0	30
NE	0	0	0	1	4	5	10	10	11	3	0	44
ENE	0	0	1	1	1	6	3	2	0	0	0	14
E	0	0	0	1	2	7	8	5	0	0	0	23
ESE	0	0	0	0	3	1	3	6	1	1	0	15
SE	0	0	0	0	3	1	1	2	0	0	2	9
SSE	0	0	0	2	1	8	3	0	0	0	0	14
S	0	0	0	0	1	0	7	4	1	1	0	14
SSW	0	0	0	1	0	1	2	1	0	1	2	8
SW	0	0	0	2	1	0	1	0	0	0	0	4
WSW	0	0	0	0	2	0	1	2	4	5	0	14
W	0	0	1	2	2	1	4	2	16	6	0	34
WNW	0	0	0	0	3	1	1	5	5	5	1	21
NW	0	0	1	0	1	0	1	3	3	1	0	10
NNW	0	0	2	1	2	0	0	0	0	0	0	5
Tot	0	0	6	16	32	35	49	54	48	27	5	272

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 272  
Hours of Missing Data . . . . . 20  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class B Moderately Unstable 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	0	2	0	1	1	0	0	0	1	5
NNE	0	0	0	0	0	0	2	1	2	0	0	5
NE	0	0	0	0	1	1	0	1	0	0	0	3
ENE	0	0	0	0	2	0	1	0	0	0	0	3
E	0	0	0	1	2	1	1	1	0	0	0	6
ESE	0	0	0	0	1	0	0	1	0	1	0	3
SE	0	0	0	0	1	0	1	1	3	0	2	8
SSE	0	0	0	0	0	1	0	0	0	1	0	2
S	0	0	0	0	1	1	1	2	0	0	1	6
SSW	0	0	0	0	0	2	0	0	0	0	0	2
SW	0	0	0	0	1	0	0	3	0	0	1	5
WSW	0	0	0	0	1	2	1	2	5	2	0	13
W	0	0	0	1	0	0	1	0	5	0	0	7
WNW	0	0	0	0	1	0	1	1	3	0	0	6
NW	0	0	0	1	0	0	0	1	1	0	0	3
NNW	0	0	0	1	0	2	1	0	0	0	0	4
Tot	0	0	0	6	11	11	11	14	19	4	5	81

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 81  
Hours of Missing Data . . . . . 20  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class C Slightly Unstable 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	0	1	0	0	2	2	0	0	0	5
NNE	0	0	1	1	0	3	1	1	1	0	0	8
NE	0	0	0	0	0	0	0	1	2	0	0	3
ENE	0	0	1	0	2	1	2	2	1	0	0	9
E	0	0	0	0	0	0	2	2	0	0	0	4
ESE	0	0	0	0	0	0	0	1	1	2	0	4
SE	0	0	0	0	1	1	2	2	4	0	0	10
SSE	0	0	0	0	1	1	0	2	0	2	0	6
S	0	0	3	0	1	1	3	1	1	1	0	11
SSW	0	0	0	0	0	0	1	0	3	1	2	7
SW	0	0	0	0	0	0	0	0	2	0	1	3
WSW	0	1	0	1	1	0	0	2	3	1	0	9
W	0	0	0	0	0	1	2	0	2	3	0	8
WNW	0	1	0	0	1	0	0	0	1	0	0	3
NW	0	0	0	1	3	0	0	0	0	0	0	4
NNW	0	0	0	0	1	0	0	0	0	0	0	1
Tot	0	2	5	4	11	8	15	16	21	10	3	95

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 95  
Hours of Missing Data . . . . . 20  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class D Neutral 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	2	1	2	4	9	8	0	27
NNE	0	1	0	1	6	3	8	5	25	17	8	74
NE	0	0	0	2	7	13	20	14	10	5	0	71
ENE	0	0	0	0	2	11	18	7	5	2	1	46
E	0	0	3	0	4	4	5	5	7	3	4	35
ESE	0	0	0	0	0	5	0	3	9	9	4	30
SE	0	0	1	0	3	1	5	8	8	6	3	35
SSE	0	1	0	0	5	4	5	9	8	3	2	37
S	0	0	2	0	5	3	7	7	9	8	5	46
SSW	0	0	0	2	2	1	1	3	12	7	5	33
SW	0	0	0	0	0	2	3	4	6	3	6	24
WSW	0	0	1	2	3	3	6	13	13	3	1	45
W	0	0	1	2	1	5	11	11	29	14	4	78
WNW	0	0	0	0	1	1	7	6	13	4	4	36
NW	0	0	0	1	0	1	2	2	10	2	0	18
NNW	0	0	0	2	7	1	2	1	2	0	0	15
Tot	0	2	9	12	48	59	102	102	175	94	47	650

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 650  
Hours of Missing Data . . . . . 20  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class E Slightly 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	0	0	4	8	8	11	12	0	1	44
NNE	0	0	0	3	3	8	9	10	11	2	4	50
NE	0	0	0	1	18	13	17	7	6	0	0	62
ENE	0	1	1	5	20	15	17	8	7	2	0	76
E	0	1	0	4	13	15	17	14	21	6	2	93
ESE	0	0	1	2	4	7	5	14	30	6	1	70
SE	0	0	0	0	2	9	12	15	26	6	1	71
SSE	0	0	0	1	9	11	16	7	9	6	4	63
S	0	0	0	2	5	9	8	15	18	18	8	83
SSW	0	1	0	2	1	8	14	5	13	7	6	57
SW	0	0	0	1	2	6	2	9	13	4	3	40
WSW	0	0	0	1	2	4	6	2	10	0	0	25
W	0	0	2	2	6	13	11	15	14	1	0	64
WNW	0	0	0	2	1	7	4	11	10	1	0	36
NW	0	0	2	0	5	7	2	9	4	1	0	30
NNW	0	0	2	0	2	3	1	0	0	0	1	9
Tot	0	3	8	26	97	143	149	152	204	60	31	873

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 1  
Hours of Valid Data . . . . . 874  
Hours of Missing Data . . . . . 20  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	0	1	2	3	0	0	0	0	0	6
NNE	0	0	0	0	3	2	2	0	0	0	0	7
NE	0	0	0	0	2	0	0	0	0	0	0	2
ENE	0	0	1	0	2	0	0	0	0	0	0	3
E	0	0	1	0	1	0	1	0	1	0	0	4
ESE	0	0	1	0	1	0	1	1	0	0	0	4
SE	0	0	0	1	4	1	3	2	0	0	0	11
SSE	0	0	0	3	0	2	1	3	0	0	0	9
S	0	0	0	0	6	3	3	1	0	0	0	13
SSW	0	1	1	0	0	2	9	5	4	0	0	22
SW	0	0	0	1	2	2	8	3	0	1	0	17
WSW	0	1	1	0	1	4	7	4	1	0	0	19
W	0	0	2	2	6	4	3	1	0	0	0	18
WNW	0	0	1	0	2	2	2	0	0	0	0	7
NW	0	0	0	0	2	0	0	0	0	0	0	2
NNW	0	1	1	2	1	0	0	0	0	0	0	5
Tot	0	3	9	10	35	25	40	20	6	1	0	149

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 149  
Hours of Missing Data . . . . . 20  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class G Extremely 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	1	0	0	0	0	0	0	0	0	0	1
NNE	0	0	0	0	1	1	0	0	0	0	0	2
NE	0	0	0	1	0	0	1	0	0	0	0	2
ENE	0	0	0	1	0	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	3	0	0	0	0	0	0	3
SE	0	0	1	1	1	3	2	1	0	0	0	9
SSE	0	0	0	0	0	1	1	0	0	0	0	2
S	0	0	0	0	0	0	0	0	0	0	0	0
SSW	0	0	1	0	0	0	0	1	0	0	0	2
SW	0	0	0	0	0	1	1	1	1	0	0	4
WSW	0	0	0	0	1	0	0	1	0	0	0	2
W	0	2	0	0	0	1	2	0	0	0	0	5
WNW	0	0	0	0	0	0	0	0	0	0	0	0
NW	0	0	0	0	1	2	0	0	0	0	0	3
NNW	0	0	0	2	1	3	0	0	0	0	0	6
Tot	0	3	2	5	9	12	7	4	1	0	0	43

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 43  
Hours of Missing Data . . . . . 20  
Hours in Period . . . . . 2184



DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

All Stabilities

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	7	7	8	7	11	11	5	1	57
NNE	0	2	3	4	12	9	16	26	45	47	23	187
NE	0	0	2	3	7	30	33	44	42	18	11	190
ENE	0	0	2	7	25	36	40	32	20	6	2	170
E	0	0	3	6	16	20	22	20	29	17	19	152
ESE	0	1	1	2	10	10	13	12	36	26	16	127
SE	0	0	0	1	11	9	13	17	53	20	16	140
SSE	0	0	4	2	9	13	18	30	34	12	9	131
S	0	1	2	1	10	19	18	25	44	25	31	176
SSW	0	0	1	2	8	7	16	19	38	36	35	162
SW	0	0	1	2	6	4	8	13	45	13	20	112
WSW	0	0	0	4	8	4	15	14	34	21	3	103
W	0	0	2	4	8	11	11	18	65	43	8	170
WNW	0	0	0	2	10	9	20	24	52	28	12	157
NW	0	2	1	2	7	6	13	11	31	17	3	93
NNW	0	1	0	7	12	10	6	7	12	1	1	57
Tot	0	7	22	56	166	205	269	323	591	335	210	2184

