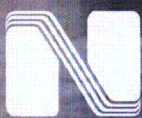


**April 2012**

**Cooper Nuclear Station**

**Radioactive Effluent  
Release Report  
Docket Number 50-298**

**January 1, 2011 through December 31, 2011**



**Nebraska Public Power District**

**NEBRASKA PUBLIC POWER DISTRICT**

**COOPER NUCLEAR STATION**

**RADIOACTIVE EFFLUENT RELEASE REPORT**

**January 1, 2011 through December 31, 2011**

USNRC Docket 50-298

## **CONTENTS**

Introduction

Appendix A: Source Terms

Appendix B: Meteorology

Appendix C: Dose Calculations

References

## **INTRODUCTION**

This report summarizes meteorological data and doses from radioactive effluents for the Cooper Nuclear Station for the period January through December, 2011. The data presented is consistent with guidance provided in Regulatory Guide 1.21 of the U.S. Nuclear Regulatory Commission (Revision 1, 1974) for reporting meteorological data and radioactive effluent data.

The report is organized into three parts. Appendix A presents the effluent and waste disposal source term data. Appendix B presents a summary of onsite meteorological data for the report period, including atmospheric diffusion estimates and a description of the atmospheric diffusion model. Appendix C presents the doses from liquid and gaseous radioactive effluents. Descriptions of the dose calculation models are also included.

**APPENDIX A**

**SOURCE TERMS**

**EFFLUENT AND WASTE DISPOSAL REPORTS**

**SUPPLEMENTAL INFORMATION**

**ERRATA SHEETS**

## EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT

January 1, 2011 through December 31, 2011

Cooper Nuclear Station effluent and waste disposal data are presented in the format prescribed by Regulatory Guide 1.21. Meteorological data required by Table 4A&B of Regulatory Guide 1.21 is included in the Meteorological Section of the Annual Radioactive Material Release Report - Radioactive Effluents.

Facility Cooper Nuclear Station License DPR-46.

### A. Regulatory Limits

#### 1. Gaseous Waste Effluents

- a. The dose rates due to radioactive materials released in gaseous effluents offsite shall be limited to the following:
  1. Noble Gases: Less than or equal to 500 mrem/yr to the total body and less than or equal to 3000 mrem/yr to the skin.
  2. I-131, I-133, tritium, and all radionuclides in particulate form with half-lives greater than or equal to 8 days: Less than or equal to 1500 mrem/yr to any organ.
- b. The air dose due to noble gases released in gaseous effluents offsite shall be limited to the following:
  1. During any calendar quarter: Less than or equal to 5 mrad from gamma radiation and less than or equal to 10 mrad from beta radiation.
  2. During any calendar year: Less than or equal to 10 mrad from gamma radiation and less than or equal to 20 mrad from beta radiation.
- c. The dose to a member of the public due to I-131, I-133, and radioactive materials in particulate form with half-lives greater than 8 days in gaseous effluents offsite shall be limited to the following:
  1. During any calendar quarter: Less than or equal to 7.5 mrem to any organ.
  2. During any calendar year: Less than or equal to 15 mrem to any organ.

#### 2. Liquid Waste Effluents

- a. January 1, 2011 through December 31, 2011

The concentration of radioactive material in water offsite due to radioactive liquid effluents shall not exceed the concentration specified in 10 CFR 20 Part 20.1302 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall not exceed  $2 \times 10^{-4}$  uCi/ml total activity. (CNS Technical Specification Amendment 174 Implementation)

- b. The dose to a member of the public due to radioactive material in liquid effluents offsite shall be limited to the following:
  - 1. During any calendar quarter: Less than or equal to 1.5 mrem to the total body and less than or equal to 5 mrem to any organ.
  - 2. During any calendar year: Less than or equal to 3 mrem to the total body and less than or equal to 10 mrem to any organ.

**B. Maximum Permissible Concentrations**

- 1. Water: Covered in Section A.2.
- 2. Air: Covered in Section A.1.

**C. Average Energy**

The average energy (E) of the radionuclide mixtures of fission and activation gases released is not applicable. This information is not utilized for dose or release calculations.

**D. Measurements and Approximations of Total Radioactivity**

The methods used to measure or approximate the total radioactivity in effluents and to determine radionuclide composition are as follows:

**1. Gaseous Effluents**

**a. Fission and Activation Gases:**

Radioactivity and radionuclide composition is determined by laboratory HPGe detector analysis in correlation with continuous gross radioactivity monitoring by a beta scintillation detector in the release pathway.

**b. Iodines:**

Charcoal cartridges provide continuous sample collection. These cartridges are analyzed for radioactivity and radionuclide composition in the laboratory by a HPGe detector gamma spectrometer.

**c. Particulates:**

Particulate filters provide continuous sample collection. These filters are analyzed for radioactivity and radionuclide composition in the laboratory by a HPGe detector gamma spectrometer. An aliquot of a filter composite from each release point was analyzed for Sr-89, Sr-90, and gross alpha by an offsite laboratory.

**d. Tritium:**

A portable sampling apparatus is utilized to collect a quarterly sample of each radioactive vent effluent. These samples are analyzed using a liquid scintillation counter.

e. Carbon-14:

Carbon-14 source term was estimated using 2011 plant operational data and applying the methodology outlined in EPRI Technical Report 1021106 (EPRI, 2010).

2. Liquid Effluents

a. Principal gamma emitters and dissolved and entrained gases:

Each batch of liquid effluent is analyzed for radioactivity and radionuclide composition in the laboratory by a HPGe detector gamma spectrometer. In addition, each batch is monitored for gross gamma radioactivity by a NaI detector in-line with the release pathway.

b. Tritium:

An aliquot of a monthly composite is analyzed using a liquid scintillation counter.

c. Sr-89 and Sr-90:

An aliquot from a quarterly composite is analyzed by an offsite laboratory.

d. Gross alpha:

An aliquot from a monthly composite is analyzed by gas flow proportional counting.

e. Fe-55:

An aliquot from a quarterly composite is analyzed by an offsite laboratory.

E. Batch Releases

a. Liquid

1.	Number of batch releases	49	
2.	Total time period for batch releases	7748	minutes
3.	Maximum time period for batch release	438	minutes
4.	Average time period for batch release	323	minutes
5.	Minimum time period for batch release	174	minutes
6.	Average stream flow during periods of release of effluent into a flowing stream	1.81E+08	liters/minute



b. Gaseous

1.	Number of batch releases	0	
2.	Total time period for batch releases	NA	minutes
3.	Maximum time period for batch release	NA	minutes
4.	Average time period for batch release	NA	minutes
5.	Minimum time period for batch release	NA	minutes

F. Abnormal Release

a. Liquid

1.	Number of releases:	0	
2.	Total activity released	NA	Ci

b. Gaseous

1.	Number of releases:	0	
2.	Total activity released	NA	Ci

**TABLE 1A  
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT  
GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES**

	UNIT	1st QTR	2nd QTR	3rd QTR	4th QTR	EST. TOTAL ERROR %
<b>A. Fission and activation gases</b>						
1. Total release	Ci	4.98E-01	1.59E+00	3.14E-01	3.10E-01	2.0E+01
2. Average release rate for period	μCi/sec	6.40E-02	2.02E-01	3.95E-02	3.90E-02	
<b>B. Iodines</b>						
1. Total iodine 131	Ci	3.83E-05	1.66E-05	2.14E-05	1.47E-05	3.0E+01
2. Average release rate for period	μCi/sec	4.93E-06	2.11E-06	2.69E-06	1.85E-06	
<b>C. Particulates</b>						
1. Particulates with half-lives >8 days	Ci	2.14E-04	5.76E-04	7.10E-05	5.80E-05	5.0E+01
2. Average release rate for period	μCi/sec	2.75E-05	7.33E-05	8.94E-06	7.30E-06	
3. Gross alpha radioactivity	Ci	1.69E-06	7.42E-07	3.16E-06	1.73E-06	
<b>D. Tritium</b>						
1. Total release	Ci	1.22E+00	4.37E+00	4.53E+00	3.71E+00	3.0E+01
2. Average release rate for period	μCi/sec	1.57E-01	5.55E-01	5.70E-01	4.66E-01	
<b>E. Carbon-14</b>						
1. Total release	Ci	2.60E+00	2.60E+00	2.60E+00	2.60E+00	
2. Release Rate	μCi/sec	3.34E-01	3.31E-01	3.27E-01	3.27E-01	

**TABLE 1B  
EFFLUENT AND GASEOUS WASTE DISPOSAL ANNUAL REPORT  
GASEOUS EFFLUENT-ELEVATED RELEASE  
CONTINUOUS MODE    \*BATCH**

NUCLIDES RELEASED	UNIT	1st QTR	2nd QTR	3rd QTR	4th QTR
1. Fission gases					
argon-41	Ci	1.32E-02	3.34E-02	1.13E-02	2.68E-02
krypton-83m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
krypton-85m	Ci	3.12E-03	9.39E-02	0.00E+00	0.00E+00
krypton-85	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
krypton-87	Ci	2.50E-02	3.79E-01	0.00E+00	6.22E-03
krypton-88	Ci	9.29E-03	3.19E-01	0.00E+00	0.00E+00
krypton-89	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
xenon-131m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
xenon-133m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
xenon-133	Ci	9.98E-03	1.19E-02	0.00E+00	0.00E+00
xenon-135m	Ci	1.54E-01	9.89E-02	4.83E-02	3.75E-02
xenon-135	Ci	8.53E-02	2.46E-01	1.36E-02	1.33E-02
xenon-137	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
xenon-138	Ci	1.98E-01	4.07E-01	2.41E-01	2.26E-01
Total for period	Ci	4.98E-01	1.59E+00	3.14E-01	3.10E-01
2. Iodines					
iodine-131	Ci	6.31E-06	5.77E-06	5.86E-06	4.94E-06
iodine-132	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
iodine-133	Ci	1.30E-05	2.66E-05	1.61E-05	1.25E-05
iodine-134	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
iodine-135	Ci	0.00E+00	4.25E-05	0.00E+00	0.00E+00
Total for period	Ci	1.93E-05	7.49E-05	2.20E-05	1.74E-05

\* No batch discharges were made

**TABLE 1B  
EFFLUENT AND GASEOUS WASTE DISPOSAL ANNUAL REPORT  
GASEOUS EFFLUENT-ELEVATED RELEASE (CONTINUED)  
CONTINUOUS MODE      \*BATCH**

NUCLIDES RELEASED	UNIT	1st QTR	2nd QTR	3rd QTR	4th QTR
3.    Particulates					
sodium-24	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
chromium-51	Ci	1.38E-06	4.32E-07	0.00E+00	0.00E+00
manganese-54	Ci	2.93E-07	8.18E-08	0.00E+00	0.00E+00
manganese-56	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
iron-59	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
cobalt-58	Ci	2.07E-07	3.86E-08	0.00E+00	0.00E+00
cobalt-60	Ci	4.14E-06	1.46E-06	1.79E-07	1.61E-07
zinc-65	Ci	0.00E+00	8.31E-08	0.00E+00	0.00E+00
zinc-69	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
rubidium-88	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
rubidium-89	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
strontium-89	Ci	8.27E-08	2.12E-05	6.45E-08	8.93E-08
strontium-90	Ci	0.00E+00	5.83E-07	8.71E-09	9.51E-09
strontium-91	Ci	2.00E-06	0.00E+00	5.87E-07	0.00E+00
yttrium-91m	Ci	0.00E+00	1.71E-07	3.68E-07	0.00E+00
strontium-92	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
niobium-95	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ruthenium-103	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
silver-110m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
antimony-125	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
tellurium-132	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
cesium-137	Ci	3.53E-10	2.38E-07	1.66E-07	0.00E+00
cesium-138	Ci	9.22E-05	7.22E-02	0.00E+00	0.00E+00
barium-139	Ci	3.15E-04	3.35E-04	3.44E-04	3.02E-04
barium-140	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
lanthanum-140	Ci	7.53E-08	5.11E-08	0.00E+00	0.00E+00
cerium-144	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
praesodymium-144	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total for period	Ci	4.15E-04	7.26E-02	3.45E-04	3.02E-04
Total for period with >8d half life	Ci	6.10E-06	2.41E-05	4.18E-07	2.60E-07

\* No batch discharges were made

**TABLE 1C**  
**EFFLUENT AND GASEOUS WASTE DISPOSAL ANNUAL REPORT**  
**GASEOUS EFFLUENT-BUILDING VENT RELEASE**  
**CONTINUOUS MODE      \*BATCH**

NUCLIDES RELEASED	UNIT	1st QTR	2nd QTR	3rd QTR	4th QTR
1. Fission gases					
krypton-83m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
krypton-85m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
krypton-85	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
krypton-87	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
krypton-88	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
krypton-89	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
xenon-131m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
xenon-133m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
xenon-133	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
xenon-135m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
xenon-135	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
xenon-137	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
xenon-138	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total for period	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Iodines					
iodine-131	Ci	3.20E-05	1.08E-05	1.55E-05	9.75E-06
iodine-132	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
iodine-133	Ci	5.20E-05	1.80E-05	1.02E-05	2.55E-05
iodine-134	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
iodine-135	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total for period	Ci	8.40E-05	2.88E-05	2.57E-05	3.53E-05

\* No batch discharges were made.

**TABLE 1C**  
**EFFLUENT AND GASEOUS WASTE DISPOSAL ANNUAL REPORT**  
**GASEOUS EFFLUENT-BUILDING VENT RELEASE (CONTINUED)**  
**CONTINUOUS MODE \*BATCH**

NUCLIDES RELEASED	UNIT	1st QTR	2nd QTR	3rd QTR	4th QTR
3. Particulates					
sodium-24	Ci	2.72E-05	0.00E+00	0.00E+00	0.00E+00
chromium-51	Ci	2.62E-05	2.88E-04	1.56E-06	0.00E+00
manganese-54	Ci	9.45E-06	2.83E-05	3.89E-06	3.31E-06
manganese-56	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
cobalt-57	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
cobalt-58	Ci	1.45E-06	1.21E-05	0.00E+00	0.00E+00
iron-59	Ci	0.00E+00	1.15E-05	0.00E+00	0.00E+00
cobalt-60	Ci	1.69E-04	1.97E-04	5.89E-05	4.99E-05
zinc-65	Ci	9.99E-07	1.02E-05	0.00E+00	0.00E+00
rubidium-89	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
strontium-89	Ci	3.97E-07	0.00E+00	0.00E+00	0.00E+00
strontium-90	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
strontium-91	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
strontium-92	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
yttrium-91m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
nobium-95	Ci	0.00E+00	3.50E-06	0.00E+00	0.00E+00
technetium-99m	Ci	7.87E-07	0.00E+00	0.00E+00	0.00E+00
ruthenium-103	Ci	0.00E+00	1.60E-07	0.00E+00	0.00E+00
silver-110m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
antimony-124	Ci	0.00E+00	1.37E-06	0.00E+00	0.00E+00
cesium-137	Ci	0.00E+00	0.00E+00	6.26E-06	4.57E-06
cesium-138	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
barium-139	Ci	8.88E-04	0.00E+00	0.00E+00	0.00E+00
barium-140	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
lanthanum-140	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
cerium-144	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
praseodymium-144	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total for period	Ci	1.12E-03	5.52E-04	7.06E-05	5.78E-05
Total for period >8 day half life	Ci	2.07E-04	5.52E-04	7.06E-05	5.78E-05

\* No batch discharges were made

**TABLE 2A  
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT  
LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES**

	UNIT	1st QTR	2nd QTR	3rd QTR	4th QTR	EST. TOTAL ERROR %
<b>A. Fission and activation products</b>						
1. Total release (not including tritium, gases or alpha)	Ci	0.00E+00	6.27E-03	1.66E-03	0.00E+00	2.0E+01
2. Average diluted concentration during period	μCi/ml	0.00E+00	3.63E-10	9.53E-11	0.00E+00	
<b>B. Tritium</b>						
1. Total release	Ci	0.00E+00	1.24E+00	1.41E+00	0.00E+00	2.0E+01
2. Average diluted concentration during period	μCi/ml	0.00E+00	7.17E-08	8.10E-08	0.00E+00	
<b>C. Dissolved and entrained gases</b>						
1. Total release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.0E+01
2. Average diluted concentration during period	μCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
<b>D. Gross alpha radioactivity</b>						
1. Total release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.0E+01
<b>E. Volume of waste released (prior to dilution)</b>						
	liters	0.00E+00	3.79E+05	3.80E+05	0.00E+00	1.0E+01
<b>F. Volume of dilution water used during period</b>						
	liters	0.00E+00	1.73E+10	1.74E+10	0.00E+00	1.0E+01

**TABLE 2B  
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT  
LIQUID EFFLUENTS (CONTINUED)  
CONTINUOUS MODE \*BATCH MODE**

NUCLIDES RELEASED	UNIT	1st QTR	2nd QTR	3rd QTR	4th QTR
sodium-24	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
chromium-51	Ci	0.00E+00	1.19E-03	0.00E+00	0.00E+00
manganese-54	Ci	0.00E+00	3.60E-04	2.80E-05	0.00E+00
iron-55	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
cobalt-58	Ci	0.00E+00	1.02E-04	0.00E+00	0.00E+00
iron-59	Ci	0.00E+00	7.58E-05	0.00E+00	0.00E+00
cobalt-60	Ci	0.00E+00	2.96E-03	7.75E-04	0.00E+00
zinc-65	Ci	0.00E+00	5.32E-05	0.00E+00	0.00E+00
strontium-89	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
strontium-90	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
technetium-99m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
antimony-124	Ci	0.00E+00	2.97E-05	0.00E+00	0.00E+00
iodine-131	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
iodine-133	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
cesium-134	Ci	0.00E+00	9.16E-05	1.78E-05	0.00E+00
cesium-137	Ci	0.00E+00	1.41E-03	8.38E-04	0.00E+00
cerium-144	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total for period	Ci	0.00E+00	6.27E-03	1.66E-03	0.00E+00
xenon-133	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
xenon-135	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00

\* No continuous mode discharges were made



**TABLE 3**

**SOLID WASTE AND IRRADIATED FUEL SHIPMENTS  
PERIOD :January 1, 2011 through December 31, 2011**

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, evaporator bottoms, etc.	m3	5.73E+01	N/A
	Ci	1.90E+03	15%
b. Dry compressible waste, contaminated equip, etc.	m3	5.27E+02	N/A
	Ci	1.62E+01	25%
c. Irradiated components, control rods, etc.	m3	N/A	N/A
	Ci	N/A	N/A
d. Other	m3	N/A	N/A
	Ci	N/A	N/A

2. Estimate of Major Nuclide Composition (By Type of Waste), Percent %

a. americium-241	1.53E-04	iron-59	3.29E-02
antimony-124	3.19E-03	manganese-54	3.08E+00
carbon-14	2.83E-02	nickel-63	6.81E-01
cerium-141	1.17E-08	plutonium-238	2.82E-05
cesium-134	7.15E-02	plutonium-239	1.07E-04
cesium-137	1.65E-01	plutonium-241	6.89E-03
chromium-51	5.05E-01	silver-110m	4.28E-02
cobalt-58	4.11E-01	strontium-89	1.47E-02
cobalt-60	3.60E+01	strontium-90	2.62E-03
curium-242	1.87E-04	technetium-99	3.99E-03
curium-244	2.12E-04	tin-113	3.80E-05
iodine-129	4.60E-05	tritium	5.43E-03
iodine-131	9.75E-03	zinc-65	1.92E+00
iron-55	5.70E+01		

**TABLE 3**

**SOLID WASTE AND IRRADIATED FUEL SHIPMENTS (continued)**  
**PERIOD :January 1, 2011 through December 31, 2011**

b.	americium-241	1.45E-04	manganese-54	4.83E+00
	antimony-124	7.44E-03	nickel-63	7.09E-01
	carbon-14	5.01E-02	niobium-95	6.48E-03
	cesium-134	5.41E-03	plutonium-238	3.05E-05
	cesium-137	6.95E-02	plutonium-239	1.48E-04
	chromium-51	1.19E+00	plutonium-241	5.12E-03
	cobalt-58	3.99E-01	silver-110m	1.00E-02
	cobalt-60	4.06E+01	strontium-89	7.15E-03
	curium-242	8.24E-05	strontium-90	2.78E-03
	curium-244	1.83E-04	technetium-99	4.85E-03
	iodine-129	1.51E-03	tritium	2.90E-03
	iron-55	5.08E+01	zinc-65	1.08E+00
	iron-59	2.48E-01	zirconium-95	7.30E-03

**TABLE 3**

**SOLID WASTE AND IRRADIATED FUEL SHIPMENTS (continued)**  
**PERIOD :January 1, 2011 through December 31, 2011**

3. Solid Waste Disposition

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
4	Exclusive Vehicle	UT
25	Exclusive Vehicle	TN

4. Solidification Agent

None

B. Irradiated Fuel Shipments (Disposition)

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

**GASEOUS RADIOACTIVE WASTES  
CUMULATIVE DOSE DATA**

A.	Maximum gamma air dose		<u>1st Qtr</u>	<u>2nd Qtr</u>	<u>3rd Qtr</u>	<u>4th Qtr</u>	<u>Annual</u>
	Site boundary*		N	N	NNW	N	NNW
	1. Total	mrad	7.03E-07	2.01E-05	8.20E-06	1.90E-06	3.05E-05
	Percent of Technical Specification						
	2. Limit		0.00%	0.00%	0.00%	0.00%	0.00%
	Most Exposed Resident*		NW	NW	NW	NW	NW
	1. Total	mrad	1.15E-05	8.92E-05	3.58E-05	5.85E-06	1.43E-04
	Percent of Technical Specification						
	2. Limit		0.00%	0.00%	0.00%	0.00%	0.00%
B.	Maximum beta air dose						
	Site boundary*		N	N	NNW	N	NNW
	1. Total	mrad	4.34E-07	1.28E-05	4.24E-06	9.97E-07	1.85E-05
	Percent of Technical Specification						
	2. Limit		0.00%	0.00%	0.00%	0.00%	0.00%
	Most Exposed Resident*		NW	NW	NW	NW	NW
	1. Total	mrad	7.08E-06	5.71E-05	1.85E-05	3.07E-06	8.71E-05
	Percent of Technical Specification						
	2. Limit		0.00%	0.00%	0.00%	0.00%	0.00%
C.	Maximum organ dose due to I-131, I-133, and particulates (>8 day half lives)						
	Site boundary*		N	N	NNW	N	N
	1. Total	mrem	2.12E-02	1.28E-02	9.92E-03	1.18E-02	5.93E-02
	Percent of Technical Specification						
	2. Limit		0.28%	0.17%	0.13%	0.16%	0.40%
	3. Organ		Thyroid	Thyroid	Thyroid	Thyroid	Thyroid
	4. Exposed Individual		Infant	Infant	Infant	Infant	Infant
	Most Exposed Resident*		NW	NW	NW	NW	NW
	1. Total	mrem	7.88E-03	7.13E-03	7.06E-03	1.77E-03	2.44E-02
	Percent of Technical Specification						
	2. Limit		0.11%	0.10%	0.09%	0.02%	0.16%
	3. Organ		Thyroid	Thyroid	Thyroid	Thyroid	Thyroid
	4. Exposed Individual		Infant	Infant	Infant	Infant	Infant
D.	Maximum organ dose rate due to I-131, I-133, tritium, and particulates (>8 day half-lives) was 0.0593 mrem/year which was 0.40% of the Technical Specification Limit.						
E.	All radioactive noble gas effluent monitors were set to automatically alarm when the monitor alarm set point, determined as specified in the Offsite Dose Assessment Manual (ODAM), was exceeded. This is required to ensure that the 500 mrem/yr to the total body and the 3000 mrem/yr to the skin limits are not exceeded. <i>*Resident and Site Boundary Key: N is 0.67 miles North, NNW is 0.69 miles North-Northwest, and NW residence is 0.90 miles Northwest.</i>						

**GASEOUS RADIOACTIVE WASTES (Continued)**  
**CUMULATIVE DOSE DATA**

F. Maximum organ dose due to Carbon-14*		<u>1st Qtr</u>	<u>2nd Qtr</u>	<u>3rd Qtr</u>	<u>4th Qtr</u>	<u>Annual</u>
1. Total	mrem	2.92E-01	2.09E-01	2.26E-01	3.82E-01	9.46E-01
2. Percent of Technical Specification Limit		2.92%	2.09%	2.26%	3.82%	4.73%
3. Organ		BONE	BONE	BONE	BONE	BONE
4. Exposed Individual		CHILD	CHILD	CHILD	CHILD	CHILD

\*Maximum organ dose due to Carbon-14 is based on summation of organ dose pathways from the nearest garden, nearest meat animal, and nearest milk animal. Inhalation pathway was negligible.

**LIQUID RADIOACTIVE WASTES**  
**CUMULATIVE DOSE DATA**

A. Maximum whole body dose		<u>1st Qtr</u>	<u>2nd Qtr</u>	<u>3rd Qtr</u>	<u>4th Qtr</u>	<u>Annual</u>
1. Total	mrem	0.00E+00	7.06E-02	3.95E-02	0.00E+00	1.10E-01
2. Percent of Technical Specification Limit		0.00%	4.71%	2.63%	0.00%	3.67%
<b>B. Maximum Organ Dose</b>						
1. Total	mrem	0.00E+00	1.10E-01	6.18E-02	0.00E+00	1.72E-01
2. Percent of Technical Specification Limit		0.00%	2.20%	1.24%	0.00%	1.72%

## SUPPLEMENTAL INFORMATION

A. Unplanned Releases:

None

B. NPPD Initiated Changes to the Process Control Program:

None.

C. Changes to the Offsite Dose Assessment Manual:

None.

D. Reports Required by the Offsite Dose Assessment Manual:

- 1) The following information is being reported as directed by ODAM Specification D 3.3.1, Condition B, Required Action B.2.2. This condition is being reported below due to the condition continuing for a period of greater than 31 days during the January 1 - December 31, 2011 reporting period.
  - a) Flooding of the Missouri River submerged the service water radiation monitor vault housing. SW radiation monitors "A" and "B" were declared inoperable and removed from the vault housing on May 25, 2011 at 11:56 to protect them from water intrusion from the impending flooding. Recovery of the detectors began on September 7, 2011 when floodwaters receded and there was reasonable assurance that floodwaters would not resubmerge the vaults. Restoration of the detectors required until September 8, 2011 to complete cleaning, installation, and functional tests. Service Water Radiation Monitors "A" and "B" were declared operable on September 8, 2011 at 16:31. Service water radiation monitors "A" and "B" were inoperable for 106 days.
- 2) The following information is being reported per the requirements of ODAM Specification D3.3.2, Condition I, Required Action I.2.2. This information describes conditions in which particulate and iodine sampling via auxiliary sampling equipment as required by ODAM Specification D3.3.2, Condition I, Required Action I.1, was out of service.
  - a) Sample flow through the ERP alternate sampler was lost when the in-service sample pump failed. The alternate sampler was found tripped and the alternate sampler's second pump was started to restore monitoring of the stack effluent. During the time period of 19:43 on April 14, 2011 through 05:26 on April 15, 2011, particulate and iodine sampling of the ERP stack via the auxiliary sampling system could not be performed as required by the ODAM. Sampling of effluent activity was secured for 583 minutes, which is greater than the 4 hours (240 minutes) allowed by the ODAM.
  - b) The Turbine Building Kaman monitor and NMC alternate sampler were de-energized in order to perform scheduled maintenance on the Turbine Building ventilation monitoring system. Installation of ground fault equipment protection on the heat trace of the Turbine Building ventilation monitors was performed per configuration change document CED6026382, CCN#4. Due to minor installation issues, the work activity required more than 4 hours to accomplish. During the time period of 11:00 on September 12, 2011 through 15:23 on September 12, 2011,

particulate and iodine sampling via the auxiliary sampling system could not be performed as required by the ODAM. Sampling of effluent activity was secured for 263 minutes, which is greater than the 4 hours (240 minutes) allowed by the ODAM.

- c) The Turbine Building Kaman monitor and NMC alternate sampler were de-energized to perform scheduled maintenance which implemented minor wiring and labeling revisions per configuration change document CED6015501 for the Turbine Building Kaman ventilation monitoring system. Due to failed post-work testing following the scheduled maintenance, the duration of the maintenance activity extended beyond 4 hours in order to resolve the post-work test discrepancies. After the post-work test discrepancies were resolved, sampling via the NMC alternate sampler was restored. During the time period of 13:07 on November 21, 2011 through 19:21 on November 21, 2011, particulate and iodine sampling via the auxiliary sampling system could not be performed as required by the ODAM. Sampling of effluent activity was secured for 374 minutes, which is greater than the 4 hours (240 minutes) allowed by the ODAM.

**ERRATA SHEETS**

**TABLE 3: 2008-2010**

TABLE 3

**SOLID WASTE AND IRRADIATED FUEL SHIPMENTS  
PERIOD :January 1, 2008 through December 31, 2008**

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, evaporator bottoms, etc.	m3	1.52E+01	N/A
	Ci	1.46E+03	15%
b. Dry compressible waste, contaminated equip, etc.	m3	2.84E+02	N/A
	Ci	7.20E+01	25%
c. Irradiated components, control rods, etc.	m3	N/A	N/A
	Ci	N/A	N/A
d. Other	m3	N/A	N/A
	Ci	N/A	N/A

2. Estimate of Major Nuclide Composition (By Type of Waste), Percent %

a. americium-241	5.93E-06	manganese-54	4.85E+00
antimony-122	1.05E-04	nickel-59	1.46E-02
carbon-14	9.86E-03	nickel-63	2.68E-01
cesium-134	1.16E-01	plutonium-238	1.01E-05
cesium-137	1.34E-01	plutonium-239	5.22E-06
chromium-51	2.94E-03	plutonium-241	8.33E-04
cobalt-58	3.51E-01	plutonium-242	4.03E-06
cobalt-60	3.17E+01	silver-110m	3.45E-01
curium-242	1.50E-05	strontium-89	1.45E-02
curium-244	1.04E-05	strontium-90	8.37E-04
iodine-129	6.99E-05	technetium-99	1.28E-04
iron-55	5.82E+01	tritium	2.18E-03
		zinc-65	3.96E+00



**TABLE 3**

**SOLID WASTE AND IRRADIATED FUEL SHIPMENTS (continued)  
PERIOD :January 1, 2008 through December 31, 2008**

b.	americium-241	7.62E-06	manganese-54	5.57E+00
	carbon-14	1.34E-02	nickel-59	5.86E-03
	cerium-141	5.08E-04	nickel-63	4.37E-01
	cerium-144	8.16E-04	plutonium-238	1.05E-05
	cesium-134	3.85E-02	plutonium-239	4.78E-06
	cesium-137	5.18E-02	plutonium-241	4.39E-04
	chromium-51	1.32E-01	plutonium-242	3.14E-08
	cobalt-58	5.15E-02	silver-110m	3.65E-01
	cobalt-60	2.77E+01	strontium-89	8.85E-03
	curium-242	1.91E-05	strontium-90	1.56E-03
	curium-244	9.44E-06	technetium-99	7.99E-04
	iodine-129	4.28E-04	tritium	2.55E-03
	iron-55	6.41E+01	zinc-65	1.49E+00

**TABLE 3**

**SOLID WASTE AND IRRADIATED FUEL SHIPMENTS (continued)  
PERIOD :January 1, 2008 through December 31, 2008**

3. Solid Waste Disposition

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
40	Exclusive Use	Clive, UT
2	Exclusive Use	Barnwell, SC

4. Solidification Agent

No shipments required solidification during this period.

B. Irradiated Fuel Shipments (Disposition)

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
0	NA	NA

**TABLE 3**

**SOLID WASTE AND IRRADIATED FUEL SHIPMENTS  
PERIOD :January 1, 2009 through December 31, 2009**

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, evaporator bottoms, etc.	m3	4.01E+01	N/A
	Ci	3.06E+02	15%
b. Dry compressible waste, contaminated equip, etc.	m3	2.14E+02	N/A
	Ci	7.65E+00	25%
c. Irradiated components, control rods, etc.	m3	N/A	N/A
	Ci	N/A	N/A
d. Other	m3	N/A	N/A
	Ci	N/A	N/A

2. Estimate of Major Nuclide Composition (By Type of Waste), Percent %

a. americium-241	7.10E-03	lanthanum-140	1.58E-03
antimony-122	5.07E-03	manganese-54	2.13E+00
barium-140	1.37E-03	nickel-63	5.45E-01
carbon-14	1.70E-01	niobium-95m	1.15E-10
cesium-134	3.61E-01	plutonium-238	3.27E-03
cesium-137	7.71E-01	plutonium-239	4.45E-03
chromium-51	1.48E-03	plutonium-241	1.58E-02
cobalt-58	5.82E-02	silver-110m	5.41E-02
cobalt-60	2.70E+01	strontium-89	4.02E-03
curium-242	1.05E-02	strontium-90	2.00E-03
curium-244	8.96E-03	technetium-99	1.36E-03
iodine-129	8.26E-05	tritium	1.92E-02
iodine-131	1.30E-03	xenon-133	4.19E-05
iron-55	5.97E+01	zinc-65	9.10E+00

**TABLE 3**

**SOLID WASTE AND IRRADIATED FUEL SHIPMENTS (continued)  
PERIOD :January 1, 2009 through December 31, 2009**

b.	americium-241	3.61E-03	iron-59	8.58E-01
	antimony-124	6.28E-03	manganese-54	5.16E+00
	carbon-14	5.71E-02	nickel-59	3.28E-03
	cerium-141	5.87E-06	nickel-63	6.31E-01
	cesium-134	1.54E-02	niobium-95	1.54E-02
	cesium-137	4.57E-01	plutonium-238	1.64E-03
	chromium-51	1.15E+00	plutonium-239	2.28E-03
	cobalt-58	3.80E-01	plutonium-241	1.59E-02
	cobalt-60	2.82E+01	silver-110m	4.37E-02
	curium-242	6.62E-03	strontium-89	6.98E-03
	curium-243	2.09E-06	strontium-90	1.66E-03
	curium-244	4.56E-03	technetium-99	1.80E-03
	iodine-129	3.83E-02	tritium	4.67E-03
	iron-55	6.18E+01	zinc-65	1.04E+00
			zirconium-95	7.19E-03

**TABLE 3**

**SOLID WASTE AND IRRADIATED FUEL SHIPMENTS (continued)  
PERIOD :January 1, 2009 through December 31, 2009**

3. Solid Waste Disposition

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
45	Exclusive Use	Clive UT

4. Solidification Agent

No shipments required solidification during this period.

B. Irradiated Fuel Shipments (Disposition)

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
0	NA	NA

**TABLE 3**

**SOLID WASTE AND IRRADIATED FUEL SHIPMENTS  
PERIOD :January 1, 2010 through December 31, 2010**

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, evaporator bottoms, etc.	m3	4.49E+01	N/A
	Ci	1.22E+03	15%
b. Dry compressible waste, contaminated equip, etc.	m3	5.36E+01	N/A
	Ci	4.36E+00	25%
c. Irradiated components, control rods, etc.	m3	N/A	N/A
	Ci	N/A	N/A
d. Other	m3	N/A	N/A
	Ci	N/A	N/A

2. Estimate of Major Nuclide Composition (By Type of Waste), Percent %

a. americium-241	2.01E-05	iron-55	5.73E+01
antimony-122	9.31E-04	manganese-54	2.45E+00
carbon-14	3.94E-02	nickel-63	6.78E-01
cerium-144	5.48E-03	niobium-95	1.56E-03
cesium-134	2.82E-01	plutonium-238	3.70E-06
cesium-137	4.04E-01	plutonium-239	1.40E-05
chromium-51	7.38E-03	plutonium-241	9.09E-04
cobalt-58	3.70E-02	silver-110m	8.49E-02
cobalt-60	3.61E+01	strontium-89	1.13E-02
curium-242	2.49E-05	strontium-90	2.59E-03
curium-244	2.79E-05	technetium-99	4.56E-04
iodine-129	3.25E-05	tritium	7.89E-03
		zinc-65	2.54E+00

**TABLE 3**

**SOLID WASTE AND IRRADIATED FUEL SHIPMENTS (continued)  
PERIOD :January 1, 2010 through December 31, 2010**

b.	americium-241	2.83E-04	manganese-54	7.00E+00
	carbon-14	1.59E-01	nickel-63	1.32E+00
	cerium-144	1.21E-54	plutonium-238	7.38E-05
	cesium-134	2.89E-02	plutonium-239	3.20E-04
	cesium-137	5.86E-02	plutonium-241	4.39E-02
	chromium-51	1.56E+00	silver-110m	7.04E-02
	cobalt-58	4.91E-01	strontium-89	1.35E-02
	cobalt-60	3.62E+01	strontium-90	2.10E-03
	curium-242	1.12E-04	technetium-99	1.77E-02
	curium-244	3.36E-04	tritium	6.85E-03
	iodine-129	4.05E-03	zinc-65	1.48E+00
	iron-55	5.04E+01		
	iron-59	1.21E+00		

**TABLE 3**

**SOLID WASTE AND IRRADIATED FUEL SHIPMENTS (continued)  
PERIOD :January 1, 2010 through December 31, 2010**

3. Solid Waste Disposition

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
28	Exclusive Use	Clive UT

4. Solidification Agent

No shipments required solidification during this period.

B. Irradiated Fuel Shipments (Disposition)

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
0	NA	NA

**APPENDIX B**  
**METEOROLOGY**

## CONTENTS

	<u>Page</u>
METEOROLOGICAL DATA SUMMARIES	B1
MONTHLY SUMMARY TABLES OF HOURLY METEOROLOGICAL DATA	B6
JOINT FREQUENCY DISTRIBUTION TABLES	B130
ATMOSPHERIC DIFFUSION ESTIMATES	B239
ATMOSPHERIC DIFFUSION MODEL	B324

## METEOROLOGICAL DATA SUMMARIES

Meteorological data collected onsite for the period January 1, 2011, through December 31, 2011, were reduced, validated, summarized for analysis, and included in appropriate dose calculations. Hourly data summaries are provided for all pertinent parameters and for the joint frequency distributions (JFD's) of wind speed and wind direction by atmospheric stability class. Note that the 10-meter data was impacted somewhat in the second quarter and dramatically in the third quarter by the record flooding, accessibility, and sandbagging required around the meteorological tower. The data recovery and averages provided in this section were impacted and should be used with caution when compared with normal values.

### DATA RECOVERY

Data recovery statistics are provided in Table 1 for all pertinent meteorological parameters. Average data recovery for all parameters in 2011 was approximately 90.1%.

		<u>Lowest Data Recovery</u>	<u>Average Data Recovery</u>
January 1 - March 31, 2011	(Q1)	97.4%	99.8%
April 1 - June 30, 2011	(Q2)	87.4%	94.6%
First Semiannual Period - January 1 - June 30, 2011	(SEM1)	93.6%	97.2%
July 1 - September 30, 2011	(Q3)	35.9%	72.5%
October 1 - December 31, 2011	(Q4)	92.4%	93.6%
Second Semiannual Period - July 1 - December 31, 2011	(SEM2)	64.6%	83.1%
Annual Period - January 1 - December 31, 2011	(ANN)	79.0%	90.1%



## WIND AT 100-METER LEVEL AND 10-METER LEVEL

	<u>Predominant Wind Direction at 100m Level</u>		<u>Predominant Wind Direction at 10m Level</u>	
Q1	Northwest	11.5%	North-Northwest	10.7%
Q2	South	10.9%	South	10.7%
SEM1	North-Northwest	9.8%	South	10.3%
Q3	Southeast	14.6%	North-Northwest	12.8%
Q4	South	14.0%	South	17.5%
SEM2	South-Southeast	10.7%	South	15.2%
ANN	South	9.8%	South	12.3%

	<u>Mean Wind Speed at 100m Level</u>	<u>Mean Wind Speed at 10m Level</u>
Q1	14.4 MPH	9.0 MPH
Q2	16.1 MPH	10.3 MPH
SEM1	15.3 MPH	9.6 MPH
Q3	11.3 MPH	6.6 MPH
Q4	14.6 MPH	8.5 MPH
SEM2	12.9 MPH	7.9 MPH
ANN	14.1 MPH	8.9 MPH

	<u>Maximum Hourly Average Wind Speed/(Date at 100m Level)</u>	<u>Maximum Hourly Average Wind Speed/(Date at 10m Level)</u>
Q1	36.1 MPH/(11/01/07)	27.3 MPH/(11/07/14)
Q2	44.8 MPH/(11/04/29)	30.6 MPH/(11/04/29)
SEM1	44.8 MPH/(11/04/29)	30.6 MPH/(11/04/29)
Q3	41.6 MPH/(11/08/18)	19.7 MPH/(11/09/29)
Q4	42.6 MPH/(11/07/10)	25.9 MPH/(11/12/31)
SEM2	42.6 MPH/(11/07/10)	25.9 MPH/(11/12/31)
ANN	44.8 MPH/(11/04/29)	30.6 MPH/(11/04/29)

## TEMPERATURE AT 10-METER LEVEL

	<u>Mean Hourly Average Temperature</u>	<u>Average Daily Maximum</u>	<u>Average Daily Minimum</u>
Q1	30.3 Degrees F	39.0 Degrees F	21.3 Degrees F
Q2	64.3 Degrees F	73.4 Degrees F	55.5 Degrees F
SEM1	47.4 Degrees F	56.3 Degrees F	38.5 Degrees F
Q3	75.0 Degrees F	83.7 Degrees F	67.0 Degrees F
Q4	45.0 Degrees F	54.8 Degrees F	35.6 Degrees F
SEM2	60.0 Degrees F	69.3 Degrees F	51.3 Degrees F
ANN	53.7 Degrees F	62.8 Degrees F	45.0 Degrees F

	<u>Maximum Temperature (Date)</u>	<u>Minimum Temperature (Date)</u>
Q1	80.4 Degrees F (11/03/22)	-6.2 Degrees F (11/01/13)
Q2	98.1 Degrees F (11/06/30)	32.9 Degrees F (11/04/02)
SEM1	98.1 Degrees F (11/06/30)	-6.2 Degrees F (11/01/13)
Q3	102.9 Degrees F (11/07/27)	44.7 Degrees F (11/09/26)
Q4	89.1 Degrees F (11/10/04)	7.1 Degrees F (11/12/10)
SEM2	102.9 Degrees F (11/07/27)	7.1 Degrees F (11/12/10)
ANN	102.9 Degrees F (11/07/27)	-6.2Degrees F (11/01/13)

## PRECIPITATION

	<u>Total Precipitation</u>	<u>Maximum Daily Precipitation Total/(Date)</u>	<u>Maximum Hourly Precipitation Total/(Date)</u>
Q1	2.01 Inches	.38 Inches (11/01/10)	0.13 Inches (11/03/20)
Q2*	8.39 Inches	1.26 Inches (11/04/07)	.67 Inches (11/06/18)
SEM1*	10.40 Inches	1.26 Inches (11/04/07)	.67 Inches (11/06/18)
Q3*	1.42 Inches	.98 Inches (11/08/30)	.88 Inches (11/08/30)
Q4	5.82 Inches	1.75 Inches (11/12/03)	.28 Inches (11/11/02)
SEM2*	7.24 Inches	1.75 Inches (11/12/03)	.88 Inches (11/08/30)
ANN*	17.64 Inches	1.75 Inches (11/12/03)	.88 Inches (11/08/30)

\*Recorded precipitation was impacted in the second and third quarters by the record flooding, accessibility, and sandbagging required around the meteorological tower. Totals and maximums are low due to missing periods and should be used with caution.

## ATMOSPHERIC STABILITY

Atmospheric stability is determined through classification of differential temperature data based on JFD of the 100-meter wind and the delta T (100m - 10m) stability data. Note that missing delta T data in quarters 2 and 3 was supplemented by sigma theta data.

	<u>Unstable Conditions Classes A-C</u>	<u>Neutral Conditions Class D</u>	<u>Stable Conditions Classes E-G</u>
Q1	1%	61%	38%
Q2	6%	59%	35%
SEM1	3%	60%	36%
Q3	16%	52%	32%
Q4	1%	42%	58%
SEM2	9%	47%	45%
ANN	6%	54%	40%

**TABLE 1. Meteorological Data Recovery**

Data Recovery (% of total Observations)

	January- March <u>2011</u>	April- June <u>2011</u>	January- June <u>2011</u>	July- Sept. <u>2011</u>	October- Dec. <u>2011</u>	July- Dec. <u>2011</u>	January- Dec. <u>2011</u>
100m wind speed	97.4	99.8	98.6	100.0	92.8	96.4	97.5
100m wind direction	100.0	99.8	99.9	100.0	92.4	96.2	98.0
100m ambient temperature	100.0	99.8	99.9	100.0	93.3	96.6	98.2
60m wind speed	100.0	99.5	99.8	100.0	93.3	96.6	98.2
60m wind direction	100.0	99.8	99.9	100.0	93.3	96.6	98.2
60m ambient temperature	100.0	99.8	99.9	100.0	93.3	96.6	98.2
10m wind speed	100.0	87.7	93.8	35.9	93.3	64.6	79.1
10m wind direction	100.0	87.7	93.8	35.9	93.3	64.6	79.1
10m ambient temperature	100.0	99.8	99.9	99.7	99.9	99.8	99.9
10m dew point	100.0	87.4	93.6	35.9	93.3	64.6	79.0
100m-10m delta T	100.0	87.7	93.8	35.9	93.3	64.6	79.1
100m-60m delta T	100.0	99.8	99.9	100.0	93.3	96.6	98.2
60m-10m delta T	100.0	87.7	93.8	35.9	93.3	64.6	79.1
100m JFD	100.0	99.8	99.9	100.0	93.3	96.6	98.2
10m JFD	100.0	99.8	99.9	100.0	93.3	96.6	98.2

JFD - Joint Frequency Distribution of wind speed, wind direction and atmospheric stability.

\*Note: 10-meter data recovery was impacted in the second and third quarters by the record flooding, accessibility, and sandbagging required around the meteorological tower.

BS

## MONTHLY SUMMARY TABLES OF HOURLY METEOROLOGICAL DATA

The tables presented in this section provide a summary of hourly averages of measured meteorological parameters. The tables provide summaries by month for the annual period January through December, 2011. Summaries for the first quarter, second quarter, third quarter, fourth quarter, and semiannual periods are also provided. The parameters provided are listed below.

- \* 10 meter ambient temperature.
- \* Wind direction frequencies at 10 meters and 100 meters.
- \* Precipitation.

Any missing or non-measured data are indicated by a field of 9's. Note that the 10-meter data was impacted somewhat in the second quarter and dramatically in the third quarter by the record flooding, accessibility, and sandbagging required around the meteorological tower. The averages provided in this section were impacted and should be used with caution when compared with normal values.

**10-Meter Ambient Temperature**  
**and**  
**10-Meter Dew Point Temperature**

PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JAN-MAR 2011

MONTHLY HOUR AVERAGES FOR THE PERIOD

JANUARY

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG F)	NUMBER OBS	(DEG F)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG F)
1	31	18.3	31	12.5	31	78.4	31	2.3	31	16.7
2	31	17.8	31	12.2	31	78.9	31	2.3	31	16.3
3	31	17.6	31	12.1	31	79.2	31	2.3	31	16.2
4	31	17.0	31	11.8	31	80.1	31	2.3	31	15.7
5	31	17.0	31	12.0	31	81.0	31	2.3	31	15.7
6	31	16.8	31	11.9	31	81.1	31	2.3	31	15.5
7	31	16.8	31	11.9	31	81.2	31	2.3	31	15.5
8	31	16.6	31	12.0	31	81.9	31	2.3	31	15.4
9	31	16.9	31	12.6	31	82.9	31	2.3	31	15.8
10	31	18.4	31	13.3	31	80.3	31	2.4	31	17.0
11	31	20.6	31	14.2	31	76.7	31	2.5	31	18.8
12	31	22.5	31	15.1	31	73.7	31	2.6	31	20.4
13	31	24.2	31	15.9	31	71.5	31	2.7	31	21.7
14	31	25.5	31	16.6	31	69.9	31	2.8	31	22.7
15	31	26.4	31	17.0	31	68.6	31	2.8	31	23.4
16	31	27.1	31	17.1	31	67.7	31	2.8	31	23.9
17	31	27.0	31	17.1	31	67.6	31	2.8	31	23.8
18	31	25.8	31	16.5	31	69.3	31	2.8	31	22.8
19	31	24.3	31	16.2	31	72.1	31	2.7	31	21.8
20	31	23.1	31	15.4	31	73.4	31	2.6	31	20.7
21	31	22.1	31	14.8	31	74.6	31	2.6	31	19.9
22	31	20.9	31	14.3	31	76.1	31	2.5	31	19.0
23	31	20.0	31	13.6	31	77.1	31	2.5	31	18.2
24	31	19.0	31	13.1	31	78.3	31	2.4	31	17.3
HOURLY MEAN		20.9		14.1		75.9		2.5		18.9
AVG DAILY MAX		28.9		20.1		87.8		3.2		25.7
AVG DAILY MIN		11.7		6.5		64.2		1.8		10.6
ABSOLUTE MAX		46.3		34.1		100.0		5.2		40.8
ABSOLUTE MIN		-6.2		-9.5		32.4		.8		-6.6
TOTAL OBS		744		744		744		744		744

B8

PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JAN-MAR 2011

MONTHLY HOUR AVERAGES FOR THE PERIOD

FEBRUARY

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG F)	NUMBER OBS	(DEG F)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG F)
1	28	25.5	28	19.1	28	76.8	28	3.3	28	23.5
2	28	24.9	28	18.6	28	77.3	28	3.3	28	22.9
3	28	24.5	28	18.3	28	77.1	28	3.2	28	22.6
4	28	23.7	28	17.7	28	77.8	28	3.2	28	21.9
5	28	23.0	28	17.3	28	78.7	28	3.1	28	21.3
6	28	22.8	28	17.2	28	78.9	28	3.1	28	21.2
7	28	22.7	28	17.2	28	79.1	28	3.1	28	21.1
8	28	22.5	28	17.2	28	80.0	28	3.2	28	21.0
9	28	23.4	28	17.9	28	79.3	28	3.3	28	21.8
10	28	25.4	28	18.8	28	76.1	28	3.4	28	23.4
11	28	27.6	28	19.9	28	73.1	28	3.5	28	25.2
12	28	30.0	28	21.2	28	70.3	28	3.7	28	27.0
13	28	32.3	28	22.1	28	67.1	28	3.8	28	28.7
14	28	33.9	28	22.8	28	65.3	28	3.9	28	29.8
15	28	35.0	28	23.3	28	64.1	28	3.9	28	30.6
16	28	35.2	28	23.4	28	63.8	28	3.9	28	30.8
17	28	34.7	28	23.3	28	64.9	28	3.8	28	30.4
18	28	33.7	28	22.7	28	65.8	28	3.7	28	29.7
19	28	32.2	28	22.1	28	67.8	28	3.6	28	28.6
20	28	30.8	28	21.4	28	69.6	28	3.5	28	27.5
21	28	29.8	28	20.9	28	70.7	28	3.5	28	26.7
22	28	28.7	28	20.5	28	72.6	28	3.4	28	25.9
23	28	28.0	28	20.3	28	73.5	28	3.4	28	25.5
24	28	27.0	28	20.0	28	75.2	28	3.4	28	24.7
HOURLY MEAN		28.2		20.1		72.7		3.5		25.5
AVG DAILY MAX		37.0		27.3		85.2		4.6		32.7
AVG DAILY MIN		19.6		13.3		59.9		2.5		18.0
ABSOLUTE MAX		69.3		58.0		100.0		12.2		61.7
ABSOLUTE MIN		-5.0		-10.2		28.6		.8		-5.5
TOTAL OBS		672		672		672		672		672

B9



PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JAN-MAR 2011

MONTHLY HOUR AVERAGES FOR THE PERIOD

MARCH

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER		NUMBER		NUMBER		NUMBER		NUMBER	
	OBS	(DEG F)	OBS	(DEG F)	OBS	(%)	OBS	(GM/M3)	OBS	(DEG F)
1	31	38.0	31	31.4	31	77.4	31	5.0	31	35.3
2	31	37.3	31	31.1	31	78.5	31	4.9	31	34.8
3	31	36.7	31	30.8	31	79.4	31	4.9	31	34.4
4	31	36.3	31	30.6	31	80.1	31	4.9	31	34.1
5	31	35.7	31	30.2	31	80.5	31	4.8	31	33.6
6	31	35.3	31	30.2	31	81.8	31	4.9	31	33.4
7	31	35.1	31	30.2	31	82.5	31	4.9	31	33.2
8	31	35.4	31	30.5	31	82.5	31	4.9	31	33.5
9	31	36.9	31	31.1	31	79.5	31	5.0	31	34.6
10	31	39.5	31	31.9	31	74.4	31	5.2	31	36.4
11	31	42.0	31	32.4	31	69.6	31	5.3	31	38.0
12	31	44.4	31	32.9	31	65.2	31	5.4	31	39.4
13	31	46.4	31	33.2	31	61.6	31	5.4	31	40.5
14	31	47.8	31	33.2	31	59.0	31	5.3	31	41.2
15	31	48.8	31	33.4	31	57.5	31	5.3	31	41.8
16	31	49.3	31	33.6	31	56.9	31	5.4	31	42.1
17	31	49.3	31	33.6	31	57.2	31	5.3	31	42.1
18	31	48.3	31	33.5	31	58.7	31	5.4	31	41.7
19	31	46.5	31	32.8	31	60.5	31	5.2	31	40.5
20	31	44.6	31	32.4	31	63.3	31	5.1	31	39.4
21	31	42.7	31	32.6	31	68.1	31	5.2	31	38.4
22	31	41.1	31	32.8	31	72.6	31	5.2	31	37.6
23	31	40.0	31	32.6	31	75.2	31	5.2	31	36.9
24	31	39.0	31	32.3	31	77.1	31	5.1	31	36.2
HOURLY MEAN		41.5		32.0		70.8		5.1		37.5
AVG DAILY MAX		50.8		37.5		87.2		6.3		43.7
AVG DAILY MIN		32.4		26.3		52.8		4.0		30.3
ABSOLUTE MAX		80.4		62.0		96.4		13.8		68.0
ABSOLUTE MIN		16.4		8.5		32.6		1.8		14.6
TOTAL OBS		744		744		744		744		744

B10

PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JAN-MAR 2011

JAN-MAR HOUR AVERAGES FOR THE PERIOD

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER		NUMBER		NUMBER		NUMBER		NUMBER	
	OBS	(DEG F)	OBS	(DEG F)	OBS	(%)	OBS	(GM/M3)	OBS	(DEG F)
1	90	27.3	90	21.0	90	77.5	90	3.6	90	25.2
2	90	26.7	90	20.7	90	78.3	90	3.5	90	24.7
3	90	26.3	90	20.5	90	78.6	90	3.5	90	24.4
4	90	25.7	90	20.1	90	79.3	90	3.4	90	23.9
5	90	25.3	90	19.9	90	80.1	90	3.4	90	23.6
6	90	25.1	90	19.9	90	80.7	90	3.4	90	23.4
7	90	24.9	90	19.9	90	81.0	90	3.4	90	23.4
8	90	24.9	90	20.0	90	81.5	90	3.5	90	23.4
9	90	25.8	90	20.6	90	80.6	90	3.6	90	24.2
10	90	27.9	90	21.4	90	77.0	90	3.7	90	25.7
11	90	30.2	90	22.3	90	73.2	90	3.8	90	27.4
12	90	32.4	90	23.1	90	69.7	90	3.9	90	29.0
13	90	34.4	90	23.8	90	66.8	90	4.0	90	30.4
14	90	35.8	90	24.2	90	64.7	90	4.0	90	31.3
15	90	36.8	90	24.6	90	63.4	90	4.0	90	32.0
16	90	37.3	90	24.7	90	62.8	90	4.0	90	32.3
17	90	37.0	90	24.7	90	63.2	90	4.0	90	32.2
18	90	36.0	90	24.3	90	64.6	90	4.0	90	31.5
19	90	34.4	90	23.7	90	66.8	90	3.9	90	30.4
20	90	32.9	90	23.1	90	68.7	90	3.8	90	29.3
21	90	31.6	90	22.8	90	71.2	90	3.7	90	28.4
22	90	30.3	90	22.6	90	73.8	90	3.7	90	27.6
23	90	29.4	90	22.2	90	75.3	90	3.7	90	26.9
24	90	28.4	90	21.8	90	76.9	90	3.7	90	26.2
HOURLY MEAN		30.3		22.2		73.2		3.7		27.4
AVG DAILY MAX		39.0		28.3		86.8		4.7		34.1
AVG DAILY MIN		21.3		15.5		58.9		2.8		19.7
ABSOLUTE MAX		80.4		62.0		100.0		13.8		68.0
ABSOLUTE MIN		-6.2		-10.2		28.6		.8		-6.6
TOTAL OBS		2160		2160		2160		2160		2160

B11

PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY APR-JUN 2011

MONTHLY HOUR AVERAGES FOR THE PERIOD

APRIL

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER		NUMBER		NUMBER		NUMBER		NUMBER	
	OBS	(DEG F)	OBS	(DEG F)	OBS	(%)	OBS	(GM/M3)	OBS	(DEG F)
1	30	50.5	30	39.3	30	68.3	30	6.5	30	45.3
2	30	49.5	30	39.4	30	71.1	30	6.6	30	44.8
3	30	48.7	30	39.4	30	73.0	30	6.6	30	44.5
4	30	48.2	30	39.2	30	73.4	30	6.6	30	44.1
5	30	47.6	30	39.2	30	74.7	30	6.6	30	43.8
6	30	47.0	30	39.3	30	76.3	30	6.6	30	43.5
7	30	46.6	30	39.6	30	77.8	30	6.7	30	43.5
8	30	48.0	30	40.5	30	76.4	30	6.9	30	44.5
9	30	50.3	30	41.5	30	73.0	30	7.2	30	46.2
10	30	52.9	30	42.3	30	69.2	30	7.4	30	47.8
11	30	55.6	30	42.3	30	63.9	30	7.3	30	49.0
12	30	57.6	30	42.0	30	59.8	30	7.2	30	49.8
13	30	59.3	30	41.4	30	55.8	30	7.0	30	50.3
14	30	60.4	30	41.2	30	53.7	30	7.0	30	50.8
15	30	61.1	30	41.3	30	52.7	30	7.0	30	51.2
16	30	61.7	30	41.2	30	51.4	30	7.0	30	51.5
17	30	62.1	30	40.8	30	50.0	30	6.9	30	51.5
18	30	61.7	30	40.5	30	50.3	30	6.8	30	51.2
19	30	60.2	30	40.2	30	51.9	30	6.7	30	50.4
20	30	57.8	30	39.8	30	54.9	30	6.6	30	49.1
21	30	55.6	30	39.6	30	58.4	30	6.6	30	48.0
22	30	53.9	30	39.5	30	61.4	30	6.6	30	47.2
23	30	52.8	30	39.3	30	63.3	30	6.5	30	46.5
24	30	51.9	30	39.0	30	64.6	30	6.5	30	46.0
HOURLY MEAN		54.2		40.3		63.6		6.8		47.5
AVG DAILY MAX		64.4		46.2		83.2		8.4		53.4
AVG DAILY MIN		44.0		33.8		42.8		5.2		40.7
ABSOLUTE MAX		86.4		71.4		98.5		18.8		76.0
ABSOLUTE MIN		32.9		15.3		18.6		2.4		28.8
TOTAL OBS		720		720		720		720		720

B12

PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY APR-JUN 2011

MONTHLY HOUR AVERAGES FOR THE PERIOD

MAY

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG F)	NUMBER OBS	(DEG F)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG F)
1	31	60.7	31	51.5	31	73.5	31	10.7	31	56.0
2	31	59.7	31	51.2	31	75.2	31	10.5	31	55.4
3	31	58.6	31	51.5	31	78.3	31	10.6	31	55.0
4	31	58.0	31	51.8	31	80.8	31	10.8	31	54.9
5	31	57.4	31	51.8	31	82.4	31	10.9	31	54.7
6	31	57.0	31	51.8	31	83.6	31	11.0	31	54.6
7	31	57.5	30	52.2	30	82.5	30	11.1	30	55.2
8	31	59.0	30	52.3	30	78.9	30	11.1	30	55.9
9	31	61.3	30	52.4	30	74.0	30	11.1	30	56.8
10	31	63.5	30	52.3	30	69.5	30	11.0	30	57.6
11	31	65.2	30	52.4	30	66.7	30	11.1	30	58.3
12	31	66.7	30	52.2	30	63.0	30	11.0	30	58.9
13	31	68.3	30	50.5	30	58.0	30	10.6	30	58.9
14	29	69.1	29	51.4	29	57.6	29	10.7	29	59.5
15	29	70.2	29	52.2	29	57.0	29	10.8	29	60.2
16	30	70.7	30	49.1	30	53.8	30	10.3	30	59.7
17	31	71.0	31	52.1	31	55.5	31	10.7	31	60.5
18	31	70.5	31	51.9	31	56.2	31	10.7	31	60.3
19	31	69.9	31	52.4	31	57.4	31	11.0	31	60.3
20	31	68.0	31	53.0	31	61.7	31	11.2	31	59.9
21	31	66.0	31	53.1	31	65.8	31	11.2	31	59.1
22	31	64.4	31	53.2	31	69.0	31	11.2	31	58.4
23	31	63.3	31	52.5	31	70.3	31	11.0	31	57.6
24	31	62.1	31	52.7	31	73.0	31	11.0	31	57.1
HOURLY MEAN		64.0		52.0		68.6		10.9		57.7
AVG DAILY MAX		72.7		57.9		87.3		13.2		62.5
AVG DAILY MIN		55.7		44.0		47.5		8.4		52.5
ABSOLUTE MAX		97.2		78.6		100.0		24.0		81.0
ABSOLUTE MIN		39.2		-19.6		2.1		.4		34.4
TOTAL OBS		739		732		732		732		732

B13

PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY APR-JUN 2011

MONTHLY HOUR AVERAGES FOR THE PERIOD

JUNE

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG F)	NUMBER OBS	(DEG F)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG F)
1	30	70.7	19	68.5	19	89.0	19	17.7	19	69.6
2	30	70.0	19	68.3	19	90.1	19	17.7	19	69.2
3	30	69.3	19	67.9	19	90.8	19	17.5	19	68.7
4	30	68.7	19	67.5	19	91.4	19	17.3	19	68.2
5	30	68.0	19	66.4	19	91.7	19	16.6	19	67.2
6	30	67.4	19	66.6	19	93.1	19	16.7	19	67.1
7	30	68.1	19	66.8	19	92.4	19	16.8	19	67.5
8	30	69.6	19	67.3	19	90.2	19	17.0	19	68.2
9	30	71.3	19	68.0	19	86.9	19	17.4	19	69.4
10	30	73.6	19	68.1	19	82.5	19	17.4	19	70.3
11	30	75.7	19	68.0	19	77.3	19	17.3	19	70.9
12	30	77.7	19	68.4	19	73.4	19	17.5	19	71.8
13	30	79.8	19	68.2	19	69.0	19	17.3	19	72.3
14	30	81.0	19	68.8	19	68.0	19	17.7	19	73.0
15	30	81.6	19	69.3	19	68.0	19	18.0	19	73.4
16	30	81.9	19	69.0	19	66.8	19	17.7	19	73.3
17	30	81.7	19	69.7	19	69.1	19	18.2	19	73.6
18	30	81.3	19	70.4	19	71.1	19	18.6	19	74.0
19	30	80.5	19	70.7	19	73.3	19	18.8	19	74.0
20	30	78.9	19	71.2	19	78.4	19	19.1	19	73.7
21	30	75.9	19	71.3	19	83.7	19	19.3	19	73.1
22	30	74.2	19	71.0	19	86.6	19	19.2	19	72.4
23	30	73.0	19	70.4	19	87.2	19	18.8	19	71.7
24	30	72.3	19	69.4	19	87.5	19	18.2	19	70.8
HOURLY MEAN		74.7	68.8		81.6		17.8		71.0	
AVG DAILY MAX		83.2	73.7		96.8		20.8		75.4	
AVG DAILY MIN		66.8	63.7		62.1		15.0		66.3	
ABSOLUTE MAX		98.1	80.4		100.0		25.6		80.3	
ABSOLUTE MIN		58.7	52.2		35.9		9.6		57.8	
TOTAL OBS		720	456		456		456		456	

B14

PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY APR-JUN 2011

APR-JUN HOUR AVERAGES FOR THE PERIOD

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER		NUMBER		NUMBER		NUMBER		NUMBER	
	OBS	(DEG F)	OBS	(DEG F)	OBS	(%)	OBS	(GM/M3)	OBS	(DEG F)
1	91	60.6	80	51.0	80	75.3	80	10.8	80	55.2
2	91	59.7	80	50.8	80	77.2	80	10.7	80	54.7
3	91	58.9	80	50.9	80	79.3	80	10.8	80	54.3
4	91	58.3	80	50.8	80	80.6	80	10.8	80	54.0
5	91	57.6	80	50.6	80	81.7	80	10.6	80	53.6
6	91	57.2	80	50.6	80	83.1	80	10.7	80	53.4
7	91	57.4	79	50.9	79	83.1	79	10.8	79	53.7
8	91	58.9	79	51.4	79	80.7	79	10.9	79	54.5
9	91	61.0	79	52.0	79	76.7	79	11.1	79	55.8
10	91	63.3	79	52.3	79	72.5	79	11.2	79	56.9
11	91	65.5	79	52.3	79	68.2	79	11.1	79	57.8
12	91	67.3	79	52.2	79	64.3	79	11.1	79	58.5
13	91	69.1	79	51.3	79	59.8	79	10.8	79	58.9
14	89	70.2	78	51.7	78	58.7	78	11.0	78	59.5
15	89	71.0	78	52.1	78	58.0	78	11.1	78	60.0
16	90	71.4	79	50.9	79	56.0	79	10.9	79	59.8
17	91	71.6	80	52.0	80	56.7	80	11.1	80	60.2
18	91	71.1	80	52.0	80	57.5	80	11.1	80	60.1
19	91	70.2	80	52.2	80	59.1	80	11.2	80	59.8
20	91	68.2	80	52.4	80	63.1	80	11.4	80	59.1
21	91	65.8	80	52.4	80	67.3	80	11.4	80	58.3
22	91	64.1	80	52.3	80	70.4	80	11.4	80	57.5
23	91	63.0	80	51.8	80	71.7	80	11.2	80	56.8
24	91	62.1	80	51.5	80	73.3	80	11.0	80	56.2
HOURLY MEAN		64.3		51.6		69.8		11.0		57.0
AVG DAILY MAX		73.4		57.3		88.1		13.2		62.1
AVG DAILY MIN		55.5		44.8		49.2		8.8		51.4
ABSOLUTE MAX		98.1		80.4		100.0		25.6		81.0
ABSOLUTE MIN		32.9		-19.6		2.1		.4		28.8
TOTAL OBS		2179		1908		1908		1908		1908

BIS

PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JAN-JUN 2011

JAN-JUN HOUR AVERAGES FOR THE PERIOD

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER		NUMBER		NUMBER		NUMBER		NUMBER	
	OBS	(DEG F)	OBS	(DEG F)	OBS	(%)	OBS	(GM/M3)	OBS	(DEG F)
1	181	44.1	170	35.1	170	76.5	170	7.0	170	39.3
2	181	43.3	170	34.9	170	77.8	170	6.9	170	38.8
3	181	42.7	170	34.8	170	78.9	170	6.9	170	38.5
4	181	42.1	170	34.6	170	79.9	170	6.9	170	38.1
5	181	41.6	170	34.3	170	80.9	170	6.8	170	37.7
6	181	41.2	170	34.3	170	81.8	170	6.8	170	37.5
7	181	41.2	169	34.4	169	82.0	169	6.9	169	37.5
8	181	42.0	169	34.7	169	81.1	169	7.0	169	37.9
9	181	43.5	169	35.3	169	78.8	169	7.1	169	38.9
10	181	45.7	169	35.9	169	74.9	169	7.2	169	40.3
11	181	47.9	169	36.3	169	70.8	169	7.2	169	41.6
12	181	50.0	169	36.7	169	67.2	169	7.3	169	42.8
13	181	51.8	169	36.6	169	63.5	169	7.2	169	43.7
14	179	52.9	168	37.0	168	61.9	168	7.2	168	44.4
15	179	53.8	168	37.4	168	60.9	168	7.3	168	45.0
16	180	54.3	169	37.0	169	59.6	169	7.2	169	45.2
17	181	54.4	170	37.6	170	60.1	170	7.3	170	45.4
18	181	53.7	170	37.3	170	61.2	170	7.3	170	44.9
19	181	52.4	170	37.1	170	63.2	170	7.3	170	44.2
20	181	50.7	170	36.9	170	66.1	170	7.3	170	43.3
21	181	48.8	170	36.7	170	69.3	170	7.3	170	42.4
22	181	47.3	170	36.6	170	72.2	170	7.3	170	41.7
23	181	46.3	170	36.1	170	73.6	170	7.2	170	41.0
24	181	45.3	170	35.8	170	75.2	170	7.1	170	40.3
HOURLY MEAN		47.4		36.0		71.6		7.1		41.3
AVG DAILY MAX		56.3		41.9		87.4		8.7		47.3
AVG DAILY MIN		38.5		29.3		54.4		5.6		34.6
ABSOLUTE MAX		98.1		80.4		100.0		25.6		81.0
ABSOLUTE MIN		-6.2		-19.6		2.1		.4		-6.6
TOTAL OBS		4339		4068		4068		4068		4068

B16

PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JUL-SEP 2011

MONTHLY HOUR AVERAGES FOR THE PERIOD

JULY

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER		NUMBER		NUMBER		NUMBER		NUMBER	
	OBS	(DEG F)	OBS	(DEG F)	OBS	(%)	OBS	(GM/M3)	OBS	(DEG F)
1	31	80.0	0	-999.0	0	-999.0	0	-999.0	0	-999.0
2	31	79.5	0	-999.0	0	-999.0	0	-999.0	0	-999.0
3	31	78.2	0	-999.0	0	-999.0	0	-999.0	0	-999.0
4	31	77.6	0	-999.0	0	-999.0	0	-999.0	0	-999.0
5	31	76.9	0	-999.0	0	-999.0	0	-999.0	0	-999.0
6	31	76.5	0	-999.0	0	-999.0	0	-999.0	0	-999.0
7	31	76.7	0	-999.0	0	-999.0	0	-999.0	0	-999.0
8	31	78.0	0	-999.0	0	-999.0	0	-999.0	0	-999.0
9	31	80.3	0	-999.0	0	-999.0	0	-999.0	0	-999.0
10	31	82.2	0	-999.0	0	-999.0	0	-999.0	0	-999.0
11	31	84.0	0	-999.0	0	-999.0	0	-999.0	0	-999.0
12	31	86.2	0	-999.0	0	-999.0	0	-999.0	0	-999.0
13	31	88.2	0	-999.0	0	-999.0	0	-999.0	0	-999.0
14	31	89.6	0	-999.0	0	-999.0	0	-999.0	0	-999.0
15	31	90.7	0	-999.0	0	-999.0	0	-999.0	0	-999.0
16	31	90.9	0	-999.0	0	-999.0	0	-999.0	0	-999.0
17	31	91.2	0	-999.0	0	-999.0	0	-999.0	0	-999.0
18	31	90.0	0	-999.0	0	-999.0	0	-999.0	0	-999.0
19	31	88.5	0	-999.0	0	-999.0	0	-999.0	0	-999.0
20	31	86.7	0	-999.0	0	-999.0	0	-999.0	0	-999.0
21	31	84.0	0	-999.0	0	-999.0	0	-999.0	0	-999.0
22	31	82.9	0	-999.0	0	-999.0	0	-999.0	0	-999.0
23	31	81.9	0	-999.0	0	-999.0	0	-999.0	0	-999.0
24	31	81.1	0	-999.0	0	-999.0	0	-999.0	0	-999.0
HOURLY MEAN		83.4		-999.0		-999.0		-999.0		-999.0
AVG DAILY MAX		92.2		-999.0		-999.0		-999.0		-999.0
AVG DAILY MIN		75.8		999.0		999.0		999.0		999.0
ABSOLUTE MAX		102.9		-999.0		-999.0		-999.0		-999.0
ABSOLUTE MIN		70.3		999.0		999.0		999.0		999.0
TOTAL OBS		744		0		0		0		0

B17



PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JUL-SEP 2011

MONTHLY HOUR AVERAGES FOR THE PERIOD

AUGUST

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER		NUMBER		NUMBER		NUMBER		NUMBER	
	OBS	(DEG F)	OBS	(DEG F)	OBS	(%)	OBS	(GM/M3)	OBS	(DEG F)
1	31	74.3	3	67.1	3	85.8	3	16.8	3	68.7
2	31	73.5	3	67.0	3	87.4	3	16.7	3	68.4
3	31	72.9	3	66.9	3	88.3	3	16.7	3	68.3
4	31	72.3	3	66.7	3	89.3	3	16.6	3	68.0
5	31	71.7	3	67.1	3	91.5	3	16.8	3	68.1
6	31	71.4	3	66.8	3	91.0	3	16.6	3	67.8
7	31	70.5	3	67.3	3	95.1	3	17.0	3	67.9
8	31	72.0	3	67.9	3	95.5	3	17.4	3	68.4
9	31	73.8	3	68.6	3	94.2	3	17.8	3	69.2
10	31	76.0	3	70.0	3	91.9	3	18.6	3	70.9
11	31	78.3	3	71.6	3	89.8	3	19.5	3	72.8
12	31	80.2	3	71.9	3	81.0	3	19.6	3	74.1
13	31	81.6	3	71.9	3	74.0	3	19.5	3	74.9
14	31	83.3	3	72.9	3	72.6	3	20.1	3	76.0
15	31	84.3	3	73.1	3	70.7	3	20.2	3	76.5
16	31	84.9	3	73.9	3	71.5	3	20.8	3	77.1
17	31	85.0	3	74.2	3	73.3	3	21.0	3	77.1
18	31	84.2	3	74.5	3	74.8	3	21.2	3	77.2
19	30	82.8	3	75.1	3	79.4	3	21.7	3	77.3
20	30	80.0	3	75.0	3	82.9	3	21.6	3	76.8
21	30	77.8	3	74.4	3	85.1	3	21.2	3	75.9
22	30	76.2	3	73.6	3	86.0	3	20.7	3	75.1
23	30	75.1	3	73.0	3	87.6	3	20.4	3	74.4
24	30	74.5	3	72.7	3	88.2	3	20.2	3	74.0
HOURLY MEAN		77.3		71.0		84.5		19.1		72.7
AVG DAILY MAX		85.9		75.3		97.1		21.8		77.4
AVG DAILY MIN		69.9		66.5		69.7		16.4		67.6
ABSOLUTE MAX		100.8		79.9		100.0		24.9		81.8
ABSOLUTE MIN		63.0		62.2		60.0		14.2		63.8
TOTAL OBS		738		72		72		72		72

B18

PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JUL-SEP 2011

MONTHLY HOUR AVERAGES FOR THE PERIOD

SEPTEMBER

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER		NUMBER		NUMBER		NUMBER		NUMBER	
	OBS	(DEG F)	OBS	(DEG F)	OBS	(%)	OBS	(GM/M3)	OBS	(DEG F)
1	30	60.7	30	53.3	30	77.5	30	11.0	30	56.7
2	30	59.6	30	53.0	30	79.6	30	10.9	30	56.1
3	30	58.6	30	52.7	30	81.1	30	10.7	30	55.4
4	30	58.0	30	52.4	30	82.1	30	10.6	30	55.0
5	30	57.2	30	51.9	30	82.9	30	10.4	30	54.4
6	30	56.5	30	51.7	30	84.2	30	10.3	30	54.0
7	30	56.6	30	52.1	30	85.4	30	10.4	30	54.2
8	30	58.3	30	54.7	30	86.2	30	11.4	30	56.3
9	30	60.9	30	56.3	30	82.9	30	12.1	30	58.4
10	30	63.4	30	56.6	30	78.0	30	12.2	30	59.6
11	30	65.8	30	56.6	30	72.6	30	12.2	30	60.5
12	30	67.8	30	56.1	30	67.0	30	11.9	30	61.0
13	30	69.3	30	55.4	30	62.8	30	11.6	30	61.3
14	30	70.4	30	55.0	30	59.6	30	11.5	30	61.5
15	30	71.5	30	54.5	30	56.7	30	11.3	30	61.6
16	30	72.1	30	54.8	30	56.1	30	11.4	30	62.1
17	30	72.2	30	54.6	30	55.8	30	11.4	30	62.0
18	30	71.2	30	54.6	30	57.3	30	11.4	30	61.7
19	30	68.5	30	54.0	30	61.4	30	11.2	30	60.4
20	30	66.3	30	53.8	30	65.3	30	11.1	30	59.3
21	30	64.7	30	53.6	30	68.3	30	11.1	30	58.6
22	30	63.1	30	53.3	30	71.4	30	10.9	30	57.7
23	30	61.7	30	53.0	30	74.0	30	10.8	30	57.0
24	30	60.5	30	52.5	30	75.7	30	10.6	30	56.2
HOURLY MEAN		64.0		54.0		71.8		11.2		58.4
AVG DAILY MAX		72.7		60.2		92.0		13.8		63.5
AVG DAILY MIN		55.0		48.5		53.1		9.2		52.2
ABSOLUTE MAX		97.9		78.3		100.0		23.6		83.1
ABSOLUTE MIN		44.7		34.0		28.6		5.1		42.0
TOTAL OBS		720		720		720		720		720

B19

PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JUL-SEP 2011

JUL-SEP HOUR AVERAGES FOR THE PERIOD

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG F)	NUMBER OBS	(DEG F)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG F)
1	92	71.8	33	54.6	33	78.2	33	11.5	33	57.8
2	92	71.0	33	54.3	33	80.3	33	11.4	33	57.2
3	92	70.0	33	54.0	33	81.7	33	11.3	33	56.6
4	92	69.4	33	53.7	33	82.7	33	11.1	33	56.2
5	92	68.7	33	53.3	33	83.7	33	11.0	33	55.6
6	92	68.3	33	53.1	33	84.8	33	10.9	33	55.2
7	92	68.1	33	53.5	33	86.3	33	11.0	33	55.4
8	92	69.6	33	55.9	33	87.1	33	11.9	33	57.4
9	92	71.8	33	57.4	33	83.9	33	12.6	33	59.3
10	92	74.0	33	57.8	33	79.3	33	12.8	33	60.6
11	92	76.1	33	58.0	33	74.2	33	12.8	33	61.6
12	92	78.2	33	57.5	33	68.3	33	12.6	33	62.2
13	92	79.8	33	56.9	33	63.8	33	12.3	33	62.5
14	92	81.3	33	56.7	33	60.8	33	12.2	33	62.8
15	92	82.3	33	56.1	33	58.0	33	12.1	33	63.0
16	92	82.7	33	56.5	33	57.5	33	12.3	33	63.4
17	92	82.9	33	56.4	33	57.4	33	12.2	33	63.4
18	92	81.9	33	56.4	33	58.9	33	12.3	33	63.1
19	91	80.0	33	55.9	33	63.1	33	12.2	33	61.9
20	91	77.8	33	55.7	33	66.9	33	12.0	33	60.9
21	91	75.6	33	55.5	33	69.9	33	12.0	33	60.1
22	91	74.2	33	55.2	33	72.7	33	11.8	33	59.3
23	91	73.0	33	54.8	33	75.3	33	11.7	33	58.6
24	91	72.1	33	54.3	33	76.8	33	11.5	33	57.8
HOURLY MEAN		75.0		55.6		73.0		11.9		59.7
AVG DAILY MAX		83.7		61.6		92.5		14.5		64.7
AVG DAILY MIN		67.0		50.1		54.6		9.8		53.6
ABSOLUTE MAX		102.9		79.9		100.0		24.9		83.1
ABSOLUTE MIN		44.7		34.0		28.6		5.1		42.0
TOTAL OBS		2202		792		792		792		792

B20

PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY OCT-DEC 2011

MONTHLY HOUR AVERAGES FOR THE PERIOD

OCTOBER

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG F)	NUMBER OBS	(DEG F)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG F)
1	31	53.6	31	40.5	31	62.1	31	7.0	31	47.4
2	31	52.8	31	40.2	31	63.1	31	7.0	31	46.9
3	31	51.8	31	39.7	31	64.1	31	6.9	31	46.2
4	31	51.1	31	39.6	31	65.3	31	6.8	31	45.7
5	31	50.2	31	39.3	31	66.7	31	6.7	31	45.2
6	31	49.4	31	39.0	31	67.8	31	6.7	31	44.6
7	31	48.7	31	39.0	31	69.6	31	6.7	31	44.3
8	31	49.5	31	41.3	31	73.9	31	7.3	31	45.6
9	31	52.6	31	44.7	31	75.0	31	8.2	31	48.7
10	31	56.4	31	46.3	31	69.5	31	8.7	31	51.3
11	31	60.4	31	47.0	31	62.7	31	8.9	31	53.5
12	31	63.4	31	46.3	31	54.9	31	8.6	31	54.4
13	31	65.4	31	45.4	31	49.9	31	8.3	31	54.9
14	31	66.7	31	44.7	31	46.8	31	8.0	31	55.1
15	31	67.3	31	44.2	31	45.2	31	7.9	31	55.2
16	31	67.6	31	43.9	31	44.5	31	7.8	31	55.2
17	31	67.3	31	43.6	31	44.6	31	7.7	31	55.0
18	31	65.4	31	42.5	31	45.3	31	7.4	31	53.7
19	31	62.7	31	41.7	31	47.8	31	7.2	31	52.2
20	31	60.4	31	41.3	31	50.7	31	7.2	31	51.0
21	31	59.0	31	41.2	31	53.2	31	7.2	31	50.3
22	31	57.7	31	40.9	31	54.9	31	7.1	31	49.6
23	31	56.2	31	40.8	31	57.3	31	7.1	31	48.9
24	31	55.0	31	40.7	31	59.4	31	7.1	31	48.2
HOURLY MEAN		57.9		42.2		58.1		7.5		50.1
AVG DAILY MAX		68.7		48.9		78.5		9.4		56.6
AVG DAILY MIN		47.1		35.5		41.4		5.9		42.5
ABSOLUTE MAX		89.1		67.4		100.0		17.1		71.3
ABSOLUTE MIN		29.9		14.2		27.3		2.3		25.4
TOTAL OBS		744		744		744		744		744

B21

PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY OCT-DEC 2011

MONTHLY HOUR AVERAGES FOR THE PERIOD 10/ 1/11 TO 12/31/11

NOVEMBER

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER		NUMBER		NUMBER		NUMBER		NUMBER	
	OBS	(DEG F)	OBS	(DEG F)	OBS	(%)	OBS	(GM/M3)	OBS	(DEG F)
1	30	40.7	24	29.8	24	65.9	24	4.5	24	36.2
2	30	40.1	24	29.9	24	67.7	24	4.6	24	36.0
3	30	39.5	24	30.1	24	69.9	24	4.6	24	35.7
4	30	38.8	24	30.1	24	71.5	24	4.6	24	35.3
5	30	38.2	24	29.9	24	71.9	24	4.6	24	35.0
6	30	37.9	24	30.2	24	73.1	24	4.7	24	35.0
7	30	37.5	24	30.2	24	74.2	24	4.7	24	34.8
8	30	37.2	24	30.7	24	76.6	24	4.8	24	34.8
9	30	39.3	24	32.9	24	77.5	24	5.1	24	36.9
10	30	41.6	24	33.8	24	74.0	24	5.3	24	38.5
11	30	44.6	24	34.8	24	69.3	24	5.5	24	40.5
12	30	47.0	24	34.6	24	63.1	24	5.4	24	41.7
13	30	48.3	24	34.2	24	60.1	24	5.3	24	42.2
14	30	50.6	23	32.4	23	54.1	23	5.0	23	42.8
15	30	51.1	23	31.7	23	52.0	23	4.9	23	42.9
16	30	49.3	23	31.0	23	52.4	23	4.9	23	41.3
17	30	49.6	24	31.5	24	52.0	24	4.8	24	41.9
18	30	47.3	24	30.3	24	53.8	24	4.6	24	40.3
19	30	45.2	24	29.9	24	57.0	24	4.6	24	39.0
20	30	43.6	24	29.8	24	59.5	24	4.5	24	38.1
21	30	42.4	24	29.7	24	62.1	24	4.6	24	37.3
22	30	41.4	24	29.6	24	64.0	24	4.5	24	36.7
23	30	41.0	24	29.5	24	65.1	24	4.5	24	36.2
24	30	40.3	24	29.2	24	65.9	24	4.5	24	35.7
HOURLY MEAN		43.0		31.1		64.8		4.8		38.1
AVG DAILY MAX		53.7		37.4		81.4		6.1		44.6
AVG DAILY MIN		33.3		23.5		48.2		3.6		30.1
ABSOLUTE MAX		74.0		51.8		100.0		9.8		60.9
ABSOLUTE MIN		7.6		-9.5		6.7		.8		5.0
TOTAL OBS		720		573		573		573		573

B22

PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY OCT-DEC 2011

MONTHLY HOUR AVERAGES FOR THE PERIOD

DECEMBER

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER		NUMBER		NUMBER		NUMBER		NUMBER	
	OBS	(DEG F)	OBS	(DEG F)	OBS	(%)	OBS	(GM/M3)	OBS	(DEG F)
1	31	31.8	31	2.3	31	31.4	31	1.6	31	24.2
2	31	31.4	31	1.9	31	31.4	31	1.5	31	23.8
3	31	30.7	31	1.4	31	31.5	31	1.5	31	23.3
4	31	30.4	31	1.3	31	31.9	31	1.5	31	23.1
5	31	30.0	31	1.1	31	32.3	31	1.5	31	22.8
6	31	29.5	31	.7	31	32.2	31	1.5	31	22.5
7	31	29.1	31	.4	31	32.3	31	1.5	31	22.2
8	31	29.0	31	.4	31	32.7	31	1.5	31	22.1
9	31	29.8	31	1.2	31	32.3	31	1.5	31	22.7
10	31	31.6	31	2.8	31	32.1	31	1.6	31	24.1
11	31	33.9	31	4.4	31	31.3	31	1.6	31	25.8
12	31	36.2	31	5.7	31	30.4	31	1.7	31	27.5
13	31	38.2	31	6.2	31	29.0	31	1.7	31	28.8
14	30	39.8	30	6.6	30	27.6	30	1.7	30	29.7
15	30	40.8	30	7.6	30	28.0	30	1.8	30	30.5
16	31	40.9	31	8.5	31	29.6	31	1.9	31	30.8
17	31	40.1	31	7.7	31	29.7	31	1.9	31	30.2
18	31	38.4	31	6.5	31	29.9	31	1.8	31	28.9
19	31	36.6	31	5.2	31	29.8	31	1.7	31	27.7
20	31	35.4	31	4.2	31	29.8	31	1.6	31	26.7
21	31	34.1	31	3.4	31	29.9	31	1.6	31	25.8
22	31	33.5	31	2.8	31	30.0	31	1.5	31	25.3
23	31	32.7	31	2.1	31	29.8	31	1.5	31	24.7
24	31	32.3	31	1.9	31	30.1	31	1.5	31	24.4
HOURLY MEAN		34.0		3.6		30.6		1.6		25.7
AVG DAILY MAX		42.1		10.6		35.5		2.1		31.8
AVG DAILY MIN		26.3		-3.4		26.4		1.1		19.5
ABSOLUTE MAX		59.8		34.9		85.4		5.4		42.0
ABSOLUTE MIN		7.1		-19.7		14.9		.5		4.3
TOTAL OBS		742		742		742		742		742

B23

PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY OCT-DEC 2011

OCT-DEC HOUR AVERAGES FOR THE PERIOD

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	-----		-----		-----		-----		-----	
	NUMBER		NUMBER		NUMBER		NUMBER		NUMBER	
	OBS	(DEG F)	OBS	(DEG F)	OBS	(%)	OBS	(GM/M3)	OBS	(DEG F)
----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1	92	42.0	86	23.7	86	52.1	86	4.4	86	35.9
2	92	41.4	86	23.5	86	52.9	86	4.3	86	35.5
3	92	40.7	86	23.2	86	54.0	86	4.3	86	35.0
4	92	40.1	86	23.1	86	55.0	86	4.3	86	34.7
5	92	39.5	86	22.9	86	55.7	86	4.3	86	34.3
6	92	38.9	86	22.7	86	56.5	86	4.2	86	33.9
7	92	38.5	86	22.6	86	57.5	86	4.2	86	33.7
8	92	38.6	86	23.6	86	59.8	86	4.5	86	34.2
9	92	40.6	86	25.7	86	60.3	86	4.9	86	36.0
10	92	43.2	86	27.1	86	57.3	86	5.2	86	37.9
11	92	46.3	86	28.3	86	53.2	86	5.3	86	39.9
12	92	48.9	86	28.4	86	48.3	86	5.2	86	41.2
13	92	50.7	86	28.1	86	45.2	86	5.1	86	41.9
14	91	52.5	84	27.7	84	42.0	84	5.0	84	42.7
15	91	53.2	84	27.7	84	40.9	84	4.9	84	43.0
16	92	52.6	85	27.5	85	41.2	85	4.8	85	42.5
17	92	52.3	86	27.3	86	41.3	86	4.8	86	42.4
18	92	50.4	86	26.1	86	42.1	86	4.6	86	41.0
19	92	48.2	86	25.2	86	43.9	86	4.5	86	39.6
20	92	46.5	86	24.7	86	45.6	86	4.5	86	38.6
21	92	45.2	86	24.4	86	47.3	86	4.4	86	37.9
22	92	44.2	86	24.0	86	48.5	86	4.4	86	37.3
23	92	43.3	86	23.7	86	49.6	86	4.4	86	36.6
24	92	42.6	86	23.5	86	50.7	86	4.3	86	36.1
HOURLY MEAN		45.0		25.2		50.1		4.6		38.0
AVG DAILY MAX		54.8		31.9		64.0		5.9		44.3
AVG DAILY MIN		35.6		18.2		38.0		3.5		30.8
ABSOLUTE MAX		89.1		67.4		100.0		17.1		71.3
ABSOLUTE MIN		7.1		-19.7		6.7		.5		4.3
TOTAL OBS		2206		2059		2059		2059		2059

B24

PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JUL-DEC 2011

JUL-DEC HOUR AVERAGES FOR THE PERIOD

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG F)	NUMBER OBS	(DEG F)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG F)
1	184	56.9	119	32.3	119	59.4	119	6.4	119	42.0
2	184	56.2	119	32.0	119	60.5	119	6.3	119	41.5
3	184	55.4	119	31.8	119	61.7	119	6.2	119	41.0
4	184	54.8	119	31.6	119	62.7	119	6.2	119	40.6
5	184	54.1	119	31.3	119	63.5	119	6.1	119	40.2
6	184	53.6	119	31.1	119	64.3	119	6.1	119	39.8
7	184	53.3	119	31.2	119	65.4	119	6.1	119	39.7
8	184	54.1	119	32.6	119	67.4	119	6.5	119	40.6
9	184	56.2	119	34.5	119	66.9	119	7.0	119	42.5
10	184	58.6	119	35.6	119	63.4	119	7.3	119	44.2
11	184	61.2	119	36.5	119	59.0	119	7.4	119	45.9
12	184	63.5	119	36.5	119	53.9	119	7.3	119	47.0
13	184	65.2	119	36.1	119	50.4	119	7.1	119	47.6
14	183	67.0	117	35.9	117	47.3	117	7.0	117	48.4
15	183	67.8	117	35.7	117	45.7	117	6.9	117	48.6
16	184	67.7	118	35.6	118	45.7	118	6.9	118	48.4
17	184	67.6	119	35.4	119	45.8	119	6.9	119	48.2
18	184	66.2	119	34.5	119	46.8	119	6.7	119	47.1
19	183	64.0	119	33.8	119	49.2	119	6.6	119	45.8
20	183	62.1	119	33.3	119	51.5	119	6.6	119	44.8
21	183	60.3	119	33.0	119	53.5	119	6.5	119	44.0
22	183	59.1	119	32.7	119	55.2	119	6.5	119	43.4
23	183	58.1	119	32.3	119	56.7	119	6.4	119	42.7
24	183	57.3	119	32.0	119	57.9	119	6.3	119	42.1
HOURLY MEAN		60.0		33.6		56.4		6.6		44.0
AVG DAILY MAX		69.3		40.1		71.8		8.3		49.9
AVG DAILY MIN		51.3		27.0		42.6		5.3		37.0
ABSOLUTE MAX		102.9		79.9		100.0		24.9		83.1
ABSOLUTE MIN		7.1		-19.7		6.7		.5		4.3
TOTAL OBS		4408		2851		2851		2851		2851

B25



PROGRAM: WETTEMP  
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JAN-DEC 2011

JAN-DEC HOUR AVERAGES FOR THE PERIOD

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG F)	NUMBER OBS	(DEG F)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG F)
1	365	50.5	289	34.0	289	69.4	289	6.7	289	40.4
2	365	49.8	289	33.7	289	70.7	289	6.7	289	39.9
3	365	49.1	289	33.5	289	71.8	289	6.6	289	39.5
4	365	48.5	289	33.4	289	72.8	289	6.6	289	39.1
5	365	47.9	289	33.1	289	73.7	289	6.5	289	38.7
6	365	47.4	289	33.0	289	74.6	289	6.5	289	38.5
7	365	47.3	288	33.1	288	75.1	288	6.6	288	38.4
8	365	48.1	288	33.8	288	75.4	288	6.8	288	39.0
9	365	49.9	288	35.0	288	73.9	288	7.1	288	40.4
10	365	52.2	288	35.8	288	70.1	288	7.2	288	41.9
11	365	54.6	288	36.4	288	66.0	288	7.3	288	43.4
12	365	56.8	288	36.6	288	61.7	288	7.3	288	44.5
13	365	58.6	288	36.4	288	58.1	288	7.1	288	45.3
14	362	60.0	285	36.5	285	55.9	285	7.1	285	46.0
15	362	60.9	285	36.7	285	54.7	285	7.1	285	46.5
16	364	61.1	287	36.4	287	53.9	287	7.1	287	46.5
17	365	61.1	289	36.7	289	54.2	289	7.1	289	46.5
18	365	60.0	289	36.2	289	55.3	289	7.1	289	45.8
19	364	58.2	289	35.7	289	57.4	289	7.0	289	44.9
20	364	56.4	289	35.4	289	60.1	289	7.0	289	43.9
21	364	54.6	289	35.2	289	62.8	289	7.0	289	43.1
22	364	53.3	289	35.0	289	65.2	289	7.0	289	42.4
23	364	52.2	289	34.6	289	66.7	289	6.9	289	41.7
24	364	51.3	289	34.3	289	68.1	289	6.8	289	41.0
HOURLY MEAN		53.7		35.0		65.3		6.9		42.4
AVG DAILY MAX		62.8		41.2		80.9		8.5		48.4
AVG DAILY MIN		45.0		28.3		49.5		5.5		35.6
ABSOLUTE MAX		102.9		80.4		100.0		25.6		83.1
ABSOLUTE MIN		-6.2		-19.7		2.1		.4		-6.6
TOTAL OBS		8747		6919		6919		6919		6919

B26

## **Wind Direction Frequencies**

### **10-Meter Level**

Note: 10-meter data averages were impacted in the second and third quarters by the record flooding, accessibility, and sandbagging required around the meteorological tower.