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

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	0	0	0	0	0	0	0	0
NNE	0	0	0	3	3	0	1	5	5	0	0	17
NE	0	0	0	0	3	1	6	8	9	5	3	35
ENE	0	0	0	0	1	5	5	1	0	0	0	12
E	0	0	0	0	1	2	6	6	1	0	0	16
ESE	0	0	0	1	3	2	4	1	0	0	0	11
SE	0	0	0	0	1	0	1	2	2	0	2	8
SSE	0	0	0	0	2	3	3	0	2	0	1	11
S	0	0	0	0	2	2	2	1	1	0	2	10
SSW	0	0	0	0	0	0	3	3	0	0	2	8
SW	0	0	0	2	0	0	1	0	0	0	0	3
WSW	0	0	0	1	3	0	0	0	1	2	0	7
W	0	0	0	1	0	0	0	3	6	4	0	14
WNW	0	0	0	1	2	1	0	0	5	3	1	13
NW	0	0	1	0	0	0	0	2	5	3	1	12
NNW	0	0	0	1	0	0	0	0	0	0	0	1
Tot	0	0	1	10	21	16	32	32	37	17	12	178

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 178  
Hours of Missing Data . . . . . 0  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	5	1	1	0	0	0	0	0	7
NNE	0	0	0	1	0	1	0	2	3	0	0	7
NE	0	0	0	2	0	1	2	3	3	0	0	14
ENE	0	0	2	0	1	2	1	1	0	0	0	7
E	0	0	0	0	1	1	1	0	3	0	0	6
ESE	0	0	0	0	1	0	0	2	0	1	1	5
SE	0	0	0	0	1	1	1	1	1	0	1	6
SSE	0	0	0	1	1	1	1	3	3	1	0	11
S	0	0	0	0	0	1	0	2	0	1	0	4
SSW	0	0	0	0	0	1	3	2	0	2	3	11
SW	0	0	0	0	1	0	0	2	0	0	0	3
WSW	0	0	0	0	0	0	1	3	3	2	0	9
W	0	0	0	1	1	0	1	1	5	2	1	12
WNW	0	0	0	0	1	2	1	2	4	2	0	12
NW	0	0	0	0	2	0	0	1	1	0	0	4
NNW	0	0	0	0	1	0	0	1	0	0	0	2
Tot	0	0	2	10	12	12	12	26	26	14	6	120

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 120  
Hours of Missing Data . . . . . 0  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class C Slightly 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	1	1	0	0	0	0	2
NNE	0	0	1	0	0	0	1	1	1	0	1	5
NE	0	0	0	0	1	0	2	2	5	2	0	12
ENE	0	0	0	0	3	1	1	1	0	0	0	6
E	0	0	1	1	1	2	3	1	2	0	0	11
ESE	0	0	0	0	0	0	0	1	0	0	2	3
SE	0	0	0	0	1	1	1	1	4	1	1	10
SSE	0	0	0	1	0	3	0	1	4	1	0	10
S	0	0	0	0	2	0	2	2	3	0	2	11
SSW	0	0	0	1	1	0	2	1	5	3	4	17
SW	0	0	0	0	0	1	0	0	2	0	2	5
WSW	0	0	0	0	0	0	2	1	3	3	0	9
W	0	0	1	0	0	2	1	1	6	5	1	17
WNW	0	0	0	0	1	0	2	1	7	0	0	11
NW	0	0	0	1	1	0	0	0	1	0	0	3
NNW	0	0	0	1	2	2	1	0	2	0	0	8
Tot	0	0	3	5	13	13	19	14	45	15	13	140

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 140  
Hours of Missing Data . . . . . 0  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	4	2	2	2	5	4	0	20
NNE	0	0	2	0	7	6	9	10	17	39	22	112
NE	0	0	1	0	3	22	17	24	21	8	8	104
ENE	0	0	0	4	11	20	27	28	16	6	2	114
E	0	0	1	2	3	5	7	11	8	14	18	69
ESE	0	1	1	0	2	2	4	4	17	9	11	51
SE	0	0	0	1	2	2	3	5	19	11	12	55
SSE	0	0	3	0	4	1	4	10	14	4	6	46
S	0	1	2	0	2	7	6	9	13	9	14	63
SSW	0	0	0	1	4	3	2	2	10	14	17	53
SW	0	0	0	0	0	1	3	2	19	11	14	50
WSW	0	0	0	2	3	2	4	5	16	10	2	44
W	0	0	0	2	3	5	2	4	26	25	6	73
WNW	0	0	0	0	2	1	8	13	15	19	11	69
NW	0	2	0	0	1	2	5	2	17	12	2	43
NNW	0	0	0	3	4	2	4	3	7	1	0	24
Tot	0	4	10	16	55	83	107	134	240	196	145	990

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 990  
Hours of Missing Data . . . . . 0  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class E Slightly 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	0	0	1	2	2	1	5	5	1	1	18
NNE	0	1	0	0	1	2	3	6	19	8	0	40
NE	0	0	0	0	0	4	6	5	3	0	0	18
ENE	0	0	0	2	8	7	6	1	4	0	0	28
E	0	0	1	2	8	9	5	1	15	3	1	45
ESE	0	0	0	1	4	5	5	4	19	16	2	56
SE	0	0	0	0	5	3	4	8	25	8	0	53
SSE	0	0	0	0	1	3	7	10	10	6	2	39
S	0	0	0	0	1	4	4	8	23	15	13	68
SSW	0	0	0	0	1	3	3	11	19	13	9	59
SW	0	0	0	0	5	1	4	7	14	2	4	37
WSW	0	0	0	1	1	0	7	5	3	3	1	21
W	0	0	1	0	3	1	3	7	19	6	0	40
WNW	0	0	0	1	4	4	6	7	20	4	0	46
NW	0	0	0	0	2	3	7	3	6	2	0	23
NNW	0	0	0	0	3	3	1	3	2	0	1	13
Tot	0	1	2	8	49	54	72	91	206	87	34	604

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 604  
Hours of Missing Data . . . . . 0  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	0	0	0	0	2	2	4	0	0	0	8
NNE	0	1	0	0	1	0	1	1	0	0	0	4
NE	0	0	1	1	0	2	0	2	1	0	0	7
ENE	0	0	0	1	1	1	0	0	0	0	0	3
E	0	0	0	1	1	0	0	1	0	0	0	3
ESE	0	0	0	0	0	1	0	0	0	0	0	1
SE	0	0	0	0	1	2	3	0	2	0	0	8
SSE	0	0	1	0	0	2	3	6	0	0	0	12
S	0	0	0	1	2	4	4	3	4	0	0	18
SSW	0	0	1	0	2	0	3	0	4	4	0	14
SW	0	0	1	0	0	1	0	2	10	0	0	14
WSW	0	0	0	0	1	2	1	0	8	1	0	13
W	0	0	0	0	1	2	3	2	3	1	0	12
WNW	0	0	0	0	0	1	3	1	0	0	0	5
NW	0	0	0	0	1	1	1	2	1	0	0	6
NNW	0	1	0	2	1	0	0	0	0	0	0	4
Tot	0	2	4	6	12	21	24	24	33	6	0	132

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 132  
Hours of Missing Data . . . . . 0  
Hours in Period . . . . . 2184

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class G Extremely 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	0	0	0	0	0	1	0	1	0	0	2
NNE	0	0	0	0	0	0	1	1	0	0	0	2
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	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	0	0	0	0	0	0	0	0
SSE	0	0	0	0	1	0	0	0	1	0	0	2
S	0	0	0	0	1	1	0	0	0	0	0	2
SSW	0	0	0	0	0	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0	0	0	0	0	0
W	0	0	0	0	0	1	1	0	0	0	0	2
WNW	0	0	0	0	0	0	0	0	1	0	0	1
NW	0	0	0	1	0	0	0	1	0	0	0	2
NNW	0	0	0	0	1	3	0	0	1	0	0	5
Tot	0	0	0	1	4	6	3	2	4	0	0	20

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 20  
Hours of Missing Data . . . . . 0  
Hours in Period . . . . . 2184



DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

All Stabilities

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	8	23	22	21	33	14	8	7	0	0	136
NNE	0	4	6	15	34	35	14	9	17	1	0	135
NE	0	6	18	21	43	14	14	5	0	0	0	121
ENE	0	3	11	18	38	10	3	0	0	0	0	83
E	0	5	12	19	53	16	4	1	0	0	0	110
ESE	0	10	10	10	28	26	11	0	1	0	0	96
SE	1	9	6	17	17	9	14	9	1	0	0	83
SSE	0	19	21	23	59	17	5	4	8	1	0	157
S	1	14	17	23	41	32	15	10	8	0	0	161
SSW	0	13	30	26	44	32	10	4	7	0	0	166
SW	0	17	26	27	69	20	11	5	0	0	0	175
WSW	0	13	18	10	34	29	20	12	1	0	0	137
W	1	17	19	14	41	18	4	3	1	0	0	118
WNW	0	16	24	13	37	13	7	3	5	3	0	121
NW	0	11	38	31	39	21	10	5	3	3	0	161
NNW	0	10	18	26	67	68	30	9	13	0	0	241
Tot	3	175	297	315	665	393	186	87	72	8	0	2201

Hours of Calm . . . . . 4  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 2205  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class A Extremely 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	1	1	3	6	6	3	2	3	0	0	25
NNE	0	0	0	4	9	11	3	2	9	0	0	38
NE	0	0	2	4	9	3	6	2	0	0	0	26
ENE	0	0	2	5	3	3	2	0	0	0	0	15
E	0	0	2	4	5	3	0	0	0	0	0	14
ESE	0	0	1	3	5	5	2	0	0	0	0	16
SE	0	0	1	5	5	4	4	1	0	0	0	20
SSE	0	0	1	5	14	2	2	1	1	0	0	26
S	0	0	2	2	4	11	3	2	3	0	0	27
SSW	0	0	2	3	13	8	3	2	2	0	0	33
SW	0	0	0	5	21	11	3	5	0	0	0	45
WSW	0	0	1	2	15	19	12	9	1	0	0	59
W	0	1	0	7	8	11	2	2	1	0	0	32
WNW	0	0	2	5	8	3	0	2	3	0	0	23
NW	0	0	3	3	13	8	4	3	0	0	0	34
NNW	0	0	3	0	20	20	6	2	5	0	0	56
Tot	0	2	23	60	158	128	55	35	28	0	0	489

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 489  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	1	0	0	4	2	2	0	0	9
NNE	0	0	0	0	3	1	1	0	1	0	0	6
NE	0	0	0	2	1	1	1	0	0	0	0	5
ENE	0	0	1	0	1	1	0	0	0	0	0	3
E	0	0	0	0	2	0	0	0	0	0	0	2
ESE	0	0	1	0	0	0	0	0	0	0	0	1
SE	0	0	0	1	0	2	0	0	0	0	0	3
SSE	0	0	1	0	1	1	0	0	0	0	0	3
S	0	0	0	0	1	3	2	0	0	0	0	6
SSW	0	0	1	1	0	2	0	0	0	0	0	4
SW	0	0	1	1	1	1	1	0	0	0	0	5
WSW	0	0	0	0	0	2	4	0	0	0	0	6
W	0	0	1	0	3	0	0	0	0	0	0	4
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	1	2	4	1	2	0	0	0	10
Tot	0	0	6	7	15	18	14	4	3	0	0	67

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 67  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class C Slightly 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	2	1	0	1	0	0	5
NNE	0	0	0	0	0	0	1	2	3	0	0	6
NE	0	0	1	1	1	0	1	0	0	0	0	4
ENE	0	0	0	0	1	2	0	0	0	0	0	3
E	0	0	0	1	1	0	0	0	0	0	0	2
ESE	0	0	0	0	1	0	0	0	0	0	0	1
SE	0	0	0	1	0	1	0	0	0	0	0	2
SSE	0	0	1	0	3	2	0	0	0	0	0	6
S	0	0	0	0	1	3	0	3	1	0	0	8
SSW	0	0	0	0	2	2	1	0	0	0	0	5
SW	0	0	0	1	2	1	0	0	0	0	0	4
WSW	0	0	0	1	0	2	1	1	0	0	0	5
W	0	0	0	0	0	0	0	0	0	0	0	0
WNW	0	0	0	1	1	0	1	0	0	0	0	3
NW	0	0	1	0	0	1	0	0	0	0	0	2
NNW	0	0	0	1	1	1	3	2	2	0	0	10
Tot	0	0	3	7	15	17	9	8	7	0	0	66

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 66  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class D Neutral 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	0	3	5	2	2	3	1	0	0	17
NNE	0	1	2	2	4	7	2	4	4	1	0	27
NE	0	1	3	5	6	7	3	1	0	0	0	26
ENE	0	0	1	5	9	1	0	0	0	0	0	16
E	0	0	1	1	9	6	0	0	0	0	0	17
ESE	0	2	1	1	7	9	2	0	1	0	0	23
SE	0	0	1	1	1	1	3	3	1	0	0	11
SSE	0	0	2	2	4	5	2	1	1	0	0	17
S	0	1	1	2	6	1	2	3	3	0	0	19
SSW	0	0	2	0	2	6	4	2	5	0	0	21
SW	0	0	4	3	6	2	5	0	0	0	0	20
WSW	0	0	1	1	5	3	1	1	0	0	0	12
W	0	2	1	1	2	4	0	0	0	0	0	10
WNW	0	1	1	0	9	5	3	1	0	0	0	20
NW	0	2	2	5	4	2	2	0	0	0	0	17
NNW	0	0	2	1	13	16	7	2	3	0	0	44
Tot	0	11	25	33	92	77	38	21	19	1	0	317

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 317  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class E Slightly 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	9	8	7	20	4	1	0	0	0	49
NNE	0	2	1	8	17	16	7	1	0	0	0	52
NE	0	2	9	9	26	3	3	2	0	0	0	54
ENE	0	1	6	7	24	3	1	0	0	0	0	42
E	0	2	8	12	34	7	4	1	0	0	0	68
ESE	0	2	5	5	13	12	7	0	0	0	0	44
SE	0	3	3	4	4	1	7	5	0	0	0	27
SSE	0	3	4	8	23	6	1	2	6	1	0	54
S	1	6	8	8	22	10	8	2	1	0	0	66
SSW	0	4	4	11	17	10	2	0	0	0	0	48
SW	0	1	5	3	9	4	2	0	0	0	0	24
WSW	0	1	1	1	7	3	2	1	0	0	0	16
W	0	2	2	4	26	3	2	1	0	0	0	40
WNW	0	3	8	4	18	5	3	0	2	3	0	46
NW	0	3	13	8	18	10	4	2	3	3	0	64
NNW	0	4	7	13	21	21	11	1	3	0	0	81
Tot	1	39	93	113	286	134	68	19	15	7	0	775

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 775  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	5	12	7	2	3	0	0	0	0	0	29
NNE	0	1	3	0	1	0	0	0	0	0	0	5
NE	0	1	3	0	0	0	0	0	0	0	0	4
ENE	0	2	1	1	0	0	0	0	0	0	0	4
E	0	2	1	1	2	0	0	0	0	0	0	6
ESE	0	5	1	1	2	0	0	0	0	0	0	9
SE	1	3	1	5	7	0	0	0	0	0	0	17
SSE	0	11	10	7	14	1	0	0	0	0	0	43
S	0	6	4	11	7	4	0	0	0	0	0	32
SSW	0	5	13	9	9	4	0	0	0	0	0	40
SW	0	8	10	9	24	1	0	0	0	0	0	52
WSW	0	7	9	4	4	0	0	0	0	0	0	24
W	0	7	12	2	2	0	0	0	0	0	0	23
WNW	0	9	11	3	1	0	0	0	0	0	0	24
NW	0	5	12	9	4	0	0	0	0	0	0	30
NNW	0	4	6	8	9	6	2	0	0	0	0	35
Tot	1	81	109	77	88	19	2	0	0	0	0	377

Hours of Calm . . . . . 2  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 379  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	1	1	0	0	0	0	0	0	0	0	2
NNE	0	0	0	1	0	0	0	0	0	0	0	1
NE	0	2	0	0	0	0	0	0	0	0	0	2
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	1	1	0	0	0	0	0	0	0	0	2
SE	0	3	0	0	0	0	0	0	0	0	0	3
SSE	0	5	2	1	0	0	0	0	0	0	0	8
S	0	1	2	0	0	0	0	0	0	0	0	3
SSW	0	4	8	2	1	0	0	0	0	0	0	15
SW	0	8	6	5	6	0	0	0	0	0	0	25
WSW	0	5	6	1	3	0	0	0	0	0	0	15
W	1	5	3	0	0	0	0	0	0	0	0	9
WNW	0	3	2	0	0	0	0	0	0	0	0	5
NW	0	1	7	6	0	0	0	0	0	0	0	14
NNW	0	2	0	2	1	0	0	0	0	0	0	5
Tot	1	42	38	18	11	0	0	0	0	0	0	110

Hours of Calm . . . . . 2  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 112  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208



DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	0	2	15	34	23	15	36	14	7	0	146
NNE	0	4	6	11	28	34	26	20	21	8	1	159
NE	0	3	12	23	48	18	11	13	3	0	0	131
ENE	0	2	8	12	31	28	14	2	0	0	0	97
E	0	1	4	6	26	27	24	10	3	1	0	102
ESE	0	5	5	13	23	20	12	16	13	0	0	107
SE	0	0	5	9	25	22	20	11	10	1	0	103
SSE	0	3	8	11	30	33	26	10	8	10	2	141
S	0	0	4	11	22	43	39	20	19	3	0	161
SSW	0	2	5	12	28	40	38	15	13	3	0	156
SW	0	1	7	13	39	44	34	18	13	0	0	169
WSW	0	6	8	4	31	30	20	12	19	2	0	132
W	0	7	7	11	43	30	28	8	4	1	0	139
WNW	0	5	7	13	22	17	16	8	8	2	6	104
NW	0	4	9	15	21	32	27	18	7	3	6	142
NNW	0	4	5	8	28	53	45	36	28	7	1	215
Tot	0	47	102	187	479	494	395	253	183	48	16	2204

Hours of Calm . . . . . 1  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 2205  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class A Extremely Unstable 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	2	5	2	4	3	3	3	0	23
NNE	0	0	0	0	7	9	5	4	8	4	0	37
NE	0	0	1	7	7	4	3	6	0	0	0	28
ENE	0	0	1	2	3	3	4	0	0	0	0	13
E	0	0	0	4	7	0	1	0	0	0	0	12
ESE	0	0	0	3	5	4	3	2	0	0	0	17
SE	0	0	1	3	8	4	3	2	1	0	0	22
SSE	0	0	2	2	10	4	2	3	0	1	0	24
S	0	0	0	1	6	7	9	3	6	2	0	34
SSW	0	0	0	4	8	10	6	2	1	0	0	31
SW	0	0	0	2	16	14	10	4	8	0	0	54
WSW	0	0	0	2	9	9	7	7	13	1	0	48
W	0	1	0	1	11	9	7	0	1	1	0	31
WNW	0	1	1	3	7	2	2	0	2	2	0	20
NW	0	0	2	3	11	10	8	4	3	0	0	41
NNW	0	0	1	1	6	19	16	4	3	4	0	54
Tot	0	2	10	40	126	110	90	44	49	18	0	489