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JANUARY

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	3.2	9.7	3.2	00.0	3.2	00.0	9.7	9.7	6.5	6.5	00.0	3.2	6.5	12.9	12.9	12.9	00.0	100.
2	9.7	3.2	3.2	00.0	3.2	3.2	3.2	12.9	16.1	3.2	3.2	3.2	00.0	6.5	16.1	12.9	00.0	100.
3	9.7	6.5	00.0	00.0	00.0	3.2	12.9	6.5	9.7	3.2	9.7	3.2	00.0	6.5	19.4	9.7	00.0	100.
4	6.5	6.5	00.0	00.0	00.0	9.7	6.5	3.2	19.4	6.5	3.2	3.2	3.2	3.2	19.4	9.7	00.0	100.
5	12.9	6.5	00.0	3.2	3.2	3.2	3.2	6.5	12.9	6.5	3.2	3.2	00.0	3.2	16.1	16.1	00.0	100.
6	6.5	12.9	00.0	6.5	00.0	3.2	3.2	9.7	9.7	3.2	6.5	3.2	00.0	9.7	12.9	12.9	00.0	100.
7	6.5	00.0	6.5	00.0	3.2	3.2	6.5	12.9	9.7	9.7	3.2	6.5	00.0	6.5	3.2	22.6	00.0	100.
8	16.1	6.5	3.2	00.0	3.2	3.2	3.2	3.2	19.4	3.2	3.2	9.7	3.2	3.2	6.5	12.9	00.0	100.
9	9.7	6.5	00.0	00.0	3.2	9.7	3.2	9.7	9.7	9.7	6.5	3.2	3.2	00.0	9.7	16.1	00.0	100.
10	9.7	6.5	3.2	3.2	3.2	00.0	6.5	16.1	12.9	6.5	00.0	3.2	00.0	12.9	6.5	9.7	00.0	100.
11	9.7	6.5	3.2	3.2	00.0	00.0	6.5	12.9	9.7	6.5	3.2	3.2	3.2	12.9	9.7	9.7	00.0	100.
12	12.9	6.5	3.2	00.0	00.0	9.7	9.7	00.0	12.9	6.5	3.2	3.2	3.2	9.7	12.9	6.5	00.0	100.
13	12.9	9.7	6.5	00.0	00.0	3.2	9.7	3.2	12.9	3.2	6.5	00.0	00.0	16.1	16.1	00.0	00.0	100.
14	16.1	3.2	6.5	3.2	3.2	6.5	6.5	00.0	3.2	9.7	6.5	3.2	00.0	16.1	16.1	00.0	00.0	100.
15	16.1	6.5	3.2	3.2	00.0	9.7	3.2	6.5	00.0	3.2	9.7	3.2	00.0	19.4	16.1	00.0	00.0	100.
16	9.7	16.1	3.2	3.2	3.2	3.2	00.0	6.5	3.2	3.2	3.2	9.7	00.0	19.4	12.9	3.2	00.0	100.
17	12.9	9.7	00.0	00.0	3.2	6.5	00.0	6.5	3.2	3.2	6.5	9.7	3.2	19.4	9.7	6.5	00.0	100.
18	9.7	6.5	00.0	00.0	6.5	3.2	00.0	3.2	6.5	9.7	00.0	3.2	6.5	16.1	19.4	9.7	00.0	100.
19	6.5	6.5	00.0	00.0	6.5	3.2	00.0	3.2	9.7	6.5	9.7	6.5	6.5	12.9	9.7	12.9	00.0	100.
20	9.7	6.5	00.0	00.0	00.0	9.7	00.0	3.2	9.7	9.7	3.2	6.5	6.5	16.1	9.7	9.7	00.0	100.
21	12.9	3.2	3.2	3.2	3.2	6.5	00.0	3.2	3.2	16.1	00.0	6.5	3.2	16.1	9.7	9.7	00.0	100.
22	9.7	00.0	00.0	3.2	3.2	6.5	3.2	3.2	16.1	6.5	00.0	9.7	6.5	6.5	16.1	9.7	00.0	100.
23	6.5	00.0	00.0	6.5	00.0	6.5	3.2	6.5	12.9	9.7	3.2	3.2	00.0	12.9	16.1	12.9	00.0	100.
24	6.5	00.0	3.2	3.2	3.2	3.2	3.2	9.7	9.7	6.5	6.5	6.5	3.2	3.2	16.1	16.1	00.0	100.
ALL	10.1	6.0	2.2	1.7	2.3	4.8	4.3	6.6	9.9	6.6	4.2	4.8	2.4	10.9	13.0	10.1	00.0	100.

NUMBER OF OBS = 744

B28

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

FEBRUARY

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	14.3	3.6	3.6	00.0	3.6	3.6	7.1	10.7	10.7	3.6	3.6	00.0	3.6	3.6	14.3	14.3	00.0	100.
2	7.1	7.1	00.0	3.6	3.6	3.6	3.6	21.4	3.6	3.6	3.6	3.6	3.6	7.1	10.7	14.3	00.0	100.
3	3.6	7.1	00.0	7.1	00.0	10.7	3.6	3.6	14.3	7.1	3.6	3.6	00.0	3.6	17.9	14.3	00.0	100.
4	7.1	3.6	00.0	3.6	3.6	10.7	3.6	7.1	14.3	00.0	10.7	00.0	00.0	10.7	21.4	3.6	00.0	100.
5	3.6	3.6	00.0	3.6	00.0	10.7	7.1	14.3	10.7	3.6	7.1	00.0	00.0	7.1	14.3	14.3	00.0	100.
6	3.6	3.6	00.0	00.0	10.7	7.1	3.6	10.7	7.1	7.1	7.1	00.0	3.6	7.1	14.3	14.3	00.0	100.
7	3.6	3.6	00.0	3.6	7.1	7.1	3.6	7.1	10.7	7.1	7.1	3.6	3.6	3.6	14.3	14.3	00.0	100.
8	3.6	3.6	00.0	00.0	14.3	00.0	7.1	00.0	17.9	7.1	10.7	00.0	00.0	10.7	7.1	17.9	00.0	100.
9	3.6	3.6	00.0	3.6	3.6	10.7	3.6	7.1	10.7	14.3	3.6	00.0	00.0	7.1	7.1	21.4	00.0	100.
10	7.1	3.6	3.6	3.6	3.6	7.1	3.6	7.1	7.1	17.9	7.1	00.0	00.0	3.6	3.6	21.4	00.0	100.
11	14.3	3.6	7.1	00.0	00.0	00.0	14.3	3.6	10.7	17.9	7.1	00.0	00.0	3.6	3.6	14.3	00.0	100.
12	10.7	7.1	3.6	00.0	00.0	00.0	17.9	3.6	7.1	14.3	10.7	3.6	00.0	3.6	3.6	14.3	00.0	100.
13	17.9	7.1	7.1	00.0	00.0	00.0	14.3	3.6	3.6	17.9	10.7	3.6	3.6	3.6	3.6	3.6	00.0	100.
14	14.3	7.1	00.0	00.0	00.0	00.0	10.7	7.1	7.1	7.1	21.4	3.6	3.6	3.6	3.6	10.7	00.0	100.
15	10.7	3.6	00.0	00.0	00.0	00.0	7.1	7.1	3.6	10.7	17.9	7.1	3.6	10.7	10.7	7.1	00.0	100.
16	10.7	10.7	00.0	00.0	00.0	3.6	3.6	7.1	7.1	17.9	3.6	3.6	10.7	7.1	7.1	7.1	00.0	100.
17	17.9	3.6	00.0	00.0	3.6	7.1	7.1	3.6	3.6	17.9	3.6	3.6	00.0	14.3	10.7	3.6	00.0	100.
18	17.9	00.0	00.0	00.0	00.0	10.7	7.1	3.6	14.3	3.6	7.1	3.6	3.6	3.6	10.7	14.3	00.0	100.
19	17.9	00.0	00.0	3.6	00.0	00.0	14.3	3.6	7.1	3.6	10.7	7.1	3.6	3.6	14.3	10.7	00.0	100.
20	17.9	3.6	3.6	00.0	00.0	00.0	10.7	7.1	7.1	7.1	3.6	7.1	3.6	7.1	10.7	10.7	00.0	100.
21	17.9	3.6	00.0	3.6	00.0	00.0	14.3	00.0	17.9	3.6	7.1	00.0	00.0	7.1	17.9	7.1	00.0	100.
22	14.3	3.6	3.6	3.6	00.0	00.0	10.7	10.7	10.7	3.6	7.1	3.6	3.6	3.6	14.3	7.1	00.0	100.
23	10.7	3.6	7.1	00.0	3.6	00.0	3.6	14.3	10.7	7.1	3.6	3.6	00.0	10.7	3.6	17.9	00.0	100.
24	21.4	00.0	00.0	3.6	3.6	3.6	7.1	3.6	14.3	10.7	00.0	3.6	00.0	10.7	7.1	10.7	00.0	100.
ALL	11.3	4.2	1.6	1.8	2.5	4.0	7.9	7.0	9.7	8.9	7.4	2.7	2.1	6.5	10.3	12.1	00.0	100.

NUMBER OF OBS = 672

B29

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

MARCH

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	6.5	22.6	00.0	6.5	6.5	00.0	16.1	6.5	12.9	00.0	00.0	9.7	00.0	00.0	3.2	9.7	00.0	100.
2	12.9	16.1	3.2	6.5	3.2	6.5	16.1	6.5	9.7	00.0	6.5	00.0	3.2	00.0	00.0	9.7	00.0	100.
3	12.9	6.5	9.7	3.2	6.5	6.5	12.9	6.5	9.7	3.2	3.2	3.2	00.0	00.0	12.9	00.0	00.0	100.
4	12.9	6.5	3.2	6.5	9.7	00.0	12.9	12.9	12.9	00.0	00.0	3.2	6.5	00.0	6.5	6.5	00.0	100.
5	6.5	9.7	12.9	12.9	00.0	00.0	6.5	16.1	9.7	3.2	00.0	00.0	00.0	6.5	6.5	9.7	00.0	100.
6	16.1	12.9	9.7	6.5	3.2	3.2	3.2	12.9	9.7	3.2	00.0	00.0	00.0	00.0	12.9	6.5	00.0	100.
7	12.9	9.7	16.1	6.5	00.0	3.2	6.5	3.2	19.4	3.2	00.0	00.0	00.0	00.0	12.9	6.5	00.0	100.
8	9.7	12.9	00.0	19.4	6.5	3.2	6.5	9.7	9.7	3.2	00.0	00.0	00.0	3.2	9.7	6.5	00.0	100.
9	6.5	12.9	00.0	22.6	00.0	6.5	6.5	12.9	9.7	3.2	00.0	00.0	00.0	3.2	6.5	9.7	00.0	100.
10	9.7	3.2	9.7	16.1	3.2	3.2	6.5	9.7	3.2	9.7	6.5	00.0	3.2	3.2	12.9	00.0	00.0	100.
11	3.2	00.0	9.7	16.1	9.7	3.2	6.5	00.0	12.9	6.5	6.5	3.2	3.2	3.2	9.7	6.5	00.0	100.
12	3.2	00.0	16.1	12.9	9.7	3.2	6.5	00.0	12.9	3.2	6.5	3.2	3.2	6.5	6.5	6.5	00.0	100.
13	3.2	6.5	9.7	3.2	12.9	6.5	9.7	00.0	6.5	12.9	00.0	9.7	00.0	3.2	6.5	9.7	00.0	100.
14	3.2	6.5	3.2	6.5	9.7	9.7	6.5	3.2	9.7	3.2	6.5	12.9	00.0	00.0	6.5	12.9	00.0	100.
15	3.2	3.2	9.7	3.2	9.7	12.9	6.5	3.2	9.7	6.5	9.7	3.2	3.2	00.0	6.5	9.7	00.0	100.
16	3.2	12.9	00.0	6.5	6.5	12.9	6.5	3.2	6.5	9.7	3.2	6.5	3.2	3.2	6.5	9.7	00.0	100.
17	3.2	6.5	6.5	3.2	9.7	9.7	6.5	9.7	6.5	6.5	00.0	3.2	00.0	00.0	12.9	16.1	00.0	100.
18	6.5	6.5	3.2	6.5	12.9	3.2	16.1	6.5	6.5	00.0	00.0	3.2	00.0	3.2	6.5	19.4	00.0	100.
19	3.2	6.5	3.2	6.5	9.7	6.5	12.9	6.5	6.5	3.2	00.0	00.0	00.0	6.5	6.5	22.6	00.0	100.
20	9.7	9.7	3.2	9.7	6.5	3.2	6.5	9.7	6.5	6.5	00.0	00.0	00.0	00.0	9.7	19.4	00.0	100.
21	19.4	12.9	00.0	16.1	3.2	3.2	9.7	6.5	6.5	6.5	00.0	00.0	3.2	00.0	6.5	6.5	00.0	100.
22	19.4	6.5	9.7	9.7	00.0	00.0	9.7	6.5	9.7	6.5	00.0	3.2	00.0	3.2	3.2	12.9	00.0	100.
23	12.9	12.9	6.5	9.7	3.2	3.2	6.5	3.2	12.9	6.5	00.0	6.5	3.2	00.0	3.2	9.7	00.0	100.
24	6.5	19.4	3.2	9.7	6.5	6.5	3.2	3.2	12.9	3.2	00.0	3.2	3.2	00.0	3.2	16.1	00.0	100.
ALL	8.6	9.3	6.2	9.4	6.2	4.8	8.6	6.6	9.7	4.6	2.0	3.1	1.6	1.9	6.9	10.6	00.0	100.

NUMBER OF OBS = 744

B30

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JAN-MAR

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	7.8	12.2	2.2	2.2	4.4	1.1	11.1	8.9	10.0	3.3	1.1	4.4	3.3	5.6	10.0	12.2	00.0	100.
2	10.0	8.9	2.2	3.3	3.3	4.4	7.8	13.3	10.0	2.2	4.4	2.2	2.2	4.4	8.9	12.2	00.0	100.
3	8.9	6.7	3.3	3.3	2.2	6.7	10.0	5.6	11.1	4.4	5.6	3.3	1.1	3.3	12.2	12.2	00.0	100.
4	8.9	5.6	1.1	3.3	4.4	6.7	7.8	7.8	15.6	2.2	4.4	2.2	3.3	4.4	15.6	6.7	00.0	100.
5	7.8	6.7	4.4	6.7	1.1	4.4	5.6	12.2	11.1	4.4	3.3	1.1	00.0	5.6	12.2	13.3	00.0	100.
6	8.9	10.0	3.3	4.4	4.4	4.4	3.3	11.1	8.9	4.4	4.4	1.1	1.1	5.6	13.3	11.1	00.0	100.
7	7.8	4.4	7.8	3.3	3.3	4.4	5.6	7.8	13.3	6.7	3.3	3.3	1.1	3.3	10.0	14.4	00.0	100.
8	10.0	7.8	1.1	6.7	7.8	2.2	5.6	4.4	15.6	4.4	4.4	3.3	1.1	5.6	7.8	12.2	00.0	100.
9	6.7	7.8	00.0	8.9	2.2	8.9	4.4	10.0	10.0	8.9	3.3	1.1	1.1	3.3	7.8	15.6	00.0	100.
10	8.9	4.4	5.6	7.8	3.3	3.3	5.6	11.1	7.8	11.1	4.4	1.1	1.1	6.7	7.8	10.0	00.0	100.
11	8.9	3.3	6.7	6.7	3.3	1.1	8.9	5.6	11.1	10.0	5.6	2.2	2.2	6.7	7.8	10.0	00.0	100.
12	8.9	4.4	7.8	4.4	3.3	4.4	11.1	1.1	11.1	7.8	6.7	3.3	2.2	6.7	7.8	8.9	00.0	100.
13	11.1	7.8	7.8	1.1	4.4	3.3	11.1	2.2	7.8	11.1	5.6	4.4	1.1	7.8	8.9	4.4	00.0	100.
14	11.1	5.6	3.3	3.3	4.4	5.6	7.8	3.3	6.7	6.7	11.1	6.7	1.1	6.7	8.9	7.8	00.0	100.
15	10.0	4.4	4.4	2.2	3.3	7.8	5.6	5.6	4.4	6.7	12.2	4.4	2.2	10.0	11.1	5.6	00.0	100.
16	7.8	13.3	1.1	3.3	3.3	6.7	3.3	5.6	5.6	10.0	3.3	6.7	4.4	10.0	8.9	6.7	00.0	100.
17	11.1	6.7	2.2	1.1	5.6	7.8	4.4	6.7	4.4	8.9	3.3	5.6	1.1	11.1	11.1	8.9	00.0	100.
18	11.1	4.4	1.1	2.2	6.7	5.6	7.8	4.4	8.9	4.4	2.2	3.3	3.3	7.8	12.2	14.4	00.0	100.
19	8.9	4.4	1.1	3.3	5.6	3.3	8.9	4.4	7.8	4.4	6.7	4.4	3.3	7.8	10.0	15.6	00.0	100.
20	12.2	6.7	2.2	3.3	2.2	4.4	5.6	6.7	7.8	7.8	2.2	4.4	3.3	7.8	10.0	13.3	00.0	100.
21	16.7	6.7	1.1	7.8	2.2	3.3	7.8	3.3	8.9	8.9	2.2	2.2	2.2	7.8	11.1	7.8	00.0	100.
22	14.4	3.3	4.4	5.6	1.1	2.2	7.8	6.7	12.2	5.6	2.2	5.6	3.3	4.4	11.1	10.0	00.0	100.
23	10.0	5.6	4.4	5.6	2.2	3.3	4.4	7.8	12.2	7.8	2.2	4.4	1.1	7.8	7.8	13.3	00.0	100.
24	11.1	6.7	2.2	5.6	4.4	4.4	4.4	5.6	12.2	6.7	2.2	4.4	2.2	4.4	8.9	14.4	00.0	100.
ALL	10.0	6.6	3.4	4.4	3.7	4.6	6.9	6.7	9.8	6.6	4.4	3.6	2.0	6.4	10.0	10.9	00.0	100.

NUMBER OF OBS = 2160

B31

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

APRIL

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	6.7	16.7	3.3	13.3	00.0	6.7	3.3	6.7	6.7	3.3	6.7	00.0	10.0	00.0	16.7	00.0	00.0	100.
2	6.7	6.7	10.0	10.0	3.3	3.3	6.7	3.3	3.3	10.0	00.0	3.3	6.7	3.3	13.3	10.0	00.0	100.
3	00.0	16.7	3.3	10.0	3.3	6.7	6.7	10.0	6.7	6.7	00.0	3.3	10.0	00.0	13.3	3.3	00.0	100.
4	6.7	6.7	00.0	10.0	6.7	13.3	6.7	3.3	10.0	00.0	00.0	10.0	10.0	6.7	10.0	00.0	00.0	100.
5	3.3	3.3	6.7	6.7	10.0	13.3	3.3	6.7	3.3	6.7	00.0	3.3	10.0	6.7	13.3	3.3	00.0	100.
6	3.3	10.0	00.0	13.3	3.3	3.3	10.0	6.7	10.0	00.0	00.0	3.3	6.7	6.7	10.0	13.3	00.0	100.
7	6.7	10.0	3.3	6.7	10.0	00.0	10.0	6.7	6.7	3.3	00.0	00.0	00.0	13.3	13.3	10.0	00.0	100.
8	10.0	6.7	6.7	10.0	3.3	10.0	10.0	3.3	00.0	6.7	3.3	00.0	3.3	10.0	10.0	6.7	00.0	100.
9	6.7	3.3	13.3	6.7	3.3	10.0	13.3	3.3	00.0	6.7	00.0	3.3	00.0	13.3	6.7	10.0	00.0	100.
10	6.7	3.3	10.0	6.7	13.3	3.3	10.0	3.3	3.3	3.3	3.3	3.3	00.0	10.0	10.0	10.0	00.0	100.
11	6.7	6.7	10.0	3.3	10.0	6.7	3.3	6.7	6.7	00.0	6.7	00.0	3.3	13.3	6.7	10.0	00.0	100.
12	10.0	6.7	6.7	00.0	10.0	6.7	6.7	6.7	00.0	3.3	6.7	00.0	3.3	13.3	10.0	10.0	00.0	100.
13	6.7	13.3	3.3	00.0	10.0	6.7	6.7	6.7	00.0	3.3	3.3	6.7	6.7	6.7	10.0	10.0	00.0	100.
14	6.7	10.0	3.3	00.0	13.3	3.3	3.3	10.0	3.3	00.0	00.0	10.0	6.7	10.0	10.0	10.0	00.0	100.
15	6.7	6.7	6.7	00.0	10.0	3.3	6.7	10.0	3.3	00.0	00.0	3.3	13.3	6.7	10.0	13.3	00.0	100.
16	3.3	6.7	3.3	3.3	10.0	3.3	6.7	10.0	3.3	00.0	00.0	3.3	13.3	10.0	6.7	16.7	00.0	100.
17	13.3	00.0	6.7	3.3	3.3	3.3	10.0	6.7	6.7	00.0	3.3	6.7	3.3	10.0	13.3	10.0	00.0	100.
18	6.7	6.7	3.3	3.3	6.7	3.3	6.7	10.0	3.3	00.0	3.3	6.7	3.3	10.0	10.0	16.7	00.0	100.
19	10.0	3.3	10.0	3.3	6.7	6.7	00.0	10.0	3.3	3.3	00.0	00.0	6.7	10.0	13.3	13.3	00.0	100.
20	10.0	6.7	00.0	10.0	6.7	3.3	6.7	10.0	3.3	00.0	3.3	3.3	6.7	6.7	10.0	13.3	00.0	100.
21	10.0	13.3	00.0	6.7	00.0	13.3	6.7	3.3	13.3	00.0	3.3	00.0	3.3	3.3	16.7	6.7	00.0	100.
22	13.3	10.0	3.3	6.7	6.7	6.7	10.0	00.0	3.3	3.3	00.0	00.0	3.3	10.0	3.3	20.0	00.0	100.
23	10.0	13.3	3.3	6.7	6.7	6.7	00.0	6.7	6.7	6.7	00.0	00.0	3.3	10.0	6.7	13.3	00.0	100.
24	13.3	6.7	6.7	6.7	6.7	3.3	3.3	13.3	3.3	3.3	00.0	00.0	10.0	00.0	10.0	13.3	00.0	100.
ALL	7.6	8.1	5.1	6.1	6.8	6.1	6.5	6.8	4.6	3.3	1.8	2.5	6.0	7.9	10.6	10.1	00.0	100.

NUMBER OF OBS = 720

B32

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

MAY

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	3.2	3.2	3.2	00.0	6.5	12.9	6.5	19.4	9.7	3.2	3.2	3.2	00.0	9.7	12.9	3.2	00.0	100.
2	6.5	3.2	3.2	00.0	6.5	12.9	9.7	6.5	6.5	9.7	3.2	6.5	6.5	00.0	12.9	6.5	00.0	100.
3	3.2	6.5	6.5	00.0	6.5	6.5	12.9	12.9	9.7	9.7	00.0	3.2	6.5	3.2	3.2	9.7	00.0	100.
4	6.5	00.0	9.7	6.5	3.2	9.7	6.5	19.4	6.5	3.2	00.0	3.2	3.2	3.2	9.7	9.7	00.0	100.
5	12.9	3.2	6.5	3.2	6.5	00.0	9.7	9.7	9.7	6.5	3.2	3.2	6.5	3.2	9.7	6.5	00.0	100.
6	9.7	3.2	6.5	6.5	3.2	6.5	9.7	9.7	9.7	3.2	3.2	00.0	3.2	6.5	9.7	9.7	00.0	100.
7	9.7	6.5	00.0	9.7	9.7	3.2	9.7	6.5	9.7	3.2	3.2	00.0	3.2	6.5	9.7	9.7	00.0	100.
8	6.5	3.2	3.2	00.0	16.1	9.7	6.5	6.5	12.9	3.2	6.5	3.2	3.2	00.0	12.9	6.5	00.0	100.
9	9.7	3.2	00.0	3.2	6.5	12.9	12.9	3.2	12.9	6.5	3.2	00.0	3.2	00.0	6.5	16.1	00.0	100.
10	3.2	3.2	3.2	00.0	3.2	6.5	19.4	6.5	16.1	3.2	3.2	00.0	3.2	00.0	9.7	19.4	00.0	100.
11	19.4	3.2	00.0	00.0	00.0	00.0	25.8	3.2	16.1	3.2	6.5	00.0	3.2	00.0	6.5	12.9	00.0	100.
12	22.6	3.2	00.0	3.2	00.0	9.7	9.7	12.9	12.9	3.2	00.0	3.2	3.2	00.0	3.2	12.9	00.0	100.
13	19.4	9.7	3.2	3.2	00.0	6.5	12.9	12.9	12.9	3.2	00.0	3.2	3.2	00.0	3.2	6.5	00.0	100.
14	17.2	10.3	00.0	3.4	00.0	13.8	13.8	3.4	13.8	3.4	00.0	6.9	00.0	3.4	00.0	10.3	00.0	100.
15	13.8	6.9	6.9	3.4	00.0	10.3	17.2	6.9	6.9	3.4	3.4	3.4	6.9	00.0	00.0	10.3	00.0	100.
16	13.3	13.3	6.7	00.0	3.3	10.0	16.7	3.3	13.3	00.0	00.0	3.3	3.3	00.0	3.3	10.0	00.0	100.
17	6.5	9.7	9.7	00.0	3.2	3.2	19.4	12.9	12.9	00.0	00.0	3.2	3.2	00.0	00.0	12.9	00.0	100.
18	9.7	00.0	3.2	9.7	3.2	6.5	12.9	16.1	9.7	00.0	00.0	3.2	3.2	00.0	9.7	12.9	00.0	100.
19	9.7	3.2	3.2	3.2	6.5	9.7	16.1	9.7	12.9	00.0	3.2	00.0	3.2	3.2	00.0	16.1	00.0	100.
20	6.5	3.2	3.2	3.2	3.2	19.4	6.5	16.1	12.9	00.0	00.0	6.5	3.2	00.0	6.5	9.7	00.0	100.
21	16.1	3.2	00.0	6.5	3.2	16.1	3.2	12.9	22.6	00.0	3.2	00.0	00.0	3.2	6.5	3.2	00.0	100.
22	6.5	00.0	00.0	3.2	3.2	22.6	00.0	12.9	19.4	6.5	00.0	3.2	00.0	00.0	6.5	16.1	00.0	100.
23	9.7	00.0	00.0	3.2	3.2	19.4	6.5	6.5	19.4	9.7	00.0	3.2	3.2	00.0	16.1	00.0	00.0	100.
24	9.7	00.0	00.0	00.0	6.5	12.9	6.5	12.9	12.9	9.7	00.0	6.5	00.0	3.2	9.7	9.7	00.0	100.
ALL	10.4	4.2	3.2	3.0	4.3	10.0	11.2	10.1	12.6	3.9	1.9	2.8	3.1	2.0	7.0	10.0	00.0	100.

NUMBER OF OBS = 739

B33



NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JUNE

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	10.5	5.3	5.3	5.3	5.3	5.3	5.3	00.0	31.6	5.3	00.0	5.3	5.3	00.0	5.3	5.3	00.0	100.
2	5.3	5.3	00.0	5.3	00.0	5.3	5.3	10.5	15.8	15.8	5.3	00.0	10.5	5.3	5.3	5.3	00.0	100.
3	5.3	5.3	00.0	00.0	10.5	15.8	5.3	5.3	15.8	21.1	00.0	00.0	5.3	5.3	5.3	00.0	00.0	100.
4	5.3	5.3	00.0	00.0	10.5	5.3	5.3	00.0	21.1	15.8	5.3	5.3	00.0	10.5	00.0	10.5	00.0	100.
5	10.5	5.3	00.0	5.3	5.3	10.5	00.0	00.0	15.8	21.1	5.3	00.0	5.3	5.3	5.3	5.3	00.0	100.
6	5.3	10.5	00.0	10.5	10.5	00.0	5.3	00.0	10.5	21.1	00.0	00.0	00.0	5.3	10.5	10.5	00.0	100.
7	5.3	15.8	5.3	5.3	10.5	5.3	00.0	5.3	21.1	10.5	00.0	00.0	00.0	5.3	5.3	5.3	00.0	100.
8	10.5	5.3	10.5	00.0	5.3	15.8	10.5	00.0	10.5	10.5	00.0	00.0	5.3	5.3	10.5	00.0	00.0	100.
9	10.5	10.5	5.3	00.0	5.3	10.5	10.5	00.0	5.3	10.5	10.5	00.0	5.3	00.0	10.5	5.3	00.0	100.
10	5.3	5.3	15.8	5.3	5.3	00.0	15.8	00.0	5.3	21.1	5.3	5.3	5.3	5.3	00.0	00.0	00.0	100.
11	5.3	5.3	00.0	5.3	10.5	00.0	15.8	10.5	5.3	15.8	00.0	5.3	5.3	5.3	00.0	10.5	00.0	100.
12	00.0	5.3	00.0	00.0	15.8	5.3	21.1	5.3	10.5	10.5	5.3	00.0	5.3	5.3	5.3	5.3	00.0	100.
13	10.5	00.0	00.0	00.0	10.5	5.3	15.8	10.5	10.5	21.1	00.0	00.0	00.0	5.3	5.3	5.3	00.0	100.
14	5.3	5.3	5.3	5.3	00.0	15.8	10.5	5.3	26.3	10.5	00.0	00.0	00.0	00.0	10.5	00.0	00.0	100.
15	10.5	5.3	5.3	5.3	5.3	5.3	10.5	15.8	10.5	15.8	00.0	00.0	00.0	00.0	10.5	00.0	00.0	100.
16	5.3	00.0	5.3	10.5	00.0	5.3	15.8	5.3	15.8	15.8	00.0	00.0	00.0	5.3	5.3	10.5	00.0	100.
17	10.5	00.0	00.0	10.5	5.3	00.0	26.3	5.3	26.3	00.0	00.0	00.0	00.0	5.3	5.3	5.3	00.0	100.
18	00.0	5.3	00.0	5.3	10.5	10.5	21.1	5.3	21.1	00.0	00.0	00.0	00.0	5.3	00.0	15.8	00.0	100.
19	15.8	00.0	00.0	10.5	5.3	15.8	10.5	5.3	21.1	00.0	00.0	00.0	00.0	5.3	00.0	10.5	00.0	100.
20	10.5	00.0	00.0	10.5	5.3	10.5	10.5	26.3	5.3	00.0	00.0	5.3	00.0	5.3	00.0	10.5	00.0	100.
21	5.3	00.0	00.0	00.0	21.1	10.5	5.3	21.1	10.5	00.0	5.3	5.3	00.0	00.0	00.0	15.8	00.0	100.
22	21.1	00.0	5.3	00.0	10.5	10.5	10.5	10.5	15.8	00.0	00.0	00.0	00.0	00.0	5.3	5.3	5.3	100.
23	5.3	00.0	10.5	10.5	00.0	5.3	00.0	5.3	26.3	10.5	00.0	00.0	00.0	5.3	00.0	21.1	00.0	100.
24	00.0	5.3	5.3	15.8	5.3	5.3	5.3	00.0	36.8	00.0	00.0	00.0	5.3	00.0	5.3	10.5	00.0	100.
ALL	7.5	4.4	3.3	5.3	7.2	7.5	10.1	6.4	16.4	10.5	1.8	1.3	2.4	3.9	4.6	7.2	.2	100.

NUMBER OF OBS = 456

B34

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

APR-JUN

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	6.3	8.7	3.8	6.3	3.8	8.7	5.0	10.0	13.8	3.8	3.8	2.5	5.0	3.8	12.5	2.5	00.0	100.
2	6.3	5.0	5.0	5.0	3.8	7.5	7.5	6.3	7.5	11.2	2.5	3.8	7.5	2.5	11.2	7.5	00.0	100.
3	2.5	10.0	3.8	3.8	6.3	8.7	8.7	10.0	10.0	11.2	00.0	2.5	7.5	2.5	7.5	5.0	00.0	100.
4	6.3	3.8	3.8	6.3	6.3	10.0	6.3	8.7	11.2	8.7	1.3	2.5	5.0	6.3	7.5	6.3	00.0	100.
5	8.7	3.8	5.0	5.0	7.5	7.5	5.0	6.3	8.7	10.0	2.5	2.5	7.5	5.0	10.0	5.0	00.0	100.
6	6.3	7.5	2.5	10.0	5.0	3.8	8.7	6.3	10.0	6.3	1.3	1.3	3.8	6.3	10.0	11.2	00.0	100.
7	7.5	10.0	2.5	7.5	10.0	2.5	7.5	6.3	11.2	5.0	1.3	00.0	1.3	8.7	10.0	8.7	00.0	100.
8	8.7	5.0	6.3	3.8	8.7	11.2	8.7	3.8	7.5	6.3	3.8	1.3	3.8	5.0	11.2	5.0	00.0	100.
9	8.7	5.0	6.3	3.8	5.0	11.2	12.5	2.5	6.3	7.5	3.8	1.3	2.5	5.0	7.5	11.2	00.0	100.
10	5.0	3.8	8.7	3.8	7.5	3.8	15.0	3.8	8.7	7.5	3.8	2.5	2.5	5.0	7.5	11.2	00.0	100.
11	11.2	5.0	3.8	2.5	6.3	2.5	15.0	6.3	10.0	5.0	5.0	1.3	3.8	6.3	5.0	11.2	00.0	100.
12	12.5	5.0	2.5	1.3	7.5	7.5	11.2	8.7	7.5	5.0	3.8	1.3	3.8	6.3	6.3	10.0	00.0	100.
13	12.5	8.7	2.5	1.3	6.3	6.3	11.2	10.0	7.5	7.5	1.3	3.8	3.8	3.8	6.3	7.5	00.0	100.
14	10.3	9.0	2.6	2.6	5.1	10.3	9.0	6.4	12.8	3.8	00.0	6.4	2.6	5.1	6.4	7.7	00.0	100.
15	10.3	6.4	6.4	2.6	5.1	6.4	11.5	10.3	6.4	5.1	1.3	2.6	7.7	2.6	6.4	9.0	00.0	100.
16	7.6	7.6	5.1	3.8	5.1	6.3	12.7	6.3	10.1	3.8	00.0	2.5	6.3	5.1	5.1	12.7	00.0	100.
17	10.0	3.8	6.3	3.8	3.8	2.5	17.5	8.7	13.8	00.0	1.3	3.8	2.5	6.3	6.3	10.0	00.0	100.
18	6.3	3.8	2.5	6.3	6.3	6.3	12.5	11.2	10.0	00.0	1.3	3.8	2.5	5.0	7.5	15.0	00.0	100.
19	11.2	2.5	5.0	5.0	6.3	10.0	8.7	8.7	11.2	1.3	1.3	00.0	3.8	6.3	5.0	13.8	00.0	100.
20	8.7	3.8	1.3	7.5	5.0	11.2	7.5	16.2	7.5	00.0	1.3	5.0	3.8	3.8	6.3	11.2	00.0	100.
21	11.2	6.3	00.0	5.0	6.3	13.8	5.0	11.2	16.2	00.0	3.8	1.3	1.3	2.5	8.7	7.5	00.0	100.
22	12.5	3.8	2.5	3.8	6.3	13.8	6.3	7.5	12.5	3.8	00.0	1.3	1.3	3.8	5.0	15.0	1.3	100.
23	8.7	5.0	3.8	6.3	3.8	11.2	2.5	6.3	16.2	8.7	00.0	1.3	2.5	5.0	8.7	10.0	00.0	100.
24	8.7	3.8	3.8	6.3	6.3	7.5	5.0	10.0	15.0	5.0	00.0	2.5	5.0	1.3	8.7	11.2	00.0	100.
ALL	8.7	5.7	4.0	4.7	6.0	7.9	9.2	8.0	10.5	5.3	1.8	2.3	4.0	4.7	7.8	9.4	.1	100.

NUMBER OF OBS = 1915

B35

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JAN-JUN

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	7.1	10.6	2.9	4.1	4.1	4.7	8.2	9.4	11.8	3.5	2.4	3.5	4.1	4.7	11.2	7.6	00.0	100.
2	8.2	7.1	3.5	4.1	3.5	5.9	7.6	10.0	8.8	6.5	3.5	2.9	4.7	3.5	10.0	10.0	00.0	100.
3	5.9	8.2	3.5	3.5	4.1	7.6	9.4	7.6	10.6	7.6	2.9	2.9	4.1	2.9	10.0	8.8	00.0	100.
4	7.6	4.7	2.4	4.7	5.3	8.2	7.1	8.2	13.5	5.3	2.9	2.4	4.1	5.3	11.8	6.5	00.0	100.
5	8.2	5.3	4.7	5.9	4.1	5.9	5.3	9.4	10.0	7.1	2.9	1.8	3.5	5.3	11.2	9.4	00.0	100.
6	7.6	8.8	2.9	7.1	4.7	4.1	5.9	8.8	9.4	5.3	2.9	1.2	2.4	5.9	11.8	11.2	00.0	100.
7	7.6	7.1	5.3	5.3	6.5	3.5	6.5	7.1	12.4	5.9	2.4	1.8	1.2	5.9	10.0	11.8	00.0	100.
8	9.4	6.5	3.5	5.3	8.2	6.5	7.1	4.1	11.8	5.3	4.1	2.4	2.4	5.3	9.4	8.8	00.0	100.
9	7.6	6.5	2.9	6.5	3.5	10.0	8.2	6.5	8.2	8.2	3.5	1.2	1.8	4.1	7.6	13.5	00.0	100.
10	7.1	4.1	7.1	5.9	5.3	3.5	10.0	7.6	8.2	9.4	4.1	1.8	1.8	5.9	7.6	10.6	00.0	100.
11	10.0	4.1	5.3	4.7	4.7	1.8	11.8	5.9	10.6	7.6	5.3	1.8	2.9	6.5	6.5	10.6	00.0	100.
12	10.6	4.7	5.3	2.9	5.3	5.9	11.2	4.7	9.4	6.5	5.3	2.4	2.9	6.5	7.1	9.4	00.0	100.
13	11.8	8.2	5.3	1.2	5.3	4.7	11.2	5.9	7.6	9.4	3.5	4.1	2.4	5.9	7.6	5.9	00.0	100.
14	10.7	7.1	3.0	3.0	4.8	7.7	8.3	4.8	9.5	5.4	6.0	6.5	1.8	6.0	7.7	7.7	00.0	100.
15	10.1	5.4	5.4	2.4	4.2	7.1	8.3	7.7	5.4	6.0	7.1	3.6	4.8	6.5	8.9	7.1	00.0	100.
16	7.7	10.7	3.0	3.6	4.1	6.5	7.7	5.9	7.7	7.1	1.8	4.7	5.3	7.7	7.1	9.5	00.0	100.
17	10.6	5.3	4.1	2.4	4.7	5.3	10.6	7.6	8.8	4.7	2.4	4.7	1.8	8.8	8.8	9.4	00.0	100.
18	8.8	4.1	1.8	4.1	6.5	5.9	10.0	7.6	9.4	2.4	1.8	3.5	2.9	6.5	10.0	14.7	00.0	100.
19	10.0	3.5	2.9	4.1	5.9	6.5	8.8	6.5	9.4	2.9	4.1	2.4	3.5	7.1	7.6	14.7	00.0	100.
20	10.6	5.3	1.8	5.3	3.5	7.6	6.5	11.2	7.6	4.1	1.8	4.7	3.5	5.9	8.2	12.4	00.0	100.
21	14.1	6.5	.6	6.5	4.1	8.2	6.5	7.1	12.4	4.7	2.9	1.8	1.8	5.3	10.0	7.6	00.0	100.
22	13.5	3.5	3.5	4.7	3.5	7.6	7.1	7.1	12.4	4.7	1.2	3.5	2.4	4.1	8.2	12.4	.6	100.
23	9.4	5.3	4.1	5.9	2.9	7.1	3.5	7.1	14.1	8.2	1.2	2.9	1.8	6.5	8.2	11.8	00.0	100.
24	10.0	5.3	2.9	5.9	5.3	5.9	4.7	7.6	13.5	5.9	1.2	3.5	3.5	2.9	8.8	12.9	00.0	100.
ALL	9.3	6.2	3.7	4.5	4.8	6.2	8.0	7.3	10.1	6.0	3.2	3.0	3.0	5.6	9.0	10.2	.0	100.

NUMBER OF OBS = 4075

B36

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JULY

**No Data Available For This Period**

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

AUGUST

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	00.0	00.0	00.0	00.0	66.7	00.0	33.3	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
2	00.0	00.0	00.0	00.0	66.7	00.0	00.0	33.3	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
3	00.0	00.0	00.0	33.3	33.3	33.3	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
4	00.0	00.0	33.3	00.0	00.0	66.7	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
5	00.0	00.0	33.3	00.0	00.0	66.7	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
6	00.0	00.0	33.3	00.0	00.0	33.3	33.3	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
7	00.0	33.3	33.3	00.0	00.0	33.3	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
8	00.0	00.0	33.3	00.0	33.3	33.3	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
9	00.0	00.0	00.0	33.3	66.7	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
10	00.0	00.0	00.0	33.3	33.3	00.0	33.3	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
11	00.0	00.0	33.3	33.3	00.0	00.0	33.3	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
12	00.0	33.3	00.0	00.0	33.3	00.0	00.0	00.0	33.3	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
13	00.0	00.0	00.0	33.3	33.3	00.0	00.0	00.0	00.0	33.3	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
14	00.0	00.0	00.0	00.0	00.0	66.7	00.0	00.0	33.3	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
15	00.0	00.0	00.0	00.0	00.0	33.3	00.0	33.3	00.0	33.3	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
16	00.0	00.0	00.0	00.0	00.0	00.0	33.3	66.7	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
17	00.0	00.0	00.0	00.0	00.0	00.0	66.7	33.3	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
18	00.0	00.0	00.0	00.0	00.0	00.0	100.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
19	00.0	00.0	00.0	00.0	00.0	33.3	66.7	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
20	00.0	00.0	00.0	00.0	66.7	33.3	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
21	00.0	00.0	00.0	00.0	33.3	33.3	33.3	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
22	00.0	00.0	00.0	00.0	00.0	00.0	100.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
23	00.0	00.0	00.0	33.3	00.0	66.7	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
24	00.0	00.0	00.0	00.0	33.3	33.3	33.3	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
ALL	00.0	2.8	8.3	8.3	20.8	27.8	19.4	6.9	2.8	2.8	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.

NUMBER OF OBS = 72

B38

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

SEPTEMBER

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	6.7	6.7	3.3	00.0	3.3	10.0	6.7	10.0	13.3	10.0	3.3	3.3	00.0	10.0	6.7	6.7	00.0	100.
2	6.7	3.3	3.3	3.3	6.7	6.7	3.3	13.3	16.7	10.0	00.0	3.3	00.0	10.0	6.7	6.7	00.0	100.
3	10.0	00.0	6.7	00.0	3.3	13.3	00.0	6.7	20.0	16.7	00.0	3.3	3.3	3.3	3.3	10.0	00.0	100.
4	10.0	3.3	00.0	10.0	3.3	6.7	3.3	10.0	13.3	10.0	3.3	10.0	3.3	6.7	3.3	3.3	00.0	100.
5	3.3	3.3	6.7	3.3	3.3	3.3	3.3	13.3	20.0	6.7	3.3	00.0	3.3	10.0	6.7	10.0	00.0	100.
6	3.3	6.7	3.3	6.7	00.0	00.0	6.7	6.7	26.7	6.7	00.0	3.3	00.0	6.7	13.3	10.0	00.0	100.
7	3.3	6.7	3.3	3.3	00.0	6.7	3.3	6.7	23.3	00.0	6.7	6.7	3.3	10.0	6.7	10.0	00.0	100.
8	3.3	16.7	3.3	3.3	00.0	6.7	6.7	6.7	10.0	13.3	00.0	6.7	00.0	6.7	6.7	10.0	00.0	100.
9	3.3	16.7	3.3	3.3	3.3	3.3	13.3	20.0	3.3	3.3	00.0	3.3	00.0	00.0	13.3	10.0	00.0	100.
10	10.0	16.7	6.7	3.3	10.0	3.3	16.7	3.3	3.3	6.7	00.0	3.3	00.0	00.0	3.3	13.3	00.0	100.
11	6.7	23.3	3.3	6.7	6.7	10.0	3.3	6.7	3.3	6.7	00.0	00.0	00.0	3.3	3.3	16.7	00.0	100.
12	13.3	13.3	6.7	6.7	6.7	00.0	10.0	3.3	6.7	3.3	00.0	3.3	00.0	00.0	3.3	23.3	00.0	100.
13	20.0	6.7	6.7	6.7	3.3	3.3	10.0	6.7	3.3	3.3	00.0	3.3	00.0	00.0	6.7	20.0	00.0	100.
14	16.7	10.0	6.7	3.3	00.0	3.3	10.0	10.0	00.0	3.3	00.0	3.3	00.0	3.3	00.0	30.0	00.0	100.
15	30.0	3.3	3.3	3.3	3.3	00.0	16.7	3.3	3.3	3.3	00.0	00.0	00.0	6.7	3.3	20.0	00.0	100.
16	23.3	6.7	00.0	3.3	3.3	3.3	13.3	3.3	3.3	3.3	00.0	00.0	00.0	3.3	6.7	26.7	00.0	100.
17	16.7	3.3	3.3	6.7	00.0	6.7	10.0	6.7	00.0	3.3	00.0	00.0	00.0	00.0	10.0	33.3	00.0	100.
18	13.3	13.3	00.0	3.3	00.0	10.0	13.3	3.3	3.3	00.0	00.0	00.0	00.0	3.3	10.0	26.7	00.0	100.
19	16.7	3.3	00.0	3.3	3.3	6.7	3.3	3.3	3.3	3.3	00.0	3.3	3.3	13.3	16.7	16.7	00.0	100.
20	10.0	10.0	3.3	00.0	10.0	3.3	3.3	00.0	3.3	10.0	3.3	00.0	00.0	10.0	23.3	10.0	00.0	100.
21	13.3	6.7	3.3	6.7	3.3	10.0	3.3	6.7	6.7	3.3	3.3	3.3	00.0	3.3	20.0	6.7	00.0	100.
22	16.7	00.0	3.3	00.0	00.0	6.7	6.7	10.0	13.3	6.7	3.3	3.3	00.0	3.3	16.7	10.0	00.0	100.
23	13.3	6.7	00.0	3.3	3.3	10.0	6.7	6.7	10.0	10.0	6.7	00.0	00.0	00.0	20.0	3.3	00.0	100.
24	13.3	10.0	00.0	00.0	3.3	10.0	00.0	16.7	16.7	6.7	00.0	00.0	3.3	10.0	3.3	6.7	00.0	100.
ALL	11.8	8.2	3.3	3.8	3.3	6.0	7.2	7.6	9.4	6.3	1.4	2.6	.8	5.1	8.9	14.2	00.0	100.

NUMBER OF OBS = 720

B39

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JUL-SEP

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	6.1	6.1	3.0	00.0	9.1	9.1	9.1	9.1	12.1	9.1	3.0	3.0	00.0	9.1	6.1	6.1	00.0	100.
2	6.1	3.0	3.0	3.0	12.1	6.1	3.0	15.2	15.2	9.1	00.0	3.0	00.0	9.1	6.1	6.1	00.0	100.
3	9.1	00.0	6.1	3.0	6.1	15.2	00.0	6.1	18.2	15.2	00.0	3.0	3.0	3.0	3.0	9.1	00.0	100.
4	9.1	3.0	3.0	9.1	3.0	12.1	3.0	9.1	12.1	9.1	3.0	9.1	3.0	6.1	3.0	3.0	00.0	100.
5	3.0	3.0	9.1	3.0	3.0	9.1	3.0	12.1	18.2	6.1	3.0	00.0	3.0	9.1	6.1	9.1	00.0	100.
6	3.0	6.1	6.1	6.1	00.0	3.0	9.1	6.1	24.2	6.1	00.0	3.0	00.0	6.1	12.1	9.1	00.0	100.
7	3.0	9.1	6.1	3.0	00.0	9.1	3.0	6.1	21.2	00.0	6.1	6.1	3.0	9.1	6.1	9.1	00.0	100.
8	3.0	15.2	6.1	3.0	3.0	9.1	6.1	6.1	9.1	12.1	00.0	6.1	00.0	6.1	6.1	9.1	00.0	100.
9	3.0	15.2	3.0	6.1	9.1	3.0	12.1	18.2	3.0	3.0	00.0	3.0	00.0	00.0	12.1	9.1	00.0	100.
10	9.1	15.2	6.1	6.1	12.1	3.0	18.2	3.0	3.0	6.1	00.0	3.0	00.0	00.0	3.0	12.1	00.0	100.
11	6.1	21.2	6.1	9.1	6.1	9.1	6.1	6.1	3.0	6.1	00.0	00.0	00.0	3.0	3.0	15.2	00.0	100.
12	12.1	15.2	6.1	6.1	9.1	00.0	9.1	3.0	9.1	3.0	00.0	3.0	00.0	00.0	3.0	21.2	00.0	100.
13	18.2	6.1	6.1	9.1	6.1	3.0	9.1	6.1	3.0	6.1	00.0	3.0	00.0	00.0	6.1	18.2	00.0	100.
14	15.2	9.1	6.1	3.0	00.0	9.1	9.1	9.1	3.0	3.0	00.0	3.0	00.0	3.0	00.0	27.3	00.0	100.
15	27.3	3.0	3.0	3.0	3.0	3.0	15.2	6.1	3.0	6.1	00.0	00.0	00.0	6.1	3.0	18.2	00.0	100.
16	21.2	6.1	00.0	3.0	3.0	3.0	15.2	9.1	3.0	3.0	00.0	00.0	00.0	3.0	6.1	24.2	00.0	100.
17	15.2	3.0	3.0	6.1	00.0	6.1	15.2	9.1	00.0	3.0	00.0	00.0	00.0	00.0	9.1	30.3	00.0	100.
18	12.1	12.1	00.0	3.0	00.0	9.1	21.2	3.0	3.0	00.0	00.0	00.0	00.0	3.0	9.1	24.2	00.0	100.
19	15.2	3.0	00.0	3.0	3.0	9.1	9.1	3.0	3.0	3.0	00.0	3.0	3.0	12.1	15.2	15.2	00.0	100.
20	9.1	9.1	3.0	00.0	15.2	6.1	3.0	00.0	3.0	9.1	3.0	00.0	00.0	9.1	21.2	9.1	00.0	100.
21	12.1	6.1	3.0	6.1	6.1	12.1	6.1	6.1	6.1	3.0	3.0	3.0	00.0	3.0	18.2	6.1	00.0	100.
22	15.2	00.0	3.0	00.0	00.0	15.2	6.1	9.1	12.1	6.1	3.0	3.0	00.0	3.0	15.2	9.1	00.0	100.
23	12.1	6.1	00.0	6.1	3.0	15.2	6.1	6.1	9.1	9.1	6.1	00.0	00.0	00.0	18.2	3.0	00.0	100.
24	12.1	9.1	00.0	00.0	6.1	12.1	3.0	15.2	15.2	6.1	00.0	00.0	3.0	9.1	3.0	6.1	00.0	100.
ALL	10.7	7.7	3.8	4.2	4.9	8.0	8.3	7.6	8.8	5.9	1.3	2.4	.8	4.7	8.1	12.9	00.0	100.

NUMBER OF OBS = 792

B40

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

OCTOBER

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	3.2	00.0	3.2	00.0	00.0	00.0	00.0	19.4	22.6	6.5	9.7	6.5	00.0	9.7	9.7	9.7	00.0	100.
2	9.7	00.0	00.0	00.0	00.0	00.0	00.0	19.4	29.0	6.5	9.7	3.2	6.5	6.5	3.2	6.5	00.0	100.
3	3.2	00.0	00.0	00.0	00.0	00.0	3.2	25.8	35.5	3.2	3.2	00.0	3.2	6.5	9.7	6.5	00.0	100.
4	3.2	3.2	00.0	00.0	3.2	00.0	3.2	19.4	41.9	00.0	00.0	3.2	3.2	3.2	12.9	3.2	00.0	100.
5	3.2	00.0	00.0	00.0	00.0	3.2	9.7	25.8	19.4	9.7	3.2	3.2	00.0	6.5	12.9	3.2	00.0	100.
6	3.2	3.2	00.0	00.0	3.2	00.0	12.9	29.0	9.7	3.2	9.7	00.0	00.0	00.0	12.9	12.9	00.0	100.
7	9.7	00.0	00.0	00.0	00.0	00.0	16.1	19.4	16.1	6.5	6.5	00.0	00.0	9.7	12.9	3.2	00.0	100.
8	9.7	00.0	00.0	00.0	00.0	6.5	6.5	25.8	12.9	6.5	00.0	6.5	3.2	9.7	9.7	3.2	00.0	100.
9	3.2	00.0	00.0	00.0	00.0	00.0	16.1	22.6	12.9	6.5	3.2	3.2	3.2	3.2	12.9	12.9	00.0	100.
10	6.5	3.2	00.0	00.0	3.2	6.5	9.7	19.4	19.4	3.2	3.2	3.2	00.0	6.5	9.7	6.5	00.0	100.
11	6.5	3.2	00.0	00.0	00.0	16.1	3.2	12.9	19.4	3.2	6.5	3.2	00.0	3.2	12.9	9.7	00.0	100.
12	9.7	00.0	3.2	00.0	3.2	6.5	3.2	12.9	22.6	3.2	9.7	00.0	3.2	00.0	9.7	12.9	00.0	100.
13	6.5	3.2	00.0	00.0	00.0	6.5	9.7	12.9	16.1	6.5	6.5	3.2	3.2	3.2	9.7	12.9	00.0	100.
14	6.5	00.0	00.0	00.0	00.0	3.2	12.9	6.5	22.6	3.2	3.2	6.5	3.2	6.5	12.9	12.9	00.0	100.
15	6.5	3.2	00.0	00.0	00.0	6.5	12.9	12.9	6.5	6.5	6.5	3.2	00.0	9.7	9.7	16.1	00.0	100.
16	3.2	3.2	00.0	00.0	00.0	3.2	9.7	19.4	6.5	6.5	3.2	6.5	00.0	3.2	19.4	16.1	00.0	100.
17	3.2	3.2	00.0	00.0	00.0	00.0	12.9	16.1	12.9	3.2	00.0	9.7	00.0	6.5	19.4	12.9	00.0	100.
18	00.0	3.2	3.2	00.0	00.0	00.0	9.7	22.6	9.7	3.2	00.0	6.5	3.2	12.9	16.1	9.7	00.0	100.
19	00.0	00.0	00.0	3.2	00.0	00.0	12.9	16.1	6.5	16.1	3.2	6.5	3.2	12.9	9.7	9.7	00.0	100.
20	00.0	3.2	00.0	00.0	00.0	00.0	9.7	12.9	19.4	9.7	9.7	3.2	00.0	12.9	6.5	12.9	00.0	100.
21	3.2	00.0	3.2	00.0	00.0	00.0	3.2	22.6	12.9	9.7	3.2	6.5	3.2	6.5	22.6	3.2	00.0	100.
22	3.2	00.0	00.0	3.2	00.0	00.0	6.5	12.9	25.8	3.2	3.2	3.2	6.5	12.9	12.9	6.5	00.0	100.
23	6.5	00.0	00.0	00.0	00.0	00.0	6.5	29.0	9.7	9.7	6.5	00.0	3.2	00.0	22.6	6.5	00.0	100.
24	3.2	00.0	00.0	00.0	00.0	00.0	00.0	16.1	19.4	9.7	6.5	3.2	00.0	9.7	19.4	9.7	3.2	100.
ALL	4.7	1.3	.5	.3	.5	2.4	7.9	18.8	17.9	6.0	4.8	3.8	2.0	6.7	12.9	9.1	.1	100.

NUMBER OF OBS = 744

B41



NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

NOVEMBER

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	20.8	4.2	00.0	00.0	00.0	00.0	4.2	12.5	25.0	8.3	00.0	00.0	00.0	4.2	00.0	20.8	00.0	100.
2	16.7	4.2	00.0	00.0	00.0	00.0	4.2	20.8	12.5	4.2	4.2	00.0	00.0	20.8	4.2	8.3	00.0	100.
3	16.7	4.2	00.0	00.0	00.0	00.0	00.0	16.7	20.8	4.2	8.3	8.3	4.2	00.0	8.3	8.3	00.0	100.
4	16.7	4.2	00.0	00.0	4.2	00.0	4.2	16.7	25.0	4.2	8.3	00.0	4.2	00.0	8.3	4.2	00.0	100.
5	4.2	12.5	00.0	00.0	00.0	00.0	4.2	8.3	29.2	4.2	4.2	8.3	8.3	00.0	8.3	8.3	00.0	100.
6	8.3	12.5	00.0	00.0	00.0	00.0	4.2	20.8	12.5	8.3	4.2	4.2	8.3	8.3	4.2	4.2	00.0	100.
7	4.2	8.3	00.0	00.0	00.0	00.0	4.2	16.7	16.7	00.0	12.5	8.3	4.2	8.3	4.2	12.5	00.0	100.
8	8.3	4.2	00.0	00.0	00.0	00.0	4.2	12.5	25.0	4.2	8.3	4.2	00.0	12.5	4.2	12.5	00.0	100.
9	16.7	4.2	00.0	00.0	00.0	00.0	4.2	4.2	29.2	00.0	8.3	8.3	4.2	8.3	00.0	12.5	00.0	100.
10	8.3	4.2	4.2	00.0	00.0	00.0	4.2	8.3	16.7	4.2	8.3	12.5	00.0	12.5	00.0	16.7	00.0	100.
11	12.5	8.3	00.0	4.2	00.0	00.0	00.0	8.3	12.5	16.7	00.0	4.2	4.2	12.5	4.2	12.5	00.0	100.
12	4.2	12.5	4.2	4.2	00.0	00.0	00.0	12.5	8.3	8.3	8.3	4.2	12.5	00.0	12.5	8.3	00.0	100.
13	12.5	8.3	00.0	4.2	00.0	4.2	00.0	4.2	12.5	12.5	4.2	8.3	4.2	8.3	12.5	4.2	00.0	100.
14	4.3	13.0	00.0	4.3	00.0	4.3	00.0	00.0	13.0	13.0	00.0	4.3	13.0	13.0	4.3	13.0	00.0	100.
15	4.3	8.7	4.3	4.3	00.0	00.0	4.3	8.7	00.0	17.4	4.3	00.0	13.0	13.0	8.7	8.7	00.0	100.
16	4.3	13.0	4.3	00.0	00.0	00.0	8.7	4.3	4.3	13.0	4.3	8.7	4.3	8.7	8.7	13.0	00.0	100.
17	8.3	12.5	00.0	00.0	00.0	00.0	8.3	4.2	8.3	12.5	00.0	4.2	4.2	16.7	8.3	12.5	00.0	100.
18	8.3	12.5	00.0	00.0	00.0	00.0	8.3	4.2	12.5	12.5	00.0	8.3	8.3	4.2	8.3	12.5	00.0	100.
19	8.3	12.5	4.2	00.0	00.0	00.0	8.3	4.2	8.3	16.7	00.0	4.2	4.2	4.2	4.2	20.8	00.0	100.
20	20.8	8.3	00.0	4.2	00.0	00.0	4.2	12.5	12.5	8.3	00.0	4.2	4.2	4.2	00.0	16.7	00.0	100.
21	16.7	00.0	00.0	8.3	00.0	00.0	4.2	16.7	12.5	8.3	8.3	00.0	8.3	4.2	4.2	8.3	00.0	100.
22	12.5	00.0	4.2	4.2	00.0	00.0	4.2	8.3	16.7	8.3	8.3	8.3	12.5	00.0	00.0	12.5	00.0	100.
23	16.7	00.0	4.2	4.2	00.0	00.0	8.3	16.7	8.3	8.3	8.3	00.0	4.2	12.5	00.0	8.3	00.0	100.
24	12.5	4.2	4.2	00.0	00.0	00.0	8.3	12.5	29.2	8.3	00.0	00.0	4.2	4.2	00.0	12.5	00.0	100.
ALL	11.2	7.3	1.4	1.7	.2	.3	4.4	10.6	15.5	8.6	4.7	4.7	5.6	7.5	4.9	11.3	00.0	100.

NUMBER OF OBS = 573

B42

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

DECEMBER

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	12.9	3.2	00.0	00.0	00.0	00.0	3.2	9.7	19.4	12.9	6.5	3.2	3.2	6.5	9.7	9.7	00.0	100.
2	12.9	3.2	00.0	00.0	00.0	00.0	3.2	9.7	12.9	12.9	3.2	6.5	3.2	9.7	12.9	9.7	00.0	100.
3	6.5	3.2	00.0	00.0	3.2	00.0	00.0	6.5	25.8	12.9	00.0	6.5	3.2	12.9	12.9	6.5	00.0	100.
4	3.2	3.2	00.0	00.0	00.0	00.0	00.0	16.1	16.1	9.7	3.2	00.0	6.5	16.1	19.4	6.5	00.0	100.
5	00.0	3.2	3.2	00.0	00.0	00.0	00.0	12.9	22.6	9.7	6.5	6.5	9.7	6.5	9.7	9.7	00.0	100.
6	6.5	3.2	00.0	00.0	00.0	3.2	00.0	16.1	19.4	16.1	3.2	3.2	6.5	9.7	3.2	9.7	00.0	100.
7	3.2	3.2	00.0	00.0	00.0	00.0	6.5	6.5	19.4	16.1	9.7	00.0	3.2	9.7	9.7	12.9	00.0	100.
8	6.5	6.5	00.0	00.0	00.0	00.0	3.2	9.7	25.8	12.9	00.0	00.0	00.0	16.1	6.5	12.9	00.0	100.
9	16.1	00.0	00.0	00.0	00.0	3.2	3.2	9.7	32.3	9.7	6.5	00.0	00.0	6.5	9.7	3.2	00.0	100.
10	19.4	00.0	00.0	00.0	00.0	3.2	9.7	3.2	22.6	12.9	3.2	3.2	00.0	6.5	12.9	3.2	00.0	100.
11	16.1	3.2	00.0	00.0	00.0	3.2	3.2	6.5	16.1	12.9	9.7	12.9	00.0	00.0	9.7	6.5	00.0	100.
12	22.6	3.2	3.2	00.0	00.0	00.0	00.0	6.5	6.5	12.9	12.9	9.7	9.7	00.0	6.5	6.5	00.0	100.
13	25.8	3.2	00.0	00.0	00.0	3.2	00.0	9.7	12.9	12.9	9.7	6.5	00.0	6.5	9.7	00.0	00.0	100.
14	13.3	13.3	00.0	00.0	3.3	00.0	3.3	6.7	13.3	6.7	13.3	10.0	00.0	6.7	10.0	00.0	00.0	100.
15	20.0	3.3	00.0	00.0	00.0	00.0	00.0	6.7	20.0	6.7	10.0	6.7	00.0	10.0	10.0	6.7	00.0	100.
16	16.1	6.5	00.0	00.0	00.0	00.0	00.0	9.7	12.9	16.1	3.2	6.5	00.0	16.1	9.7	3.2	00.0	100.
17	19.4	3.2	00.0	00.0	00.0	00.0	3.2	3.2	19.4	9.7	3.2	6.5	3.2	6.5	19.4	3.2	00.0	100.
18	12.9	6.5	00.0	00.0	00.0	00.0	00.0	9.7	12.9	6.5	6.5	9.7	3.2	6.5	22.6	3.2	00.0	100.
19	12.9	3.2	00.0	00.0	00.0	00.0	3.2	6.5	16.1	6.5	3.2	3.2	6.5	12.9	9.7	16.1	00.0	100.
20	12.9	3.2	6.5	00.0	00.0	00.0	6.5	12.9	12.9	00.0	12.9	00.0	3.2	9.7	9.7	9.7	00.0	100.
21	9.7	3.2	00.0	00.0	00.0	00.0	3.2	16.1	19.4	3.2	3.2	9.7	3.2	00.0	12.9	16.1	00.0	100.
22	6.5	6.5	00.0	00.0	00.0	3.2	3.2	6.5	22.6	9.7	12.9	3.2	00.0	3.2	12.9	9.7	00.0	100.
23	12.9	3.2	3.2	00.0	00.0	00.0	00.0	12.9	9.7	22.6	6.5	6.5	00.0	3.2	19.4	00.0	00.0	100.
24	16.1	3.2	00.0	00.0	00.0	00.0	3.2	12.9	25.8	00.0	3.2	12.9	3.2	00.0	19.4	00.0	00.0	100.
ALL	12.7	3.9	.7	00.0	.3	.8	2.7	9.4	18.5	10.5	6.2	5.5	2.4	7.8	12.0	6.6	00.0	100.

NUMBER OF OBS = 742

B43

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

OCT-DEC

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	11.6	2.3	1.2	00.0	00.0	00.0	2.3	14.0	22.1	9.3	5.8	3.5	1.2	7.0	7.0	12.8	00.0	100.
2	12.8	2.3	00.0	00.0	00.0	00.0	2.3	16.3	18.6	8.1	5.8	3.5	3.5	11.6	7.0	8.1	00.0	100.
3	8.1	2.3	00.0	00.0	1.2	00.0	1.2	16.3	27.9	7.0	3.5	4.7	3.5	7.0	10.5	7.0	00.0	100.
4	7.0	3.5	00.0	00.0	2.3	00.0	2.3	17.4	27.9	4.7	3.5	1.2	4.7	7.0	14.0	4.7	00.0	100.
5	2.3	4.7	1.2	00.0	00.0	1.2	4.7	16.3	23.3	8.1	4.7	5.8	5.8	4.7	10.5	7.0	00.0	100.
6	5.8	5.8	00.0	00.0	1.2	1.2	5.8	22.1	14.0	9.3	5.8	2.3	4.7	5.8	7.0	9.3	00.0	100.
7	5.8	3.5	00.0	00.0	00.0	00.0	9.3	14.0	17.4	8.1	9.3	2.3	2.3	9.3	9.3	9.3	00.0	100.
8	8.1	3.5	00.0	00.0	00.0	2.3	4.7	16.3	20.9	8.1	2.3	3.5	1.2	12.8	7.0	9.3	00.0	100.
9	11.6	1.2	00.0	00.0	00.0	1.2	8.1	12.8	24.4	5.8	5.8	3.5	2.3	5.8	8.1	9.3	00.0	100.
10	11.6	2.3	1.2	00.0	1.2	3.5	8.1	10.5	19.8	7.0	4.7	5.8	00.0	8.1	8.1	8.1	00.0	100.
11	11.6	4.7	00.0	1.2	00.0	7.0	2.3	9.3	16.3	10.5	5.8	7.0	1.2	4.7	9.3	9.3	00.0	100.
12	12.8	4.7	3.5	1.2	1.2	2.3	3.5	10.5	15.1	8.1	9.3	4.7	4.7	2.3	9.3	7.0	00.0	100.
13	15.1	4.7	00.0	1.2	00.0	4.7	3.5	9.3	14.0	10.5	7.0	5.8	2.3	5.8	10.5	5.8	00.0	100.
14	8.3	8.3	00.0	1.2	1.2	2.4	6.0	4.8	16.7	7.1	6.0	7.1	4.8	8.3	9.5	8.3	00.0	100.
15	10.7	4.8	1.2	1.2	00.0	2.4	6.0	9.5	9.5	9.5	7.1	3.6	3.6	10.7	9.5	10.7	00.0	100.
16	8.2	7.1	1.2	00.0	00.0	1.2	5.9	11.8	8.2	11.8	3.5	7.1	1.2	9.4	12.9	10.6	00.0	100.
17	10.5	5.8	00.0	00.0	00.0	00.0	8.1	8.1	14.0	8.1	1.2	7.0	2.3	9.3	16.3	9.3	00.0	100.
18	7.0	7.0	1.2	00.0	00.0	00.0	5.8	12.8	11.6	7.0	2.3	8.1	4.7	8.1	16.3	8.1	00.0	100.
19	7.0	4.7	1.2	1.2	00.0	00.0	8.1	9.3	10.5	12.8	2.3	4.7	4.7	10.5	8.1	15.1	00.0	100.
20	10.5	4.7	2.3	1.2	00.0	00.0	7.0	12.8	15.1	5.8	8.1	2.3	2.3	9.3	5.8	12.8	00.0	100.
21	9.3	1.2	1.2	2.3	00.0	00.0	3.5	18.6	15.1	7.0	4.7	5.8	4.7	3.5	14.0	9.3	00.0	100.
22	7.0	2.3	1.2	2.3	00.0	1.2	4.7	9.3	22.1	7.0	8.1	4.7	5.8	5.8	9.3	9.3	00.0	100.
23	11.6	1.2	2.3	1.2	00.0	00.0	4.7	19.8	9.3	14.0	7.0	2.3	2.3	4.7	15.1	4.7	00.0	100.
24	10.5	2.3	1.2	00.0	00.0	00.0	3.5	14.0	24.4	5.8	3.5	5.8	2.3	4.7	14.0	7.0	1.2	100.
ALL	9.4	3.9	.8	.6	.3	1.3	5.1	13.2	17.4	8.4	5.3	4.7	3.2	7.3	10.3	8.8	.0	100.

NUMBER OF OBS = 2059

B44

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JUL-DEC

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	10.1	3.4	1.7	00.0	2.5	2.5	4.2	12.6	19.3	9.2	5.0	3.4	.8	7.6	6.7	10.9	00.0	100.
2	10.9	2.5	.8	.8	3.4	1.7	2.5	16.0	17.6	8.4	4.2	3.4	2.5	10.9	6.7	7.6	00.0	100.
3	8.4	1.7	1.7	.8	2.5	4.2	.8	13.4	25.2	9.2	2.5	4.2	3.4	5.9	8.4	7.6	00.0	100.
4	7.6	3.4	.8	2.5	2.5	3.4	2.5	15.1	23.5	5.9	3.4	3.4	4.2	6.7	10.9	4.2	00.0	100.
5	2.5	4.2	3.4	.8	.8	3.4	4.2	15.1	21.8	7.6	4.2	4.2	5.0	5.9	9.2	7.6	00.0	100.
6	5.0	5.9	1.7	1.7	.8	1.7	6.7	17.6	16.8	8.4	4.2	2.5	3.4	5.9	8.4	9.2	00.0	100.
7	5.0	5.0	1.7	.8	00.0	2.5	7.6	11.8	18.5	5.9	8.4	3.4	2.5	9.2	8.4	9.2	00.0	100.
8	6.7	6.7	1.7	.8	.8	4.2	5.0	13.4	17.6	9.2	1.7	4.2	.8	10.9	6.7	9.2	00.0	100.
9	9.2	5.0	.8	1.7	2.5	1.7	9.2	14.3	18.5	5.0	4.2	3.4	1.7	4.2	9.2	9.2	00.0	100.
10	10.9	5.9	2.5	1.7	4.2	3.4	10.9	8.4	15.1	6.7	3.4	5.0	00.0	5.9	6.7	9.2	00.0	100.
11	10.1	9.2	1.7	3.4	1.7	7.6	3.4	8.4	12.6	9.2	4.2	5.0	.8	4.2	7.6	10.9	00.0	100.
12	12.6	7.6	4.2	2.5	3.4	1.7	5.0	8.4	13.4	6.7	6.7	4.2	3.4	1.7	7.6	10.9	00.0	100.
13	16.0	5.0	1.7	3.4	1.7	4.2	5.0	8.4	10.9	9.2	5.0	5.0	1.7	4.2	9.2	9.2	00.0	100.
14	10.3	8.5	1.7	1.7	.9	4.3	6.8	6.0	12.8	6.0	4.3	6.0	3.4	6.8	6.8	13.7	00.0	100.
15	15.4	4.3	1.7	1.7	.9	2.6	8.5	8.5	7.7	8.5	5.1	2.6	2.6	9.4	7.7	12.8	00.0	100.
16	11.9	6.8	.8	.8	.8	1.7	8.5	11.0	6.8	9.3	2.5	5.1	.8	7.6	11.0	14.4	00.0	100.
17	11.8	5.0	.8	1.7	00.0	1.7	10.1	8.4	10.1	6.7	.8	5.0	1.7	6.7	14.3	15.1	00.0	100.
18	8.4	8.4	.8	.8	00.0	2.5	10.1	10.1	9.2	5.0	1.7	5.9	3.4	6.7	14.3	12.6	00.0	100.
19	9.2	4.2	.8	1.7	.8	2.5	8.4	7.6	8.4	10.1	1.7	4.2	4.2	10.9	10.1	15.1	00.0	100.
20	10.1	5.9	2.5	.8	4.2	1.7	5.9	9.2	11.8	6.7	6.7	1.7	1.7	9.2	10.1	11.8	00.0	100.
21	10.1	2.5	1.7	3.4	1.7	3.4	4.2	15.1	12.6	5.9	4.2	5.0	3.4	3.4	15.1	8.4	00.0	100.
22	9.2	1.7	1.7	1.7	00.0	5.0	5.0	9.2	19.3	6.7	6.7	4.2	4.2	5.0	10.9	9.2	00.0	100.
23	11.8	2.5	1.7	2.5	.8	4.2	5.0	16.0	9.2	12.6	6.7	1.7	1.7	3.4	16.0	4.2	00.0	100.
24	10.9	4.2	.8	00.0	1.7	3.4	3.4	14.3	21.8	5.9	2.5	4.2	2.5	5.9	10.9	6.7	.8	100.
ALL	9.8	5.0	1.6	1.6	1.6	3.1	6.0	11.6	15.0	7.7	4.2	4.0	2.5	6.6	9.7	10.0	.0	100.

NUMBER OF OBS = 2851

B45

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JAN-DEC

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	8.3	7.6	2.4	2.4	3.5	3.8	6.6	10.7	14.9	5.9	3.5	3.5	2.8	5.9	9.3	9.0	00.0	100.
2	9.3	5.2	2.4	2.8	3.5	4.2	5.5	12.5	12.5	7.3	3.8	3.1	3.8	6.6	8.7	9.0	00.0	100.
3	6.9	5.5	2.8	2.4	3.5	6.2	5.9	10.0	16.6	8.3	2.8	3.5	3.8	4.2	9.3	8.3	00.0	100.
4	7.6	4.2	1.7	3.8	4.2	6.2	5.2	11.1	17.6	5.5	3.1	2.8	4.2	5.9	11.4	5.5	00.0	100.
5	5.9	4.8	4.2	3.8	2.8	4.8	4.8	11.8	14.9	7.3	3.5	2.8	4.2	5.5	10.4	8.7	00.0	100.
6	6.6	7.6	2.4	4.8	3.1	3.1	6.2	12.5	12.5	6.6	3.5	1.7	2.8	5.9	10.4	10.4	00.0	100.
7	6.6	6.2	3.8	3.5	3.8	3.1	6.9	9.0	14.9	5.9	4.8	2.4	1.7	7.3	9.3	10.7	00.0	100.
8	8.3	6.6	2.8	3.5	5.2	5.5	6.2	8.0	14.2	6.9	3.1	3.1	1.7	7.6	8.3	9.0	00.0	100.
9	8.3	5.9	2.1	4.5	3.1	6.6	8.7	9.7	12.5	6.9	3.8	2.1	1.7	4.2	8.3	11.8	00.0	100.
10	8.7	4.8	5.2	4.2	4.8	3.5	10.4	8.0	11.1	8.3	3.8	3.1	1.0	5.9	7.3	10.0	00.0	100.
11	10.0	6.2	3.8	4.2	3.5	4.2	8.3	6.9	11.4	8.3	4.8	3.1	2.1	5.5	6.9	10.7	00.0	100.
12	11.4	5.9	4.8	2.8	4.5	4.2	8.7	6.2	11.1	6.6	5.9	3.1	3.1	4.5	7.3	10.0	00.0	100.
13	13.5	6.9	3.8	2.1	3.8	4.5	8.7	6.9	9.0	9.3	4.2	4.5	2.1	5.2	8.3	7.3	00.0	100.
14	10.5	7.7	2.5	2.5	3.2	6.3	7.7	5.3	10.9	5.6	5.3	6.3	2.5	6.3	7.4	10.2	00.0	100.
15	12.3	4.9	3.9	2.1	2.8	5.3	8.4	8.1	6.3	7.0	6.3	3.2	3.9	7.7	8.4	9.5	00.0	100.
16	9.4	9.1	2.1	2.4	2.8	4.5	8.0	8.0	7.3	8.0	2.1	4.9	3.5	7.7	8.7	11.5	00.0	100.
17	11.1	5.2	2.8	2.1	2.8	3.8	10.4	8.0	9.3	5.5	1.7	4.8	1.7	8.0	11.1	11.8	00.0	100.
18	8.7	5.9	1.4	2.8	3.8	4.5	10.0	8.7	9.3	3.5	1.7	4.5	3.1	6.6	11.8	13.8	00.0	100.
19	9.7	3.8	2.1	3.1	3.8	4.8	8.7	6.9	9.0	5.9	3.1	3.1	3.8	8.7	8.7	14.9	00.0	100.
20	10.4	5.5	2.1	3.5	3.8	5.2	6.2	10.4	9.3	5.2	3.8	3.5	2.8	7.3	9.0	12.1	00.0	100.
21	12.5	4.8	1.0	5.2	3.1	6.2	5.5	10.4	12.5	5.2	3.5	3.1	2.4	4.5	12.1	8.0	00.0	100.
22	11.8	2.8	2.8	3.5	2.1	6.6	6.2	8.0	15.2	5.5	3.5	3.8	3.1	4.5	9.3	11.1	.3	100.
23	10.4	4.2	3.1	4.5	2.1	5.9	4.2	10.7	12.1	10.0	3.5	2.4	1.7	5.2	11.4	8.7	00.0	100.
24	10.4	4.8	2.1	3.5	3.8	4.8	4.2	10.4	17.0	5.9	1.7	3.8	3.1	4.2	9.7	10.4	.3	100.
ALL	9.5	5.7	2.8	3.3	3.5	4.9	7.1	9.1	12.1	6.7	3.6	3.4	2.8	6.0	9.3	10.1	.0	100.