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 489  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class B Moderately Unstable 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	0	1	1	0	0	3	2	2	0	9
NNE	0	0	0	1	1	2	0	1	0	1	0	6
NE	0	0	1	1	2	1	0	0	1	0	0	6
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	1	0	0	0	0	2
SE	0	0	0	1	0	0	1	0	0	0	0	2
SSE	0	0	1	0	2	1	1	0	0	0	0	5
S	0	0	0	1	0	1	2	2	0	0	0	6
SSW	0	0	1	0	0	0	1	0	0	0	0	2
SW	0	0	0	0	1	1	1	1	1	0	0	5
WSW	0	0	1	0	0	0	2	3	0	0	0	6
W	0	0	1	0	1	2	0	0	0	0	0	4
WNW	0	0	0	0	0	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	1	0	0	0	0	1
NNW	0	0	0	1	1	2	2	1	3	0	0	10
Tot	0	0	5	7	10	12	12	11	7	3	0	67

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 67  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class C Slightly Unstable 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	0	0	0	2	0	1	2	1	0	6
NNE	0	0	0	0	0	0	0	1	2	1	0	4
NE	0	0	1	0	2	0	1	1	0	0	0	5
ENE	0	0	0	0	0	1	1	0	0	0	0	2
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	3	0	1	0	0	0	0	4
SSE	0	0	1	0	1	2	1	0	0	0	0	5
S	0	0	0	0	1	2	1	0	3	1	0	8
SSW	0	0	0	0	1	4	0	1	0	0	0	6
SW	0	0	0	1	1	0	1	0	0	0	0	3
WSW	0	0	0	0	1	2	0	0	2	0	0	5
W	0	0	0	0	0	0	0	1	0	0	0	1
WNW	0	0	0	1	1	0	0	0	0	0	0	2
NW	0	0	0	1	0	0	2	0	0	0	0	3
NNW	0	0	0	1	0	2	0	2	4	1	0	10
Tot	0	0	2	4	12	16	8	7	13	4	0	66

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 66  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class D Neutral 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	0	2	4	4	1	2	4	1	0	18
NNE	0	0	2	1	3	7	3	2	6	2	1	27
NE	0	1	2	4	6	7	4	2	1	0	0	27
ENE	0	0	0	2	8	4	2	0	0	0	0	16
E	0	1	1	0	5	3	6	2	0	1	0	19
ESE	0	1	1	1	4	2	3	7	1	0	0	20
SE	0	0	0	1	1	1	2	4	2	1	0	12
SSE	0	1	1	3	2	6	2	2	1	4	0	22
S	0	0	1	0	3	3	2	0	4	0	0	13
SSW	0	0	1	2	0	4	3	2	7	3	0	22
SW	0	0	3	4	2	3	1	2	3	0	0	18
WSW	0	1	0	0	3	5	1	1	1	1	0	13
W	0	0	1	2	3	0	3	3	1	0	0	13
WNW	0	2	1	1	3	6	2	3	1	0	0	19
NW	0	1	0	3	3	3	3	3	1	1	0	18
NNW	0	0	2	1	4	11	10	8	2	2	0	40
Tot	0	8	16	27	54	69	48	43	35	16	1	317

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 317  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class E Slightly 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	0	4	12	5	7	20	2	0	0	50
NNE	0	1	2	4	12	12	17	11	5	0	0	64
NE	0	0	4	7	28	6	3	4	1	0	0	53
ENE	0	0	3	6	19	17	7	2	0	0	0	54
E	0	0	0	2	9	21	17	7	3	0	0	59
ESE	0	1	3	4	10	13	5	7	12	0	0	55
SE	0	0	2	2	6	5	4	2	7	0	0	28
SSE	0	1	1	3	6	11	14	4	7	5	2	54
S	0	0	2	2	4	21	17	11	5	0	0	62
SSW	0	1	0	3	8	9	15	4	1	0	0	41
SW	0	0	1	3	4	6	7	2	1	0	0	24
WSW	0	0	1	0	1	7	4	1	3	0	0	17
W	0	1	2	1	6	14	17	4	2	0	0	47
WNW	0	1	3	3	2	6	10	5	5	0	6	41
NW	0	1	2	4	5	13	9	10	3	2	6	55
NNW	0	2	1	1	13	11	12	17	13	0	1	71
Tot	0	9	27	49	145	177	165	111	70	7	15	775

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 775  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	6	8	5	3	7	1	0	0	31
NNE	0	1	2	5	5	4	1	1	0	0	0	19
NE	0	1	3	4	2	0	0	0	0	0	0	10
ENE	0	1	4	2	1	1	0	0	0	0	0	9
E	0	0	3	0	1	2	0	1	0	0	0	7
ESE	0	2	1	2	4	1	0	0	0	0	0	10
SE	0	0	1	2	6	11	8	3	0	0	0	31
SSE	0	1	2	2	4	8	6	1	0	0	0	24
S	0	0	1	5	5	9	8	4	1	0	0	33
SSW	0	0	1	2	8	12	13	5	4	0	0	45
SW	0	0	1	3	7	14	13	7	0	0	0	45
WSW	0	4	3	0	9	4	2	0	0	0	0	22
W	0	5	1	7	16	4	1	0	0	0	0	34
WNW	0	0	1	3	8	3	2	0	0	0	0	17
NW	0	1	2	1	2	6	4	1	0	0	0	17
NNW	0	1	0	2	3	8	3	4	3	0	0	24
Tot	0	17	27	46	89	92	64	34	9	0	0	378

Hours of Calm . . . . . 1  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 379  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class G Extremely 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	0	0	4	5	0	0	0	0	0	9
NNE	0	2	0	0	0	0	0	0	0	0	0	2
NE	0	1	0	0	1	0	0	0	0	0	0	2
ENE	0	1	0	0	0	0	0	0	0	0	0	1
E	0	0	0	0	2	0	0	0	0	0	0	2
ESE	0	1	0	2	0	0	0	0	0	0	0	3
SE	0	0	1	0	1	1	1	0	0	0	0	4
SSE	0	0	0	1	5	1	0	0	0	0	0	7
S	0	0	0	2	3	0	0	0	0	0	0	5
SSW	0	1	2	1	3	1	0	1	0	0	0	9
SW	0	1	2	0	8	6	1	2	0	0	0	20
WSW	0	1	3	2	8	3	4	0	0	0	0	21
W	0	0	2	0	6	1	0	0	0	0	0	9
WNW	0	1	1	2	1	0	0	0	0	0	0	5
NW	0	1	3	3	0	0	0	0	0	0	0	7
NNW	0	1	1	1	1	0	2	0	0	0	0	6
Tot	0	11	15	14	43	18	8	3	0	0	0	112

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 112  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208



DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

All Stabilities

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	7	4	18	22	21	21	36	33	6	168
NNE	0	2	5	4	21	26	22	24	34	21	2	161
NE	0	3	8	11	21	25	28	16	18	7	1	138
ENE	0	2	6	13	34	36	15	7	2	0	0	115
E	0	1	2	9	25	25	22	16	13	1	0	114
ESE	0	5	5	8	11	18	13	18	17	14	1	110
SE	0	3	4	8	24	17	14	16	22	5	1	114
SSE	0	2	6	10	17	22	15	12	17	5	6	112
S	0	1	4	5	9	21	29	20	40	12	5	146
SSW	0	1	6	5	22	17	30	22	42	24	0	169
SW	0	2	8	8	21	24	26	29	45	2	0	165
WSW	0	0	4	9	34	21	36	20	32	6	0	162
W	0	2	5	11	23	20	27	13	17	2	0	120
WNW	0	3	4	6	19	21	14	23	18	9	5	122
NW	0	0	4	5	20	20	14	21	19	5	8	116
NNW	0	1	4	6	18	24	39	30	33	11	7	173
Tot	0	28	82	122	337	359	365	308	405	157	42	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  
2011 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 2011 - 2011

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	1	0	1	4	3	3	2	0	0	14
NNE	0	0	1	1	3	4	2	1	0	5	0	17
NE	0	0	1	2	7	7	4	4	2	1	0	28
ENE	0	0	0	0	2	1	2	1	0	0	0	6
E	0	0	1	0	1	1	2	0	0	0	0	5
ESE	0	0	1	3	2	3	0	2	0	0	0	11
SE	0	0	0	0	6	5	3	3	1	0	0	18
SSE	0	0	0	2	6	6	0	0	1	0	0	15
S	0	0	2	0	3	3	8	2	2	0	0	20
SSW	0	0	0	2	6	4	2	1	0	3	0	18
SW	0	0	0	0	6	11	6	1	3	1	0	28
WSW	0	0	1	3	5	10	9	3	8	2	0	41
W	0	0	0	2	5	4	2	0	2	1	0	16
WNW	0	0	0	2	5	6	1	2	1	2	1	20
NW	0	0	1	1	3	4	2	2	2	0	0	15
NNW	0	0	2	1	4	8	9	4	0	1	0	29
Tot	0	0	11	19	65	81	55	29	24	16	1	301