NUMBER OF OBS = 6926

B46

**Wind Direction Frequencies**

**100-Meter Level**

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JANUARY

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	00.0	12.9	6.5	3.2	12.9	22.6	12.9	00.0	100.
2	6.5	3.2	3.2	00.0	3.2	3.2	3.2	3.2	3.2	3.2	12.9	3.2	3.2	3.2	19.4	25.8	00.0	100.
3	9.7	3.2	3.2	00.0	00.0	6.5	3.2	3.2	3.2	3.2	9.7	6.5	3.2	9.7	6.5	29.0	00.0	100.
4	6.5	3.2	3.2	00.0	00.0	6.5	3.2	00.0	6.5	3.2	12.9	3.2	6.5	6.5	16.1	22.6	00.0	100.
5	6.5	6.5	00.0	3.2	00.0	6.5	3.2	00.0	3.2	6.5	6.5	16.1	3.2	00.0	16.1	22.6	00.0	100.
6	9.7	6.5	3.2	00.0	3.2	6.5	3.2	00.0	6.5	3.2	9.7	16.1	00.0	3.2	16.1	12.9	00.0	100.
7	6.7	6.7	3.3	00.0	00.0	6.7	6.7	00.0	6.7	10.0	3.3	13.3	3.3	6.7	6.7	20.0	00.0	100.
8	16.7	3.3	00.0	3.3	00.0	6.7	6.7	3.3	6.7	6.7	3.3	6.7	13.3	3.3	10.0	10.0	00.0	100.
9	10.0	10.0	00.0	00.0	00.0	10.0	3.3	3.3	10.0	3.3	10.0	00.0	16.7	3.3	6.7	13.3	00.0	100.
10	6.7	6.7	00.0	3.3	6.7	3.3	6.7	3.3	10.0	6.7	6.7	3.3	3.3	13.3	10.0	10.0	00.0	100.
11	10.0	3.3	00.0	00.0	6.7	3.3	6.7	6.7	10.0	10.0	3.3	00.0	00.0	13.3	16.7	10.0	00.0	100.
12	6.7	6.7	3.3	00.0	00.0	6.7	10.0	3.3	10.0	3.3	6.7	3.3	00.0	10.0	20.0	10.0	00.0	100.
13	3.3	10.0	6.7	3.3	00.0	3.3	6.7	3.3	10.0	3.3	10.0	00.0	00.0	10.0	23.3	6.7	00.0	100.
14	13.3	6.7	3.3	3.3	00.0	10.0	3.3	3.3	3.3	6.7	10.0	3.3	00.0	6.7	26.7	00.0	00.0	100.
15	13.3	10.0	00.0	3.3	00.0	6.7	6.7	3.3	3.3	3.3	10.0	3.3	00.0	13.3	23.3	00.0	00.0	100.
16	13.3	10.0	00.0	00.0	3.3	6.7	00.0	3.3	3.3	6.7	3.3	10.0	00.0	16.7	20.0	3.3	00.0	100.
17	10.0	6.7	00.0	00.0	3.3	6.7	00.0	3.3	6.7	00.0	10.0	00.0	10.0	16.7	16.7	10.0	00.0	100.
18	6.7	10.0	00.0	00.0	6.7	3.3	00.0	3.3	6.7	00.0	10.0	3.3	3.3	20.0	16.7	10.0	00.0	100.
19	10.0	6.7	00.0	00.0	3.3	6.7	00.0	6.7	6.7	00.0	10.0	00.0	3.3	20.0	20.0	6.7	00.0	100.
20	10.0	6.7	00.0	00.0	00.0	10.0	00.0	3.3	6.7	13.3	00.0	3.3	3.3	16.7	16.7	10.0	00.0	100.
21	13.3	3.3	3.3	00.0	00.0	10.0	00.0	3.3	00.0	13.3	6.7	00.0	10.0	13.3	13.3	10.0	00.0	100.
22	16.7	00.0	00.0	00.0	6.7	6.7	00.0	3.3	00.0	10.0	10.0	00.0	13.3	6.7	16.7	10.0	00.0	100.
23	13.3	3.3	00.0	6.7	00.0	6.7	00.0	3.3	3.3	6.7	10.0	3.3	10.0	3.3	20.0	10.0	00.0	100.
24	6.7	3.3	3.3	3.3	00.0	10.0	00.0	3.3	3.3	3.3	3.3	10.0	16.7	00.0	20.0	13.3	00.0	100.
ALL	9.5	5.8	1.7	1.4	1.9	6.5	3.2	3.0	5.5	5.2	8.0	4.8	5.2	9.5	16.7	12.1	00.0	100.

NUMBER OF OBS = 726

B48

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

FEBRUARY

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	19.2	3.8	00.0	00.0	3.8	3.8	3.8	7.7	3.8	3.8	7.7	11.5	3.8	7.7	11.5	7.7	00.0	100.
2	11.5	3.8	00.0	00.0	3.8	3.8	3.8	7.7	3.8	00.0	15.4	11.5	00.0	7.7	15.4	11.5	00.0	100.
3	7.7	3.8	00.0	3.8	3.8	3.8	7.7	3.8	3.8	00.0	11.5	15.4	3.8	00.0	15.4	15.4	00.0	100.
4	3.8	3.8	00.0	00.0	3.8	7.7	7.7	3.8	3.8	3.8	7.7	15.4	3.8	00.0	23.1	11.5	00.0	100.
5	3.8	3.8	00.0	00.0	3.8	7.7	7.7	3.8	7.7	00.0	15.4	11.5	3.8	00.0	19.2	11.5	00.0	100.
6	3.8	3.8	00.0	00.0	3.8	11.5	3.8	3.8	3.8	7.7	11.5	11.5	3.8	7.7	11.5	11.5	00.0	100.
7	3.8	3.8	00.0	00.0	7.7	7.7	3.8	3.8	7.7	00.0	11.5	15.4	00.0	7.7	11.5	15.4	00.0	100.
8	12.0	4.0	00.0	00.0	00.0	16.0	00.0	4.0	4.0	4.0	16.0	12.0	00.0	8.0	8.0	12.0	00.0	100.
9	4.0	4.0	00.0	00.0	4.0	8.0	4.0	4.0	4.0	8.0	16.0	8.0	00.0	4.0	8.0	24.0	00.0	100.
10	11.5	7.7	00.0	3.8	3.8	3.8	7.7	7.7	3.8	11.5	11.5	7.7	00.0	3.8	3.8	11.5	00.0	100.
11	16.0	00.0	4.0	00.0	4.0	00.0	8.0	12.0	4.0	8.0	16.0	8.0	00.0	4.0	00.0	16.0	00.0	100.
12	11.5	00.0	7.7	00.0	00.0	00.0	11.5	7.7	11.5	11.5	15.4	3.8	00.0	3.8	3.8	11.5	00.0	100.
13	18.5	3.7	3.7	00.0	00.0	00.0	11.1	3.7	3.7	14.8	18.5	7.4	00.0	3.7	3.7	7.4	00.0	100.
14	11.1	3.7	00.0	00.0	00.0	00.0	3.7	11.1	00.0	14.8	22.2	7.4	3.7	3.7	3.7	14.8	00.0	100.
15	11.1	3.7	00.0	00.0	00.0	00.0	3.7	11.1	00.0	14.8	18.5	7.4	7.4	7.4	11.1	3.7	00.0	100.
16	7.4	7.4	00.0	00.0	00.0	00.0	7.4	11.1	3.7	14.8	7.4	7.4	7.4	7.4	11.1	7.4	00.0	100.
17	14.8	7.4	00.0	00.0	00.0	7.4	7.4	7.4	00.0	22.2	00.0	7.4	00.0	7.4	18.5	00.0	00.0	100.
18	18.5	00.0	00.0	00.0	00.0	7.4	7.4	3.7	7.4	7.4	11.1	7.4	00.0	7.4	11.1	11.1	00.0	100.
19	25.9	00.0	00.0	00.0	00.0	3.7	11.1	7.4	3.7	7.4	3.7	11.1	00.0	7.4	14.8	3.7	00.0	100.
20	14.8	7.4	00.0	00.0	00.0	3.7	11.1	7.4	3.7	7.4	00.0	11.1	00.0	11.1	11.1	11.1	00.0	100.
21	14.8	3.7	3.7	00.0	00.0	3.7	11.1	3.7	7.4	7.4	00.0	11.1	00.0	7.4	14.8	11.1	00.0	100.
22	18.5	00.0	00.0	3.7	3.7	00.0	11.1	3.7	7.4	7.4	7.4	7.4	00.0	11.1	14.8	3.7	00.0	100.
23	11.1	3.7	00.0	3.7	3.7	3.7	00.0	11.1	7.4	7.4	7.4	7.4	00.0	7.4	11.1	14.8	00.0	100.
24	22.2	00.0	00.0	00.0	7.4	00.0	3.7	3.7	11.1	00.0	14.8	7.4	00.0	11.1	11.1	7.4	00.0	100.
ALL	12.5	3.5	.8	.6	2.4	4.3	6.6	6.5	4.9	7.7	11.1	9.6	1.6	6.2	11.2	10.6	00.0	100.

NUMBER OF OBS = 633

B49



NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

MARCH

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	9.7	9.7	6.5	3.2	9.7	9.7	9.7	3.2	12.9	00.0	00.0	3.2	6.5	3.2	00.0	12.9	00.0	100.
2	6.5	16.1	6.5	3.2	6.5	9.7	9.7	9.7	9.7	00.0	00.0	6.5	00.0	6.5	00.0	9.7	00.0	100.
3	12.9	00.0	9.7	9.7	00.0	16.1	6.5	9.7	12.9	00.0	00.0	6.5	00.0	3.2	00.0	12.9	00.0	100.
4	9.7	6.5	00.0	12.9	9.7	9.7	6.5	9.7	12.9	00.0	00.0	3.2	3.2	3.2	00.0	12.9	00.0	100.
5	6.5	9.7	3.2	6.5	12.9	6.5	6.5	6.5	16.1	3.2	3.2	00.0	00.0	3.2	9.7	6.5	00.0	100.
6	6.5	12.9	3.2	12.9	6.5	6.5	6.5	3.2	16.1	3.2	00.0	3.2	00.0	00.0	9.7	9.7	00.0	100.
7	6.5	16.1	3.2	12.9	6.5	3.2	00.0	6.5	19.4	3.2	00.0	3.2	00.0	00.0	16.1	3.2	00.0	100.
8	3.2	19.4	00.0	16.1	3.2	6.5	3.2	6.5	16.1	3.2	00.0	3.2	00.0	00.0	12.9	6.5	00.0	100.
9	6.5	6.5	6.5	16.1	6.5	6.5	3.2	6.5	16.1	00.0	6.5	00.0	00.0	3.2	6.5	9.7	00.0	100.
10	3.2	12.9	3.2	12.9	9.7	00.0	9.7	3.2	9.7	6.5	9.7	00.0	3.2	3.2	6.5	6.5	00.0	100.
11	00.0	9.7	6.5	6.5	16.1	3.2	6.5	00.0	12.9	6.5	6.5	3.2	00.0	6.5	6.5	9.7	00.0	100.
12	6.5	6.5	6.5	9.7	12.9	3.2	6.5	00.0	12.9	3.2	3.2	6.5	3.2	6.5	6.5	6.5	00.0	100.
13	3.2	3.2	6.5	9.7	12.9	6.5	9.7	00.0	6.5	6.5	6.5	9.7	00.0	3.2	6.5	9.7	00.0	100.
14	3.2	6.5	3.2	6.5	6.5	6.5	12.9	3.2	6.5	6.5	6.5	9.7	00.0	3.2	6.5	12.9	00.0	100.
15	6.5	00.0	9.7	3.2	12.9	9.7	6.5	3.2	6.5	9.7	6.5	6.5	3.2	00.0	6.5	9.7	00.0	100.
16	3.2	12.9	00.0	6.5	6.5	6.5	12.9	6.5	6.5	6.5	3.2	6.5	3.2	3.2	6.5	9.7	00.0	100.
17	3.2	9.7	3.2	6.5	9.7	6.5	9.7	6.5	9.7	3.2	3.2	3.2	00.0	00.0	16.1	9.7	00.0	100.
18	3.2	6.5	00.0	9.7	9.7	6.5	12.9	9.7	6.5	00.0	00.0	00.0	3.2	3.2	3.2	25.8	00.0	100.
19	3.2	3.2	6.5	6.5	6.5	9.7	12.9	6.5	6.5	3.2	00.0	00.0	00.0	3.2	6.5	25.8	00.0	100.
20	9.7	6.5	3.2	6.5	9.7	3.2	9.7	12.9	3.2	6.5	00.0	00.0	00.0	00.0	6.5	22.6	00.0	100.
21	19.4	6.5	3.2	6.5	9.7	6.5	6.5	9.7	6.5	6.5	00.0	00.0	00.0	00.0	9.7	9.7	00.0	100.
22	16.1	3.2	3.2	9.7	6.5	9.7	9.7	6.5	6.5	3.2	6.5	00.0	00.0	3.2	6.5	9.7	00.0	100.
23	12.9	9.7	6.5	9.7	6.5	9.7	6.5	6.5	6.5	00.0	3.2	6.5	00.0	6.5	3.2	6.5	00.0	100.
24	9.7	6.5	6.5	6.5	9.7	12.9	6.5	3.2	6.5	3.2	6.5	00.0	6.5	3.2	00.0	12.9	00.0	100.
ALL	7.1	8.3	4.4	8.7	8.6	7.3	7.9	5.8	10.2	3.5	3.0	3.4	1.3	2.8	6.3	11.3	00.0	100.

NUMBER OF OBS = 744

B50

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JAN-MAR

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	10.2	5.7	3.4	2.3	5.7	5.7	5.7	4.5	6.8	1.1	6.8	6.8	4.5	8.0	11.4	11.4	00.0	100.
2	8.0	8.0	3.4	1.1	4.5	5.7	5.7	6.8	5.7	1.1	9.1	6.8	1.1	5.7	11.4	15.9	00.0	100.
3	10.2	2.3	4.5	4.5	1.1	9.1	5.7	5.7	6.8	1.1	6.8	9.1	2.3	4.5	6.8	19.3	00.0	100.
4	6.8	4.5	1.1	4.5	4.5	8.0	5.7	4.5	8.0	2.3	6.8	6.8	4.5	3.4	12.5	15.9	00.0	100.
5	5.7	6.8	1.1	3.4	5.7	6.8	5.7	3.4	9.1	3.4	8.0	9.1	2.3	1.1	14.8	13.6	00.0	100.
6	6.8	8.0	2.3	4.5	4.5	8.0	4.5	2.3	9.1	4.5	6.8	10.2	1.1	3.4	12.5	11.4	00.0	100.
7	5.7	9.2	2.3	4.6	4.6	5.7	3.4	3.4	11.5	4.6	4.6	10.3	1.1	4.6	11.5	12.6	00.0	100.
8	10.5	9.3	00.0	7.0	1.2	9.3	3.5	4.7	9.3	4.7	5.8	7.0	4.7	3.5	10.5	9.3	00.0	100.
9	7.0	7.0	2.3	5.8	3.5	8.1	3.5	4.7	10.5	3.5	10.5	2.3	5.8	3.5	7.0	15.1	00.0	100.
10	6.9	9.2	1.1	6.9	6.9	2.3	8.0	4.6	8.0	8.0	9.2	3.4	2.3	6.9	6.9	9.2	00.0	100.
11	8.1	4.7	3.5	2.3	9.3	2.3	7.0	5.8	9.3	8.1	8.1	3.5	00.0	8.1	8.1	11.6	00.0	100.
12	8.0	4.6	5.7	3.4	4.6	3.4	9.2	3.4	11.5	5.7	8.0	4.6	1.1	6.9	10.3	9.2	00.0	100.
13	8.0	5.7	5.7	4.5	4.5	3.4	9.1	2.3	6.8	8.0	11.4	5.7	00.0	5.7	11.4	8.0	00.0	100.
14	9.1	5.7	2.3	3.4	2.3	5.7	6.8	5.7	3.4	9.1	12.5	6.8	1.1	4.5	12.5	9.1	00.0	100.
15	10.2	4.5	3.4	2.3	4.5	5.7	5.7	5.7	3.4	9.1	11.4	5.7	3.4	6.8	13.6	4.5	00.0	100.
16	8.0	10.2	00.0	2.3	3.4	4.5	6.8	6.8	4.5	9.1	4.5	8.0	3.4	9.1	12.5	6.8	00.0	100.
17	9.1	8.0	1.1	2.3	4.5	6.8	5.7	5.7	5.7	8.0	4.5	3.4	3.4	8.0	17.0	6.8	00.0	100.
18	9.1	5.7	00.0	3.4	5.7	5.7	6.8	5.7	6.8	2.3	6.8	3.4	2.3	10.2	10.2	15.9	00.0	100.
19	12.5	3.4	2.3	2.3	3.4	6.8	8.0	6.8	5.7	3.4	4.5	3.4	1.1	10.2	13.6	12.5	00.0	100.
20	11.4	6.8	1.1	2.3	3.4	5.7	6.8	8.0	4.5	9.1	00.0	4.5	1.1	9.1	11.4	14.8	00.0	100.
21	15.9	4.5	3.4	2.3	3.4	6.8	5.7	5.7	4.5	9.1	2.3	3.4	3.4	6.8	12.5	10.2	00.0	100.
22	17.0	1.1	1.1	4.5	5.7	5.7	6.8	4.5	4.5	6.8	8.0	2.3	4.5	6.8	12.5	8.0	00.0	100.
23	12.5	5.7	2.3	6.8	3.4	6.8	2.3	6.8	5.7	4.5	6.8	5.7	3.4	5.7	11.4	10.2	00.0	100.
24	12.5	3.4	3.4	3.4	5.7	8.0	3.4	3.4	6.8	2.3	8.0	5.7	8.0	4.5	10.2	11.4	00.0	100.
ALL	9.6	6.0	2.4	3.8	4.4	6.1	5.9	5.0	7.0	5.4	7.1	5.8	2.8	6.1	11.4	11.4	00.0	100.

NUMBER OF OBS = 2103

B51

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

APRIL

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	10.0	6.7	10.0	10.0	6.7	6.7	00.0	10.0	3.3	6.7	00.0	3.3	6.7	3.3	13.3	3.3	00.0	100.
2	13.3	00.0	3.3	16.7	10.0	3.3	3.3	3.3	6.7	6.7	3.3	3.3	3.3	3.3	16.7	3.3	00.0	100.
3	3.3	10.0	6.7	10.0	6.7	6.7	6.7	6.7	3.3	6.7	3.3	00.0	10.0	3.3	16.7	00.0	00.0	100.
4	3.3	00.0	6.7	10.0	10.0	16.7	3.3	3.3	6.7	6.7	3.3	00.0	6.7	10.0	13.3	00.0	00.0	100.
5	00.0	00.0	6.7	10.0	10.0	16.7	00.0	3.3	3.3	6.7	3.3	3.3	6.7	13.3	13.3	3.3	00.0	100.
6	00.0	00.0	13.3	6.7	10.0	3.3	10.0	00.0	3.3	6.7	00.0	00.0	13.3	6.7	13.3	13.3	00.0	100.
7	3.3	6.7	6.7	3.3	16.7	00.0	10.0	00.0	3.3	6.7	00.0	3.3	3.3	10.0	16.7	10.0	00.0	100.
8	10.0	3.3	10.0	6.7	10.0	3.3	3.3	6.7	00.0	6.7	3.3	6.7	00.0	10.0	13.3	6.7	00.0	100.
9	6.7	3.3	6.7	13.3	00.0	10.0	6.7	6.7	00.0	10.0	3.3	3.3	00.0	6.7	13.3	10.0	00.0	100.
10	00.0	3.3	10.0	10.0	6.7	10.0	6.7	3.3	6.7	3.3	3.3	3.3	00.0	6.7	13.3	13.3	00.0	100.
11	3.3	6.7	6.7	6.7	13.3	6.7	3.3	6.7	6.7	00.0	6.7	00.0	3.3	13.3	6.7	10.0	00.0	100.
12	6.7	6.7	6.7	3.3	6.7	10.0	6.7	3.3	3.3	3.3	6.7	00.0	3.3	16.7	6.7	10.0	00.0	100.
13	6.7	10.0	6.7	00.0	10.0	3.3	10.0	6.7	00.0	3.3	3.3	6.7	6.7	6.7	10.0	10.0	00.0	100.
14	6.7	3.3	10.0	00.0	10.0	6.7	3.3	10.0	00.0	3.3	00.0	10.0	6.7	10.0	13.3	6.7	00.0	100.
15	6.7	6.7	6.7	00.0	10.0	3.3	6.7	6.7	6.7	00.0	00.0	3.3	13.3	6.7	10.0	13.3	00.0	100.
16	6.7	6.7	00.0	6.7	6.7	6.7	6.7	6.7	6.7	00.0	00.0	3.3	13.3	10.0	10.0	10.0	00.0	100.
17	10.0	3.3	3.3	3.3	6.7	3.3	10.0	6.7	6.7	00.0	00.0	6.7	3.3	13.3	13.3	10.0	00.0	100.
18	6.7	6.7	3.3	3.3	3.3	6.7	6.7	10.0	3.3	00.0	3.3	6.7	3.3	10.0	10.0	16.7	00.0	100.
19	10.0	3.3	6.7	6.7	6.7	3.3	3.3	10.0	3.3	00.0	3.3	00.0	10.0	6.7	13.3	13.3	00.0	100.
20	10.0	6.7	3.3	10.0	10.0	00.0	3.3	10.0	6.7	00.0	00.0	3.3	6.7	3.3	13.3	13.3	00.0	100.
21	13.3	00.0	10.0	6.7	00.0	13.3	00.0	10.0	6.7	3.3	00.0	3.3	3.3	6.7	3.3	20.0	00.0	100.
22	3.3	10.0	6.7	6.7	6.7	10.0	00.0	10.0	6.7	3.3	00.0	00.0	3.3	6.7	3.3	23.3	00.0	100.
23	00.0	6.7	13.3	10.0	6.7	3.3	3.3	6.7	6.7	3.3	00.0	00.0	00.0	10.0	3.3	26.7	00.0	100.
24	10.0	6.7	6.7	13.3	6.7	6.7	00.0	10.0	6.7	3.3	00.0	00.0	3.3	6.7	10.0	10.0	00.0	100.
ALL	6.3	4.9	7.1	7.2	7.9	6.7	4.7	6.5	4.4	3.8	1.9	2.9	5.4	8.3	11.2	10.7	00.0	100.

NUMBER OF OBS = 720

BS2

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

MAY

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	9.7	00.0	3.2	00.0	00.0	12.9	16.1	12.9	12.9	6.5	00.0	3.2	3.2	3.2	12.9	3.2	00.0	100.
2	12.9	00.0	3.2	3.2	00.0	12.9	19.4	6.5	12.9	3.2	3.2	6.5	3.2	3.2	9.7	00.0	00.0	100.
3	6.5	00.0	6.5	3.2	3.2	3.2	19.4	12.9	12.9	9.7	00.0	00.0	6.5	3.2	3.2	9.7	00.0	100.
4	9.7	00.0	3.2	6.5	3.2	19.4	6.5	12.9	9.7	6.5	00.0	3.2	00.0	6.5	6.5	6.5	00.0	100.
5	9.7	6.5	6.5	3.2	6.5	6.5	3.2	12.9	16.1	6.5	3.2	00.0	3.2	3.2	9.7	3.2	00.0	100.
6	12.9	3.2	00.0	9.7	3.2	9.7	6.5	12.9	16.1	3.2	3.2	00.0	3.2	3.2	6.5	6.5	00.0	100.
7	6.5	00.0	00.0	6.5	6.5	16.1	12.9	6.5	6.5	3.2	6.5	00.0	3.2	6.5	6.5	12.9	00.0	100.
8	6.5	3.2	00.0	00.0	12.9	12.9	9.7	9.7	6.5	6.5	3.2	3.2	3.2	6.5	9.7	6.5	00.0	100.
9	9.7	00.0	3.2	3.2	3.2	16.1	12.9	3.2	12.9	3.2	6.5	00.0	3.2	3.2	9.7	9.7	00.0	100.
10	9.7	00.0	00.0	3.2	00.0	9.7	19.4	00.0	19.4	3.2	6.5	00.0	00.0	3.2	3.2	22.6	00.0	100.
11	16.1	3.2	00.0	00.0	00.0	00.0	22.6	9.7	12.9	6.5	3.2	00.0	3.2	00.0	6.5	16.1	00.0	100.
12	12.9	9.7	00.0	3.2	00.0	9.7	12.9	9.7	12.9	3.2	00.0	3.2	3.2	00.0	00.0	19.4	00.0	100.
13	19.4	3.2	6.5	00.0	3.2	6.5	16.1	9.7	12.9	3.2	00.0	3.2	3.2	00.0	3.2	9.7	00.0	100.
14	20.7	10.3	00.0	3.4	00.0	13.8	13.8	3.4	13.8	3.4	00.0	6.9	00.0	3.4	3.4	3.4	00.0	100.
15	17.2	3.4	6.9	3.4	00.0	10.3	13.8	10.3	6.9	3.4	3.4	00.0	10.3	00.0	00.0	10.3	00.0	100.
16	16.7	6.7	3.3	3.3	3.3	10.0	20.0	3.3	13.3	00.0	00.0	3.3	3.3	00.0	3.3	10.0	00.0	100.
17	9.7	9.7	3.2	3.2	3.2	3.2	19.4	9.7	16.1	00.0	00.0	3.2	3.2	3.2	00.0	12.9	00.0	100.
18	12.9	00.0	3.2	3.2	6.5	12.9	6.5	16.1	9.7	3.2	00.0	3.2	3.2	00.0	9.7	9.7	00.0	100.
19	6.5	6.5	3.2	3.2	3.2	12.9	9.7	16.1	12.9	00.0	00.0	3.2	3.2	3.2	00.0	16.1	00.0	100.
20	9.7	00.0	6.5	3.2	3.2	19.4	6.5	16.1	12.9	00.0	00.0	6.5	3.2	00.0	3.2	9.7	00.0	100.
21	12.9	3.2	3.2	00.0	9.7	16.1	6.5	12.9	19.4	00.0	00.0	3.2	3.2	00.0	6.5	3.2	00.0	100.
22	12.9	00.0	3.2	3.2	9.7	19.4	00.0	9.7	22.6	3.2	00.0	9.7	00.0	00.0	6.5	00.0	00.0	100.
23	12.9	00.0	00.0	00.0	12.9	19.4	3.2	12.9	19.4	00.0	3.2	00.0	6.5	00.0	9.7	00.0	00.0	100.
24	12.9	00.0	3.2	00.0	3.2	16.1	16.1	9.7	12.9	3.2	6.5	3.2	3.2	00.0	6.5	3.2	00.0	100.
ALL	11.9	2.8	2.8	2.8	4.1	12.0	12.2	10.0	13.5	3.4	2.0	2.7	3.2	2.2	5.7	8.5	00.0	100.

NUMBER OF OBS = 739

B53

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JUNE

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	00.0	6.7	3.3	00.0	10.0	16.7	3.3	10.0	16.7	6.7	3.3	3.3	3.3	6.7	00.0	10.0	00.0	100.
2	6.7	3.3	3.3	00.0	10.0	13.3	6.7	3.3	23.3	13.3	00.0	00.0	3.3	6.7	00.0	6.7	00.0	100.
3	6.7	6.7	3.3	00.0	00.0	16.7	6.7	13.3	13.3	13.3	3.3	00.0	3.3	10.0	00.0	3.3	00.0	100.
4	6.7	3.3	3.3	3.3	6.7	13.3	6.7	6.7	13.3	13.3	6.7	00.0	3.3	10.0	00.0	3.3	00.0	100.
5	3.3	6.7	3.3	3.3	6.7	6.7	10.0	3.3	13.3	10.0	10.0	3.3	00.0	10.0	3.3	6.7	00.0	100.
6	00.0	10.0	00.0	6.7	6.7	10.0	6.7	00.0	13.3	16.7	3.3	00.0	6.7	6.7	3.3	10.0	00.0	100.
7	10.0	00.0	10.0	00.0	13.3	10.0	3.3	6.7	16.7	6.7	6.7	00.0	3.3	3.3	10.0	00.0	00.0	100.
8	6.7	6.7	3.3	3.3	6.7	20.0	6.7	3.3	10.0	3.3	6.7	3.3	6.7	3.3	10.0	00.0	00.0	100.
9	10.0	00.0	3.3	6.7	6.7	13.3	13.3	3.3	3.3	13.3	6.7	00.0	6.7	3.3	10.0	00.0	00.0	100.
10	6.7	00.0	10.0	6.7	6.7	6.7	10.0	6.7	6.7	10.0	6.7	6.7	6.7	6.7	3.3	00.0	00.0	100.
11	3.3	00.0	3.3	6.7	6.7	10.0	16.7	6.7	6.7	10.0	3.3	3.3	6.7	3.3	6.7	6.7	00.0	100.
12	00.0	3.3	00.0	00.0	10.0	10.0	23.3	6.7	10.0	6.7	6.7	3.3	00.0	6.7	6.7	6.7	00.0	100.
13	10.0	00.0	00.0	00.0	3.3	13.3	20.0	3.3	16.7	13.3	3.3	00.0	00.0	6.7	6.7	3.3	00.0	100.
14	10.0	00.0	3.3	3.3	00.0	13.3	20.0	3.3	16.7	13.3	00.0	3.3	00.0	3.3	10.0	00.0	00.0	100.
15	3.3	00.0	3.3	6.7	00.0	16.7	6.7	20.0	10.0	10.0	00.0	00.0	3.3	3.3	10.0	6.7	00.0	100.
16	00.0	00.0	3.3	3.3	6.7	6.7	13.3	16.7	10.0	10.0	00.0	00.0	6.7	6.7	6.7	10.0	00.0	100.
17	00.0	00.0	00.0	3.3	6.7	6.7	23.3	13.3	10.0	6.7	00.0	00.0	3.3	3.3	10.0	13.3	00.0	100.
18	6.7	00.0	00.0	3.3	6.7	16.7	23.3	6.7	10.0	3.3	00.0	00.0	3.3	3.3	3.3	13.3	00.0	100.
19	6.7	00.0	00.0	3.3	6.7	16.7	13.3	13.3	16.7	00.0	00.0	00.0	3.3	3.3	3.3	13.3	00.0	100.
20	6.7	00.0	00.0	3.3	10.0	13.3	16.7	16.7	13.3	00.0	00.0	00.0	3.3	3.3	6.7	6.7	00.0	100.
21	3.3	3.3	00.0	3.3	10.0	16.7	10.0	16.7	16.7	00.0	00.0	3.3	3.3	3.3	3.3	6.7	00.0	100.
22	6.7	3.3	00.0	3.3	00.0	23.3	16.7	10.0	20.0	00.0	00.0	00.0	3.3	3.3	00.0	10.0	00.0	100.
23	3.3	3.3	3.3	3.3	6.7	13.3	10.0	13.3	20.0	00.0	00.0	3.3	3.3	00.0	3.3	13.3	00.0	100.
24	6.7	6.7	00.0	3.3	3.3	16.7	10.0	10.0	20.0	3.3	00.0	00.0	3.3	00.0	6.7	10.0	00.0	100.
ALL	5.1	2.6	2.5	3.2	6.3	13.3	12.4	8.9	13.6	7.6	2.8	1.4	3.6	4.9	5.1	6.7	00.0	100.

NUMBER OF OBS = 720

BS4

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

APR-JUN

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	6.6	4.4	5.5	3.3	5.5	12.1	6.6	11.0	11.0	6.6	1.1	3.3	4.4	4.4	8.8	5.5	00.0	100.
2	11.0	1.1	3.3	6.6	6.6	9.9	9.9	4.4	14.3	7.7	2.2	3.3	3.3	4.4	8.8	3.3	00.0	100.
3	5.5	5.5	5.5	4.4	3.3	8.8	11.0	11.0	9.9	9.9	2.2	00.0	6.6	5.5	6.6	4.4	00.0	100.
4	6.6	1.1	4.4	6.6	6.6	16.5	5.5	7.7	9.9	8.8	3.3	1.1	3.3	8.8	6.6	3.3	00.0	100.
5	4.4	4.4	5.5	5.5	7.7	9.9	4.4	6.6	11.0	7.7	5.5	2.2	3.3	8.8	8.8	4.4	00.0	100.
6	4.4	4.4	4.4	7.7	6.6	7.7	7.7	4.4	11.0	8.8	2.2	00.0	7.7	5.5	7.7	9.9	00.0	100.
7	6.6	2.2	5.5	3.3	12.1	8.8	8.8	4.4	8.8	5.5	4.4	1.1	3.3	6.6	11.0	7.7	00.0	100.
8	7.7	4.4	4.4	3.3	9.9	12.1	6.6	6.6	5.5	5.5	4.4	4.4	3.3	6.6	11.0	4.4	00.0	100.
9	8.8	1.1	4.4	7.7	3.3	13.2	11.0	4.4	5.5	8.8	5.5	1.1	3.3	4.4	11.0	6.6	00.0	100.
10	5.5	1.1	6.6	6.6	4.4	8.8	12.1	3.3	11.0	5.5	5.5	3.3	2.2	5.5	6.6	12.1	00.0	100.
11	7.7	3.3	3.3	4.4	6.6	5.5	14.3	7.7	8.8	5.5	4.4	1.1	4.4	5.5	6.6	11.0	00.0	100.
12	6.6	6.6	2.2	2.2	5.5	9.9	14.3	6.6	8.8	4.4	4.4	2.2	2.2	7.7	4.4	12.1	00.0	100.
13	12.1	4.4	4.4	00.0	5.5	7.7	15.4	6.6	9.9	6.6	2.2	3.3	3.3	4.4	6.6	7.7	00.0	100.
14	12.4	4.5	4.5	2.2	3.4	11.2	12.4	5.6	10.1	6.7	00.0	6.7	2.2	5.6	9.0	3.4	00.0	100.
15	9.0	3.4	5.6	3.4	3.4	10.1	9.0	12.4	7.9	4.5	1.1	1.1	9.0	3.4	6.7	10.1	00.0	100.
16	7.8	4.4	2.2	4.4	5.6	7.8	13.3	8.9	10.0	3.3	00.0	2.2	7.8	5.6	6.7	10.0	00.0	100.
17	6.6	4.4	2.2	3.3	5.5	4.4	17.6	9.9	11.0	2.2	00.0	3.3	3.3	6.6	7.7	12.1	00.0	100.
18	8.8	2.2	2.2	3.3	5.5	12.1	12.1	11.0	7.7	2.2	1.1	3.3	3.3	4.4	7.7	13.2	00.0	100.
19	7.7	3.3	3.3	4.4	5.5	11.0	8.8	13.2	11.0	00.0	1.1	1.1	5.5	4.4	5.5	14.3	00.0	100.
20	8.8	2.2	3.3	5.5	7.7	11.0	8.8	14.3	11.0	00.0	00.0	3.3	4.4	2.2	7.7	9.9	00.0	100.
21	9.9	2.2	4.4	3.3	6.6	15.4	5.5	13.2	14.3	1.1	00.0	3.3	3.3	3.3	4.4	9.9	00.0	100.
22	7.7	4.4	3.3	4.4	5.5	17.6	5.5	9.9	16.5	2.2	00.0	3.3	2.2	3.3	3.3	11.0	00.0	100.
23	5.5	3.3	5.5	4.4	8.8	12.1	5.5	11.0	15.4	1.1	1.1	1.1	3.3	3.3	5.5	13.2	00.0	100.
24	9.9	4.4	3.3	5.5	4.4	13.2	8.8	9.9	13.2	3.3	2.2	1.1	3.3	2.2	7.7	7.7	00.0	100.
ALL	7.8	3.4	4.1	4.4	6.1	10.7	9.8	8.5	10.6	4.9	2.2	2.3	4.1	5.1	7.3	8.6	00.0	100.

NUMBER OF OBS = 2179

B55

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JAN-JUN

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	8.4	5.0	4.5	2.8	5.6	8.9	6.1	7.8	8.9	3.9	3.9	5.0	4.5	6.1	10.1	8.4	00.0	100.
2	9.5	4.5	3.4	3.9	5.6	7.8	7.8	5.6	10.1	4.5	5.6	5.0	2.2	5.0	10.1	9.5	00.0	100.
3	7.8	3.9	5.0	4.5	2.2	8.9	8.4	8.4	8.4	5.6	4.5	4.5	4.5	5.0	6.7	11.7	00.0	100.
4	6.7	2.8	2.8	5.6	5.6	12.3	5.6	6.1	8.9	5.6	5.0	3.9	3.9	6.1	9.5	9.5	00.0	100.
5	5.0	5.6	3.4	4.5	6.7	8.4	5.0	5.0	10.1	5.6	6.7	5.6	2.8	5.0	11.7	8.9	00.0	100.
6	5.6	6.1	3.4	6.1	5.6	7.8	6.1	3.4	10.1	6.7	4.5	5.0	4.5	4.5	10.1	10.6	00.0	100.
7	6.2	5.6	3.9	3.9	8.4	7.3	6.2	3.9	10.1	5.1	4.5	5.6	2.2	5.6	11.2	10.1	00.0	100.
8	9.0	6.8	2.3	5.1	5.6	10.7	5.1	5.6	7.3	5.1	5.1	5.6	4.0	5.1	10.7	6.8	00.0	100.
9	7.9	4.0	3.4	6.8	3.4	10.7	7.3	4.5	7.9	6.2	7.9	1.7	4.5	4.0	9.0	10.7	00.0	100.
10	6.2	5.1	3.9	6.7	5.6	5.6	10.1	3.9	9.6	6.7	7.3	3.4	2.2	6.2	6.7	10.7	00.0	100.
11	7.9	4.0	3.4	3.4	7.9	4.0	10.7	6.8	9.0	6.8	6.2	2.3	2.3	6.8	7.3	11.3	00.0	100.
12	7.3	5.6	3.9	2.8	5.1	6.7	11.8	5.1	10.1	5.1	6.2	3.4	1.7	7.3	7.3	10.7	00.0	100.
13	10.1	5.0	5.0	2.2	5.0	5.6	12.3	4.5	8.4	7.3	6.7	4.5	1.7	5.0	8.9	7.8	00.0	100.
14	10.7	5.1	3.4	2.8	2.8	8.5	9.6	5.6	6.8	7.9	6.2	6.8	1.7	5.1	10.7	6.2	00.0	100.
15	9.6	4.0	4.5	2.8	4.0	7.9	7.3	9.0	5.6	6.8	6.2	3.4	6.2	5.1	10.2	7.3	00.0	100.
16	7.9	7.3	1.1	3.4	4.5	6.2	10.1	7.9	7.3	6.2	2.2	5.1	5.6	7.3	9.6	8.4	00.0	100.
17	7.8	6.1	1.7	2.8	5.0	5.6	11.7	7.8	8.4	5.0	2.2	3.4	3.4	7.3	12.3	9.5	00.0	100.
18	8.9	3.9	1.1	3.4	5.6	8.9	9.5	8.4	7.3	2.2	3.9	3.4	2.8	7.3	8.9	14.5	00.0	100.
19	10.1	3.4	2.8	3.4	4.5	8.9	8.4	10.1	8.4	1.7	2.8	2.2	3.4	7.3	9.5	13.4	00.0	100.
20	10.1	4.5	2.2	3.9	5.6	8.4	7.8	11.2	7.8	4.5	00.0	3.9	2.8	5.6	9.5	12.3	00.0	100.
21	12.8	3.4	3.9	2.8	5.0	11.2	5.6	9.5	9.5	5.0	1.1	3.4	3.4	5.0	8.4	10.1	00.0	100.
22	12.3	2.8	2.2	4.5	5.6	11.7	6.1	7.3	10.6	4.5	3.9	2.8	3.4	5.0	7.8	9.5	00.0	100.
23	8.9	4.5	3.9	5.6	6.1	9.5	3.9	8.9	10.6	2.8	3.9	3.4	3.4	4.5	8.4	11.7	00.0	100.
24	11.2	3.9	3.4	4.5	5.0	10.6	6.1	6.7	10.1	2.8	5.0	3.4	5.6	3.4	8.9	9.5	00.0	100.
ALL	8.7	4.7	3.3	4.1	5.3	8.4	7.9	6.8	8.8	5.1	4.6	4.0	3.4	5.6	9.3	10.0	00.0	100.

NUMBER OF OBS = 4282

B56

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JULY

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	3.2	3.2	3.2	3.2	3.2	12.9	16.1	19.4	16.1	9.7	6.5	00.0	00.0	00.0	3.2	00.0	00.0	100.
2	6.5	3.2	3.2	00.0	6.5	12.9	12.9	12.9	12.9	12.9	6.5	3.2	00.0	00.0	3.2	3.2	00.0	100.
3	9.7	00.0	00.0	3.2	6.5	12.9	16.1	9.7	12.9	16.1	00.0	00.0	3.2	00.0	6.5	3.2	00.0	100.
4	3.2	3.2	00.0	00.0	12.9	9.7	19.4	9.7	12.9	16.1	3.2	00.0	3.2	3.2	3.2	00.0	00.0	100.
5	3.2	3.2	00.0	00.0	9.7	22.6	6.5	12.9	6.5	12.9	6.5	3.2	3.2	3.2	6.5	00.0	00.0	100.
6	6.5	3.2	00.0	3.2	3.2	16.1	22.6	6.5	3.2	16.1	3.2	00.0	3.2	3.2	6.5	3.2	00.0	100.
7	6.5	00.0	3.2	6.5	6.5	19.4	6.5	12.9	9.7	16.1	00.0	3.2	3.2	3.2	3.2	00.0	00.0	100.
8	6.5	6.5	00.0	3.2	9.7	6.5	9.7	16.1	12.9	12.9	3.2	00.0	6.5	3.2	3.2	00.0	00.0	100.
9	00.0	3.2	6.5	00.0	9.7	9.7	9.7	9.7	16.1	9.7	12.9	00.0	00.0	3.2	3.2	6.5	00.0	100.
10	6.5	9.7	00.0	6.5	6.5	12.9	12.9	6.5	12.9	9.7	9.7	00.0	00.0	3.2	3.2	00.0	00.0	100.
11	6.5	3.2	6.5	9.7	6.5	12.9	16.1	3.2	12.9	16.1	3.2	00.0	00.0	00.0	3.2	00.0	00.0	100.
12	3.2	6.5	3.2	9.7	9.7	16.1	12.9	12.9	12.9	12.9	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
13	6.5	3.2	12.9	3.2	12.9	12.9	12.9	19.4	9.7	6.5	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
14	6.5	3.2	9.7	6.5	6.5	6.5	32.3	12.9	6.5	6.5	00.0	00.0	00.0	00.0	00.0	3.2	00.0	100.
15	12.9	3.2	3.2	3.2	00.0	12.9	41.9	9.7	6.5	3.2	00.0	00.0	00.0	00.0	00.0	3.2	00.0	100.
16	9.7	9.7	3.2	00.0	00.0	16.1	38.7	12.9	9.7	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
17	9.7	3.2	9.7	00.0	3.2	12.9	29.0	29.0	3.2	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
18	6.5	00.0	12.9	00.0	6.5	12.9	25.8	25.8	00.0	3.2	00.0	00.0	00.0	00.0	00.0	6.5	00.0	100.
19	3.2	3.2	9.7	9.7	3.2	16.1	16.1	35.5	00.0	00.0	00.0	00.0	00.0	00.0	00.0	3.2	00.0	100.
20	00.0	3.2	16.1	6.5	9.7	12.9	16.1	29.0	00.0	3.2	00.0	00.0	00.0	00.0	00.0	3.2	00.0	100.
21	00.0	00.0	9.7	9.7	3.2	9.7	29.0	25.8	6.5	3.2	3.2	00.0	00.0	00.0	00.0	00.0	00.0	100.
22	00.0	00.0	3.2	16.1	6.5	9.7	29.0	12.9	16.1	00.0	6.5	00.0	00.0	00.0	00.0	00.0	00.0	100.
23	00.0	00.0	00.0	6.5	12.9	9.7	25.8	19.4	16.1	3.2	00.0	3.2	3.2	00.0	00.0	00.0	00.0	100.
24	3.2	00.0	00.0	6.5	3.2	19.4	19.4	19.4	19.4	3.2	3.2	00.0	00.0	00.0	00.0	3.2	00.0	100.
ALL	5.0	3.1	4.8	4.7	6.6	13.2	19.9	16.0	9.8	8.1	2.8	.5	1.1	.9	1.9	1.6	00.0	100.

NUMBER OF OBS = 744

BS7



NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

AUGUST

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	9.7	6.5	3.2	6.5	6.5	19.4	16.1	12.9	6.5	6.5	3.2	00.0	00.0	3.2	00.0	00.0	00.0	100.
2	12.9	6.5	3.2	00.0	3.2	25.8	6.5	12.9	12.9	3.2	3.2	00.0	00.0	6.5	3.2	00.0	00.0	100.
3	6.5	9.7	3.2	00.0	16.1	19.4	6.5	6.5	12.9	6.5	3.2	3.2	00.0	3.2	00.0	3.2	00.0	100.
4	6.5	6.5	12.9	6.5	6.5	16.1	6.5	6.5	9.7	3.2	6.5	00.0	3.2	6.5	00.0	3.2	00.0	100.
5	6.5	6.5	12.9	3.2	9.7	19.4	6.5	9.7	3.2	00.0	6.5	00.0	9.7	00.0	3.2	3.2	00.0	100.
6	9.7	3.2	12.9	6.5	6.5	19.4	6.5	3.2	12.9	00.0	3.2	00.0	3.2	9.7	00.0	3.2	00.0	100.
7	9.7	9.7	9.7	00.0	3.2	19.4	3.2	12.9	12.9	3.2	00.0	3.2	00.0	6.5	00.0	6.5	00.0	100.
8	12.9	3.2	6.5	6.5	3.2	6.5	16.1	00.0	19.4	9.7	00.0	00.0	00.0	00.0	6.5	9.7	00.0	100.
9	16.1	3.2	00.0	9.7	9.7	9.7	9.7	3.2	9.7	6.5	6.5	3.2	00.0	00.0	3.2	9.7	00.0	100.
10	19.4	6.5	6.5	6.5	6.5	9.7	12.9	3.2	9.7	6.5	3.2	3.2	00.0	00.0	3.2	3.2	00.0	100.
11	19.4	6.5	6.5	3.2	12.9	00.0	6.5	19.4	3.2	6.5	00.0	3.2	00.0	3.2	3.2	6.5	00.0	100.
12	12.9	00.0	9.7	9.7	9.7	3.2	6.5	12.9	16.1	3.2	3.2	00.0	00.0	3.2	00.0	9.7	00.0	100.
13	12.9	3.2	9.7	3.2	3.2	12.9	9.7	12.9	3.2	9.7	00.0	3.2	00.0	6.5	00.0	9.7	00.0	100.
14	12.9	6.5	00.0	6.5	00.0	22.6	6.5	12.9	9.7	6.5	00.0	00.0	00.0	3.2	3.2	9.7	00.0	100.
15	9.7	3.2	6.5	6.5	00.0	6.5	25.8	9.7	9.7	3.2	00.0	00.0	00.0	00.0	6.5	12.9	00.0	100.
16	16.1	3.2	6.5	00.0	9.7	6.5	29.0	6.5	3.2	6.5	00.0	00.0	00.0	00.0	3.2	9.7	00.0	100.
17	12.9	9.7	9.7	6.5	3.2	6.5	22.6	12.9	00.0	6.5	00.0	00.0	00.0	00.0	00.0	9.7	00.0	100.
18	9.7	6.5	9.7	00.0	6.5	6.5	22.6	16.1	00.0	3.2	3.2	00.0	00.0	3.2	3.2	9.7	00.0	100.
19	9.7	6.5	6.5	6.5	6.5	19.4	16.1	12.9	00.0	3.2	00.0	00.0	3.2	00.0	3.2	6.5	00.0	100.
20	12.9	3.2	9.7	12.9	9.7	22.6	9.7	9.7	00.0	00.0	00.0	00.0	00.0	00.0	6.5	3.2	00.0	100.
21	9.7	3.2	12.9	9.7	6.5	25.8	9.7	9.7	00.0	00.0	00.0	00.0	00.0	6.5	00.0	6.5	00.0	100.
22	12.9	9.7	00.0	16.1	16.1	16.1	16.1	9.7	00.0	00.0	00.0	00.0	00.0	00.0	3.2	00.0	00.0	100.
23	16.1	6.5	00.0	9.7	9.7	19.4	16.1	12.9	3.2	00.0	00.0	00.0	00.0	00.0	00.0	6.5	00.0	100.
24	16.1	3.2	3.2	6.5	00.0	19.4	22.6	12.9	9.7	00.0	3.2	00.0	00.0	00.0	3.2	00.0	00.0	100.
ALL	12.2	5.5	6.7	5.9	6.9	14.7	12.9	10.1	7.0	3.9	1.9	.8	.8	2.6	2.3	5.9	00.0	100.

NUMBER OF OBS = 744

B58

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

SEPTEMBER

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	13.3	6.7	10.0	00.0	00.0	16.7	10.0	3.3	6.7	6.7	6.7	00.0	00.0	6.7	10.0	3.3	00.0	100.
2	13.3	6.7	6.7	3.3	3.3	16.7	6.7	00.0	6.7	6.7	10.0	00.0	00.0	6.7	6.7	6.7	00.0	100.
3	10.0	10.0	6.7	00.0	00.0	20.0	10.0	00.0	6.7	6.7	6.7	00.0	3.3	3.3	6.7	10.0	00.0	100.
4	6.7	16.7	00.0	6.7	00.0	23.3	00.0	00.0	10.0	6.7	00.0	3.3	3.3	6.7	13.3	3.3	00.0	100.
5	13.3	10.0	00.0	6.7	3.3	10.0	10.0	3.3	10.0	3.3	00.0	00.0	6.7	6.7	10.0	6.7	00.0	100.
6	13.3	10.0	3.3	6.7	3.3	10.0	10.0	00.0	6.7	6.7	00.0	00.0	00.0	6.7	16.7	6.7	00.0	100.
7	10.0	6.7	6.7	10.0	00.0	3.3	13.3	3.3	6.7	3.3	00.0	00.0	00.0	10.0	10.0	16.7	00.0	100.
8	3.3	10.0	6.7	10.0	00.0	3.3	10.0	3.3	3.3	6.7	00.0	6.7	00.0	6.7	10.0	20.0	00.0	100.
9	3.3	13.3	6.7	6.7	3.3	00.0	13.3	3.3	3.3	10.0	3.3	00.0	00.0	6.7	10.0	13.3	3.3	100.
10	3.3	16.7	6.7	00.0	6.7	6.7	10.0	10.0	3.3	6.7	00.0	00.0	3.3	3.3	6.7	16.7	00.0	100.
11	10.0	16.7	00.0	3.3	6.7	10.0	10.0	6.7	3.3	6.7	00.0	00.0	00.0	6.7	3.3	16.7	00.0	100.
12	23.3	6.7	3.3	6.7	3.3	3.3	10.0	3.3	6.7	3.3	00.0	3.3	00.0	00.0	3.3	23.3	00.0	100.
13	20.0	3.3	6.7	3.3	3.3	00.0	13.3	10.0	3.3	3.3	00.0	3.3	00.0	00.0	3.3	26.7	00.0	100.
14	16.7	10.0	3.3	00.0	3.3	00.0	16.7	6.7	3.3	3.3	00.0	00.0	00.0	3.3	6.7	26.7	00.0	100.
15	20.0	3.3	3.3	00.0	00.0	3.3	16.7	3.3	3.3	3.3	00.0	00.0	00.0	6.7	00.0	36.7	00.0	100.
16	20.0	6.7	00.0	3.3	3.3	3.3	13.3	3.3	3.3	3.3	00.0	00.0	00.0	3.3	6.7	30.0	00.0	100.
17	20.0	00.0	3.3	3.3	3.3	6.7	10.0	6.7	00.0	3.3	00.0	00.0	00.0	00.0	10.0	33.3	00.0	100.
18	13.3	10.0	3.3	00.0	3.3	13.3	10.0	3.3	00.0	3.3	00.0	00.0	00.0	00.0	13.3	26.7	00.0	100.
19	23.3	10.0	3.3	00.0	6.7	6.7	16.7	3.3	00.0	3.3	00.0	00.0	00.0	00.0	16.7	10.0	00.0	100.
20	10.0	16.7	6.7	3.3	3.3	10.0	6.7	10.0	00.0	3.3	00.0	00.0	00.0	00.0	13.3	16.7	00.0	100.
21	16.7	10.0	10.0	00.0	00.0	13.3	6.7	6.7	3.3	3.3	00.0	00.0	00.0	3.3	13.3	10.0	3.3	100.
22	10.0	10.0	6.7	6.7	00.0	10.0	6.7	3.3	10.0	00.0	3.3	00.0	00.0	00.0	16.7	13.3	3.3	100.
23	10.0	13.3	3.3	10.0	00.0	20.0	00.0	6.7	6.7	00.0	3.3	00.0	00.0	00.0	13.3	10.0	3.3	100.
24	10.0	13.3	00.0	3.3	3.3	16.7	13.3	00.0	3.3	10.0	00.0	00.0	00.0	6.7	13.3	6.7	00.0	100.
ALL	13.1	9.9	4.4	3.9	2.5	9.4	10.1	4.2	4.6	4.7	1.4	.7	.7	3.9	9.7	16.2	.6	100.

NUMBER OF OBS = 720

B59

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JUL-SEP

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	8.7	5.4	5.4	3.3	3.3	16.3	14.1	12.0	9.8	7.6	5.4	00.0	00.0	3.3	4.3	1.1	00.0	100.
2	10.9	5.4	4.3	1.1	4.3	18.5	8.7	8.7	10.9	7.6	6.5	1.1	00.0	4.3	4.3	3.3	00.0	100.
3	8.7	6.5	3.3	1.1	7.6	17.4	10.9	5.4	10.9	9.8	3.3	1.1	2.2	2.2	4.3	5.4	00.0	100.
4	5.4	8.7	4.3	4.3	6.5	16.3	8.7	5.4	10.9	8.7	3.3	1.1	3.3	5.4	5.4	2.2	00.0	100.
5	7.6	6.5	4.3	3.3	7.6	17.4	7.6	8.7	6.5	5.4	4.3	1.1	6.5	3.3	6.5	3.3	00.0	100.
6	9.8	5.4	5.4	5.4	4.3	15.2	13.0	3.3	7.6	7.6	2.2	00.0	2.2	6.5	7.6	4.3	00.0	100.
7	8.7	5.4	6.5	5.4	3.3	14.1	7.6	9.8	9.8	7.6	00.0	2.2	1.1	6.5	4.3	7.6	00.0	100.
8	7.6	6.5	4.3	6.5	4.3	5.4	12.0	6.5	12.0	9.8	1.1	2.2	2.2	3.3	6.5	9.8	00.0	100.
9	6.5	6.5	4.3	5.4	7.6	6.5	10.9	5.4	9.8	8.7	7.6	1.1	00.0	3.3	5.4	9.8	1.1	100.
10	9.8	10.9	4.3	4.3	6.5	9.8	12.0	6.5	8.7	7.6	4.3	1.1	1.1	2.2	4.3	6.5	00.0	100.
11	12.0	8.7	4.3	5.4	8.7	7.6	10.9	9.8	6.5	9.8	1.1	1.1	00.0	3.3	3.3	7.6	00.0	100.
12	13.0	4.3	5.4	8.7	7.6	7.6	9.8	9.8	12.0	6.5	1.1	1.1	00.0	1.1	1.1	10.9	00.0	100.
13	13.0	3.3	9.8	3.3	6.5	8.7	12.0	14.1	5.4	6.5	00.0	2.2	00.0	2.2	1.1	12.0	00.0	100.
14	12.0	6.5	4.3	4.3	3.3	9.8	18.5	10.9	6.5	5.4	00.0	00.0	00.0	2.2	3.3	13.0	00.0	100.
15	14.1	3.3	4.3	3.3	00.0	7.6	28.3	7.6	6.5	3.3	00.0	00.0	00.0	2.2	2.2	17.4	00.0	100.
16	15.2	6.5	3.3	1.1	4.3	8.7	27.2	7.6	5.4	3.3	00.0	00.0	00.0	1.1	3.3	13.0	00.0	100.
17	14.1	4.3	7.6	3.3	3.3	8.7	20.7	16.3	1.1	3.3	00.0	00.0	00.0	00.0	3.3	14.1	00.0	100.
18	9.8	5.4	8.7	00.0	5.4	10.9	19.6	15.2	00.0	3.3	1.1	00.0	00.0	1.1	5.4	14.1	00.0	100.
19	12.0	6.5	6.5	5.4	5.4	14.1	16.3	17.4	00.0	2.2	00.0	00.0	1.1	00.0	6.5	6.5	00.0	100.
20	7.6	7.6	10.9	7.6	7.6	15.2	10.9	16.3	00.0	2.2	00.0	00.0	00.0	00.0	6.5	7.6	00.0	100.
21	8.7	4.3	10.9	6.5	3.3	16.3	15.2	14.1	3.3	2.2	1.1	00.0	00.0	3.3	4.3	5.4	1.1	100.
22	7.6	6.5	3.3	13.0	7.6	12.0	17.4	8.7	8.7	00.0	3.3	00.0	00.0	00.0	6.5	4.3	1.1	100.
23	8.7	6.5	1.1	8.7	7.6	16.3	14.1	13.0	8.7	1.1	1.1	1.1	1.1	00.0	4.3	5.4	1.1	100.
24	9.8	5.4	1.1	5.4	2.2	18.5	18.5	10.9	10.9	4.3	2.2	00.0	00.0	2.2	5.4	3.3	00.0	100.
ALL	10.1	6.1	5.3	4.8	5.3	12.5	14.4	10.1	7.2	5.6	2.0	.7	.9	2.4	4.6	7.8	.2	100.

NUMBER OF OBS = 2208

B60

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

OCTOBER

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	3.3	6.7	3.3	00.0	00.0	00.0	00.0	20.0	16.7	3.3	16.7	00.0	00.0	6.7	13.3	10.0	00.0	100.
2	3.3	3.3	3.3	3.3	00.0	00.0	00.0	23.3	6.7	13.3	13.3	00.0	00.0	6.7	13.3	10.0	00.0	100.
3	6.7	3.3	00.0	00.0	3.3	00.0	00.0	23.3	13.3	6.7	10.0	00.0	00.0	16.7	6.7	10.0	00.0	100.
4	3.3	00.0	3.3	00.0	00.0	3.3	00.0	20.0	10.0	10.0	13.3	00.0	3.3	10.0	10.0	13.3	00.0	100.
5	6.7	3.3	3.3	00.0	00.0	3.3	3.3	16.7	10.0	10.0	6.7	6.7	00.0	6.7	20.0	3.3	00.0	100.
6	6.7	00.0	00.0	3.3	00.0	6.7	3.3	26.7	6.7	10.0	3.3	3.3	3.3	00.0	20.0	6.7	00.0	100.
7	3.3	3.3	3.3	00.0	00.0	00.0	10.0	23.3	13.3	6.7	3.3	6.7	00.0	3.3	13.3	10.0	00.0	100.
8	6.5	00.0	3.2	00.0	00.0	3.2	6.5	19.4	19.4	6.5	3.2	3.2	3.2	6.5	9.7	9.7	00.0	100.
9	6.5	00.0	00.0	00.0	3.2	00.0	9.7	16.1	19.4	9.7	3.2	00.0	6.5	3.2	12.9	9.7	00.0	100.
10	6.5	3.2	00.0	3.2	00.0	00.0	6.5	16.1	22.6	16.1	00.0	00.0	3.2	6.5	9.7	6.5	00.0	100.
11	6.5	3.2	00.0	00.0	00.0	6.5	6.5	19.4	19.4	3.2	9.7	00.0	3.2	3.2	9.7	9.7	00.0	100.
12	3.2	00.0	3.2	00.0	00.0	3.2	9.7	12.9	22.6	3.2	9.7	00.0	3.2	00.0	12.9	16.1	00.0	100.
13	00.0	3.2	00.0	00.0	00.0	3.2	16.1	9.7	16.1	6.5	6.5	3.2	3.2	3.2	9.7	19.4	00.0	100.
14	6.5	00.0	00.0	00.0	00.0	3.2	12.9	6.5	19.4	9.7	00.0	6.5	3.2	6.5	12.9	12.9	00.0	100.
15	6.5	3.2	00.0	00.0	00.0	3.2	16.1	9.7	9.7	6.5	6.5	3.2	00.0	9.7	9.7	16.1	00.0	100.
16	3.2	3.2	00.0	00.0	00.0	00.0	12.9	19.4	6.5	6.5	3.2	6.5	00.0	00.0	22.6	16.1	00.0	100.
17	3.2	3.2	00.0	00.0	00.0	00.0	12.9	16.1	12.9	3.2	00.0	9.7	00.0	6.5	19.4	12.9	00.0	100.
18	00.0	00.0	3.3	00.0	00.0	00.0	13.3	16.7	13.3	3.3	00.0	3.3	6.7	10.0	16.7	13.3	00.0	100.
19	00.0	00.0	00.0	3.3	00.0	00.0	13.3	23.3	3.3	6.7	00.0	3.3	3.3	20.0	3.3	20.0	00.0	100.
20	00.0	00.0	00.0	3.2	00.0	00.0	9.7	22.6	9.7	6.5	00.0	6.5	3.2	12.9	9.7	16.1	00.0	100.
21	3.2	00.0	00.0	00.0	3.2	00.0	3.2	29.0	9.7	3.2	6.5	3.2	3.2	9.7	12.9	12.9	00.0	100.
22	3.2	00.0	00.0	00.0	00.0	00.0	9.7	22.6	9.7	9.7	00.0	3.2	6.5	6.5	16.1	12.9	00.0	100.
23	3.2	00.0	00.0	00.0	00.0	00.0	3.2	25.8	12.9	6.5	6.5	00.0	6.5	3.2	19.4	12.9	00.0	100.
24	10.0	00.0	00.0	00.0	00.0	00.0	6.7	20.0	13.3	10.0	6.7	00.0	3.3	3.3	20.0	6.7	00.0	100.
ALL	4.2	1.6	1.1	.7	.4	1.5	7.8	19.1	13.2	7.4	5.3	2.9	2.7	6.7	13.5	12.0	00.0	100.

NUMBER OF OBS = 734

B61

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

NOVEMBER

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	17.4	4.3	8.7	00.0	4.3	4.3	4.3	13.0	17.4	8.7	4.3	00.0	00.0	4.3	4.3	4.3	00.0	100.
2	17.4	4.3	4.3	00.0	4.3	4.3	4.3	13.0	17.4	13.0	00.0	00.0	00.0	00.0	8.7	8.7	00.0	100.
3	17.4	4.3	4.3	00.0	4.3	8.7	00.0	13.0	17.4	8.7	4.3	00.0	00.0	8.7	00.0	8.7	00.0	100.
4	17.4	4.3	4.3	4.3	00.0	00.0	4.3	17.4	13.0	8.7	4.3	8.7	00.0	4.3	4.3	4.3	00.0	100.
5	13.0	4.3	4.3	4.3	00.0	00.0	00.0	13.0	26.1	4.3	4.3	4.3	00.0	8.7	4.3	8.7	00.0	100.
6	13.0	13.0	00.0	4.3	00.0	00.0	8.7	4.3	21.7	4.3	00.0	8.7	4.3	8.7	4.3	4.3	00.0	100.
7	17.4	4.3	4.3	00.0	00.0	4.3	8.7	4.3	21.7	00.0	4.3	13.0	4.3	00.0	8.7	4.3	00.0	100.
8	8.7	00.0	8.7	00.0	00.0	4.3	8.7	4.3	17.4	4.3	00.0	13.0	4.3	4.3	8.7	13.0	00.0	100.
9	8.7	4.3	00.0	4.3	4.3	00.0	4.3	8.7	17.4	00.0	8.7	8.7	4.3	8.7	4.3	13.0	00.0	100.
10	8.3	4.2	00.0	4.2	00.0	00.0	00.0	8.3	20.8	4.2	4.2	8.3	8.3	12.5	4.2	12.5	00.0	100.
11	8.3	8.3	00.0	4.2	00.0	00.0	00.0	4.2	16.7	16.7	00.0	4.2	00.0	16.7	4.2	16.7	00.0	100.
12	16.7	00.0	4.2	4.2	00.0	00.0	00.0	4.2	16.7	8.3	8.3	4.2	8.3	4.2	12.5	8.3	00.0	100.
13	16.7	4.2	00.0	00.0	4.2	00.0	4.2	4.2	8.3	12.5	8.3	4.2	8.3	8.3	12.5	4.2	00.0	100.
14	4.3	13.0	00.0	4.3	00.0	00.0	4.3	00.0	8.7	17.4	00.0	4.3	13.0	8.7	8.7	13.0	00.0	100.
15	4.3	8.7	4.3	00.0	4.3	00.0	4.3	4.3	4.3	17.4	4.3	00.0	13.0	13.0	8.7	8.7	00.0	100.
16	4.3	13.0	00.0	4.3	00.0	00.0	4.3	4.3	8.7	8.7	8.7	8.7	4.3	8.7	13.0	8.7	00.0	100.
17	8.7	8.7	4.3	00.0	00.0	00.0	00.0	8.7	4.3	21.7	00.0	8.7	4.3	13.0	8.7	8.7	00.0	100.
18	8.7	13.0	00.0	00.0	00.0	00.0	00.0	8.7	8.7	13.0	4.3	00.0	13.0	13.0	8.7	8.7	00.0	100.
19	8.7	13.0	00.0	00.0	00.0	00.0	8.7	4.3	4.3	13.0	8.7	4.3	4.3	8.7	8.7	13.0	00.0	100.
20	17.4	4.3	4.3	4.3	00.0	00.0	8.7	8.7	13.0	8.7	4.3	00.0	8.7	8.7	00.0	8.7	00.0	100.
21	21.7	00.0	00.0	8.7	4.3	00.0	00.0	13.0	17.4	4.3	13.0	00.0	4.3	4.3	4.3	4.3	00.0	100.
22	13.0	8.7	4.3	00.0	4.3	00.0	00.0	13.0	17.4	00.0	17.4	00.0	4.3	4.3	4.3	8.7	00.0	100.
23	13.0	00.0	8.7	00.0	00.0	4.3	00.0	13.0	17.4	13.0	4.3	00.0	00.0	8.7	4.3	13.0	00.0	100.
24	13.6	4.5	4.5	00.0	4.5	4.5	00.0	27.3	9.1	9.1	4.5	00.0	00.0	4.5	4.5	9.1	00.0	100.
ALL	12.4	6.1	3.1	2.2	1.6	1.4	3.2	9.0	14.4	9.2	5.0	4.3	4.7	7.7	6.5	9.0	00.0	100.

NUMBER OF OBS = 555

B62

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

DECEMBER

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	19.4	3.2	00.0	00.0	00.0	00.0	00.0	3.2	9.7	16.1	6.5	16.1	3.2	6.5	9.7	6.5	00.0	100.
2	16.1	3.2	00.0	00.0	00.0	00.0	00.0	3.2	9.7	12.9	9.7	9.7	6.5	00.0	22.6	6.5	00.0	100.
3	9.7	3.2	00.0	00.0	00.0	00.0	00.0	3.2	12.9	9.7	12.9	6.5	6.5	6.5	16.1	12.9	00.0	100.
4	12.9	3.2	00.0	00.0	00.0	00.0	00.0	3.2	16.1	9.7	12.9	3.2	3.2	12.9	6.5	16.1	00.0	100.
5	9.7	3.2	3.2	00.0	00.0	00.0	00.0	3.2	16.1	6.5	16.1	3.2	3.2	9.7	9.7	16.1	00.0	100.
6	16.1	3.2	00.0	00.0	00.0	00.0	00.0	6.5	16.1	9.7	9.7	00.0	6.5	16.1	6.5	9.7	00.0	100.
7	9.7	9.7	00.0	3.2	00.0	00.0	00.0	6.5	16.1	9.7	6.5	3.2	9.7	6.5	12.9	6.5	00.0	100.
8	9.7	6.5	3.2	00.0	00.0	3.2	00.0	3.2	22.6	6.5	9.7	6.5	3.2	6.5	12.9	6.5	00.0	100.
9	16.1	3.2	00.0	00.0	3.2	00.0	3.2	12.9	12.9	6.5	12.9	6.5	00.0	6.5	12.9	3.2	00.0	100.
10	19.4	3.2	00.0	00.0	00.0	3.2	3.2	3.2	19.4	3.2	12.9	6.5	6.5	3.2	12.9	3.2	00.0	100.
11	22.6	3.2	00.0	00.0	00.0	3.2	00.0	9.7	9.7	16.1	3.2	16.1	3.2	00.0	9.7	3.2	00.0	100.
12	19.4	6.5	00.0	00.0	00.0	00.0	3.2	6.5	16.1	9.7	9.7	9.7	3.2	6.5	6.5	3.2	00.0	100.
13	22.6	3.2	00.0	00.0	00.0	00.0	3.2	6.5	16.1	9.7	9.7	9.7	3.2	3.2	9.7	3.2	00.0	100.
14	20.0	00.0	00.0	00.0	00.0	3.3	00.0	10.0	10.0	10.0	13.3	6.7	3.3	6.7	13.3	3.3	00.0	100.
15	13.3	3.3	3.3	00.0	00.0	00.0	00.0	6.7	13.3	6.7	16.7	3.3	3.3	10.0	13.3	6.7	00.0	100.
16	12.9	3.2	00.0	00.0	00.0	00.0	00.0	6.5	16.1	3.2	16.1	3.2	3.2	12.9	12.9	9.7	00.0	100.
17	16.1	3.2	00.0	00.0	00.0	00.0	00.0	9.7	12.9	12.9	3.2	6.5	3.2	6.5	19.4	6.5	00.0	100.
18	12.9	6.5	00.0	00.0	00.0	00.0	00.0	6.5	16.1	6.5	9.7	6.5	3.2	3.2	22.6	6.5	00.0	100.
19	12.9	3.2	00.0	00.0	00.0	00.0	00.0	9.7	12.9	6.5	9.7	3.2	6.5	00.0	16.1	19.4	00.0	100.
20	16.1	3.2	00.0	00.0	00.0	00.0	00.0	12.9	3.2	9.7	9.7	3.2	6.5	6.5	6.5	22.6	00.0	100.
21	19.4	3.2	00.0	00.0	00.0	00.0	00.0	6.5	9.7	9.7	6.5	12.9	3.2	3.2	9.7	16.1	00.0	100.
22	12.9	6.5	00.0	00.0	00.0	3.2	00.0	6.5	9.7	9.7	6.5	12.9	3.2	00.0	9.7	19.4	00.0	100.
23	12.9	00.0	6.5	00.0	00.0	00.0	3.2	3.2	9.7	16.1	3.2	19.4	3.2	3.2	12.9	6.5	00.0	100.
24	12.9	3.2	3.2	00.0	00.0	00.0	3.2	3.2	12.9	9.7	9.7	12.9	6.5	00.0	12.9	9.7	00.0	100.
ALL	15.2	3.8	.8	.1	.1	.7	.8	6.3	13.3	9.4	9.8	7.8	4.3	5.7	12.4	9.3	00.0	100.

NUMBER OF OBS = 742

B63

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

OCT-DEC

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	13.1	4.8	3.6	00.0	1.2	1.2	1.2	11.9	14.3	9.5	9.5	6.0	1.2	6.0	9.5	7.1	00.0	100.
2	11.9	3.6	2.4	1.2	1.2	1.2	1.2	13.1	10.7	13.1	8.3	3.6	2.4	2.4	15.5	8.3	00.0	100.
3	10.7	3.6	1.2	00.0	2.4	2.4	00.0	13.1	14.3	8.3	9.5	2.4	2.4	10.7	8.3	10.7	00.0	100.
4	10.7	2.4	2.4	1.2	00.0	1.2	1.2	13.1	13.1	9.5	10.7	3.6	2.4	9.5	7.1	11.9	00.0	100.
5	9.5	3.6	3.6	1.2	00.0	1.2	1.2	10.7	16.7	7.1	9.5	4.8	1.2	8.3	11.9	9.5	00.0	100.
6	11.9	4.8	00.0	2.4	00.0	2.4	3.6	13.1	14.3	8.3	4.8	3.6	4.8	8.3	10.7	7.1	00.0	100.
7	9.5	6.0	2.4	1.2	00.0	1.2	6.0	11.9	16.7	6.0	4.8	7.1	4.8	3.6	11.9	7.1	00.0	100.
8	8.2	2.4	4.7	00.0	00.0	3.5	4.7	9.4	20.0	5.9	4.7	7.1	3.5	5.9	10.6	9.4	00.0	100.
9	10.6	2.4	00.0	1.2	3.5	00.0	5.9	12.9	16.5	5.9	8.2	4.7	3.5	5.9	10.6	8.2	00.0	100.
10	11.6	3.5	00.0	2.3	00.0	1.2	3.5	9.3	20.9	8.1	5.8	4.7	5.8	7.0	9.3	7.0	00.0	100.
11	12.8	4.7	00.0	1.2	00.0	3.5	2.3	11.6	15.1	11.6	4.7	7.0	2.3	5.8	8.1	9.3	00.0	100.
12	12.8	2.3	2.3	1.2	00.0	1.2	4.7	8.1	18.6	7.0	9.3	4.7	4.7	3.5	10.5	9.3	00.0	100.
13	12.8	3.5	00.0	00.0	1.2	1.2	8.1	7.0	14.0	9.3	8.1	5.8	4.7	4.7	10.5	9.3	00.0	100.
14	10.7	3.6	00.0	1.2	00.0	2.4	6.0	6.0	13.1	11.9	4.8	6.0	6.0	7.1	11.9	9.5	00.0	100.
15	8.3	4.8	2.4	00.0	1.2	1.2	7.1	7.1	9.5	9.5	9.5	2.4	4.8	10.7	10.7	10.7	00.0	100.
16	7.1	5.9	00.0	1.2	00.0	00.0	5.9	10.6	10.6	5.9	9.4	5.9	2.4	7.1	16.5	11.8	00.0	100.
17	9.4	4.7	1.2	00.0	00.0	00.0	4.7	11.8	10.6	11.8	1.2	8.2	2.4	8.2	16.5	9.4	00.0	100.
18	7.1	6.0	1.2	00.0	00.0	00.0	4.8	10.7	13.1	7.1	4.8	3.6	7.1	8.3	16.7	9.5	00.0	100.
19	7.1	4.8	00.0	1.2	00.0	00.0	7.1	13.1	7.1	8.3	6.0	3.6	4.8	9.5	9.5	17.9	00.0	100.
20	10.6	2.4	1.2	2.4	00.0	00.0	5.9	15.3	8.2	8.2	4.7	3.5	5.9	9.4	5.9	16.5	00.0	100.
21	14.1	1.2	00.0	2.4	2.4	00.0	1.2	16.5	11.8	5.9	8.2	5.9	3.5	5.9	9.4	11.8	00.0	100.
22	9.4	4.7	1.2	00.0	1.2	1.2	3.5	14.1	11.8	7.1	7.1	5.9	4.7	3.5	10.6	14.1	00.0	100.
23	9.4	00.0	4.7	00.0	00.0	1.2	2.4	14.1	12.9	11.8	4.7	7.1	3.5	4.7	12.9	10.6	00.0	100.
24	12.0	2.4	2.4	00.0	1.2	1.2	3.6	15.7	12.0	9.6	7.2	4.8	3.6	2.4	13.3	8.4	00.0	100.
ALL	10.5	3.6	1.5	.9	.6	1.2	4.0	11.7	13.6	8.6	6.9	5.1	3.8	6.6	11.2	10.2	00.0	100.

NUMBER OF OBS = 2031

B64

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JUL-DEC

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	10.8	5.1	4.5	1.7	2.3	9.1	8.0	11.9	11.9	8.5	7.4	2.8	.6	4.5	6.8	4.0	00.0	100.
2	11.4	4.5	3.4	1.1	2.8	10.2	5.1	10.8	10.8	10.2	7.4	2.3	1.1	3.4	9.7	5.7	00.0	100.
3	9.7	5.1	2.3	.6	5.1	10.2	5.7	9.1	12.5	9.1	6.3	1.7	2.3	6.3	6.3	8.0	00.0	100.
4	8.0	5.7	3.4	2.8	3.4	9.1	5.1	9.1	11.9	9.1	6.8	2.3	2.8	7.4	6.3	6.8	00.0	100.
5	8.5	5.1	4.0	2.3	4.0	9.7	4.5	9.7	11.4	6.3	6.8	2.8	4.0	5.7	9.1	6.3	00.0	100.
6	10.8	5.1	2.8	4.0	2.3	9.1	8.5	8.0	10.8	8.0	3.4	1.7	3.4	7.4	9.1	5.7	00.0	100.
7	9.1	5.7	4.5	3.4	1.7	8.0	6.8	10.8	13.1	6.8	2.3	4.5	2.8	5.1	8.0	7.4	00.0	100.
8	7.9	4.5	4.5	3.4	2.3	4.5	8.5	7.9	15.8	7.9	2.8	4.5	2.8	4.5	8.5	9.6	00.0	100.
9	8.5	4.5	2.3	3.4	5.6	3.4	8.5	9.0	13.0	7.3	7.9	2.8	1.7	4.5	7.9	9.0	.6	100.
10	10.7	7.3	2.2	3.4	3.4	5.6	7.9	7.9	14.6	7.9	5.1	2.8	3.4	4.5	6.7	6.7	00.0	100.
11	12.4	6.7	2.2	3.4	4.5	5.6	6.7	10.7	10.7	10.7	2.8	3.9	1.1	4.5	5.6	8.4	00.0	100.
12	12.9	3.4	3.9	5.1	3.9	4.5	7.3	9.0	15.2	6.7	5.1	2.8	2.2	2.2	5.6	10.1	00.0	100.
13	12.9	3.4	5.1	1.7	3.9	5.1	10.1	10.7	9.6	7.9	3.9	3.9	2.2	3.4	5.6	10.7	00.0	100.
14	11.4	5.1	2.3	2.8	1.7	6.3	12.5	8.5	9.7	8.5	2.3	2.8	2.8	4.5	7.4	11.4	00.0	100.
15	11.4	4.0	3.4	1.7	.6	4.5	18.2	7.4	8.0	6.3	4.5	1.1	2.3	6.3	6.3	14.2	00.0	100.
16	11.3	6.2	1.7	1.1	2.3	4.5	16.9	9.0	7.9	4.5	4.5	2.8	1.1	4.0	9.6	12.4	00.0	100.
17	11.9	4.5	4.5	1.7	1.7	4.5	13.0	14.1	5.6	7.3	.6	4.0	1.1	4.0	9.6	11.9	00.0	100.
18	8.5	5.7	5.1	00.0	2.8	5.7	12.5	13.1	6.3	5.1	2.8	1.7	3.4	4.5	10.8	11.9	00.0	100.
19	9.7	5.7	3.4	3.4	2.8	7.4	11.9	15.3	3.4	5.1	2.8	1.7	2.8	4.5	8.0	11.9	00.0	100.
20	9.0	5.1	6.2	5.1	4.0	7.9	8.5	15.8	4.0	5.1	2.3	1.7	2.8	4.5	6.2	11.9	00.0	100.
21	11.3	2.8	5.6	4.5	2.8	8.5	8.5	15.3	7.3	4.0	4.5	2.8	1.7	4.5	6.8	8.5	.6	100.
22	8.5	5.6	2.3	6.8	4.5	6.8	10.7	11.3	10.2	3.4	5.1	2.8	2.3	1.7	8.5	9.0	.6	100.
23	9.0	3.4	2.8	4.5	4.0	9.0	8.5	13.6	10.7	6.2	2.8	4.0	2.3	2.3	8.5	7.9	.6	100.
24	10.9	4.0	1.7	2.9	1.7	10.3	11.4	13.1	11.4	6.9	4.6	2.3	1.7	2.3	9.1	5.7	00.0	100.
ALL	10.3	4.9	3.5	2.9	3.1	7.1	9.4	10.9	10.2	7.0	4.4	2.8	2.3	4.4	7.7	9.0	.1	100.

NUMBER OF OBS = 4239

B65



NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2011

PROGRAM: WINPER  
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JAN-DEC

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	9.6	5.1	4.5	2.3	3.9	9.0	7.0	9.9	10.4	6.2	5.6	3.9	2.5	5.4	8.5	6.2	00.0	100.
2	10.4	4.5	3.4	2.5	4.2	9.0	6.5	8.2	10.4	7.3	6.5	3.7	1.7	4.2	9.9	7.6	00.0	100.
3	8.7	4.5	3.7	2.5	3.7	9.6	7.0	8.7	10.4	7.3	5.4	3.1	3.4	5.6	6.5	9.9	00.0	100.
4	7.3	4.2	3.1	4.2	4.5	10.7	5.4	7.6	10.4	7.3	5.9	3.1	3.4	6.8	7.9	8.2	00.0	100.
5	6.8	5.4	3.7	3.4	5.4	9.0	4.8	7.3	10.7	5.9	6.8	4.2	3.4	5.4	10.4	7.6	00.0	100.
6	8.2	5.6	3.1	5.1	3.9	8.5	7.3	5.6	10.4	7.3	3.9	3.4	3.9	5.9	9.6	8.2	00.0	100.
7	7.6	5.6	4.2	3.7	5.1	7.6	6.5	7.3	11.6	5.9	3.4	5.1	2.5	5.4	9.6	8.8	00.0	100.
8	8.5	5.6	3.4	4.2	4.0	7.6	6.8	6.8	11.6	6.5	4.0	5.1	3.4	4.8	9.6	8.2	00.0	100.
9	8.2	4.2	2.8	5.1	4.5	7.1	7.9	6.8	10.5	6.8	7.9	2.3	3.1	4.2	8.5	9.9	.3	100.
10	8.4	6.2	3.1	5.1	4.5	5.6	9.0	5.9	12.1	7.3	6.2	3.1	2.8	5.3	6.7	8.7	00.0	100.
11	10.1	5.4	2.8	3.4	6.2	4.8	8.7	8.7	9.9	8.7	4.5	3.1	1.7	5.6	6.5	9.9	00.0	100.
12	10.1	4.5	3.9	3.9	4.5	5.6	9.6	7.0	12.6	5.9	5.6	3.1	2.0	4.8	6.5	10.4	00.0	100.
13	11.5	4.2	5.0	2.0	4.5	5.3	11.2	7.6	9.0	7.6	5.3	4.2	2.0	4.2	7.3	9.2	00.0	100.
14	11.0	5.1	2.8	2.8	2.3	7.4	11.0	7.1	8.2	8.2	4.2	4.8	2.3	4.8	9.1	8.8	00.0	100.
15	10.5	4.0	4.0	2.3	2.3	6.2	12.7	8.2	6.8	6.5	5.4	2.3	4.2	5.7	8.2	10.8	00.0	100.
16	9.6	6.8	1.4	2.3	3.4	5.4	13.5	8.5	7.6	5.4	3.4	3.9	3.4	5.6	9.6	10.4	00.0	100.
17	9.8	5.3	3.1	2.2	3.4	5.1	12.4	11.0	7.0	6.2	1.4	3.7	2.2	5.6	11.0	10.7	00.0	100.
18	8.7	4.8	3.1	1.7	4.2	7.3	11.0	10.7	6.8	3.7	3.4	2.5	3.1	5.9	9.9	13.2	00.0	100.
19	9.9	4.5	3.1	3.4	3.7	8.2	10.1	12.7	5.9	3.4	2.8	2.0	3.1	5.9	8.7	12.7	00.0	100.
20	9.6	4.8	4.2	4.5	4.8	8.1	8.1	13.5	5.9	4.8	1.1	2.8	2.8	5.1	7.9	12.1	00.0	100.
21	12.1	3.1	4.8	3.7	3.9	9.8	7.0	12.4	8.4	4.5	2.8	3.1	2.5	4.8	7.6	9.3	.3	100.
22	10.4	4.2	2.2	5.6	5.1	9.3	8.4	9.3	10.4	3.9	4.5	2.8	2.8	3.4	8.1	9.3	.3	100.
23	9.0	3.9	3.4	5.1	5.1	9.3	6.2	11.2	10.7	4.5	3.4	3.7	2.8	3.4	8.4	9.8	.3	100.
24	11.0	4.0	2.5	3.7	3.4	10.5	8.8	9.9	10.7	4.8	4.8	2.8	3.7	2.8	9.0	7.6	00.0	100.
ALL	9.5	4.8	3.4	3.5	4.2	7.7	8.6	8.8	9.5	6.1	4.5	3.4	2.9	5.0	8.5	9.5	.0	100.

NUMBER OF OBS = 8521

B66

## **Precipitation**

Note: Precipitation data were impacted in the second and third quarters by the record flooding, accessibility, and sandbagging required around the meteorological tower. Precipitation data were not available June 20-August 28, resulting in much lower values than actual precipitation totals.