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 301  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	2	1	2	0	0	2	1	8
NNE	0	0	0	0	2	2	2	2	1	4	1	14
NE	0	0	0	0	1	1	0	2	1	1	0	6
ENE	0	0	2	3	3	2	0	1	0	0	0	11
E	0	0	0	1	3	0	0	0	0	0	0	4
ESE	0	0	0	2	3	0	1	2	0	0	0	8
SE	0	0	0	0	1	1	1	0	0	0	0	3
SSE	0	1	0	2	2	0	0	0	1	1	0	7
S	0	0	0	0	1	0	2	1	1	2	0	7
SSW	0	0	0	0	1	3	1	2	2	0	0	9
SW	0	0	0	0	0	4	2	2	3	0	0	11
WSW	0	0	0	1	6	2	2	1	4	0	0	16
W	0	0	1	0	3	1	2	1	2	0	0	10
WNW	0	0	0	1	2	0	1	0	0	1	0	5
NW	0	0	0	0	2	1	3	1	1	1	0	9
NNW	0	0	0	1	2	4	5	3	1	2	1	19
Tot	0	1	3	11	34	22	24	18	17	14	3	147

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 147  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class C Slightly Unstable 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	0	1	0	0	2	1	3	6	4	0	17
NNE	0	0	0	0	0	4	1	1	2	3	0	11
NE	0	0	2	1	2	1	1	1	1	1	0	10
ENE	0	0	0	0	1	1	1	0	0	0	0	3
E	0	0	0	0	3	3	1	0	0	0	0	7
ESE	0	0	0	1	0	0	1	0	0	0	0	2
SE	0	0	0	1	1	1	1	1	0	0	1	6
SSE	0	0	1	1	2	2	2	2	0	0	0	10
S	0	0	1	1	2	0	4	1	1	3	0	13
SSW	0	0	1	0	1	1	2	1	0	1	0	7
SW	0	0	0	1	3	0	3	2	0	0	0	9
WSW	0	0	0	0	1	2	2	2	6	1	0	14
W	0	0	0	1	0	1	3	0	0	0	0	5
WNW	0	0	2	1	2	2	1	0	0	0	0	8
NW	0	0	0	0	2	0	2	2	0	0	0	6
NNW	0	0	1	1	3	4	2	2	1	0	0	14
Tot	0	0	9	9	23	24	28	18	17	13	1	142

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 142  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	2	2	4	6	6	4	4	2	1	31
NNE	0	1	0	1	5	4	7	5	13	3	1	40
NE	0	3	2	5	5	7	12	4	10	2	1	51
ENE	0	1	2	4	14	18	5	3	0	0	0	47
E	0	0	1	0	7	7	7	5	4	0	0	31
ESE	0	2	0	0	1	2	5	6	6	0	1	23
SE	0	1	1	3	4	1	1	3	8	3	0	25
SSE	0	0	2	2	2	2	4	3	4	3	6	28
S	0	0	0	1	1	5	2	1	10	4	4	28
SSW	0	0	2	2	1	4	3	5	4	10	0	31
SW	0	0	2	3	3	1	6	2	5	0	0	22
WSW	0	0	2	0	3	2	7	1	2	3	0	20
W	0	1	0	3	4	1	5	2	4	0	0	20
WNW	0	2	1	1	3	8	2	6	7	1	2	33
NW	0	0	0	1	7	4	3	5	4	0	7	31
NNW	0	1	1	0	3	6	15	14	13	3	6	62
Tot	0	12	18	28	67	78	90	69	98	34	29	523

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 523  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class E Slightly 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	0	1	2	7	6	6	5	17	8	0	52
NNE	0	1	3	1	8	7	3	7	15	0	0	45
NE	0	0	3	0	6	8	6	5	4	2	0	34
ENE	0	1	2	5	13	14	7	2	2	0	0	46
E	0	0	0	7	7	11	11	10	9	1	0	56
ESE	0	2	2	1	4	10	4	5	10	12	0	50
SE	0	1	1	4	9	8	5	5	11	2	0	46
SSE	0	1	2	2	3	8	5	3	5	1	0	30
S	0	0	0	1	0	6	5	10	11	2	1	36
SSW	0	1	1	1	7	3	14	11	25	2	0	65
SW	0	1	3	1	4	2	6	10	13	0	0	40
WSW	0	0	0	2	4	0	9	4	4	0	0	23
W	0	0	1	2	4	8	6	8	5	1	0	35
WNW	0	1	1	0	4	3	6	12	10	5	2	44
NW	0	0	2	2	4	6	1	11	10	2	1	39
NNW	0	0	0	2	1	1	5	5	15	5	0	34
Tot	0	9	22	33	85	101	99	113	166	43	4	675

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 675  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	0	2	0	3	2	3	5	7	17	3	42
NNE	0	0	1	1	3	5	4	7	3	6	0	30
NE	0	0	0	3	0	1	5	0	0	0	0	9
ENE	0	0	0	1	1	0	0	0	0	0	0	2
E	0	1	0	1	4	3	1	1	0	0	0	11
ESE	0	1	2	1	1	3	2	3	1	2	0	16
SE	0	1	2	0	3	1	3	4	2	0	0	16
SSE	0	0	1	1	2	4	3	3	6	0	0	20
S	0	1	1	2	2	7	7	5	15	1	0	41
SSW	0	0	2	0	5	0	8	2	11	6	0	34
SW	0	1	3	3	5	4	3	12	21	1	0	53
WSW	0	0	1	3	15	5	4	4	7	0	0	39
W	0	1	3	3	7	3	6	2	3	0	0	28
WNW	0	0	0	0	2	2	2	3	0	0	0	9
NW	0	0	1	0	2	5	3	0	2	2	0	15
NNW	0	0	0	1	4	1	3	2	3	0	0	14
Tot	0	6	19	20	59	46	57	53	81	35	3	379

Hours of Calm . . . . . 0  
 Hours of Variable Direction . . . . . 0  
 Hours of Valid Data . . . . . 379  
 Hours of Missing Data . . . . . 3  
 Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class G Extremely 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	0	0	0	1	1	0	1	0	0	1	4
NNE	0	0	0	0	0	0	3	1	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	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	1	1	0	0	0	2
S	0	0	0	0	0	0	1	0	0	0	0	1
SSW	0	0	0	0	1	2	0	0	0	2	0	5
SW	0	0	0	0	0	2	0	0	0	0	0	2
WSW	0	0	0	0	0	0	3	5	1	0	0	9
W	0	0	0	0	0	2	3	0	1	0	0	6
WNW	0	0	0	1	1	0	1	0	0	0	0	3
NW	0	0	0	1	0	0	0	0	0	0	0	1
NNW	0	0	0	0	1	0	0	0	0	0	0	1
Tot	0	0	0	2	4	7	12	8	2	2	1	38

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 38  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208



DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

All Stabilities

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	6	4	4	11	25	42	14	13	6	0	125
NNE	0	2	1	3	6	11	19	10	6	4	5	67
NE	0	1	8	6	15	24	5	5	7	2	0	73
ENE	0	5	2	8	27	10	0	0	0	0	0	52
E	0	4	6	6	18	17	0	0	0	0	0	51
ESE	1	2	9	8	16	10	4	0	0	0	0	50
SE	0	10	13	4	23	26	12	10	1	2	0	101
SSE	0	7	25	25	78	27	28	26	19	1	0	236
S	0	4	19	27	49	54	51	61	47	36	8	356
SSW	0	4	13	18	25	30	16	19	29	8	3	165
SW	0	7	9	14	36	16	26	6	8	2	4	128
WSW	0	7	12	14	35	20	14	9	4	0	1	116
W	0	10	14	17	51	42	40	37	32	9	0	252
WNW	0	5	5	13	32	23	15	7	14	5	0	119
NW	0	10	15	15	28	38	22	18	16	1	0	163
NNW	0	2	4	6	27	42	27	18	17	7	0	150
Tot	1	86	159	188	477	415	321	240	213	83	21	2204

Hours of Calm . . . . . 1  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 2205  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class A Extremely 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	1	1	2	1	4	1	0	0	0	10
NNE	0	0	0	1	0	2	0	1	0	0	0	4
NE	0	0	2	0	1	2	0	0	0	0	0	5
ENE	0	0	0	0	3	2	0	0	0	0	0	5
E	0	0	1	0	0	1	0	0	0	0	0	2
ESE	0	0	1	0	0	0	0	0	0	0	0	1
SE	0	0	0	0	1	2	0	2	0	0	0	5
SSE	0	0	0	1	4	5	4	3	0	0	0	17
S	0	0	2	0	0	6	4	13	2	1	0	28
SSW	0	0	0	1	0	4	0	5	5	0	0	15
SW	0	0	0	0	2	0	6	1	1	0	0	10
WSW	0	0	0	1	11	3	6	5	2	0	0	28
W	0	1	0	2	9	4	2	4	8	2	0	32
WNW	0	0	0	0	3	6	2	2	7	0	0	20
NW	0	0	0	1	0	2	4	0	3	0	0	10
NNW	0	0	0	0	2	3	0	0	1	0	0	6
Tot	0	1	7	8	38	43	32	37	29	3	0	198

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 198  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	0	1	0	0	1	0	2
NNE	0	0	0	0	0	1	1	1	0	0	0	3
NE	0	0	0	0	2	0	0	0	0	0	0	2
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	1	0	0	2	1	1	0	0	0	5
S	0	0	0	0	0	1	1	2	0	0	0	4
SSW	0	0	0	0	1	0	1	2	5	0	0	9
SW	0	0	0	0	0	0	1	0	1	0	0	2
WSW	0	0	0	1	1	1	0	0	0	0	0	3
W	0	0	0	0	0	0	1	1	0	1	0	3
WNW	0	0	0	0	0	0	0	0	0	1	0	1
NW	0	0	0	0	0	0	0	0	0	0	0	0
NNW	0	0	0	0	0	1	1	0	0	0	0	2
Tot	0	0	1	1	4	6	8	7	6	3	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