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	1	1	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	2	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	3	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	4	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	5	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	6	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	7	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	8	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	9	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .01	.01
11	1	10	.03 .01	.04 .02	.01 .04	.01 .02	.02 .01	.04 .01	.02 .00	.02 .00	.02 .01	.01 .00	.02 .00	.01 .01	.38
11	1	11	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01
11	1	12	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	13	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	14	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	15	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	16	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	17	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.02

B68

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	1	18	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.02
11	1	19	.00 .00	.00 .00	.00 .00	.00 .01	.00 .01	.00 .03	.00 .04	.00 .03	.00 .03	.00 .02	.00 .00	.00 .00	.17
11	1	20	.00 .00	.00 .00	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01
11	1	21	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	22	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .03	.00 .01	.00 .00	.04
11	1	23	.01 .00	.00 .01	.00 .00	.00 .01	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.04
11	1	24	.00 .01	.00 .00	.00 .00	.00 .03	.00 .01	.00 .01	.00 .01	.00 .00	.00 .01	.00 .00	.00 .00	.00 .00	.08
11	1	25	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	26	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	27	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.02
11	1	28	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	29	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	30	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	1	31	.00 .01	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.01 .00	.00 .00	.01 .00	.01 .00	.06

B69

MONTH OF JANUARY

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 54  
TOTAL DAYS WITH PRECIPITATION - 12  
TOTAL AMOUNT OF PRECIPITATION - .86 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - .04 INCHES  
MAXIMUM DAILY PRECIPITATION - .38 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 19 HOUR 19 - .04 INCHES  
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 19 HOUR 17 - .16 INCHES  
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 10 HOUR 5 - .25 INCHES  
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 10 HOUR 1 - .36 INCHES  
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 10 HOUR 1 - .38 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 614  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 45  
TOTAL DAYS WITH PRECIPITATION - 10  
TOTAL AMOUNT OF PRECIPITATION - .75 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - .04 INCHES  
MAXIMUM DAILY PRECIPITATION - .38 INCHES

MONTH OF JANUARY

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	54	119	178	221	250
.02	18	82	130	173	216
.03	10	57	96	132	165
.04	4	47	79	108	133
.05	0	39	70	98	124
.07	0	27	48	66	90
.10	0	19	34	46	58
.15	0	4	26	39	51
.20	0	0	11	19	25
.25	0	0	3	13	19
.30	0	0	0	5	14
.35	0	0	0	3	10
.40	0	0	0	0	0
.45	0	0	0	0	0
.50	0	0	0	0	0
.60	0	0	0	0	0
.70	0	0	0	0	0
.80	0	0	0	0	0
.90	0	0	0	0	0
1.00	0	0	0	0	0
1.10	0	0	0	0	0
1.20	0	0	0	0	0
1.30	0	0	0	0	0
1.40	0	0	0	0	0
1.50	0	0	0	0	0
1.60	0	0	0	0	0
1.70	0	0	0	0	0
1.80	0	0	0	0	0
1.90	0	0	0	0	0
2.00	0	0	0	0	0

ENTRIES INDICATE NUMBER OF DURATION PERIODS WITH RAINFALL GREATER THAN OR EQUAL TO AMOUNT SHOWN

B71

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	2	1	.00 .02	.00 .00	.00 .02	.00 .02	.00 .02	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.00 .00	.09
11	2	2	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	3	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	4	.00 .00	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01
11	2	5	.00 .00	.00 .00	.00 .00	.00 .00	.00 .01	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.03
11	2	6	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	7	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	8	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	9	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	10	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	11	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	12	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	13	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	14	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	15	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	16	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	17	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00

B72

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	2	18	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	19	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .06	.00 .00	.06
11	2	20	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	21	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	22	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	23	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	24	.00 .02	.00 .00	.00 .01	.00 .00	.00 .01	.00 .03	.00 .05	.00 .04	.00 .04	.00 .03	.00 .03	.00 .01	.27
11	2	25	.01 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .01	.00 .00	.00 .00	.00 .00	.00 .01	.00 .00	.04
11	2	26	.00 .01	.00 .00	.00 .00	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.03
11	2	27	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	2	28	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00

B73



MONTH OF FEBRUARY

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 672  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 27  
TOTAL DAYS WITH PRECIPITATION - 7  
TOTAL AMOUNT OF PRECIPITATION - .53 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - .06 INCHES  
MAXIMUM DAILY PRECIPITATION - .27 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 19 HOUR 23 - .06 INCHES  
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 24 HOUR 18 - .22 INCHES  
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 24 HOUR 15 - .27 INCHES  
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 24 HOUR 13 - .29 INCHES  
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 24 HOUR 13 - .29 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 394  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 24  
TOTAL DAYS WITH PRECIPITATION - 6  
TOTAL AMOUNT OF PRECIPITATION - .45 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - .05 INCHES  
MAXIMUM DAILY PRECIPITATION - .27 INCHES

MONTH OF FEBRUARY

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	27	78	117	146	168
.02	12	47	86	116	139
.03	7	30	59	91	117
.04	4	25	43	59	82
.05	2	23	41	56	72
.07	0	13	25	35	42
.10	0	8	14	20	27
.15	0	5	12	18	24
.20	0	3	10	16	22
.25	0	0	7	13	19
.30	0	0	0	0	0
.35	0	0	0	0	0
.40	0	0	0	0	0
.45	0	0	0	0	0
.50	0	0	0	0	0
.60	0	0	0	0	0
.70	0	0	0	0	0
.80	0	0	0	0	0
.90	0	0	0	0	0
1.00	0	0	0	0	0
1.10	0	0	0	0	0
1.20	0	0	0	0	0
1.30	0	0	0	0	0
1.40	0	0	0	0	0
1.50	0	0	0	0	0
1.60	0	0	0	0	0
1.70	0	0	0	0	0
1.80	0	0	0	0	0
1.90	0	0	0	0	0
2.00	0	0	0	0	0

ENTRIES INDICATE NUMBER OF DURATION PERIODS WITH RAINFALL GREATER THAN OR EQUAL TO AMOUNT SHOWN

B75

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	3	1	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	2	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	3	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	4	.00 .00	.00 .00	.00 .00	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01
11	3	5	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	6	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	7	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .01	.00 .01	.00 .00	.00 .00	.00 .01	.00 .00	.00 .00	.03
11	3	8	.00 .02	.00 .05	.00 .04	.00 .03	.00 .04	.00 .05	.00 .02	.00 .01	.00 .00	.00 .00	.00 .01	.00 .00	.27
11	3	9	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	10	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	11	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	12	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	13	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	14	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	15	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	16	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	17	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00

B76

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	3	18	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	19	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	20	.00 .00	.13 .00	.02 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.15
11	3	21	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	22	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	23	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	24	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .05	.00 .00	.00 .00	.05
11	3	25	.04 .00	.05 .00	.02 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.11
11	3	26	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	27	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	28	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	29	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	30	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	3	31	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00

B77

MONTH OF MARCH

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 19  
 TOTAL DAYS WITH PRECIPITATION - 6  
 TOTAL AMOUNT OF PRECIPITATION - .62 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .13 INCHES  
 MAXIMUM DAILY PRECIPITATION - .27 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 20 HOUR 2 - .13 INCHES  
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 8 HOUR 14 - .23 INCHES  
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 8 HOUR 13 - .27 INCHES  
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 8 HOUR 13 - .27 INCHES  
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 8 HOUR 13 - .27 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 131  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 1  
 TOTAL DAYS WITH PRECIPITATION - 1  
 TOTAL AMOUNT OF PRECIPITATION - .01 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .01 INCHES  
 MAXIMUM DAILY PRECIPITATION - .01 INCHES

MONTH OF MARCH

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	19	50	80	107	131
.02	13	37	61	85	103
.03	9	29	53	78	97
.04	8	27	45	63	82
.05	5	26	44	62	81
.07	1	23	41	59	77
.10	1	19	37	55	74
.15	0	11	29	47	66
.20	0	2	9	15	22
.25	0	0	7	13	20
.30	0	0	0	0	0
.35	0	0	0	0	0
.40	0	0	0	0	0
.45	0	0	0	0	0
.50	0	0	0	0	0
.60	0	0	0	0	0
.70	0	0	0	0	0
.80	0	0	0	0	0
.90	0	0	0	0	0
1.00	0	0	0	0	0
1.10	0	0	0	0	0
1.20	0	0	0	0	0
1.30	0	0	0	0	0
1.40	0	0	0	0	0
1.50	0	0	0	0	0
1.60	0	0	0	0	0
1.70	0	0	0	0	0
1.80	0	0	0	0	0
1.90	0	0	0	0	0
2.00	0	0	0	0	0

ENTRIES INDICATE NUMBER OF DURATION PERIODS WITH RAINFALL GREATER THAN OR EQUAL TO AMOUNT SHOWN

B79

JAN-MAR INDEX

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 2160  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 100  
 TOTAL DAYS WITH PRECIPITATION - 25  
 TOTAL AMOUNT OF PRECIPITATION - 2.01 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .13 INCHES  
 MAXIMUM DAILY PRECIPITATION - .38 INCHES

1	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	3	DAY	20	HOUR	2	-	.13	INCHES
6	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	3	DAY	8	HOUR	14	-	.23	INCHES
12	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	3	DAY	8	HOUR	13	-	.27	INCHES
18	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	1	DAY	10	HOUR	1	-	.36	INCHES
24	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	1	DAY	10	HOUR	1	-	.38	INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 1139  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 70  
 TOTAL DAYS WITH PRECIPITATION - 17  
 TOTAL AMOUNT OF PRECIPITATION - 1.21 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .05 INCHES  
 MAXIMUM DAILY PRECIPITATION - .38 INCHES

JAN-MAR INDEX

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	100	247	377	488	572
.02	43	166	277	385	481
.03	26	116	208	311	402
.04	16	99	167	237	318
.05	7	88	155	221	294
.07	1	63	114	162	217
.10	1	46	85	121	159
.15	0	20	67	104	141
.20	0	5	30	50	69
.25	0	0	17	39	58
.30	0	0	0	5	14
.35	0	0	0	3	10
.40	0	0	0	0	0
.45	0	0	0	0	0
.50	0	0	0	0	0
.60	0	0	0	0	0
.70	0	0	0	0	0
.80	0	0	0	0	0
.90	0	0	0	0	0
1.00	0	0	0	0	0
1.10	0	0	0	0	0
1.20	0	0	0	0	0
1.30	0	0	0	0	0
1.40	0	0	0	0	0
1.50	0	0	0	0	0
1.60	0	0	0	0	0
1.70	0	0	0	0	0
1.80	0	0	0	0	0
1.90	0	0	0	0	0
2.00	0	0	0	0	0



NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	4	1	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	2	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	3	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	4	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	5	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	6	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	7	.00 .06	.00 .06	.00 .08	.00 .32	.00 .03	.00 .18	.00 .22	.00 .18	.00 .09	.00 .00	.01 .00	.03 .00	1.26
11	4	8	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	9	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	10	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	11	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	12	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	13	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	14	.00 .00	.09 .00	.15 .00	.04 .00	.00 .00	.00 .00	.00 .00	.00 .05	.00 .63	.00 .21	.00 .00	.00 .00	1.17
11	4	15	.00 .02	.00 .02	.00 .01	.00 .00	.00 .00	.01 .00	.01 .00	.03 .00	.05 .00	.07 .00	.12 .01	.11 .02	.48
11	4	16	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01
11	4	17	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00

B82

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	4	18	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	19	.00 .00	.00 .00	.32 .00	.00 .00	.45 .00	.03 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.80
11	4	20	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	21	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	22	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.04 .00	.02 .00	.00 .00	.00 .00	.00 .00	.00 .00	.06
11	4	23	.00 .00	.00 .00	.00 .00	.00 .00	.00 .03	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.04
11	4	24	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	25	.00 .01	.00 .01	.00 .01	.00 .01	.00 .01	.00 .00	.00 .01	.00 .03	.00 .01	.01 .00	.00 .00	.00 .01	.12
11	4	26	.00 .00	.00 .00	.01 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.02
11	4	27	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	28	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	29	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	4	30	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00

MONTH OF APRIL

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 720  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 49  
TOTAL DAYS WITH PRECIPITATION - 9  
TOTAL AMOUNT OF PRECIPITATION - 3.96 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - .63 INCHES  
MAXIMUM DAILY PRECIPITATION - 1.26 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 14 HOUR 21 - .63 INCHES  
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 7 HOUR 16 - 1.02 INCHES  
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 7 HOUR 11 - 1.26 INCHES  
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 14 HOUR 20 - 1.31 INCHES  
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 14 HOUR 20 - 1.34 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 0  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 0  
TOTAL DAYS WITH PRECIPITATION - 0  
TOTAL AMOUNT OF PRECIPITATION - .00 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - .00 INCHES  
MAXIMUM DAILY PRECIPITATION - .00 INCHES

MONTH OF APRIL

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	49	103	149	189	225
.02	31	92	141	181	217
.03	27	84	136	176	212
.04	21	75	129	169	205
.05	19	62	105	140	170
.07	15	47	88	119	143
.10	11	43	78	110	134
.15	9	41	71	95	113
.20	6	37	67	94	112
.25	4	34	65	90	109
.30	4	27	52	73	92
.35	2	25	49	70	88
.40	2	22	48	69	87
.45	2	21	42	68	86
.50	1	18	36	55	73
.60	1	16	34	53	71
.70	0	14	32	51	69
.80	0	11	29	47	66
.90	0	2	11	24	43
1.00	0	2	8	19	36
1.10	0	0	7	17	33
1.20	0	0	4	13	25
1.30	0	0	0	1	7
1.40	0	0	0	0	0
1.50	0	0	0	0	0
1.60	0	0	0	0	0
1.70	0	0	0	0	0
1.80	0	0	0	0	0
1.90	0	0	0	0	0
2.00	0	0	0	0	0

ENTRIES INDICATE NUMBER OF DURATION PERIODS WITH RAINFALL GREATER THAN OR EQUAL TO AMOUNT SHOWN

B85

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	5	1	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	2	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	3	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	4	.00 .00	.00 9.99	.00 9.99	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	5	.00 .03	.00 .00	.00 .02	.00 .00	.00 .02	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.07
11	5	6	.00 .00	.00 9.99	.00 9.99	.00 9.99	.00 .00	.00 .00	.09 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.09
11	5	7	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	8	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	9	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	10	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	11	.00 .00	.00 .02	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .06	.00 .32	.00 .00	.00 .00	.00 .02	.42
11	5	12	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	13	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	14	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	15	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.01
11	5	16	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	17	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	5	18	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	19	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	20	.00 .00	.00 .02	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.03 .00	.07 .00	.12
11	5	21	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .46	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.46
11	5	22	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	23	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	24	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .04	.00 .14	.19 .11	.12 .02	.62
11	5	25	.01 .00	.00 .00	.00 .00	.00 .00	.01 .00	.23 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.25
11	5	26	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	27	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	28	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.02 .00	.02 .00	.00 .00	.00 .00	.00 .00	.04
11	5	29	.00 .00	.00 .00	.00 .00	.00 .00	.10 .00	.14 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.24
11	5	30	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	5	31	.00 .00	.16 .00	.05 .00	.08 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.29

B87

MONTH OF MAY

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744  
 NUMBER OF MISSING HOURS - 5  
 TOTAL HOURS OF PRECIPITATION - 29  
 TOTAL DAYS WITH PRECIPITATION - 11  
 TOTAL AMOUNT OF PRECIPITATION - 2.61 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .46 INCHES  
 MAXIMUM DAILY PRECIPITATION - .62 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 21 HOUR 18 - .46 INCHES  
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 21 HOUR 18 - .46 INCHES  
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 24 HOUR 21 - .56 INCHES  
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 24 HOUR 11 - .63 INCHES  
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 24 HOUR 11 - .87 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 0  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 0  
 TOTAL DAYS WITH PRECIPITATION - 0  
 TOTAL AMOUNT OF PRECIPITATION - .00 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .00 INCHES  
 MAXIMUM DAILY PRECIPITATION - .00 INCHES

MONTH OF MAY

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	29	97	160	216	263
.02	26	91	148	198	239
.03	18	76	133	185	227
.04	16	73	130	182	224
.05	15	64	117	165	204
.07	13	61	115	163	202
.10	10	51	92	132	172
.15	5	41	78	108	143
.20	3	38	76	106	135
.25	2	27	59	83	109
.30	2	20	47	65	83
.35	1	11	31	55	73
.40	1	8	29	53	71
.45	1	6	17	36	48
.50	0	0	4	16	23
.60	0	0	0	6	13
.70	0	0	0	0	5
.80	0	0	0	0	5
.90	0	0	0	0	0
1.00	0	0	0	0	0
1.10	0	0	0	0	0
1.20	0	0	0	0	0
1.30	0	0	0	0	0
1.40	0	0	0	0	0
1.50	0	0	0	0	0
1.60	0	0	0	0	0
1.70	0	0	0	0	0
1.80	0	0	0	0	0
1.90	0	0	0	0	0
2.00	0	0	0	0	0

ENTRIES INDICATE NUMBER OF DURATION PERIODS WITH RAINFALL GREATER THAN OR EQUAL TO AMOUNT SHOWN

B89



NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	6	1	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .01	.00 .00	.01
11	6	2	.00 .00	.00 .00	.00 .00	.04 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.05
11	6	3	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	6	4	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	6	5	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	6	6	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	6	7	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	6	8	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	6	9	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.11 .13	.05 .02	.02 .00	.00 .00	.33
11	6	10	.00 .00	.00 .10	.00 .03	.00 .00	.00 .00	.00 .00	.00 .00	.02 .00	.02 .00	.02 .00	.01 .00	.00 .00	.20
11	6	11	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	6	12	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	6	13	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	6	14	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	6	15	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	6	16	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.04 .00	.06 .00	.00 .00	.00 .00	.10
11	6	17	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00

B90

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	6	18	.00 .00	.00 .00	.00 .00	.00 .00	.67 .00	.32 .00	.09 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .04	1.12
11	6	19	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01
11	6	20	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	6	21	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	6	22	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	6	23	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	6	24	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	6	25	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	6	26	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	6	27	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	6	28	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	6	29	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	6	30	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00

B91

MONTH OF JUNE

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 720  
 NUMBER OF MISSING HOURS - 264  
 TOTAL HOURS OF PRECIPITATION - 21  
 TOTAL DAYS WITH PRECIPITATION - 7  
 TOTAL AMOUNT OF PRECIPITATION - 1.82 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .67 INCHES  
 MAXIMUM DAILY PRECIPITATION - 1.12 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 18 HOUR 5 - .67 INCHES  
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 18 HOUR 5 - 1.08 INCHES  
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 18 HOUR 5 - 1.08 INCHES  
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 18 HOUR 5 - 1.08 INCHES  
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 18 HOUR 5 - 1.12 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 0  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 0  
 TOTAL DAYS WITH PRECIPITATION - 0  
 TOTAL AMOUNT OF PRECIPITATION - .00 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .00 INCHES  
 MAXIMUM DAILY PRECIPITATION - .00 INCHES

MONTH OF JUNE

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	21	66	104	133	156
.02	17	55	93	122	146
.03	12	52	93	122	146
.04	11	51	92	121	145
.05	8	44	86	116	144
.07	6	35	64	84	102
.10	5	30	60	84	102
.15	2	19	44	61	73
.20	2	7	19	42	60
.25	2	7	13	26	45
.30	2	7	13	26	44
.35	1	7	13	19	32
.40	1	7	13	19	25
.45	1	6	12	18	25
.50	1	6	12	18	24
.60	1	6	12	18	24
.70	0	5	11	17	23
.80	0	5	11	17	23
.90	0	5	11	17	23
1.00	0	4	10	16	22
1.10	0	0	0	0	5
1.20	0	0	0	0	0
1.30	0	0	0	0	0
1.40	0	0	0	0	0
1.50	0	0	0	0	0
1.60	0	0	0	0	0
1.70	0	0	0	0	0
1.80	0	0	0	0	0
1.90	0	0	0	0	0
2.00	0	0	0	0	0

ENTRIES INDICATE NUMBER OF DURATION PERIODS WITH RAINFALL GREATER THAN OR EQUAL TO AMOUNT SHOWN

B93

APR-JUN INDEX

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 2184  
 NUMBER OF MISSING HOURS - 269  
 TOTAL HOURS OF PRECIPITATION - 99  
 TOTAL DAYS WITH PRECIPITATION - 27  
 TOTAL AMOUNT OF PRECIPITATION - 8.39 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .67 INCHES  
 MAXIMUM DAILY PRECIPITATION - 1.26 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 6 DAY 18 HOUR 5 - .67 INCHES  
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 6 DAY 18 HOUR 5 - 1.08 INCHES  
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 4 DAY 7 HOUR 11 - 1.26 INCHES  
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 4 DAY 14 HOUR 20 - 1.31 INCHES  
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 4 DAY 14 HOUR 20 - 1.34 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 0  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 0  
 TOTAL DAYS WITH PRECIPITATION - 0  
 TOTAL AMOUNT OF PRECIPITATION - .00 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .00 INCHES  
 MAXIMUM DAILY PRECIPITATION - .00 INCHES

APR-JUN INDEX

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	99	266	413	538	648
.02	74	238	382	501	605
.03	57	212	362	483	588
.04	48	199	351	472	577
.05	42	170	308	421	521
.07	34	143	267	366	450
.10	26	124	230	326	410
.15	16	101	193	264	330
.20	11	82	162	242	308
.25	8	68	137	199	264
.30	8	54	112	164	219
.35	4	43	93	144	193
.40	4	37	90	141	183
.45	4	33	71	122	159
.50	2	24	52	89	120
.60	2	22	46	77	108
.70	0	19	43	68	97
.80	0	16	40	64	94
.90	0	7	22	41	66
1.00	0	6	18	35	58
1.10	0	0	7	17	38
1.20	0	0	4	13	25
1.30	0	0	0	1	7
1.40	0	0	0	0	0
1.50	0	0	0	0	0
1.60	0	0	0	0	0
1.70	0	0	0	0	0
1.80	0	0	0	0	0
1.90	0	0	0	0	0
2.00	0	0	0	0	0

B95

JAN-JUN INDEX

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 4344  
 NUMBER OF MISSING HOURS - 269  
 TOTAL HOURS OF PRECIPITATION - 199  
 TOTAL DAYS WITH PRECIPITATION - 52  
 TOTAL AMOUNT OF PRECIPITATION - 10.40 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .67 INCHES  
 MAXIMUM DAILY PRECIPITATION - 1.26 INCHES

1	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	6	DAY	18	HOUR	5	-	.67	INCHES
6	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	6	DAY	18	HOUR	5	-	1.08	INCHES
12	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	4	DAY	7	HOUR	11	-	1.26	INCHES
18	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	4	DAY	14	HOUR	20	-	1.31	INCHES
24	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	4	DAY	14	HOUR	20	-	1.34	INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 1139  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 70  
 TOTAL DAYS WITH PRECIPITATION - 17  
 TOTAL AMOUNT OF PRECIPITATION - 1.21 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .05 INCHES  
 MAXIMUM DAILY PRECIPITATION - .38 INCHES

JAN-JUN INDEX

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	199	513	790	1026	1220
.02	117	404	659	886	1086
.03	83	328	570	794	990
.04	64	298	518	709	895
.05	49	258	463	642	815
.07	35	206	381	528	667
.10	27	170	315	447	569
.15	16	121	260	368	471
.20	11	87	192	292	377
.25	8	68	154	238	322
.30	8	54	112	169	233
.35	4	43	93	147	203
.40	4	37	90	141	183
.45	4	33	71	122	159
.50	2	24	52	89	120
.60	2	22	46	77	108
.70	0	19	43	68	97
.80	0	16	40	64	94
.90	0	7	22	41	66
1.00	0	6	18	35	58
1.10	0	0	7	17	38
1.20	0	0	4	13	25
1.30	0	0	0	1	7
1.40	0	0	0	0	0
1.50	0	0	0	0	0
1.60	0	0	0	0	0
1.70	0	0	0	0	0
1.80	0	0	0	0	0
1.90	0	0	0	0	0
2.00	0	0	0	0	0

B97



NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	7	1	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	2	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	3	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	4	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	5	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	6	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	7	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	8	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	9	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	10	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	11	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	12	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	13	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	14	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	15	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	16	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	17	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00

B98

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	7	18	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	19	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	20	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	21	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	22	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	23	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	24	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	25	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	26	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	27	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	28	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	29	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	30	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	7	31	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00

B99

MONTH OF JULY

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744  
NUMBER OF MISSING HOURS - 744  
TOTAL HOURS OF PRECIPITATION - 0  
TOTAL DAYS WITH PRECIPITATION - 0  
TOTAL AMOUNT OF PRECIPITATION - .00 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - .00 INCHES  
MAXIMUM DAILY PRECIPITATION - .00 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 31 HOUR 24 - .00 INCHES  
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 31 HOUR 19 - .00 INCHES  
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 31 HOUR 13 - .00 INCHES  
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 31 HOUR 7 - .00 INCHES  
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 31 HOUR 1 - .00 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 0  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 0  
TOTAL DAYS WITH PRECIPITATION - 0  
TOTAL AMOUNT OF PRECIPITATION - .00 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - .00 INCHES  
MAXIMUM DAILY PRECIPITATION - .00 INCHES

MONTH OF JULY

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	0	0	0	0	0
.02	0	0	0	0	0
.03	0	0	0	0	0
.04	0	0	0	0	0
.05	0	0	0	0	0
.07	0	0	0	0	0
.10	0	0	0	0	0
.15	0	0	0	0	0
.20	0	0	0	0	0
.25	0	0	0	0	0
.30	0	0	0	0	0
.35	0	0	0	0	0
.40	0	0	0	0	0
.45	0	0	0	0	0
.50	0	0	0	0	0
.60	0	0	0	0	0
.70	0	0	0	0	0
.80	0	0	0	0	0
.90	0	0	0	0	0
1.00	0	0	0	0	0
1.10	0	0	0	0	0
1.20	0	0	0	0	0
1.30	0	0	0	0	0
1.40	0	0	0	0	0
1.50	0	0	0	0	0
1.60	0	0	0	0	0
1.70	0	0	0	0	0
1.80	0	0	0	0	0
1.90	0	0	0	0	0
2.00	0	0	0	0	0

ENTRIES INDICATE NUMBER OF DURATION PERIODS WITH RAINFALL GREATER THAN OR EQUAL TO AMOUNT SHOWN

B101

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	8	1	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	2	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	3	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	4	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	5	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	6	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	7	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	8	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	9	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	10	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	11	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	12	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	13	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	14	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	15	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	16	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	17	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00

B102

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	8	18	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	19	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	20	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	21	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	22	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	23	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	24	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	25	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	26	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	27	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	28	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	8	29	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	8	30	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.88 .00	.10 .00	.00 .00	.00 .00	.00 .00	.00 .00	.98
11	8	31	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00

B103

MONTH OF AUGUST

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744  
NUMBER OF MISSING HOURS - 672  
TOTAL HOURS OF PRECIPITATION - 2  
TOTAL DAYS WITH PRECIPITATION - 1  
TOTAL AMOUNT OF PRECIPITATION - .98 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - .88 INCHES  
MAXIMUM DAILY PRECIPITATION - .98 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 30 HOUR 7 - .88 INCHES  
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 30 HOUR 7 - .98 INCHES  
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 30 HOUR 7 - .98 INCHES  
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 30 HOUR 7 - .98 INCHES  
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 30 HOUR 7 - .98 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 0  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 0  
TOTAL DAYS WITH PRECIPITATION - 0  
TOTAL AMOUNT OF PRECIPITATION - .00 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - .00 INCHES  
MAXIMUM DAILY PRECIPITATION - .00 INCHES

MONTH OF AUGUST

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	2	7	13	19	25
.02	2	7	13	19	25
.03	2	7	13	19	25
.04	2	7	13	19	25
.05	2	7	13	19	25
.07	2	7	13	19	25
.10	2	7	13	19	25
.15	1	6	12	18	24
.20	1	6	12	18	24
.25	1	6	12	18	24
.30	1	6	12	18	24
.35	1	6	12	18	24
.40	1	6	12	18	24
.45	1	6	12	18	24
.50	1	6	12	18	24
.60	1	6	12	18	24
.70	1	6	12	18	24
.80	1	6	12	18	24
.90	0	5	11	17	23
1.00	0	0	0	0	0
1.10	0	0	0	0	0
1.20	0	0	0	0	0
1.30	0	0	0	0	0
1.40	0	0	0	0	0
1.50	0	0	0	0	0
1.60	0	0	0	0	0
1.70	0	0	0	0	0
1.80	0	0	0	0	0
1.90	0	0	0	0	0
2.00	0	0	0	0	0

ENTRIES INDICATE NUMBER OF DURATION PERIODS WITH RAINFALL GREATER THAN OR EQUAL TO AMOUNT SHOWN

B105



NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	9	1	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	2	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	3	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	4	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	5	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	6	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	7	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	8	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	9	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	10	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	11	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	12	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	13	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	14	.00 .00	.00 .00	.00 .00	.00 .00	.02 .00	.00 .00	.00 .00	.02 .00	.00 .00	.00 .00	.00 .00	.00 .00	.04
11	9	15	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	16	.00 .00	.00 .00	.00 .00	.01 .00	.03 .00	.04 .00	.05 .00	.02 .00	.01 .00	.00 .00	.00 .00	.00 .00	.16
11	9	17	.00 .00	.02 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.03

B106

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	9	18	.00 .00	.00 .03	.02 .07	.00 .00	.00 .00	.01 .00	.02 .00	.01 .00	.01 .00	.00 .00	.00 .00	.00 .00	.17
11	9	19	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	20	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.04 .00	.00 .00	.00 .00	.00 .00	.00 .00	.04
11	9	21	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	22	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	23	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	24	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	25	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	26	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	27	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	28	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	29	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	9	30	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00

B107

MONTH OF SEPTEMBER

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 720  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 18  
TOTAL DAYS WITH PRECIPITATION - 5  
TOTAL AMOUNT OF PRECIPITATION - .44 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - .07 INCHES  
MAXIMUM DAILY PRECIPITATION - .17 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 18 HOUR 15 - .07 INCHES  
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 16 HOUR 4 - .16 INCHES  
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 16 HOUR 4 - .16 INCHES  
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 18 HOUR 3 - .17 INCHES  
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 16 HOUR 4 - .18 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 0  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 0  
TOTAL DAYS WITH PRECIPITATION - 0  
TOTAL AMOUNT OF PRECIPITATION - .00 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - .00 INCHES  
MAXIMUM DAILY PRECIPITATION - .00 INCHES

MONTH OF SEPTEMBER

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	18	55	85	114	134
.02	12	48	78	108	132
.03	6	33	64	95	126
.04	4	30	55	79	106
.05	2	18	33	45	58
.07	1	13	31	43	55
.10	0	10	23	35	48
.15	0	3	12	24	36
.20	0	0	0	0	0
.25	0	0	0	0	0
.30	0	0	0	0	0
.35	0	0	0	0	0
.40	0	0	0	0	0
.45	0	0	0	0	0
.50	0	0	0	0	0
.60	0	0	0	0	0
.70	0	0	0	0	0
.80	0	0	0	0	0
.90	0	0	0	0	0
1.00	0	0	0	0	0
1.10	0	0	0	0	0
1.20	0	0	0	0	0
1.30	0	0	0	0	0
1.40	0	0	0	0	0
1.50	0	0	0	0	0
1.60	0	0	0	0	0
1.70	0	0	0	0	0
1.80	0	0	0	0	0
1.90	0	0	0	0	0
2.00	0	0	0	0	0

ENTRIES INDICATE NUMBER OF DURATION PERIODS WITH RAINFALL GREATER THAN OR EQUAL TO AMOUNT SHOWN

B109

JUL-SEP INDEX

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 2208  
 NUMBER OF MISSING HOURS - 1416  
 TOTAL HOURS OF PRECIPITATION - 20  
 TOTAL DAYS WITH PRECIPITATION - 6  
 TOTAL AMOUNT OF PRECIPITATION - 1.42 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .88 INCHES  
 MAXIMUM DAILY PRECIPITATION - .98 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 8 DAY 30 HOUR 7 - .88 INCHES  
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 8 DAY 30 HOUR 7 - .98 INCHES  
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 8 DAY 30 HOUR 7 - .98 INCHES  
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 8 DAY 30 HOUR 7 - .98 INCHES  
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 8 DAY 30 HOUR 7 - .98 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 0  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 0  
 TOTAL DAYS WITH PRECIPITATION - 0  
 TOTAL AMOUNT OF PRECIPITATION - .00 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .00 INCHES  
 MAXIMUM DAILY PRECIPITATION - .00 INCHES

JUL-SEP INDEX

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	20	62	98	133	159
.02	14	55	91	127	157
.03	8	40	77	114	151
.04	6	37	68	98	131
.05	4	25	46	64	83
.07	3	20	44	62	80
.10	2	17	36	54	73
.15	1	9	24	42	60
.20	1	6	12	18	24
.25	1	6	12	18	24
.30	1	6	12	18	24
.35	1	6	12	18	24
.40	1	6	12	18	24
.45	1	6	12	18	24
.50	1	6	12	18	24
.60	1	6	12	18	24
.70	1	6	12	18	24
.80	1	6	12	18	24
.90	0	5	11	17	23
1.00	0	0	0	0	0
1.10	0	0	0	0	0
1.20	0	0	0	0	0
1.30	0	0	0	0	0
1.40	0	0	0	0	0
1.50	0	0	0	0	0
1.60	0	0	0	0	0
1.70	0	0	0	0	0
1.80	0	0	0	0	0
1.90	0	0	0	0	0
2.00	0	0	0	0	0

B111

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	10	1	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	2	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	3	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	4	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	5	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	6	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	7	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	8	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	9	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	10	.00 .00	.00 .00	.00 .00	.00 .00	.05 .00	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.06
11	10	11	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	12	.00 .00	.00 .00	.00 .00	.00 .00	.02 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.03
11	10	13	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	14	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	15	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	16	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	17	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00

B112

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	10	18	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	19	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	20	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	21	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	22	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	23	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	24	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	25	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	26	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	27	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	28	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	29	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	30	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	10	31	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00

B113



MONTH OF OCTOBER

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 4  
 TOTAL DAYS WITH PRECIPITATION - 2  
 TOTAL AMOUNT OF PRECIPITATION - .09 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .05 INCHES  
 MAXIMUM DAILY PRECIPITATION - .06 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 10 HOUR 5 - .05 INCHES  
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 10 HOUR 5 - .06 INCHES  
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 10 HOUR 5 - .06 INCHES  
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 10 HOUR 5 - .06 INCHES  
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 10 HOUR 5 - .06 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 9  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 0  
 TOTAL DAYS WITH PRECIPITATION - 0  
 TOTAL AMOUNT OF PRECIPITATION - .00 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .00 INCHES  
 MAXIMUM DAILY PRECIPITATION - .00 INCHES

MONTH OF OCTOBER

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	4	15	27	39	51
.02	2	12	24	36	48
.03	1	11	23	35	47
.04	1	6	12	18	24
.05	1	6	12	18	24
.07	0	0	0	0	0
.10	0	0	0	0	0
.15	0	0	0	0	0
.20	0	0	0	0	0
.25	0	0	0	0	0
.30	0	0	0	0	0
.35	0	0	0	0	0
.40	0	0	0	0	0
.45	0	0	0	0	0
.50	0	0	0	0	0
.60	0	0	0	0	0
.70	0	0	0	0	0
.80	0	0	0	0	0
.90	0	0	0	0	0
1.00	0	0	0	0	0
1.10	0	0	0	0	0
1.20	0	0	0	0	0
1.30	0	0	0	0	0
1.40	0	0	0	0	0
1.50	0	0	0	0	0
1.60	0	0	0	0	0
1.70	0	0	0	0	0
1.80	0	0	0	0	0
1.90	0	0	0	0	0
2.00	0	0	0	0	0

ENTRIES INDICATE NUMBER OF DURATION PERIODS WITH RAINFALL GREATER THAN OR EQUAL TO AMOUNT SHOWN

B115

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	11	1	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	11	2	.00 .06	.00 .05	.00 .05	.00 .02	.06 .00	.28 .01	.03 .00	.02 .00	.01 .00	.09 .00	.01 .00	.02 .00	.71
11	11	3	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	11	4	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	11	5	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	11	6	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	11	7	.00 .00	.00 .00	.00 .00	.00 .00	.00 .05	.00 .19	.00 .23	.00 .10	.00 .01	.00 .00	.00 .00	.00 .00	.58
11	11	8	.00 .06	.01 .10	.00 .07	.00 .14	.00 .16	.00 .09	.00 .12	.00 .12	.00 .10	.00 .17	.00 .11	.00 .12	1.37
11	11	9	.06 .00	.03 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.09
11	11	10	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	11	11	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	11	12	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	11	13	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	11	14	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	11	15	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	11	16	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	11	17	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00

B116

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	11	18	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	11	19	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	11	20	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	11	21	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	11	22	.00 .00	.00 .00	.00 .00	.03 .00	.02 .00	.01 .00	.01 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.08
11	11	23	.00 .00	.00 9.99	.00 9.99	.00 9.99	.00 9.99	.00 9.99	.00 9.99	.00 9.99	.00 9.99	.00 9.99	.00 9.99	.00 9.99	.00
11	11	24	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	11	25	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	11	26	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	11	27	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	11	28	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	.00
11	11	29	9.99 9.99	9.99 9.99	9.99 9.99	9.99 9.99	9.99 .00	9.99 .00	9.99 .00	9.99 .00	9.99 .00	9.99 .00	9.99 .00	9.99 .00	.00
11	11	30	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00

B17

MONTH OF NOVEMBER

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 720  
 NUMBER OF MISSING HOURS - 147  
 TOTAL HOURS OF PRECIPITATION - 38  
 TOTAL DAYS WITH PRECIPITATION - 5  
 TOTAL AMOUNT OF PRECIPITATION - 2.83 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .28 INCHES  
 MAXIMUM DAILY PRECIPITATION - 1.37 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 2 HOUR 6 - .28 INCHES  
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 8 HOUR 17 - .76 INCHES  
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 8 HOUR 14 - 1.36 INCHES  
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 8 HOUR 13 - 1.45 INCHES  
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 8 HOUR 13 - 1.45 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 96  
 NUMBER OF MISSING HOURS - 18  
 TOTAL HOURS OF PRECIPITATION - 0  
 TOTAL DAYS WITH PRECIPITATION - 0  
 TOTAL AMOUNT OF PRECIPITATION - .00 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .00 INCHES  
 MAXIMUM DAILY PRECIPITATION - .00 INCHES

MONTH OF NOVEMBER

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	38	63	86	104	122
.02	30	55	79	101	119
.03	26	53	77	100	118
.04	23	49	73	96	114
.05	23	49	73	96	114
.07	16	43	68	91	109
.10	13	38	56	74	86
.15	5	36	54	73	85
.20	2	33	52	70	84
.25	1	26	47	65	80
.30	0	25	47	65	80
.35	0	22	42	60	75
.40	0	19	37	55	72
.45	0	17	36	54	71
.50	0	14	33	51	68
.60	0	8	18	30	47
.70	0	5	14	26	43
.80	0	0	11	17	28
.90	0	0	9	15	24
1.00	0	0	7	13	20
1.10	0	0	6	12	18
1.20	0	0	5	11	17
1.30	0	0	2	8	14
1.40	0	0	0	6	12
1.50	0	0	0	0	0
1.60	0	0	0	0	0
1.70	0	0	0	0	0
1.80	0	0	0	0	0
1.90	0	0	0	0	0
2.00	0	0	0	0	0

ENTRIES INDICATE NUMBER OF DURATION PERIODS WITH RAINFALL GREATER THAN OR EQUAL TO AMOUNT SHOWN

B119

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	12	1	.00 .00	.00 9.99	.00 9.99	.00 .11	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.11
11	12	2	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .10	.10
11	12	3	.22 .17	.19 .06	.15 .11	.09 .05	.12 .02	.06 .01	.08 .00	.09 .00	.03 .00	.04 .00	.07 .00	.19 .00	1.75
11	12	4	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	5	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	6	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	7	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	8	.00 .00	.00 .00	.00 .00	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .01	.00 .00	.02
11	12	9	.00 .00	.00 .00	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.02
11	12	10	.00 .01	.00 .02	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.03
11	12	11	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	12	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	13	.00 .01	.00 .02	.00 .00	.00 .04	.00 .03	.00 .00	.00 .03	.00 .01	.00 .00	.00 .00	.00 .02	.02 .03	.21
11	12	14	.17 .00	.04 .00	.00 .00	.14 .00	.01 .00	.02 .00	.01 .00	.01 .00	.01 .00	.03 .00	.18 .00	.01 .00	.63
11	12	15	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	16	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	17	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00

B120

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2011

RAIN VERSION PC-1.0

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
11	12	18	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	19	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	20	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	21	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	22	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	23	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	24	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	25	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	26	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	27	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	28	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	29	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	30	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
11	12	31	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .03	.00 .00	.03

B121



MONTH OF DECEMBER

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744  
 NUMBER OF MISSING HOURS - 2  
 TOTAL HOURS OF PRECIPITATION - 47  
 TOTAL DAYS WITH PRECIPITATION - 9  
 TOTAL AMOUNT OF PRECIPITATION - 2.90 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .22 INCHES  
 MAXIMUM DAILY PRECIPITATION - 1.75 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 3 HOUR 1 - .22 INCHES  
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 2 HOUR 24 - .87 INCHES  
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 3 HOUR 1 - 1.33 INCHES  
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 2 HOUR 24 - 1.84 INCHES  
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 2 HOUR 24 - 1.85 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 300  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 4  
 TOTAL DAYS WITH PRECIPITATION - 2  
 TOTAL AMOUNT OF PRECIPITATION - .04 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .01 INCHES  
 MAXIMUM DAILY PRECIPITATION - .02 INCHES

MONTH OF DECEMBER

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	47	90	121	149	173
.02	34	69	107	135	159
.03	28	64	91	123	147
.04	22	55	73	91	109
.05	19	55	73	89	101
.07	16	52	71	87	99
.10	12	47	69	85	97
.15	7	35	54	66	78
.20	1	32	46	59	71
.25	0	26	43	55	67
.30	0	21	39	51	63
.35	0	20	38	50	62
.40	0	17	35	49	61
.45	0	14	32	44	56
.50	0	13	24	43	55
.60	0	8	23	35	51
.70	0	3	18	26	38
.80	0	2	15	21	30
.90	0	0	13	19	25
1.00	0	0	10	16	22
1.10	0	0	8	15	21
1.20	0	0	3	10	16
1.30	0	0	1	9	15
1.40	0	0	0	8	14
1.50	0	0	0	7	13
1.60	0	0	0	6	12
1.70	0	0	0	4	10
1.80	0	0	0	2	8
1.90	0	0	0	0	0
2.00	0	0	0	0	0

ENTRIES INDICATE NUMBER OF DURATION PERIODS WITH RAINFALL GREATER THAN OR EQUAL TO AMOUNT SHOWN

B123

## OCT-DEC INDEX

## FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 2208  
NUMBER OF MISSING HOURS - 149  
TOTAL HOURS OF PRECIPITATION - 89  
TOTAL DAYS WITH PRECIPITATION - 16  
TOTAL AMOUNT OF PRECIPITATION - 5.82 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - .28 INCHES  
MAXIMUM DAILY PRECIPITATION - 1.75 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 11 DAY 2 HOUR 6	-	.28 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 12 DAY 2 HOUR 24	-	.87 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 11 DAY 8 HOUR 14	-	1.36 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 12 DAY 2 HOUR 24	-	1.84 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 12 DAY 2 HOUR 24	-	1.85 INCHES

## FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 405  
NUMBER OF MISSING HOURS - 18  
TOTAL HOURS OF PRECIPITATION - 4  
TOTAL DAYS WITH PRECIPITATION - 2  
TOTAL AMOUNT OF PRECIPITATION - .04 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - .01 INCHES  
MAXIMUM DAILY PRECIPITATION - .02 INCHES

OCT-DEC INDEX

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	89	168	234	294	354
.02	66	136	210	274	334
.03	55	128	191	260	320
.04	46	110	158	207	255
.05	43	110	158	205	247
.07	32	95	139	180	216
.10	25	85	125	161	191
.15	12	71	108	139	163
.20	3	65	98	129	155
.25	1	52	90	120	147
.30	0	46	86	116	143
.35	0	42	80	110	137
.40	0	36	72	104	133
.45	0	31	68	98	127
.50	0	27	57	94	123
.60	0	16	41	65	98
.70	0	8	32	52	81
.80	0	2	26	38	58
.90	0	0	22	34	49
1.00	0	0	17	29	42
1.10	0	0	14	27	39
1.20	0	0	8	21	33
1.30	0	0	3	17	29
1.40	0	0	0	14	26
1.50	0	0	0	7	13
1.60	0	0	0	6	12
1.70	0	0	0	4	10
1.80	0	0	0	2	8
1.90	0	0	0	0	0
2.00	0	0	0	0	0

B125

JUL-DEC INDEX

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 4416  
 NUMBER OF MISSING HOURS - 1565  
 TOTAL HOURS OF PRECIPITATION - 109  
 TOTAL DAYS WITH PRECIPITATION - 22  
 TOTAL AMOUNT OF PRECIPITATION - 7.24 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .88 INCHES  
 MAXIMUM DAILY PRECIPITATION - 1.75 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 8 DAY 30 HOUR 7 - .88 INCHES  
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 8 DAY 30 HOUR 7 - .98 INCHES  
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 11 DAY 8 HOUR 14 - 1.36 INCHES  
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 12 DAY 2 HOUR 24 - 1.84 INCHES  
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 12 DAY 2 HOUR 24 - 1.85 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 405  
 NUMBER OF MISSING HOURS - 18  
 TOTAL HOURS OF PRECIPITATION - 4  
 TOTAL DAYS WITH PRECIPITATION - 2  
 TOTAL AMOUNT OF PRECIPITATION - .04 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .01 INCHES  
 MAXIMUM DAILY PRECIPITATION - .02 INCHES

JUL-DEC INDEX

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	109	230	332	427	513
.02	80	191	301	401	491
.03	63	168	268	374	471
.04	52	147	226	305	386
.05	47	135	204	269	330
.07	35	115	183	242	296
.10	27	102	161	215	264
.15	13	80	132	181	223
.20	4	71	110	147	179
.25	2	58	102	138	171
.30	1	52	98	134	167
.35	1	48	92	128	161
.40	1	42	84	122	157
.45	1	37	80	116	151
.50	1	33	69	112	147
.60	1	22	53	83	122
.70	1	14	44	70	105
.80	1	8	38	56	82
.90	0	5	33	51	72
1.00	0	0	17	29	42
1.10	0	0	14	27	39
1.20	0	0	8	21	33
1.30	0	0	3	17	29
1.40	0	0	0	14	26
1.50	0	0	0	7	13
1.60	0	0	0	6	12
1.70	0	0	0	4	10
1.80	0	0	0	2	8
1.90	0	0	0	0	0
2.00	0	0	0	0	0

B127

JAN-DEC INDEX

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 8760  
 NUMBER OF MISSING HOURS - 1834  
 TOTAL HOURS OF PRECIPITATION - 308  
 TOTAL DAYS WITH PRECIPITATION - 74  
 TOTAL AMOUNT OF PRECIPITATION - 17.64 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .88 INCHES  
 MAXIMUM DAILY PRECIPITATION - 1.75 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 8 DAY 30 HOUR 7 - .88 INCHES  
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 6 DAY 18 HOUR 5 - 1.08 INCHES  
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 11 DAY 8 HOUR 14 - 1.36 INCHES  
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 12 DAY 2 HOUR 24 - 1.84 INCHES  
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 12 DAY 2 HOUR 24 - 1.85 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 1544  
 NUMBER OF MISSING HOURS - 18  
 TOTAL HOURS OF PRECIPITATION - 74  
 TOTAL DAYS WITH PRECIPITATION - 19  
 TOTAL AMOUNT OF PRECIPITATION - 1.25 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - .05 INCHES  
 MAXIMUM DAILY PRECIPITATION - .38 INCHES

JAN-DEC INDEX

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	308	743	1122	1453	1733
.02	197	595	960	1287	1577
.03	146	496	838	1168	1461
.04	116	445	744	1014	1281
.05	96	393	667	911	1145
.07	70	321	564	770	963
.10	54	272	476	662	833
.15	29	201	392	549	694
.20	15	158	302	439	556
.25	10	126	256	376	493
.30	9	106	210	303	400
.35	5	91	185	275	364
.40	5	79	174	263	340
.45	5	70	151	238	310
.50	3	57	121	201	267
.60	3	44	99	160	230
.70	1	33	87	138	202
.80	1	24	78	120	176
.90	0	12	55	92	138
1.00	0	6	35	64	100
1.10	0	0	21	44	77
1.20	0	0	12	34	58
1.30	0	0	3	18	36
1.40	0	0	0	14	26
1.50	0	0	0	7	13
1.60	0	0	0	6	12
1.70	0	0	0	4	10
1.80	0	0	0	2	8
1.90	0	0	0	0	0
2.00	0	0	0	0	0

B129



## **JOINT FREQUENCY DISTRIBUTION TABLES**

The tables presented in this section are results obtained from processing of the hourly meteorological data collected at the Cooper Nuclear Station (CNS). The joint frequency distribution (JFD) tables represent the frequency of occurrence, in number of observations, that a particular wind speed, wind direction, and stability category occurred simultaneously. On a quarterly and semiannual basis, the JFDs were produced for wind speed and wind direction by atmospheric stability corresponding to the seven Pasquill stability classes, and for wind speed and wind direction for all stability categories combined. Atmospheric stability was classified per Regulatory Guide 1.23, using the 100-meter to 10-meter temperature difference ( $\Delta T$ ) for the 100-meter JFDs and the 60-meter to 10-meter  $\Delta T$  for the 10-meter JFDs. During the record flooding of 2011 around CNS, the 10 meter data was impacted resulting in no  $\Delta T$  availability from June 20<sup>th</sup>-August 28<sup>th</sup>. Sigma theta from the 60-meter wind direction was used as backup stability during this period.

**JFDs of 10-Meter Wind vs. Delta T**

January-March 2011

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-MAR 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 3/31/11

\*\*\* JAN-MAR 2011 \*\*\*

STABILITY CLASS    A

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
3.51- 7.50	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7.51-12.50	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
12.51-18.50	0	0	0	0	0	0	1	0	2	2	0	0	0	0	0	0	5
18.51-24.00	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
TOTAL	0	0	0	0	0	1	1	0	5	5	0	0	0	2	1	0	15

STABILITY CLASS    B

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
3.51- 7.50	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7.51-12.50	2	0	0	0	0	2	1	0	1	0	0	0	0	0	0	0	6
12.51-18.50	1	0	0	0	0	0	1	0	2	0	1	2	0	6	0	2	15
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	0	2	0	0	2	2	0	3	0	2	2	0	7	1	4	28

B132

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-MAR 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 3/31/11

\*\*\* JAN-MAR 2011 \*\*\*

STABILITY CLASS C

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2
3.51- 7.50	0	2	0	0	1	2	3	2	4	3	2	4	1	1	0	0	25
7.51-12.50	2	4	3	1	3	6	1	0	6	1	3	1	0	0	0	5	36
12.51-18.50	0	0	0	0	0	1	4	0	1	3	4	1	1	6	1	0	22
18.51-24.00	0	0	0	0	0	0	0	0	0	0	2	1	0	2	0	0	5
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	2	6	3	2	4	9	8	2	12	7	11	7	2	9	1	5	90

STABILITY CLASS D

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	2	3	3	2	0	2	0	5	2	1	0	0	1	1	2	1	25
3.51- 7.50	30	36	22	22	23	28	29	18	21	19	6	13	7	9	10	14	307
7.51-12.50	79	47	14	29	36	30	27	18	21	24	9	11	3	27	52	67	494
12.51-18.50	32	24	1	4	0	0	17	2	5	4	7	4	2	13	64	78	257
18.51-24.00	5	0	0	0	0	0	0	0	0	3	6	0	1	5	24	21	65
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	6
TOTAL	148	110	40	57	59	60	73	43	49	51	28	28	14	55	157	182	1154

B133

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-MAR 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 3/31/11

\*\*\* JAN-MAR 2011 \*\*\*

STABILITY CLASS E

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	4	1	4	3	0	2	6	6	6	10	2	2	1	2	2	1	52
3.51- 7.50	14	9	13	25	14	21	28	20	34	20	4	5	9	18	20	5	259
7.51-12.50	13	7	3	4	1	0	9	18	32	15	26	8	5	23	24	18	206
12.51-18.50	9	2	1	1	0	0	0	5	3	1	4	4	0	6	7	10	53
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	40	19	21	33	15	23	43	49	75	46	36	19	15	49	53	34	570

STABILITY CLASS F

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	4	3	4	2	1	0	3	13	20	5	2	5	3	3	3	4	75
3.51- 7.50	3	0	2	2	1	1	7	6	20	14	3	5	3	3	2	2	74
7.51-12.50	8	0	0	0	0	1	2	1	1	5	8	5	4	3	3	0	41
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	15	3	6	4	2	2	12	20	41	24	13	15	10	10	8	6	191

B134

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-MAR 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 3/31/11

\*\*\* JAN-MAR 2011 \*\*\*

STABILITY CLASS G

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	6	5	0	0	0	3	8	21	20	11	5	3	1	1	1	3	88
3.51- 7.50	0	0	0	0	0	0	1	8	8	0	0	0	0	0	0	0	17
7.51-12.50	1	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0	6
12.51-18.50	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	7	5	0	0	0	3	9	29	28	11	6	5	4	1	1	3	112

STABILITY CLASS ALL

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	16	12	11	8	1	7	17	45	50	27	10	10	6	8	8	9	245
3.51- 7.50	47	47	39	49	39	53	68	54	87	56	15	27	20	31	32	21	685
7.51-12.50	105	58	20	34	40	39	40	37	63	45	46	27	15	53	79	90	791
12.51-18.50	42	26	2	5	0	1	23	7	13	10	17	11	3	32	72	90	354
18.51-24.00	5	0	0	0	0	0	0	0	0	6	8	1	1	8	25	23	77
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6	1	8
TOTAL	215	143	72	96	80	100	148	143	213	144	96	76	45	133	222	234	2160

B135

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-MAR 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 3/31/11

\*\*\* JAN-MAR 2011 \*\*\*

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH

TOTAL NUMBER OF OBSERVATIONS: 2160

TOTAL NUMBER OF VALID OBSERVATIONS: 2160

TOTAL NUMBER OF MISSING OBSERVATIONS: 0

PERCENT DATA RECOVERY FOR THIS PERIOD: 100.0 %

MEAN WIND SPEED FOR THIS PERIOD: 9.0 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 0

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 0

NUMBER OF OBSERVATIONS WITH BACKUP STABILITY: 0

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
.69	1.30	4.17	53.43	26.39	8.84	5.19

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	0	0	0	0	0	1	1	0	5	5	0	0	0	2	1	0	0
B	3	0	2	0	0	2	2	0	3	0	2	2	0	7	1	4	0
C	2	6	3	2	4	9	8	2	12	7	11	7	2	9	1	5	0
D	148	110	40	57	59	60	73	43	49	51	28	28	14	55	157	182	0
E	40	19	21	33	15	23	43	49	75	46	36	19	15	49	53	34	0
F	15	3	6	4	2	2	12	20	41	24	13	15	10	10	8	6	0
G	7	5	0	0	0	3	9	29	28	11	6	5	4	1	1	3	0
TOTAL	215	143	72	96	80	100	148	143	213	144	96	76	45	133	222	234	0

B136

**JFDs of 10-Meter Wind vs. Delta T**

April-June 2011



PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - APR-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 4/ 1/11 - 6/30/11

\*\*\* APR-JUN 2011 \*\*\*

STABILITY CLASS A

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3.51- 7.50	1	0	2	1	1	3	1	0	0	0	0	0	0	0	0	1	10
7.51-12.50	0	0	1	0	1	4	10	6	6	1	0	0	0	0	1	0	30
12.51-18.50	0	2	0	0	0	1	8	6	16	6	1	0	1	0	0	0	41
18.51-24.00	0	0	0	0	1	0	4	1	13	0	1	5	0	0	5	0	30
>24.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2	4
TOTAL	1	3	3	1	3	8	23	14	35	7	2	5	1	0	7	3	116

STABILITY CLASS B

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	1	2	1	0	1	2	1	0	2	4	0	0	0	0	1	0	15
7.51-12.50	0	1	0	0	1	11	9	10	2	4	0	0	0	0	0	1	39
12.51-18.50	0	1	1	0	0	0	6	3	4	9	0	1	1	1	4	5	36
18.51-24.00	0	0	0	0	0	0	4	0	2	0	3	1	0	0	1	1	12
>24.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
TOTAL	1	4	2	0	2	13	20	14	10	17	3	2	1	1	6	7	103

B138

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - APR-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 4/ 1/11 - 6/30/11

\*\*\* APR-JUN 2011 \*\*\*

STABILITY CLASS C

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3.51- 7.50	5	4	3	2	2	5	4	2	1	1	1	0	0	0	1	1	32
7.51-12.50	3	2	6	3	6	12	11	8	3	4	1	0	0	0	0	2	61
12.51-18.50	2	0	3	1	3	5	6	3	4	3	1	2	2	4	4	5	48
18.51-24.00	0	0	0	1	0	0	3	0	2	0	0	2	1	0	2	2	13
>24.00	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	3
TOTAL	10	6	13	7	11	22	24	14	11	8	4	4	3	4	7	10	158

STABILITY CLASS D

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	5	5	2	1	4	3	0	1	1	0	0	0	0	1	2	0	25
3.51- 7.50	19	18	15	18	31	34	16	14	11	1	0	4	5	3	9	17	215
7.51-12.50	43	28	27	27	45	63	56	19	25	5	6	6	11	14	36	45	456
12.51-18.50	31	11	7	11	14	15	29	21	25	8	7	8	17	32	41	42	319
18.51-24.00	9	2	1	0	0	4	9	12	16	1	4	2	14	5	25	17	121
>24.00	0	0	0	0	0	0	2	0	0	0	2	1	3	2	0	6	16
TOTAL	107	64	52	57	94	119	112	67	78	15	19	21	50	57	113	127	1152

B139

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - APR-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 4/ 1/11 - 6/30/11

\*\*\* APR-JUN 2011 \*\*\*

STABILITY CLASS E

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	2	1	3	3	3	5	2	7	2	0	1	1	1	3	5	4	43
3.51- 7.50	23	21	7	15	12	16	25	11	21	14	6	5	4	4	5	15	204
7.51-12.50	9	8	2	8	4	1	9	14	28	24	2	4	12	20	6	7	158
12.51-18.50	0	2	1	3	1	1	7	20	12	7	1	3	9	9	2	1	79
18.51-24.00	0	0	0	0	0	0	0	1	5	0	0	1	2	0	0	0	9
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	34	32	13	29	20	23	43	53	68	45	10	14	28	36	18	27	493

STABILITY CLASS F

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	2	2	2	0	1	1	4	4	2	2	0	2	3	5	3	6	39
3.51- 7.50	7	1	0	0	0	0	1	0	6	1	0	1	1	1	2	4	25
7.51-12.50	5	1	0	0	0	1	0	0	0	1	1	2	2	1	3	4	21
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	14	4	2	0	1	2	5	4	8	4	1	5	6	7	8	14	85

B140

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - APR-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 4/ 1/11 - 6/30/11

\*\*\* APR-JUN 2011 \*\*\*

STABILITY CLASS G

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	1
1.01- 3.50	8	4	0	0	1	0	1	9	11	8	2	1	5	1	7	5	63
3.51- 7.50	0	1	1	0	0	0	0	0	2	0	0	0	1	1	0	1	7
7.51-12.50	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	8	5	1	0	1	0	1	9	13	8	3	1	6	2	7	6	72

STABILITY CLASS ALL

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	1
1.01- 3.50	17	13	8	4	9	9	7	21	16	10	3	4	9	10	17	15	172
3.51- 7.50	56	47	29	36	47	60	48	27	43	21	7	10	11	9	18	39	508
7.51-12.50	60	40	36	38	57	92	95	57	64	39	11	12	25	35	46	59	766
12.51-18.50	33	16	12	15	18	22	56	53	61	33	10	14	30	46	51	53	523
18.51-24.00	9	2	1	1	1	4	20	14	38	1	8	11	17	5	33	20	185
>24.00	0	0	0	0	0	0	2	3	1	0	3	1	3	2	1	8	24
TOTAL	175	118	86	94	132	187	228	175	223	104	42	52	95	107	166	194	2179

B141

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - APR-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 4/ 1/11 - 6/30/11

\*\*\* APR-JUN 2011 \*\*\*

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH

TOTAL NUMBER OF OBSERVATIONS: 2184

TOTAL NUMBER OF VALID OBSERVATIONS: 2179

TOTAL NUMBER OF MISSING OBSERVATIONS: 5

PERCENT DATA RECOVERY FOR THIS PERIOD: 99.8 %

MEAN WIND SPEED FOR THIS PERIOD: 10.7 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 264

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 264

NUMBER OF OBSERVATIONS WITH BACKUP STABILITY: 264

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 264

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
5.32	4.73	7.25	52.87	22.63	3.90	3.30

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	1	3	3	1	3	8	23	14	35	7	2	5	1	0	7	3	0
B	1	4	2	0	2	13	20	14	10	17	3	2	1	1	6	7	0
C	10	6	13	7	11	22	24	14	11	8	4	4	3	4	7	10	0
D	107	64	52	57	94	119	112	67	78	15	19	21	50	57	113	127	0
E	34	32	13	29	20	23	43	53	68	45	10	14	28	36	18	27	0
F	14	4	2	0	1	2	5	4	8	4	1	5	6	7	8	14	0
G	8	5	1	0	1	0	1	9	13	8	3	1	6	2	7	6	1
TOTAL	175	118	86	94	132	187	228	175	223	104	42	52	95	107	166	194	1

B142

**JFDs of 10-Meter Wind vs. Delta T**

January-June 2011

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11

\*\*\* JAN-JUN 2011 \*\*\*

STABILITY CLASS    A

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
3.51- 7.50	1	0	2	1	1	4	1	0	0	0	0	0	0	0	0	1	11
7.51-12.50	0	0	1	0	1	4	10	6	8	1	0	0	0	0	1	0	32
12.51-18.50	0	2	0	0	0	1	9	6	18	8	1	0	1	0	0	0	46
18.51-24.00	0	0	0	0	1	0	4	1	13	3	1	5	0	1	5	0	34
>24.00	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2	2	6
TOTAL	1	3	3	1	3	9	24	14	40	12	2	5	1	2	8	3	131

STABILITY CLASS    B

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
3.51- 7.50	1	2	3	0	1	2	1	0	2	4	0	0	0	0	1	0	17
7.51-12.50	2	1	0	0	1	13	10	10	3	4	0	0	0	0	0	1	45
12.51-18.50	1	1	1	0	0	0	7	3	6	9	1	3	1	7	4	7	51
18.51-24.00	0	0	0	0	0	0	4	0	2	0	3	1	0	0	2	3	15
>24.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
TOTAL	4	4	4	0	2	15	22	14	13	17	5	4	1	8	7	11	131

B144

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11

\*\*\* JAN-JUN 2011 \*\*\*

STABILITY CLASS C

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	3
3.51- 7.50	5	6	3	2	3	7	7	4	5	4	3	4	1	1	1	1	57
7.51-12.50	5	6	9	4	9	18	12	8	9	5	4	1	0	0	0	7	97
12.51-18.50	2	0	3	1	3	6	10	3	5	6	5	3	3	10	5	5	70
18.51-24.00	0	0	0	1	0	0	3	0	2	0	2	3	1	2	2	2	18
>24.00	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	3
TOTAL	12	12	16	9	15	31	32	16	23	15	15	11	5	13	8	15	248

STABILITY CLASS D

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	7	8	5	3	4	5	0	6	3	1	0	0	1	2	4	1	50
3.51- 7.50	49	54	37	40	54	62	45	32	32	20	6	17	12	12	19	31	522
7.51-12.50	122	75	41	56	81	93	83	37	46	29	15	17	14	41	88	112	950
12.51-18.50	63	35	8	15	14	15	46	23	30	12	14	12	19	45	105	120	576
18.51-24.00	14	2	1	0	0	4	9	12	16	4	10	2	15	10	49	38	186
>24.00	0	0	0	0	0	0	2	0	0	0	2	1	3	2	5	7	22
TOTAL	255	174	92	114	153	179	185	110	127	66	47	49	64	112	270	309	2306

BIAS



PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11

\*\*\* JAN-JUN 2011 \*\*\*

STABILITY CLASS E

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	6	2	7	6	3	7	8	13	8	10	3	3	2	5	7	5	95
3.51- 7.50	37	30	20	40	26	37	53	31	55	34	10	10	13	22	25	20	463
7.51-12.50	22	15	5	12	5	1	18	32	60	39	28	12	17	43	30	25	364
12.51-18.50	9	4	2	4	1	1	7	25	15	8	5	7	9	15	9	11	132
18.51-24.00	0	0	0	0	0	0	0	1	5	0	0	1	2	0	0	0	9
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	74	51	34	62	35	46	86	102	143	91	46	33	43	85	71	61	1063

STABILITY CLASS F

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	6	5	6	2	2	1	7	17	22	7	2	7	6	8	6	10	114
3.51- 7.50	10	1	2	2	1	1	8	6	26	15	3	6	4	4	4	6	99
7.51-12.50	13	1	0	0	0	2	2	1	1	6	9	7	6	4	6	4	62
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	29	7	8	4	3	4	17	24	49	28	14	20	16	17	16	20	276

B146

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11

\*\*\* JAN-JUN 2011 \*\*\*

STABILITY CLASS G

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	1
1.01- 3.50	14	9	0	0	1	3	9	30	31	19	7	4	6	2	8	8	151
3.51- 7.50	0	1	1	0	0	0	1	8	10	0	0	0	1	1	0	1	24
7.51-12.50	1	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	7
12.51-18.50	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	15	10	1	0	1	3	10	38	41	19	9	6	10	3	8	9	184

STABILITY CLASS ALL

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	1
1.01- 3.50	33	25	19	12	10	16	24	66	66	37	13	14	15	18	25	24	417
3.51- 7.50	103	94	68	85	86	113	116	81	130	77	22	37	31	40	50	60	1193
7.51-12.50	165	98	56	72	97	131	135	94	127	84	57	39	40	88	125	149	1557
12.51-18.50	75	42	14	20	18	23	79	60	74	43	27	25	33	78	123	143	877
18.51-24.00	14	2	1	1	1	4	20	14	38	7	16	12	18	13	58	43	262
>24.00	0	0	0	0	0	0	2	3	1	0	3	1	3	3	7	9	32
TOTAL	390	261	158	190	212	287	376	318	436	248	138	128	140	240	388	428	4339

B147

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11

\*\*\* JAN-JUN 2011 \*\*\*

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH

TOTAL NUMBER OF OBSERVATIONS: 4344

TOTAL NUMBER OF VALID OBSERVATIONS: 4339

TOTAL NUMBER OF MISSING OBSERVATIONS: 5

PERCENT DATA RECOVERY FOR THIS PERIOD: 99.9 %

MEAN WIND SPEED FOR THIS PERIOD: 9.8 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 264

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 264

NUMBER OF OBSERVATIONS WITH BACKUP STABILITY: 264

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 264

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
3.02	3.02	5.72	53.15	24.50	6.36	4.24

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	1	3	3	1	3	9	24	14	40	12	2	5	1	2	8	3	0
B	4	4	4	0	2	15	22	14	13	17	5	4	1	8	7	11	0
C	12	12	16	9	15	31	32	16	23	15	15	11	5	13	8	15	0
D	255	174	92	114	153	179	185	110	127	66	47	49	64	112	270	309	0
E	74	51	34	62	35	46	86	102	143	91	46	33	43	85	71	61	0
F	29	7	8	4	3	4	17	24	49	28	14	20	16	17	16	20	0
G	15	10	1	0	1	3	10	38	41	19	9	6	10	3	8	9	1
TOTAL	390	261	158	190	212	287	376	318	436	248	138	128	140	240	388	428	1

B148

**Stability Classes by Hour of Day**

**10-Meter Wind vs. Delta T**

January-June 2011

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11  
 STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS

HOURLY STABILITIES  
 HOURS

YR	MN	DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
11	1	1	D	D	D	D	D	D	D	D	D	D	C	B	C	C	C	D	D	D	E	E	E	E	F	F		
11	1	2	F	F	F	F	F	E	E	E	E	D	D	C	C	C	D	D	D	E	E	E	E	E	F	F		
11	1	3	F	F	E	E	F	G	F	F	F	E	D	D	D	D	D	D	D	E	F	G	F	E	E	E		
11	1	4	E	E	E	E	F	E	E	E	E	E	C	C	C	C	D	D	D	E	F	E	F	F	F	F		
11	1	5	F	E	E	E	F	F	F	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E		
11	1	6	E	E	E	F	F	F	F	F	E	D	D	D	D	D	D	D	D	E	E	F	F	F	F	F		
11	1	7	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
11	1	8	D	D	D	E	E	E	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D		
11	1	9	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
11	1	10	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	D	D	D	D	D		
11	1	11	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	D	D	D		
11	1	12	D	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	G	G	G		
11	1	13	G	G	F	F	F	F	F	F	E	E	D	E	E	D	D	D	D	D	E	E	F	F	G	F	G	
11	1	14	G	G	G	G	G	G	F	F	E	D	D	D	D	D	D	D	D	D	E	E	E	F	F	G	E	
11	1	15	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
11	1	16	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
11	1	17	D	D	D	D	D	D	E	E	E	D	D	D	E	D	D	D	D	E	E	E	D	D	D	D		
11	1	18	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
11	1	19	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
11	1	20	D	D	D	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D	E	E	F	F	G	G	G	
11	1	21	G	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	E	E	
11	1	22	E	E	E	F	F	G	G	G	G	F	E	E	E	E	D	D	D	D	D	D	D	E	E	E		
11	1	23	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
11	1	24	D	D	D	D	D	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	D	
11	1	25	D	D	D	D	D	D	E	E	E	D	D	C	C	D	D	D	D	D	E	F	G	G	G	G	G	
11	1	26	G	G	G	G	F	E	E	E	E	D	D	D	D	D	D	D	D	D	E	F	G	G	G	F	G	
11	1	27	G	G	G	G	G	G	G	G	G	G	E	D	D	D	D	D	D	D	E	E	E	E	E	F	E	
11	1	28	F	G	G	G	G	G	G	G	G	F	E	D	D	D	D	D	D	D	E	F	F	E	E	E	E	
11	1	29	E	E	F	F	G	G	G	G	G	F	E	D	D	D	D	D	D	D	E	D	D	D	D	D	D	
11	1	30	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	1	31	D	E	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	2	1	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	2	2	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	F	G	
11	2	3	G	G	G	F	G	F	G	G	E	E	D	D	D	D	D	D	D	D	E	E	F	F	E	E	F	
11	2	4	E	E	E	F	F	F	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	F	F	E
11	2	5	F	E	E	E	E	E	E	F	F	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	D	
11	2	6	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	2	7	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	2	8	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	2	9	D	D	D	D	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	F	G	G	F	F	
11	2	10	F	F	F	G	F	F	E	E	D	C	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
11	2	11	F	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	F	E	F	E	F
11	2	12	F	G	F	F	G	F	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	F	E	E
11	2	13	F	F	E	E	F	E	F	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
11	2	14	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	F	F	F	

B150

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11  
 STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS

HOURLY STABILITIES  
 HOURS

YR	MN	DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
11	2	15	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	F	G	G	G	G	G
11	2	16	G	G	G	G	F	E	F	F	F	F	F	E	F	F	E	E	E	E	E	E	E	E	E	E
11	2	17	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	E	E	E	F	F	F	E	E
11	2	18	E	F	E	F	E	E	F	G	F	D	C	D	D	D	D	D	D	E	F	F	F	F	E	E
11	2	19	E	E	E	E	E	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D	D	D
11	2	20	D	D	D	D	E	E	E	E	F	F	E	E	E	D	D	D	D	D	D	D	D	D	D	D
11	2	21	D	D	D	D	D	D	D	D	C	C	B	B	B	B	C	D	D	D	D	D	D	D	D	D
11	2	22	D	D	D	D	D	E	D	D	D	D	C	C	C	D	C	C	D	E	E	E	E	E	E	E
11	2	23	E	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	E	E	E	E	E	E	E
11	2	24	D	D	D	D	D	D	D	D	D	D	D	D	E	E	D	E	E	E	E	E	E	E	E	E
11	2	25	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	D
11	2	26	E	E	E	E	E	E	E	E	E	E	E	D	D	C	B	A	C	D	D	D	D	D	D	D
11	2	27	E	E	E	E	E	E	F	F	E	E	E	E	E	E	D	E	D	D	D	D	D	D	D	D
11	2	28	D	D	D	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
11	3	1	E	E	E	E	F	F	G	G	E	D	D	B	D	C	D	D	D	E	F	F	E	D	D	D
11	3	2	D	D	D	D	D	D	D	D	D	C	D	C	C	C	C	D	D	D	E	E	E	E	E	E
11	3	3	D	D	D	E	E	E	E	E	E	D	D	D	D	C	C	D	D	E	E	F	G	G	G	G
11	3	4	F	E	E	E	D	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	3	5	D	D	D	D	D	D	D	D	D	C	C	B	B	C	C	D	D	D	E	F	F	F	G	F
11	3	6	E	D	D	D	E	D	E	D	D	D	C	C	B	A	B	D	D	E	E	E	E	D	D	E
11	3	7	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
11	3	8	E	E	E	E	E	E	E	E	E	D	D	D	D	E	E	E	F	F	F	F	G	F	F	E
11	3	9	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	3	10	D	E	E	D	E	E	E	E	D	D	C	C	C	C	C	D	D	D	E	F	F	G	F	F
11	3	11	F	F	F	F	E	E	E	E	E	D	C	A	C	C	D	D	D	D	E	E	F	G	G	G
11	3	12	G	G	F	E	E	E	E	D	D	D	D	C	C	B	C	D	D	E	E	D	D	D	D	D
11	3	13	D	D	D	D	D	D	D	D	D	D	D	D	C	C	D	D	D	D	D	D	D	D	D	D
11	3	14	D	D	D	D	D	D	D	D	D	D	C	B	C	C	C	C	D	D	E	F	F	E	E	F
11	3	15	F	F	G	F	G	F	G	F	E	D	C	C	B	B	B	C	D	D	E	F	G	G	F	E
11	3	16	G	G	G	G	G	G	G	F	E	D	B	A	A	A	A	B	D	D	E	E	E	E	E	E
11	3	17	E	E	E	E	E	E	E	D	D	D	C	C	B	B	B	B	D	D	E	E	E	E	E	E
11	3	18	E	E	E	F	F	E	E	E	D	D	D	B	C	C	C	D	D	D	E	F	F	F	F	G
11	3	19	F	F	E	E	E	E	E	E	D	D	C	C	D	D	D	D	D	D	D	D	D	D	D	D
11	3	20	E	E	E	E	E	E	E	D	D	D	D	C	D	C	C	D	D	D	E	E	E	E	E	E
11	3	21	E	E	F	F	F	E	E	E	D	D	D	D	C	C	D	D	D	E	E	E	D	D	E	E
11	3	22	D	E	E	E	E	E	E	E	D	D	C	A	A	A	A	D	D	D	D	D	D	D	E	E
11	3	23	F	F	F	E	E	D	D	D	C	A	A	B	D	D	D	D	D	D	D	D	D	D	D	D
11	3	24	D	D	D	D	D	D	D	D	D	D	D	C	C	C	D	C	D	D	D	D	D	E	E	E
11	3	25	E	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D
11	3	26	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	3	27	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	D	D	D	D	D	D	D	E	E
11	3	28	D	E	E	E	E	E	E	D	D	C	C	B	B	C	D	D	D	D	D	D	D	D	D	D
11	3	29	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
11	3	30	E	E	F	F	F	F	E	E	D	D	D	B	A	D	D	D	D	D	D	D	D	E	E	E
11	3	31	F	F	E	E	E	D	D	D	D	C	C	B	C	C	D	D	D	D	D	D	D	E	E	E

BISI

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11  
 STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS

HOURLY STABILITIES  
 HOURS

YR	MN	DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
11	4	1	E	E	E	E	E	E	E	D	D	B	B	B	A	A	A	C	D	D	E	F	F	G	G	G			
11	4	2	F	G	G	G	G	G	G	F	D	D	D	D	C	B	A	B	C	D	E	E	E	E	E	E			
11	4	3	E	E	E	E	E	E	E	D	C	B	A	A	A	A	B	C	D	D	D	D	D	D	D	D			
11	4	4	D	D	D	D	D	D	D	D	C	B	A	A	A	A	A	D	D	D	E	F	G	G	G	G			
11	4	5	G	G	E	E	E	F	F	D	C	B	B	A	A	A	A	B	B	D	E	F	E	F	E	E			
11	4	6	E	E	E	E	E	F	E	D	D	D	C	B	A	A	B	C	C	D	E	E	E	F	E	E			
11	4	7	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E			
11	4	8	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E		
11	4	9	E	E	E	E	F	F	F	E	D	C	B	B	A	C	C	D	D	D	E	E	E	E	E	E	E		
11	4	10	E	E	E	E	E	E	E	E	D	D	C	B	C	C	C	D	D	D	D	E	E	E	D	D	D		
11	4	11	E	E	E	E	E	E	E	D	D	C	B	B	B	B	C	D	D	D	E	E	F	F	F	F	F		
11	4	12	G	G	G	G	G	G	G	F	E	D	C	B	B	B	C	C	C	D	E	E	E	E	E	E	E		
11	4	13	F	E	E	F	F	E	E	E	D	D	A	A	A	A	A	C	C	D	D	D	D	E	D	D	D		
11	4	14	D	E	F	E	D	D	D	D	D	D	D	D	C	C	D	D	D	D	D	D	D	E	E	D	D		
11	4	15	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
11	4	16	D	D	D	D	D	D	D	D	D	D	C	B	D	C	D	D	D	D	D	D	E	E	E	E	D		
11	4	17	D	D	D	E	E	E	D	D	D	C	D	D	D	D	C	D	D	D	D	D	D	D	D	D	D		
11	4	18	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	D	D	D	D	D	D	D	D	D		
11	4	19	D	D	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
11	4	20	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	
11	4	21	E	D	D	D	D	D	D	D	D	D	C	C	B	C	D	D	D	D	D	D	D	D	D	D	D		
11	4	22	D	D	E	E	E	E	F	F	E	E	E	D	D	D	D	D	D	D	D	D	E	E	G	E	E	E	
11	4	23	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	
11	4	24	F	F	F	G	F	F	E	E	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	E	D	D
11	4	25	D	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	F	F	F	F	F	F	F	F	
11	4	26	F	F	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	D	D	E	
11	4	27	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
11	4	28	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	F	G	G	G	G	G	
11	4	29	G	G	G	E	E	E	D	D	D	D	B	A	A	B	C	C	D	D	D	E	E	E	E	E	E	E	
11	4	30	E	E	E	E	D	D	D	D	D	D	D	D	C	C	C	D	D	D	D	D	E	E	E	E	D	D	
11	5	1	D	D	E	E	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	E	E	F	G	G	G	
11	5	2	G	G	G	F	E	E	D	D	D	D	D	C	C	C	C	C	D	D	D	D	D	E	E	E	E	F	
11	5	3	F	F	D	D	D	D	D	D	C	D	C	B	B	B	C	C	C	D	D	D	E	E	E	E	E	E	
11	5	4	E	E	E	E	E	E	D	D	D	D	B	B	A	-	-	A	B	D	D	E	E	E	E	D	E	E	
11	5	5	D	D	E	D	D	D	D	D	D	D	D	D	D	E	D	D	E	D	D	F	G	G	F	F	F	F	
11	5	6	F	E	E	E	F	F	F	E	C	B	A	A	A	-	-	-	E	E	E	E	E	E	E	E	E	E	
11	5	7	E	E	E	E	E	E	E	E	D	D	D	D	D	C	D	D	D	D	E	F	G	G	G	G	G	G	
11	5	8	G	E	E	D	D	D	D	D	C	B	B	A	A	A	A	B	C	D	D	D	D	D	D	D	D	D	
11	5	9	D	D	E	E	D	D	D	D	B	A	A	A	A	A	A	A	D	D	D	D	D	D	D	D	D	D	
11	5	10	D	D	D	D	E	E	E	D	C	B	B	B	A	A	A	A	B	D	D	D	D	D	E	E	E	E	
11	5	11	D	E	E	E	E	E	E	D	B	A	B	A	A	D	D	D	D	D	D	D	D	D	E	E	E	E	
11	5	12	E	E	E	D	E	D	D	D	D	C	C	B	B	C	C	B	C	D	D	E	E	F	D	D	D	D	
11	5	13	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	5	14	D	D	D	D	D	D	D	D	D	D	D	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	
11	5	15	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	G	F	F	

B152

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11  
 STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS

HOURLY STABILITIES  
 HOURS

YR	MN	DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
11	5	16	F	E	E	D	D	E	D	D	D	D	C	C	B	C	C	C	C	C	D	D	E	E	E	F	
11	5	17	F	G	G	G	F	F	E	D	C	A	A	A	A	A	A	A	B	C	D	D	D	D	D	D	
11	5	18	D	E	E	E	E	E	D	D	D	C	B	B	B	B	A	A	C	D	D	D	D	D	D	D	
11	5	19	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	D	D	D	D	D	D	D	D	D	
11	5	20	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	5	21	D	D	E	E	E	D	D	C	A	A	A	A	A	A	C	E	E	D	E	E	E	E	E	E	
11	5	22	E	E	E	E	E	E	D	D	D	D	D	C	D	D	D	D	D	D	E	E	E	F	F	F	
11	5	23	F	F	F	E	E	E	D	D	D	D	D	D	C	C	D	D	D	E	F	F	G	G	F	F	
11	5	24	E	F	E	E	E	E	D	D	C	C	E	E	D	C	B	B	C	D	D	D	D	D	D	E	
11	5	25	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	5	26	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	D	D	D	D	D	D	D	D	E	D
11	5	27	D	D	D	D	D	D	D	D	D	D	C	C	D	B	B	C	C	D	D	D	D	D	D	D	
11	5	28	D	E	E	E	E	E	E	D	D	D	D	C	C	D	D	D	D	D	D	D	D	D	D	D	
11	5	29	D	D	D	D	D	E	D	C	B	C	D	C	D	D	D	D	D	D	E	E	E	E	E	D	
11	5	30	D	D	E	E	D	D	D	C	A	A	A	A	A	B	D	D	D	D	D	D	D	D	D	D	
11	5	31	D	D	E	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	G	G	G	F	F	
11	6	1	G	G	G	G	G	G	E	D	D	B	A	A	A	B	D	D	D	D	D	D	D	D	D	E	E
11	6	2	E	E	D	D	E	E	E	D	D	C	A	A	A	A	B	B	C	D	D	D	D	D	D	E	E
11	6	3	E	E	E	E	E	E	D	D	B	B	A	A	A	B	B	C	D	D	E	E	E	E	E	E	E
11	6	4	E	E	E	E	E	E	E	D	D	D	D	E	D	E	D	E	E	E	E	G	G	G	F	E	E
11	6	5	E	E	E	F	F	F	E	D	D	D	C	B	A	A	A	A	C	D	E	E	E	E	E	E	E
11	6	6	E	E	E	E	E	E	E	D	D	C	C	B	B	B	B	B	A	C	D	E	E	E	E	E	E
11	6	7	E	E	E	E	E	E	D	D	C	B	A	A	A	A	A	A	C	D	D	D	D	D	D	D	D
11	6	8	D	D	E	E	E	E	E	D	C	C	D	D	D	E	E	D	D	E	E	E	D	D	D	D	D
11	6	9	D	D	D	D	D	D	D	D	D	D	D	D	C	B	D	D	D	D	D	D	D	D	D	D	D
11	6	10	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	6	11	E	E	E	E	E	E	D	D	D	D	D	C	D	C	D	C	D	C	D	E	E	E	E	E	E
11	6	12	D	D	E	D	D	D	D	D	D	B	A	A	A	A	A	B	B	D	D	D	D	D	D	D	D
11	6	13	D	D	D	D	D	D	D	C	D	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	6	14	D	D	D	D	D	D	D	C	A	A	A	A	A	C	D	D	E	D	E	E	E	E	E	D	D
11	6	15	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	F	G	G	G	G	G
11	6	16	G	G	G	G	E	E	E	E	E	E	E	E	D	C	C	D	C	D	C	D	D	D	D	E	E
11	6	17	D	D	E	E	E	E	D	D	D	D	C	B	B	B	B	B	C	D	D	E	F	F	F	E	E
11	6	18	F	E	E	E	D	E	D	D	D	D	D	D	C	C	D	D	D	D	E	F	F	F	F	F	F
11	6	19	E	E	E	E	E	E	E	D	D	C	D	C	B	B	B	B	B	D	D	D	D	D	D	D	D
11	6	20	D	D	D	D	D	C	C	C	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D
11	6	21	D	D	D	D	D	D	D	D	C	D	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D
11	6	22	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E
11	6	23	D	D	D	E	D	D	D	C	D	D	D	D	D	C	C	C	B	D	D	D	E	G	D	E	E
11	6	24	G	G	G	D	D	A	A	B	C	A	A	C	D	D	C	C	D	D	D	D	D	D	D	D	D
11	6	25	D	D	D	D	D	B	B	A	D	C	A	A	B	C	B	D	C	B	D	D	D	D	D	D	D
11	6	26	D	D	D	D	D	C	C	C	B	B	C	D	D	C	D	C	D	D	D	D	D	D	D	E	D
11	6	27	D	D	D	D	D	C	A	D	C	B	D	D	D	D	D	D	D	D	D	E	D	E	D	F	F
11	6	28	F	E	E	E	E	D	A	A	A	B	A	A	A	B	D	D	D	D	D	E	D	E	D	E	E
11	6	29	D	D	D	E	D	D	D	D	D	D	D	D	E	D	D	D	D	D	E	E	E	E	D	E	E



PROGRAM: JFD      VERSION: PC-1.2  
NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2011  
SITE IDENTIFIER: NPPD  
DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11  
STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS

		HOURLY STABILITIES																								
		HOURS																								
YR	MN	DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
11	6	30	D	D	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E

**JFDs of 10-Meter Wind vs. Delta T**

July-September 2011

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-SEP 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 9/30/11

\*\*\* JUL-SEP 2011 \*\*\*

STABILITY CLASS    A

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	5	5	3	2	0	3	0	1	0	0	2	0	0	2	1	0	24
3.51- 7.50	5	8	9	13	14	12	4	3	3	4	1	1	2	1	4	4	88
7.51-12.50	1	1	2	1	0	5	1	2	2	4	1	1	0	1	0	2	24
12.51-18.50	2	0	0	2	0	0	0	1	1	2	0	0	0	0	0	0	8
18.51-24.00	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
TOTAL	13	14	14	18	14	21	5	8	6	10	5	2	2	4	5	7	148

STABILITY CLASS    B

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	2	2	0	0	0	1	0	0	0	0	0	0	0	0	0	5
3.51- 7.50	11	6	6	4	4	9	7	2	0	2	0	0	0	2	1	10	64
7.51-12.50	0	1	2	1	5	5	2	3	2	1	0	0	0	1	0	1	24
12.51-18.50	2	0	1	0	1	1	1	0	0	0	0	0	0	1	0	2	9
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	13	9	11	5	10	15	11	5	2	3	0	0	0	4	1	13	102

B156

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-SEP 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 9/30/11

\*\*\* JUL-SEP 2011 \*\*\*

STABILITY CLASS C

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	2	1	0	1	0	0	1	0	0	0	0	0	0	0	1	7
3.51- 7.50	15	10	10	9	3	19	8	9	4	3	2	1	0	1	2	11	107
7.51-12.50	16	8	2	5	13	17	12	12	11	3	5	3	1	3	2	6	119
12.51-18.50	3	1	1	0	4	2	0	1	2	0	1	1	0	2	3	3	24
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	35	21	14	14	21	38	20	23	17	6	8	5	1	6	7	21	257

STABILITY CLASS D

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	3	2	0	2	1	2	1	1	0	0	0	0	0	0	0	0	12
3.51- 7.50	28	32	25	31	27	41	31	18	6	4	2	1	2	2	2	20	272
7.51-12.50	69	33	26	27	24	81	101	54	23	29	9	4	3	10	11	21	525
12.51-18.50	34	8	5	7	8	21	48	27	26	9	7	1	2	4	13	28	248
18.51-24.00	2	2	0	1	1	1	5	4	4	1	3	2	2	2	0	2	32
>24.00	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	6
TOTAL	137	77	57	69	62	147	187	104	59	43	21	8	9	18	26	71	1095

B157

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-SEP 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 9/30/11

\*\*\* JUL-SEP 2011 \*\*\*

STABILITY CLASS E

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	4	1	0	2	1	1	3	1	3	5	0	2	1	0	2	1	27
3.51- 7.50	11	5	2	4	10	13	14	12	18	8	1	0	1	4	12	19	134
7.51-12.50	3	1	0	0	0	1	19	19	28	19	0	2	1	3	10	7	113
12.51-18.50	0	0	0	0	0	0	11	21	22	3	0	1	0	0	0	3	61
18.51-24.00	0	0	0	0	0	0	1	2	2	0	0	0	0	0	0	0	5
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	18	7	2	6	11	15	48	55	73	35	1	5	3	7	24	30	340

STABILITY CLASS F

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	3	0	0	0	0	0	0	5	9	3	2	6	0	4	4	3	39
3.51- 7.50	0	1	1	5	1	1	1	4	5	10	0	3	1	10	13	7	63
7.51-12.50	0	0	0	0	0	0	0	0	2	2	0	0	1	3	2	0	10
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	1	1	5	1	1	1	9	16	15	2	9	2	17	19	10	112

B158

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-SEP 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 9/30/11

\*\*\* JUL-SEP 2011 \*\*\*

STABILITY CLASS G

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	4	3	2	1	7	5	19	26	12	8	5	2	11	8	8	122
3.51- 7.50	0	2	1	2	3	5	1	4	1	1	2	0	0	2	4	2	30
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	6	4	4	4	12	6	23	27	13	10	5	3	14	12	10	154

STABILITY CLASS ALL

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	17	16	9	8	4	13	10	28	38	20	12	13	3	17	15	13	236
3.51- 7.50	70	64	54	68	62	100	66	52	37	32	8	6	6	22	38	73	758
7.51-12.50	89	44	32	34	42	109	135	90	68	58	15	10	6	22	25	37	816
12.51-18.50	41	9	7	9	13	24	60	50	51	14	8	3	2	7	16	36	350
18.51-24.00	2	2	0	1	1	2	6	7	6	1	4	2	3	2	0	2	41
>24.00	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	1	7
TOTAL	220	135	103	121	123	249	278	227	200	125	47	34	20	70	94	162	2208