METEOROLOGICAL DATA

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

Joint Frequency Distribution

Site:: Dresden Generating Station

Period:: Months Oct - Dec for years 2011 - 2011

Stability Class C Slightly 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	2	0	0	0	0	3
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	1	0	2	0	0	1	0	0	0	4
S	0	0	0	0	0	0	0	0	0	0	0	0
SSW	0	0	0	0	0	1	0	0	0	1	0	2
SW	0	0	1	0	0	0	1	0	0	0	0	2
WSW	0	0	0	0	1	1	0	0	0	0	0	2
W	0	0	0	0	2	0	0	0	4	0	0	6
WNW	0	0	0	0	0	0	1	0	1	0	0	2
NW	0	0	0	0	0	2	0	2	0	0	0	4
NNW	0	0	0	0	1	0	0	1	1	0	0	3
Tot	0	0	2	0	6	6	5	4	6	1	0	30

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 30  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class D Neutral 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	1	4	11	19	5	10	4	0	55
NNE	0	1	1	0	1	5	11	6	2	3	0	30
NE	0	1	2	1	2	16	4	4	5	2	0	37
ENE	0	1	1	0	7	6	0	0	0	0	0	15
E	0	0	0	0	6	12	0	0	0	0	0	18
ESE	0	0	0	1	1	0	0	0	0	0	0	2
SE	0	1	0	1	1	3	2	2	0	1	0	11
SSE	0	2	0	2	4	3	7	6	3	0	0	27
S	0	0	2	3	8	12	5	7	11	12	6	66
SSW	0	0	1	4	5	6	5	8	6	3	2	40
SW	0	0	0	1	4	1	4	3	2	0	4	19
WSW	0	0	0	1	6	2	3	1	0	0	1	14
W	0	0	1	1	8	2	8	17	13	6	0	56
WNW	0	0	1	4	9	7	6	3	5	4	0	39
NW	0	2	2	6	8	16	7	13	3	0	0	57
NNW	0	0	0	1	12	12	14	10	7	0	0	56
Tot	0	8	12	27	86	114	95	85	67	35	13	542

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 542  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class E Slightly 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	2	1	5	10	17	8	3	1	0	48
NNE	0	1	0	2	3	2	5	2	4	1	5	25
NE	0	0	2	5	10	6	1	1	2	0	0	27
ENE	0	3	1	8	17	2	0	0	0	0	0	31
E	0	0	0	1	11	4	0	0	0	0	0	16
ESE	0	0	1	0	5	6	4	0	0	0	0	16
SE	0	0	3	0	12	8	8	3	1	1	0	36
SSE	0	2	10	9	38	15	14	14	16	1	0	119
S	0	2	7	10	20	28	36	39	34	23	2	201
SSW	0	0	4	2	12	15	10	4	13	4	1	65
SW	0	2	2	6	6	9	13	2	4	2	0	46
WSW	0	4	4	3	11	10	4	3	1	0	0	40
W	0	3	4	10	27	36	29	15	7	0	0	131
WNW	0	1	3	7	15	9	6	2	1	0	0	44
NW	0	2	2	4	19	18	11	3	10	1	0	70
NNW	0	1	1	1	12	26	12	7	8	7	0	75
Tot	0	22	46	69	223	204	170	103	104	41	8	990
Hours of Calm . . . . .												0
Hours of Variable Direction . . . . .												0
Hours of Valid Data . . . . .												990
Hours of Missing Data . . . . .												3
Hours in Period . . . . .												2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	3	0	1	0	2	0	0	0	0	0	6
NNE	0	0	0	0	2	0	0	0	0	0	0	2
NE	0	0	2	0	0	0	0	0	0	0	0	2
ENE	0	1	0	0	0	0	0	0	0	0	0	1
E	0	0	2	5	1	0	0	0	0	0	0	8
ESE	0	0	3	5	8	4	0	0	0	0	0	20
SE	0	6	6	0	8	11	2	3	0	0	0	36
SSE	0	2	10	11	26	2	2	1	0	0	0	54
S	0	1	7	13	18	7	5	0	0	0	0	51
SSW	0	2	4	11	6	4	0	0	0	0	0	27
SW	0	3	4	5	14	5	1	0	0	0	0	32
WSW	0	0	6	6	5	2	1	0	1	0	0	21
W	0	2	4	4	5	0	0	0	0	0	0	15
WNW	0	0	0	2	5	1	0	0	0	0	0	8
NW	0	2	6	2	1	0	0	0	0	0	0	11
NNW	0	1	3	2	0	0	0	0	0	0	0	6
Tot	0	23	57	67	99	38	11	4	1	0	0	300

Hours of Calm . . . . . 1  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 301  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	2	0	0	0	0	0	0	0	0	0	2
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	4	3	0	0	0	0	0	0	0	0	7
ESE	1	2	4	2	2	0	0	0	0	0	0	11
SE	0	3	4	3	1	2	0	0	0	0	0	13
SSE	0	1	3	2	4	0	0	0	0	0	0	10
S	0	1	1	1	3	0	0	0	0	0	0	6
SSW	0	2	4	0	1	0	0	0	0	0	0	7
SW	0	2	2	2	10	1	0	0	0	0	0	17
WSW	0	3	2	2	0	1	0	0	0	0	0	8
W	0	4	5	0	0	0	0	0	0	0	0	9
WNW	0	4	1	0	0	0	0	0	0	0	0	5
NW	0	4	5	2	0	0	0	0	0	0	0	11
NNW	0	0	0	2	0	0	0	0	0	0	0	2
Tot	1	32	34	16	21	4	0	0	0	0	0	108

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 108  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208



DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	0	3	4	9	9	23	37	27	6	3	121
NNE	0	2	2	3	8	3	12	16	14	8	9	77
NE	0	1	2	6	6	7	14	14	4	5	8	67
ENE	0	1	6	3	18	26	10	1	2	0	0	67
E	0	3	1	0	4	14	19	2	0	0	0	43
ESE	0	0	3	1	4	9	6	5	4	0	0	32
SE	0	1	1	1	16	26	22	26	19	0	1	113
SSE	0	2	3	3	17	31	38	27	35	13	2	171
S	0	1	3	5	26	45	43	30	85	38	39	315
SSW	0	0	2	3	28	37	38	33	47	28	23	239
SW	0	2	2	8	14	19	23	25	32	10	8	143
WSW	0	0	1	4	18	27	16	19	20	4	1	110
W	0	0	5	9	32	44	26	32	59	23	12	242
WNW	0	0	3	11	21	28	17	28	27	17	8	160
NW	0	2	3	7	12	28	30	28	21	16	3	150
NNW	0	3	2	2	8	26	24	38	30	14	9	156
Tot	0	18	42	70	241	379	361	361	426	182	126	2206

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 2206  
Hours of Missing Data . . . . . 2  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class A Extremely Unstable 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	1	2	0	1	3	2	0	0	10
NNE	0	0	0	1	0	1	1	0	0	0	0	3
NE	0	0	0	1	0	0	0	0	0	0	0	1
ENE	0	0	1	0	1	3	2	0	0	0	0	7
E	0	0	0	0	0	2	0	0	0	0	0	2
ESE	0	0	0	0	0	1	0	0	0	0	0	1
SE	0	0	0	0	2	1	5	1	2	0	0	11
SSE	0	0	0	0	2	3	3	1	2	0	0	11
S	0	0	0	2	0	3	5	4	10	0	0	24
SSW	0	0	0	1	0	3	1	2	7	2	0	16
SW	0	2	1	0	0	2	1	4	3	2	0	15
WSW	0	0	0	1	7	7	4	3	6	0	0	28
W	0	0	0	0	7	4	2	1	3	3	5	25
WNW	0	0	0	0	1	4	5	4	4	8	0	26
NW	0	0	0	1	1	0	2	2	0	2	0	8
NNW	0	0	0	0	0	5	1	1	0	3	0	10
Tot	0	2	3	8	23	39	33	26	39	20	5	198

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 198  
Hours of Missing Data . . . . . 2  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class B Moderately Unstable 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	0	0	0	0	0	1	1	0	1	3
NNE	0	0	0	0	0	0	1	0	0	0	0	1
NE	0	0	0	0	0	1	0	1	0	0	0	2
ENE	0	0	0	0	0	1	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	0	0	0	0
SSE	0	0	1	0	0	0	2	1	1	0	0	5
S	0	0	0	0	0	1	0	1	1	0	0	3
SSW	0	0	0	0	0	1	0	1	3	4	0	9
SW	0	0	0	0	0	0	0	1	0	2	0	3
WSW	0	0	0	0	1	0	1	0	0	0	0	2
W	0	0	0	1	0	0	0	1	1	0	1	4
WNW	0	0	0	0	0	0	0	0	0	0	1	1
NW	0	0	0	0	0	0	0	0	0	0	0	0
NNW	0	0	0	0	0	1	1	0	0	0	0	2
Tot	0	0	1	1	1	5	5	7	7	6	3	36

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 36  
Hours of Missing Data . . . . . 2  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class C Slightly Unstable 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	0	0	0	0	1	0	0	0	0	1
NNE	0	0	0	0	0	0	1	2	0	0	0	3
NE	0	0	0	0	0	0	0	1	0	0	0	1
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	1	0	1	1	0	0	1	0	0	4
S	0	0	0	0	0	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0	0	0	1	0	1
SW	0	0	0	1	0	1	0	1	0	0	0	3
WSW	0	0	0	0	1	0	1	0	0	0	0	2
W	0	0	0	0	1	1	0	0	0	3	0	5
WNW	0	0	0	0	0	0	0	1	0	2	0	3
NW	0	0	0	0	0	0	2	0	2	0	0	4
NNW	0	0	0	0	1	0	0	0	1	1	0	3
Tot	0	0	1	1	4	3	5	5	4	7	0	30