B159

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-SEP 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 9/30/11

\*\*\* JUL-SEP 2011 \*\*\*

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH

TOTAL NUMBER OF OBSERVATIONS: 2208

TOTAL NUMBER OF VALID OBSERVATIONS: 2208

TOTAL NUMBER OF MISSING OBSERVATIONS: 0

PERCENT DATA RECOVERY FOR THIS PERIOD: 100.0 %

MEAN WIND SPEED FOR THIS PERIOD: 8.6 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 1416

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 1416

NUMBER OF OBSERVATIONS WITH BACKUP STABILITY: 1416

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 1416

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
6.70	4.62	11.64	49.59	15.40	5.07	6.97

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	13	14	14	18	14	21	5	8	6	10	5	2	2	4	5	7	0
B	13	9	11	5	10	15	11	5	2	3	0	0	0	4	1	13	0
C	35	21	14	14	21	38	20	23	17	6	8	5	1	6	7	21	0
D	137	77	57	69	62	147	187	104	59	43	21	8	9	18	26	71	0
E	18	7	2	6	11	15	48	55	73	35	1	5	3	7	24	30	0
F	3	1	1	5	1	1	1	9	16	15	2	9	2	17	19	10	0
G	1	6	4	4	4	12	6	23	27	13	10	5	3	14	12	10	0
TOTAL	220	135	103	121	123	249	278	227	200	125	47	34	20	70	94	162	0

B160

**JFDs of 10-Meter Wind vs. Delta T**

October-December 2011



PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - OCT-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/11 - 12/31/11

\*\*\* OCT-DEC 2011 \*\*\*

STABILITY CLASS    A

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.51-12.50	0	0	0	0	0	2	1	1	3	5	0	0	0	0	0	0	12
12.51-18.50	0	0	0	0	0	0	0	3	4	1	1	0	0	0	0	2	11
18.51-24.00	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	2	1	5	9	6	1	0	0	0	0	2	26

STABILITY CLASS    B

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	0	0	0	0	0	0	0	0	1	0	1	1	0	1	0	0	4
7.51-12.50	2	0	0	0	0	2	2	4	6	2	3	1	0	0	0	0	22
12.51-18.50	2	0	0	0	0	0	2	2	3	2	1	2	0	1	2	4	21
18.51-24.00	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	1	5
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	4	0	0	0	0	2	4	6	14	4	5	4	0	2	2	5	52

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - OCT-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/11 - 12/31/11

\*\*\* OCT-DEC 2011 \*\*\*

STABILITY CLASS C

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	3	0	0	0	1	1	0	1	1	5	1	1	1	0	0	0	15
7.51-12.50	1	1	0	0	0	5	5	9	6	2	3	1	1	2	5	4	45
12.51-18.50	2	0	0	0	0	0	3	1	1	6	2	0	0	2	2	12	31
18.51-24.00	0	0	0	0	0	0	0	1	2	0	0	0	0	0	2	0	5
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	6	1	0	0	1	6	8	12	10	13	6	2	2	4	9	16	96

STABILITY CLASS D

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	4	2	3	1	1	0	1	7	2	2	3	2	2	1	2	4	37
3.51- 7.50	21	20	0	2	0	6	14	14	13	10	8	17	7	17	11	18	178
7.51-12.50	49	22	6	3	0	3	8	18	21	16	17	15	4	20	28	20	250
12.51-18.50	47	13	1	1	0	0	5	24	18	8	8	5	8	14	41	38	231
18.51-24.00	13	5	0	0	0	0	0	5	2	0	0	1	1	7	15	0	49
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
TOTAL	134	62	10	7	1	9	28	68	56	36	36	40	22	59	100	80	748

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - OCT-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/11 - 12/31/11

\*\*\* OCT-DEC 2011 \*\*\*

STABILITY CLASS E

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	4	1	0	0	0	2	4	9	27	11	4	2	3	7	11	11	96
3.51- 7.50	14	3	2	3	1	1	12	39	65	28	6	6	6	10	31	27	254
7.51-12.50	12	6	0	1	0	0	17	28	60	10	16	11	5	25	26	15	232
12.51-18.50	3	9	0	0	0	0	3	18	11	3	7	5	2	7	9	7	84
18.51-24.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	33	19	2	4	1	3	36	94	164	52	33	24	16	49	77	60	667

STABILITY CLASS F

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	4	1	3	0	1	0	2	15	26	15	11	7	3	16	5	1	110
3.51- 7.50	3	0	0	0	0	2	6	28	45	28	5	2	6	9	9	6	149
7.51-12.50	0	0	0	0	0	0	1	1	5	0	2	9	12	4	4	1	39
12.51-18.50	2	0	0	0	0	0	0	0	0	0	1	1	0	0	0	3	7
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	9	1	3	0	1	2	9	44	76	43	19	19	21	29	18	11	305

B164

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - OCT-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/11 - 12/31/11

\*\*\* OCT-DEC 2011 \*\*\*

STABILITY CLASS G

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	1
1.01- 3.50	4	2	2	1	3	1	13	33	25	19	10	5	3	7	8	7	143
3.51- 7.50	0	0	0	0	0	0	2	8	6	0	1	1	0	1	1	0	20
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	4	2	2	1	3	1	15	41	31	19	11	7	3	8	9	7	165

STABILITY CLASS ALL

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	1
1.01- 3.50	16	6	8	2	5	3	20	64	80	47	28	16	11	31	26	23	386
3.51- 7.50	41	23	2	5	2	10	34	90	131	71	22	28	20	38	52	51	620
7.51-12.50	64	29	6	4	0	12	34	61	101	35	41	37	22	51	63	40	600
12.51-18.50	56	22	1	1	0	0	13	48	37	20	20	14	10	24	54	66	386
18.51-24.00	13	5	0	0	0	0	0	7	11	0	0	1	1	7	17	1	63
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
TOTAL	190	85	17	12	7	25	101	270	360	173	111	96	64	151	215	181	2059

B165

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - OCT-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/11 - 12/31/11

\*\*\* OCT-DEC 2011 \*\*\*

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH

TOTAL NUMBER OF OBSERVATIONS: 2208

TOTAL NUMBER OF VALID OBSERVATIONS: 2059

TOTAL NUMBER OF MISSING OBSERVATIONS: 149

PERCENT DATA RECOVERY FOR THIS PERIOD: 93.3 %

MEAN WIND SPEED FOR THIS PERIOD: 8.5 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 0

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 0

NUMBER OF OBSERVATIONS WITH BACKUP STABILITY: 0

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
1.26	2.53	4.66	36.33	32.39	14.81	8.01

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	0	0	0	0	0	2	1	5	9	6	1	0	0	0	0	2	0
B	4	0	0	0	0	2	4	6	14	4	5	4	0	2	2	5	0
C	6	1	0	0	1	6	8	12	10	13	6	2	2	4	9	16	0
D	134	62	10	7	1	9	28	68	56	36	36	40	22	59	100	80	0
E	33	19	2	4	1	3	36	94	164	52	33	24	16	49	77	60	0
F	9	1	3	0	1	2	9	44	76	43	19	19	21	29	18	11	0
G	4	2	2	1	3	1	15	41	31	19	11	7	3	8	9	7	1
TOTAL	190	85	17	12	7	25	101	270	360	173	111	96	64	151	215	181	1

**JFDs of 10-Meter Wind vs. Delta T**

July-December 2011

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11

\*\*\* JUL-DEC 2011 \*\*\*

STABILITY CLASS A

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	5	5	3	2	0	3	0	1	0	0	2	0	0	2	1	0	24
3.51- 7.50	5	8	9	13	14	12	4	3	3	4	1	1	2	1	4	4	88
7.51-12.50	1	1	2	1	0	7	2	3	5	9	1	1	0	1	0	2	36
12.51-18.50	2	0	0	2	0	0	0	4	5	3	1	0	0	0	0	2	19
18.51-24.00	0	0	0	0	0	1	0	2	2	0	1	0	0	0	0	0	6
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
TOTAL	13	14	14	18	14	23	6	13	15	16	6	2	2	4	5	9	174

STABILITY CLASS B

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	2	2	0	0	0	1	0	0	0	0	0	0	0	0	0	5
3.51- 7.50	11	6	6	4	4	9	7	2	1	2	1	1	0	3	1	10	68
7.51-12.50	2	1	2	1	5	7	4	7	8	3	3	1	0	1	0	1	46
12.51-18.50	4	0	1	0	1	1	3	2	3	2	1	2	0	2	2	6	30
18.51-24.00	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	1	5
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	17	9	11	5	10	17	15	11	16	7	5	4	0	6	3	18	154

B168

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11

\*\*\* JUL-DEC 2011 \*\*\*

STABILITY CLASS C

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	2	1	0	1	0	0	1	0	0	0	0	0	0	0	1	7
3.51- 7.50	18	10	10	9	4	20	8	10	5	8	3	2	1	1	2	11	122
7.51-12.50	17	9	2	5	13	22	17	21	17	5	8	4	2	5	7	10	164
12.51-18.50	5	1	1	0	4	2	3	2	3	6	3	1	0	4	5	15	55
18.51-24.00	0	0	0	0	0	0	0	1	2	0	0	0	0	0	2	0	5
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	41	22	14	14	22	44	28	35	27	19	14	7	3	10	16	37	353

STABILITY CLASS D

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	7	4	3	3	2	2	2	8	2	2	3	2	2	1	2	4	49
3.51- 7.50	49	52	25	33	27	47	45	32	19	14	10	18	9	19	13	38	450
7.51-12.50	118	55	32	30	24	84	109	72	44	45	26	19	7	30	39	41	775
12.51-18.50	81	21	6	8	8	21	53	51	44	17	15	6	10	18	54	66	479
18.51-24.00	15	7	0	1	1	1	5	9	6	1	3	3	3	9	15	2	81
>24.00	1	0	1	1	1	1	1	0	0	0	0	0	0	0	3	0	9
TOTAL	271	139	67	76	63	156	215	172	115	79	57	48	31	77	126	151	1843

B169



PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11

\*\*\* JUL-DEC 2011 \*\*\*

STABILITY CLASS E

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	8	2	0	2	1	3	7	10	30	16	4	4	4	7	13	12	123
3.51- 7.50	25	8	4	7	11	14	26	51	83	36	7	6	7	14	43	46	388
7.51-12.50	15	7	0	1	0	1	36	47	88	29	16	13	6	28	36	22	345
12.51-18.50	3	9	0	0	0	0	14	39	33	6	7	6	2	7	9	10	145
18.51-24.00	0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	6
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	51	26	4	10	12	18	84	149	237	87	34	29	19	56	101	90	1007

STABILITY CLASS F

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	7	1	3	0	1	0	2	20	35	18	13	13	3	20	9	4	149
3.51- 7.50	3	1	1	5	1	3	7	32	50	38	5	5	7	19	22	13	212
7.51-12.50	0	0	0	0	0	0	1	1	7	2	2	9	13	7	6	1	49
12.51-18.50	2	0	0	0	0	0	0	0	0	0	1	1	0	0	0	3	7
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	12	2	4	5	2	3	10	53	92	58	21	28	23	46	37	21	417

B170

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11

\*\*\* JUL-DEC 2011 \*\*\*

STABILITY CLASS G

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	1
1.01- 3.50	5	6	5	3	4	8	18	52	51	31	18	10	5	18	16	15	265
3.51- 7.50	0	2	1	2	3	5	3	12	7	1	3	1	0	3	5	2	50
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	5	8	6	5	7	13	21	64	58	32	21	12	6	22	21	17	319

STABILITY CLASS ALL

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	1
1.01- 3.50	33	22	17	10	9	16	30	92	118	67	40	29	14	48	41	36	622
3.51- 7.50	111	87	56	73	64	110	100	142	168	103	30	34	26	60	90	124	1378
7.51-12.50	153	73	38	38	42	121	169	151	169	93	56	47	28	73	88	77	1416
12.51-18.50	97	31	8	10	13	24	73	98	88	34	28	17	12	31	70	102	736
18.51-24.00	15	7	0	1	1	2	6	14	17	1	4	3	4	9	17	3	104
>24.00	1	0	1	1	1	1	1	0	0	0	0	0	0	0	3	1	10
TOTAL	410	220	120	133	130	274	379	497	560	298	158	130	84	221	309	343	4267

B171

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11

\*\*\* JUL-DEC 2011 \*\*\*

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH

TOTAL NUMBER OF OBSERVATIONS: 4416

TOTAL NUMBER OF VALID OBSERVATIONS: 4267

TOTAL NUMBER OF MISSING OBSERVATIONS: 149

PERCENT DATA RECOVERY FOR THIS PERIOD: 96.6 %

MEAN WIND SPEED FOR THIS PERIOD: 8.5 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 1416

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 1416

NUMBER OF OBSERVATIONS WITH BACKUP STABILITY: 1416

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 1416

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
4.08	3.61	8.27	43.19	23.60	9.77	7.48

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	13	14	14	18	14	23	6	13	15	16	6	2	2	4	5	9	0
B	17	9	11	5	10	17	15	11	16	7	5	4	0	6	3	18	0
C	41	22	14	14	22	44	28	35	27	19	14	7	3	10	16	37	0
D	271	139	67	76	63	156	215	172	115	79	57	48	31	77	126	151	0
E	51	26	4	10	12	18	84	149	237	87	34	29	19	56	101	90	0
F	12	2	4	5	2	3	10	53	92	58	21	28	23	46	37	21	0
G	5	8	6	5	7	13	21	64	58	32	21	12	6	22	21	17	1
TOTAL	410	220	120	133	130	274	379	497	560	298	158	130	84	221	309	343	1

B172

**Stability Classes by Hour of Day**

**10-Meter Wind vs. Delta T**

July-December 2011

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11  
 STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS

HOURLY STABILITIES  
 HOURS

YR	MN	DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
11	7	1	F	F	E	E	E	D	D	E	E	D	D	D	D	E	D	E	E	E	E	D	D	D	D		
11	7	2	D	D	D	D	D	D	B	D	D	D	D	C	C	C	D	D	D	D	D	D	D	D	D		
11	7	3	D	D	D	D	D	A	C	D	C	A	C	C	C	D	D	B	C	D	D	D	D	D	D		
11	7	4	D	D	D	E	D	D	C	B	B	C	A	A	A	C	C	D	C	C	D	D	D	D	E	E	
11	7	5	D	D	D	D	E	D	B	C	C	C	C	D	D	E	C	D	A	C	D	D	D	D	D	G	
11	7	6	D	D	F	F	D	E	B	A	B	B	C	A	B	A	A	B	D	D	F	D	D	D	D	D	
11	7	7	D	D	D	D	G	D	A	A	D	C	D	C	A	A	B	A	B	D	D	D	D	D	D	G	
11	7	8	G	E	D	G	E	G	A	A	A	A	A	A	C	C	D	D	D	D	D	E	E	E	E	E	
11	7	9	E	E	E	E	D	E	E	D	C	C	D	D	C	D	D	D	E	D	E	D	D	D	D	D	
11	7	10	D	D	D	D	D	A	A	A	A	A	A	A	A	A	B	E	D	D	E	D	D	D	D	D	
11	7	11	D	D	D	F	E	G	A	A	A	D	A	C	C	C	D	E	D	D	D	D	D	D	D	D	
11	7	12	D	D	D	D	E	D	D	A	C	D	D	C	B	B	D	D	D	D	D	D	D	D	D	D	
11	7	13	D	D	D	D	D	D	C	C	D	C	C	C	B	C	B	C	C	C	D	D	D	D	D	D	
11	7	14	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	E	E	D	D	D	
11	7	15	D	D	D	D	E	D	D	D	D	C	D	D	D	D	E	D	D	D	E	D	E	D	D	D	
11	7	16	D	F	D	D	D	D	D	D	D	D	D	C	B	D	E	E	E	E	D	E	E	E	E	D	
11	7	17	D	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	D	E	E	
11	7	18	E	E	E	D	E	E	E	C	D	D	C	C	C	C	E	E	D	E	E	E	E	E	E	D	
11	7	19	E	D	F	E	E	E	D	E	D	C	C	D	D	D	D	D	E	E	E	E	E	E	E	E	
11	7	20	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	D	E	D	E	
11	7	21	E	D	D	E	D	D	D	D	C	C	C	D	C	C	B	D	D	B	D	D	D	D	D	E	
11	7	22	D	D	D	D	G	G	A	C	A	A	C	C	A	A	A	A	A	A	F	D	D	D	D	D	
11	7	23	D	E	D	E	E	E	E	E	D	D	D	C	C	D	D	A	A	E	D	E	D	D	D	D	
11	7	24	D	D	D	D	D	D	B	A	D	A	C	C	B	C	C	C	D	E	E	D	D	D	D	D	
11	7	25	D	D	D	D	E	A	A	A	A	B	A	B	A	B	D	D	C	D	E	E	E	E	D	D	
11	7	26	E	E	E	E	D	E	C	D	D	C	D	D	C	D	D	D	D	D	E	D	D	E	D	E	
11	7	27	E	E	D	D	D	D	D	D	D	E	D	C	D	A	B	D	D	D	D	D	D	D	E	D	
11	7	28	D	E	E	D	D	A	A	A	A	A	B	D	D	E	C	D	A	G	F	D	E	D	D	D	
11	7	29	D	F	G	G	G	D	C	C	C	A	A	A	D	D	B	C	A	C	D	D	D	F	D	F	
11	7	30	G	E	D	D	D	D	D	D	C	C	A	C	D	D	D	D	D	D	D	D	E	E	D	D	
11	7	31	D	G	D	D	E	E	C	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	D	D	
11	8	1	D	D	D	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	D	D	D	
11	8	2	D	D	E	E	E	E	E	D	D	D	C	D	B	D	C	B	D	E	D	D	D	D	D	D	
11	8	3	D	D	D	D	D	D	D	C	B	C	C	D	D	D	B	A	B	C	E	D	D	D	D	D	
11	8	4	D	D	E	E	D	D	B	C	C	C	C	A	D	A	A	A	A	C	G	F	E	D	D	E	
11	8	5	F	E	D	D	G	G	A	A	A	C	C	A	B	A	B	A	A	B	D	G	G	D	G	G	
11	8	6	G	G	F	G	G	G	C	A	C	A	C	D	A	A	C	C	D	D	D	F	D	D	F	D	D
11	8	7	D	D	D	D	D	F	C	D	C	A	A	A	C	A	B	B	C	B	E	E	E	G	D	D	
11	8	8	D	F	D	D	D	A	C	A	D	D	B	C	B	D	D	D	C	D	D	D	D	D	F	G	
11	8	9	F	D	D	F	F	G	A	B	C	C	C	D	C	D	A	D	D	D	D	D	D	D	D	D	
11	8	10	D	D	D	D	D	E	C	B	C	B	C	A	A	B	C	B	B	B	G	D	D	D	F	F	
11	8	11	E	D	D	D	D	E	D	C	D	D	D	B	A	B	B	C	D	D	D	D	E	D	D	D	
11	8	12	D	D	D	D	D	C	A	A	A	A	A	A	D	A	C	D	D	D	D	G	D	G	F	E	
11	8	13	D	D	D	D	G	D	D	D	C	C	D	D	B	D	D	D	D	B	D	D	D	E	E	D	

B174

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11  
 STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS

HOURLY STABILITIES  
 HOURS

YR	MN	DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
11	8	14	D	F	D	D	F	E	A	A	A	A	A	A	A	A	A	B	D	D	D	E	D	D	E	D
11	8	15	D	D	D	D	D	C	D	D	C	D	C	D	D	D	D	D	D	D	D	D	D	D	D	D
11	8	16	D	D	D	D	D	D	C	C	D	D	D	D	D	C	B	A	C	D	D	D	D	D	D	D
11	8	17	D	D	D	D	D	D	D	D	D	D	A	B	B	B	A	A	B	G	F	D	F	D	G	G
11	8	18	G	G	D	D	D	D	C	D	D	D	C	D	D	E	D	D	D	D	D	D	D	D	D	D
11	8	19	D	D	D	F	D	D	D	D	C	C	C	B	A	B	B	A	D	D	D	D	D	D	D	D
11	8	20	D	D	D	D	D	A	C	B	A	A	C	B	C	C	A	A	C	E	D	D	D	D	D	D
11	8	21	G	G	E	D	D	D	B	C	C	D	C	A	B	A	C	A	C	C	D	E	D	D	D	D
11	8	22	D	D	D	D	D	D	B	D	C	D	D	D	C	D	D	D	D	D	D	D	D	D	D	E
11	8	23	F	D	D	E	D	D	E	D	D	C	C	D	D	D	D	A	C	A	D	D	D	D	D	D
11	8	24	D	E	E	E	G	D	C	D	C	D	D	D	D	D	C	D	D	D	D	D	D	D	D	E
11	8	25	E	E	D	D	D	D	B	B	B	A	A	A	A	B	C	A	C	D	D	E	E	E	E	D
11	8	26	E	D	E	D	D	G	A	D	D	D	D	C	C	D	C	D	B	A	F	G	G	D	D	E
11	8	27	D	G	F	D	D	D	C	C	C	D	C	B	B	B	C	B	D	D	D	E	D	D	D	D
11	8	28	D	D	D	D	D	D	C	B	C	B	C	A	B	B	D	D	D	D	D	D	D	D	D	D
11	8	29	E	E	D	D	D	D	D	D	C	C	B	B	A	A	B	D	D	D	D	D	D	D	D	D
11	8	30	D	D	D	D	D	D	D	D	D	D	D	B	B	C	C	C	C	D	D	D	D	D	D	D
11	8	31	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	D	D	D	E	E	D	D	D	D
11	9	1	E	E	E	E	E	E	E	E	D	D	C	C	A	A	D	D	D	E	E	E	E	E	E	E
11	9	2	E	E	E	E	E	E	F	F	D	C	C	B	A	A	C	D	D	D	D	D	E	E	D	D
11	9	3	D	E	D	D	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	9	4	D	D	D	D	E	E	F	E	D	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D
11	9	5	D	D	E	E	F	E	E	D	D	C	B	B	B	B	C	C	C	D	D	D	D	D	E	F
11	9	6	F	G	G	G	G	F	E	D	C	C	B	C	C	C	D	D	D	F	G	G	G	F	F	F
11	9	7	F	G	G	G	G	G	E	D	B	D	C	B	C	B	D	D	D	E	E	E	E	F	G	G
11	9	8	G	G	G	G	G	G	E	D	D	C	C	C	B	C	D	D	D	E	F	F	E	F	E	E
11	9	9	E	G	G	G	G	G	F	E	D	D	D	D	D	D	D	D	E	E	E	F	G	G	G	G
11	9	10	G	G	F	F	F	E	F	E	D	D	C	A	B	D	D	D	D	E	F	F	F	G	G	G
11	9	11	G	G	G	G	G	G	F	D	B	D	B	C	C	C	D	C	D	E	F	F	F	F	F	F
11	9	12	F	F	F	F	F	F	E	E	D	B	A	A	A	A	A	D	E	E	G	G	G	G	G	G
11	9	13	G	D	D	D	D	D	D	D	D	C	C	D	D	C	D	D	D	E	D	D	E	D	D	D
11	9	14	D	E	E	E	D	D	D	D	D	D	D	C	C	C	D	D	D	D	D	D	D	D	D	D
11	9	15	D	D	D	D	D	D	D	D	D	C	C	B	B	C	D	D	D	D	E	E	E	E	E	E
11	9	16	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	9	17	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	9	18	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	D	D	D	E	E	F	G	G	G
11	9	19	G	G	G	G	F	F	F	E	D	D	D	D	C	D	D	E	G	G	G	F	F	E	E	E
11	9	20	F	F	E	E	E	E	E	F	E	C	C	C	D	D	D	D	E	F	G	F	E	E	E	E
11	9	21	E	F	E	E	F	F	E	E	D	D	C	C	C	C	D	D	D	E	F	G	F	F	E	D
11	9	22	F	G	G	F	F	F	F	E	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D
11	9	23	D	D	E	E	D	D	D	D	D	C	C	C	A	C	D	D	E	G	G	G	G	G	G	G
11	9	24	G	F	F	G	G	G	F	E	D	C	C	C	C	B	C	D	D	D	D	D	D	D	D	D
11	9	25	D	D	E	E	E	D	D	D	D	C	C	C	C	C	C	D	D	D	E	G	G	G	G	G
11	9	26	G	G	G	F	F	E	F	E	D	D	D	D	C	C	C	D	D	E	F	G	G	F	F	F
11	9	27	E	E	E	E	E	E	E	D	D	D	D	D	C	D	D	D	D	E	G	G	G	G	G	G

B175

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11  
 STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS

HOURLY STABILITIES  
 HOURS

YR	MN	DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
11	9	28	G	G	G	G	G	G	G	F	D	D	C	A	C	D	D	D	F	G	G	G	G	G	G	G
11	9	29	G	G	G	F	F	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	F	F
11	9	30	F	F	E	E	E	E	E	D	D	C	C	C	C	D	D	D	E	F	G	G	G	G	G	G
11	10	1	G	G	G	F	D	D	D	D	D	C	D	C	C	B	C	C	D	E	F	G	G	F	F	F
11	10	2	F	F	F	F	F	F	F	E	D	D	B	C	C	B	B	C	D	D	E	F	G	G	G	F
11	10	3	G	G	F	F	F	F	E	D	D	D	A	A	A	B	C	D	E	E	E	E	E	E	E	F
11	10	4	F	E	F	E	E	E	E	D	D	B	B	A	A	A	A	C	D	E	E	F	E	E	F	F
11	10	5	E	F	F	E	E	E	E	E	D	C	B	B	A	A	A	C	D	E	E	E	E	E	E	E
11	10	6	E	E	E	E	E	E	E	D	D	D	D	B	A	A	C	D	D	E	E	E	E	E	E	E
11	10	7	E	E	E	D	E	D	D	D	D	B	A	A	B	D	D	D	D	D	E	D	D	D	D	D
11	10	8	D	D	D	E	E	D	D	D	D	B	B	C	D	D	E	D	E	F	F	E	F	F	F	F
11	10	9	F	F	E	E	E	E	E	D	D	D	B	B	B	C	D	D	D	E	E	E	D	D	D	E
11	10	10	E	E	E	E	E	E	E	D	D	D	C	C	B	B	C	C	D	E	F	F	F	E	E	E
11	10	11	F	F	F	E	E	E	E	E	D	D	D	C	A	A	B	D	E	E	F	F	F	E	E	E
11	10	12	E	E	E	E	E	E	E	D	D	D	C	B	C	D	D	E	E	E	E	E	E	E	E	E
11	10	13	E	E	E	E	E	E	E	E	D	C	D	D	D	D	D	D	E	F	F	F	F	F	F	F
11	10	14	F	F	F	F	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E
11	10	15	F	F	F	G	F	G	F	F	D	D	D	C	A	A	A	C	D	F	F	F	F	F	E	E
11	10	16	E	E	E	E	E	E	D	D	D	D	C	B	C	D	D	D	E	E	F	F	F	E	F	F
11	10	17	G	G	G	F	E	E	E	E	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	D
11	10	18	E	E	D	D	D	D	D	D	D	D	B	C	D	D	D	D	E	E	F	E	E	E	E	E
11	10	19	E	E	E	E	E	E	E	D	D	C	B	A	A	B	B	C	D	E	E	F	F	E	E	F
11	10	20	F	E	E	E	E	E	E	E	D	C	B	C	C	C	C	D	E	F	G	G	G	G	G	G
11	10	21	G	G	G	G	G	G	G	E	D	D	C	B	C	B	B	C	D	D	F	G	G	G	G	G
11	10	22	G	G	G	G	G	G	F	E	E	D	D	D	D	D	D	D	E	E	E	E	F	F	F	G
11	10	23	G	G	G	G	G	G	G	F	D	C	B	B	B	C	D	D	E	F	F	F	F	F	G	G
11	10	24	G	G	G	G	G	G	G	F	D	C	A	B	B	D	D	D	E	E	E	E	E	E	E	E
11	10	25	E	E	E	E	E	E	E	E	D	C	A	B	B	B	C	D	D	D	E	D	D	D	D	D
11	10	26	D	D	D	D	D	D	D	D	D	D	D	C	C	C	D	D	D	D	E	D	E	D	D	D
11	10	27	D	E	E	E	E	E	G	F	D	B	D	C	B	D	D	D	D	F	G	G	G	G	G	F
11	10	28	F	F	F	F	F	G	F	E	D	D	C	B	B	B	C	D	D	E	F	G	G	G	G	G
11	10	29	G	G	G	G	F	G	G	F	E	D	C	C	C	C	D	D	D	E	E	E	E	E	E	E
11	10	30	D	E	E	E	E	E	E	E	D	C	C	B	B	C	C	D	D	E	F	F	F	G	G	F
11	10	31	F	G	G	G	G	G	G	E	D	D	D	C	C	C	D	D	E	F	F	F	F	F	F	F
11	11	1	F	F	E	F	F	F	E	E	D	C	B	A	A	B	B	D	D	F	F	E	E	E	E	D
11	11	2	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	11	3	D	D	D	D	E	E	D	D	D	C	C	C	C	C	D	D	E	F	F	G	G	G	G	G
11	11	4	G	G	G	G	G	G	F	F	E	D	C	C	C	C	D	D	E	E	E	E	E	E	E	E
11	11	5	E	E	E	E	E	E	D	D	D	D	C	B	B	D	D	D	E	D	E	D	E	E	E	E
11	11	6	E	E	E	E	E	E	E	D	D	D	C	D	D	D	D	D	F	G	G	G	G	G	G	G
11	11	7	G	G	G	G	G	G	F	D	D	D	D	D	D	D	D	D	E	E	E	E	E	D	D	D
11	11	8	D	D	D	E	E	E	E	D	D	D	D	D	E	E	E	E	D	D	D	D	D	D	E	E
11	11	9	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	F	F	F
11	11	10	E	E	E	F	F	E	E	E	E	D	D	D	D	D	D	D	F	G	G	G	G	F	F	F
11	11	11	F	F	F	E	E	E	E	E	E	D	D	D	D	D	D	D	E	F	F	F	F	F	F	F

B176

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11  
 STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS

HOURLY STABILITIES  
 HOURS

YR MN DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
11 11 12	F	F	F	F	F	E	E	E	E	D	D	D	D	D	D	D	E	E	F	F	F	E	E	F
11 11 13	E	E	E	E	E	E	F	E	D	D	D	D	D	D	D	D	D	F	G	G	G	G	G	G
11 11 14	F	F	F	F	F	F	F	G	E	D	D	D	D	D	D	D	E	E	F	F	F	F	F	F
11 11 15	E	E	E	E	E	E	F	F	E	D	D	D	D	C	D	D	D	E	E	E	E	E	E	E
11 11 16	E	F	F	F	G	F	E	E	E	D	D	D	D	D	D	D	D	E	G	F	F	E	E	E
11 11 17	F	F	E	F	F	F	F	F	E	D	C	C	C	D	D	E	E	E	E	E	E	E	E	E
11 11 18	E	E	E	E	E	E	E	E	D	D	D	B	C	C	D	D	E	E	F	E	F	F	F	F
11 11 19	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11 11 20	D	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	E	E
11 11 21	E	E	E	D	E	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	D	E
11 11 22	E	E	E	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E
11 11 23	E	F	E	E	E	E	E	E	E	E	E	D	D	-	-	-	-	-	-	-	-	-	-	-
11 11 24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11 11 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11 11 26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11 11 27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11 11 28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11 11 29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	E	E	E	E	F	E	E
11 11 30	D	D	D	E	E	E	E	E	E	D	D	C	G	E	E	E	E	G	E	E	E	E	E	E
11 12 1	E	E	E	E	E	E	E	E	E	E	E	E	E	-	-	D	D	D	D	D	D	D	D	D
11 12 2	D	D	D	E	F	F	F	F	E	D	D	C	C	B	C	D	D	D	D	D	D	D	D	E
11 12 3	E	E	E	E	E	E	E	E	E	E	F	F	F	F	F	F	F	F	F	F	F	E	E	E
11 12 4	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11 12 5	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11 12 6	D	D	D	D	D	D	D	D	D	D	D	C	C	D	D	D	D	D	E	E	E	F	F	F
11 12 7	F	F	F	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F
11 12 8	F	F	E	F	F	F	F	F	E	D	D	D	D	D	D	D	D	E	E	E	E	E	D	D
11 12 9	D	D	D	D	D	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	F	F	G	G
11 12 10	G	G	G	G	G	G	G	G	E	E	E	D	D	D	D	D	D	E	F	E	F	F	E	E
11 12 11	E	D	D	E	D	D	E	E	E	D	D	D	D	D	D	D	D	E	E	D	E	E	E	E
11 12 12	E	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	E	F	F	F	E	E	E
11 12 13	E	E	D	E	E	E	E	E	E	D	D	E	E	E	E	E	E	E	E	E	F	F	F	F
11 12 14	F	F	F	F	F	F	F	F	F	G	G	F	F	G	F	D	D	E	E	D	D	D	D	D
11 12 15	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
11 12 16	E	E	F	F	F	F	F	G	E	E	D	D	D	C	C	D	D	E	E	E	E	E	E	E
11 12 17	F	E	E	E	F	E	E	E	E	E	D	D	D	D	D	D	D	E	E	F	F	F	G	F
11 12 18	G	G	F	F	F	F	F	F	E	E	D	D	D	D	D	D	D	E	E	F	G	F	F	F
11 12 19	F	F	F	E	E	E	E	F	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11 12 20	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11 12 21	D	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	D	D	E
11 12 22	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
11 12 23	E	E	E	E	F	E	E	F	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
11 12 24	E	E	E	E	F	F	F	F	E	D	D	D	D	D	D	D	D	E	F	G	F	F	F	F
11 12 25	G	F	E	E	E	E	E	F	E	D	D	D	D	D	D	D	D	F	G	G	G	G	G	G
11 12 26	F	G	F	F	F	F	F	F	F	E	E	D	D	D	D	D	D	E	E	E	E	E	E	E

B177



PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11  
 STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS

		HOURLY STABILITIES																									
		HOURS																									
YR	MN	DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
11	12	27	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	F	F	F	G	F	F
11	12	28	E	E	F	F	F	F	E	E	F	E	D	D	C	D	D	D	E	E	E	E	E	E	E	E	E
11	12	29	E	E	E	E	E	F	F	G	F	E	D	C	C	D	D	D	E	E	E	E	E	E	E	E	E
11	12	30	D	D	D	D	D	E	E	E	E	D	D	D	D	D	D	D	D	E	F	G	G	G	G	G	G
11	12	31	G	G	G	G	F	F	F	E	E	D	D	D	C	C	D	D	D	E	D	D	D	D	D	D	D

**JFDs of 10-Meter Wind vs. Delta T**

January-December 2011

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 12/31/11

\*\*\* JAN-DEC 2011 \*\*\*

STABILITY CLASS A

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	5	6	3	2	0	3	0	1	1	0	2	0	0	2	1	0	26
3.51- 7.50	6	8	11	14	15	16	5	3	3	4	1	1	2	1	4	5	99
7.51-12.50	1	1	3	1	1	11	12	9	13	10	1	1	0	1	1	2	68
12.51-18.50	2	2	0	2	0	1	9	10	23	11	2	0	1	0	0	2	65
18.51-24.00	0	0	0	0	1	1	4	3	15	3	2	5	0	1	5	0	40
>24.00	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2	3	7
TOTAL	14	17	17	19	17	32	30	27	55	28	8	7	3	6	13	12	305

STABILITY CLASS B

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	2	2	0	0	0	1	0	0	0	1	0	0	1	0	0	7
3.51- 7.50	12	8	9	4	5	11	8	2	3	6	1	1	0	3	2	10	85
7.51-12.50	4	2	2	1	6	20	14	17	11	7	3	1	0	1	0	2	91
12.51-18.50	5	1	2	0	1	1	10	5	9	11	2	5	1	9	6	13	81
18.51-24.00	0	0	0	0	0	0	4	0	6	0	3	1	0	0	2	4	20
>24.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
TOTAL	21	13	15	5	12	32	37	25	29	24	10	8	1	14	10	29	285

B180

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 12/31/11

\*\*\* JAN-DEC 2011 \*\*\*

STABILITY CLASS C

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	2	2	1	1	0	0	1	1	0	0	0	0	0	0	1	10
3.51- 7.50	23	16	13	11	7	27	15	14	10	12	6	6	2	2	3	12	179
7.51-12.50	22	15	11	9	22	40	29	29	26	10	12	5	2	5	7	17	261
12.51-18.50	7	1	4	1	7	8	13	5	8	12	8	4	3	14	10	20	125
18.51-24.00	0	0	0	1	0	0	3	1	4	0	2	3	1	2	4	2	23
>24.00	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	3
TOTAL	53	34	30	23	37	75	60	51	50	34	29	18	8	23	24	52	601

STABILITY CLASS D

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	14	12	8	6	6	7	2	14	5	3	3	2	3	3	6	5	99
3.51- 7.50	98	106	62	73	81	109	90	64	51	34	16	35	21	31	32	69	972
7.51-12.50	240	130	73	86	105	177	192	109	90	74	41	36	21	71	127	153	1725
12.51-18.50	144	56	14	23	22	36	99	74	74	29	29	18	29	63	159	186	1055
18.51-24.00	29	9	1	1	1	5	14	21	22	5	13	5	18	19	64	40	267
>24.00	1	0	1	1	1	1	3	0	0	0	2	1	3	2	8	7	31
TOTAL	526	313	159	190	216	335	400	282	242	145	104	97	95	189	396	460	4149

B181

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 12/31/11

\*\*\* JAN-DEC 2011 \*\*\*

STABILITY CLASS E

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	14	4	7	8	4	10	15	23	38	26	7	7	6	12	20	17	218
3.51- 7.50	62	38	24	47	37	51	79	82	138	70	17	16	20	36	68	66	851
7.51-12.50	37	22	5	13	5	2	54	79	148	68	44	25	23	71	66	47	709
12.51-18.50	12	13	2	4	1	1	21	64	48	14	12	13	11	22	18	21	277
18.51-24.00	0	0	0	0	0	0	1	3	8	0	0	1	2	0	0	0	15
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	125	77	38	72	47	64	170	251	380	178	80	62	62	141	172	151	2070

STABILITY CLASS F

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	13	6	9	2	3	1	9	37	57	25	15	20	9	28	15	14	263
3.51- 7.50	13	2	3	7	2	4	15	38	76	53	8	11	11	23	26	19	311
7.51-12.50	13	1	0	0	0	2	3	2	8	8	11	16	19	11	12	5	111
12.51-18.50	2	0	0	0	0	0	0	0	0	0	1	1	0	1	0	3	8
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	41	9	12	9	5	7	27	77	141	86	35	48	39	63	53	41	693

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 12/31/11

\*\*\* JAN-DEC 2011 \*\*\*

STABILITY CLASS G

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	2
1.01- 3.50	19	15	5	3	5	11	27	82	82	50	25	14	11	20	24	23	416
3.51- 7.50	0	3	2	2	3	5	4	20	17	1	3	1	1	4	5	3	74
7.51-12.50	1	0	0	0	0	0	0	0	0	0	1	2	3	1	0	0	8
12.51-18.50	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	20	18	7	5	8	16	31	102	99	51	30	18	16	25	29	26	503

STABILITY CLASS ALL

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	2
1.01- 3.50	66	47	36	22	19	32	54	158	184	104	53	43	29	66	66	60	1039
3.51- 7.50	214	181	124	158	150	223	216	223	298	180	52	71	57	100	140	184	2571
7.51-12.50	318	171	94	110	139	252	304	245	296	177	113	86	68	161	213	226	2973
12.51-18.50	172	73	22	30	31	47	152	158	162	77	55	42	45	109	193	245	1613
18.51-24.00	29	9	1	2	2	6	26	28	55	8	20	15	22	22	75	46	366
>24.00	1	0	1	1	1	1	3	3	1	0	3	1	3	3	10	10	42
TOTAL	800	481	278	323	342	561	755	815	996	546	296	258	224	461	697	771	8606

B183

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 12/31/11

\*\*\* JAN-DEC 2011 \*\*\*

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS  
 WIND MEASURED AT: 10.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH

TOTAL NUMBER OF OBSERVATIONS: 8760

TOTAL NUMBER OF VALID OBSERVATIONS: 8606

TOTAL NUMBER OF MISSING OBSERVATIONS: 154

PERCENT DATA RECOVERY FOR THIS PERIOD: 98.2 %

MEAN WIND SPEED FOR THIS PERIOD: 9.2 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 1680

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 1680

NUMBER OF OBSERVATIONS WITH BACKUP STABILITY: 1680

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 1680

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
3.54	3.31	6.98	48.21	24.05	8.05	5.84

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	14	17	17	19	17	32	30	27	55	28	8	7	3	6	13	12	0
B	21	13	15	5	12	32	37	25	29	24	10	8	1	14	10	29	0
C	53	34	30	23	37	75	60	51	50	34	29	18	8	23	24	52	0
D	526	313	159	190	216	335	400	282	242	145	104	97	95	189	396	460	0
E	125	77	38	72	47	64	170	251	380	178	80	62	62	141	172	151	0
F	41	9	12	9	5	7	27	77	141	86	35	48	39	63	53	41	0
G	20	18	7	5	8	16	31	102	99	51	30	18	16	25	29	26	2
TOTAL	800	481	278	323	342	561	755	815	996	546	296	258	224	461	697	771	2

B184

**JFDs of 100-Meter Wind vs. Delta T**

January-March 2011



PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-MAR 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 3/31/11

\*\*\* JAN-MAR 2011 \*\*\*

STABILITY CLASS A

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STABILITY CLASS B

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-MAR 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 3/31/11

\*\*\* JAN-MAR 2011 \*\*\*

STABILITY CLASS C

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
3.51- 7.50	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.51-18.50	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	2	5
18.51-24.00	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	3
>24.00	0	0	0	0	0	0	0	0	0	1	0	0	0	2	1	0	4
TOTAL	0	0	0	0	1	1	1	2	0	4	0	0	0	2	1	3	15

STABILITY CLASS D

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	2	3	1	2	1	0	4	0	1	1	1	2	2	0	0	3	23
3.51- 7.50	11	12	9	12	8	18	13	16	7	19	3	10	3	8	4	9	162
7.51-12.50	57	50	21	26	27	28	10	16	18	23	15	6	2	15	36	39	389
12.51-18.50	49	29	6	23	26	31	34	8	24	5	18	10	2	7	55	74	401
18.51-24.00	29	16	2	3	5	6	16	7	10	3	7	5	7	24	45	59	244
>24.00	17	5	0	0	0	0	3	0	4	1	8	0	3	3	41	23	108
TOTAL	165	115	39	66	67	83	80	47	64	52	52	33	19	57	181	207	1327

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-MAR 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 3/31/11

\*\*\* JAN-MAR 2011 \*\*\*

STABILITY CLASS E

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	0	1	1	0	0	0	1	0	0	0	0	0	1	1	0	6
3.51- 7.50	2	2	6	1	2	5	1	4	1	8	6	1	0	1	1	3	44
7.51-12.50	4	7	4	10	9	14	10	6	11	11	15	7	4	4	4	8	128
12.51-18.50	9	5	1	2	8	13	30	21	23	10	14	14	7	19	20	17	213
18.51-24.00	9	2	0	1	1	3	3	10	27	0	18	14	3	10	22	11	134
>24.00	0	0	0	0	0	0	0	1	3	0	3	3	1	4	5	2	22
TOTAL	25	16	12	15	20	35	44	43	65	29	56	39	15	39	53	41	547

STABILITY CLASS F

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
3.51- 7.50	2	2	0	0	1	0	1	2	5	6	3	3	2	1	0	5	33
7.51-12.50	4	2	1	2	1	4	0	0	7	6	5	8	1	4	4	3	52
12.51-18.50	4	0	0	0	1	4	1	7	5	0	11	11	3	4	2	3	56
18.51-24.00	1	0	0	0	0	0	0	2	0	0	4	11	7	8	0	0	33
>24.00	0	0	0	0	0	0	0	0	0	0	1	3	1	6	2	0	13
TOTAL	11	4	1	2	3	8	2	11	17	13	25	36	14	23	8	11	189

B188

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-MAR 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 3/31/11

\*\*\* JAN-MAR 2011 \*\*\*

STABILITY CLASS G

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	1	4
3.51- 7.50	1	2	0	0	0	1	0	1	0	6	3	4	3	1	0	1	23
7.51-12.50	1	2	0	0	0	0	0	0	2	6	5	6	4	4	1	1	32
12.51-18.50	0	0	0	0	0	0	0	0	1	0	7	1	2	2	0	3	16
18.51-24.00	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	4
>24.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
TOTAL	2	4	0	0	1	1	0	1	3	12	17	13	11	8	1	6	80

STABILITY CLASS ALL

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	3	3	2	3	2	0	4	2	1	2	3	2	3	1	1	4	36
3.51- 7.50	16	18	15	13	12	24	15	24	13	39	15	18	8	11	5	18	264
7.51-12.50	66	61	26	38	37	46	20	22	38	46	40	27	11	27	45	51	601
12.51-18.50	62	34	7	25	35	49	66	36	53	16	50	36	14	32	77	99	691
18.51-24.00	39	18	2	4	6	9	19	19	37	7	30	31	18	43	67	71	420
>24.00	17	5	0	0	0	0	3	1	7	2	12	7	5	15	49	25	148
TOTAL	203	139	52	83	92	128	127	104	149	112	150	121	59	129	244	268	2160

B189

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-MAR 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 3/31/11

\*\*\* JAN-MAR 2011 \*\*\*

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH

TOTAL NUMBER OF OBSERVATIONS: 2160

TOTAL NUMBER OF VALID OBSERVATIONS: 2160

TOTAL NUMBER OF MISSING OBSERVATIONS: 0

PERCENT DATA RECOVERY FOR THIS PERIOD: 100.0 %

MEAN WIND SPEED FOR THIS PERIOD: 14.5 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 57

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 0

NUMBER OF OBSERVATIONS WITH BACKUP STABILITY: 0

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 57

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
.00	.09	.69	61.44	25.32	8.75	3.70

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
C	0	0	0	0	1	1	1	2	0	4	0	0	0	2	1	3	0
D	165	115	39	66	67	83	80	47	64	52	52	33	19	57	181	207	0
E	25	16	12	15	20	35	44	43	65	29	56	39	15	39	53	41	0
F	11	4	1	2	3	8	2	11	17	13	25	36	14	23	8	11	0
G	2	4	0	0	1	1	0	1	3	12	17	13	11	8	1	6	0
TOTAL	203	139	52	83	92	128	127	104	149	112	150	121	59	129	244	268	0

B190

**JFDs of 100-Meter Wind vs. Delta T**

April-June 2011

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T APR-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 4/ 1/11 - 6/30/11

\*\*\* APR-JUN 2011 \*\*\*

STABILITY CLASS A

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	1	0	2	0	1	0	0	0	0	0	0	0	0	0	0	4
3.51- 7.50	0	0	1	1	1	3	0	0	0	0	0	0	0	0	0	0	6
7.51-12.50	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
>24.00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
TOTAL	0	1	1	3	2	5	0	0	3	0	0	0	0	0	1	0	16

STABILITY CLASS B

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
7.51-12.50	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2
12.51-18.50	0	0	0	0	0	0	0	1	0	2	0	0	0	0	1	0	4
18.51-24.00	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4
>24.00	0	0	0	0	0	0	1	0	5	0	0	2	0	0	0	0	8
TOTAL	0	0	0	0	1	0	2	1	9	2	0	2	0	0	1	1	19

B192

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T APR-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 4/ 1/11 - 6/30/11

\*\*\* APR-JUN 2011 \*\*\*

STABILITY CLASS C

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	1	0	0	0	0	6	1	0	0	0	0	0	0	0	0	0	8
7.51-12.50	0	0	0	0	1	6	3	1	0	4	3	0	0	0	0	0	18
12.51-18.50	0	1	0	1	1	3	10	2	5	3	3	1	0	1	1	1	33
18.51-24.00	0	0	0	1	1	0	0	2	2	2	1	4	1	0	2	0	16
>24.00	0	0	0	0	0	0	4	0	5	0	2	1	0	0	4	3	19
TOTAL	1	1	0	2	3	15	18	5	12	9	9	6	1	1	7	4	94

STABILITY CLASS D

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	2	2	0	1	0	2	1	0	0	0	0	0	0	0	2	5	15
3.51- 7.50	10	6	6	3	5	7	1	2	6	6	2	2	5	3	7	4	75
7.51-12.50	48	8	18	21	21	29	24	18	17	12	1	2	3	6	15	13	256
12.51-18.50	28	20	26	17	40	87	54	34	25	15	13	3	12	18	37	41	470
18.51-24.00	13	9	5	14	15	25	27	25	25	6	3	7	10	21	38	37	280
>24.00	19	1	1	3	11	4	12	22	46	1	3	1	10	6	22	31	193
TOTAL	120	46	56	59	92	154	119	101	119	40	22	15	40	54	121	131	1289

B193



PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T APR-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 4/ 1/11 - 6/30/11

\*\*\* APR-JUN 2011 \*\*\*

STABILITY CLASS E

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	2	1	0	1	0	0	2	0	1	0	0	0	1	0	0	8
3.51- 7.50	2	5	3	2	3	3	7	10	4	4	1	2	3	4	0	3	56
7.51-12.50	14	6	11	12	12	12	13	14	7	12	2	2	5	4	1	9	136
12.51-18.50	13	5	9	9	10	25	21	19	31	24	4	13	4	15	8	24	234
18.51-24.00	4	4	0	5	2	7	14	7	16	5	1	3	11	17	6	3	105
>24.00	0	0	0	0	1	4	8	13	18	1	0	1	15	8	2	0	71
TOTAL	33	22	24	28	29	51	63	65	76	47	8	21	38	49	17	39	610

STABILITY CLASS F

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	2	1	0	0	0	0	1	1	3	1	0	0	0	0	0	0	9
3.51- 7.50	0	2	4	2	4	1	1	1	0	0	0	4	0	1	2	2	24
7.51-12.50	5	1	2	1	1	0	5	2	1	3	2	2	1	0	2	3	31
12.51-18.50	5	1	2	0	0	2	0	6	0	0	4	1	2	0	1	3	27
18.51-24.00	0	0	0	0	0	0	2	0	1	0	2	0	2	0	0	1	8
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
TOTAL	12	5	8	3	5	3	9	10	5	4	8	7	6	1	5	9	100

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T APR-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 4/ 1/11 - 6/30/11

\*\*\* APR-JUN 2011 \*\*\*

STABILITY CLASS G

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	1	0	0	0	0	1	0	1	2	0	0	0	2	1	0	8
3.51- 7.50	2	0	0	0	0	1	0	0	2	1	0	0	2	2	2	2	14
7.51-12.50	3	0	0	1	1	0	0	1	3	1	2	2	2	1	2	3	22
12.51-18.50	0	0	0	0	0	1	1	2	2	0	0	0	0	0	1	0	7
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	5	1	0	1	1	2	2	3	8	4	2	2	4	5	6	5	51

STABILITY CLASS ALL

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	4	7	1	3	1	3	3	3	4	4	0	0	0	3	3	5	44
3.51- 7.50	15	13	14	8	13	21	11	13	12	11	3	8	10	10	11	11	184
7.51-12.50	70	15	31	35	37	48	45	36	28	32	10	8	11	11	21	29	467
12.51-18.50	46	27	37	27	51	118	86	64	63	44	24	18	18	34	49	69	775
18.51-24.00	17	13	5	20	19	32	43	34	49	13	7	14	24	38	46	41	415
>24.00	19	1	1	3	12	8	25	35	76	2	5	5	26	14	28	34	294
TOTAL	171	76	89	96	133	230	213	185	232	106	49	53	89	110	158	189	2179

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T APR-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 4/ 1/11 - 6/30/11

\*\*\* APR-JUN 2011 \*\*\*

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH

TOTAL NUMBER OF OBSERVATIONS: 2184

TOTAL NUMBER OF VALID OBSERVATIONS: 2179

TOTAL NUMBER OF MISSING OBSERVATIONS: 5

PERCENT DATA RECOVERY FOR THIS PERIOD: 99.8 %

MEAN WIND SPEED FOR THIS PERIOD: 16.1 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 0

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 0

NUMBER OF OBSERVATIONS WITH BACKUP STABILITY: 264

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 264

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
.73	.87	4.31	59.16	27.99	4.59	2.34

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	0	1	1	3	2	5	0	0	3	0	0	0	0	0	1	0	0
B	0	0	0	0	1	0	2	1	9	2	0	2	0	0	1	1	0
C	1	1	0	2	3	15	18	5	12	9	9	6	1	1	7	4	0
D	120	46	56	59	92	154	119	101	119	40	22	15	40	54	121	131	0
E	33	22	24	28	29	51	63	65	76	47	8	21	38	49	17	39	0
F	12	5	8	3	5	3	9	10	5	4	8	7	6	1	5	9	0
G	5	1	0	1	1	2	2	3	8	4	2	2	4	5	6	5	0
TOTAL	171	76	89	96	133	230	213	185	232	106	49	53	89	110	158	189	0

B196

**JFDs of 100-Meter Wind vs. Delta T**

January-June 2011

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11

\*\*\* JAN-JUN 2011 \*\*\*

STABILITY CLASS A

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	1	0	2	0	1	0	0	0	0	0	0	0	0	0	0	4
3.51- 7.50	0	0	1	1	1	3	0	0	0	0	0	0	0	0	0	0	6
7.51-12.50	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
>24.00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
TOTAL	0	1	1	3	2	5	0	0	3	0	0	0	0	0	1	0	16

STABILITY CLASS B

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
7.51-12.50	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2
12.51-18.50	0	0	0	0	0	0	0	1	0	2	0	0	0	0	1	0	4
18.51-24.00	0	0	0	0	0	0	0	0	4	2	0	0	0	0	0	0	6
>24.00	0	0	0	0	0	0	1	0	5	0	0	2	0	0	0	0	8
TOTAL	0	0	0	0	1	0	2	1	9	4	0	2	0	0	1	1	21

B198

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11

\*\*\* JAN-JUN 2011 \*\*\*

STABILITY CLASS C

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
3.51- 7.50	1	0	0	0	1	6	1	1	0	0	0	0	0	0	0	0	10
7.51-12.50	0	0	0	0	1	6	3	1	0	4	3	0	0	0	0	0	18
12.51-18.50	0	1	0	1	1	4	11	2	5	4	3	1	0	1	1	3	38
18.51-24.00	0	0	0	1	1	0	0	2	2	4	1	4	1	0	2	1	19
>24.00	0	0	0	0	0	0	4	0	5	1	2	1	0	2	5	3	23
TOTAL	1	1	0	2	4	16	19	7	12	13	9	6	1	3	8	7	109

STABILITY CLASS D

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	4	5	1	3	1	2	5	0	1	1	1	2	2	0	2	8	38
3.51- 7.50	21	18	15	15	13	25	14	18	13	25	5	12	8	11	11	13	237
7.51-12.50	105	58	39	47	48	57	34	34	35	35	16	8	5	21	51	52	645
12.51-18.50	77	49	32	40	66	118	88	42	49	20	31	13	14	25	92	115	871
18.51-24.00	42	25	7	17	20	31	43	32	35	9	10	12	17	45	83	96	524
>24.00	36	6	1	3	11	4	15	22	50	2	11	1	13	9	63	54	301
TOTAL	285	161	95	125	159	237	199	148	183	92	74	48	59	111	302	338	2616

B199

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11

\*\*\* JAN-JUN 2011 \*\*\*

STABILITY CLASS E

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	2	2	1	1	0	0	3	0	1	0	0	0	2	1	0	14
3.51- 7.50	4	7	9	3	5	8	8	14	5	12	7	3	3	5	1	6	100
7.51-12.50	18	13	15	22	21	26	23	20	18	23	17	9	9	8	5	17	264
12.51-18.50	22	10	10	11	18	38	51	40	54	34	18	27	11	34	28	41	447
18.51-24.00	13	6	0	6	3	10	17	17	43	5	19	17	14	27	28	14	239
>24.00	0	0	0	0	1	4	8	14	21	1	3	4	16	12	7	2	93
TOTAL	58	38	36	43	49	86	107	108	141	76	64	60	53	88	70	80	1157

STABILITY CLASS F

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	2	1	0	0	0	0	1	1	3	2	1	0	0	0	0	0	11
3.51- 7.50	2	4	4	2	5	1	2	3	5	6	3	7	2	2	2	7	57
7.51-12.50	9	3	3	3	2	4	5	2	8	9	7	10	2	4	6	6	83
12.51-18.50	9	1	2	0	1	6	1	13	5	0	15	12	5	4	3	6	83
18.51-24.00	1	0	0	0	0	0	2	2	1	0	6	11	9	8	0	1	41
>24.00	0	0	0	0	0	0	0	0	0	0	1	3	2	6	2	0	14
TOTAL	23	9	9	5	8	11	11	21	22	17	33	43	20	24	13	20	289

B200

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS. 10M DELTA T JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11

\*\*\* JAN-JUN 2011 \*\*\*

STABILITY CLASS G

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	1	0	0	1	0	1	0	1	2	1	0	1	2	1	1	12
3.51- 7.50	3	2	0	0	0	2	0	1	2	7	3	4	5	3	2	3	37
7.51-12.50	4	2	0	1	1	0	0	1	5	7	7	8	6	5	3	4	54
12.51-18.50	0	0	0	0	0	1	1	2	3	0	7	1	2	2	1	3	23
18.51-24.00	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	4
>24.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
TOTAL	7	5	0	1	2	3	2	4	11	16	19	15	15	13	7	11	131

STABILITY CLASS ALL

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	7	10	3	6	3	3	7	5	5	6	3	2	3	4	4	9	80
3.51- 7.50	31	31	29	21	25	45	26	37	25	50	18	26	18	21	16	29	448
7.51-12.50	136	76	57	73	74	94	65	58	66	78	50	35	22	38	66	80	1068
12.51-18.50	108	61	44	52	86	167	152	100	116	60	74	54	32	66	126	168	1466
18.51-24.00	56	31	7	24	25	41	62	53	86	20	37	45	42	81	113	112	835
>24.00	36	6	1	3	12	8	28	36	83	4	17	12	31	29	77	59	442
TOTAL	374	215	141	179	225	358	340	289	381	218	199	174	148	239	402	457	4339

B201



PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11

\*\*\* JAN-JUN 2011 \*\*\*

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH

TOTAL NUMBER OF OBSERVATIONS: 4344

TOTAL NUMBER OF VALID OBSERVATIONS: 4339

TOTAL NUMBER OF MISSING OBSERVATIONS: 5

PERCENT DATA RECOVERY FOR THIS PERIOD: 99.9 %

MEAN WIND SPEED FOR THIS PERIOD: 15.3 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 57

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 0

NUMBER OF OBSERVATIONS WITH BACKUP STABILITY: 264

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 321

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
.37	.48	2.51	60.29	26.67	6.66	3.02

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	0	1	1	3	2	5	0	0	3	0	0	0	0	0	1	0	0
B	0	0	0	0	1	0	2	1	9	4	0	2	0	0	1	1	0
C	1	1	0	2	4	16	19	7	12	13	9	6	1	3	8	7	0
D	285	161	95	125	159	237	199	148	183	92	74	48	59	111	302	338	0
E	58	38	36	43	49	86	107	108	141	76	64	60	53	88	70	80	0
F	23	9	9	5	8	11	11	21	22	17	33	43	20	24	13	20	0
G	7	5	0	1	2	3	2	4	11	16	19	15	15	13	7	11	0
TOTAL	374	215	141	179	225	358	340	289	381	218	199	174	148	239	402	457	0

B202

**Stability Classes by Hour of Day**

**100-Meter Wind vs. Delta T**

January-June 2011

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS

YR	MN	DY	HOURLY STABILITIES																								
			HOURS																								
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
11	1	1	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	F	F		
11	1	2	F	F	F	F	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	F	F	
11	1	3	F	F	E	E	F	F	F	F	F	E	D	D	D	D	D	D	D	E	F	F	E	E	E	E	
11	1	4	E	E	E	E	F	E	E	F	F	E	D	D	D	D	D	D	D	E	F	F	F	F	F	F	
11	1	5	F	E	E	F	F	F	F	F	E	E	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
11	1	6	E	E	E	F	F	F	F	F	F	E	D	D	D	D	D	D	E	E	F	F	F	F	F	F	
11	1	7	F	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	1	8	D	D	D	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	1	9	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	1	10	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	1	11	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	D	D	D	D	D	D	
11	1	12	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	G	G	G	G	
11	1	13	G	G	G	G	G	F	F	F	E	E	D	E	D	D	D	D	D	E	E	F	F	F	F	F	
11	1	14	G	G	G	G	F	F	F	F	E	D	D	D	D	D	D	D	D	E	E	F	F	F	F	E	
11	1	15	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	1	16	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	1	17	D	D	D	D	D	E	E	E	D	D	D	D	D	D	D	D	E	E	E	D	D	D	D	D	
11	1	18	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	1	19	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	1	20	D	D	D	D	D	D	E	E	E	D	D	D	D	D	D	D	D	E	E	F	F	F	G	G	
11	1	21	F	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	
11	1	22	E	E	E	F	F	G	F	G	F	F	F	E	E	D	D	D	D	D	D	D	D	D	E	D	
11	1	23	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	1	24	D	D	D	D	D	E	E	E	D	D	D	E	D	D	D	D	D	E	E	E	E	E	E	D	
11	1	25	D	D	D	D	D	D	E	E	E	D	D	D	D	D	D	D	D	E	F	F	F	G	G	G	
11	1	26	G	G	G	G	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	F	F	G	G	G	
11	1	27	G	G	G	G	G	G	G	G	G	E	D	D	D	D	D	D	D	E	E	E	E	E	E	F	E
11	1	28	F	F	F	G	G	G	G	G	G	F	E	E	D	D	D	D	D	E	E	F	F	F	E	E	E
11	1	29	E	E	E	F	G	G	G	G	F	E	E	D	D	D	D	D	D	E	D	D	D	D	D	D	
11	1	30	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	1	31	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	2	1	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	2	2	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	F	G	
11	2	3	G	G	G	F	G	F	G	G	F	E	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
11	2	4	E	E	E	F	F	E	E	E	E	E	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
11	2	5	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	E	E	E	E	E	E	D	D
11	2	6	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	2	7	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	2	8	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	2	9	D	D	D	D	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	F	F	F	F	
11	2	10	F	F	F	G	F	F	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
11	2	11	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	E	E	F	F	F	F	F	
11	2	12	F	F	F	G	G	F	E	E	E	E	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
11	2	13	F	F	F	F	F	F	F	F	F	E	E	E	E	E	E	E	E	E	F	E	E	E	E	E	
11	2	14	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	F	F	F	

B204

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS

HOURLY STABILITIES  
 HOURS

YR	MN	DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
11	2	15	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	F	G	G	G	G	G
11	2	16	G	G	F	G	F	E	E	E	E	E	E	E	E	E	E	E	D	E	E	E	E	E	E	E
11	2	17	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	F	E	E	E
11	2	18	E	E	E	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	E	F	F	E	E	E
11	2	19	E	E	E	E	E	D	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	2	20	D	D	D	D	E	E	E	E	F	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D
11	2	21	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	2	22	D	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
11	2	23	E	E	E	E	D	D	D	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
11	2	24	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	2	25	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	2	26	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	D	D	D	D	D	D	D	D
11	2	27	D	D	E	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D
11	2	28	D	D	D	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E
11	3	1	E	E	E	E	E	F	F	F	E	D	D	D	D	D	D	D	D	D	F	F	E	D	D	D
11	3	2	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
11	3	3	E	D	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	F	F	G	G
11	3	4	F	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	3	5	D	D	D	D	D	D	D	D	D	D	D	C	C	D	D	D	D	D	E	E	E	F	F	E
11	3	6	E	D	D	D	E	E	E	E	D	D	D	D	D	D	C	D	D	D	E	E	E	E	E	E
11	3	7	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	3	8	D	D	D	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	F	F	F
11	3	9	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	3	10	D	D	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F	F	F	F
11	3	11	E	F	F	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	F	G	G	G
11	3	12	F	F	F	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	D	D	D	D
11	3	13	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	3	14	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	E	E	E
11	3	15	F	F	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	E	F	F	G	F	F
11	3	16	G	G	G	G	G	G	G	F	E	D	D	D	C	B	C	D	D	D	E	E	E	E	E	E
11	3	17	E	E	E	E	E	E	E	D	D	D	D	D	C	D	D	D	D	D	E	E	E	E	E	E
11	3	18	E	E	E	F	F	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	F	F	F	F
11	3	19	F	F	F	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
11	3	20	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
11	3	21	E	E	E	F	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	D	D	E
11	3	22	D	E	E	E	E	E	E	D	D	D	D	D	C	B	C	D	D	D	D	D	D	D	D	E
11	3	23	F	F	F	E	E	D	D	D	D	D	C	C	C	D	D	D	D	D	D	D	D	D	D	D
11	3	24	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E
11	3	25	E	E	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D
11	3	26	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	3	27	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E
11	3	28	E	E	E	E	E	E	E	E	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D	D
11	3	29	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
11	3	30	E	E	E	E	E	E	E	E	D	D	D	D	C	D	D	D	D	D	D	E	E	E	E	E
11	3	31	F	F	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E

B205

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS

HOURLY STABILITIES  
 HOURS

YR	MN	DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
11	4	1	E	E	E	E	E	E	E	D	D	D	D	D	C	C	C	D	D	D	E	E	F	F	G	G
11	4	2	G	G	G	G	G	G	G	F	E	D	D	D	D	D	C	D	D	D	E	E	E	E	E	E
11	4	3	E	E	E	E	E	E	E	D	D	D	C	C	C	C	D	D	D	D	D	D	D	D	D	D
11	4	4	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	C	D	D	D	E	F	F	G	G
11	4	5	G	G	F	F	F	F	F	D	D	D	C	C	B	B	C	D	D	E	F	E	E	E	E	E
11	4	6	E	E	E	E	E	E	E	D	D	D	D	D	C	D	D	D	D	D	E	E	E	F	E	E
11	4	7	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	D	D
11	4	8	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
11	4	9	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
11	4	10	E	E	E	E	E	E	E	E	D	D	D	D	C	D	D	D	D	D	E	E	E	D	D	D
11	4	11	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	F	E	E	F
11	4	12	G	G	G	G	G	G	G	F	E	D	D	D	D	D	D	D	D	D	E	E	E	E	F	E
11	4	13	F	F	E	F	F	E	E	E	D	D	D	D	C	C	C	D	D	D	D	D	D	E	D	D
11	4	14	D	E	F	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	D	D
11	4	15	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	4	16	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	D
11	4	17	D	D	D	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E
11	4	18	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	4	19	D	D	D	D	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	4	20	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
11	4	21	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	4	22	D	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	F	F	E	E
11	4	23	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	D	D	E	E	E
11	4	24	E	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	D	D
11	4	25	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	F	F	F
11	4	26	F	F	F	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	D	E
11	4	27	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
11	4	28	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	F	G	G	G	G
11	4	29	G	G	G	F	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
11	4	30	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
11	5	1	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	F	G
11	5	2	G	G	G	F	F	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E
11	5	3	F	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
11	5	4	E	E	E	F	F	E	E	D	D	D	D	D	C	-	-	C	D	D	D	E	E	E	E	E
11	5	5	D	E	E	D	D	D	D	D	D	D	D	D	E	D	E	D	E	D	E	F	G	F	F	F
11	5	6	F	E	E	E	F	F	F	E	D	D	C	B	B	-	-	-	E	E	E	E	E	E	E	E
11	5	7	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	F	G	G	G
11	5	8	G	E	E	D	D	D	D	D	D	C	C	C	B	C	D	D	D	D	D	D	D	E	D	D
11	5	9	E	E	E	E	D	D	D	D	B	A	A	A	B	B	B	D	D	D	D	D	D	D	D	D
11	5	10	D	E	D	D	E	E	D	D	D	C	C	C	B	B	C	D	D	D	D	D	D	E	E	E
11	5	11	E	E	E	E	E	E	D	D	C	C	C	B	D	D	D	D	D	D	D	D	E	E	E	E
11	5	12	E	E	E	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	D	D
11	5	13	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	5	14	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	5	15	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	F

B206

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS

HOURLY STABILITIES  
 HOURS

YR	MN	DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
11	5	16	F	E	E	E	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F
11	5	17	F	F	G	G	F	F	E	D	D	C	C	C	C	C	C	C	D	D	D	D	D	E	D	E
11	5	18	E	E	E	E	E	E	E	D	D	D	C	D	D	D	C	C	C	D	D	D	D	D	D	D
11	5	19	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	5	20	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	5	21	D	D	E	E	E	D	D	D	D	C	C	C	C	C	B	C	D	E	E	D	E	E	E	E
11	5	22	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	E
11	5	23	F	F	F	E	E	E	E	D	D	D	D	D	D	D	E	E	D	E	E	E	F	F	F	F
11	5	24	E	E	E	E	E	E	E	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	5	25	D	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	5	26	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	D	D	D	E	E	E
11	5	27	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	5	28	D	D	D	D	E	E	D	D	D	E	D	D	D	E	E	E	D	D	D	D	D	D	D	D
11	5	29	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	5	30	D	D	D	D	D	D	D	D	D	D	C	D	C	D	D	D	D	D	D	D	D	D	D	D
11	5	31	D	D	D	D	D	D	D	E	E	E	E	E	E	D	D	D	E	E	E	E	E	F	F	F
11	6	1	G	G	G	G	F	F	E	E	F	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	6	2	E	E	D	D	D	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	6	3	E	E	D	D	D	D	D	D	D	D	D	C	C	C	C	D	D	D	D	E	E	E	E	E
11	6	4	E	E	E	E	E	E	E	D	E	E	E	E	E	D	E	E	D	E	E	E	F	F	F	E
11	6	5	E	E	E	F	F	F	F	E	E	F	F	E	D	D	D	D	D	D	D	E	E	E	E	E
11	6	6	E	E	E	E	E	E	E	D	D	D	D	C	D	D	D	D	D	D	D	D	E	E	E	E
11	6	7	E	E	E	E	E	E	D	D	D	D	C	C	B	B	C	D	D	D	D	D	D	D	D	D
11	6	8	D	D	D	E	E	E	E	E	D	E	E	E	E	E	E	D	D	E	E	E	D	D	D	D
11	6	9	D	D	D	D	D	D	D	D	D	D	D	D	E	E	D	D	D	E	D	D	D	E	D	D
11	6	10	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	D
11	6	11	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
11	6	12	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D	D
11	6	13	D	D	D	D	D	D	D	E	E	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D
11	6	14	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	D	E	E	E	E	D	E
11	6	15	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	F	F	G	G	G
11	6	16	F	G	F	F	F	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E
11	6	17	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F	E
11	6	18	E	E	E	E	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	F
11	6	19	E	E	E	E	E	E	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D
11	6	20	D	E	E	D	C	D	C	D	E	D	D	D	D	D	D	D	D	D	E	E	D	D	D	D
11	6	21	D	D	D	D	D	C	C	C	C	C	C	C	C	D	D	E	D	D	E	E	D	E	E	E
11	6	22	E	E	D	E	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E
11	6	23	D	D	D	E	E	D	D	D	E	D	D	D	D	C	D	B	D	E	D	E	G	F	E	
11	6	24	F	F	E	D	E	C	A	C	C	A	C	A	D	D	C	C	E	D	E	D	E	D	D	D
11	6	25	E	D	D	D	C	A	D	C	A	D	C	A	C	C	C	D	C	C	D	D	D	D	D	D
11	6	26	D	D	D	D	D	C	C	C	B	D	D	D	D	D	D	D	D	E	E	D	D	E	D	D
11	6	27	D	D	D	D	D	C	A	D	C	B	E	D	E	E	E	E	E	E	E	E	D	E	D	G
11	6	28	G	F	G	G	D	E	C	A	A	A	A	A	A	B	D	E	E	E	E	E	E	F	E	E
11	6	29	E	D	D	E	D	D	E	D	D	D	E	D	E	E	E	E	E	E	E	E	E	E	E	E

B207

PROGRAM: JFD      VERSION: PC-1.2  
NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2011  
SITE IDENTIFIER: NPPD  
DATA PERIOD EXAMINED: 1/ 1/11 - 6/30/11

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS

YR MN DY	HOURLY STABILITIES																							
	HOURS																							
11 6 30	E	D	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E

B208

**JFDs of 100-Meter Wind vs. Delta T**

July-September 2011



PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-SEP 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 9/30/11

\*\*\* JUL-SEP 2011 \*\*\*

STABILITY CLASS A

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	7	8	6	1	3	0	4	1	1	1	0	0	0	0	1	1	34
3.51- 7.50	0	4	7	10	13	10	5	2	3	3	1	0	0	2	2	3	65
7.51-12.50	0	1	1	2	0	1	1	1	1	2	0	0	2	0	0	2	14
12.51-18.50	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	5
18.51-24.00	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3
>24.00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL	8	13	14	14	16	12	10	6	6	6	1	2	2	2	3	7	122

STABILITY CLASS B

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	7	4	5	1	3	5	4	2	0	1	1	0	0	1	2	6	42
7.51-12.50	2	1	2	2	1	2	0	1	0	0	0	1	0	0	0	0	12
12.51-18.50	1	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	4
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
TOTAL	10	5	7	3	4	8	4	4	0	1	1	1	0	2	2	7	59

B210

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-SEP 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 9/30/11

\*\*\* JUL-SEP 2011 \*\*\*

STABILITY CLASS C

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	0	1	0	0	0	1	0	0	0	1	0	0	0	0	1	5
3.51- 7.50	8	3	7	5	0	11	9	2	1	2	7	1	0	1	0	3	60
7.51-12.50	9	2	1	2	9	18	6	9	6	4	1	2	0	1	5	1	76
12.51-18.50	2	0	2	1	1	4	1	1	5	1	0	0	0	1	0	4	23
18.51-24.00	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	5
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	20	5	11	8	10	33	17	12	13	11	9	3	0	3	5	9	169

STABILITY CLASS D

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	1
1.01- 3.50	1	5	6	2	3	3	2	0	1	0	0	0	0	0	1	3	27
3.51- 7.50	15	26	19	16	8	28	31	15	7	0	3	0	0	4	2	16	190
7.51-12.50	53	20	24	27	25	85	73	47	16	17	9	5	4	7	8	31	451
12.51-18.50	47	25	9	16	33	49	61	29	22	20	5	0	3	3	16	25	363
18.51-24.00	5	3	0	1	5	3	8	18	11	3	0	0	0	4	4	14	79
>24.00	11	1	1	1	0	3	1	2	4	0	1	0	1	1	0	5	32
TOTAL	132	80	59	63	74	171	176	111	61	40	18	5	8	19	31	94	1143

B211

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-SEP 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 9/30/11

\*\*\* JUL-SEP 2011 \*\*\*

STABILITY CLASS E

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	5
3.51- 7.50	2	10	2	11	3	10	9	8	0	0	2	0	0	2	3	5	67
7.51-12.50	20	11	5	4	2	15	40	31	7	8	1	0	0	4	5	8	161
12.51-18.50	12	1	3	0	1	5	44	36	30	27	0	1	2	0	11	14	187
18.51-24.00	1	0	0	0	0	1	4	2	23	8	0	0	0	2	5	6	52
>24.00	0	0	0	0	0	0	0	1	9	1	0	0	1	0	1	0	13
TOTAL	36	22	10	15	6	31	98	79	69	44	3	1	3	9	26	33	485

STABILITY CLASS F

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	1	1	0	0	2	0	1	0	0	0	0	0	1	2	0	8
3.51- 7.50	2	6	6	5	4	5	6	4	0	1	0	1	0	1	6	2	49
7.51-12.50	10	1	1	0	0	4	5	3	2	1	0	0	1	2	0	7	37
12.51-18.50	2	0	0	0	0	0	0	2	4	11	0	0	1	0	7	6	33
18.51-24.00	0	0	0	0	0	0	0	0	3	6	0	0	0	3	6	0	18
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	2	3	1	0	6
TOTAL	14	8	8	5	4	11	11	10	9	19	0	1	4	10	22	15	151

B212

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-SEP 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 9/30/11

\*\*\* JUL-SEP 2011 \*\*\*

STABILITY CLASS G

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	3
1.01- 3.50	0	0	3	1	1	4	0	1	0	0	5	1	1	1	1	1	20
3.51- 7.50	1	0	3	1	2	3	1	0	2	1	4	1	0	2	5	3	29
7.51-12.50	0	3	0	0	0	0	1	0	0	1	3	0	1	4	8	3	24
12.51-18.50	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	3
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	2	3	6	2	3	7	2	2	2	2	12	2	2	7	15	7	79

STABILITY CLASS ALL

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	4
1.01- 3.50	10	14	17	4	7	9	8	4	2	1	6	1	1	3	6	6	99
3.51- 7.50	35	53	49	49	33	72	65	33	13	8	18	3	0	13	20	38	502
7.51-12.50	94	39	34	37	37	125	126	92	32	33	14	8	8	18	26	52	775
12.51-18.50	66	26	14	18	35	59	106	70	61	59	5	3	6	5	35	50	618
18.51-24.00	6	3	0	1	5	4	12	22	39	21	0	0	0	9	15	20	157
>24.00	11	1	1	1	0	4	1	3	13	1	1	0	4	4	2	6	53
TOTAL	222	136	115	110	117	273	318	224	160	123	44	15	19	52	104	172	2208

B213

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-SEP 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 9/30/11

\*\*\* JUL-SEP 2011 \*\*\*

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH

TOTAL NUMBER OF OBSERVATIONS: 2208

TOTAL NUMBER OF VALID OBSERVATIONS: 2208

TOTAL NUMBER OF MISSING OBSERVATIONS: 0

PERCENT DATA RECOVERY FOR THIS PERIOD: 100.0 %

MEAN WIND SPEED FOR THIS PERIOD: 11.3 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 0

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 0

NUMBER OF OBSERVATIONS WITH BACKUP STABILITY: 1416

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 1416

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
5.53	2.67	7.65	51.77	21.97	6.84	3.58

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	8	13	14	14	16	12	10	6	6	6	1	2	2	2	3	7	0
B	10	5	7	3	4	8	4	4	0	1	1	1	0	2	2	7	0
C	20	5	11	8	10	33	17	12	13	11	9	3	0	3	5	9	0
D	132	80	59	63	74	171	176	111	61	40	18	5	8	19	31	94	1
E	36	22	10	15	6	31	98	79	69	44	3	1	3	9	26	33	0
F	14	8	8	5	4	11	11	10	9	19	0	1	4	10	22	15	0
G	2	3	6	2	3	7	2	2	2	2	12	2	2	7	15	7	3
TOTAL	222	136	115	110	117	273	318	224	160	123	44	15	19	52	104	172	4

B214

**JFDs of 100-Meter Wind vs. Delta T**

October-December 2011

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T OCT-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/11 - 12/31/11

\*\*\* OCT-DEC 2011 \*\*\*

STABILITY CLASS A

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STABILITY CLASS B

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

B216

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T OCT-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/11 - 12/31/11

\*\*\* OCT-DEC 2011 \*\*\*

STABILITY CLASS C

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.51-18.50	0	0	0	0	0	0	2	0	1	1	0	0	0	0	0	0	4
18.51-24.00	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	2	7
>24.00	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3
TOTAL	0	0	0	0	0	0	2	1	8	1	0	0	0	0	0	2	14

STABILITY CLASS D

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	3	0	1	2	0	1	2	0	1	3	4	2	0	1	2	23
3.51- 7.50	11	6	1	1	0	4	2	4	5	12	10	13	10	9	8	5	101
7.51-12.50	21	13	4	1	1	5	14	14	18	9	18	14	8	17	21	22	200
12.51-18.50	37	14	5	2	1	1	12	22	24	10	12	4	6	14	31	30	225
18.51-24.00	37	17	1	1	0	0	5	16	16	12	3	4	2	12	47	34	207
>24.00	27	2	0	0	0	0	1	8	18	7	0	0	3	4	23	10	103
TOTAL	134	55	11	6	4	10	35	66	81	51	46	39	31	56	131	103	859

B217



PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T OCT-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/11 - 12/31/11

\*\*\* OCT-DEC 2011 \*\*\*

STABILITY CLASS    E

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	1	3	1	0	2	2	5	8	3	3	1	0	1	2	8	40
3.51- 7.50	15	4	6	4	3	2	2	6	5	10	2	0	3	5	2	8	77
7.51-12.50	20	1	1	2	1	2	5	17	32	34	17	11	10	5	7	23	188
12.51-18.50	16	7	1	0	1	2	12	42	48	9	22	7	8	7	21	33	236
18.51-24.00	5	0	0	0	0	0	9	35	32	9	10	10	0	10	21	14	155
>24.00	2	0	0	0	0	0	0	14	22	9	1	3	3	8	10	2	74
TOTAL	58	13	11	7	5	8	30	119	147	74	55	32	24	36	63	88	770

STABILITY CLASS    F

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	1	2	2	0	0	0	1	0	2	0	0	1	1	0	0	11
3.51- 7.50	3	1	2	1	0	1	1	3	1	6	1	3	1	2	2	4	32
7.51-12.50	6	1	1	0	0	0	4	11	8	12	13	4	4	6	8	5	83
12.51-18.50	0	1	0	0	0	0	4	26	18	13	10	6	5	4	8	2	97
18.51-24.00	0	0	0	0	0	0	0	2	3	7	2	4	3	12	7	0	40
>24.00	0	0	0	0	0	0	0	0	0	0	1	0	2	6	2	0	11
TOTAL	10	4	5	3	0	1	9	43	30	40	27	17	16	31	27	11	274

B218

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T OCT-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/11 - 12/31/11

\*\*\* OCT-DEC 2011 \*\*\*

STABILITY CLASS G

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	2	0	0	0	1	2	0	0	1	2	0	1	0	0	1	11
3.51- 7.50	3	2	5	2	3	2	3	5	3	5	10	4	2	3	4	6	62
7.51-12.50	5	1	0	1	1	2	2	3	7	6	2	2	4	3	3	1	43
12.51-18.50	0	0	0	0	0	0	0	4	3	3	1	6	0	2	1	0	20
18.51-24.00	0	0	0	0	0	0	0	0	1	0	0	3	0	0	0	0	4
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
TOTAL	9	5	5	3	4	5	7	12	14	15	15	15	9	8	8	8	142

STABILITY CLASS ALL

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	3	7	5	4	2	3	5	8	8	7	8	5	4	2	3	11	85
3.51- 7.50	32	13	14	8	6	9	8	18	14	33	23	20	16	19	16	23	272
7.51-12.50	52	16	6	4	3	9	25	45	65	61	50	31	26	31	39	51	514
12.51-18.50	53	22	6	2	2	3	30	94	94	36	45	23	19	27	61	65	582
18.51-24.00	42	17	1	1	0	0	14	53	57	28	15	21	5	34	75	50	413
>24.00	29	2	0	0	0	0	1	23	42	16	2	3	10	18	35	12	193
TOTAL	211	77	32	19	13	24	83	241	280	181	143	103	80	131	229	212	2059

B219

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T OCT-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/11 - 12/31/11

\*\*\* OCT-DEC 2011 \*\*\*

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH

TOTAL NUMBER OF OBSERVATIONS: 2208

TOTAL NUMBER OF VALID OBSERVATIONS: 2059

TOTAL NUMBER OF MISSING OBSERVATIONS: 149

PERCENT DATA RECOVERY FOR THIS PERIOD: 93.3 %

MEAN WIND SPEED FOR THIS PERIOD: 14.6 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 11

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 18

NUMBER OF OBSERVATIONS WITH BACKUP STABILITY: 0

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 28

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
.00	.00	.68	41.72	37.40	13.31	6.90

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C	0	0	0	0	0	0	2	1	8	1	0	0	0	0	0	2	0
D	134	55	11	6	4	10	35	66	81	51	46	39	31	56	131	103	0
E	58	13	11	7	5	8	30	119	147	74	55	32	24	36	63	88	0
F	10	4	5	3	0	1	9	43	30	40	27	17	16	31	27	11	0
G	9	5	5	3	4	5	7	12	14	15	15	15	9	8	8	8	0
TOTAL	211	77	32	19	13	24	83	241	280	181	143	103	80	131	229	212	0

B220

**JFDs of 100-Meter Wind vs. Delta T**

July-December 2011

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11

\*\*\* JUL-DEC 2011 \*\*\*

STABILITY CLASS A

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	7	8	6	1	3	0	4	1	1	1	0	0	0	0	1	1	34
3.51- 7.50	0	4	7	10	13	10	5	2	3	3	1	0	0	2	2	3	65
7.51-12.50	0	1	1	2	0	1	1	1	1	2	0	0	2	0	0	2	14
12.51-18.50	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	5
18.51-24.00	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3
>24.00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL	8	13	14	14	16	12	10	6	6	6	1	2	2	2	3	7	122

STABILITY CLASS B

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	7	4	5	1	3	5	4	2	0	1	1	0	0	1	2	6	42
7.51-12.50	2	1	2	2	1	2	0	1	0	0	0	1	0	0	0	0	12
12.51-18.50	1	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	4
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
TOTAL	10	5	7	3	4	8	4	4	0	1	1	1	0	2	2	7	59

B222

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11

\*\*\* JUL-DEC 2011 \*\*\*

STABILITY CLASS C

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	0	1	0	0	0	1	0	0	0	1	0	0	0	0	1	5
3.51- 7.50	8	3	7	5	0	11	9	2	1	2	7	1	0	1	0	3	60
7.51-12.50	9	2	1	2	9	18	6	9	6	4	1	2	0	1	5	1	76
12.51-18.50	2	0	2	1	1	4	3	1	6	2	0	0	0	1	0	4	27
18.51-24.00	0	0	0	0	0	0	0	0	6	4	0	0	0	0	0	2	12
>24.00	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3
TOTAL	20	5	11	8	10	33	19	13	21	12	9	3	0	3	5	11	183

STABILITY CLASS D

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	1
1.01- 3.50	2	8	6	3	5	3	3	2	1	1	3	4	2	0	2	5	50
3.51- 7.50	26	32	20	17	8	32	33	19	12	12	13	13	10	13	10	21	291
7.51-12.50	74	33	28	28	26	90	87	61	34	26	27	19	12	24	29	53	651
12.51-18.50	84	39	14	18	34	50	73	51	46	30	17	4	9	17	47	55	588
18.51-24.00	42	20	1	2	5	3	13	34	27	15	3	4	2	16	51	48	286
>24.00	38	3	1	1	0	3	2	10	22	7	1	0	4	5	23	15	135
TOTAL	266	135	70	69	78	181	211	177	142	91	64	44	39	75	162	197	2002

B223

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11

\*\*\* JUL-DEC 2011 \*\*\*

STABILITY CLASS E

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	1	3	1	0	2	3	6	8	3	3	1	0	2	3	8	45
3.51- 7.50	17	14	8	15	6	12	11	14	5	10	4	0	3	7	5	13	144
7.51-12.50	40	12	6	6	3	17	45	48	39	42	18	11	10	9	12	31	349
12.51-18.50	28	8	4	0	2	7	56	78	78	36	22	8	10	7	32	47	423
18.51-24.00	6	0	0	0	0	1	13	37	55	17	10	10	0	12	26	20	207
>24.00	2	0	0	0	0	0	0	15	31	10	1	3	4	8	11	2	87
TOTAL	94	35	21	22	11	39	128	198	216	118	58	33	27	45	89	121	1255