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 30  
Hours of Missing Data . . . . . 2  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class D Neutral 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	0	1	4	5	10	20	10	5	2	57
NNE	0	0	1	1	2	1	6	10	10	5	1	37
NE	0	0	0	2	0	2	9	9	4	4	5	35
ENE	0	1	2	0	1	7	4	0	2	0	0	17
E	0	2	0	0	1	4	14	1	0	0	0	22
ESE	0	0	0	0	0	2	1	0	0	0	0	3
SE	0	0	1	1	1	1	1	3	2	0	0	10
SSE	0	2	0	0	2	2	2	6	9	1	2	26
S	0	0	2	0	6	12	3	3	9	9	10	54
SSW	0	0	0	0	7	6	5	3	12	3	11	47
SW	0	0	0	3	4	0	1	4	8	2	5	27
WSW	0	0	0	0	2	2	0	3	3	0	0	10
W	0	0	1	0	2	6	5	5	14	8	5	46
WNW	0	0	0	3	6	7	3	6	12	5	7	49
NW	0	1	1	3	6	8	9	6	16	5	0	55
NNW	0	1	1	0	5	6	8	9	15	2	1	48
Tot	0	7	9	14	49	71	81	88	126	49	49	543

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 543  
Hours of Missing Data . . . . . 2  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class E Slightly 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	2	2	4	10	12	14	1	0	46
NNE	0	0	1	1	4	1	2	3	4	3	8	27
NE	0	0	0	1	5	4	5	3	0	1	3	22
ENE	0	0	1	2	16	15	4	1	0	0	0	39
E	0	1	1	0	2	8	5	1	0	0	0	18
ESE	0	0	1	0	1	2	3	4	4	0	0	15
SE	0	1	0	0	1	6	6	11	5	0	1	31
SSE	0	0	0	1	3	9	16	12	16	12	0	69
S	0	1	0	2	12	23	25	18	60	29	29	199
SSW	0	0	2	2	10	13	16	19	23	18	12	115
SW	0	0	0	3	4	6	10	5	17	4	3	52
WSW	0	0	0	1	2	5	2	9	6	4	0	29
W	0	0	3	4	8	27	14	22	41	9	1	129
WNW	0	0	3	2	5	6	8	16	10	2	0	52
NW	0	1	0	2	1	16	12	18	3	9	3	65
NNW	0	1	0	0	1	8	14	28	14	8	8	82
Tot	0	5	13	23	77	153	152	182	217	100	68	990

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 990  
Hours of Missing Data . . . . . 2  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	0	0	1	0	1	1	0	0	0	3
NNE	0	0	0	0	2	0	1	1	0	0	0	4
NE	0	1	1	2	1	0	0	0	0	0	0	5
ENE	0	0	2	0	0	0	0	0	0	0	0	2
E	0	0	0	0	0	0	0	0	0	0	0	0
ESE	0	0	2	1	3	3	2	1	0	0	0	12
SE	0	0	0	0	7	12	7	10	8	0	0	44
SSE	0	0	0	1	3	11	13	7	6	0	0	41
S	0	0	0	1	5	6	8	4	5	0	0	29
SSW	0	0	0	0	9	14	15	7	2	0	0	47
SW	0	0	1	1	4	4	11	5	4	0	0	30
WSW	0	0	1	1	4	12	6	1	3	0	1	29
W	0	0	0	3	9	5	4	3	0	0	0	24
WNW	0	0	0	3	4	6	0	1	1	0	0	15
NW	0	0	0	1	2	2	3	2	0	0	0	10
NNW	0	1	0	1	1	3	0	0	0	0	0	6
Tot	0	2	7	15	55	78	71	43	29	0	1	301

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 301  
Hours of Missing Data . . . . . 2  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class G Extremely 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	0	0	0	0	0	0	1
NNE	0	2	0	0	0	0	0	0	0	0	0	2
NE	0	0	1	0	0	0	0	0	0	0	0	1
ENE	0	0	0	1	0	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	1	0	0	0	0	0	1
SE	0	0	0	0	5	6	3	1	2	0	0	17
SSE	0	0	1	1	6	5	2	0	0	0	0	15
S	0	0	1	0	3	0	2	0	0	0	0	6
SSW	0	0	0	0	2	0	1	1	0	0	0	4
SW	0	0	0	0	2	6	0	5	0	0	0	13
WSW	0	0	0	1	1	1	2	3	2	0	0	10
W	0	0	1	1	5	1	1	0	0	0	0	9
WNW	0	0	0	3	5	5	1	0	0	0	0	14
NW	0	0	2	0	2	2	2	0	0	0	0	8
NNW	0	0	1	1	0	3	0	0	0	0	0	5
Tot	0	2	8	8	32	30	14	10	4	0	0	108

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 108  
Hours of Missing Data . . . . . 2  
Hours in Period . . . . . 2208



DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

All Stabilities

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	2	1	2	7	11	10	20	50	16	12	131
NNE	0	2	1	2	2	4	11	12	26	8	18	86
NE	0	0	2	3	2	3	10	22	9	6	7	64
ENE	0	0	2	7	8	29	26	2	2	0	0	76
E	0	1	2	1	2	3	13	5	7	2	0	36
ESE	0	1	2	0	2	4	3	4	5	5	0	26
SE	0	0	1	1	3	1	5	13	24	9	2	59
SSE	0	1	4	1	10	12	21	25	67	18	11	170
S	0	3	3	3	7	21	26	36	82	74	97	352
SSW	0	0	1	1	10	15	19	33	77	28	38	222
SW	0	2	0	4	14	14	17	31	48	18	12	160
WSW	0	0	1	1	13	15	22	13	31	9	3	108
W	0	0	4	6	12	29	23	29	58	62	25	248
WNW	0	0	5	0	18	12	22	17	36	26	19	155
NW	0	2	3	3	14	19	16	36	36	22	6	157
NNW	0	3	2	3	9	12	12	27	52	22	13	155
Tot	0	17	34	38	133	204	256	325	610	325	263	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  
2011 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 2011 - 2011

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	0	1	0	1	1	0	0	3
NNE	0	0	0	1	0	0	2	0	1	0	0	4
NE	0	0	0	0	0	0	1	0	0	0	0	1
ENE	0	0	0	0	1	3	1	0	0	0	0	5
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	1	1	0	0	3	0	0	5
SSE	0	0	0	0	1	2	2	2	0	0	0	7
S	0	0	0	0	0	0	0	2	4	1	0	7
SSW	0	0	0	0	0	0	1	0	1	0	0	2
SW	0	0	0	0	0	2	0	2	1	0	0	5
WSW	0	0	0	0	1	1	2	0	1	1	0	6
W	0	0	0	1	1	2	2	0	0	1	3	10
WNW	0	0	1	0	0	2	2	2	2	1	4	14
NW	0	0	0	0	0	0	1	3	0	0	0	4
NNW	0	0	2	0	0	2	1	0	0	0	0	5
Tot	0	0	3	2	5	16	15	12	14	4	7	78

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 78  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	0	0	2	0	0	0	2
NNE	0	0	0	0	0	0	0	0	1	0	0	1
NE	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	0	0	1	0	1	1	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	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	2	2	2	3	0	0	9
S	0	0	0	0	0	2	1	3	8	1	1	16
SSW	0	0	0	0	0	2	1	2	2	4	3	14
SW	0	0	0	0	0	0	0	1	1	1	1	4
WSW	0	0	0	1	1	3	2	1	2	1	0	11
W	0	0	0	0	0	1	1	2	0	4	3	11
WNW	0	0	0	0	2	2	1	0	0	2	1	8
NW	0	0	0	1	0	0	0	1	0	2	0	4
NNW	0	0	0	1	0	1	1	0	0	2	0	5
Tot	0	0	0	4	3	14	10	15	17	17	9	89

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 89  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class C Slightly 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	0	0	0	1	0	0	1
NNE	0	0	0	0	0	0	1	0	1	0	0	2
NE	0	0	0	0	0	1	0	0	0	0	0	1
ENE	0	0	0	0	0	1	0	0	0	0	0	1
E	0	0	0	0	0	0	1	0	0	0	0	1
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	1	1	0	0	2	0	0	4
S	0	0	0	1	0	1	2	1	2	0	1	8
SSW	0	0	0	0	0	1	0	0	3	1	1	6
SW	0	1	0	1	0	0	0	1	2	0	0	5
WSW	0	0	0	0	3	0	1	2	1	1	0	8
W	0	0	0	1	1	3	0	0	2	1	1	9
WNW	0	0	0	0	2	0	2	0	1	4	2	11
NW	0	0	0	0	0	0	1	0	1	1	0	3
NNW	0	0	0	0	0	0	0	0	1	0	0	1
Tot	0	1	0	3	7	8	8	4	17	8	5	61