STABILITY CLASS F

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	2	3	2	0	2	0	2	0	2	0	0	1	2	2	0	19
3.51- 7.50	5	7	8	6	4	6	7	7	1	7	1	4	1	3	8	6	81
7.51-12.50	16	2	2	0	0	4	9	14	10	13	13	4	5	8	8	12	120
12.51-18.50	2	1	0	0	0	0	4	28	22	24	10	6	6	4	15	8	130
18.51-24.00	0	0	0	0	0	0	0	2	6	13	2	4	3	15	13	0	58
>24.00	0	0	0	0	0	0	0	0	0	0	1	0	4	9	3	0	17
TOTAL	24	12	13	8	4	12	20	53	39	59	27	18	20	41	49	26	425

B224

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11

\*\*\* JUL-DEC 2011 \*\*\*

STABILITY CLASS G

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	3
1.01- 3.50	1	2	3	1	1	5	2	1	0	1	7	1	2	1	1	2	31
3.51- 7.50	4	2	8	3	5	5	4	5	5	6	14	5	2	5	9	9	91
7.51-12.50	5	4	0	1	1	2	3	3	7	7	5	2	5	7	11	4	67
12.51-18.50	1	0	0	0	0	0	0	5	3	3	1	6	0	2	2	0	23
18.51-24.00	0	0	0	0	0	0	0	0	1	0	0	3	0	0	0	0	4
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
TOTAL	11	8	11	5	7	12	9	14	16	17	27	17	11	15	23	15	221

STABILITY CLASS ALL

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	4
1.01- 3.50	13	21	22	8	9	12	13	12	10	8	14	6	5	5	9	17	184
3.51- 7.50	67	66	63	57	39	81	73	51	27	41	41	23	16	32	36	61	774
7.51-12.50	146	55	40	41	40	134	151	137	97	94	64	39	34	49	65	103	1289
12.51-18.50	119	48	20	20	37	62	136	164	155	95	50	26	25	32	96	115	1200
18.51-24.00	48	20	1	2	5	4	26	75	96	49	15	21	5	43	90	70	570
>24.00	40	3	1	1	0	4	2	26	55	17	3	3	14	22	37	18	246
TOTAL	433	213	147	129	130	297	401	465	440	304	187	118	99	183	333	384	4267

B225



PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11

\*\*\* JUL-DEC 2011 \*\*\*

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH

TOTAL NUMBER OF OBSERVATIONS: 4416

TOTAL NUMBER OF VALID OBSERVATIONS: 4267

TOTAL NUMBER OF MISSING OBSERVATIONS: 149

PERCENT DATA RECOVERY FOR THIS PERIOD: 96.6 %

MEAN WIND SPEED FOR THIS PERIOD: 12.9 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 11

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 18

NUMBER OF OBSERVATIONS WITH BACKUP STABILITY: 1416

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 1444

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
2.86	1.38	4.29	46.92	29.41	9.96	5.18

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	8	13	14	14	16	12	10	6	6	6	1	2	2	2	3	7	0
B	10	5	7	3	4	8	4	4	0	1	1	1	0	2	2	7	0
C	20	5	11	8	10	33	19	13	21	12	9	3	0	3	5	11	0
D	266	135	70	69	78	181	211	177	142	91	64	44	39	75	162	197	1
E	94	35	21	22	11	39	128	198	216	118	58	33	27	45	89	121	0
F	24	12	13	8	4	12	20	53	39	59	27	18	20	41	49	26	0
G	11	8	11	5	7	12	9	14	16	17	27	17	11	15	23	15	3
TOTAL	433	213	147	129	130	297	401	465	440	304	187	118	99	183	333	384	4

B226

**Stability Classes by Hour of Day**

**100-Meter Wind vs. Delta T**

July-December 2011

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11  
 STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS

HOURLY STABILITIES  
 HOURS

YR	MN	DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
11	7	1	F	F	F	F	F	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E
11	7	2	D	D	D	D	E	E	E	D	E	D	D	D	C	D	D	D	D	E	D	E	D	D	D	D
11	7	3	D	D	D	D	D	D	A	D	D	D	B	D	D	C	D	D	B	C	D	D	D	D	D	D
11	7	4	D	D	D	D	D	D	D	C	C	B	A	A	B	D	D	D	D	D	D	D	D	D	E	E
11	7	5	E	E	E	D	D	D	B	D	C	C	C	D	D	E	C	C	A	C	D	D	D	D	D	E
11	7	6	D	E	D	G	E	D	D	C	B	B	C	A	A	A	A	B	D	D	E	D	E	D	D	D
11	7	7	E	D	D	D	G	D	A	B	D	D	E	C	A	A	C	A	C	D	D	D	D	D	D	G
11	7	8	G	D	D	D	D	D	C	A	A	A	A	A	D	C	D	D	E	D	E	E	E	E	E	E
11	7	9	E	E	E	E	E	E	E	D	C	D	E	D	C	D	E	E	E	E	E	E	E	D	E	D
11	7	10	D	E	D	D	D	D	C	A	A	A	A	A	A	A	C	E	E	E	E	E	E	E	E	D
11	7	11	D	D	E	D	E	E	A	A	A	D	D	A	B	A	C	E	E	C	D	E	D	D	D	D
11	7	12	D	D	D	D	D	D	A	C	D	D	D	C	B	E	D	D	D	D	D	D	D	D	D	D
11	7	13	D	D	D	D	D	D	C	C	D	D	C	C	C	C	C	C	D	D	D	D	D	D	D	D
11	7	14	D	D	D	D	D	D	E	D	C	E	D	E	D	D	E	E	E	E	E	E	E	E	E	E
11	7	15	D	D	D	E	E	E	D	E	D	E	D	D	D	E	D	D	E	D	E	D	E	D	D	D
11	7	16	D	F	E	D	D	D	D	D	D	E	D	C	C	D	D	D	E	E	E	D	E	E	E	D
11	7	17	D	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	D
11	7	18	E	F	E	E	E	F	E	C	C	C	C	C	C	C	D	D	D	D	E	E	E	E	E	E
11	7	19	D	D	F	E	E	E	E	D	C	C	C	D	D	D	D	D	D	E	E	E	D	E	E	E
11	7	20	E	E	E	F	E	F	E	E	D	D	D	D	D	D	C	C	D	E	D	D	D	E	E	E
11	7	21	E	E	E	E	D	D	D	D	D	C	D	D	D	C	B	D	D	C	D	D	D	D	D	E
11	7	22	D	D	D	D	F	G	A	D	A	B	C	C	A	A	A	A	A	A	D	D	D	D	D	D
11	7	23	D	E	E	E	E	E	E	E	D	D	C	C	C	D	D	D	A	A	D	D	D	E	D	D
11	7	24	D	D	D	D	D	D	C	A	B	A	C	B	A	C	C	B	C	C	D	D	D	D	D	D
11	7	25	E	D	D	D	D	F	A	A	A	A	B	A	B	A	B	D	D	C	D	D	F	F	F	D
11	7	26	E	E	F	E	D	D	E	E	D	D	D	D	D	D	D	E	E	E	E	D	E	E	E	E
11	7	27	E	D	D	D	D	D	D	D	D	D	E	D	C	C	A	A	D	D	D	D	D	D	E	D
11	7	28	D	D	E	E	D	D	A	A	A	A	A	B	D	D	E	C	D	A	G	D	D	D	D	D
11	7	29	D	D	G	D	G	D	C	D	C	B	A	A	E	D	C	C	A	C	D	D	D	D	D	G
11	7	30	D	E	D	D	D	D	D	D	D	C	C	B	C	E	D	D	D	D	D	E	E	E	E	D
11	7	31	E	D	D	D	D	D	C	D	E	D	D	D	E	E	D	E	E	E	E	E	E	F	D	D
11	8	1	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	D
11	8	2	D	D	E	E	E	E	E	E	D	D	C	B	D	C	C	B	D	C	C	D	E	D	D	D
11	8	3	D	D	D	D	D	D	D	B	C	C	D	D	C	D	B	A	A	D	E	E	D	E	D	D
11	8	4	D	D	D	D	D	D	B	C	B	C	C	A	D	A	A	A	A	C	G	D	D	D	D	D
11	8	5	F	D	D	D	G	G	A	D	A	C	C	A	B	A	B	A	A	B	E	G	E	D	E	E
11	8	6	E	D	F	G	G	E	B	C	A	D	A	A	C	D	D	D	D	F	E	D	F	D	D	D
11	8	7	D	D	D	D	D	D	D	C	A	A	A	C	A	B	B	C	B	D	D	D	F	D	D	D
11	8	8	D	F	D	D	D	D	A	C	A	D	D	B	C	C	D	D	D	C	D	D	E	E	D	D
11	8	9	D	D	E	E	D	D	A	B	C	D	D	D	D	C	D	A	E	D	E	E	D	E	D	D
11	8	10	D	D	D	D	D	D	C	B	B	C	C	A	A	B	C	C	B	C	E	D	D	D	D	G
11	8	11	D	D	D	D	D	D	C	C	D	D	C	D	B	A	C	C	C	D	D	E	D	E	E	D
11	8	12	D	D	D	D	D	D	C	B	B	A	A	A	D	A	C	D	D	D	E	G	D	G	F	D
11	8	13	E	E	D	D	F	E	E	D	C	D	D	D	C	D	D	D	D	C	D	D	D	E	D	D

B228

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11  
 STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS

HOURLY STABILITIES  
 HOURS

YR	MN	DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
11	8	14	D	D	E	E	D	D	D	C	A	A	A	A	A	A	B	B	D	D	E	F	E	D	D	D	
11	8	15	D	D	E	D	D	D	C	D	D	C	D	D	D	E	D	D	D	D	D	D	D	D	E	D	D
11	8	16	E	E	E	D	E	D	D	D	D	D	D	E	E	D	C	C	A	C	D	D	D	D	D	E	
11	8	17	D	E	D	D	D	D	D	C	D	D	D	C	B	B	B	A	A	A	F	E	D	E	D	D	
11	8	18	E	D	D	D	D	D	E	D	D	D	D	D	E	D	E	D	D	D	D	D	D	D	D	D	
11	8	19	D	E	D	E	E	D	D	D	D	D	C	C	C	A	C	C	A	E	D	D	D	D	D	D	
11	8	20	D	D	D	E	D	D	A	B	C	A	A	D	B	B	C	A	A	C	D	E	D	E	D	D	
11	8	21	G	G	E	D	D	D	C	B	B	B	A	B	A	C	A	C	C	D	D	E	D	D	D	D	
11	8	22	D	D	D	D	D	C	D	C	D	D	D	C	D	D	E	D	E	E	E	E	E	E	D	E	
11	8	23	F	E	D	E	E	E	E	D	D	C	C	E	D	D	A	D	C	D	D	D	D	D	D	E	
11	8	24	D	E	E	E	E	D	C	C	D	D	D	E	E	D	C	D	D	E	D	D	D	D	E	E	
11	8	25	E	F	E	E	D	D	C	C	A	A	A	A	B	C	A	C	D	E	E	E	E	E	E	E	
11	8	26	E	E	E	E	E	G	D	E	D	E	E	D	D	D	D	C	C	D	E	F	D	E	D	D	
11	8	27	D	G	D	D	D	D	C	C	C	D	C	A	A	B	B	C	D	E	D	D	D	E	D	D	
11	8	28	D	D	D	D	D	D	C	B	C	A	A	C	C	D	D	D	D	D	D	D	D	D	D	D	
11	8	29	D	E	D	E	E	E	D	D	D	D	D	D	D	C	C	D	D	D	D	D	D	D	D	D	
11	8	30	D	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	8	31	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
11	9	1	E	E	E	E	E	E	E	E	D	D	D	D	C	D	D	D	E	E	E	E	E	E	E	E	
11	9	2	E	E	E	E	E	E	E	F	D	D	D	D	D	D	D	D	D	E	E	E	E	D	D	D	
11	9	3	E	E	D	D	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	9	4	D	D	D	D	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	9	5	D	D	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	
11	9	6	E	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	D	D	E	F	F	F	E	E	
11	9	7	E	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	F	F	
11	9	8	F	F	G	F	F	F	F	E	D	D	D	D	D	D	D	D	D	D	E	F	F	F	E	E	
11	9	9	E	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	E	E	E	F	F	F	F	
11	9	10	F	F	F	F	E	E	F	E	D	D	D	D	D	D	D	D	D	D	E	E	F	F	F	G	
11	9	11	G	G	F	G	G	G	F	F	D	D	D	D	D	D	D	D	D	D	E	F	F	F	F	F	
11	9	12	F	F	F	F	F	F	F	E	D	D	C	C	C	C	C	D	E	E	F	F	G	G	G	G	
11	9	13	G	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	D	D	E	D	D	
11	9	14	D	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	9	15	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	
11	9	16	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	9	17	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	
11	9	18	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	D	D	D	E	E	F	F	F	G	
11	9	19	G	G	G	G	G	F	G	F	D	E	E	E	E	D	D	D	D	E	F	G	G	F	F	E	
11	9	20	F	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	F	F	F	E	E	E	
11	9	21	E	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	E	F	F	F	F	E	D	
11	9	22	F	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	D	E	E	D	D	D	D	
11	9	23	D	D	E	E	E	D	E	D	D	D	D	D	D	D	D	D	D	D	E	F	G	G	F	G	
11	9	24	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	9	25	D	D	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F	G	G	G	
11	9	26	G	G	G	F	F	E	F	E	D	D	D	D	D	D	D	D	D	E	E	F	F	F	F	F	
11	9	27	F	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	F	G	G	G	G	G	

B229

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11  
 STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS

HOURLY STABILITIES  
 HOURS

YR	MN	DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
11	9	28	G	G	G	G	G	G	G	F	D	D	D	D	D	D	D	D	D	E	G	G	G	G	G	G
11	9	29	G	G	G	F	F	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	F
11	9	30	F	E	E	F	F	E	E	D	D	D	D	D	D	D	D	D	D	E	F	F	G	G	G	G
11	10	1	G	G	G	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F	F	F	E	F
11	10	2	F	F	F	F	E	F	F	E	D	D	D	D	D	D	D	D	D	D	E	F	F	F	F	F
11	10	3	F	F	F	F	F	E	E	E	E	E	D	D	C	C	C	D	D	E	E	E	E	E	E	F
11	10	4	E	E	F	E	E	E	E	E	D	D	D	D	C	C	C	D	D	E	E	E	E	E	E	F
11	10	5	E	F	F	E	E	E	E	E	D	D	D	D	C	C	C	D	D	E	E	E	E	E	E	E
11	10	6	E	E	E	E	E	E	E	D	D	D	D	D	C	D	D	D	D	E	E	E	E	E	E	E
11	10	7	E	E	E	E	E	E	E	D	D	D	C	C	D	D	D	D	D	D	E	E	E	E	E	E
11	10	8	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	F	F
11	10	9	F	F	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	D	E	E
11	10	10	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	F	E	E	E	E
11	10	11	E	F	F	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	F	E	E
11	10	12	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
11	10	13	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	F	F	F	F	F	F
11	10	14	F	F	F	F	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	F	E	E	E
11	10	15	F	F	F	G	G	G	F	F	E	D	D	D	C	D	D	D	D	E	F	F	F	F	E	E
11	10	16	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	F	F	F
11	10	17	F	G	G	F	F	F	F	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	10	18	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
11	10	19	E	E	E	E	E	E	E	D	D	D	D	C	C	D	D	D	D	E	E	E	E	E	E	E
11	10	20	E	E	E	F	F	E	E	E	D	D	D	D	D	D	D	D	D	E	F	F	G	G	G	G
11	10	21	G	G	G	G	G	G	G	F	D	D	D	D	D	D	D	D	D	F	G	G	G	G	G	G
11	10	22	G	G	G	G	G	G	F	F	E	E	D	D	D	D	D	D	D	E	E	E	E	E	F	F
11	10	23	G	G	G	G	G	G	G	F	E	D	D	D	D	D	D	D	D	E	F	F	E	E	G	G
11	10	24	G	G	G	G	G	G	G	F	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
11	10	25	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	10	26	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	D	E	D	D	D
11	10	27	D	E	E	E	E	E	F	F	E	D	D	D	D	D	D	D	D	E	F	G	G	G	G	F
11	10	28	F	F	G	F	G	G	F	F	D	D	D	D	D	D	D	D	D	E	F	G	G	G	G	G
11	10	29	G	G	G	F	F	G	G	F	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
11	10	30	D	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	F	F	F	G	F
11	10	31	F	F	G	G	G	G	G	F	D	D	D	D	D	D	D	D	D	E	F	F	F	F	F	E
11	11	1	E	E	E	F	F	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
11	11	2	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	11	3	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F	G	G	G
11	11	4	G	G	G	G	G	G	F	F	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
11	11	5	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	D	E	E	E
11	11	6	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	F	G	G	G	G	G
11	11	7	G	G	G	G	G	G	F	E	D	D	D	D	D	D	D	D	D	E	E	E	E	D	D	D
11	11	8	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E
11	11	9	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	F	F	F	F
11	11	10	E	F	F	F	F	E	E	E	E	D	D	D	D	D	D	D	D	E	F	F	G	G	F	F
11	11	11	F	F	F	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	F	F	F	F	F	F

B230

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11  
 STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS

HOURLY STABILITIES  
 HOURS

YR	MN	DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
11	11	12	F	E	F	F	F	E	E	E	E	D	D	D	D	D	D	D	E	E	F	F	F	E	E	F
11	11	13	E	E	E	E	E	E	F	E	D	D	D	D	D	D	D	D	D	D	F	F	G	G	G	G
11	11	14	G	F	F	G	F	F	F	G	E	D	D	D	D	D	D	D	E	E	F	F	E	F	F	E
11	11	15	E	E	E	E	E	E	F	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
11	11	16	E	E	F	F	F	E	E	E	E	D	D	D	D	D	D	D	D	E	F	F	F	E	E	F
11	11	17	F	F	F	F	G	G	G	G	F	E	D	D	D	D	D	D	E	E	E	E	E	E	E	E
11	11	18	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
11	11	19	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	11	20	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E
11	11	21	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E
11	11	22	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	11	23	E	E	E	E	E	E	E	E	E	E	E	D	D	-	-	-	-	-	-	-	-	-	-	-
11	11	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	11	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	11	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	11	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	11	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	11	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	E	E	E	E	E	E	D
11	11	30	D	E	E	E	E	E	E	E	E	E	E	D	F	E	E	E	E	F	E	E	E	E	E	E
11	12	1	E	E	E	E	E	E	E	E	E	E	E	E	E	-	-	D	D	D	D	D	D	D	D	D
11	12	2	D	D	D	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
11	12	3	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	E	E	E	E	E	E	E	E	E
11	12	4	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	D	D	D
11	12	5	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	12	6	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	F	F
11	12	7	F	F	F	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
11	12	8	E	E	E	F	F	F	F	F	F	E	D	D	D	D	D	D	D	E	E	E	E	E	E	E
11	12	9	E	E	E	E	D	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	F	G	G
11	12	10	G	G	G	G	G	G	G	F	E	E	E	D	D	D	D	D	E	E	E	E	E	E	E	E
11	12	11	E	E	E	E	E	D	E	E	E	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E
11	12	12	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	E	E	E	E	E	E	E
11	12	13	E	E	D	E	E	E	E	E	E	E	E	D	E	E	E	E	E	E	E	E	E	F	F	E
11	12	14	F	F	E	E	F	F	F	F	F	F	G	F	F	F	F	F	E	D	E	E	D	D	D	D
11	12	15	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
11	12	16	E	E	E	E	E	F	F	F	F	E	D	D	D	D	D	D	D	E	E	E	E	E	E	E
11	12	17	F	F	F	F	F	E	E	E	E	E	D	D	D	D	D	D	D	E	E	F	F	F	F	G
11	12	18	G	G	F	F	F	F	F	F	F	E	D	D	D	D	D	D	D	E	E	F	F	F	E	E
11	12	19	F	F	F	E	E	E	E	F	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	12	20	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
11	12	21	D	E	E	E	F	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
11	12	22	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
11	12	23	E	E	E	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E
11	12	24	E	E	E	E	F	F	F	F	F	E	D	D	D	D	D	D	D	E	F	F	F	F	F	G
11	12	25	G	F	E	E	E	F	F	F	F	E	D	D	D	D	D	D	D	E	F	G	G	G	G	G
11	12	26	G	G	F	F	G	G	F	F	F	E	E	D	D	D	D	D	D	E	E	E	E	E	E	E

B231

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/11 - 12/31/11  
 STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS

		HOURLY STABILITIES																									
		HOURS																									
YR	MN	DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
11	12	27	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	F	F	F	F	F	F
11	12	28	F	E	F	F	F	F	E	E	F	E	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E
11	12	29	E	E	E	E	E	E	F	G	F	E	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E
11	12	30	D	D	D	D	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	F	G	G	G	G	G
11	12	31	G	G	F	F	F	F	F	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D

**JFDs of 100-Meter Wind vs. Delta T**

January-December 2011



PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 12/31/11

\*\*\* JAN-DEC 2011 \*\*\*

STABILITY CLASS A

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	7	9	6	3	3	1	4	1	1	1	0	0	0	0	1	1	38
3.51- 7.50	0	4	8	11	14	13	5	2	3	3	1	0	0	2	2	3	71
7.51-12.50	0	1	1	2	0	2	1	1	1	2	0	0	2	0	1	2	16
12.51-18.50	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	5
18.51-24.00	0	0	0	0	1	0	0	2	2	0	0	0	0	0	0	0	5
>24.00	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	3
TOTAL	8	14	15	17	18	17	10	6	9	6	1	2	2	2	4	7	138

STABILITY CLASS B

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	7	4	5	1	3	5	5	2	0	1	1	0	0	1	2	6	43
7.51-12.50	2	1	2	2	2	2	0	1	0	0	0	1	0	0	0	1	14
12.51-18.50	1	0	0	0	0	1	0	2	0	2	0	0	0	1	1	0	8
18.51-24.00	0	0	0	0	0	0	0	0	4	2	0	0	0	0	0	0	6
>24.00	0	0	0	0	0	0	1	0	5	0	0	2	0	0	0	1	9
TOTAL	10	5	7	3	5	8	6	5	9	5	1	3	0	2	3	8	80

B234

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 12/31/11

\*\*\* JAN-DEC 2011 \*\*\*

STABILITY CLASS C

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	0	1	0	0	0	1	1	0	0	1	0	0	0	0	1	6
3.51- 7.50	9	3	7	5	1	17	10	3	1	2	7	1	0	1	0	3	70
7.51-12.50	9	2	1	2	10	24	9	10	6	8	4	2	0	1	5	1	94
12.51-18.50	2	1	2	2	2	8	14	3	11	6	3	1	0	2	1	7	65
18.51-24.00	0	0	0	1	1	0	0	2	8	8	1	4	1	0	2	3	31
>24.00	0	0	0	0	0	0	4	1	7	1	2	1	0	2	5	3	26
TOTAL	21	6	11	10	14	49	38	20	33	25	18	9	1	6	13	18	292

STABILITY CLASS D

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	1
1.01- 3.50	6	13	7	6	6	5	8	2	2	2	4	6	4	0	4	13	88
3.51- 7.50	47	50	35	32	21	57	47	37	25	37	18	25	18	24	21	34	528
7.51-12.50	179	91	67	75	74	147	121	95	69	61	43	27	17	45	80	105	1296
12.51-18.50	161	88	46	58	100	168	161	93	95	50	48	17	23	42	139	170	1459
18.51-24.00	84	45	8	19	25	34	56	66	62	24	13	16	19	61	134	144	810
>24.00	74	9	2	4	11	7	17	32	72	9	12	1	17	14	86	69	436
TOTAL	551	296	165	194	237	418	410	325	325	183	138	92	98	186	464	535	4618

B235

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 12/31/11

\*\*\* JAN-DEC 2011 \*\*\*

STABILITY CLASS E

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	2	3	5	2	1	2	3	9	8	4	3	1	0	4	4	8	59
3.51- 7.50	21	21	17	18	11	20	19	28	10	22	11	3	6	12	6	19	244
7.51-12.50	58	25	21	28	24	43	68	68	57	65	35	20	19	17	17	48	613
12.51-18.50	50	18	14	11	20	45	107	118	132	70	40	35	21	41	60	88	870
18.51-24.00	19	6	0	6	3	11	30	54	98	22	29	27	14	39	54	34	446
>24.00	2	0	0	0	1	4	8	29	52	11	4	7	20	20	18	4	180
TOTAL	152	73	57	65	60	125	235	306	357	194	122	93	80	133	159	201	2412

STABILITY CLASS F

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	3	3	3	2	0	2	1	3	3	4	1	0	1	2	2	0	30
3.51- 7.50	7	11	12	8	9	7	9	10	6	13	4	11	3	5	10	13	138
7.51-12.50	25	5	5	3	2	8	14	16	18	22	20	14	7	12	14	18	203
12.51-18.50	11	2	2	0	1	6	5	41	27	24	25	18	11	8	18	14	213
18.51-24.00	1	0	0	0	0	0	2	4	7	13	8	15	12	23	13	1	99
>24.00	0	0	0	0	0	0	0	0	0	0	2	3	6	15	5	0	31
TOTAL	47	21	22	13	12	23	31	74	61	76	60	61	40	65	62	46	714

B236

PROGRAM: JFD VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 12/31/11

\*\*\* JAN-DEC 2011 \*\*\*

STABILITY CLASS G

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	3
1.01- 3.50	1	3	3	1	2	5	3	1	1	3	8	1	3	3	2	3	43
3.51- 7.50	7	4	8	3	5	7	4	6	7	13	17	9	7	8	11	12	128
7.51-12.50	9	6	0	2	2	2	3	4	12	14	12	10	11	12	14	8	121
12.51-18.50	1	0	0	0	0	1	1	7	6	3	8	7	2	4	3	3	46
18.51-24.00	0	0	0	0	0	0	0	0	1	0	1	4	1	1	0	0	8
>24.00	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3
TOTAL	18	13	11	6	9	15	11	18	27	33	46	32	26	28	30	26	352

STABILITY CLASS ALL

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH  
 JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	4
1.01- 3.50	20	31	25	14	12	15	20	17	15	14	17	8	8	9	13	26	264
3.51- 7.50	98	97	92	78	64	126	99	88	52	91	59	49	34	53	52	90	1222
7.51-12.50	282	131	97	114	114	228	216	195	163	172	114	74	56	87	131	183	2357
12.51-18.50	227	109	64	72	123	229	288	264	271	155	124	80	57	98	222	283	2666
18.51-24.00	104	51	8	26	30	45	88	128	182	69	52	66	47	124	203	182	1405
>24.00	76	9	2	4	12	12	30	62	138	21	20	15	45	51	114	77	688
TOTAL	807	428	288	308	355	655	741	754	821	522	386	292	247	422	735	841	8606

B237

PROGRAM: JFD      VERSION: PC-1.2  
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-DEC 2011  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/11 - 12/31/11

\*\*\* JAN-DEC 2011 \*\*\*

STABILITY BASED ON: DELTA T      BETWEEN 100.0 AND 10.0 METERS  
 WIND MEASURED AT: 100.0 METERS  
 WIND THRESHOLD AT: 1.00 MPH

TOTAL NUMBER OF OBSERVATIONS: 8760

TOTAL NUMBER OF VALID OBSERVATIONS: 8606

TOTAL NUMBER OF MISSING OBSERVATIONS: 154

PERCENT DATA RECOVERY FOR THIS PERIOD: 98.2 %

MEAN WIND SPEED FOR THIS PERIOD: 14.1 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 68

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 18

NUMBER OF OBSERVATIONS WITH BACKUP STABILITY: 1680

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 1765

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
1.60	.93	3.39	53.66	28.03	8.30	4.09

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	8	14	15	17	18	17	10	6	9	6	1	2	2	2	4	7	0
B	10	5	7	3	5	8	6	5	9	5	1	3	0	2	3	8	0
C	21	6	11	10	14	49	38	20	33	25	18	9	1	6	13	18	0
D	551	296	165	194	237	418	410	325	325	183	138	92	98	186	464	535	1
E	152	73	57	65	60	125	235	306	357	194	122	93	80	133	159	201	0
F	47	21	22	13	12	23	31	74	61	76	60	61	40	65	62	46	0
G	18	13	11	6	9	15	11	18	27	33	46	32	26	28	30	26	3
TOTAL	807	428	288	308	355	655	741	754	821	522	386	292	247	422	735	841	4

B238

## **ATMOSPHERIC DIFFUSION ESTIMATES**

The tables of atmospheric diffusion estimates in this section were generated using the computer code XOQDOQ. Data are given for 22 distances and 16 compass points (directions from site) centered on the Cooper Nuclear Station. Tables are presented for the ground-level (vent) and elevated (stack) release options separately, and for the following time periods in 2011: January-March, April-June, January-June, July-September, October-December, July-December, and January-December.

**Atmospheric Diffusion Estimates**

**Ground Level Releases**

January-March 2011

VENTS GROUND LEVEL RELEASES - JAN-MAR 2011  
 NO DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.478E-05	1.178E-05	6.272E-06	3.130E-06	1.250E-06	6.733E-07	4.251E-07	2.957E-07	2.196E-07	1.709E-07	1.377E-07
SSW	2.465E-05	8.385E-06	4.415E-06	2.187E-06	8.681E-07	4.659E-07	2.932E-07	2.035E-07	1.508E-07	1.171E-07	9.423E-08
SW	1.505E-05	5.243E-06	2.874E-06	1.450E-06	5.705E-07	3.043E-07	1.906E-07	1.317E-07	9.725E-08	7.529E-08	6.039E-08
WSW	1.660E-05	5.948E-06	3.259E-06	1.636E-06	6.399E-07	3.397E-07	2.120E-07	1.461E-07	1.076E-07	8.315E-08	6.657E-08
W	1.118E-05	4.024E-06	2.179E-06	1.087E-06	4.208E-07	2.218E-07	1.376E-07	9.432E-08	6.917E-08	5.322E-08	4.246E-08
WNW	1.809E-05	6.277E-06	3.330E-06	1.649E-06	6.499E-07	3.472E-07	2.178E-07	1.508E-07	1.115E-07	8.647E-08	6.945E-08
NW	3.344E-05	1.109E-05	5.878E-06	2.934E-06	1.187E-06	6.461E-07	4.111E-07	2.878E-07	2.149E-07	1.680E-07	1.360E-07
NNW	5.809E-05	1.808E-05	9.364E-06	4.670E-06	1.950E-06	1.084E-06	7.009E-07	4.970E-07	3.750E-07	2.958E-07	2.412E-07
N	7.191E-05	2.243E-05	1.181E-05	5.938E-06	2.464E-06	1.363E-06	8.785E-07	6.213E-07	4.678E-07	3.683E-07	2.998E-07
NNE	3.985E-05	1.287E-05	6.830E-06	3.427E-06	1.404E-06	7.702E-07	4.931E-07	3.470E-07	2.601E-07	2.041E-07	1.656E-07
NE	1.845E-05	5.934E-06	3.132E-06	1.566E-06	6.390E-07	3.499E-07	2.237E-07	1.573E-07	1.179E-07	9.241E-08	7.496E-08
ENE	1.767E-05	5.654E-06	3.025E-06	1.526E-06	6.214E-07	3.394E-07	2.166E-07	1.520E-07	1.137E-07	8.901E-08	7.211E-08
E	1.097E-05	3.572E-06	1.935E-06	9.809E-07	3.985E-07	2.173E-07	1.385E-07	9.705E-08	7.252E-08	5.673E-08	4.592E-08
ESE	1.867E-05	6.426E-06	3.505E-06	1.764E-06	6.984E-07	3.743E-07	2.354E-07	1.632E-07	1.209E-07	9.386E-08	7.547E-08
SE	2.468E-05	8.744E-06	4.757E-06	2.386E-06	9.368E-07	4.988E-07	3.120E-07	2.153E-07	1.589E-07	1.229E-07	9.847E-08
SSE	2.593E-05	8.954E-06	4.781E-06	2.383E-06	9.388E-07	5.011E-07	3.140E-07	2.171E-07	1.604E-07	1.242E-07	9.970E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	1.140E-07	5.857E-08	3.796E-08	2.178E-08	1.475E-08	1.093E-08	8.563E-09	6.975E-09	5.844E-09	5.002E-09	4.355E-09
SSW	7.789E-08	3.982E-08	2.572E-08	1.470E-08	9.933E-09	7.347E-09	5.752E-09	4.682E-09	3.920E-09	3.354E-09	2.918E-09
SW	4.979E-08	2.520E-08	1.615E-08	9.112E-09	6.095E-09	4.470E-09	3.474E-09	2.809E-09	2.338E-09	1.989E-09	1.723E-09
WSW	5.478E-08	2.752E-08	1.754E-08	9.819E-09	6.532E-09	4.770E-09	3.694E-09	2.978E-09	2.472E-09	2.098E-09	1.813E-09
W	3.483E-08	1.728E-08	1.091E-08	6.028E-09	3.974E-09	2.881E-09	2.218E-09	1.779E-09	1.471E-09	1.244E-09	1.071E-09
WNW	5.733E-08	2.917E-08	1.878E-08	1.068E-08	7.198E-09	5.313E-09	4.151E-09	3.373E-09	2.820E-09	2.409E-09	2.094E-09
NW	1.130E-07	5.891E-08	3.859E-08	2.247E-08	1.538E-08	1.149E-08	9.065E-09	7.426E-09	6.251E-09	5.373E-09	4.695E-09
NNW	2.018E-07	1.079E-07	7.192E-08	4.287E-08	2.981E-08	2.253E-08	1.794E-08	1.482E-08	1.256E-08	1.086E-08	9.536E-09
N	2.505E-07	1.333E-07	8.849E-08	5.250E-08	3.640E-08	2.744E-08	2.181E-08	1.798E-08	1.522E-08	1.314E-08	1.153E-08
NNE	1.380E-07	7.266E-08	4.791E-08	2.815E-08	1.938E-08	1.454E-08	1.151E-08	9.458E-09	7.982E-09	6.875E-09	6.018E-09
NE	6.244E-08	3.288E-08	2.169E-08	1.276E-08	8.796E-09	6.607E-09	5.236E-09	4.305E-09	3.635E-09	3.133E-09	2.744E-09
ENE	5.998E-08	3.142E-08	2.064E-08	1.207E-08	8.288E-09	6.205E-09	4.905E-09	4.023E-09	3.391E-09	2.918E-09	2.552E-09
E	3.817E-08	1.992E-08	1.305E-08	7.599E-09	5.198E-09	3.880E-09	3.059E-09	2.504E-09	2.106E-09	1.809E-09	1.580E-09
ESE	6.238E-08	3.188E-08	2.058E-08	1.174E-08	7.919E-09	5.846E-09	4.567E-09	3.710E-09	3.101E-09	2.648E-09	2.301E-09
SE	8.112E-08	4.091E-08	2.614E-08	1.469E-08	9.797E-09	7.167E-09	5.559E-09	4.488E-09	3.730E-09	3.170E-09	2.742E-09
SSE	8.223E-08	4.167E-08	2.674E-08	1.513E-08	1.015E-08	7.458E-09	5.808E-09	4.706E-09	3.925E-09	3.346E-09	2.903E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE										
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	
S	6.100E-06	1.411E-06	4.395E-07	2.228E-07	1.387E-07	6.172E-08	2.225E-08	1.100E-08	6.998E-09	5.012E-09	
SSW	4.307E-06	9.825E-07	3.034E-07	1.530E-07	9.496E-08	4.201E-08	1.503E-08	7.398E-09	4.697E-09	3.360E-09	
SW	2.768E-06	6.476E-07	1.973E-07	9.872E-08	6.088E-08	2.664E-08	9.335E-09	4.505E-09	2.819E-09	1.994E-09	
WSW	3.135E-06	7.279E-07	2.197E-07	1.093E-07	6.712E-08	2.914E-08	1.007E-08	4.810E-09	2.990E-09	2.103E-09	
W	2.104E-06	4.804E-07	1.427E-07	7.028E-08	4.282E-08	1.835E-08	6.200E-09	2.908E-09	1.787E-09	1.247E-09	
WNW	3.238E-06	7.374E-07	2.255E-07	1.132E-07	7.000E-08	3.081E-08	1.093E-08	5.351E-09	3.385E-09	2.414E-09	
NW	5.728E-06	1.335E-06	4.244E-07	2.179E-07	1.369E-07	6.189E-08	2.290E-08	1.156E-08	7.447E-09	5.382E-09	
NNW	9.216E-06	2.170E-06	7.215E-07	3.797E-07	2.428E-07	1.128E-07	4.352E-08	2.264E-08	1.485E-08	1.087E-08	
N	1.156E-05	2.747E-06	9.049E-07	4.737E-07	3.018E-07	1.394E-07	5.334E-08	2.758E-08	1.802E-08	1.316E-08	
NNE	6.661E-06	1.572E-06	5.086E-07	2.636E-07	1.668E-07	7.618E-08	2.865E-08	1.462E-08	9.483E-09	6.886E-09	
NE	3.059E-06	7.165E-07	2.308E-07	1.194E-07	7.550E-08	3.448E-08	1.298E-08	6.642E-09	4.316E-09	3.138E-09	
ENE	2.943E-06	6.972E-07	2.235E-07	1.152E-07	7.262E-08	3.297E-08	1.229E-08	6.240E-09	4.034E-09	2.923E-09	
E	1.875E-06	4.474E-07	1.429E-07	7.351E-08	4.625E-08	2.092E-08	7.743E-09	3.903E-09	2.511E-09	1.812E-09	
ESE	3.380E-06	7.911E-07	2.436E-07	1.227E-07	7.607E-08	3.364E-08	1.201E-08	5.887E-09	3.723E-09	2.654E-09	
SE	4.589E-06	1.064E-06	3.231E-07	1.613E-07	9.928E-08	4.328E-08	1.506E-08	7.225E-09	4.505E-09	3.178E-09	
SSE	4.642E-06	1.065E-06	3.252E-07	1.628E-07	1.005E-07	4.405E-08	1.549E-08	7.515E-09	4.724E-09	3.353E-09	

B241



VENTS GROUND LEVEL RELEASES - JAN-MAR 2011  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.476E-05	1.176E-05	6.258E-06	3.121E-06	1.244E-06	6.691E-07	4.217E-07	2.929E-07	2.172E-07	1.687E-07	1.357E-07
SSW	2.463E-05	8.372E-06	4.404E-06	2.181E-06	8.639E-07	4.628E-07	2.908E-07	2.014E-07	1.490E-07	1.155E-07	9.275E-08
SW	1.503E-05	5.234E-06	2.867E-06	1.445E-06	5.675E-07	3.021E-07	1.888E-07	1.303E-07	9.601E-08	7.419E-08	5.939E-08
WSW	1.659E-05	5.939E-06	3.252E-06	1.632E-06	6.371E-07	3.378E-07	2.105E-07	1.448E-07	1.065E-07	8.217E-08	6.569E-08
W	1.117E-05	4.019E-06	2.176E-06	1.085E-06	4.194E-07	2.208E-07	1.368E-07	9.367E-08	6.861E-08	5.274E-08	4.202E-08
WNW	1.807E-05	6.267E-06	3.322E-06	1.644E-06	6.469E-07	3.451E-07	2.161E-07	1.494E-07	1.103E-07	8.536E-08	6.845E-08
NW	3.341E-05	1.107E-05	5.863E-06	2.924E-06	1.181E-06	6.414E-07	4.074E-07	2.847E-07	2.122E-07	1.656E-07	1.337E-07
NNW	5.803E-05	1.804E-05	9.333E-06	4.649E-06	1.937E-06	1.074E-06	6.929E-07	4.902E-07	3.690E-07	2.904E-07	2.362E-07
N	7.183E-05	2.238E-05	1.177E-05	5.914E-06	2.448E-06	1.352E-06	8.692E-07	6.134E-07	4.608E-07	3.620E-07	2.941E-07
NNE	3.981E-05	1.285E-05	6.810E-06	3.414E-06	1.395E-06	7.641E-07	4.881E-07	3.428E-07	2.564E-07	2.008E-07	1.626E-07
NE	1.843E-05	5.924E-06	3.124E-06	1.561E-06	6.358E-07	3.476E-07	2.218E-07	1.557E-07	1.164E-07	9.112E-08	7.378E-08
ENE	1.766E-05	5.644E-06	3.017E-06	1.521E-06	6.180E-07	3.369E-07	2.146E-07	1.503E-07	1.122E-07	8.768E-08	7.089E-08
E	1.096E-05	3.566E-06	1.930E-06	9.776E-07	3.964E-07	2.158E-07	1.373E-07	9.605E-08	7.165E-08	5.595E-08	4.521E-08
ESE	1.866E-05	6.418E-06	3.498E-06	1.759E-06	6.955E-07	3.722E-07	2.337E-07	1.619E-07	1.197E-07	9.281E-08	7.452E-08
SE	2.466E-05	8.734E-06	4.749E-06	2.380E-06	9.335E-07	4.964E-07	3.101E-07	2.138E-07	1.575E-07	1.217E-07	9.739E-08
SSE	2.592E-05	8.943E-06	4.773E-06	2.377E-06	9.352E-07	4.985E-07	3.120E-07	2.154E-07	1.589E-07	1.229E-07	9.847E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	1.121E-07	5.711E-08	3.669E-08	2.068E-08	1.375E-08	9.996E-09	7.689E-09	6.148E-09	5.055E-09	4.247E-09	3.628E-09
SSW	7.652E-08	3.875E-08	2.479E-08	1.389E-08	9.197E-09	6.666E-09	5.113E-09	4.077E-09	3.344E-09	2.802E-09	2.388E-09
SW	4.888E-08	2.450E-08	1.556E-08	8.611E-09	5.650E-09	4.065E-09	3.099E-09	2.458E-09	2.007E-09	1.676E-09	1.424E-09
WSW	5.398E-08	2.691E-08	1.702E-08	9.384E-09	6.149E-09	4.422E-09	3.371E-09	2.676E-09	2.188E-09	1.829E-09	1.556E-09
W	3.443E-08	1.698E-08	1.066E-08	5.817E-09	3.788E-09	2.713E-09	2.063E-09	1.635E-09	1.334E-09	1.115E-09	9.479E-10
WNW	5.641E-08	2.845E-08	1.816E-08	1.015E-08	6.717E-09	4.868E-09	3.735E-09	2.980E-09	2.447E-09	2.053E-09	1.751E-09
NW	1.109E-07	5.725E-08	3.712E-08	2.119E-08	1.421E-08	1.040E-08	8.037E-09	6.449E-09	5.318E-09	4.478E-09	3.833E-09
NNW	1.971E-07	1.042E-07	6.863E-08	3.995E-08	2.713E-08	2.002E-08	1.557E-08	1.255E-08	1.039E-08	8.768E-09	7.520E-09
N	2.451E-07	1.290E-07	8.470E-08	4.914E-08	3.331E-08	2.456E-08	1.909E-08	1.539E-08	1.273E-08	1.075E-08	9.224E-09
NNE	1.352E-07	7.042E-08	4.593E-08	2.641E-08	1.779E-08	1.306E-08	1.011E-08	8.128E-09	6.710E-09	5.655E-09	4.842E-09
NE	6.134E-08	3.200E-08	2.090E-08	1.206E-08	8.158E-09	6.010E-09	4.671E-09	3.766E-09	3.120E-09	2.637E-09	2.265E-09
ENE	5.886E-08	3.052E-08	1.985E-08	1.138E-08	7.661E-09	5.622E-09	4.356E-09	3.503E-09	2.894E-09	2.441E-09	2.093E-09
E	3.751E-08	1.941E-08	1.260E-08	7.210E-09	4.846E-09	3.554E-09	2.753E-09	2.215E-09	1.831E-09	1.546E-09	1.327E-09
ESE	6.150E-08	3.120E-08	1.999E-08	1.123E-08	7.463E-09	5.426E-09	4.176E-09	3.341E-09	2.750E-09	2.314E-09	1.980E-09
SE	8.013E-08	4.014E-08	2.549E-08	1.413E-08	9.296E-09	6.709E-09	5.132E-09	4.087E-09	3.351E-09	2.809E-09	2.396E-09
SSE	8.110E-08	4.079E-08	2.597E-08	1.446E-08	9.541E-09	6.899E-09	5.285E-09	4.212E-09	3.454E-09	2.896E-09	2.470E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	6.088E-06	1.406E-06	4.362E-07	2.203E-07	1.367E-07	6.025E-08	2.115E-08	1.007E-08	6.172E-09	4.257E-09
SSW	4.298E-06	9.782E-07	3.009E-07	1.512E-07	9.349E-08	4.094E-08	1.423E-08	6.720E-09	4.093E-09	2.809E-09
SW	2.761E-06	6.445E-07	1.956E-07	9.748E-08	5.988E-08	2.594E-08	8.838E-09	4.101E-09	2.470E-09	1.681E-09
WSW	3.129E-06	7.250E-07	2.182E-07	1.082E-07	6.624E-08	2.853E-08	9.643E-09	4.462E-09	2.689E-09	1.834E-09
W	2.101E-06	4.790E-07	1.419E-07	6.973E-08	4.239E-08	1.805E-08	5.990E-09	2.740E-09	1.643E-09	1.118E-09
WNW	3.231E-06	7.343E-07	2.238E-07	1.120E-07	6.900E-08	3.009E-08	1.040E-08	4.908E-09	2.993E-09	2.058E-09
NW	5.714E-06	1.329E-06	4.207E-07	2.151E-07	1.347E-07	6.022E-08	2.163E-08	1.047E-08	6.472E-09	4.488E-09
NNW	9.187E-06	2.156E-06	7.136E-07	3.737E-07	2.378E-07	1.091E-07	4.063E-08	2.033E-08	1.259E-08	8.785E-09
N	1.153E-05	2.731E-06	8.956E-07	4.668E-07	2.961E-07	1.351E-07	5.001E-08	2.471E-08	1.543E-08	1.077E-08
NNE	6.643E-06	1.563E-06	5.036E-07	2.599E-07	1.637E-07	7.392E-08	2.692E-08	1.314E-08	8.155E-09	5.667E-09
NE	3.052E-06	7.133E-07	2.289E-07	1.180E-07	7.431E-08	3.359E-08	1.229E-08	6.047E-09	3.778E-09	2.642E-09
ENE	2.936E-06	6.938E-07	2.215E-07	1.137E-07	7.141E-08	3.208E-08	1.161E-08	5.659E-09	3.515E-09	2.446E-09
E	1.870E-06	4.453E-07	1.417E-07	7.264E-08	4.554E-08	2.041E-08	7.358E-09	3.578E-09	2.223E-09	1.549E-09
ESE	3.374E-06	7.882E-07	2.419E-07	1.215E-07	7.511E-08	3.295E-08	1.150E-08	5.469E-09	3.355E-09	2.319E-09
SE	4.582E-06	1.061E-06	3.213E-07	1.599E-07	9.819E-08	4.251E-08	1.451E-08	6.768E-09	4.105E-09	2.817E-09
SSE	4.634E-06	1.061E-06	3.231E-07	1.613E-07	9.928E-08	4.316E-08	1.483E-08	6.958E-09	4.230E-09	2.903E-09

B242

VENTS GROUND LEVEL RELEASES - JAN-MAR 2011  
8.000 DAY DECAY, DEPLETED  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES FROM THE SITE											
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.291E-05	1.075E-05	5.586E-06	2.738E-06	1.060E-06	5.565E-07	3.436E-07	2.343E-07	1.708E-07	1.307E-07	1.037E-07	2.332E-05	7.654E-06	3.931E-06	1.913E-06	7.362E-07	3.851E-07	2.370E-07	1.612E-07	1.173E-07	8.957E-08	7.093E-08
SSW	1.424E-05	4.786E-06	2.560E-06	1.268E-06	4.838E-07	2.515E-07	1.540E-07	1.043E-07	7.561E-08	5.755E-08	4.544E-08	1.571E-05	5.429E-06	2.902E-06	1.431E-06	5.428E-07	2.809E-07	1.714E-07	1.158E-07	8.374E-08	6.362E-08	5.014E-08
WSW	1.058E-05	3.673E-06	1.941E-06	9.509E-07	3.571E-07	1.834E-07	1.113E-07	7.477E-08	5.385E-08	4.075E-08	3.201E-08	1.711E-05	5.730E-06	2.965E-06	1.442E-06	5.512E-07	2.870E-07	1.761E-07	1.195E-07	8.675E-08	6.614E-08	5.229E-08
W	3.164E-05	1.012E-05	5.234E-06	2.566E-06	1.007E-06	5.339E-07	3.321E-07	2.279E-07	1.671E-07	1.285E-07	1.023E-07	5.496E-05	1.650E-05	8.336E-06	4.083E-06	1.653E-06	8.954E-07	5.659E-07	3.932E-07	2.913E-07	2.259E-07	1.813E-07
WNW	6.803E-05	2.047E-05	1.051E-05	5.192E-06	2.089E-06	1.126E-06	7.095E-07	4.917E-07	3.635E-07	2.814E-07	2.254E-07	3.770E-05	1.175E-05	6.082E-06	2.997E-06	1.190E-06	6.363E-07	3.983E-07	2.747E-07	2.022E-07	1.559E-07	1.246E-07
NW	1.746E-05	5.417E-06	2.789E-06	1.369E-06	5.420E-07	2.892E-07	1.808E-07	1.246E-07	9.164E-08	7.066E-08	5.642E-08	1.746E-05	5.417E-06	2.789E-06	1.369E-06	5.420E-07	2.892E-07	1.808E-07	1.246E-07	9.164E-08	7.066E-08	5.642E-08
NNW	1.672E-05	5.161E-06	2.693E-06	1.335E-06	5.269E-07	2.805E-07	1.750E-07	1.203E-07	8.838E-08	6.804E-08	5.426E-08	6.803E-05	2.047E-05	1.051E-05	5.192E-06	2.089E-06	1.126E-06	7.095E-07	4.917E-07	3.635E-07	2.814E-07	2.254E-07
N	3.770E-05	1.175E-05	6.082E-06	2.997E-06	1.190E-06	6.363E-07	3.983E-07	2.747E-07	2.022E-07	1.559E-07	1.246E-07	3.770E-05	1.175E-05	6.082E-06	2.997E-06	1.190E-06	6.363E-07	3.983E-07	2.747E-07	2.022E-07	1.559E-07	1.246E-07
NNE	1.746E-05	5.417E-06	2.789E-06	1.369E-06	5.420E-07	2.892E-07	1.808E-07	1.246E-07	9.164E-08	7.066E-08	5.642E-08	1.746E-05	5.417E-06	2.789E-06	1.369E-06	5.420E-07	2.892E-07	1.808E-07	1.246E-07	9.164E-08	7.066E-08	5.642E-08
NE	1.672E-05	5.161E-06	2.693E-06	1.335E-06	5.269E-07	2.805E-07	1.750E-07	1.203E-07	8.838E-08	6.804E-08	5.426E-08	1.672E-05	5.161E-06	2.693E-06	1.335E-06	5.269E-07	2.805E-07	1.750E-07	1.203E-07	8.838E-08	6.804E-08	5.426E-08
ENE	1.038E-05	3.261E-06	1.723E-06	8.578E-07	3.379E-07	1.796E-07	1.119E-07	7.686E-08	5.639E-08	4.338E-08	3.457E-08	1.038E-05	3.261E-06	1.723E-06	8.578E-07	3.379E-07	1.796E-07	1.119E-07	7.686E-08	5.639E-08	4.338E-08	3.457E-08
E	1.767E-05	5.866E-06	3.121E-06	1.543E-06	5.924E-07	3.094E-07	1.903E-07	1.293E-07	9.408E-08	7.182E-08	5.686E-08	1.767E-05	5.866E-06	3.121E-06	1.543E-06	5.924E-07	3.094E-07	1.903E-07	1.293E-07	9.408E-08	7.182E-08	5.686E-08
ESE	2.335E-05	7.983E-06	4.237E-06	2.087E-06	7.948E-07	4.125E-07	2.523E-07	1.707E-07	1.237E-07	9.406E-08	7.422E-08	2.335E-05	7.983E-06	4.237E-06	2.087E-06	7.948E-07	4.125E-07	2.523E-07	1.707E-07	1.237E-07	9.406E-08	7.422E-08
SE	2.454E-05	8.174E-06	4.259E-06	2.084E-06	7.964E-07	4.143E-07	2.539E-07	1.721E-07	1.248E-07	9.509E-08	7.512E-08	2.454E-05	8.174E-06	4.259E-06	2.084E-06	7.964E-07	4.143E-07	2.539E-07	1.721E-07	1.248E-07	9.509E-08	7.512E-08
SSE																						

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES FROM THE SITE											
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	8.455E-08	4.099E-08	2.526E-08	1.335E-08	8.444E-09	5.895E-09	4.379E-09	3.397E-09	2.718E-09	2.229E-09	1.862E-09	8.455E-08	4.099E-08	2.526E-08	1.335E-08	8.444E-09	5.895E-09	4.379E-09	3.397E-09	2.718E-09	2.229E-09	1.862E-09
SSW	5.777E-08	2.786E-08	1.710E-08	8.994E-09	5.675E-09	3.954E-09	2.933E-09	2.272E-09	1.816E-09	1.487E-09	1.241E-09	5.777E-08	2.786E-08	1.710E-08	8.994E-09	5.675E-09	3.954E-09	2.933E-09	2.272E-09	1.816E-09	1.487E-09	1.241E-09
SW	3.692E-08	1.762E-08	1.073E-08	5.576E-09	3.484E-09	2.408E-09	1.773E-09	1.365E-09	1.085E-09	8.845E-10	7.350E-10	3.692E-08	1.762E-08	1.073E-08	5.576E-09	3.484E-09	2.408E-09	1.773E-09	1.365E-09	1.085E-09	8.845E-10	7.350E-10
WSW	4.067E-08	1.928E-08	1.168E-08	6.028E-09	3.750E-09	2.583E-09	1.898E-09	1.458E-09	1.158E-09	9.421E-10	7.820E-10	4.067E-08	1.928E-08	1.168E-08	6.028E-09	3.750E-09	2.583E-09	1.898E-09	1.458E-09	1.158E-09	9.421E-10	7.820E-10
W	2.588E-08	1.212E-08	7.280E-09	3.711E-09	2.290E-09	1.567E-09	1.146E-09	8.770E-10	6.938E-10	5.630E-10	4.661E-10	2.588E-08	1.212E-08	7.280E-09	3.711E-09	2.290E-09	1.567E-09	1.146E-09	8.770E-10	6.938E-10	5.630E-10	4.661E-10
WNW	4.254E-08	2.042E-08	1.250E-08	6.546E-09	4.122E-09	2.868E-09	2.125E-09	1.644E-09	1.313E-09	1.075E-09	8.965E-10	4.254E-08	2.042E-08	1.250E-08	6.546E-09	4.122E-09	2.868E-09	2.125E-09	1.644E-09	1.313E-09	1.075E-09	8.965E-10
NW	8.376E-08	4.120E-08	2.564E-08	1.374E-08	8.784E-09	6.180E-09	4.620E-09	3.601E-09	2.895E-09	2.382E-09	1.996E-09	8.376E-08	4.120E-08	2.564E-08	1.374E-08	8.784E-09	6.180E-09	4.620E-09	3.601E-09	2.895E-09	2.382E-09	1.996E-09
NNW	1.494E-07	7.533E-08	4.768E-08	2.613E-08	1.695E-08	1.206E-08	9.090E-09	7.135E-09	5.769E-09	4.771E-09	4.016E-09	1.494E-07	7.533E-08	4.768E-08	2.613E-08	1.695E-08	1.206E-08	9.090E-09	7.135E-09	5.769E-09	4.771E-09	4.016E-09
N	1.856E-07	9.309E-08	5.872E-08	3.204E-08	2.073E-08	1.471E-08	1.108E-08	8.684E-09	7.014E-09	5.795E-09	4.874E-09	1.856E-07	9.309E-08	5.872E-08	3.204E-08	2.073E-08	1.471E-08	1.108E-08	8.684E-09	7.014E-09	5.795E-09	4.874E-09
NNE	1.022E-07	5.077E-08	3.180E-08	1.719E-08	1.105E-08	7.804E-09	5.852E-09	4.574E-09	3.684E-09	3.036E-09	2.549E-09	1.022E-07	5.077E-08	3.180E-08	1.719E-08	1.105E-08	7.804E-09	5.852E-09	4.574E-09	3.684E-09	3.036E-09	2.549E-09
NE	4.631E-08	2.300E-08	1.442E-08	7.806E-09	5.028E-09	3.558E-09	2.673E-09	2.092E-09	1.687E-09	1.392E-09	1.170E-09	4.631E-08	2.300E-08	1.442E-08	7.806E-09	5.028E-09	3.558E-09	2.673E-09	2.092E-09	1.687E-09	1.392E-09	1.170E-09
ENE	4.447E-08	2.197E-08	1.371E-08	7.380E-09	4.733E-09	3.339E-09	2.501E-09	1.953E-09	1.572E-09	1.295E-09	1.086E-09	4.447E-08	2.197E-08	1.371E-08	7.380E-09	4.733E-09	3.339E-09	2.501E-09	1.953E-09	1.572E-09	1.295E-09	1.086E-09
E	2.831E-08	1.394E-08	8.681E-09	4.655E-09	2.976E-09	2.094E-09	1.566E-09	1.221E-09	9.813E-10	8.076E-10	6.771E-10	2.831E-08	1.394E-08	8.681E-09	4.655E-09	2.976E-09	2.094E-09	1.566E-09	1.221E-09	9.813E-10	8.076E-10	6.771E-10
ESE	4.631E-08	2.234E-08	1.371E-08	7.209E-09	4.547E-09	3.167E-09	2.348E-09	1.818E-09	1.453E-09	1.190E-09	9.927E-10	4.631E-08	2.234E-08	1.371E-08	7.209E-09	4.547E-09	3.167E-09	2.348E-09	1.818E-09	1.453E-09	1.190E-09	9.927E-10
SE	6.026E-08	2.868E-08	1.744E-08	9.036E-09	5.637E-09	3.892E-09	2.866E-09	2.206E-09	1.754E-09	1.430E-09	1.189E-09	6.026E-08	2.868E-08	1.744E-08	9.036E-09	5.637E-09	3.892E-09	2.866E-09	2.206E-09	1.754E-09	1.430E-09	1.189E-09
SSE	6.105E-08	2.920E-08	1.782E-08	9.287E-09	5.822E-09	4.036E-09	2.982E-09	2.301E-09	1.835E-09	1.499E-09	1.248E-09	6.105E-08	2.920E-08	1.782E-08	9.287E-09	5.822E-09	4.036E-09	2.982E-09	2.301E-09	1.835E-09	1.499E-09	1.248E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	5.469E-06	1.209E-06	3.566E-07	1.737E-07	1.046E-07	4.368E-08	1.381E-08	5.968E-09	3.419E-09	2.238E-09
SSW	3.862E-06	8.417E-07	2.461E-07	1.193E-07	7.158E-08	2.972E-08	9.320E-09	4.005E-09	2.287E-09	1.494E-09
SW	2.480E-06	5.548E-07	1.601E-07	7.692E-08	4.587E-08	1.885E-08	5.792E-09	2.441E-09	1.375E-09	8.886E-10
WSW	2.810E-06	6.238E-07	1.783E-07	8.523E-08	5.063E-08	2.065E-08	6.272E-09	2.620E-09	1.469E-09	9.466E-10
W	1.886E-06	4.118E-07	1.159E-07	5.484E-08	3.233E-08	1.303E-08	3.872E-09	1.591E-09	8.841E-10	5.659E-10
WNW	2.903E-06	6.318E-07	1.830E-07	8.824E-08	5.278E-08	2.181E-08	6.791E-09	2.905E-09	1.655E-09	1.079E-09
NW	5.135E-06	1.143E-06	3.443E-07	1.698E-07	1.032E-07	4.374E-08	1.418E-08	6.251E-09	3.623E-09	2.391E-09
NNW	8.261E-06	1.856E-06	5.847E-07	2.955E-07	1.827E-07	7.950E-08	2.684E-08	1.217E-08	7.173E-09	4.787E-09
N	1.036E-05	2.350E-06	7.335E-07	3.688E-07	2.272E-07	9.836E-08	3.294E-08	1.486E-08	8.732E-09	5.815E-09
NNE	5.970E-06	1.346E-06	4.123E-07	2.053E-07	1.256E-07	5.378E-08	1.771E-08	7.889E-09	4.600E-09	3.047E-09
NE	2.742E-06	6.135E-07	1.872E-07	9.306E-08	5.690E-08	2.437E-08	8.041E-09	3.596E-09	2.104E-09	1.397E-09
ENE	2.638E-06	5.969E-07	1.813E-07	8.976E-08	5.472E-08	2.330E-08	7.611E-09	3.375E-09	1.964E-09	1.300E-09

VENTS GROUND LEVEL RELEASES - JAN-MAR 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

\*\*\*\*\* RELATIVE DEPOSITION PER UNIT AREA (M\*\*-2) AT FIXED POINTS BY DOWNWIND SECTORS \*\*\*\*\*

DIRECTION FROM SITE	DISTANCES IN MILES										
	.25	.50	.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S	2.305E-07	7.796E-08	4.003E-08	1.903E-08	6.835E-09	3.390E-09	1.996E-09	1.307E-09	9.196E-10	6.815E-10	5.252E-10
SSW	1.533E-07	5.185E-08	2.662E-08	1.266E-08	4.546E-09	2.255E-09	1.328E-09	8.693E-10	6.117E-10	4.533E-10	3.493E-10
SW	7.720E-08	2.611E-08	1.340E-08	6.373E-09	2.289E-09	1.135E-09	6.684E-10	4.377E-10	3.080E-10	2.282E-10	1.759E-10
WSW	1.029E-07	3.481E-08	1.787E-08	8.497E-09	3.052E-09	1.514E-09	8.912E-10	5.836E-10	4.106E-10	3.043E-10	2.345E-10
W	8.578E-08	2.901E-08	1.489E-08	7.081E-09	2.543E-09	1.261E-09	7.427E-10	4.863E-10	3.422E-10	2.536E-10	1.954E-10
WNW	1.072E-07	3.626E-08	1.862E-08	8.851E-09	3.179E-09	1.577E-09	9.283E-10	6.079E-10	4.277E-10	3.170E-10	2.443E-10
NW	1.587E-07	5.366E-08	2.755E-08	1.310E-08	4.705E-09	2.333E-09	1.374E-09	8.997E-10	6.330E-10	4.691E-10	3.615E-10
NNW	1.533E-07	5.185E-08	2.662E-08	1.266E-08	4.546E-09	2.255E-09	1.328E-09	8.693E-10	6.117E-10	4.533E-10	3.493E-10
N	2.284E-07	7.723E-08	3.965E-08	1.885E-08	6.772E-09	3.358E-09	1.977E-09	1.295E-09	9.111E-10	6.752E-10	5.203E-10
NNE	1.544E-07	5.221E-08	2.681E-08	1.275E-08	4.578E-09	2.270E-09	1.337E-09	8.753E-10	6.159E-10	4.565E-10	3.518E-10
NE	1.029E-07	3.481E-08	1.787E-08	8.497E-09	3.052E-09	1.514E-09	8.912E-10	5.836E-10	4.106E-10	3.043E-10	2.345E-10
ENE	8.149E-08	2.756E-08	1.415E-08	6.727E-09	2.416E-09	1.198E-09	7.055E-10	4.620E-10	3.251E-10	2.409E-10	1.857E-10
E	4.825E-08	1.632E-08	8.378E-09	3.983E-09	1.431E-09	7.095E-10	4.178E-10	2.735E-10	1.925E-10	1.426E-10	1.099E-10
ESE	1.426E-07	4.822E-08	2.476E-08	1.177E-08	4.228E-09	2.097E-09	1.235E-09	8.085E-10	5.689E-10	4.216E-10	3.249E-10
SE	2.380E-07	8.049E-08	4.133E-08	1.965E-08	7.058E-09	3.500E-09	2.061E-09	1.349E-09	9.496E-10	7.037E-10	5.423E-10
SSE	2.509E-07	8.484E-08	4.356E-08	2.071E-08	7.439E-09	3.689E-09	2.172E-09	1.422E-09	1.001E-09	7.418E-10	5.716E-10

DIRECTION FROM SITE

	DISTANCES IN MILES										
	5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
S	4.172E-10	1.854E-10	1.123E-10	5.675E-11	3.435E-11	2.303E-11	1.650E-11	1.239E-11	9.634E-12	7.696E-12	6.282E-12
SSW	2.775E-10	1.233E-10	7.468E-11	3.775E-11	2.285E-11	1.532E-11	1.098E-11	8.242E-12	6.408E-12	5.119E-12	4.178E-12
SW	1.397E-10	6.207E-11	3.760E-11	1.900E-11	1.150E-11	7.712E-12	5.526E-12	4.150E-12	3.226E-12	2.577E-12	2.104E-12
WSW	1.863E-10	8.276E-11	5.013E-11	2.534E-11	1.534E-11	1.028E-11	7.368E-12	5.533E-12	4.302E-12	3.436E-12	2.805E-12
W	1.553E-10	6.897E-11	4.178E-11	2.112E-11	1.278E-11	8.569E-12	6.140E-12	4.611E-12	3.585E-12	2.864E-12	2.337E-12
WNW	1.941E-10	8.621E-11	5.222E-11	2.640E-11	1.598E-11	1.071E-11	7.675E-12	5.763E-12	4.481E-12	3.580E-12	2.922E-12
NW	2.872E-10	1.276E-10	7.729E-11	3.907E-11	2.364E-11	1.585E-11	1.136E-11	8.530E-12	6.632E-12	5.298E-12	4.324E-12
NNW	2.775E-10	1.233E-10	7.468E-11	3.775E-11	2.285E-11	1.532E-11	1.098E-11	8.242E-12	6.408E-12	5.119E-12	4.178E-12
N	4.134E-10	1.836E-10	1.112E-10	5.622E-11	3.403E-11	2.282E-11	1.635E-11	1.228E-11	9.545E-12	7.625E-12	6.223E-12
NNE	2.795E-10	1.241E-10	7.520E-11	3.801E-11	2.301E-11	1.542E-11	1.105E-11	8.299E-12	6.453E-12	5.155E-12	4.207E-12
NE	1.863E-10	8.276E-11	5.013E-11	2.534E-11	1.534E-11	1.028E-11	7.368E-12	5.533E-12	4.302E-12	3.436E-12	2.805E-12
ENE	1.475E-10	6.552E-11	3.969E-11	2.006E-11	1.214E-11	8.141E-12	5.833E-12	4.380E-12	3.406E-12	2.720E-12	2.221E-12
E	8.733E-11	3.879E-11	2.350E-11	1.188E-11	7.189E-12	4.820E-12	3.454E-12	2.594E-12	2.017E-12	1.611E-12	1.315E-12
ESE	2.581E-10	1.147E-10	6.946E-11	3.511E-11	2.125E-11	1.425E-11	1.021E-11	7.665E-12	5.960E-12	4.761E-12	3.886E-12
SE	4.308E-10	1.914E-10	1.159E-10	5.860E-11	3.547E-11	2.378E-11	1.704E-11	1.279E-11	9.948E-12	7.947E-12	6.486E-12
SSE	4.541E-10	2.017E-10	1.222E-10	6.177E-11	3.738E-11	2.506E-11	1.796E-11	1.349E-11	1.049E-11	8.376E-12	6.837E-12

B244

\*\*\*\*\* RELATIVE DEPOSITION PER UNIT AREA (M\*\*-2) BY DOWNWIND SECTORS \*\*\*\*\*

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	3.912E-08	8.014E-09	2.092E-09	9.396E-10	5.315E-10	2.044E-10	5.913E-11	2.344E-11	1.252E-11	7.747E-12
SSW	2.602E-08	5.330E-09	1.391E-09	6.249E-10	3.535E-10	1.360E-10	3.933E-11	1.559E-11	8.324E-12	5.152E-12
SW	1.310E-08	2.684E-09	7.006E-10	3.146E-10	1.780E-10	6.845E-11	1.980E-11	7.849E-12	4.191E-12	2.594E-12
WSW	1.747E-08	3.578E-09	9.341E-10	4.195E-10	2.373E-10	9.127E-11	2.640E-11	1.046E-11	5.588E-12	3.459E-12
W	1.456E-08	2.982E-09	7.784E-10	3.496E-10	1.978E-10	7.606E-11	2.200E-11	8.721E-12	4.657E-12	2.882E-12
WNW	1.820E-08	3.727E-09	9.730E-10	4.370E-10	2.472E-10	9.507E-11	2.750E-11	1.090E-11	5.821E-12	3.603E-12
NW	2.693E-08	5.516E-09	1.440E-09	6.468E-10	3.659E-10	1.407E-10	4.071E-11	1.613E-11	8.615E-12	5.333E-12
NNW	2.602E-08	5.330E-09	1.391E-09	6.249E-10	3.535E-10	1.360E-10	3.933E-11	1.559E-11	8.324E-12	5.152E-12
N	3.876E-08	7.939E-09	2.073E-09	9.308E-10	5.266E-10	2.025E-10	5.858E-11	2.322E-11	1.240E-11	7.675E-12
NNE	2.620E-08	5.367E-09	1.401E-09	6.293E-10	3.560E-10	1.369E-10	3.961E-11	1.570E-11	8.383E-12	5.188E-12
NE	1.747E-08	3.578E-09	9.341E-10	4.195E-10	2.373E-10	9.127E-11	2.640E-11	1.046E-11	5.588E-12	3.459E-12
ENE	1.383E-08	2.833E-09	7.395E-10	3.321E-10	1.879E-10	7.225E-11	2.090E-11	8.285E-12	4.424E-12	2.738E-12
E	8.189E-09	1.677E-09	4.379E-10	1.967E-10	1.113E-10	4.278E-11	1.238E-11	4.905E-12	2.620E-12	1.621E-12
ESE	2.420E-08	4.957E-09	1.294E-09	5.812E-10	3.288E-10	1.264E-10	3.658E-11	1.450E-11	7.742E-12	4.792E-12
SE	4.040E-08	8.275E-09	2.160E-09	9.702E-10	5.488E-10	2.111E-10	6.106E-11	2.420E-11	1.292E-11	7.999E-12
SSE	4.258E-08	8.722E-09	2.277E-09	1.023E-09	5.785E-10	2.225E-10	6.436E-11	2.551E-11	1.362E-11	8.431E-12

VENTS GROUND LEVEL RELEASES - JAN-MAR 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS  
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION FROM SITE	DIST. (MI)	X/Q (SEC/M3)		X/Q (SEC/M3)		D/Q (PER SQ.METER)
				NO DECAY		2.26 DAY DECAY		
				UNDEPLETED		UNDEPLETED		
				DEPLETED		DEPLETED		
A	Site Boundary	S	.80	5.4E-06	5.4E-06	4.8E-06	3.4E-08	
A	Site Boundary	SSW	.82	3.5E-06	3.5E-06	3.1E-06	2.1E-08	
A	Site Boundary	SW	.97	1.5E-06	1.5E-06	1.3E-06	6.8E-09	
A	Site Boundary	WSW	.93	2.0E-06	2.0E-06	1.7E-06	1.0E-08	
A	Site Boundary	W	.91	1.4E-06	1.4E-06	1.2E-06	9.0E-09	
A	Site Boundary	WNW	.94	1.9E-06	1.9E-06	1.7E-06	1.0E-08	
A	Site Boundary	NW	.81	4.9E-06	4.8E-06	4.3E-06	2.3E-08	
A	Site Boundary	NNW	.69	1.1E-05	1.1E-05	9.6E-06	3.1E-08	
A	Site Boundary	N	.67	1.4E-05	1.4E-05	1.2E-05	4.7E-08	
A	Site Boundary	NNE	.60	9.7E-06	9.6E-06	8.7E-06	3.9E-08	
A	Site Boundary	NE	.62	4.2E-06	4.2E-06	3.7E-06	2.4E-08	
A	Site Boundary	ENE	.59	4.4E-06	4.4E-06	4.0E-06	2.1E-08	
A	Site Boundary	E	.53	3.3E-06	3.3E-06	3.0E-06	1.5E-08	
A	Site Boundary	ESE	.54	5.8E-06	5.7E-06	5.2E-06	4.3E-08	
A	Site Boundary	SE	.65	5.9E-06	5.9E-06	5.3E-06	5.3E-08	
A	Site Boundary	SSE	.81	4.0E-06	3.9E-06	3.5E-06	3.6E-08	
A	Nearest Res	SSW	2.10	4.2E-07	4.2E-07	3.5E-07	2.0E-09	
A	Nearest Res	SW	1.30	7.9E-07	7.8E-07	6.8E-07	3.3E-09	
A	Nearest Res	WSW	1.90	3.8E-07	3.8E-07	3.2E-07	1.7E-09	
A	Nearest Res	W	1.00	1.1E-06	1.1E-06	9.5E-07	7.1E-09	
A	Nearest Res	WNW	1.70	4.9E-07	4.9E-07	4.1E-07	2.3E-09	
A	Nearest Res	NW	.90	3.8E-06	3.8E-06	3.3E-06	1.7E-08	
A	Nearest Res	NNW	1.90	1.2E-06	1.2E-06	1.0E-06	2.6E-09	
A	Nearest Res	N	2.50	8.8E-07	8.7E-07	7.1E-07	2.0E-09	
A	Nearest Res	NE	2.80	1.8E-07	1.8E-07	1.4E-07	6.8E-10	
A	Nearest Res	ENE	1.70	4.8E-07	4.7E-07	4.0E-07	1.8E-09	
A	Nearest Res	E	1.90	2.4E-07	2.4E-07	2.0E-07	8.0E-10	
A	Nearest Res	ESE	2.30	2.8E-07	2.8E-07	2.3E-07	1.5E-09	
A	Nearest Res	NNW	3.50	3.8E-07	3.7E-07	2.9E-07	6.1E-10	
A	Nearest Garde	SW	1.30	7.9E-07	7.8E-07	6.8E-07	3.3E-09	
A	Nearest Garde	WSW	1.90	3.8E-07	3.8E-07	3.2E-07	1.7E-09	
A	Nearest Garde	WNW	2.40	2.4E-07	2.4E-07	1.9E-07	1.0E-09	
A	Nearest Garde	NW	2.90	3.1E-07	3.0E-07	2.4E-07	9.7E-10	
A	Nearest Garde	NNW	2.80	5.7E-07	5.6E-07	4.5E-07	1.0E-09	
A	Nearest Garde	NE	2.80	1.8E-07	1.8E-07	1.4E-07	6.8E-10	
A	Nearest Garde	ENE	1.70	4.8E-07	4.7E-07	4.0E-07	1.8E-09	
A	Nearest Garde	E	1.90	2.4E-07	2.4E-07	2.0E-07	8.0E-10	
A	Nearest Garde	ESE	3.00	1.6E-07	1.6E-07	1.3E-07	8.1E-10	

B245

**Atmospheric Diffusion Estimates**

**Ground Level Releases**

April-June 2011

VENTS GROUND LEVEL RELEASES - APR-JUN 2011  
 NO DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.341E-05	1.106E-05	5.817E-06	2.892E-06	1.165E-06	6.320E-07	4.012E-07	2.804E-07	2.090E-07	1.632E-07	1.319E-07
SSW	2.235E-05	7.535E-06	3.981E-06	1.976E-06	7.882E-07	4.247E-07	2.682E-07	1.867E-07	1.387E-07	1.080E-07	8.703E-08
SW	1.250E-05	4.343E-06	2.327E-06	1.156E-06	4.482E-07	2.367E-07	1.471E-07	1.011E-07	7.425E-08	5.724E-08	4.575E-08
WSW	1.228E-05	4.495E-06	2.444E-06	1.217E-06	4.706E-07	2.479E-07	1.537E-07	1.054E-07	7.730E-08	5.949E-08	4.747E-08
W	1.858E-05	6.611E-06	3.535E-06	1.752E-06	6.788E-07	3.580E-07	2.223E-07	1.525E-07	1.120E-07	8.622E-08	6.884E-08
WNW	2.230E-05	7.921E-06	4.238E-06	2.096E-06	8.032E-07	4.205E-07	2.595E-07	1.773E-07	1.296E-07	9.947E-08	7.917E-08
NW	2.434E-05	8.336E-06	4.470E-06	2.226E-06	8.686E-07	4.610E-07	2.877E-07	1.983E-07	1.462E-07	1.130E-07	9.052E-08
NNW	3.108E-05	1.011E-05	5.278E-06	2.617E-06	1.062E-06	5.799E-07	3.700E-07	2.596E-07	1.943E-07	1.521E-07	1.233E-07
N	3.601E-05	1.158E-05	6.017E-06	2.982E-06	1.220E-06	6.695E-07	4.287E-07	3.018E-07	2.264E-07	1.777E-07	1.442E-07
NNE	2.086E-05	6.553E-06	3.373E-06	1.667E-06	6.886E-07	3.804E-07	2.449E-07	1.732E-07	1.304E-07	1.027E-07	8.360E-08
NE	6.516E-06	2.129E-06	1.104E-06	5.446E-07	2.216E-07	1.212E-07	7.742E-08	5.440E-08	4.074E-08	3.194E-08	2.590E-08
ENE	7.656E-06	2.528E-06	1.364E-06	6.878E-07	2.771E-07	1.503E-07	9.535E-08	6.661E-08	4.965E-08	3.875E-08	3.130E-08
E	1.688E-05	5.420E-06	2.835E-06	1.413E-06	5.805E-07	3.192E-07	2.046E-07	1.442E-07	1.082E-07	8.496E-08	6.900E-08
ESE	1.555E-05	5.258E-06	2.864E-06	1.447E-06	5.794E-07	3.129E-07	1.978E-07	1.378E-07	1.025E-07	7.979E-08	6.433E-08
SE	2.618E-05	8.588E-06	4.490E-06	2.229E-06	9.010E-07	4.900E-07	3.116E-07	2.181E-07	1.628E-07	1.273E-07	1.030E-07
SSE	3.005E-05	9.950E-06	5.294E-06	2.649E-06	1.065E-06	5.764E-07	3.652E-07	2.549E-07	1.898E-07	1.480E-07	1.195E-07

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	1.095E-07	5.686E-08	3.715E-08	2.157E-08	1.474E-08	1.100E-08	8.670E-09	7.098E-09	5.973E-09	5.132E-09	4.482E-09
SSW	7.208E-08	3.715E-08	2.414E-08	1.390E-08	9.452E-09	7.022E-09	5.517E-09	4.504E-09	3.780E-09	3.241E-09	2.826E-09
SW	3.760E-08	1.880E-08	1.195E-08	6.688E-09	4.465E-09	3.271E-09	2.540E-09	2.053E-09	1.708E-09	1.453E-09	1.258E-09
WSW	3.895E-08	1.933E-08	1.221E-08	6.756E-09	4.460E-09	3.237E-09	2.493E-09	2.001E-09	1.655E-09	1.400E-09	1.206E-09
W	5.652E-08	2.815E-08	1.783E-08	9.910E-09	6.568E-09	4.783E-09	3.696E-09	2.975E-09	2.467E-09	2.092E-09	1.806E-09
WNW	6.485E-08	3.202E-08	2.017E-08	1.112E-08	7.336E-09	5.324E-09	4.102E-09	3.294E-09	2.725E-09	2.307E-09	1.988E-09
NW	7.458E-08	3.770E-08	2.415E-08	1.365E-08	9.167E-09	6.746E-09	5.258E-09	4.263E-09	3.558E-09	3.034E-09	2.633E-09
NNW	1.026E-07	5.390E-08	3.549E-08	2.083E-08	1.434E-08	1.076E-08	8.524E-09	7.005E-09	5.914E-09	5.096E-09	4.462E-09
N	1.202E-07	6.349E-08	4.196E-08	2.474E-08	1.709E-08	1.285E-08	1.019E-08	8.388E-09	7.090E-09	6.116E-09	5.361E-09
NNE	6.989E-08	3.735E-08	2.488E-08	1.483E-08	1.032E-08	7.807E-09	6.222E-09	5.139E-09	4.358E-09	3.769E-09	3.311E-09
NE	2.157E-08	1.136E-08	7.488E-09	4.406E-09	3.040E-09	2.285E-09	1.812E-09	1.491E-09	1.260E-09	1.087E-09	9.522E-10
ENE	2.598E-08	1.348E-08	8.795E-09	5.094E-09	3.473E-09	2.585E-09	2.034E-09	1.662E-09	1.396E-09	1.198E-09	1.045E-09
E	5.752E-08	3.038E-08	2.007E-08	1.183E-08	8.162E-09	6.133E-09	4.862E-09	3.999E-09	3.379E-09	2.913E-09	2.553E-09
ESE	5.329E-08	2.745E-08	1.781E-08	1.024E-08	6.937E-09	5.140E-09	4.029E-09	3.281E-09	2.749E-09	2.352E-09	2.047E-09
SE	8.554E-08	4.461E-08	2.922E-08	1.703E-08	1.166E-08	8.715E-09	6.879E-09	5.638E-09	4.749E-09	4.084E-09	3.570E-09
SSE	9.912E-08	5.133E-08	3.345E-08	1.935E-08	1.318E-08	9.810E-09	7.717E-09	6.306E-09	5.297E-09	4.545E-09	3.965E-09

DIRECTION FROM SITE	CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT										
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	
S	5.682E-06	1.312E-06	4.144E-07	2.119E-07	1.328E-07	5.979E-08	2.200E-08	1.107E-08	7.118E-09	5.140E-09	
SSW	3.880E-06	8.906E-07	2.773E-07	1.407E-07	8.770E-08	3.913E-08	1.420E-08	7.068E-09	4.518E-09	3.247E-09	
SW	2.255E-06	5.115E-07	1.526E-07	7.543E-08	4.614E-08	1.994E-08	6.870E-09	3.297E-09	2.061E-09	1.457E-09	
WSW	2.355E-06	5.375E-07	1.595E-07	7.855E-08	4.787E-08	2.053E-08	6.948E-09	3.266E-09	2.010E-09	1.404E-09	
W	3.426E-06	7.747E-07	2.306E-07	1.137E-07	6.943E-08	2.987E-08	1.018E-08	4.824E-09	2.988E-09	2.097E-09	
WNW	4.104E-06	9.203E-07	2.695E-07	1.317E-07	7.988E-08	3.405E-08	1.145E-08	5.372E-09	3.308E-09	2.312E-09	
NW	4.332E-06	9.890E-07	2.982E-07	1.484E-07	9.128E-08	3.987E-08	1.399E-08	6.796E-09	4.279E-09	3.041E-09	
NNW	5.168E-06	1.193E-06	3.818E-07	1.969E-07	1.242E-07	5.655E-08	2.121E-08	1.069E-08	7.023E-09	5.103E-09	
N	5.905E-06	1.367E-06	4.421E-07	2.294E-07	1.452E-07	6.653E-08	2.517E-08	1.292E-08	8.409E-09	6.125E-09	
NNE	3.322E-06	7.691E-07	2.524E-07	1.321E-07	8.417E-08	3.904E-08	1.506E-08	7.844E-09	5.151E-09	3.774E-09	
NE	1.083E-06	2.488E-07	7.989E-08	4.129E-08	2.609E-08	1.191E-08	4.484E-09	2.297E-09	1.495E-09	1.088E-09	
ENE	1.322E-06	3.120E-07	9.850E-08	5.034E-08	3.154E-08	1.417E-08	5.196E-09	2.602E-09	1.667E-09	1.200E-09	
E	2.778E-06	6.494E-07	2.110E-07	1.096E-07	6.948E-08	3.183E-08	1.203E-08	6.166E-09	4.010E-09	2.918E-09	
ESE	2.766E-06	6.538E-07	2.045E-07	1.039E-07	6.482E-08	2.891E-08	1.045E-08	5.175E-09	3.292E-09	2.356E-09	
SE	4.396E-06	1.013E-06	3.218E-07	1.651E-07	1.037E-07	4.687E-08	1.735E-08	8.766E-09	5.654E-09	4.091E-09	
SSE	5.153E-06	1.200E-06	3.774E-07	1.925E-07	1.204E-07	5.400E-08	1.974E-08	9.872E-09	6.325E-09	4.553E-09	

B247

VENTS GROUND LEVEL RELEASES - APR-JUN 2011  
2.260 DAY DECAY, UNDEPLETED  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES FROM THE SITE																						
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500											
S	3.338E-05	1.104E-05	5.801E-06	2.882E-06	1.159E-06	6.272E-07	3.973E-07	2.771E-07	2.061E-07	1.606E-07	1.295E-07	2.233E-05	7.521E-06	3.970E-06	1.969E-06	7.839E-07	4.216E-07	2.657E-07	1.846E-07	1.369E-07	1.063E-07	8.554E-08	1.249E-05	4.336E-06	2.322E-06	1.152E-06	4.461E-07	2.352E-07	1.459E-07	1.001E-07	7.342E-08	5.651E-08	4.509E-08
SSW	1.227E-05	4.489E-06	2.440E-06	1.214E-06	4.689E-07	2.467E-07	1.528E-07	1.046E-07	7.663E-08	5.890E-08	4.694E-08	1.857E-05	6.601E-06	3.528E-06	1.747E-06	6.758E-07	3.559E-07	2.206E-07	1.511E-07	1.108E-07	8.516E-08	6.788E-08	2.228E-05	7.911E-06	4.230E-06	2.090E-06	8.000E-07	4.182E-07	2.578E-07	1.758E-07	1.284E-07	9.839E-08	7.821E-08
SW	2.433E-05	8.326E-06	4.462E-06	2.220E-06	8.652E-07	4.585E-07	2.858E-07	1.967E-07	1.448E-07	1.117E-07	8.939E-08	1.686E-05	5.410E-06	2.827E-06	1.408E-06	5.770E-07	3.165E-07	2.022E-07	1.424E-07	1.066E-07	8.351E-08	6.767E-08	2.084E-05	6.538E-06	3.362E-06	1.660E-06	6.841E-07	3.770E-07	2.422E-07	1.708E-07	1.283E-07	1.008E-07	8.185E-08
WSW	1.857E-05	6.601E-06	3.528E-06	1.747E-06	6.758E-07	3.559E-07	2.206E-07	1.511E-07	1.108E-07	8.516E-08	6.788E-08	1.857E-05	6.601E-06	3.528E-06	1.747E-06	6.758E-07	3.559E-07	2.206E-07	1.511E-07	1.108E-07	8.516E-08	6.788E-08	1.857E-05	6.601E-06	3.528E-06	1.747E-06	6.758E-07	3.559E-07	2.206E-07	1.511E-07	1.108E-07	8.516E-08	6.788E-08
W	2.228E-05	7.911E-06	4.230E-06	2.090E-06	8.000E-07	4.182E-07	2.578E-07	1.758E-07	1.284E-07	9.839E-08	7.821E-08	2.228E-05	7.911E-06	4.230E-06	2.090E-06	8.000E-07	4.182E-07	2.578E-07	1.758E-07	1.284E-07	9.839E-08	7.821E-08	2.228E-05	7.911E-06	4.230E-06	2.090E-06	8.000E-07	4.182E-07	2.578E-07	1.758E-07	1.284E-07	9.839E-08	7.821E-08
WNW	2.433E-05	8.326E-06	4.462E-06	2.220E-06	8.652E-07	4.585E-07	2.858E-07	1.967E-07	1.448E-07	1.117E-07	8.939E-08	2.433E-05	8.326E-06	4.462E-06	2.220E-06	8.652E-07	4.585E-07	2.858E-07	1.967E-07	1.448E-07	1.117E-07	8.939E-08	2.433E-05	8.326E-06	4.462E-06	2.220E-06	8.652E-07	4.585E-07	2.858E-07	1.967E-07	1.448E-07	1.117E-07	8.939E-08
NW	3.104E-05	1.008E-05	5.261E-06	2.606E-06	1.056E-06	5.748E-07	3.658E-07	2.561E-07	1.912E-07	1.494E-07	1.207E-07	3.104E-05	1.008E-05	5.261E-06	2.606E-06	1.056E-06	5.748E-07	3.658E-07	2.561E-07	1.912E-07	1.494E-07	1.207E-07	3.104E-05	1.008E-05	5.261E-06	2.606E-06	1.056E-06	5.748E-07	3.658E-07	2.561E-07	1.912E-07	1.494E-07	1.207E-07
NNW	3.597E-05	1.156E-05	6.000E-06	2.971E-06	1.213E-06	6.642E-07	4.244E-07	2.981E-07	2.231E-07	1.747E-07	1.415E-07	3.597E-05	1.156E-05	6.000E-06	2.971E-06	1.213E-06	6.642E-07	4.244E-07	2.981E-07	2.231E-07	1.747E-07	1.415E-07	3.597E-05	1.156E-05	6.000E-06	2.971E-06	1.213E-06	6.642E-07	4.244E-07	2.981E-07	2.231E-07	1.747E-07	1.415E-07
N	2.084E-05	6.538E-06	3.362E-06	1.660E-06	6.841E-07	3.770E-07	2.422E-07	1.708E-07	1.283E-07	1.008E-07	8.185E-08	2.084E-05	6.538E-06	3.362E-06	1.660E-06	6.841E-07	3.770E-07	2.422E-07	1.708E-07	1.283E-07	1.008E-07	8.185E-08	2.084E-05	6.538E-06	3.362E-06	1.660E-06	6.841E-07	3.770E-07	2.422E-07	1.708E-07	1.283E-07	1.008E-07	8.185E-08
NNE	6.509E-06	2.125E-06	1.101E-06	5.426E-07	2.204E-07	1.203E-07	7.666E-08	5.375E-08	4.017E-08	3.142E-08	2.543E-08	6.509E-06	2.125E-06	1.101E-06	5.426E-07	2.204E-07	1.203E-07	7.666E-08	5.375E-08	4.017E-08	3.142E-08	2.543E-08	6.509E-06	2.125E-06	1.101E-06	5.426E-07	2.204E-07	1.203E-07	7.666E-08	5.375E-08	4.017E-08	3.142E-08	2.543E-08
NE	7.649E-06	2.523E-06	1.360E-06	6.855E-07	2.756E-07	1.492E-07	9.449E-08	6.589E-08	4.901E-08	3.818E-08	3.078E-08	7.649E-06	2.523E-06	1.360E-06	6.855E-07	2.756E-07	1.492E-07	9.449E-08	6.589E-08	4.901E-08	3.818E-08	3.078E-08	7.649E-06	2.523E-06	1.360E-06	6.855E-07	2.756E-07	1.492E-07	9.449E-08	6.589E-08	4.901E-08	3.818E-08	3.078E-08
ENE	1.686E-05	5.410E-06	2.827E-06	1.408E-06	5.770E-07	3.165E-07	2.022E-07	1.424E-07	1.066E-07	8.351E-08	6.767E-08	1.686E-05	5.410E-06	2.827E-06	1.408E-06	5.770E-07	3.165E-07	2.022E-07	1.424E-07	1.066E-07	8.351E-08	6.767E-08	1.686E-05	5.410E-06	2.827E-06	1.408E-06	5.770E-07	3.165E-07	2.022E-07	1.424E-07	1.066E-07	8.351E-08	6.767E-08
E	1.554E-05	5.250E-06	2.857E-06	1.442E-06	5.765E-07	3.108E-07	1.962E-07	1.364E-07	1.012E-07	7.868E-08	6.333E-08	1.554E-05	5.250E-06	2.857E-06	1.442E-06	5.765E-07	3.108E-07	1.962E-07	1.364E-07	1.012E-07	7.868E-08	6.333E-08	1.554E-05	5.250E-06	2.857E-06	1.442E-06	5.765E-07	3.108E-07	1.962E-07	1.364E-07	1.012E-07	7.868E-08	6.333E-08
ESE	2.615E-05	8.570E-06	4.477E-06	2.220E-06	8.955E-07	4.860E-07	3.084E-07	2.153E-07	1.604E-07	1.251E-07	1.009E-07	2.615E-05	8.570E-06	4.477E-06	2.220E-06	8.955E-07	4.860E-07	3.084E-07	2.153E-07	1.604E-07	1.251E-07	1.009E-07	2.615E-05	8.570E-06	4.477E-06	2.220E-06	8.955E-07	4.860E-07	3.084E-07	2.153E-07	1.604E-07	1.251E-07	1.009E-07
SE	3.002E-05	9.933E-06	5.281E-06	2.640E-06	1.059E-06	5.722E-07	3.619E-07	2.521E-07	1.873E-07	1.458E-07	1.175E-07	3.002E-05	9.933E-06	5.281E-06	2.640E-06	1.059E-06	5.722E-07	3.619E-07	2.521E-07	1.873E-07	1.458E-07	1.175E-07	3.002E-05	9.933E-06	5.281E-06	2.640E-06	1.059E-06	5.722E-07	3.619E-07	2.521E-07	1.873E-07	1.458E-07	1.175E-07
SSE	3.002E-05	9.933E-06	5.281E-06	2.640E-06	1.059E-06	5.722E-07	3.619E-07	2.521E-07	1.873E-07	1.458E-07	1.175E-07	3.002E-05	9.933E-06	5.281E-06	2.640E-06	1.059E-06	5.722E-07	3.619E-07	2.521E-07	1.873E-07	1.458E-07	1.175E-07	3.002E-05	9.933E-06	5.281E-06	2.640E-06	1.059E-06	5.722E-07	3.619E-07	2.521E-07	1.873E-07	1.458E-07	1.175E-07

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES FROM THE SITE																						
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	1.073E-07	5.513E-08	3.563E-08	2.024E-08	1.353E-08	9.877E-09	7.617E-09	6.101E-09	5.024E-09	4.225E-09	3.612E-09	1.073E-07	5.513E-08	3.563E-08	2.024E-08	1.353E-08	9.877E-09	7.617E-09	6.101E-09	5.024E-09	4.225E-09	3.612E-09	1.073E-07	5.513E-08	3.563E-08	2.024E-08	1.353E-08	9.877E-09	7.617E-09	6.101E-09	5.024E-09	4.225E-09	3.612E-09
SSW	7.070E-08	3.607E-08	2.319E-08	1.308E-08	8.711E-09	6.338E-09	4.877E-09	3.899E-09	3.206E-09	2.693E-09	2.300E-09	7.070E-08	3.607E-08	2.319E-08	1.308E-08	8.711E-09	6.338E-09	4.877E-09	3.899E-09	3.206E-09	2.693E-09	2.300E-09	7.070E-08	3.607E-08	2.319E-08	1.308E-08	8.711E-09	6.338E-09	4.877E-09	3.899E-09	3.206E-09	2.693E-09	2.300E-09
SW	3.699E-08	1.835E-08	1.157E-08	6.362E-09	4.176E-09	3.007E-09	2.296E-09	1.824E-09	1.493E-09	1.249E-09	1.063E-09	3.699E-08	1.835E-08	1.157E-08	6.362E-09	4.176E-09	3.007E-09	2.296E-09	1.824E-09	1.493E-09	1.249E-09	1.063E-09	3.699E-08	1.835E-08	1.157E-08	6.362E-09	4.176E-09	3.007E-09	2.296E-09	1.824E-09	1.493E-09	1.249E-09	1.063E-09
WSW	3.846E-08	1.897E-08	1.191E-08	6.504E-09	4.239E-09	3.037E-09	2.310E-09	1.831E-09	1.495E-09	1.249E-09	1.062E-09	3.846E-08	1.897E-08	1.191E-08	6.504E-09	4.239E-09	3.037E-09	2.310E-09	1.831E-09	1.495E-09	1.249E-09	1.062E-09	3.846E-08	1.897E-08	1.191E-08	6.504E-09	4.239E-09	3.037E-09	2.310E-09	1.831E-09	1.495E-09	1.249E-09	1.062E-09
W	5.564E-08	2.748E-08	1.727E-08	9.437E-09	6.149E-09	4.403E-09	3.346E-09	2.648E-09	2.159E-09	1.800E-09	1.528E-09	5.564E-08	2.748E-08	1.727E-08	9.437E-09	6.149E-09	4.403E-09	3.346E-09	2.648E-09	2.159E-09	1.800E-09	1.528E-09	5.564E-08	2.748E-08	1.727E-08	9.437E-09	6.149E-09	4.403E-09	3.346E-09	2.648E-09	2.159E-09	1.800E-09	1.528E-09
WNW	6.397E-08	3.137E-08	1.961E-08	1.066E-08	6.936E-09	4.963E-09	3.770E-09	2.985E-09	2.435E-09	2.032E-09	1.727E-09	6.397E-08	3.137E-08	1.961E-08	1.066E-08	6.936E-09	4.963E-09	3.770E-09	2.985E-09	2.435E-09	2.032E-09	1.727E-09	6.397E-08	3.137E-08	1.961E-08	1.066E-08	6.936E-09	4.963E-09	3.770E-09	2.985E-09	2.435E-09	2.032E-09	1.727E-09
NW	7.353E-08	3.689E-08	2.345E-08	1.305E-08	8.631E-09	6.253E-09	4.799E-09	3.831E-09	3.148E-09	2.644E-09	2.259E-09	7.353E-08	3.689E-08	2.345E-08	1.305E-08	8.631E-09	6.253E-09	4.799E-09	3.831E-09	3.148E-09	2.644E-09	2.259E-09	7.353E-08	3.689E-08	2.345E-08	1.305E-08	8.631E-09	6.253E-09	4.799E-09	3.831E-09	3.148E-09	2.644E-09	2.259E-09
NNW	1.002E-07	5.201E-08	3.382E-08	1.936E-08	1.300E-08	9.517E-09	7.353E-09	5.896E-09	4.857E-09	4.085E-09	3.492E-09	1.002E-07	5.201E-08	3.382E-08	1.936E-08	1.300E-08	9.517E-09	7.353E-09	5.896E-09	4.857E-09	4.085E-09	3.492E-09	1.002E-07	5.201E-08	3.382E-08	1.936E-08	1.300E-08	9.517E-09	7.353E-09	5.896E-09	4.857E-09	4.085E-09	3.492E-09
N	1.177E-07	6.148E-08	4.017E-08	2.316E-08	1.564E-08	1.150E-08	8.919E-09	7.179E-09	5.936E-09	5.010E-09	4.297E-09	1.177E-07	6.148E-08	4.017E-08	2.316E-08																		

VENTS GROUND LEVEL RELEASES - APR-JUN 2011  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.161E-05	1.009E-05	5.180E-06	2.529E-06	9.879E-07	5.222E-07	3.241E-07	2.220E-07	1.625E-07	1.247E-07	9.920E-08
SSW	2.115E-05	6.877E-06	3.545E-06	1.728E-06	6.684E-07	3.510E-07	2.167E-07	1.478E-07	1.078E-07	8.253E-08	6.548E-08
SW	1.183E-05	3.964E-06	2.072E-06	1.011E-06	3.802E-07	1.956E-07	1.189E-07	8.005E-08	5.776E-08	4.378E-08	3.445E-08
WSW	1.162E-05	4.103E-06	2.177E-06	1.065E-06	3.993E-07	2.050E-07	1.243E-07	8.355E-08	6.017E-08	4.554E-08	3.577E-08
W	1.758E-05	6.035E-06	3.149E-06	1.532E-06	5.757E-07	2.960E-07	1.797E-07	1.208E-07	8.709E-08	6.596E-08	5.184E-08
WNW	2.110E-05	7.231E-06	3.775E-06	1.833E-06	6.814E-07	3.476E-07	2.098E-07	1.405E-07	1.009E-07	7.612E-08	5.965E-08
NW	2.304E-05	7.610E-06	3.982E-06	1.947E-06	7.369E-07	3.811E-07	2.326E-07	1.572E-07	1.138E-07	8.647E-08	6.820E-08
NNW	2.940E-05	9.223E-06	4.699E-06	2.288E-06	9.007E-07	4.790E-07	2.987E-07	2.054E-07	1.509E-07	1.162E-07	9.267E-08
N	3.407E-05	1.057E-05	5.357E-06	2.607E-06	1.035E-06	5.531E-07	3.463E-07	2.389E-07	1.759E-07	1.357E-07	1.085E-07
NNE	1.974E-05	5.980E-06	3.003E-06	1.458E-06	5.837E-07	3.142E-07	1.978E-07	1.370E-07	1.013E-07	7.840E-08	6.283E-08
NE	6.165E-06	1.943E-06	9.829E-07	4.762E-07	1.879E-07	1.001E-07	6.254E-08	4.306E-08	3.166E-08	2.440E-08	1.948E-08
ENE	7.244E-06	2.307E-06	1.215E-06	6.015E-07	2.349E-07	1.242E-07	7.704E-08	5.275E-08	3.860E-08	2.962E-08	2.356E-08
E	1.597E-05	4.947E-06	2.524E-06	1.236E-06	4.922E-07	2.637E-07	1.653E-07	1.141E-07	8.407E-08	6.490E-08	5.188E-08
ESE	1.472E-05	4.799E-06	2.550E-06	1.266E-06	4.914E-07	2.586E-07	1.599E-07	1.092E-07	7.967E-08	6.101E-08	4.842E-08
SE	2.477E-05	7.838E-06	3.998E-06	1.949E-06	7.639E-07	4.048E-07	2.517E-07	1.726E-07	1.265E-07	9.722E-08	7.741E-08
SSE	2.843E-05	9.082E-06	4.714E-06	2.317E-06	9.027E-07	4.763E-07	2.951E-07	2.018E-07	1.476E-07	1.131E-07	8.992E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	8.112E-08	3.974E-08	2.466E-08	1.317E-08	8.399E-09	5.899E-09	4.403E-09	3.428E-09	2.752E-09	2.262E-09	1.894E-09
SSW	5.344E-08	2.597E-08	1.603E-08	8.497E-09	5.392E-09	3.772E-09	2.807E-09	2.180E-09	1.747E-09	1.433E-09	1.198E-09
SW	2.790E-08	1.316E-08	7.956E-09	4.100E-09	2.558E-09	1.767E-09	1.301E-09	1.002E-09	7.969E-10	6.498E-10	5.402E-10
WSW	2.893E-08	1.355E-08	8.147E-09	4.156E-09	2.567E-09	1.759E-09	1.287E-09	9.851E-10	7.795E-10	6.328E-10	5.240E-10
W	4.194E-08	1.971E-08	1.187E-08	6.077E-09	3.764E-09	2.585E-09	1.894E-09	1.452E-09	1.151E-09	9.352E-10	7.752E-10
WNW	4.815E-08	2.244E-08	1.344E-08	6.831E-09	4.216E-09	2.888E-09	2.112E-09	1.617E-09	1.279E-09	1.039E-09	8.603E-10
NW	5.537E-08	2.641E-08	1.609E-08	8.380E-09	5.262E-09	3.652E-09	2.701E-09	2.087E-09	1.665E-09	1.361E-09	1.135E-09
NNW	7.599E-08	3.761E-08	2.352E-08	1.268E-08	8.143E-09	5.747E-09	4.306E-09	3.363E-09	2.707E-09	2.229E-09	1.870E-09
N	8.908E-08	4.435E-08	2.784E-08	1.510E-08	9.726E-09	6.883E-09	5.170E-09	4.045E-09	3.262E-09	2.691E-09	2.261E-09
NNE	5.175E-08	2.606E-08	1.648E-08	9.032E-09	5.860E-09	4.169E-09	3.143E-09	2.467E-09	1.995E-09	1.649E-09	1.388E-09
NE	1.598E-08	7.932E-09	4.969E-09	2.688E-09	1.731E-09	1.224E-09	9.193E-10	7.192E-10	5.798E-10	4.783E-10	4.018E-10
ENE	1.926E-08	9.425E-09	5.844E-09	3.115E-09	1.983E-09	1.390E-09	1.037E-09	8.061E-10	6.466E-10	5.310E-10	4.443E-10
E	4.261E-08	2.121E-08	1.331E-08	7.212E-09	4.641E-09	3.282E-09	2.463E-09	1.925E-09	1.551E-09	1.279E-09	1.074E-09
ESE	3.952E-08	1.920E-08	1.185E-08	6.266E-09	3.967E-09	2.769E-09	2.057E-09	1.595E-09	1.276E-09	1.046E-09	8.734E-10
SE	6.336E-08	3.115E-08	1.938E-08	1.038E-08	6.627E-09	4.659E-09	3.480E-09	2.711E-09	2.177E-09	1.790E-09	1.499E-09
SSE	7.348E-08	3.588E-08	2.222E-08	1.182E-08	7.518E-09	5.268E-09	3.925E-09	3.051E-09	2.446E-09	2.008E-09	1.680E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE										
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	
S	5.094E-06	1.123E-06	3.361E-07	1.651E-07	1.001E-07	4.223E-08	1.360E-08	5.967E-09	3.449E-09	2.271E-09	
SSW	3.478E-06	7.628E-07	2.249E-07	1.096E-07	6.607E-08	2.766E-08	8.791E-09	3.818E-09	2.194E-09	1.439E-09	
SW	2.021E-06	4.383E-07	1.238E-07	5.880E-08	3.479E-08	1.412E-08	4.272E-09	1.792E-09	1.009E-09	6.528E-10	
WSW	2.111E-06	4.608E-07	1.295E-07	6.128E-08	3.613E-08	1.457E-08	4.337E-09	1.786E-09	9.930E-10	6.360E-10	
W	3.072E-06	6.640E-07	1.872E-07	8.868E-08	5.236E-08	2.117E-08	6.336E-09	2.623E-09	1.464E-09	9.398E-10	
WNW	3.680E-06	7.890E-07	2.188E-07	1.028E-07	6.027E-08	2.416E-08	7.138E-09	2.932E-09	1.630E-09	1.044E-09	
NW	3.883E-06	8.476E-07	2.420E-07	1.158E-07	6.886E-08	2.826E-08	8.708E-09	3.701E-09	2.102E-09	1.367E-09	
NNW	4.633E-06	1.021E-06	3.095E-07	1.533E-07	9.346E-08	3.988E-08	1.307E-08	5.810E-09	3.382E-09	2.238E-09	
N	5.294E-06	1.170E-06	3.585E-07	1.786E-07	1.094E-07	4.695E-08	1.554E-08	6.956E-09	4.068E-09	2.701E-09	
NNE	2.978E-06	6.582E-07	2.045E-07	1.028E-07	6.334E-08	2.751E-08	9.278E-09	4.209E-09	2.480E-09	1.655E-09	
NE	9.710E-07	2.130E-07	6.477E-08	3.215E-08	1.964E-08	8.405E-09	2.770E-09	1.237E-09	7.233E-10	4.800E-10	
ENE	1.185E-06	2.672E-07	7.989E-08	3.922E-08	2.376E-08	1.002E-08	3.218E-09	1.407E-09	8.112E-10	5.332E-10	
E	2.490E-06	5.559E-07	1.710E-07	8.535E-08	5.231E-08	2.246E-08	7.425E-09	3.317E-09	1.936E-09	1.284E-09	
ESE	2.479E-06	5.600E-07	1.659E-07	8.099E-08	4.886E-08	2.045E-08	6.484E-09	2.804E-09	1.606E-09	1.050E-09	
SE	3.940E-06	8.676E-07	2.609E-07	1.285E-07	7.807E-08	3.307E-08	1.071E-08	4.712E-09	2.727E-09	1.797E-09	
SSE	4.619E-06	1.027E-06	3.061E-07	1.500E-07	9.071E-08	3.816E-08	1.222E-08	5.331E-09	3.070E-09	2.017E-09	

B249



VENTS GROUND LEVEL RELEASES - APR-JUN 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) AT FIXED POINTS BY DOWNWIND SECTORS *****											
DIRECTION	DISTANCES IN MILES										
FROM SITE	.25	.50	.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S	1.861E-07	6.294E-08	3.232E-08	1.536E-08	5.519E-09	2.737E-09	1.612E-09	1.055E-09	7.425E-10	5.503E-10	4.241E-10
SSW	1.255E-07	4.243E-08	2.179E-08	1.036E-08	3.721E-09	1.845E-09	1.086E-09	7.114E-10	5.006E-10	3.710E-10	2.859E-10
SW	9.141E-08	3.091E-08	1.587E-08	7.545E-09	2.710E-09	1.344E-09	7.914E-10	5.182E-10	3.646E-10	2.702E-10	2.082E-10
WSW	9.991E-08	3.379E-08	1.735E-08	8.247E-09	2.962E-09	1.469E-09	8.650E-10	5.664E-10	3.986E-10	2.954E-10	2.276E-10
W	1.403E-07	4.745E-08	2.436E-08	1.158E-08	4.160E-09	2.063E-09	1.215E-09	7.955E-10	5.597E-10	4.148E-10	3.197E-10
WNW	1.988E-07	6.721E-08	3.451E-08	1.641E-08	5.893E-09	2.923E-09	1.721E-09	1.127E-09	7.929E-10	5.876E-10	4.528E-10
NW	2.424E-07	8.195E-08	4.208E-08	2.001E-08	7.186E-09	3.564E-09	2.098E-09	1.374E-09	9.668E-10	7.165E-10	5.521E-10
NNW	1.862E-07	6.295E-08	3.232E-08	1.537E-08	5.520E-09	2.737E-09	1.612E-09	1.055E-09	7.426E-10	5.503E-10	4.241E-10
N	2.372E-07	8.021E-08	4.119E-08	1.958E-08	7.033E-09	3.488E-09	2.054E-09	1.345E-09	9.463E-10	7.013E-10	5.404E-10
NNE	1.107E-07	3.743E-08	1.922E-08	9.136E-09	3.282E-09	1.627E-09	9.582E-10	6.274E-10	4.415E-10	3.272E-10	2.521E-10
NE	4.468E-08	1.511E-08	7.757E-09	3.688E-09	1.325E-09	6.569E-10	3.868E-10	2.533E-10	1.782E-10	1.321E-10	1.018E-10
ENE	5.529E-08	1.870E-08	9.599E-09	4.564E-09	1.639E-09	8.129E-10	4.787E-10	3.134E-10	2.205E-10	1.634E-10	1.260E-10
E	1.011E-07	3.417E-08	1.755E-08	8.342E-09	2.996E-09	1.486E-09	8.750E-10	5.729E-10	4.031E-10	2.988E-10	2.302E-10
ESE	1.137E-07	3.846E-08	1.975E-08	9.389E-09	3.373E-09	1.673E-09	9.848E-10	6.449E-10	4.537E-10	3.363E-10	2.591E-10
SE	1.766E-07	5.970E-08	3.065E-08	1.457E-08	5.235E-09	2.596E-09	1.529E-09	1.001E-09	7.043E-10	5.220E-10	4.022E-10
SSE	2.063E-07	6.976E-08	3.582E-08	1.703E-08	6.116E-09	3.033E-09	1.786E-09	1.169E-09	8.229E-10	6.098E-10	4.700E-10

DIRECTION	DISTANCES IN MILES										
FROM SITE	5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
S	3.369E-10	1.497E-10	9.066E-11	4.582E-11	2.773E-11	1.860E-11	1.332E-11	1.001E-11	7.779E-12	6.214E-12	5.072E-12
SSW	2.271E-10	1.009E-10	6.112E-11	3.089E-11	1.870E-11	1.254E-11	8.983E-12	6.745E-12	5.244E-12	4.189E-12	3.419E-12
SW	1.654E-10	7.349E-11	4.452E-11	2.250E-11	1.362E-11	9.132E-12	6.543E-12	4.913E-12	3.820E-12	3.052E-12	2.491E-12
WSW	1.808E-10	8.033E-11	4.866E-11	2.460E-11	1.489E-11	9.981E-12	7.152E-12	5.370E-12	4.176E-12	3.335E-12	2.722E-12
W	2.540E-10	1.128E-10	6.834E-11	3.454E-11	2.091E-11	1.402E-11	1.004E-11	7.542E-12	5.864E-12	4.684E-12	3.824E-12
WNW	3.597E-10	1.598E-10	9.680E-11	4.893E-11	2.961E-11	1.986E-11	1.423E-11	1.068E-11	8.307E-12	6.635E-12	5.416E-12
NW	4.386E-10	1.949E-10	1.180E-10	5.966E-11	3.611E-11	2.421E-11	1.735E-11	1.303E-11	1.013E-11	8.091E-12	6.604E-12
NNW	3.369E-10	1.497E-10	9.067E-11	4.583E-11	2.774E-11	1.860E-11	1.333E-11	1.001E-11	7.780E-12	6.215E-12	5.073E-12
N	4.293E-10	1.907E-10	1.155E-10	5.839E-11	3.534E-11	2.370E-11	1.698E-11	1.275E-11	9.914E-12	7.919E-12	6.464E-12
NNE	2.003E-10	8.899E-11	5.390E-11	2.725E-11	1.649E-11	1.106E-11	7.922E-12	5.949E-12	4.625E-12	3.695E-12	3.016E-12
NE	8.086E-11	3.592E-11	2.176E-11	1.100E-11	6.656E-12	4.463E-12	3.198E-12	2.401E-12	1.867E-12	1.491E-12	1.217E-12
ENE	1.001E-10	4.445E-11	2.693E-11	1.361E-11	8.238E-12	5.523E-12	3.958E-12	2.972E-12	2.311E-12	1.846E-12	1.507E-12
E	1.829E-10	8.125E-11	4.922E-11	2.488E-11	1.506E-11	1.010E-11	7.234E-12	5.432E-12	4.224E-12	3.374E-12	2.754E-12
ESE	2.059E-10	9.145E-11	5.540E-11	2.800E-11	1.695E-11	1.136E-11	8.142E-12	6.114E-12	4.754E-12	3.797E-12	3.099E-12
SE	3.195E-10	1.420E-10	8.599E-11	4.346E-11	2.631E-11	1.764E-11	1.264E-11	9.490E-12	7.379E-12	5.894E-12	4.811E-12

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) BY DOWNWIND SECTORS *****											
DIRECTION	SEGMENT BOUNDARIES IN MILES										
FROM SITE	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	
S	3.159E-08	6.471E-09	1.689E-09	7.587E-10	4.292E-10	1.650E-10	4.775E-11	1.892E-11	1.011E-11	6.255E-12	
SSW	2.130E-08	4.362E-09	1.139E-09	5.115E-10	2.893E-10	1.113E-10	3.219E-11	1.276E-11	6.813E-12	4.217E-12	
SW	1.551E-08	3.178E-09	8.295E-10	3.726E-10	2.108E-10	8.105E-11	2.345E-11	9.293E-12	4.963E-12	3.072E-12	
WSW	1.696E-08	3.473E-09	9.067E-10	4.072E-10	2.304E-10	8.859E-11	2.563E-11	1.016E-11	5.424E-12	3.357E-12	
W	2.381E-08	4.878E-09	1.273E-09	5.719E-10	3.235E-10	1.244E-10	3.599E-11	1.427E-11	7.618E-12	4.715E-12	
WNW	3.373E-08	6.909E-09	1.804E-09	8.101E-10	4.583E-10	1.762E-10	5.098E-11	2.021E-11	1.079E-11	6.679E-12	
NW	4.113E-08	8.425E-09	2.199E-09	9.878E-10	5.588E-10	2.149E-10	6.217E-11	2.464E-11	1.316E-11	8.144E-12	
NNW	3.159E-08	6.471E-09	1.689E-09	7.587E-10	4.292E-10	1.651E-10	4.775E-11	1.893E-11	1.011E-11	6.255E-12	
N	4.026E-08	8.246E-09	2.153E-09	9.668E-10	5.469E-10	2.103E-10	6.085E-11	2.412E-11	1.288E-11	7.971E-12	
NNE	1.878E-08	3.847E-09	1.004E-09	4.511E-10	2.552E-10	9.813E-11	2.839E-11	1.125E-11	6.009E-12	3.719E-12	
NE	7.582E-09	1.553E-09	4.054E-10	1.821E-10	1.030E-10	3.961E-11	1.146E-11	4.542E-12	2.425E-12	1.501E-12	
ENE	9.383E-09	1.922E-09	5.017E-10	2.253E-10	1.275E-10	4.902E-11	1.418E-11	5.621E-12	3.002E-12	1.858E-12	
E	1.715E-08	3.513E-09	9.171E-10	4.119E-10	2.330E-10	8.961E-11	2.592E-11	1.027E-11	5.486E-12	3.396E-12	
ESE	1.930E-08	3.954E-09	1.032E-09	4.636E-10	2.623E-10	1.009E-10	2.918E-11	1.156E-11	6.175E-12	3.822E-12	
SE	2.996E-08	6.137E-09	1.602E-09	7.196E-10	4.071E-10	1.565E-10	4.529E-11	1.795E-11	9.585E-12	5.933E-12	
SSE	3.501E-08	7.171E-09	1.872E-09	8.408E-10	4.756E-10	1.829E-10	5.291E-11	2.097E-11	1.120E-11	6.932E-12	

B250

VENTS GROUND LEVEL RELEASES - APR-JUN 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS  
SPECIFIC POINTS OF INTEREST

RELEASE TYPE OF ID	DIRECTION FROM SITE (MI)	DIST.	X/Q		X/Q		D/Q
			(SEC/M3)	(SEC/M3)	(SEC/M3)	(PER SQ.METER)	
			NO	2.26 DAY	8.0 DAY		
			DECAY	DECAY	DECAY		
			UNDEPLETED	UNDEPLETED	DEPLETED		
A Site Boundary S	.80		5.0E-06	5.0E-06	4.4E-06	2.8E-08	
A Site Boundary SSW	.82		3.2E-06	3.2E-06	2.8E-06	1.7E-08	
A Site Boundary SW	.97		1.2E-06	1.2E-06	1.1E-06	8.1E-09	
A Site Boundary WSW	.93		1.5E-06	1.5E-06	1.3E-06	1.0E-08	
A Site Boundary W	.91		2.2E-06	2.2E-06	1.9E-06	1.5E-08	
A Site Boundary WNW	.94		2.5E-06	2.4E-06	2.2E-06	1.9E-08	
A Site Boundary NW	.81		3.7E-06	3.7E-06	3.3E-06	3.4E-08	
A Site Boundary NNW	.69		6.1E-06	6.0E-06	5.4E-06	3.7E-08	
A Site Boundary N	.67		7.1E-06	7.1E-06	6.4E-06	4.9E-08	
A Site Boundary NNE	.60		4.9E-06	4.9E-06	4.4E-06	2.8E-08	
A Site Boundary NE	.62		1.5E-06	1.5E-06	1.3E-06	1.1E-08	
A Site Boundary ENE	.59		2.0E-06	2.0E-06	1.8E-06	1.4E-08	
A Site Boundary E	.53		5.0E-06	5.0E-06	4.6E-06	3.2E-08	
A Site Boundary ESE	.54		4.7E-06	4.7E-06	4.3E-06	3.4E-08	
A Site Boundary SE	.65		5.6E-06	5.6E-06	5.0E-06	3.9E-08	
A Site Boundary SSE	.81		4.4E-06	4.4E-06	3.9E-06	2.9E-08	
A Nearest Res SSW	2.10		3.8E-07	3.8E-07	3.2E-07	1.6E-09	
A Nearest Res SW	1.30		6.2E-07	6.2E-07	5.3E-07	3.9E-09	
A Nearest Res WSW	1.90		2.8E-07	2.8E-07	2.3E-07	1.7E-09	
A Nearest Res W	1.00		1.8E-06	1.7E-06	1.5E-06	1.2E-08	
A Nearest Res WNW	1.70		6.0E-07	6.0E-07	5.1E-07	4.3E-09	
A Nearest Res NW	.90		2.9E-06	2.9E-06	2.5E-06	2.6E-08	
A Nearest Res NNW	1.90		6.4E-07	6.4E-07	5.4E-07	3.1E-09	
A Nearest Res N	2.50		4.3E-07	4.2E-07	3.5E-07	2.1E-09	
A Nearest Res NE	2.80		6.2E-08	6.1E-08	5.0E-08	3.0E-10	
A Nearest Res ENE	1.70		2.1E-07	2.1E-07	1.8E-07	1.2E-09	
A Nearest Res E	1.90		3.5E-07	3.5E-07	2.9E-07	1.7E-09	
A Nearest Res ESE	2.30		2.3E-07	2.3E-07	1.9E-07	1.2E-09	
A Nearest Res NNW	3.50		1.9E-07	1.9E-07	1.5E-07	7.4E-10	
A Nearest Res SW	1.30		6.2E-07	6.2E-07	5.3E-07	3.9E-09	
A Nearest Res WSW	1.90		2.8E-07	2.8E-07	2.3E-07	1.7E-09	
A Nearest Res WNW	2.40		2.8E-07	2.8E-07	2.3E-07	1.9E-09	
A Nearest Res NW	2.90		2.1E-07	2.1E-07	1.7E-07	1.5E-09	
A Nearest Res NNW	2.80		3.0E-07	2.9E-07	2.4E-07	1.2E-09	
A Nearest Res NE	2.80		6.2E-08	6.1E-08	5.0E-08	3.0E-10	
A Nearest Res ENE	1.70		2.1E-07	2.1E-07	1.8E-07	1.2E-09	
A Nearest Res E	1.90		3.5E-07	3.5E-07	2.9E-07	1.7E-09	
A Nearest Res ESE	3.00		1.4E-07	1.4E-07	1.1E-07	6.4E-10	

B251

**Atmospheric Diffusion Estimates**

**Ground Level Releases**

January-June 2011

VENTS GROUND LEVEL RELEASES - JAN-JUN 2011  
 NO DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	250	500	750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.400E-05	1.139E-05	6.031E-06	3.005E-06	1.204E-06	6.510E-07	4.120E-07	2.872E-07	2.137E-07	1.665E-07	1.344E-07
SSW	2.348E-05	7.955E-06	4.195E-06	2.081E-06	8.277E-07	4.450E-07	2.806E-07	1.950E-07	1.447E-07	1.125E-07	9.057E-08
SW	1.377E-05	4.791E-06	2.599E-06	1.302E-06	5.091E-07	2.703E-07	1.687E-07	1.163E-07	8.570E-08	6.623E-08	5.303E-08
WSW	1.443E-05	5.218E-06	2.850E-06	1.426E-06	5.549E-07	2.936E-07	1.828E-07	1.257E-07	9.240E-08	7.127E-08	5.698E-08
W	1.487E-05	5.316E-06	2.857E-06	1.419E-06	5.496E-07	2.898E-07	1.798E-07	1.233E-07	9.050E-08	6.967E-08	5.560E-08
WNW	2.026E-05	7.119E-06	3.793E-06	1.877E-06	7.285E-07	3.849E-07	2.394E-07	1.645E-07	1.209E-07	9.327E-08	7.456E-08
NW	2.899E-05	9.742E-06	5.188E-06	2.586E-06	1.031E-06	5.551E-07	3.505E-07	2.439E-07	1.812E-07	1.410E-07	1.136E-07
NNW	4.468E-05	1.412E-05	7.333E-06	3.649E-06	1.509E-06	8.335E-07	5.364E-07	3.790E-07	2.852E-07	2.244E-07	1.826E-07
N	5.396E-05	1.700E-05	8.912E-06	4.459E-06	1.842E-06	1.016E-06	6.536E-07	4.615E-07	3.471E-07	2.730E-07	2.220E-07
NNE	3.031E-05	9.698E-06	5.094E-06	2.543E-06	1.045E-06	5.744E-07	3.684E-07	2.597E-07	1.950E-07	1.531E-07	1.244E-07
NE	1.250E-05	4.035E-06	2.119E-06	1.056E-06	4.306E-07	2.357E-07	1.507E-07	1.059E-07	7.938E-08	6.224E-08	5.049E-08
ENE	1.267E-05	4.092E-06	2.195E-06	1.107E-06	4.493E-07	2.449E-07	1.560E-07	1.093E-07	8.170E-08	6.391E-08	5.174E-08
E	1.382E-05	4.469E-06	2.372E-06	1.191E-06	4.867E-07	2.666E-07	1.705E-07	1.198E-07	8.976E-08	7.036E-08	5.706E-08
ESE	1.710E-05	5.838E-06	3.182E-06	1.604E-06	6.384E-07	3.433E-07	2.164E-07	1.504E-07	1.116E-07	8.676E-08	6.985E-08
SE	2.527E-05	8.619E-06	4.601E-06	2.296E-06	9.141E-07	4.917E-07	3.100E-07	2.155E-07	1.599E-07	1.243E-07	1.001E-07
SSE	2.793E-05	9.433E-06	5.029E-06	2.512E-06	9.998E-07	5.377E-07	3.389E-07	2.355E-07	1.747E-07	1.358E-07	1.094E-07

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	1.114E-07	5.753E-08	3.743E-08	2.160E-08	1.469E-08	1.092E-08	8.583E-09	7.009E-09	5.885E-09	5.046E-09	4.400E-09
SSW	7.494E-08	3.846E-08	2.491E-08	1.429E-08	9.685E-09	7.179E-09	5.630E-09	4.589E-09	3.847E-09	3.295E-09	2.870E-09
SW	4.367E-08	2.199E-08	1.404E-08	7.895E-09	5.276E-09	3.868E-09	3.005E-09	2.429E-09	2.022E-09	1.720E-09	1.489E-09
WSW	4.683E-08	2.341E-08	1.486E-08	8.281E-09	5.492E-09	4.000E-09	3.091E-09	2.487E-09	2.062E-09	1.748E-09	1.508E-09
W	4.564E-08	2.269E-08	1.435E-08	7.957E-09	5.262E-09	3.825E-09	2.951E-09	2.372E-09	1.965E-09	1.664E-09	1.435E-09
WNW	6.130E-08	3.071E-08	1.955E-08	1.094E-08	7.299E-09	5.342E-09	4.146E-09	3.349E-09	2.786E-09	2.370E-09	2.051E-09
NW	9.411E-08	4.849E-08	3.149E-08	1.814E-08	1.233E-08	9.161E-09	7.196E-09	5.873E-09	4.929E-09	4.225E-09	3.683E-09
NNW	1.525E-07	8.109E-08	5.383E-08	3.193E-08	2.213E-08	1.669E-08	1.327E-08	1.094E-08	9.260E-09	7.998E-09	7.018E-09
N	1.853E-07	9.839E-08	6.524E-08	3.863E-08	2.675E-08	2.015E-08	1.601E-08	1.319E-08	1.116E-08	9.631E-09	8.447E-09
NNE	1.038E-07	5.492E-08	3.634E-08	2.146E-08	1.483E-08	1.116E-08	8.855E-09	7.288E-09	6.161E-09	5.315E-09	4.658E-09
NE	4.206E-08	2.215E-08	1.461E-08	8.595E-09	5.929E-09	4.454E-09	3.531E-09	2.903E-09	2.453E-09	2.114E-09	1.852E-09
ENE	4.301E-08	2.246E-08	1.473E-08	8.589E-09	5.887E-09	4.400E-09	3.473E-09	2.846E-09	2.397E-09	2.061E-09	1.801E-09
E	4.751E-08	2.496E-08	1.643E-08	9.635E-09	6.624E-09	4.964E-09	3.926E-09	3.223E-09	2.718E-09	2.340E-09	2.047E-09
ESE	5.779E-08	2.964E-08	1.918E-08	1.098E-08	7.422E-09	5.488E-09	4.294E-09	3.493E-09	2.922E-09	2.498E-09	2.172E-09
SE	8.279E-08	4.246E-08	2.748E-08	1.574E-08	1.064E-08	7.874E-09	6.165E-09	5.018E-09	4.201E-09	3.594E-09	3.127E-09
SSE	9.046E-08	4.638E-08	3.002E-08	1.719E-08	1.163E-08	8.607E-09	6.741E-09	5.488E-09	4.596E-09	3.932E-09	3.422E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	5.877E-06	1.358E-06	4.258E-07	2.167E-07	1.354E-07	6.056E-08	2.205E-08	1.099E-08	7.030E-09	5.056E-09
SSW	4.091E-06	9.360E-07	2.902E-07	1.468E-07	9.127E-08	4.054E-08	1.460E-08	7.228E-09	4.604E-09	3.301E-09
SW	2.510E-06	5.792E-07	1.749E-07	8.703E-08	5.347E-08	2.327E-08	8.097E-09	3.898E-09	2.438E-09	1.724E-09
WSW	2.743E-06	6.323E-07	1.895E-07	9.386E-08	5.745E-08	2.481E-08	8.504E-09	4.034E-09	2.498E-09	1.752E-09
W	2.764E-06	6.274E-07	1.866E-07	9.195E-08	5.608E-08	2.408E-08	8.180E-09	3.859E-09	2.382E-09	1.669E-09
WNW	3.680E-06	8.310E-07	2.483E-07	1.229E-07	7.519E-08	3.254E-08	1.124E-08	5.386E-09	3.362E-09	2.375E-09
NW	5.044E-06	1.165E-06	3.624E-07	1.838E-07	1.145E-07	5.107E-08	1.853E-08	9.220E-09	5.891E-09	4.233E-09
NNW	7.204E-06	1.684E-06	5.527E-07	2.889E-07	1.838E-07	8.484E-08	3.244E-08	1.677E-08	1.096E-08	8.009E-09
N	8.731E-06	2.056E-06	6.735E-07	3.515E-07	2.235E-07	1.030E-07	3.926E-08	2.025E-08	1.322E-08	9.645E-09
NNE	4.983E-06	1.169E-06	3.799E-07	1.975E-07	1.253E-07	5.752E-08	2.182E-08	1.122E-08	7.306E-09	5.322E-09
NE	2.072E-06	4.829E-07	1.555E-07	8.044E-08	5.085E-08	2.322E-08	8.746E-09	4.478E-09	2.911E-09	2.117E-09
ENE	2.133E-06	5.047E-07	1.611E-07	8.282E-08	5.211E-08	2.359E-08	8.752E-09	4.426E-09	2.854E-09	2.064E-09
E	2.313E-06	5.454E-07	1.759E-07	9.096E-08	5.747E-08	2.618E-08	9.808E-09	4.991E-09	3.231E-09	2.343E-09
ESE	3.071E-06	7.219E-07	2.239E-07	1.132E-07	7.039E-08	3.125E-08	1.122E-08	5.526E-09	3.504E-09	2.503E-09
SE	4.470E-06	1.034E-06	3.206E-07	1.622E-07	1.008E-07	4.476E-08	1.608E-08	7.928E-09	5.034E-09	3.601E-09
SSE	4.889E-06	1.130E-06	3.506E-07	1.773E-07	1.102E-07	4.890E-08	1.757E-08	8.666E-09	5.506E-09	3.940E-09

B253

VENTS GROUND LEVEL RELEASES - JAN-JUN 2011  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.397E-05	1.137E-05	6.016E-06	2.995E-06	1.198E-06	6.466E-07	4.085E-07	2.843E-07	2.111E-07	1.642E-07	1.322E-07	
SSW	2.346E-05	7.941E-06	4.185E-06	2.074E-06	8.234E-07	4.419E-07	2.781E-07	1.929E-07	1.429E-07	1.109E-07	8.909E-08	
SW	1.376E-05	4.783E-06	2.593E-06	1.298E-06	5.065E-07	2.685E-07	1.673E-07	1.151E-07	8.466E-08	6.531E-08	5.221E-08	
WSW	1.442E-05	5.211E-06	2.844E-06	1.422E-06	5.526E-07	2.920E-07	1.815E-07	1.246E-07	9.151E-08	7.049E-08	5.627E-08	
W	1.486E-05	5.309E-06	2.851E-06	1.416E-06	5.474E-07	2.882E-07	1.786E-07	1.223E-07	8.963E-08	6.891E-08	5.492E-08	
WNW	2.024E-05	7.109E-06	3.785E-06	1.872E-06	7.253E-07	3.827E-07	2.376E-07	1.631E-07	1.197E-07	9.215E-08	7.355E-08	
NW	2.897E-05	9.726E-06	5.176E-06	2.578E-06	1.026E-06	5.515E-07	3.476E-07	2.414E-07	1.790E-07	1.391E-07	1.119E-07	
NNW	4.463E-05	1.409E-05	7.309E-06	3.633E-06	1.499E-06	8.260E-07	5.303E-07	3.738E-07	2.806E-07	2.203E-07	1.788E-07	
N	5.391E-05	1.697E-05	8.885E-06	4.441E-06	1.830E-06	1.008E-06	6.467E-07	4.557E-07	3.419E-07	2.683E-07	2.178E-07	
NNE	3.028E-05	9.678E-06	5.078E-06	2.533E-06	1.038E-06	5.697E-07	3.646E-07	2.564E-07	1.921E-07	1.505E-07	1.220E-07	
NE	1.249E-05	4.028E-06	2.114E-06	1.052E-06	4.283E-07	2.340E-07	1.493E-07	1.048E-07	7.835E-08	6.132E-08	4.964E-08	
ENE	1.266E-05	4.085E-06	2.189E-06	1.103E-06	4.469E-07	2.431E-07	1.546E-07	1.081E-07	8.063E-08	6.295E-08	5.086E-08	
E	1.381E-05	4.461E-06	2.366E-06	1.187E-06	4.841E-07	2.647E-07	1.689E-07	1.185E-07	8.858E-08	6.930E-08	5.609E-08	
ESE	1.709E-05	5.829E-06	3.175E-06	1.600E-06	6.356E-07	3.412E-07	2.148E-07	1.490E-07	1.104E-07	8.568E-08	6.887E-08	
SE	2.525E-05	8.606E-06	4.591E-06	2.289E-06	9.099E-07	4.886E-07	3.075E-07	2.134E-07	1.580E-07	1.227E-07	9.859E-08	
SSE	2.790E-05	9.419E-06	5.018E-06	2.504E-06	9.953E-07	5.344E-07	3.363E-07	2.333E-07	1.728E-07	1.341E-07	1.078E-07	

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	1.094E-07	5.597E-08	3.606E-08	2.040E-08	1.361E-08	9.914E-09	7.637E-09	6.113E-09	5.031E-09	4.229E-09	3.615E-09	
SSW	7.357E-08	3.739E-08	2.398E-08	1.348E-08	8.949E-09	6.499E-09	4.993E-09	3.986E-09	3.273E-09	2.746E-09	2.343E-09	
SW	4.291E-08	2.141E-08	1.355E-08	7.481E-09	4.910E-09	3.534E-09	2.696E-09	2.140E-09	1.749E-09	1.461E-09	1.243E-09	
WSW	4.619E-08	2.292E-08	1.445E-08	7.938E-09	5.190E-09	3.726E-09	2.839E-09	2.252E-09	1.840E-09	1.538E-09	1.308E-09	
W	4.501E-08	2.221E-08	1.395E-08	7.621E-09	4.965E-09	3.556E-09	2.703E-09	2.140E-09	1.746E-09	1.457E-09	1.238E-09	
WNW	6.037E-08	3.000E-08	1.894E-08	1.043E-08	6.845E-09	4.928E-09	3.762E-09	2.989E-09	2.446E-09	2.046E-09	1.742E-09	
NW	9.248E-08	4.721E-08	3.038E-08	1.717E-08	1.145E-08	8.345E-09	6.431E-09	5.149E-09	4.239E-09	3.565E-09	3.049E-09	
NNW	1.490E-07	7.824E-08	5.131E-08	2.970E-08	2.009E-08	1.478E-08	1.147E-08	9.226E-09	7.623E-09	6.427E-09	5.505E-09	
N	1.814E-07	9.522E-08	6.243E-08	3.614E-08	2.446E-08	1.802E-08	1.400E-08	1.127E-08	9.327E-09	7.874E-09	6.754E-09	
NNE	1.016E-07	5.314E-08	3.477E-08	2.007E-08	1.356E-08	9.968E-09	7.732E-09	6.221E-09	5.141E-09	4.336E-09	3.716E-09	
NE	4.127E-08	2.152E-08	1.405E-08	8.098E-09	5.473E-09	4.029E-09	3.129E-09	2.521E-09	2.087E-09	1.763E-09	1.514E-09	
ENE	4.219E-08	2.182E-08	1.416E-08	8.094E-09	5.436E-09	3.982E-09	3.080E-09	2.474E-09	2.042E-09	1.721E-09	1.474E-09	
E	4.661E-08	2.424E-08	1.580E-08	9.076E-09	6.114E-09	4.488E-09	3.478E-09	2.797E-09	2.312E-09	1.950E-09	1.672E-09	
ESE	5.688E-08	2.894E-08	1.857E-08	1.045E-08	6.948E-09	5.052E-09	3.887E-09	3.108E-09	2.557E-09	2.150E-09	1.838E-09	
SE	8.141E-08	4.138E-08	2.654E-08	1.492E-08	9.901E-09	7.189E-09	5.523E-09	4.411E-09	3.623E-09	3.041E-09	2.597E-09	
SSE	8.898E-08	4.522E-08	2.900E-08	1.630E-08	1.082E-08	7.860E-09	6.040E-09	4.825E-09	3.964E-09	3.328E-09	2.842E-09	

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	5.864E-06	1.352E-06	4.223E-07	2.141E-07	1.332E-07	5.899E-08	2.086E-08	9.988E-09	6.136E-09	4.239E-09
SSW	4.081E-06	9.317E-07	2.877E-07	1.450E-07	8.979E-08	3.947E-08	1.380E-08	6.550E-09	4.002E-09	2.753E-09
SW	2.504E-06	5.766E-07	1.734E-07	8.599E-08	5.265E-08	2.270E-08	7.687E-09	3.566E-09	2.150E-09	1.466E-09
WSW	2.738E-06	6.300E-07	1.882E-07	9.297E-08	5.675E-08	2.433E-08	8.164E-09	3.761E-09	2.263E-09	1.542E-09
W	2.759E-06	6.251E-07	1.853E-07	9.108E-08	5.539E-08	2.361E-08	7.847E-09	3.591E-09	2.151E-09	1.461E-09
WNW	3.673E-06	8.278E-07	2.465E-07	1.216E-07	7.418E-08	3.184E-08	1.073E-08	4.973E-09	3.003E-09	2.052E-09
NW	5.032E-06	1.160E-06	3.595E-07	1.816E-07	1.128E-07	4.979E-08	1.756E-08	8.407E-09	5.169E-09	3.574E-09
NNW	7.182E-06	1.674E-06	5.465E-07	2.842E-07	1.800E-07	8.198E-08	3.023E-08	1.487E-08	9.256E-09	6.440E-09
N	8.706E-06	2.045E-06	6.666E-07	3.464E-07	2.193E-07	9.980E-08	3.679E-08	1.813E-08	1.131E-08	7.890E-09
NNE	4.969E-06	1.162E-06	3.760E-07	1.946E-07	1.229E-07	5.573E-08	2.044E-08	1.003E-08	6.241E-09	4.345E-09
NE	2.067E-06	4.806E-07	1.541E-07	7.941E-07	5.000E-08	2.259E-08	8.254E-09	4.054E-09	2.529E-09	1.767E-09
ENE	2.128E-06	5.022E-07	1.596E-07	8.175E-08	5.123E-08	2.294E-08	8.261E-09	4.009E-09	2.483E-09	1.724E-09
E	2.307E-06	5.427E-07	1.743E-07	8.978E-08	5.649E-08	2.546E-08	9.254E-09	4.518E-09	2.807E-09	1.954E-09
ESE	3.065E-06	7.190E-07	2.222E-07	1.120E-07	6.941E-08	3.054E-08	1.070E-08	5.092E-09	3.121E-09	2.155E-09
SE	4.460E-06	1.029E-06	3.182E-07	1.604E-07	9.936E-08	4.368E-08	1.527E-08	7.246E-09	4.429E-09	3.049E-09
SSE	4.879E-06	1.126E-06	3.479E-07	1.753E-07	1.086E-07	4.773E-08	1.669E-08	7.922E-09	4.844E-09	3.336E-09

B254

VENTS GROUND LEVEL RELEASES - JAN-JUN 2011  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	250	500	750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.217E-05	1.040E-05	5.370E-06	2.628E-06	1.021E-06	5.380E-07	3.329E-07	2.275E-07	1.662E-07	1.273E-07	1.011E-07
SSW	2.222E-05	7.261E-06	3.736E-06	1.820E-06	7.019E-07	3.678E-07	2.267E-07	1.544E-07	1.125E-07	8.599E-08	6.816E-08
SW	1.303E-05	4.373E-06	2.315E-06	1.139E-06	4.318E-07	2.234E-07	1.364E-07	9.212E-08	6.664E-08	5.064E-08	3.992E-08
WSW	1.366E-05	4.763E-06	2.538E-06	1.247E-06	4.707E-07	2.427E-07	1.478E-07	9.959E-08	7.190E-08	5.454E-08	4.293E-08
W	1.407E-05	4.852E-06	2.545E-06	1.241E-06	4.663E-07	2.396E-07	1.454E-07	9.775E-08	7.042E-08	5.331E-08	4.189E-08
WNW	1.917E-05	6.498E-06	3.378E-06	1.642E-06	6.179E-07	3.182E-07	1.935E-07	1.304E-07	9.409E-08	7.135E-08	5.615E-08
NW	2.743E-05	8.892E-06	4.620E-06	2.262E-06	8.742E-07	4.588E-07	2.832E-07	1.932E-07	1.409E-07	1.078E-07	8.554E-08
NNW	4.227E-05	1.289E-05	6.528E-06	3.190E-06	1.279E-06	6.884E-07	4.331E-07	2.999E-07	2.215E-07	1.714E-07	1.372E-07
N	5.106E-05	1.552E-05	7.935E-06	3.899E-06	1.561E-06	8.396E-07	5.278E-07	3.653E-07	2.697E-07	2.085E-07	1.670E-07
NNE	2.868E-05	8.851E-06	4.535E-06	2.224E-06	8.856E-07	4.745E-07	2.976E-07	2.055E-07	1.515E-07	1.170E-07	9.355E-08
NE	1.182E-05	3.683E-06	1.887E-06	9.232E-07	3.652E-07	1.948E-07	1.218E-07	8.389E-08	6.171E-08	4.758E-08	3.799E-08
ENE	1.199E-05	3.735E-06	1.954E-06	9.683E-07	3.810E-07	2.024E-07	1.260E-07	8.658E-08	6.352E-08	4.885E-08	3.893E-08
E	1.308E-05	4.079E-06	2.112E-06	1.041E-06	4.127E-07	2.203E-07	1.377E-07	9.488E-08	6.978E-08	5.378E-08	4.294E-08
ESE	1.618E-05	5.329E-06	2.834E-06	1.403E-06	5.415E-07	2.838E-07	1.749E-07	1.192E-07	8.681E-08	6.636E-08	5.260E-08
SE	2.391E-05	7.868E-06	4.098E-06	2.008E-06	7.753E-07	4.064E-07	2.506E-07	1.707E-07	1.243E-07	9.505E-08	7.534E-08
SSE	2.642E-05	8.611E-06	4.479E-06	2.197E-06	8.480E-07	4.444E-07	2.739E-07	1.866E-07	1.359E-07	1.039E-07	8.233E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	8.259E-08	4.024E-08	2.488E-08	1.322E-08	8.394E-09	5.878E-09	4.377E-09	3.401E-09	2.727E-09	2.238E-09	1.872E-09
SSW	5.557E-08	2.690E-08	1.656E-08	8.739E-09	5.530E-09	3.861E-09	2.868E-09	2.225E-09	1.780E-09	1.459E-09	1.219E-09
SW	3.239E-08	1.538E-08	9.339E-09	4.835E-09	3.019E-09	2.086E-09	1.536E-09	1.183E-09	9.405E-10	7.666E-10	6.372E-10
WSW	3.477E-08	1.640E-08	9.907E-09	5.088E-09	3.156E-09	2.169E-09	1.591E-09	1.221E-09	9.677E-10	7.867E-10	6.524E-10
W	3.388E-08	1.590E-08	9.565E-09	4.887E-09	3.023E-09	2.073E-09	1.518E-09	1.163E-09	9.210E-10	7.480E-10	6.198E-10
WNW	4.550E-08	2.151E-08	1.302E-08	6.714E-09	4.185E-09	2.889E-09	2.127E-09	1.637E-09	1.301E-09	1.061E-09	8.817E-10
NW	6.980E-08	3.393E-08	2.094E-08	1.110E-08	7.050E-09	4.935E-09	3.675E-09	2.855E-09	2.288E-09	1.878E-09	1.571E-09
NNW	1.129E-07	5.659E-08	3.567E-08	1.945E-08	1.257E-08	8.919E-09	6.711E-09	5.259E-09	4.245E-09	3.506E-09	2.948E-09
N	1.373E-07	6.872E-08	4.328E-08	2.357E-08	1.523E-08	1.080E-08	8.123E-09	6.365E-09	5.138E-09	4.243E-09	3.567E-09
NNE	7.688E-08	3.836E-08	2.411E-08	1.309E-08	8.442E-09	5.978E-09	4.491E-09	3.515E-09	2.835E-09	2.339E-09	1.966E-09
NE	3.118E-08	1.549E-08	9.706E-09	5.254E-09	3.384E-09	2.394E-09	1.798E-09	1.407E-09	1.135E-09	9.364E-10	7.868E-10
ENE	3.188E-08	1.571E-08	9.785E-09	5.251E-09	3.361E-09	2.366E-09	1.770E-09	1.380E-09	1.110E-09	9.134E-10	7.657E-10
E	3.522E-08	1.745E-08	1.092E-08	5.890E-09	3.781E-09	2.668E-09	2.000E-09	1.562E-09	1.258E-09	1.036E-09	8.697E-10
ESE	4.288E-08	2.075E-08	1.277E-08	6.732E-09	4.253E-09	2.966E-09	2.201E-09	1.705E-09	1.364E-09	1.117E-09	9.324E-10
SE	6.142E-08	2.971E-08	1.828E-08	9.637E-09	6.088E-09	4.244E-09	3.150E-09	2.441E-09	1.952E-09	1.599E-09	1.335E-09
SSE	6.711E-08	3.246E-08	1.997E-08	1.053E-08	6.653E-09	4.640E-09	3.444E-09	2.670E-09	2.135E-09	1.749E-09	1.461E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	5.269E-06	1.163E-06	3.454E-07	1.689E-07	1.020E-07	4.283E-08	1.367E-08	5.948E-09	3.423E-09	2.248E-09
SSW	3.668E-06	8.018E-07	2.354E-07	1.144E-07	6.878E-08	2.867E-08	9.050E-09	3.909E-09	2.239E-09	1.465E-09
SW	2.250E-06	4.963E-07	1.419E-07	6.782E-08	4.031E-08	1.648E-08	5.029E-09	2.115E-09	1.192E-09	7.702E-10
WSW	2.459E-06	5.419E-07	1.538E-07	7.320E-08	4.335E-08	1.760E-08	5.300E-09	2.201E-09	1.230E-09	7.906E-10
W	2.478E-06	5.378E-07	1.514E-07	7.171E-08	4.231E-08	1.708E-08	5.098E-09	2.104E-09	1.172E-09	7.518E-10
WNW	3.300E-06	7.122E-07	2.015E-07	9.579E-08	5.671E-08	2.306E-08	6.990E-09	2.930E-09	1.649E-09	1.066E-09
NW	4.521E-06	9.980E-07	2.940E-07	1.432E-07	8.631E-08	3.613E-08	1.149E-08	4.995E-09	2.873E-09	1.886E-09
NNW	6.458E-06	1.441E-06	4.479E-07	2.248E-07	1.383E-07	5.981E-08	2.000E-08	9.010E-09	5.288E-09	3.518E-09
N	7.826E-06	1.760E-06	5.460E-07	2.737E-07	1.683E-07	7.266E-08	2.424E-08	1.091E-08	6.400E-09	4.258E-09
NNE	4.467E-06	1.000E-06	3.079E-07	1.538E-07	9.432E-08	4.058E-08	1.347E-08	6.040E-09	3.535E-09	2.348E-09
NE	1.858E-06	4.135E-07	1.261E-07	6.266E-08	3.831E-08	1.641E-08	5.412E-09	2.420E-09	1.415E-09	9.397E-10
ENE	1.912E-06	4.321E-07	1.306E-07	6.452E-08	3.926E-08	1.667E-08	5.418E-09	2.393E-09	1.388E-09	9.169E-10
E	2.073E-06	4.669E-07	1.426E-07	7.086E-08	4.329E-08	1.850E-08	6.070E-09	2.697E-09	1.571E-09	1.040E-09
ESE	2.752E-06	6.184E-07	1.817E-07	8.826E-08	5.308E-08	2.212E-08	6.972E-09	3.003E-09	1.717E-09	1.122E-09
SE	4.007E-06	8.854E-07	2.602E-07	1.264E-07	7.603E-08	3.168E-08	9.980E-09	4.298E-09	2.457E-09	1.605E-09
SSE	4.383E-06	9.684E-07	2.845E-07	1.382E-07	8.308E-08	3.461E-08	1.090E-08	4.699E-09	2.687E-09	1.757E-09

B255

VENTS GROUND LEVEL RELEASES - JAN-JUN 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) AT FIXED POINTS BY DOWNWIND SECTORS *****												
DIRECTION FROM SITE		DISTANCES IN MILES										
		.25	.50	.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S		2.082E-07	7.041E-08	3.615E-08	1.719E-08	6.174E-09	3.062E-09	1.803E-09	1.180E-09	8.306E-10	6.156E-10	4.744E-10
SSW		1.393E-07	4.712E-08	2.419E-08	1.150E-08	4.132E-09	2.049E-09	1.206E-09	7.900E-10	5.559E-10	4.120E-10	3.175E-10
SW		8.434E-08	2.852E-08	1.464E-08	6.961E-09	2.501E-09	1.240E-09	7.302E-10	4.781E-10	3.364E-10	2.493E-10	1.921E-10
WSW		1.014E-07	3.429E-08	1.761E-08	8.371E-09	3.007E-09	1.491E-09	8.781E-10	5.750E-10	4.046E-10	2.998E-10	2.310E-10
W		1.132E-07	3.827E-08	1.965E-08	9.341E-09	3.355E-09	1.664E-09	9.798E-10	6.415E-10	4.514E-10	3.345E-10	2.578E-10
WNW		1.532E-07	5.181E-08	2.660E-08	1.265E-08	4.542E-09	2.253E-09	1.326E-09	8.685E-10	6.111E-10	4.529E-10	3.490E-10
NW		2.007E-07	6.788E-08	3.485E-08	1.657E-08	5.952E-09	2.952E-09	1.738E-09	1.138E-09	8.007E-10	5.934E-10	4.573E-10
NNW		1.698E-07	5.743E-08	2.949E-08	1.402E-08	5.036E-09	2.497E-09	1.471E-09	9.629E-10	6.775E-10	5.021E-10	3.869E-10
N		2.328E-07	7.873E-08	4.043E-08	1.922E-08	6.904E-09	3.424E-09	2.016E-09	1.320E-09	9.288E-10	6.883E-10	5.304E-10
NNE		1.324E-07	4.479E-08	2.300E-08	1.093E-08	3.927E-09	1.947E-09	1.147E-09	7.508E-10	5.283E-10	3.915E-10	3.017E-10
NE		7.369E-08	2.492E-08	1.279E-08	6.082E-09	2.185E-09	1.083E-09	6.380E-10	4.177E-10	2.939E-10	2.178E-10	1.679E-10
ENE		6.834E-08	2.311E-08	1.187E-08	5.641E-09	2.026E-09	1.005E-09	5.917E-10	3.874E-10	2.726E-10	2.020E-10	1.557E-10
E		7.475E-08	2.528E-08	1.298E-08	6.170E-09	2.216E-09	1.099E-09	6.472E-10	4.238E-10	2.982E-10	2.210E-10	1.703E-10
ESE		1.281E-07	4.332E-08	2.224E-08	1.057E-08	3.799E-09	1.884E-09	1.109E-09	7.263E-10	5.111E-10	3.787E-10	2.919E-10
SE		2.071E-07	7.004E-08	3.596E-08	1.710E-08	6.141E-09	3.046E-09	1.793E-09	1.174E-09	8.263E-10	6.123E-10	4.719E-10
SSE		2.285E-07	7.726E-08	3.967E-08	1.886E-08	6.774E-09	3.360E-09	1.978E-09	1.295E-09	9.114E-10	6.755E-10	5.205E-10
DIRECTION FROM SITE		DISTANCES IN MILES										
		5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
S		3.769E-10	1.674E-10	1.014E-10	5.126E-11	3.102E-11	2.080E-11	1.490E-11	1.119E-11	8.702E-12	6.951E-12	5.674E-12
SSW		2.522E-10	1.120E-10	6.787E-11	3.430E-11	2.076E-11	1.392E-11	9.975E-12	7.490E-12	5.824E-12	4.652E-12	3.797E-12
SW		1.526E-10	6.781E-11	4.107E-11	2.076E-11	1.257E-11	8.425E-12	6.037E-12	4.533E-12	3.525E-12	2.815E-12	2.298E-12
WSW		1.836E-10	8.154E-11	4.939E-11	2.497E-11	1.511E-11	1.013E-11	7.260E-12	5.451E-12	4.238E-12	3.386E-12	2.763E-12
W		2.048E-10	9.099E-11	5.511E-11	2.786E-11	1.686E-11	1.130E-11	8.100E-12	6.083E-12	4.729E-12	3.778E-12	3.084E-12
WNW		2.773E-10	1.232E-10	7.462E-11	3.771E-11	2.283E-11	1.530E-11	1.097E-11	8.235E-12	6.403E-12	5.115E-12	4.175E-12
NW		3.633E-10	1.614E-10	9.776E-11	4.941E-11	2.991E-11	2.005E-11	1.437E-11	1.079E-11	8.389E-12	6.701E-12	5.470E-12
NNW		3.074E-10	1.366E-10	8.272E-11	4.181E-11	2.531E-11	1.697E-11	1.216E-11	9.129E-12	7.098E-12	5.670E-12	4.628E-12
N		4.214E-10	1.872E-10	1.134E-10	5.732E-11	3.469E-11	2.326E-11	1.667E-11	1.252E-11	9.731E-12	7.773E-12	6.344E-12
NNE		2.397E-10	1.065E-10	6.450E-11	3.260E-11	1.973E-11	1.323E-11	9.481E-12	7.119E-12	5.535E-12	4.421E-12	3.609E-12
NE		1.334E-10	5.924E-11	3.589E-11	1.814E-11	1.098E-11	7.361E-12	5.275E-12	3.961E-12	3.079E-12	2.460E-12	2.008E-12
ENE		1.237E-10	5.494E-11	3.328E-11	1.682E-11	1.018E-11	6.827E-12	4.892E-12	3.673E-12	2.856E-12	2.281E-12	1.862E-12
E		1.353E-10	6.010E-11	3.641E-11	1.840E-11	1.114E-11	7.467E-12	5.351E-12	4.018E-12	3.124E-12	2.495E-12	2.037E-12
ESE		2.319E-10	1.030E-10	6.240E-11	3.154E-11	1.909E-11	1.280E-11	9.171E-12	6.886E-12	5.354E-12	4.277E-12	3.491E-12
SE		3.749E-10	1.665E-10	1.009E-10	5.099E-11	3.086E-11	2.069E-11	1.483E-11	1.113E-11	8.657E-12	6.915E-12	5.644E-12
SSE		4.135E-10	1.837E-10	1.113E-10	5.625E-11	3.404E-11	2.283E-11	1.636E-11	1.228E-11	9.549E-12	7.628E-12	6.226E-12

B256

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) BY DOWNWIND SECTORS *****											
DIRECTION FROM SITE		SEGMENT BOUNDARIES IN MILES									
		.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S		3.534E-08	7.238E-09	1.890E-09	8.486E-10	4.801E-10	1.846E-10	5.341E-11	2.117E-11	1.130E-11	6.997E-12
SSW		2.365E-08	4.844E-09	1.265E-09	5.679E-10	3.213E-10	1.236E-10	3.574E-11	1.417E-11	7.565E-12	4.682E-12
SW		1.431E-08	2.932E-09	7.653E-10	3.437E-10	1.945E-10	7.478E-11	2.163E-11	8.574E-12	4.579E-12	2.834E-12
WSW		1.721E-08	3.525E-09	9.203E-10	4.133E-10	2.338E-10	8.992E-11	2.601E-11	1.031E-11	5.506E-12	3.408E-12
W		1.920E-08	3.934E-09	1.027E-09	4.612E-10	2.609E-10	1.003E-10	2.903E-11	1.150E-11	6.144E-12	3.803E-12
WNW		2.600E-08	5.326E-09	1.390E-09	6.244E-10	3.532E-10	1.358E-10	3.930E-11	1.558E-11	8.317E-12	5.148E-12
NW		3.407E-08	6.978E-09	1.822E-09	8.181E-10	4.628E-10	1.780E-10	5.149E-11	2.041E-11	1.090E-11	6.745E-12
NNW		2.882E-08	5.904E-09	1.541E-09	6.922E-10	3.916E-10	1.506E-10	4.357E-11	1.727E-11	9.221E-12	5.707E-12
N		3.951E-08	8.094E-09	2.113E-09	9.490E-10	5.368E-10	2.064E-10	5.972E-11	2.367E-11	1.264E-11	7.824E-12
NNE		2.248E-08	4.604E-09	1.202E-09	5.398E-10	3.054E-10	1.174E-10	3.397E-11	1.346E-11	7.190E-12	4.450E-12
NE		1.250E-08	2.561E-09	6.687E-10	3.003E-10	1.699E-10	6.533E-11	1.890E-11	7.491E-12	4.000E-12	2.476E-12
ENE		1.160E-08	2.376E-09	6.201E-10	2.785E-10	1.576E-10	6.059E-11	1.753E-11	6.947E-12	3.710E-12	2.296E-12
E		1.269E-08	2.598E-09	6.783E-10	3.047E-10	1.723E-10	6.628E-11	1.917E-11	7.599E-12	4.058E-12	2.512E-12
ESE		2.174E-08	4.453E-09	1.163E-09	5.221E-10	2.954E-10	1.136E-10	3.286E-11	1.302E-11	6.955E-12	4.305E-12
SE		3.515E-08	7.200E-09	1.880E-09	8.442E-10	4.776E-10	1.837E-10	5.313E-11	2.106E-11	1.125E-11	6.960E-12
SSE		3.878E-08	7.942E-09	2.073E-09	9.312E-10	5.268E-10	2.026E-10	5.861E-11	2.323E-11	1.240E-11	7.678E-12

VENTS GROUND LEVEL RELEASES - JAN-JUN 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS  
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION FROM SITE	DIST. (MI)	X/Q (SEC/M3)			D/Q (PER SQ.METER)
				NO DECAY	2.26 DAY DECAY	8.0 DAY DECAY	
				UNDEPLETED	UNDEPLETED	DEPLETED	
A	Site Boundary	S	.80	5.2E-06	5.2E-06	4.6E-06	3.1E-08
A	Site Boundary	SSW	.82	3.3E-06	3.3E-06	3.0E-06	1.9E-08
A	Site Boundary	SW	.97	1.4E-06	1.4E-06	1.2E-06	7.4E-09
A	Site Boundary	WSW	.93	1.7E-06	1.7E-06	1.5E-06	1.0E-08
A	Site Boundary	W	.91	1.8E-06	1.8E-06	1.6E-06	1.2E-08
A	Site Boundary	WNW	.94	2.2E-06	2.2E-06	1.9E-06	1.5E-08
A	Site Boundary	NW	.81	4.3E-06	4.3E-06	3.8E-06	2.8E-08
A	Site Boundary	NNW	.69	8.4E-06	8.4E-06	7.5E-06	3.4E-08
A	Site Boundary	N	.67	1.0E-05	1.0E-05	9.4E-06	4.8E-08
A	Site Boundary	NNE	.60	7.3E-06	7.2E-06	6.5E-06	3.3E-08
A	Site Boundary	NE	.62	2.8E-06	2.8E-06	2.5E-06	1.7E-08
A	Site Boundary	ENE	.59	3.2E-06	3.2E-06	2.9E-06	1.8E-08
A	Site Boundary	E	.53	4.1E-06	4.1E-06	3.8E-06	2.3E-08
A	Site Boundary	ESE	.54	5.2E-06	5.2E-06	4.7E-06	3.9E-08
A	Site Boundary	SE	.65	5.7E-06	5.7E-06	5.1E-06	4.6E-08
A	Site Boundary	SSE	.81	4.2E-06	4.2E-06	3.7E-06	3.2E-08
A	Nearest Res	SSW	2.10	4.0E-07	4.0E-07	3.3E-07	1.8E-09
A	Nearest Res	SW	1.30	7.0E-07	7.0E-07	6.0E-07	3.6E-09
A	Nearest Res	WSW	1.90	3.3E-07	3.3E-07	2.7E-07	1.7E-09
A	Nearest Res	W	1.00	1.4E-06	1.4E-06	1.2E-06	9.3E-09
A	Nearest Res	WNW	1.70	5.5E-07	5.5E-07	4.6E-07	3.3E-09
A	Nearest Res	NW	.90	3.3E-06	3.3E-06	2.9E-06	2.2E-08
A	Nearest Res	NNW	1.90	9.2E-07	9.2E-07	7.7E-07	2.8E-09
A	Nearest Res	N	2.50	6.5E-07	6.5E-07	5.3E-07	2.0E-09
A	Nearest Res	NE	2.80	1.2E-07	1.2E-07	9.6E-08	4.9E-10
A	Nearest Res	ENE	1.70	3.4E-07	3.4E-07	2.9E-07	1.5E-09
A	Nearest Res	E	1.90	3.0E-07	2.9E-07	2.5E-07	1.2E-09
A	Nearest Res	ESE	2.30	2.6E-07	2.5E-07	2.1E-07	1.4E-09
A	Nearest Cow	NNW	3.50	2.9E-07	2.8E-07	2.2E-07	6.8E-10
A	Nearest Garde	SW	1.30	7.0E-07	7.0E-07	6.0E-07	3.6E-09
A	Nearest Garde	WSW	1.90	3.3E-07	3.3E-07	2.7E-07	1.7E-09
A	Nearest Garde	WNW	2.40	2.6E-07	2.6E-07	2.1E-07	1.5E-09
A	Nearest Garde	NW	2.90	2.6E-07	2.6E-07	2.1E-07	1.2E-09
A	Nearest Garde	NNW	2.80	4.3E-07	4.3E-07	3.4E-07	1.1E-09
A	Nearest Garde	NE	2.80	1.2E-07	1.2E-07	9.6E-08	4.9E-10
A	Nearest Garde	ENE	1.70	3.4E-07	3.4E-07	2.9E-07	1.5E-09
A	Nearest Garde	E	1.90	3.0E-07	2.9E-07	2.5E-07	1.2E-09
A	Nearest Garde	ESE	3.00	1.5E-07	1.5E-07	1.2E-07	7.3E-10

B257



**Atmospheric Diffusion Estimates**

**Ground Level Releases**

July-September 2011

VENTS GROUND LEVEL RELEASES - JUL-SEP 2011  
 NO DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.631E-05	8.935E-06	4.701E-06	2.312E-06	8.878E-07	4.657E-07	2.880E-07	1.971E-07	1.444E-07	1.110E-07	8.850E-08
SSW	2.097E-05	6.776E-06	3.441E-06	1.671E-06	6.540E-07	3.483E-07	2.181E-07	1.508E-07	1.115E-07	8.645E-08	6.945E-08
SW	1.468E-05	4.661E-06	2.344E-06	1.133E-06	4.421E-07	2.350E-07	1.470E-07	1.016E-07	7.509E-08	5.819E-08	4.673E-08
WSW	1.768E-05	5.809E-06	3.011E-06	1.479E-06	5.803E-07	3.092E-07	1.936E-07	1.338E-07	9.887E-08	7.660E-08	6.149E-08
W	1.546E-05	5.150E-06	2.665E-06	1.302E-06	5.055E-07	2.674E-07	1.665E-07	1.146E-07	8.438E-08	6.518E-08	5.218E-08
WNW	3.512E-05	1.149E-05	5.862E-06	2.855E-06	1.124E-06	6.009E-07	3.774E-07	2.615E-07	1.937E-07	1.504E-07	1.209E-07
NW	3.353E-05	1.156E-05	6.072E-06	2.989E-06	1.168E-06	6.204E-07	3.875E-07	2.673E-07	1.971E-07	1.524E-07	1.222E-07
NNW	4.860E-05	1.529E-05	7.807E-06	3.846E-06	1.583E-06	8.720E-07	5.601E-07	3.953E-07	2.971E-07	2.336E-07	1.900E-07
N	5.619E-05	1.737E-05	8.895E-06	4.410E-06	1.846E-06	1.028E-06	6.654E-07	4.725E-07	3.569E-07	2.818E-07	2.300E-07
NNE	3.159E-05	9.891E-06	5.125E-06	2.550E-06	1.057E-06	5.849E-07	3.769E-07	2.666E-07	2.007E-07	1.581E-07	1.287E-07
NE	1.482E-05	4.386E-06	2.161E-06	1.056E-06	4.482E-07	2.520E-07	1.644E-07	1.174E-07	8.910E-08	7.063E-08	5.785E-08
ENE	1.380E-05	4.151E-06	2.171E-06	1.095E-06	4.594E-07	2.562E-07	1.660E-07	1.179E-07	8.907E-08	7.033E-08	5.740E-08
E	4.714E-06	1.474E-06	7.535E-07	3.722E-07	1.546E-07	8.564E-08	5.524E-08	3.910E-08	2.947E-08	2.322E-08	1.891E-08
ESE	2.466E-05	7.300E-06	3.707E-06	1.844E-06	7.815E-07	4.387E-07	2.857E-07	2.038E-07	1.545E-07	1.223E-07	1.001E-07
SE	2.622E-05	8.075E-06	4.212E-06	2.111E-06	8.794E-07	4.881E-07	3.152E-07	2.234E-07	1.684E-07	1.328E-07	1.082E-07
SSE	3.004E-05	9.593E-06	4.970E-06	2.456E-06	9.908E-07	5.387E-07	3.427E-07	2.400E-07	1.792E-07	1.402E-07	1.135E-07

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	7.262E-08	3.616E-08	2.293E-08	1.280E-08	8.554E-09	6.273E-09	4.876E-09	3.945E-09	3.287E-09	2.799E-09	2.426E-09
SSW	5.738E-08	2.939E-08	1.903E-08	1.096E-08	7.486E-09	5.586E-09	4.405E-09	3.609E-09	3.039E-09	2.613E-09	2.285E-09
SW	3.862E-08	1.983E-08	1.287E-08	7.432E-09	5.090E-09	3.806E-09	3.007E-09	2.467E-09	2.081E-09	1.792E-09	1.568E-09
WSW	5.075E-08	2.584E-08	1.666E-08	9.511E-09	6.444E-09	4.778E-09	3.748E-09	3.057E-09	2.564E-09	2.197E-09	1.915E-09
W	4.298E-08	2.173E-08	1.394E-08	7.912E-09	5.347E-09	3.957E-09	3.099E-09	2.524E-09	2.115E-09	1.811E-09	1.576E-09
WNW	1.000E-07	5.132E-08	3.327E-08	1.918E-08	1.309E-08	9.765E-09	7.698E-09	6.304E-09	5.307E-09	4.562E-09	3.987E-09
NW	1.007E-07	5.095E-08	3.268E-08	1.851E-08	1.245E-08	9.173E-09	7.160E-09	5.813E-09	4.857E-09	4.147E-09	3.603E-09
NNW	1.586E-07	8.419E-08	5.585E-08	3.314E-08	2.301E-08	1.738E-08	1.383E-08	1.142E-08	9.673E-09	8.362E-09	7.344E-09
N	1.925E-07	1.033E-07	6.904E-08	4.132E-08	2.882E-08	2.184E-08	1.743E-08	1.441E-08	1.223E-08	1.059E-08	9.311E-09
NNE	1.075E-07	5.731E-08	3.810E-08	2.265E-08	1.572E-08	1.187E-08	9.447E-09	7.794E-09	6.602E-09	5.706E-09	5.009E-09
NE	4.859E-08	2.638E-08	1.777E-08	1.076E-08	7.572E-09	5.776E-09	4.634E-09	3.850E-09	3.280E-09	2.850E-09	2.513E-09
ENE	4.806E-08	2.578E-08	1.721E-08	1.029E-08	7.172E-09	5.430E-09	4.330E-09	3.578E-09	3.035E-09	2.626E-09	2.308E-09
E	1.581E-08	8.437E-09	5.615E-09	3.343E-09	2.324E-09	1.756E-09	1.399E-09	1.155E-09	9.793E-10	8.469E-10	7.440E-10
ESE	8.401E-08	4.548E-08	3.056E-08	1.843E-08	1.292E-08	9.822E-09	7.861E-09	6.516E-09	5.541E-09	4.805E-09	4.231E-09
SE	9.050E-08	4.835E-08	3.220E-08	1.918E-08	1.333E-08	1.008E-08	8.023E-09	6.623E-09	5.613E-09	4.852E-09	4.261E-09
SSE	9.438E-08	4.947E-08	3.254E-08	1.909E-08	1.317E-08	9.894E-09	7.844E-09	6.452E-09	5.452E-09	4.701E-09	4.120E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE										
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	
S	4.580E-06	1.017E-06	2.990E-07	1.467E-07	8.929E-08	3.838E-08	1.316E-08	6.322E-09	3.960E-09	2.806E-09	
SSW	3.395E-06	7.441E-07	2.259E-07	1.132E-07	7.002E-08	3.101E-08	1.121E-08	5.620E-09	3.619E-09	2.618E-09	
SW	2.320E-06	5.035E-07	1.523E-07	7.623E-08	4.712E-08	2.091E-08	7.599E-09	3.829E-09	2.474E-09	1.794E-09	
WSW	2.952E-06	6.595E-07	2.005E-07	1.004E-07	6.199E-08	2.730E-08	9.736E-09	4.810E-09	3.066E-09	2.201E-09	
W	2.612E-06	5.768E-07	1.727E-07	8.571E-08	5.263E-08	2.299E-08	8.111E-09	3.985E-09	2.533E-09	1.814E-09	
WNW	5.775E-06	1.276E-06	3.906E-07	1.966E-07	1.219E-07	5.412E-08	1.960E-08	9.825E-09	6.322E-09	4.570E-09	
NW	5.921E-06	1.329E-06	4.015E-07	2.001E-07	1.232E-07	5.388E-08	1.897E-08	9.241E-09	5.833E-09	4.156E-09	
NNW	7.710E-06	1.770E-06	5.773E-07	3.010E-07	1.913E-07	8.812E-08	3.368E-08	1.746E-08	1.144E-08	8.373E-09	
N	8.784E-06	2.052E-06	6.849E-07	3.613E-07	2.315E-07	1.079E-07	4.192E-08	2.194E-08	1.444E-08	1.060E-08	
NNE	5.040E-06	1.179E-06	3.882E-07	2.033E-07	1.296E-07	5.993E-08	2.300E-08	1.193E-08	7.812E-09	5.713E-09	
NE	2.164E-06	4.960E-07	1.690E-07	9.015E-08	5.821E-08	2.749E-08	1.090E-08	5.798E-09	3.857E-09	2.853E-09	
ENE	2.133E-06	5.103E-07	1.708E-07	9.016E-08	5.777E-08	2.692E-08	1.044E-08	5.455E-09	3.586E-09	2.629E-09	
E	7.442E-07	1.723E-07	5.689E-08	2.984E-08	1.904E-08	8.821E-09	3.395E-09	1.765E-09	1.158E-09	8.480E-10	
ESE	3.677E-06	8.652E-07	2.937E-07	1.563E-07	1.007E-07	4.741E-08	1.868E-08	9.863E-09	6.529E-09	4.811E-09	
SE	4.136E-06	9.791E-07	3.246E-07	1.705E-07	1.089E-07	5.054E-08	1.947E-08	1.012E-08	6.638E-09	4.858E-09	
SSE	4.880E-06	1.115E-06	3.539E-07	1.817E-07	1.143E-07	5.192E-08	1.945E-08	9.947E-09	6.469E-09	4.708E-09	

B259

VENTS GROUND LEVEL RELEASES - JUL-SEP 2011  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.629E-05	8.923E-06	4.692E-06	2.306E-06	8.840E-07	4.630E-07	2.859E-07	1.954E-07	1.429E-07	1.097E-07	8.732E-08
SSW	2.096E-05	6.766E-06	3.433E-06	1.666E-06	6.509E-07	3.460E-07	2.163E-07	1.494E-07	1.102E-07	8.530E-08	6.840E-08
SW	1.467E-05	4.654E-06	2.339E-06	1.129E-06	4.401E-07	2.336E-07	1.459E-07	1.007E-07	7.425E-08	5.745E-08	4.606E-08
WSW	1.767E-05	5.800E-06	3.004E-06	1.475E-06	5.778E-07	3.073E-07	1.921E-07	1.326E-07	9.783E-08	7.567E-08	6.065E-08
W	1.545E-05	5.144E-06	2.660E-06	1.299E-06	5.036E-07	2.660E-07	1.654E-07	1.137E-07	8.361E-08	6.449E-08	5.157E-08
WNW	3.509E-05	1.147E-05	5.850E-06	2.847E-06	1.119E-06	5.974E-07	3.745E-07	2.592E-07	1.916E-07	1.485E-07	1.192E-07
NW	3.351E-05	1.154E-05	6.061E-06	2.982E-06	1.164E-06	6.172E-07	3.850E-07	2.652E-07	1.953E-07	1.508E-07	1.207E-07
NNW	4.855E-05	1.526E-05	7.785E-06	3.832E-06	1.574E-06	8.652E-07	5.546E-07	3.906E-07	2.929E-07	2.298E-07	1.865E-07
N	5.613E-05	1.733E-05	8.867E-06	4.391E-06	1.834E-06	1.019E-06	6.581E-07	4.662E-07	3.514E-07	2.768E-07	2.253E-07
NNE	3.156E-05	9.871E-06	5.110E-06	2.540E-06	1.051E-06	5.801E-07	3.730E-07	2.633E-07	1.978E-07	1.554E-07	1.263E-07
NE	1.481E-05	4.376E-06	2.154E-06	1.051E-06	4.451E-07	2.497E-07	1.624E-07	1.157E-07	8.759E-08	6.927E-08	5.659E-08
ENE	1.378E-05	4.141E-06	2.163E-06	1.089E-06	4.560E-07	2.536E-07	1.639E-07	1.161E-07	8.749E-08	6.891E-08	5.609E-08
E	4.709E-06	1.471E-06	7.513E-07	3.708E-07	1.536E-07	8.494E-08	5.467E-08	3.862E-08	2.904E-08	2.283E-08	1.856E-08
ESE	2.463E-05	7.284E-06	3.695E-06	1.836E-06	7.764E-07	4.349E-07	2.826E-07	2.011E-07	1.521E-07	1.202E-07	9.810E-08
SE	2.620E-05	8.059E-06	4.200E-06	2.103E-06	8.744E-07	4.844E-07	3.122E-07	2.208E-07	1.661E-07	1.307E-07	1.063E-07
SSE	3.002E-05	9.577E-06	4.957E-06	2.447E-06	9.857E-07	5.349E-07	3.396E-07	2.374E-07	1.770E-07	1.382E-07	1.116E-07