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 61  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	1	1	5	7	6	12	38	11	12	93
NNE	0	1	1	1	2	2	3	12	21	5	18	66
NE	0	0	0	2	0	1	5	19	8	6	7	48
ENE	0	0	0	2	6	15	21	2	1	0	0	47
E	0	0	1	0	1	2	11	5	2	0	0	22
ESE	0	1	0	0	0	1	0	2	0	0	0	4
SE	0	0	0	0	1	0	0	3	3	1	2	10
SSE	0	0	2	0	5	1	7	6	16	8	4	49
S	0	3	2	1	5	13	10	7	14	22	52	129
SSW	0	0	0	0	4	6	6	8	20	11	25	80
SW	0	0	0	1	7	5	1	5	13	8	7	47
WSW	0	0	1	0	3	3	5	2	7	2	0	23
W	0	0	1	3	3	8	6	7	15	21	8	72
WNW	0	0	0	0	7	3	6	4	15	12	12	59
NW	0	1	1	1	7	11	6	14	14	14	5	74
NNW	0	2	0	2	7	7	5	13	33	16	13	98
Tot	0	8	10	14	63	85	98	121	220	137	165	921

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 921  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class E Slightly 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	2	3	8	5	0	22
NNE	0	0	0	0	0	1	3	0	0	2	0	6
NE	0	0	2	1	2	1	3	2	1	0	0	12
ENE	0	0	1	3	0	8	3	0	1	0	0	16
E	0	0	1	0	0	1	1	0	5	2	0	10
ESE	0	0	1	0	1	1	0	1	5	4	0	13
SE	0	0	1	1	1	0	2	4	12	7	0	28
SSE	0	1	0	0	1	0	3	11	28	8	7	59
S	0	0	1	0	1	2	4	18	38	46	42	152
SSW	0	0	1	1	3	6	10	14	37	10	7	89
SW	0	0	0	1	7	2	11	7	15	9	4	56
WSW	0	0	0	0	2	5	8	1	7	4	3	30
W	0	0	1	1	6	13	13	13	37	34	10	128
WNW	0	0	0	0	4	4	8	9	17	6	0	48
NW	0	1	1	1	5	5	5	14	20	4	1	57
NNW	0	0	0	0	2	1	4	11	13	4	0	35
Tot	0	3	10	10	36	51	80	108	244	145	74	761

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 761  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

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	0	0	0	1	1	2	2	2	0	0	8
NNE	0	0	0	0	0	0	2	0	2	1	0	5
NE	0	0	0	0	0	0	1	1	0	0	0	2
ENE	0	0	1	1	1	1	0	0	0	0	0	4
E	0	1	0	1	1	0	0	0	0	0	0	3
ESE	0	0	1	0	1	1	3	1	0	1	0	8
SE	0	0	0	0	0	0	1	3	6	1	0	11
SSE	0	0	2	1	2	5	5	2	14	2	0	33
S	0	0	0	1	0	1	6	3	15	4	1	31
SSW	0	0	0	0	3	0	1	8	11	1	2	26
SW	0	1	0	1	0	2	3	10	14	0	0	31
WSW	0	0	0	0	3	3	4	3	13	0	0	26
W	0	0	0	0	0	1	1	6	4	1	0	13
WNW	0	0	1	0	1	1	3	2	1	1	0	10
NW	0	0	0	0	1	3	2	3	0	0	0	9
NNW	0	1	0	0	0	0	0	1	0	0	0	2
Tot	0	3	5	5	14	19	34	45	82	12	3	222

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 222  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208

DRESDEN NUCLEAR POWER STATION  
2011 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 2011 - 2011

Stability Class G Extremely 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	1	0	0	0	0	0	2
NNE	0	1	0	0	0	1	0	0	0	0	0	2
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	1	0	0	0	0	0	1
SE	0	0	0	0	0	0	2	2	0	0	0	4
SSE	0	0	0	0	0	1	2	2	4	0	0	9
S	0	0	0	0	1	2	3	2	1	0	0	9
SSW	0	0	0	0	0	0	0	1	3	1	0	5
SW	0	0	0	0	0	3	2	5	2	0	0	12
WSW	0	0	0	0	0	0	0	4	0	0	0	4
W	0	0	2	0	1	1	0	1	0	0	0	5
WNW	0	0	3	0	2	0	0	0	0	0	0	5
NW	0	0	1	0	1	0	1	1	1	1	0	6
NNW	0	0	0	0	0	1	1	2	5	0	0	9
Tot	0	2	6	0	5	11	11	20	16	2	0	73

Hours of Calm . . . . . 0  
Hours of Variable Direction . . . . . 0  
Hours of Valid Data . . . . . 73  
Hours of Missing Data . . . . . 3  
Hours in Period . . . . . 2208



DRESDEN NUCLEAR POWER STATION  
2010 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT  
January through December 2010

EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2010  
GASEOUS EFFLUENTS – SUMMATION OF ALL RELEASES

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

**CORRECTED PAGE of 2010 report**

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

1. Total release	Ci	1.44E+01	1.78E+01	1.11E+01	7.38E+00	1.31E+01
2. Average release rate for period	μCi/sec	1.86E+00	2.26E+00	1.39E+00	9.28E-01	
3. Percent of Technical specification limit	%	*	*	*	*	

**B. Iodines**

1. Total iodine-131	Ci	2.06E-04	2.54E-04	3.12E-04	2.00E-04	2.60E+01
2. Average release rate for period (I-131)	μCi/sec	2.65E-05	3.23E-05	3.93E-05	2.51E-05	
3. Percent of technical specification limit	%	*	*	*	*	

**C. Particulates**

1. Particulates with half-lives > 8 days	Ci	2.42E-04	2.57E-04	4.66E-04	4.70E-04	2.94E+01
2. Average release rate for period	μCi/sec	3.11E-05	3.27E-05	5.86E-05	5.92E-05	
3. Percent of technical specification limit	%	*	*	*	*	
4. Gross alpha radioactivity	Ci	<LLD	<LLD	<LLD	<LLD	

**D. Tritium**

1. Total release	Ci	2.79E+00	2.95E+00	3.36E+00	4.26E+00	7.56E+00
2. Average release rate for period	μCi/sec	3.59E-01	3.75E-01	4.23E-01	5.35E-01	
3. Percent of technical specification Limit	%	*	*	*	*	

**E. Carbon-14**

1. Total release	Ci	7.56E+00	7.56E+00	5.04E+00	7.56E+00	N/A
2. Average release rate for period	μCi/sec	9.72E-01	9.62E-01	6.34E-01	9.51E-01	

\* Applicable limits have been removed from the Technical Specifications. The comparison to ODCM limits is contained in the Radiological Impact on Man section of this report. Total airborne release data are provided which include fission and activation gases, iodines, particulates, and tritium.

DRESDEN NUCLEAR POWER STATION  
2010 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT  
January through December 2010

EFFLUENT AND WASTE DISPOSAL SUMMARY ANNUAL REPORT 2010

UNITS 2/3 MAIN CHIMNEY

GASEOUS EFFLUENTS

DOCKET NUMBERS: 50-237/50-249

GROUND LEVEL RELEASES  
SEMI-ELEVATED RELEASES  
ELEVATED RELEASES

**CORRECTED PAGE OF 2010 REPORT**

XX

CONTINUOUS MODE

Nuclides Released	Unit	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter	TOTAL
<b>1. Fission and Activation Gases</b>						
Ar-41	Ci	9.40E-01	5.84E-01	1.14E+00	1.40E+00	4.06E+00
Kr-85	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-85m	Ci	4.76E-01	2.59E-01	1.33E-01	1.90E-01	1.06E+00
Kr-87	Ci	2.65E-01	2.65E-01	2.50E-01	1.63E-01	9.44E-01
Kr-88	Ci	2.82E-01	1.90E-01	1.47E-01	1.35E-01	7.54E-01
Xe-133	Ci	1.18E+00	7.49E+00	4.74E-01	4.21E-01	9.56E+00
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-135	Ci	6.79E-01	8.37E-01	1.03E+00	5.77E-01	3.13E+00
Xe-135m	Ci	1.69E+00	1.61E+00	1.54E+00	8.56E-01	5.70E+00
Xe-138	Ci	8.93E+00	6.56E+00	6.34E+00	3.63E+00	2.55E+01
Total for period	Ci	1.44E+01	1.78E+01	1.11E+01	7.37E+00	5.07E+01
<b>2. Iodines</b>						
I-131	Ci	2.06E-04	2.54E-04	3.12E-04	1.96E-04	9.68E-04
I-133	Ci	8.58E-04	1.17E-03	1.62E-03	6.88E-04	4.34E-03
I-135	Ci	<LLD	2.17E-04	5.11E-04	2.34E-04	9.62E-04
Total for period	Ci	1.06E-03	1.64E-03	2.45E-03	1.12E-03	6.27E-03
<b>3. Particulates</b>						
Fe-55	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-89	Ci	5.02E-05	2.94E-06	4.26E-05	2.24E-06	9.80E-05
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cr-51	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Mn-54	Ci	2.34E-05	1.71E-05	4.65E-05	4.83E-05	1.35E-04
Co-58	Ci	<LLD	1.60E-05	<LLD	2.11E-06	1.81E-05
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Co-60	Ci	4.93E-05	6.75E-05	7.96E-05	1.19E-04	3.15E-04
Zn-65	Ci	<LLD	<LLD	1.34E-05	1.47E-05	2.81E-05
Mo-99	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110m	Ci	<LLD	<LLD	5.16E-06	<LLD	5.16E-06
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ba-140	Ci	9.44E-05	1.47E-04	2.36E-04	7.91E-05	5.56E-04
Ce-141	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-144	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	2.17E-04	2.50E-04	4.23E-04	2.65E-04	1.16E-03
4. Tritium Total for period	Ci	2.06E+00	2.23E+00	2.92E+00	3.50E+00	1.07E+01
5. Carbon-14 Total for period	Ci	7.56E+00	7.56E+00	5.04E+00	7.56E+00	2.77E+01