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	7.153E-08	3.533E-08	2.222E-08	1.220E-08	8.019E-09	5.783E-09	4.420E-09	3.517E-09	2.881E-09	2.412E-09	2.056E-09
SSW	5.642E-08	2.863E-08	1.837E-08	1.038E-08	6.956E-09	5.091E-09	3.938E-09	3.164E-09	2.613E-09	2.204E-09	1.889E-09
SW	3.800E-08	1.933E-08	1.243E-08	7.049E-09	4.737E-09	3.475E-09	2.694E-09	2.168E-09	1.793E-09	1.515E-09	1.300E-09
WSW	4.998E-08	2.524E-08	1.614E-08	9.063E-09	6.040E-09	4.404E-09	3.398E-09	2.725E-09	2.248E-09	1.894E-09	1.623E-09
W	4.242E-08	2.130E-08	1.356E-08	7.592E-09	5.059E-09	3.691E-09	2.850E-09	2.288E-09	1.890E-09	1.596E-09	1.370E-09
WNW	9.844E-08	5.009E-08	3.219E-08	1.823E-08	1.222E-08	8.953E-09	6.931E-09	5.574E-09	4.607E-09	3.889E-09	3.337E-09
NW	9.932E-08	4.990E-08	3.177E-08	1.772E-08	1.173E-08	8.506E-09	6.534E-09	5.220E-09	4.291E-09	3.606E-09	3.082E-09
NNW	1.553E-07	8.158E-08	5.353E-08	3.106E-08	2.109E-08	1.557E-08	1.212E-08	9.779E-09	8.101E-09	6.847E-09	5.878E-09
N	1.882E-07	9.983E-08	6.590E-08	3.850E-08	2.622E-08	1.939E-08	1.510E-08	1.219E-08	1.010E-08	8.535E-09	7.325E-09
NNE	1.053E-07	5.550E-08	3.649E-08	2.121E-08	1.440E-08	1.063E-08	8.271E-09	6.672E-09	5.525E-09	4.669E-09	4.008E-09
NE	4.741E-08	2.542E-08	1.690E-08	9.978E-09	6.844E-09	5.088E-09	3.980E-09	3.222E-09	2.676E-09	2.266E-09	1.948E-09
ENE	4.684E-08	2.480E-08	1.635E-08	9.519E-09	6.463E-09	4.766E-09	3.703E-09	2.981E-09	2.463E-09	2.076E-09	1.777E-09
E	1.548E-08	8.170E-09	5.377E-09	3.131E-09	2.128E-09	1.572E-09	1.225E-09	9.886E-10	8.194E-10	6.928E-10	5.951E-10
ESE	8.214E-08	4.396E-08	2.920E-08	1.720E-08	1.178E-08	8.750E-09	6.841E-09	5.540E-09	4.603E-09	3.900E-09	3.355E-09
SE	8.872E-08	4.692E-08	3.092E-08	1.804E-08	1.228E-08	9.091E-09	7.090E-09	5.732E-09	4.757E-09	4.028E-09	3.465E-09
SSE	9.265E-08	4.809E-08	3.132E-08	1.801E-08	1.217E-08	8.964E-09	6.964E-09	5.612E-09	4.646E-09	3.926E-09	3.371E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	4.572E-06	1.013E-06	2.969E-07	1.452E-07	8.810E-08	3.755E-08	1.257E-08	5.834E-09	3.533E-09	2.419E-09
SSW	3.388E-06	7.409E-07	2.241E-07	1.119E-07	6.897E-08	3.025E-08	1.063E-08	5.127E-09	3.175E-09	2.208E-09
SW	2.316E-06	5.015E-07	1.512E-07	7.540E-08	4.645E-08	2.041E-08	7.217E-09	3.499E-09	2.175E-09	1.518E-09
WSW	2.946E-06	6.569E-07	1.991E-07	9.933E-08	6.115E-08	2.669E-08	9.292E-09	4.438E-09	2.735E-09	1.899E-09
W	2.607E-06	5.748E-07	1.716E-07	8.493E-08	5.201E-08	2.255E-08	7.793E-09	3.719E-09	2.297E-09	1.599E-09
WNW	5.764E-06	1.271E-06	3.878E-07	1.945E-07	1.202E-07	5.288E-08	1.866E-08	9.016E-09	5.593E-09	3.898E-09
NW	5.911E-06	1.325E-06	3.990E-07	1.983E-07	1.217E-07	5.282E-08	1.818E-08	8.576E-09	5.242E-09	3.615E-09
NNW	7.690E-06	1.761E-06	5.718E-07	2.968E-07	1.878E-07	8.551E-08	3.162E-08	1.566E-08	9.808E-09	6.860E-09
N	8.758E-06	2.040E-06	6.775E-07	3.558E-07	2.268E-07	1.044E-07	3.913E-08	1.950E-08	1.223E-08	8.551E-09
NNE	5.026E-06	1.173E-06	3.843E-07	2.004E-07	1.272E-07	5.812E-08	2.158E-08	1.069E-08	6.692E-09	4.678E-09
NE	2.157E-06	4.929E-07	1.670E-07	8.864E-08	5.694E-08	2.652E-08	1.012E-08	5.113E-09	3.231E-09	2.270E-09
ENE	2.125E-06	5.068E-07	1.687E-07	8.858E-08	5.646E-08	2.594E-08	9.678E-09	4.793E-09	2.990E-09	2.080E-09
E	7.422E-07	1.714E-07	5.632E-08	2.941E-08	1.868E-08	8.553E-09	3.184E-09	1.581E-09	9.916E-10	6.941E-10
ESE	3.666E-06	8.601E-07	2.906E-07	1.539E-07	9.873E-08	4.588E-08	1.746E-08	8.794E-09	5.555E-09	3.906E-09
SE	4.126E-06	9.741E-07	3.215E-07	1.682E-07	1.070E-07	4.910E-08	1.834E-08	9.142E-09	5.749E-09	4.036E-09
SSE	4.868E-06	1.110E-06	3.508E-07	1.795E-07	1.125E-07	5.054E-08	1.837E-08	9.020E-09	5.630E-09	3.934E-09

B260

VENTS GROUND LEVEL RELEASES - JUL-SEP 2011  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	250	500	750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.490E-05	8.156E-06	4.187E-06	2.023E-06	7.531E-07	3.850E-07	2.328E-07	1.562E-07	1.123E-07	8.492E-08	6.666E-08
SSW	1.984E-05	6.185E-06	3.064E-06	1.461E-06	5.547E-07	2.879E-07	1.763E-07	1.195E-07	8.673E-08	6.611E-08	5.228E-08
SW	1.389E-05	4.255E-06	2.087E-06	9.906E-07	3.750E-07	1.943E-07	1.188E-07	8.050E-08	5.841E-08	4.451E-08	3.519E-08
WSW	1.673E-05	5.302E-06	2.681E-06	1.294E-06	4.922E-07	2.556E-07	1.565E-07	1.060E-07	7.692E-08	5.860E-08	4.631E-08
W	1.463E-05	4.701E-06	2.374E-06	1.139E-06	4.288E-07	2.211E-07	1.346E-07	9.084E-08	6.567E-08	4.988E-08	3.932E-08
WNW	3.323E-05	1.049E-05	5.221E-06	2.497E-06	9.536E-07	4.968E-07	3.050E-07	2.072E-07	1.507E-07	1.150E-07	9.107E-08
NW	3.172E-05	1.055E-05	5.408E-06	2.614E-06	9.909E-07	5.130E-07	3.133E-07	2.118E-07	1.534E-07	1.166E-07	9.204E-08
NNW	4.598E-05	1.396E-05	6.952E-06	3.363E-06	1.342E-06	7.204E-07	4.524E-07	3.129E-07	2.309E-07	1.785E-07	1.429E-07
N	5.316E-05	1.585E-05	7.919E-06	3.856E-06	1.565E-06	8.489E-07	5.373E-07	3.739E-07	2.773E-07	2.152E-07	1.729E-07
NNE	2.989E-05	9.028E-06	4.563E-06	2.230E-06	8.962E-07	4.832E-07	3.044E-07	2.110E-07	1.560E-07	1.208E-07	9.679E-08
NE	1.402E-05	4.003E-06	1.924E-06	9.229E-07	3.799E-07	2.081E-07	1.327E-07	9.286E-08	6.919E-08	5.392E-08	4.347E-08
ENE	1.305E-05	3.788E-06	1.932E-06	9.569E-07	3.894E-07	2.115E-07	1.340E-07	9.323E-08	6.915E-08	5.368E-08	4.312E-08
E	4.460E-06	1.346E-06	6.709E-07	3.255E-07	1.311E-07	7.075E-08	4.461E-08	3.095E-08	2.290E-08	1.774E-08	1.422E-08
ESE	2.333E-05	6.662E-06	3.300E-06	1.612E-06	6.625E-07	3.624E-07	2.307E-07	1.612E-07	1.200E-07	9.344E-08	7.525E-08
SE	2.481E-05	7.370E-06	3.750E-06	1.846E-06	7.457E-07	4.033E-07	2.547E-07	1.768E-07	1.309E-07	1.015E-07	8.141E-08
SSE	2.843E-05	8.756E-06	4.425E-06	2.147E-06	8.403E-07	4.452E-07	2.769E-07	1.900E-07	1.394E-07	1.072E-07	8.540E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	5.390E-08	2.532E-08	1.527E-08	7.853E-09	4.905E-09	3.391E-09	2.501E-09	1.927E-09	1.535E-09	1.253E-09	1.042E-09
SSW	4.257E-08	2.057E-08	1.266E-08	6.712E-09	4.282E-09	3.010E-09	2.250E-09	1.755E-09	1.411E-09	1.162E-09	9.750E-10
SW	2.866E-08	1.388E-08	8.560E-09	4.553E-09	2.912E-09	2.052E-09	1.537E-09	1.201E-09	9.670E-10	7.973E-10	6.697E-10
WSW	3.767E-08	1.810E-08	1.109E-08	5.834E-09	3.695E-09	2.583E-09	1.922E-09	1.493E-09	1.197E-09	9.833E-10	8.229E-10
W	3.192E-08	1.523E-08	9.292E-09	4.863E-09	3.074E-09	2.147E-09	1.596E-09	1.239E-09	9.932E-10	8.155E-10	6.824E-10
WNW	7.421E-08	3.593E-08	2.215E-08	1.175E-08	7.498E-09	5.271E-09	3.940E-09	3.073E-09	2.471E-09	2.035E-09	1.707E-09
NW	7.476E-08	3.571E-08	2.178E-08	1.137E-08	7.147E-09	4.968E-09	3.679E-09	2.846E-09	2.273E-09	1.860E-09	1.552E-09
NNW	1.175E-07	5.882E-08	3.707E-08	2.023E-08	1.311E-08	9.320E-09	7.026E-09	5.515E-09	4.459E-09	3.688E-09	3.105E-09
N	1.426E-07	7.214E-08	4.578E-08	2.518E-08	1.639E-08	1.168E-08	8.825E-09	6.938E-09	5.617E-09	4.650E-09	3.918E-09
NNE	7.969E-08	4.003E-08	2.528E-08	1.382E-08	8.956E-09	6.366E-09	4.797E-09	3.765E-09	3.043E-09	2.516E-09	2.118E-09
NE	3.597E-08	1.841E-08	1.177E-08	6.550E-09	4.298E-09	3.083E-09	2.341E-09	1.848E-09	1.501E-09	1.247E-09	1.053E-09
ENE	3.556E-08	1.798E-08	1.140E-08	6.260E-09	4.067E-09	2.896E-09	2.185E-09	1.716E-09	1.387E-09	1.147E-09	9.656E-10
E	1.172E-08	5.894E-09	3.726E-09	2.041E-09	1.324E-09	9.418E-10	7.104E-10	5.579E-10	4.513E-10	3.734E-10	3.145E-10
ESE	6.222E-08	3.176E-08	2.027E-08	1.124E-08	7.349E-09	5.260E-09	3.985E-09	3.141E-09	2.549E-09	2.114E-09	1.785E-09
SE	6.708E-08	3.380E-08	2.138E-08	1.172E-08	7.608E-09	5.415E-09	4.085E-09	3.209E-09	2.596E-09	2.148E-09	1.810E-09
SSE	6.999E-08	3.460E-08	2.162E-08	1.168E-08	7.521E-09	5.323E-09	3.999E-09	3.131E-09	2.526E-09	2.085E-09	1.753E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	4.107E-06	8.716E-07	2.427E-07	1.144E-07	6.735E-08	2.721E-08	8.190E-09	3.439E-09	1.942E-09	1.258E-09
SSW	3.045E-06	6.375E-07	1.833E-07	8.823E-08	5.278E-08	2.194E-08	6.954E-09	3.045E-09	1.766E-09	1.167E-09
SW	2.082E-06	4.315E-07	1.236E-07	5.942E-08	3.553E-08	1.480E-08	4.714E-09	2.075E-09	1.208E-09	8.003E-10
WSW	2.647E-06	5.652E-07	1.627E-07	7.826E-08	4.675E-08	1.933E-08	6.051E-09	2.615E-09	1.503E-09	9.873E-10
W	2.342E-06	4.944E-07	1.402E-07	6.685E-08	3.971E-08	1.630E-08	5.052E-09	2.174E-09	1.247E-09	8.188E-10
WNW	5.180E-06	1.094E-06	3.170E-07	1.532E-07	9.192E-08	3.831E-08	1.217E-08	5.333E-09	3.091E-09	2.043E-09
NW	5.310E-06	1.139E-06	3.260E-07	1.561E-07	9.293E-08	3.820E-08	1.181E-08	5.033E-09	2.865E-09	1.868E-09
NNW	6.913E-06	1.515E-06	4.681E-07	2.344E-07	1.440E-07	6.220E-08	2.081E-08	9.413E-09	5.544E-09	3.701E-09
N	7.875E-06	1.756E-06	5.550E-07	2.812E-07	1.742E-07	7.608E-08	2.585E-08	1.179E-08	6.974E-09	4.666E-09
NNE	4.518E-06	1.009E-06	3.147E-07	1.583E-07	9.756E-08	4.229E-08	1.421E-08	6.429E-09	3.785E-09	2.525E-09
NE	1.941E-06	4.242E-07	1.369E-07	7.014E-08	4.379E-08	1.936E-08	6.709E-09	3.110E-09	1.857E-09	1.251E-09
ENE	1.911E-06	4.364E-07	1.384E-07	7.014E-08	4.345E-08	1.896E-08	6.427E-09	2.924E-09	1.725E-09	1.151E-09
E	6.673E-07	1.475E-07	4.612E-08	2.323E-08	1.434E-08	6.224E-09	2.097E-09	9.511E-10	5.609E-10	3.747E-10
ESE	3.297E-06	7.401E-07	2.380E-07	1.217E-07	7.581E-08	3.342E-08	1.152E-08	5.307E-09	3.157E-09	2.121E-09
SE	3.708E-06	8.380E-07	2.632E-07	1.328E-07	8.205E-08	3.568E-08	1.204E-08	5.468E-09	3.226E-09	2.156E-09
SSE	4.375E-06	9.552E-07	2.870E-07	1.416E-07	8.614E-08	3.670E-08	1.204E-08	5.380E-09	3.148E-09	2.092E-09

B261

VENTS GROUND LEVEL RELEASES - JUL-SEP 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) AT FIXED POINTS BY DOWNWIND SECTORS *****											
DIRECTIONS FROM SITE											
DISTANCES IN MILES											
.25 .50 .75 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50											
S	2.308E-07	7.803E-08	4.007E-08	1.905E-08	6.842E-09	3.393E-09	1.998E-09	1.308E-09	9.205E-10	6.822E-10	5.257E-10
SSW	1.416E-07	4.788E-08	2.459E-08	1.169E-08	4.199E-09	2.082E-09	1.226E-09	8.028E-10	5.649E-10	4.186E-10	3.226E-10
SW	1.080E-07	3.653E-08	1.876E-08	8.918E-09	3.203E-09	1.589E-09	9.354E-10	6.125E-10	4.310E-10	3.194E-10	2.461E-10
WSW	1.269E-07	4.292E-08	2.204E-08	1.048E-08	3.763E-09	1.866E-09	1.099E-09	7.195E-10	5.063E-10	3.752E-10	2.891E-10
W	1.290E-07	4.363E-08	2.240E-08	1.065E-08	3.825E-09	1.897E-09	1.117E-09	7.314E-10	5.147E-10	3.814E-10	2.939E-10
WNW	2.612E-07	8.832E-08	4.535E-08	2.156E-08	7.744E-09	3.840E-09	2.261E-09	1.481E-09	1.042E-09	7.721E-10	5.950E-10
NW	2.916E-07	9.861E-08	5.063E-08	2.407E-08	8.646E-09	4.288E-09	2.525E-09	1.653E-09	1.163E-09	8.621E-10	6.643E-10
NNW	2.381E-07	8.052E-08	4.134E-08	1.965E-08	7.060E-09	3.501E-09	2.062E-09	1.350E-09	9.498E-10	7.039E-10	5.425E-10
N	2.098E-07	7.094E-08	3.642E-08	1.732E-08	6.220E-09	3.085E-09	1.816E-09	1.189E-09	8.369E-10	6.202E-10	4.779E-10
NNE	1.311E-07	4.434E-08	2.277E-08	1.082E-08	3.888E-09	1.928E-09	1.135E-09	7.433E-10	5.230E-10	3.876E-10	2.987E-10
NE	4.930E-08	1.667E-08	8.560E-09	4.069E-09	1.462E-09	7.249E-10	4.268E-10	2.795E-10	1.967E-10	1.457E-10	1.123E-10
ENE	3.566E-08	1.206E-08	6.192E-09	2.944E-09	1.057E-09	5.244E-10	3.088E-10	2.022E-10	1.423E-10	1.054E-10	8.125E-11
E	2.098E-08	7.094E-09	3.642E-09	1.732E-09	6.220E-10	3.085E-10	1.816E-10	1.189E-10	8.369E-11	6.202E-11	4.779E-11
ESE	7.343E-08	2.483E-08	1.275E-08	6.061E-09	2.177E-09	1.080E-09	6.357E-10	4.163E-10	2.929E-10	2.171E-10	1.673E-10
SE	9.860E-08	3.334E-08	1.712E-08	8.139E-09	2.923E-09	1.450E-09	8.537E-10	5.590E-10	3.933E-10	2.915E-10	2.246E-10
SSE	1.699E-07	5.746E-08	2.950E-08	1.403E-08	5.038E-09	2.499E-09	1.471E-09	9.633E-10	6.779E-10	5.024E-10	3.871E-10
DIRECTIONS FROM SITE											
DISTANCES IN MILES											
5.00 7.50 10.00 15.00 20.00 25.00 30.00 35.00 40.00 45.00 50.00											
S	4.177E-10	1.855E-10	1.124E-10	5.681E-11	3.438E-11	2.305E-11	1.652E-11	1.240E-11	9.644E-12	7.704E-12	6.288E-12
SSW	2.563E-10	1.139E-10	6.897E-11	3.486E-11	2.110E-11	1.415E-11	1.014E-11	7.611E-12	5.918E-12	4.727E-12	3.859E-12
SW	1.955E-10	8.687E-11	5.262E-11	2.660E-11	1.610E-11	1.079E-11	7.734E-12	5.807E-12	4.515E-12	3.607E-12	2.944E-12
WSW	2.297E-10	1.020E-10	6.182E-11	3.124E-11	1.891E-11	1.268E-11	9.085E-12	6.822E-12	5.304E-12	4.237E-12	3.458E-12
W	2.335E-10	1.037E-10	6.284E-11	3.176E-11	1.922E-11	1.289E-11	9.235E-12	6.935E-12	5.392E-12	4.307E-12	3.516E-12
WNW	4.727E-10	2.100E-10	1.272E-10	6.430E-11	3.892E-11	2.609E-11	1.870E-11	1.404E-11	1.092E-11	8.719E-12	7.117E-12
NW	5.278E-10	2.345E-10	1.420E-10	7.178E-11	4.345E-11	2.913E-11	2.087E-11	1.567E-11	1.219E-11	9.735E-12	7.946E-12
NNW	4.309E-10	1.914E-10	1.160E-10	5.862E-11	3.548E-11	2.379E-11	1.704E-11	1.280E-11	9.951E-12	7.949E-12	6.488E-12
N	3.797E-10	1.687E-10	1.022E-10	5.164E-11	3.126E-11	2.096E-11	1.502E-11	1.128E-11	8.767E-12	7.004E-12	5.716E-12
NNE	2.373E-10	1.054E-10	6.386E-11	3.228E-11	1.954E-11	1.310E-11	9.386E-12	7.048E-12	5.480E-12	4.377E-12	3.573E-12
NE	8.923E-11	3.964E-11	2.401E-11	1.214E-11	7.345E-12	4.925E-12	3.529E-12	2.650E-12	2.060E-12	1.646E-12	1.343E-12
ENE	6.455E-11	2.867E-11	1.737E-11	8.779E-12	5.314E-12	3.563E-12	2.553E-12	1.917E-12	1.490E-12	1.191E-12	9.718E-13
E	3.797E-11	1.687E-11	1.022E-11	5.164E-12	3.126E-12	2.096E-12	1.502E-12	1.128E-12	8.767E-13	7.004E-13	5.716E-13
ESE	1.329E-10	5.904E-11	3.576E-11	1.808E-11	1.094E-11	7.335E-12	5.256E-12	3.947E-12	3.069E-12	2.451E-12	2.001E-12
SE	1.785E-10	7.928E-11	4.802E-11	2.427E-11	1.469E-11	9.850E-12	7.058E-12	5.300E-12	4.121E-12	3.292E-12	2.687E-12
SSE	3.075E-10	1.366E-10	8.276E-11	4.183E-11	2.532E-11	1.698E-11	1.216E-11	9.134E-12	7.102E-12	5.673E-12	4.630E-12

B262

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) BY DOWNWIND SECTORS *****											
DIRECTIONS FROM SITE											
SEGMENT BOUNDARIES IN MILES											
.5-1 1-2 2-3 3-4 4-5 5-10 10-20 20-30 30-40 40-50											
S	3.916E-08	8.022E-09	2.094E-09	9.405E-10	5.321E-10	2.046E-10	5.919E-11	2.346E-11	1.253E-11	7.754E-12	
SSW	2.403E-08	4.922E-09	1.285E-09	5.771E-10	3.265E-10	1.256E-10	3.632E-11	1.440E-11	7.688E-12	4.758E-12	
SW	1.834E-08	3.756E-09	9.804E-10	4.403E-10	2.491E-10	9.580E-11	2.771E-11	1.098E-11	5.865E-12	3.630E-12	
WSW	2.154E-08	4.412E-09	1.152E-09	5.173E-10	2.926E-10	1.125E-10	3.256E-11	1.290E-11	6.891E-12	4.265E-12	
W	2.190E-08	4.485E-09	1.171E-09	5.258E-10	2.975E-10	1.144E-10	3.309E-11	1.312E-11	7.004E-12	4.335E-12	
WNW	4.432E-08	9.079E-09	2.370E-09	1.065E-09	6.022E-10	2.316E-10	6.700E-11	2.655E-11	1.418E-11	8.777E-12	
NW	4.949E-08	1.014E-08	2.646E-09	1.188E-09	6.723E-10	2.586E-10	7.480E-11	2.965E-11	1.583E-11	9.799E-12	
NNW	4.041E-08	8.277E-09	2.161E-09	9.705E-10	5.490E-10	2.111E-10	6.108E-11	2.421E-11	1.293E-11	8.001E-12	
N	3.560E-08	7.292E-09	1.904E-09	8.550E-10	4.837E-10	1.860E-10	5.381E-11	2.133E-11	1.139E-11	7.049E-12	
NNE	2.225E-08	4.558E-09	1.190E-09	5.344E-10	3.023E-10	1.163E-10	3.363E-11	1.333E-11	7.118E-12	4.406E-12	
NE	8.367E-09	1.714E-09	4.474E-10	2.009E-10	1.137E-10	4.371E-11	1.265E-11	5.012E-12	2.676E-12	1.657E-12	
ENE	6.052E-09	1.240E-09	3.236E-10	1.454E-10	8.223E-11	3.162E-11	9.148E-12	3.626E-12	1.936E-12	1.198E-12	
E	3.560E-09	7.292E-10	1.904E-10	8.550E-11	4.837E-11	1.860E-11	5.381E-12	2.133E-12	1.139E-12	7.049E-13	
ESE	1.246E-08	2.552E-09	6.663E-10	2.993E-10	1.693E-10	6.510E-11	1.883E-11	7.465E-12	3.986E-12	2.467E-12	
SE	1.673E-08	3.427E-09	8.948E-10	4.019E-10	2.273E-10	8.742E-11	2.529E-11	1.002E-11	5.353E-12	3.313E-12	
SSE	2.884E-08	5.907E-09	1.542E-09	6.926E-10	3.918E-10	1.507E-10	4.359E-11	1.728E-11	9.225E-12	5.710E-12	

VENTS GROUND LEVEL RELEASES - JUL-SEP 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS  
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION FROM SITE	DIST. (MI)	X/Q (SEC/M3)			D/Q (PER SQ.METER)
				NO DECAY	2.26 DAY DECAY	8.0 DAY DECAY	
A	Site Boundary	S	.80	4.0E-06	4.0E-06	3.6E-06	3.4E-08
A	Site Boundary	SSW	.82	2.7E-06	2.7E-06	2.4E-06	1.9E-08
A	Site Boundary	SW	.97	1.2E-06	1.2E-06	1.1E-06	9.5E-09
A	Site Boundary	WSW	.93	1.8E-06	1.8E-06	1.6E-06	1.3E-08
A	Site Boundary	W	.91	1.6E-06	1.6E-06	1.4E-06	1.3E-08
A	Site Boundary	WNW	.94	3.3E-06	3.3E-06	2.9E-06	2.5E-08
A	Site Boundary	NW	.81	5.0E-06	5.0E-06	4.4E-06	4.1E-08
A	Site Boundary	NNW	.69	9.0E-06	9.0E-06	8.0E-06	4.8E-08
A	Site Boundary	N	.67	1.1E-05	1.1E-05	9.4E-06	4.4E-08
A	Site Boundary	NNE	.60	7.4E-06	7.3E-06	6.6E-06	3.3E-08
A	Site Boundary	NE	.62	2.9E-06	2.9E-06	2.6E-06	1.2E-08
A	Site Boundary	ENE	.59	3.2E-06	3.2E-06	2.9E-06	9.3E-09
A	Site Boundary	E	.53	1.4E-06	1.4E-06	1.2E-06	6.6E-09
A	Site Boundary	ESE	.54	6.4E-06	6.4E-06	5.8E-06	2.2E-08
A	Site Boundary	SE	.65	5.3E-06	5.3E-06	4.7E-06	2.2E-08
A	Site Boundary	SSE	.81	4.1E-06	4.1E-06	3.6E-06	2.4E-08
A	Nearest Res	SSW	2.10	3.1E-07	3.1E-07	2.6E-07	1.9E-09
A	Nearest Res	SW	1.30	6.1E-07	6.1E-07	5.3E-07	4.6E-09
A	Nearest Res	WSW	1.90	3.5E-07	3.4E-07	2.9E-07	2.1E-09
A	Nearest Res	W	1.00	1.3E-06	1.3E-06	1.1E-06	1.1E-08
A	Nearest Res	WNW	1.70	8.5E-07	8.5E-07	7.2E-07	5.7E-09
A	Nearest Res	NW	.90	3.9E-06	3.9E-06	3.4E-06	3.2E-08
A	Nearest Res	NNW	1.90	9.7E-07	9.6E-07	8.0E-07	4.0E-09
A	Nearest Res	N	2.50	6.7E-07	6.6E-07	5.4E-07	1.8E-09
A	Nearest Res	NE	2.80	1.3E-07	1.3E-07	1.1E-07	3.3E-10
A	Nearest Res	ENE	1.70	3.6E-07	3.5E-07	3.0E-07	7.8E-10
A	Nearest Res	E	1.90	9.5E-08	9.4E-08	7.9E-08	3.5E-10
A	Nearest Res	ESE	2.30	3.3E-07	3.3E-07	2.7E-07	7.7E-10
A	Nearest Res	NNW	3.50	3.0E-07	2.9E-07	2.3E-07	9.5E-10
A	Nearest Garde	SW	1.30	6.1E-07	6.1E-07	5.3E-07	4.6E-09
A	Nearest Garde	WSW	1.90	3.5E-07	3.4E-07	2.9E-07	2.1E-09
A	Nearest Garde	WNW	2.40	4.1E-07	4.1E-07	3.3E-07	2.5E-09
A	Nearest Garde	NW	2.90	2.9E-07	2.8E-07	2.3E-07	1.8E-09
A	Nearest Garde	NNW	2.80	4.5E-07	4.5E-07	3.6E-07	1.6E-09
A	Nearest Garde	NE	2.80	1.3E-07	1.3E-07	1.1E-07	3.3E-10
A	Nearest Garde	ENE	1.70	3.6E-07	3.5E-07	3.0E-07	7.8E-10
A	Nearest Garde	E	1.90	9.5E-08	9.4E-08	7.9E-08	3.5E-10
A	Nearest Garde	ESE	3.00	2.0E-07	2.0E-07	1.6E-07	4.2E-10

**Atmospheric Diffusion Estimates**

**Ground Level Releases**

October-December 2011

VENTS GROUND LEVEL RELEASES - OCT-DEC 2011  
 NO DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.019E-05	1.032E-05	5.511E-06	2.749E-06	1.090E-06	5.849E-07	3.680E-07	2.554E-07	1.892E-07	1.469E-07	1.182E-07
SSW	1.327E-05	4.615E-06	2.449E-06	1.215E-06	4.793E-07	2.562E-07	1.607E-07	1.112E-07	8.220E-08	6.371E-08	5.115E-08
SW	7.375E-06	2.320E-06	1.220E-06	6.131E-07	2.525E-07	1.390E-07	8.917E-08	6.285E-08	4.718E-08	3.705E-08	3.009E-08
WSW	3.162E-06	1.059E-06	5.510E-07	2.719E-07	1.100E-07	5.986E-08	3.809E-08	2.667E-08	1.991E-08	1.557E-08	1.260E-08
W	5.557E-06	1.656E-06	8.255E-07	4.061E-07	1.731E-07	9.759E-08	6.374E-08	4.557E-08	3.461E-08	2.746E-08	2.250E-08
WNW	5.134E-06	1.683E-06	8.826E-07	4.369E-07	1.741E-07	9.383E-08	5.929E-08	4.129E-08	3.070E-08	2.392E-08	1.930E-08
NW	3.340E-05	1.050E-05	5.392E-06	2.670E-06	1.111E-06	6.163E-07	3.979E-07	2.819E-07	2.126E-07	1.676E-07	1.366E-07
NNW	9.696E-05	3.014E-05	1.565E-05	7.816E-06	3.262E-06	1.813E-06	1.172E-06	8.308E-07	6.269E-07	4.944E-07	4.031E-07
N	1.162E-04	3.704E-05	1.985E-05	1.004E-05	4.138E-06	2.281E-06	1.465E-06	1.033E-06	7.765E-07	6.102E-07	4.960E-07
NNE	6.550E-05	2.039E-05	1.077E-05	5.425E-06	2.253E-06	1.248E-06	8.041E-07	5.689E-07	4.284E-07	3.374E-07	2.747E-07
NE	3.595E-05	1.125E-05	5.919E-06	2.974E-06	1.230E-06	6.794E-07	4.370E-07	3.087E-07	2.322E-07	1.826E-07	1.486E-07
ENE	2.523E-05	8.065E-06	4.288E-06	2.159E-06	8.823E-07	4.832E-07	3.089E-07	2.171E-07	1.626E-07	1.275E-07	1.033E-07
E	1.723E-05	5.524E-06	2.976E-06	1.508E-06	6.164E-07	3.376E-07	2.158E-07	1.516E-07	1.135E-07	8.896E-08	7.212E-08
ESE	4.228E-05	1.352E-05	7.293E-06	3.701E-06	1.515E-06	8.309E-07	5.316E-07	3.738E-07	2.800E-07	2.196E-07	1.781E-07
SE	4.380E-05	1.465E-05	7.859E-06	3.944E-06	1.595E-06	8.674E-07	5.516E-07	3.861E-07	2.882E-07	2.252E-07	1.822E-07
SSE	3.599E-05	1.221E-05	6.516E-06	3.250E-06	1.304E-06	7.056E-07	4.471E-07	3.120E-07	2.323E-07	1.812E-07	1.463E-07

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	9.766E-08	4.990E-08	3.221E-08	1.838E-08	1.241E-08	9.165E-09	7.167E-09	5.827E-09	4.874E-09	4.166E-09	3.622E-09
SSW	4.220E-08	2.142E-08	1.377E-08	7.802E-09	5.237E-09	3.854E-09	3.004E-09	2.436E-09	2.033E-09	1.734E-09	1.505E-09
SW	2.509E-08	1.325E-08	8.750E-09	5.153E-09	3.553E-09	2.668E-09	2.115E-09	1.738E-09	1.468E-09	1.266E-09	1.108E-09
WSW	1.047E-08	5.460E-09	3.577E-09	2.084E-09	1.427E-09	1.066E-09	8.412E-10	6.893E-10	5.805E-10	4.992E-10	4.364E-10
W	1.890E-08	1.028E-08	6.924E-09	4.192E-09	2.947E-09	2.246E-09	1.801E-09	1.495E-09	1.273E-09	1.105E-09	9.745E-10
WNW	1.599E-08	8.278E-09	5.396E-09	3.129E-09	2.143E-09	1.601E-09	1.264E-09	1.036E-09	8.722E-10	7.500E-10	6.556E-10
NW	1.142E-07	6.107E-08	4.069E-08	2.426E-08	1.688E-08	1.276E-08	1.017E-08	8.397E-09	7.120E-09	6.158E-09	5.410E-09
NNW	3.372E-07	1.804E-07	1.202E-07	7.167E-08	4.984E-08	3.767E-08	3.000E-08	2.477E-08	2.100E-08	1.815E-08	1.594E-08
N	4.138E-07	2.190E-07	1.449E-07	8.550E-08	5.901E-08	4.434E-08	3.515E-08	2.890E-08	2.441E-08	2.104E-08	1.843E-08
NNE	2.295E-07	1.222E-07	8.116E-08	4.817E-08	3.340E-08	2.518E-08	2.002E-08	1.650E-08	1.396E-08	1.206E-08	1.058E-08
NE	1.240E-07	6.586E-08	4.367E-08	2.586E-08	1.790E-08	1.348E-08	1.071E-08	8.820E-09	7.460E-09	6.439E-09	5.646E-09
ENE	8.604E-08	4.521E-08	2.976E-08	1.745E-08	1.199E-08	8.985E-09	7.106E-09	5.832E-09	4.918E-09	4.234E-09	3.704E-09
E	6.002E-08	3.149E-08	2.071E-08	1.212E-08	8.317E-09	6.224E-09	4.917E-09	4.032E-09	3.398E-09	2.923E-09	2.555E-09
ESE	1.483E-07	7.792E-08	5.129E-08	3.005E-08	2.064E-08	1.545E-08	1.221E-08	1.002E-08	8.444E-09	7.265E-09	6.353E-09
SE	1.513E-07	7.879E-08	5.155E-08	2.996E-08	2.047E-08	1.526E-08	1.203E-08	9.840E-09	8.275E-09	7.106E-09	6.203E-09
SSE	1.213E-07	6.282E-08	4.094E-08	2.368E-08	1.613E-08	1.201E-08	9.444E-09	7.716E-09	6.482E-09	5.561E-09	4.850E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE										
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	
S	5.352E-06	1.234E-06	3.808E-07	1.920E-07	1.191E-07	5.265E-08	1.880E-08	9.230E-09	5.847E-09	4.174E-09	
SSW	2.382E-06	5.436E-07	1.663E-07	8.344E-08	5.156E-08	2.264E-08	7.987E-09	3.883E-09	2.445E-09	1.738E-09	
SW	1.195E-06	2.822E-07	9.193E-08	4.780E-08	3.030E-08	1.388E-08	5.241E-09	2.683E-09	1.743E-09	1.267E-09	
WSW	5.399E-07	1.237E-07	3.932E-08	2.019E-08	1.269E-08	5.736E-09	2.124E-09	1.072E-09	6.913E-10	5.000E-10	
W	8.236E-07	1.913E-07	6.550E-08	3.502E-08	2.264E-08	1.070E-08	4.246E-09	2.255E-09	1.498E-09	1.107E-09	
WNW	8.625E-07	1.968E-07	6.130E-08	3.115E-08	1.944E-08	8.712E-09	3.195E-09	1.611E-09	1.039E-09	7.513E-10	
NW	5.317E-06	1.238E-06	4.098E-07	2.153E-07	1.375E-07	6.383E-08	2.463E-08	1.282E-08	8.416E-09	6.166E-09	
NNW	1.539E-05	3.630E-06	1.206E-06	6.347E-07	4.058E-07	1.885E-07	7.275E-08	3.785E-08	2.483E-08	1.818E-08	
N	1.931E-05	4.623E-06	1.510E-06	7.866E-07	4.994E-07	2.294E-07	8.693E-08	4.458E-08	2.898E-08	2.107E-08	
NNE	1.053E-05	2.511E-06	8.283E-07	4.339E-07	2.765E-07	1.278E-07	4.893E-08	2.531E-08	1.654E-08	1.207E-08	
NE	5.794E-06	1.373E-06	4.503E-07	2.352E-07	1.496E-07	6.892E-08	2.628E-08	1.355E-08	8.841E-09	6.448E-09	
ENE	4.181E-06	9.886E-07	3.187E-07	1.648E-07	1.041E-07	4.742E-08	1.776E-08	9.035E-09	5.848E-09	4.240E-09	
E	2.890E-06	6.907E-07	2.226E-07	1.150E-07	7.263E-08	3.304E-08	1.234E-08	6.259E-09	4.043E-09	2.927E-09	
ESE	7.080E-06	1.697E-06	5.483E-07	2.838E-07	1.793E-07	8.172E-08	3.059E-08	1.554E-08	1.005E-08	7.277E-09	
SE	7.628E-06	1.794E-06	5.696E-07	2.922E-07	1.835E-07	8.280E-08	3.054E-08	1.536E-08	9.868E-09	7.118E-09	
SSE	6.330E-06	1.471E-06	4.620E-07	2.356E-07	1.474E-07	6.609E-08	2.416E-08	1.208E-08	7.740E-09	5.571E-09	

B265



VENTS GROUND LEVEL RELEASES - OCT-DEC 2011  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	DISTANCE IN MILES FROM THE SITE										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.016E-05	1.030E-05	5.497E-06	2.740E-06	1.085E-06	5.811E-07	3.649E-07	2.527E-07	1.869E-07	1.449E-07	1.163E-07
SSW	1.326E-05	4.608E-06	2.443E-06	1.211E-06	4.771E-07	2.545E-07	1.594E-07	1.101E-07	8.127E-08	6.287E-08	5.039E-08
SW	7.365E-06	2.314E-06	1.215E-06	6.100E-07	2.505E-07	1.375E-07	8.800E-08	6.185E-08	4.631E-08	3.626E-08	2.937E-08
WSW	3.159E-06	1.057E-06	5.493E-07	2.708E-07	1.093E-07	5.937E-08	3.769E-08	2.634E-08	1.962E-08	1.531E-08	1.236E-08
W	5.549E-06	1.651E-06	8.219E-07	4.037E-07	1.716E-07	9.645E-08	6.281E-08	4.477E-08	3.390E-08	2.681E-08	2.191E-08
WNW	5.129E-06	1.680E-06	8.801E-07	4.352E-07	1.731E-07	9.309E-08	5.870E-08	4.079E-08	3.027E-08	2.353E-08	1.894E-08
NW	3.336E-05	1.047E-05	5.375E-06	2.658E-06	1.104E-06	6.108E-07	3.934E-07	2.781E-07	2.092E-07	1.645E-07	1.338E-07
NNW	9.685E-05	3.007E-05	1.560E-05	7.782E-06	3.240E-06	1.797E-06	1.158E-06	8.194E-07	6.168E-07	4.853E-07	3.947E-07
N	1.161E-04	3.696E-05	1.978E-05	9.993E-06	4.112E-06	2.261E-06	1.449E-06	1.020E-06	7.648E-07	5.997E-07	4.864E-07
NNE	6.542E-05	2.034E-05	1.073E-05	5.401E-06	2.237E-06	1.236E-06	7.948E-07	5.609E-07	4.214E-07	3.310E-07	2.689E-07
NE	3.591E-05	1.122E-05	5.899E-06	2.961E-06	1.222E-06	6.730E-07	4.319E-07	3.043E-07	2.283E-07	1.792E-07	1.454E-07
ENE	2.521E-05	8.049E-06	4.275E-06	2.150E-06	8.770E-07	4.793E-07	3.058E-07	2.145E-07	1.603E-07	1.254E-07	1.014E-07
E	1.721E-05	5.514E-06	2.967E-06	1.503E-06	6.129E-07	3.350E-07	2.137E-07	1.499E-07	1.120E-07	8.758E-08	7.086E-08
ESE	4.224E-05	1.349E-05	7.270E-06	3.686E-06	1.506E-06	8.238E-07	5.259E-07	3.689E-07	2.758E-07	2.158E-07	1.746E-07
SE	4.376E-05	1.462E-05	7.838E-06	3.930E-06	1.586E-06	8.610E-07	5.465E-07	3.817E-07	2.844E-07	2.218E-07	1.790E-07
SSE	3.595E-05	1.219E-05	6.498E-06	3.238E-06	1.297E-06	7.003E-07	4.428E-07	3.084E-07	2.292E-07	1.784E-07	1.437E-07

SECTOR	DISTANCE IN MILES FROM THE SITE										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	9.595E-08	4.857E-08	3.106E-08	1.739E-08	1.151E-08	8.336E-09	6.392E-09	5.096E-09	4.180E-09	3.503E-09	2.986E-09
SSW	4.150E-08	2.088E-08	1.329E-08	7.395E-09	4.872E-09	3.517E-09	2.689E-09	2.139E-09	1.752E-09	1.466E-09	1.248E-09
SW	2.442E-08	1.272E-08	8.288E-09	4.749E-09	3.185E-09	2.327E-09	1.794E-09	1.435E-09	1.179E-09	9.890E-10	8.429E-10
WSW	1.025E-08	5.285E-09	3.423E-09	1.949E-09	1.304E-09	9.517E-10	7.338E-10	5.875E-10	4.835E-10	4.063E-10	3.470E-10
W	1.835E-08	9.827E-09	6.524E-09	3.834E-09	2.617E-09	1.937E-09	1.508E-09	1.216E-09	1.006E-09	8.487E-10	7.269E-10
WNW	1.567E-08	8.019E-09	5.170E-09	2.933E-09	1.965E-09	1.436E-09	1.109E-09	8.892E-10	7.328E-10	6.167E-10	5.275E-10
NW	1.116E-07	5.894E-08	3.879E-08	2.257E-08	1.532E-08	1.130E-08	8.790E-09	7.086E-09	5.864E-09	4.952E-09	4.247E-09
NNW	3.294E-07	1.741E-07	1.146E-07	6.671E-08	4.528E-08	3.341E-08	2.598E-08	2.095E-08	1.734E-08	1.464E-08	1.256E-08
N	4.048E-07	2.119E-07	1.386E-07	7.999E-08	5.398E-08	3.967E-08	3.075E-08	2.473E-08	2.043E-08	1.722E-08	1.476E-08
NNE	2.241E-07	1.179E-07	7.734E-08	4.479E-08	3.030E-08	2.230E-08	1.730E-08	1.392E-08	1.150E-08	9.692E-09	8.300E-09
NE	1.211E-07	6.350E-08	4.159E-08	2.402E-08	1.622E-08	1.191E-08	9.230E-09	7.417E-09	6.120E-09	5.154E-09	4.410E-09
ENE	8.426E-08	4.380E-08	2.852E-08	1.635E-08	1.100E-08	8.060E-09	6.236E-09	5.008E-09	4.132E-09	3.481E-09	2.980E-09
E	5.886E-08	3.057E-08	1.990E-08	1.141E-08	7.676E-09	5.629E-09	4.359E-09	3.503E-09	2.894E-09	2.440E-09	2.091E-09
ESE	1.451E-07	7.536E-08	4.904E-08	2.808E-08	1.885E-08	1.379E-08	1.065E-08	8.541E-09	7.036E-09	5.917E-09	5.057E-09
SE	1.484E-07	7.652E-08	4.955E-08	2.821E-08	1.889E-08	1.380E-08	1.065E-08	8.536E-09	7.033E-09	5.917E-09	5.061E-09
SSE	1.190E-07	6.097E-08	3.933E-08	2.228E-08	1.487E-08	1.084E-08	8.347E-09	6.680E-09	5.496E-09	4.618E-09	3.946E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	5.340E-06	1.229E-06	3.777E-07	1.897E-07	1.172E-07	5.132E-08	1.781E-08	8.404E-09	5.117E-09	3.512E-09
SSW	2.377E-06	5.413E-07	1.651E-07	8.250E-08	5.080E-08	2.209E-08	7.584E-09	3.547E-09	2.149E-09	1.470E-09
SW	1.190E-06	2.802E-07	9.075E-08	4.692E-08	2.958E-08	1.335E-08	4.840E-09	2.343E-09	1.440E-09	9.912E-10
WSW	5.384E-07	1.230E-07	3.893E-08	1.990E-08	1.245E-08	5.560E-09	1.990E-09	9.584E-10	5.897E-10	4.072E-10
W	8.203E-07	1.898E-07	6.456E-08	3.431E-08	2.204E-08	1.025E-08	3.891E-09	1.947E-09	1.220E-09	8.503E-10
WNW	8.602E-07	1.958E-07	6.071E-08	3.071E-08	1.909E-08	8.452E-09	3.000E-09	1.446E-09	8.924E-10	6.181E-10
NW	5.300E-06	1.230E-06	4.052E-07	2.118E-07	1.347E-07	6.169E-08	2.295E-08	1.137E-08	7.108E-09	4.961E-09
NNW	1.534E-05	3.608E-06	1.193E-06	6.246E-07	3.974E-07	1.822E-07	6.784E-08	3.361E-08	2.101E-08	1.467E-08
N	1.925E-05	4.596E-06	1.494E-06	7.749E-07	4.898E-07	2.222E-07	8.146E-08	3.992E-08	2.481E-08	1.726E-08
NNE	1.050E-05	2.495E-06	8.189E-07	4.268E-07	2.707E-07	1.235E-07	4.558E-08	2.243E-08	1.396E-08	9.711E-09
NE	5.776E-06	1.364E-06	4.452E-07	2.313E-07	1.464E-07	6.655E-08	2.445E-08	1.199E-08	7.441E-09	5.165E-09
ENE	4.169E-06	9.832E-07	3.155E-07	1.624E-07	1.022E-07	4.600E-08	1.668E-08	8.114E-09	5.025E-09	3.488E-09
E	2.882E-06	6.871E-07	2.205E-07	1.135E-07	7.137E-08	3.211E-08	1.164E-08	5.667E-09	3.515E-09	2.445E-09
ESE	7.060E-06	1.687E-06	5.426E-07	2.795E-07	1.758E-07	7.915E-08	2.864E-08	1.389E-08	8.571E-09	5.930E-09
SE	7.609E-06	1.785E-06	5.644E-07	2.884E-07	1.804E-07	8.051E-08	2.881E-08	1.389E-08	8.567E-09	5.931E-09
SSE	6.314E-06	1.463E-06	4.577E-07	2.325E-07	1.448E-07	6.424E-08	2.277E-08	1.091E-08	6.705E-09	4.629E-09

B266

VENTS GROUND LEVEL RELEASES - OCT-DEC 2011  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)											
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500	
S	2.856E-05	9.418E-06	4.907E-06	2.404E-06	9.248E-07	4.834E-07	2.974E-07	2.022E-07	1.471E-07	1.123E-07	8.894E-08	
SSW	1.256E-05	4.212E-06	2.181E-06	1.063E-06	4.066E-07	2.117E-07	1.299E-07	8.808E-08	6.393E-08	4.872E-08	3.851E-08	
SW	6.977E-06	2.117E-06	1.086E-06	5.359E-07	2.140E-07	1.147E-07	7.196E-08	4.969E-08	3.662E-08	2.827E-08	2.260E-08	
WSW	2.992E-06	9.668E-07	4.906E-07	2.377E-07	9.325E-08	4.945E-08	3.076E-08	2.111E-08	1.548E-08	1.190E-08	9.474E-09	
W	5.257E-06	1.511E-06	7.347E-07	3.549E-07	1.467E-07	8.054E-08	5.142E-08	3.601E-08	2.685E-08	2.094E-08	1.688E-08	
WNW	4.858E-06	1.536E-06	7.859E-07	3.820E-07	1.476E-07	7.753E-08	4.789E-08	3.269E-08	2.386E-08	1.828E-08	1.451E-08	
NW	3.160E-05	9.579E-06	4.801E-06	2.334E-06	9.417E-07	5.090E-07	3.213E-07	2.231E-07	1.651E-07	1.280E-07	1.027E-07	
NNW	9.174E-05	2.751E-05	1.393E-05	6.833E-06	2.765E-06	1.497E-06	9.461E-07	6.574E-07	4.869E-07	3.775E-07	3.030E-07	
N	1.100E-04	3.380E-05	1.767E-05	8.774E-06	3.508E-06	1.884E-06	1.183E-06	8.179E-07	6.033E-07	4.661E-07	3.729E-07	
NNE	6.197E-05	1.860E-05	9.586E-06	4.743E-06	1.910E-06	1.030E-06	6.492E-07	4.501E-07	3.327E-07	2.576E-07	2.064E-07	
NE	3.401E-05	1.026E-05	5.270E-06	2.600E-06	1.043E-06	5.611E-07	3.528E-07	2.442E-07	1.803E-07	1.394E-07	1.116E-07	
ENE	2.387E-05	7.361E-06	3.818E-06	1.888E-06	7.480E-07	3.992E-07	2.495E-07	1.719E-07	1.264E-07	9.738E-08	7.772E-08	
E	1.630E-05	5.042E-06	2.650E-06	1.319E-06	5.227E-07	2.789E-07	1.743E-07	1.200E-07	8.824E-08	6.799E-08	5.426E-08	
ESE	4.000E-05	1.234E-05	6.493E-06	3.236E-06	1.285E-06	6.864E-07	4.293E-07	2.958E-07	2.176E-07	1.677E-07	1.339E-07	
SE	4.144E-05	1.337E-05	6.998E-06	3.449E-06	1.352E-06	7.167E-07	4.456E-07	3.057E-07	2.240E-07	1.721E-07	1.371E-07	
SSE	3.405E-05	1.115E-05	5.802E-06	2.842E-06	1.106E-06	5.830E-07	3.612E-07	2.470E-07	1.806E-07	1.385E-07	1.100E-07	

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)											
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000	
S	7.243E-08	3.491E-08	2.142E-08	1.125E-08	7.091E-09	4.935E-09	3.657E-09	2.830E-09	2.261E-09	1.850E-09	1.543E-09	
SSW	3.131E-08	1.499E-08	9.157E-09	4.778E-09	2.996E-09	2.077E-09	1.535E-09	1.184E-09	9.440E-10	7.711E-10	6.421E-10	
SW	1.856E-08	9.232E-09	5.789E-09	3.131E-09	2.011E-09	1.420E-09	1.064E-09	8.309E-10	6.687E-10	5.506E-10	4.617E-10	
WSW	7.756E-09	3.814E-09	2.373E-09	1.271E-09	8.120E-10	5.709E-10	4.265E-10	3.323E-10	2.670E-10	2.196E-10	1.839E-10	
W	1.397E-08	7.153E-09	4.574E-09	2.541E-09	1.664E-09	1.191E-09	9.028E-10	7.115E-10	5.771E-10	4.784E-10	4.036E-10	
WNW	1.185E-08	5.783E-09	3.581E-09	1.910E-09	1.221E-09	8.588E-10	6.420E-10	5.004E-10	4.022E-10	3.310E-10	2.774E-10	
NW	8.460E-08	4.262E-08	2.697E-08	1.478E-08	9.587E-09	6.819E-09	5.142E-09	4.037E-09	3.264E-09	2.699E-09	2.272E-09	
NNW	2.497E-07	1.259E-07	7.968E-08	4.366E-08	2.832E-08	2.014E-08	1.518E-08	1.192E-08	9.633E-09	7.965E-09	6.704E-09	
N	3.065E-07	1.530E-07	9.614E-08	5.217E-08	3.360E-08	2.377E-08	1.784E-08	1.395E-08	1.124E-08	9.273E-09	7.786E-09	
NNE	1.699E-07	8.526E-08	5.378E-08	2.934E-08	1.897E-08	1.346E-08	1.013E-08	7.933E-09	6.403E-09	5.287E-09	4.444E-09	
NE	9.182E-08	4.595E-08	2.893E-08	1.574E-08	1.016E-08	7.201E-09	5.412E-09	4.237E-09	3.417E-09	2.820E-09	2.369E-09	
ENE	6.376E-08	3.159E-08	1.975E-08	1.065E-08	6.832E-09	4.819E-09	3.610E-09	2.818E-09	2.268E-09	1.868E-09	1.567E-09	
E	4.449E-08	2.201E-08	1.375E-08	7.406E-09	4.747E-09	3.346E-09	2.505E-09	1.955E-09	1.573E-09	1.295E-09	1.086E-09	
ESE	1.098E-07	5.441E-08	3.402E-08	1.833E-08	1.175E-08	8.278E-09	6.195E-09	4.832E-09	3.885E-09	3.198E-09	2.680E-09	
SE	1.122E-07	5.509E-08	3.424E-08	1.831E-08	1.168E-08	8.205E-09	6.125E-09	4.768E-09	3.828E-09	3.146E-09	2.635E-09	
SSE	8.992E-08	4.391E-08	2.719E-08	1.447E-08	9.204E-09	6.451E-09	4.807E-09	3.737E-09	2.997E-09	2.460E-09	2.058E-09	

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	4.797E-06	1.057E-06	3.090E-07	1.496E-07	8.976E-08	3.725E-08	1.166E-08	4.999E-09	2.850E-09	1.858E-09
SSW	2.135E-06	4.657E-07	1.350E-07	6.504E-08	3.887E-08	1.603E-08	4.959E-09	2.105E-09	1.193E-09	7.746E-10
SW	1.071E-06	2.414E-07	7.446E-08	3.717E-08	2.278E-08	9.774E-09	3.224E-09	1.435E-09	8.357E-10	5.527E-10
WSW	4.840E-07	1.059E-07	3.188E-08	1.572E-08	9.555E-09	4.050E-09	1.312E-09	5.774E-10	3.343E-10	2.204E-10
W	7.384E-07	1.636E-07	5.302E-08	2.722E-08	1.701E-08	7.522E-09	2.603E-09	1.202E-09	7.149E-10	4.799E-10
WNW	7.732E-07	1.686E-07	4.971E-08	2.426E-08	1.464E-08	6.153E-09	1.975E-09	8.686E-10	5.035E-10	3.322E-10
NW	4.766E-06	1.059E-06	3.321E-07	1.675E-07	1.035E-07	4.499E-08	1.518E-08	6.887E-09	4.058E-09	2.708E-09
NNW	1.379E-05	3.106E-06	9.776E-07	4.939E-07	3.053E-07	1.329E-07	4.485E-08	2.034E-08	1.198E-08	7.992E-09
N	1.730E-05	3.956E-06	1.224E-06	6.124E-07	3.760E-07	1.618E-07	5.369E-08	2.402E-08	1.403E-08	9.307E-09
NNE	9.438E-06	2.148E-06	6.712E-07	3.376E-07	2.081E-07	9.008E-08	3.016E-08	1.359E-08	7.977E-09	5.305E-09
NE	5.193E-06	1.175E-06	3.649E-07	1.830E-07	1.125E-07	4.858E-08	1.619E-08	7.275E-09	4.260E-09	2.830E-09
ENE	3.747E-06	8.462E-07	2.584E-07	1.283E-07	7.837E-08	3.348E-08	1.098E-08	4.872E-09	2.835E-09	1.875E-09
E	2.590E-06	5.913E-07	1.805E-07	8.961E-08	5.471E-08	2.334E-08	7.635E-09	3.383E-09	1.967E-09	1.300E-09
ESE	6.345E-06	1.452E-06	4.444E-07	2.209E-07	1.350E-07	5.767E-08	1.889E-08	8.370E-09	4.861E-09	3.210E-09
SE	6.837E-06	1.536E-06	4.619E-07	2.276E-07	1.382E-07	5.851E-08	1.891E-08	8.300E-09	4.798E-09	3.159E-09
SSE	5.674E-06	1.259E-06	3.747E-07	1.835E-07	1.110E-07	4.670E-08	1.496E-08	6.527E-09	3.761E-09	2.470E-09

B267

VENTS GROUND LEVEL RELEASES - OCT-DEC 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) AT FIXED POINTS BY DOWNWIND SECTORS *****												
DIRECTION	DISTANCES IN MILES											
FROM SITE	.25	.50	.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	
S	2.138E-07	7.228E-08	3.711E-08	1.764E-08	6.338E-09	3.143E-09	1.851E-09	1.212E-09	8.527E-10	6.319E-10	4.870E-10	
SSW	9.563E-08	3.234E-08	1.660E-08	7.893E-09	2.835E-09	1.406E-09	8.279E-10	5.421E-10	3.815E-10	2.827E-10	2.179E-10	
SW	1.914E-08	6.472E-09	3.323E-09	1.580E-09	5.674E-10	2.814E-10	1.657E-10	1.085E-10	7.634E-11	5.658E-11	4.360E-11	
WSW	1.351E-08	4.567E-09	2.345E-09	1.115E-09	4.004E-10	1.986E-10	1.169E-10	7.657E-11	5.388E-11	3.993E-11	3.077E-11	
W	7.897E-09	2.671E-09	1.371E-09	6.519E-10	2.342E-10	1.161E-10	6.838E-11	4.477E-11	3.150E-11	2.335E-11	1.799E-11	
WNW	2.813E-08	9.512E-09	4.884E-09	2.322E-09	8.340E-10	4.136E-10	2.435E-10	1.595E-10	1.122E-10	8.316E-11	6.408E-11	
NW	1.137E-07	3.845E-08	1.974E-08	9.386E-09	3.372E-09	1.672E-09	9.845E-10	6.446E-10	4.536E-10	3.362E-10	2.591E-10	
NNW	3.040E-07	1.028E-07	5.278E-08	2.509E-08	9.013E-09	4.470E-09	2.632E-09	1.723E-09	1.213E-09	8.986E-10	6.925E-10	
N	4.051E-07	1.370E-07	7.034E-08	3.344E-08	1.201E-08	5.957E-09	3.508E-09	2.297E-09	1.616E-09	1.198E-09	9.230E-10	
NNE	1.947E-07	6.585E-08	3.381E-08	1.608E-08	5.774E-09	2.864E-09	1.686E-09	1.104E-09	7.769E-10	5.757E-10	4.437E-10	
NE	1.249E-07	4.225E-08	2.169E-08	1.031E-08	3.704E-09	1.837E-09	1.082E-09	7.083E-10	4.984E-10	3.693E-10	2.846E-10	
ENE	1.080E-07	3.653E-08	1.876E-08	8.917E-09	3.203E-09	1.588E-09	9.353E-10	6.124E-10	4.309E-10	3.194E-10	2.461E-10	
E	7.201E-08	2.435E-08	1.250E-08	5.944E-09	2.135E-09	1.059E-09	6.235E-10	4.083E-10	2.873E-10	2.129E-10	1.641E-10	
ESE	1.699E-07	5.745E-08	2.950E-08	1.402E-08	5.038E-09	2.498E-09	1.471E-09	9.632E-10	6.778E-10	5.023E-10	3.871E-10	
SE	2.419E-07	8.180E-08	4.200E-08	1.997E-08	7.172E-09	3.557E-09	2.094E-09	1.371E-09	9.650E-10	7.151E-10	5.511E-10	
SSE	2.037E-07	6.887E-08	3.536E-08	1.681E-08	6.038E-09	2.994E-09	1.763E-09	1.155E-09	8.124E-10	6.021E-10	4.640E-10	

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) AT FIXED POINTS BY DOWNWIND SECTORS *****												
DIRECTION	DISTANCES IN MILES											
FROM SITE	5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00	
S	3.869E-10	1.719E-10	1.041E-10	5.262E-11	3.185E-11	2.135E-11	1.530E-11	1.149E-11	8.933E-12	7.136E-12	5.824E-12	
SSW	1.731E-10	7.689E-11	4.657E-11	2.354E-11	1.425E-11	9.553E-12	6.845E-12	5.140E-12	3.996E-12	3.192E-12	2.606E-12	
SW	3.464E-11	1.539E-11	9.321E-12	4.711E-12	2.851E-12	1.912E-12	1.370E-12	1.029E-12	7.998E-13	6.389E-13	5.215E-13	
WSW	2.444E-11	1.086E-11	6.578E-12	3.325E-12	2.012E-12	1.349E-12	9.668E-13	7.260E-13	5.644E-13	4.509E-13	3.680E-13	
W	1.429E-11	6.350E-12	3.846E-12	1.944E-12	1.177E-12	7.889E-13	5.653E-13	4.245E-13	3.301E-13	2.636E-13	2.152E-13	
WNW	5.091E-11	2.262E-11	1.370E-11	6.925E-12	4.191E-12	2.810E-12	2.014E-12	1.512E-12	1.176E-12	9.391E-13	7.665E-13	
NW	2.058E-10	9.143E-11	5.538E-11	2.799E-11	1.694E-11	1.136E-11	8.140E-12	6.112E-12	4.752E-12	3.796E-12	3.098E-12	
NNW	5.501E-10	2.444E-10	1.480E-10	7.483E-11	4.529E-11	3.037E-11	2.176E-11	1.634E-11	1.270E-11	1.015E-11	8.283E-12	
N	7.333E-10	3.257E-10	1.973E-10	9.973E-11	6.036E-11	4.047E-11	2.900E-11	2.178E-11	1.693E-11	1.353E-11	1.104E-11	
NNE	3.525E-10	1.566E-10	9.485E-11	4.794E-11	2.902E-11	1.945E-11	1.394E-11	1.047E-11	8.139E-12	6.501E-12	5.307E-12	
NE	2.261E-10	1.005E-10	6.085E-11	3.076E-11	1.861E-11	1.248E-11	8.943E-12	6.715E-12	5.221E-12	4.171E-12	3.404E-12	
ENE	1.955E-10	8.685E-11	5.261E-11	2.659E-11	1.610E-11	1.079E-11	7.733E-12	5.806E-12	4.515E-12	3.606E-12	2.944E-12	
E	1.303E-10	5.790E-11	3.507E-11	1.773E-11	1.073E-11	7.194E-12	5.155E-12	3.871E-12	3.010E-12	2.404E-12	1.962E-12	
ESE	3.075E-10	1.366E-10	8.275E-11	4.183E-11	2.532E-11	1.697E-11	1.216E-11	9.133E-12	7.101E-12	5.672E-12	4.630E-12	
SE	4.378E-10	1.945E-10	1.178E-10	5.955E-11	3.604E-11	2.417E-11	1.732E-11	1.300E-11	1.011E-11	8.076E-12	6.592E-12	
SSE	3.686E-10	1.637E-10	9.919E-11	5.013E-11	3.034E-11	2.034E-11	1.458E-11	1.095E-11	8.511E-12	6.799E-12	5.549E-12	

B268

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) BY DOWNWIND SECTORS *****										
DIRECTION	SEGMENT BOUNDARIES IN MILES									
FROM SITE	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	3.628E-08	7.430E-09	1.940E-09	8.712E-10	4.928E-10	1.895E-10	5.483E-11	2.173E-11	1.160E-11	7.183E-12
SSW	1.623E-08	3.324E-09	8.678E-10	3.897E-10	2.205E-10	8.479E-11	2.453E-11	9.722E-12	5.192E-12	3.213E-12
SW	3.248E-09	6.653E-10	1.737E-10	7.800E-11	4.413E-11	1.697E-11	4.909E-12	1.946E-12	1.039E-12	6.431E-13
WSW	2.292E-09	4.695E-10	1.226E-10	5.505E-11	3.114E-11	1.198E-11	3.464E-12	1.373E-12	7.332E-13	4.538E-13
W	1.340E-09	2.745E-10	7.167E-11	3.219E-11	1.821E-11	7.002E-12	2.026E-12	8.029E-13	4.288E-13	2.654E-13
WNW	4.774E-09	9.778E-10	2.553E-10	1.146E-10	6.486E-11	2.494E-11	7.215E-12	2.860E-12	1.527E-12	9.452E-13
NW	1.930E-08	3.953E-09	1.032E-09	4.635E-10	2.622E-10	1.008E-10	2.917E-11	1.156E-11	6.173E-12	3.821E-12
NNW	5.159E-08	1.057E-08	2.758E-09	1.239E-09	7.008E-10	2.695E-10	7.797E-11	3.090E-11	1.650E-11	1.021E-11
N	6.875E-08	1.408E-08	3.677E-09	1.651E-09	9.341E-10	3.592E-10	1.039E-10	4.119E-11	2.199E-11	1.361E-11
NNE	3.305E-08	6.770E-09	1.767E-09	7.937E-10	4.490E-10	1.727E-10	4.995E-11	1.980E-11	1.057E-11	6.544E-12
NE	2.120E-08	4.343E-09	1.134E-09	5.092E-10	2.881E-10	1.108E-10	3.205E-11	1.270E-11	6.783E-12	4.198E-12
ENE	1.833E-08	3.755E-09	9.803E-10	4.403E-10	2.491E-10	9.578E-11	2.771E-11	1.098E-11	5.865E-12	3.630E-12
E	1.222E-08	2.503E-09	6.535E-10	2.935E-10	1.660E-10	6.385E-11	1.847E-11	7.321E-12	3.910E-12	2.420E-12
ESE	2.883E-08	5.906E-09	1.542E-09	6.925E-10	3.917E-10	1.506E-10	4.358E-11	1.727E-11	9.224E-12	5.709E-12
SE	4.105E-08	8.409E-09	2.195E-09	9.859E-10	5.577E-10	2.145E-10	6.205E-11	2.459E-11	1.313E-11	8.129E-12
SSE	3.456E-08	7.079E-09	1.848E-09	8.300E-10	4.696E-10	1.806E-10	5.224E-11	2.070E-11	1.106E-11	6.843E-12

VENTS GROUND LEVEL RELEASES - OCT-DEC 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS  
SPECIFIC POINTS OF INTEREST

RELEASE TYPE OF	DIRECTION	DIST.	X/Q			D/Q
			NO DECAY UNDEPLETED	2.26 DAY DECAY UNDEPLETED	8.0 DAY DECAY DEPLETED	
A Site Boundary	S	.80	4.7E-06	4.7E-06	4.2E-06	3.2E-08
A Site Boundary	SSW	.82	1.9E-06	1.9E-06	1.7E-06	1.3E-08
A Site Boundary	SW	.97	6.5E-07	6.5E-07	5.7E-07	1.7E-09
A Site Boundary	WSW	.93	3.3E-07	3.3E-07	2.9E-07	1.4E-09
A Site Boundary	W	.91	5.1E-07	5.0E-07	4.5E-07	8.3E-10
A Site Boundary	WNW	.94	5.1E-07	5.1E-07	4.5E-07	2.7E-09
A Site Boundary	NW	.81	4.4E-06	4.4E-06	3.9E-06	1.6E-08
A Site Boundary	NNW	.69	1.8E-05	1.8E-05	1.6E-05	6.1E-08
A Site Boundary	N	.67	2.3E-05	2.3E-05	2.1E-05	8.4E-08
A Site Boundary	NNE	.60	1.5E-05	1.5E-05	1.4E-05	4.9E-08
A Site Boundary	NE	.62	7.8E-06	7.8E-06	7.1E-06	3.0E-08
A Site Boundary	ENE	.59	6.2E-06	6.2E-06	5.6E-06	2.8E-08
A Site Boundary	E	.53	5.1E-06	5.1E-06	4.6E-06	2.2E-08
A Site Boundary	ESE	.54	1.2E-05	1.2E-05	1.1E-05	5.1E-08
A Site Boundary	SE	.65	9.8E-06	9.8E-06	8.8E-06	5.3E-08
A Site Boundary	SSE	.81	5.4E-06	5.4E-06	4.8E-06	2.9E-08
A Nearest Res	SSW	2.10	2.3E-07	2.3E-07	1.9E-07	1.3E-09
A Nearest Res	SW	1.30	3.4E-07	3.4E-07	2.9E-07	8.1E-10
A Nearest Res	WSW	1.90	6.7E-08	6.6E-08	5.5E-08	2.2E-10
A Nearest Res	W	1.00	4.1E-07	4.0E-07	3.6E-07	6.5E-10
A Nearest Res	WNW	1.70	1.3E-07	1.3E-07	1.1E-07	6.1E-10
A Nearest Res	NW	.90	3.4E-06	3.4E-06	3.0E-06	1.2E-08
A Nearest Res	NNW	1.90	2.0E-06	2.0E-06	1.7E-06	5.1E-09
A Nearest Res	N	2.50	1.5E-06	1.4E-06	1.2E-06	3.5E-09
A Nearest Res	NE	2.80	3.5E-07	3.5E-07	2.8E-07	8.3E-10
A Nearest Res	ENE	1.70	6.8E-07	6.7E-07	5.7E-07	2.4E-09
A Nearest Res	E	1.90	3.8E-07	3.7E-07	3.1E-07	1.2E-09
A Nearest Res	ESE	2.30	6.3E-07	6.2E-07	5.1E-07	1.8E-09
A Nearest Res	NNW	3.50	6.3E-07	6.2E-07	4.9E-07	1.2E-09
A Nearest Garde	SW	1.30	3.4E-07	3.4E-07	2.9E-07	8.1E-10
A Nearest Garde	WSW	1.90	6.7E-08	6.6E-08	5.5E-08	2.2E-10
A Nearest Garde	WNW	2.40	6.4E-08	6.4E-08	5.2E-08	2.7E-10
A Nearest Garde	NW	2.90	3.0E-07	3.0E-07	2.4E-07	7.0E-10
A Nearest Garde	NNW	2.80	9.5E-07	9.3E-07	7.5E-07	2.0E-09
A Nearest Garde	NE	2.80	3.5E-07	3.5E-07	2.8E-07	8.3E-10
A Nearest Garde	ENE	1.70	6.8E-07	6.7E-07	5.7E-07	2.4E-09
A Nearest Garde	E	1.90	3.8E-07	3.7E-07	3.1E-07	1.2E-09
A Nearest Garde	ESE	3.00	3.7E-07	3.7E-07	3.0E-07	9.6E-10

B269

**Atmospheric Diffusion Estimates**

**Ground Level Releases**

July-December 2011

VENTS GROUND LEVEL RELEASES - JUL-DEC 2011  
 NO DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	DISTANCE IN MILES FROM THE SITE										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.816E-05	9.595E-06	5.088E-06	2.521E-06	9.848E-07	5.228E-07	3.264E-07	2.250E-07	1.658E-07	1.282E-07	1.027E-07
SSW	1.728E-05	5.740E-06	2.966E-06	1.452E-06	5.705E-07	3.042E-07	1.907E-07	1.319E-07	9.752E-08	7.560E-08	6.072E-08
SW	1.117E-05	3.535E-06	1.803E-06	8.829E-07	3.510E-07	1.889E-07	1.193E-07	8.302E-08	6.170E-08	4.806E-08	3.876E-08
WSW	1.069E-05	3.520E-06	1.825E-06	8.974E-07	3.537E-07	1.891E-07	1.187E-07	8.222E-08	6.085E-08	4.721E-08	3.795E-08
W	1.066E-05	3.459E-06	1.775E-06	8.688E-07	3.446E-07	1.852E-07	1.167E-07	8.117E-08	6.026E-08	4.689E-08	3.779E-08
WNW	2.071E-05	6.775E-06	3.468E-06	1.692E-06	6.676E-07	3.573E-07	2.246E-07	1.558E-07	1.154E-07	8.967E-08	7.215E-08
NW	3.340E-05	1.103E-05	5.735E-06	2.831E-06	1.139E-06	6.173E-07	3.918E-07	2.738E-07	2.042E-07	1.594E-07	1.289E-07
NNW	7.184E-05	2.243E-05	1.158E-05	5.755E-06	2.390E-06	1.324E-06	8.542E-07	6.047E-07	4.556E-07	3.590E-07	2.924E-07
N	8.521E-05	2.687E-05	1.419E-05	7.128E-06	2.953E-06	1.633E-06	1.052E-06	7.436E-07	5.597E-07	4.405E-07	3.585E-07
NNE	4.791E-05	1.494E-05	7.842E-06	3.935E-06	1.633E-06	9.039E-07	5.825E-07	4.121E-07	3.103E-07	2.444E-07	1.990E-07
NE	2.501E-05	7.695E-06	3.974E-06	1.981E-06	8.254E-07	4.581E-07	2.959E-07	2.097E-07	1.581E-07	1.247E-07	1.016E-07
ENE	1.932E-05	6.042E-06	3.193E-06	1.609E-06	6.637E-07	3.659E-07	2.350E-07	1.658E-07	1.246E-07	9.793E-08	7.960E-08
E	1.075E-05	3.427E-06	1.825E-06	9.200E-07	3.773E-07	2.071E-07	1.326E-07	9.334E-08	6.999E-08	5.491E-08	4.456E-08
ESE	3.321E-05	1.032E-05	5.444E-06	2.744E-06	1.137E-06	6.289E-07	4.049E-07	2.862E-07	2.154E-07	1.695E-07	1.379E-07
SE	3.472E-05	1.125E-05	5.974E-06	2.996E-06	1.225E-06	6.713E-07	4.294E-07	3.020E-07	2.263E-07	1.774E-07	1.439E-07
SSE	3.293E-05	1.086E-05	5.719E-06	2.840E-06	1.143E-06	6.196E-07	3.933E-07	2.749E-07	2.050E-07	1.601E-07	1.294E-07

SECTOR	DISTANCE IN MILES FROM THE SITE										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	8.461E-08	4.274E-08	2.737E-08	1.547E-08	1.040E-08	7.657E-09	5.972E-09	4.846E-09	4.046E-09	3.453E-09	2.998E-09
SSW	5.014E-08	2.559E-08	1.652E-08	9.456E-09	6.415E-09	4.761E-09	3.738E-09	3.050E-09	2.560E-09	2.195E-09	1.913E-09
SW	3.214E-08	1.668E-08	1.090E-08	6.344E-09	4.356E-09	3.263E-09	2.581E-09	2.120E-09	1.789E-09	1.541E-09	1.349E-09
WSW	3.136E-08	1.603E-08	1.036E-08	5.937E-09	4.030E-09	2.992E-09	2.350E-09	1.918E-09	1.610E-09	1.380E-09	1.204E-09
W	3.131E-08	1.617E-08	1.053E-08	6.104E-09	4.180E-09	3.124E-09	2.467E-09	2.023E-09	1.705E-09	1.467E-09	1.283E-09
WNW	5.969E-08	3.067E-08	1.991E-08	1.149E-08	7.846E-09	5.854E-09	4.616E-09	3.781E-09	3.183E-09	2.737E-09	2.392E-09
NW	1.070E-07	5.571E-08	3.646E-08	2.123E-08	1.455E-08	1.088E-08	8.588E-09	7.041E-09	5.932E-09	5.103E-09	4.462E-09
NNW	2.444E-07	1.304E-07	8.678E-08	5.165E-08	3.590E-08	2.713E-08	2.160E-08	1.783E-08	1.511E-08	1.307E-08	1.147E-08
N	2.995E-07	1.593E-07	1.057E-07	6.268E-08	4.342E-08	3.272E-08	2.600E-08	2.142E-08	1.812E-08	1.564E-08	1.372E-08
NNE	1.662E-07	8.853E-08	5.882E-08	3.493E-08	2.423E-08	1.827E-08	1.453E-08	1.198E-08	1.014E-08	8.761E-09	7.688E-09
NE	8.497E-08	4.542E-08	3.026E-08	1.804E-08	1.255E-08	9.492E-09	7.563E-09	6.246E-09	5.296E-09	4.580E-09	4.024E-09
ENE	6.641E-08	3.517E-08	2.328E-08	1.375E-08	9.503E-09	7.149E-09	5.672E-09	4.668E-09	3.946E-09	3.403E-09	2.983E-09
E	3.713E-08	1.955E-08	1.289E-08	7.572E-09	5.213E-09	3.910E-09	3.095E-09	2.542E-09	2.145E-09	1.847E-09	1.617E-09
ESE	1.152E-07	6.124E-08	4.063E-08	2.408E-08	1.668E-08	1.256E-08	9.981E-09	8.222E-09	6.956E-09	6.004E-09	5.265E-09
SE	1.199E-07	6.306E-08	4.155E-08	2.439E-08	1.678E-08	1.258E-08	9.959E-09	8.179E-09	6.900E-09	5.942E-09	5.200E-09
SSE	1.074E-07	5.595E-08	3.662E-08	2.132E-08	1.461E-08	1.092E-08	8.624E-09	7.069E-09	5.954E-09	5.121E-09	4.476E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	4.949E-06	1.121E-06	3.382E-07	1.684E-07	1.036E-07	4.522E-08	1.586E-08	7.714E-09	4.863E-09	3.460E-09
SSW	2.910E-06	6.481E-07	1.974E-07	9.899E-08	6.121E-08	2.702E-08	9.675E-09	4.793E-09	3.060E-09	2.199E-09
SW	1.779E-06	3.972E-07	1.233E-07	6.259E-08	3.906E-08	1.755E-08	6.472E-09	3.282E-09	2.125E-09	1.543E-09
WSW	1.790E-06	4.014E-07	1.229E-07	6.176E-08	3.825E-08	1.692E-08	6.072E-09	3.012E-09	1.924E-09	1.383E-09
W	1.747E-06	3.903E-07	1.208E-07	6.114E-08	3.809E-08	1.703E-08	6.233E-09	3.143E-09	2.028E-09	1.469E-09
WNW	3.414E-06	7.574E-07	2.325E-07	1.171E-07	7.273E-08	3.234E-08	1.174E-08	5.890E-09	3.792E-09	2.741E-09
NW	5.620E-06	1.283E-06	4.048E-07	2.070E-07	1.298E-07	5.855E-08	2.165E-08	1.094E-08	7.061E-09	5.111E-09
NNW	1.140E-05	2.664E-06	8.798E-07	4.614E-07	2.944E-07	1.364E-07	5.246E-08	2.726E-08	1.787E-08	1.308E-08
N	1.387E-05	3.294E-06	1.084E-06	5.668E-07	3.610E-07	1.666E-07	6.368E-08	3.288E-08	2.147E-08	1.566E-08
NNE	7.683E-06	1.820E-06	6.000E-07	3.143E-07	2.003E-07	9.259E-08	3.548E-08	1.836E-08	1.201E-08	8.773E-09
NE	3.915E-06	9.190E-07	3.047E-07	1.601E-07	1.023E-07	4.747E-08	1.832E-08	9.536E-09	6.260E-09	4.586E-09
ENE	3.122E-06	7.413E-07	2.422E-07	1.262E-07	8.015E-08	3.683E-08	1.398E-08	7.186E-09	4.680E-09	3.408E-09
E	1.779E-06	4.222E-07	1.368E-07	7.092E-08	4.487E-08	2.050E-08	7.705E-09	3.931E-09	2.548E-09	1.850E-09
ESE	5.327E-06	1.268E-06	4.172E-07	2.182E-07	1.389E-07	6.407E-08	2.447E-08	1.263E-08	8.242E-09	6.012E-09
SE	5.823E-06	1.373E-06	4.430E-07	2.293E-07	1.450E-07	6.613E-08	2.482E-08	1.265E-08	8.200E-09	5.951E-09
SSE	5.583E-06	1.287E-06	4.063E-07	2.078E-07	1.304E-07	5.880E-08	2.174E-08	1.099E-08	7.088E-09	5.129E-09

B271

VENTS GROUND LEVEL RELEASES - JUL-DEC 2011  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.813E-05	9.581E-06	5.077E-06	2.514E-06	9.803E-07	5.196E-07	3.238E-07	2.229E-07	1.640E-07	1.266E-07	1.012E-07	
SSW	1.727E-05	5.731E-06	2.959E-06	1.448E-06	5.677E-07	3.023E-07	1.891E-07	1.306E-07	9.638E-08	7.458E-08	5.980E-08	
SW	1.116E-05	3.529E-06	1.798E-06	8.796E-07	3.490E-07	1.875E-07	1.181E-07	8.204E-08	6.085E-08	4.729E-08	3.806E-08	
WSW	1.068E-05	3.515E-06	1.821E-06	8.947E-07	3.521E-07	1.879E-07	1.177E-07	8.143E-08	6.016E-08	4.660E-08	3.739E-08	
W	1.066E-05	3.454E-06	1.771E-06	8.660E-07	3.429E-07	1.839E-07	1.157E-07	8.033E-08	5.953E-08	4.624E-08	3.719E-08	
WNW	2.070E-05	6.765E-06	3.461E-06	1.687E-06	6.646E-07	3.551E-07	2.228E-07	1.543E-07	1.141E-07	8.849E-08	7.108E-08	
NW	3.337E-05	1.101E-05	5.721E-06	2.821E-06	1.133E-06	6.131E-07	3.884E-07	2.709E-07	2.016E-07	1.571E-07	1.268E-07	
NNW	7.176E-05	2.238E-05	1.154E-05	5.731E-06	2.375E-06	1.313E-06	8.450E-07	5.968E-07	4.486E-07	3.527E-07	2.866E-07	
N	8.511E-05	2.681E-05	1.414E-05	7.098E-06	2.934E-06	1.619E-06	1.040E-06	7.339E-07	5.511E-07	4.328E-07	3.515E-07	
NNE	4.785E-05	1.491E-05	7.816E-06	3.918E-06	1.622E-06	8.959E-07	5.761E-07	4.066E-07	3.055E-07	2.400E-07	1.949E-07	
NE	2.498E-05	7.677E-06	3.960E-06	1.972E-06	8.196E-07	4.539E-07	2.924E-07	2.067E-07	1.555E-07	1.223E-07	9.941E-08	
ENE	1.930E-05	6.029E-06	3.183E-06	1.602E-06	6.594E-07	3.627E-07	2.324E-07	1.636E-07	1.227E-07	9.618E-08	7.799E-08	
E	1.074E-05	3.420E-06	1.820E-06	9.165E-07	3.751E-07	2.055E-07	1.313E-07	9.225E-08	6.903E-08	5.405E-08	4.377E-08	
ESE	3.318E-05	1.029E-05	5.427E-06	2.732E-06	1.130E-06	6.234E-07	4.005E-07	2.825E-07	2.121E-07	1.665E-07	1.352E-07	
SE	3.468E-05	1.123E-05	5.957E-06	2.985E-06	1.218E-06	6.663E-07	4.254E-07	2.985E-07	2.233E-07	1.747E-07	1.414E-07	
SSE	3.290E-05	1.084E-05	5.704E-06	2.830E-06	1.136E-06	6.151E-07	3.897E-07	2.718E-07	2.023E-07	1.577E-07	1.272E-07	

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	8.324E-08	4.168E-08	2.646E-08	1.469E-08	9.694E-09	7.009E-09	5.367E-09	4.276E-09	3.505E-09	2.937E-09	2.504E-09	
SSW	4.929E-08	2.493E-08	1.595E-08	8.954E-09	5.959E-09	4.337E-09	3.340E-09	2.672E-09	2.200E-09	1.849E-09	1.581E-09	
SW	3.149E-08	1.616E-08	1.045E-08	5.946E-09	3.993E-09	2.924E-09	2.262E-09	1.816E-09	1.498E-09	1.262E-09	1.080E-09	
WSW	3.084E-08	1.563E-08	1.001E-08	5.637E-09	3.759E-09	2.741E-09	2.114E-09	1.695E-09	1.397E-09	1.177E-09	1.008E-09	
W	3.075E-08	1.574E-08	1.015E-08	5.770E-09	3.875E-09	2.841E-09	2.200E-09	1.769E-09	1.462E-09	1.234E-09	1.059E-09	
WNW	5.869E-08	2.989E-08	1.922E-08	1.088E-08	7.295E-09	5.341E-09	4.133E-09	3.321E-09	2.744E-09	2.315E-09	1.985E-09	
NW	1.051E-07	5.416E-08	3.509E-08	2.002E-08	1.344E-08	9.842E-09	7.612E-09	6.113E-09	5.045E-09	4.251E-09	3.641E-09	
NNW	2.390E-07	1.261E-07	8.292E-08	4.821E-08	3.273E-08	2.416E-08	1.879E-08	1.516E-08	1.255E-08	1.060E-08	9.096E-09	
N	2.929E-07	1.540E-07	1.011E-07	5.855E-08	3.963E-08	2.919E-08	2.266E-08	1.825E-08	1.509E-08	1.273E-08	1.091E-08	
NNE	1.625E-07	8.552E-08	5.615E-08	3.256E-08	2.206E-08	1.625E-08	1.262E-08	1.016E-08	8.403E-09	7.089E-09	6.077E-09	
NE	8.294E-08	4.379E-08	2.881E-08	1.675E-08	1.136E-08	8.380E-09	6.512E-09	5.246E-09	4.338E-09	3.659E-09	3.136E-09	
ENE	6.492E-08	3.398E-08	2.223E-08	1.282E-08	8.654E-09	6.358E-09	4.927E-09	3.960E-09	3.269E-09	2.754E-09	2.358E-09	
E	3.639E-08	1.897E-08	1.238E-08	7.123E-09	4.803E-09	3.529E-09	2.736E-09	2.201E-09	1.820E-09	1.535E-09	1.317E-09	
ESE	1.127E-07	5.920E-08	3.883E-08	2.248E-08	1.521E-08	1.120E-08	8.690E-09	6.994E-09	5.782E-09	4.877E-09	4.179E-09	
SE	1.176E-07	6.122E-08	3.992E-08	2.296E-08	1.547E-08	1.136E-08	8.809E-09	7.086E-09	5.856E-09	4.940E-09	4.236E-09	
SSE	1.054E-07	5.434E-08	3.520E-08	2.008E-08	1.348E-08	9.872E-09	7.635E-09	6.130E-09	5.058E-09	4.261E-09	3.649E-09	

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE											
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50		
S	4.939E-06	1.116E-06	3.356E-07	1.665E-07	1.021E-07	4.415E-08	1.508E-08	7.068E-09	4.294E-09	2.945E-09		
SSW	2.903E-06	6.453E-07	1.959E-07	9.786E-08	6.029E-08	2.635E-08	9.176E-09	4.370E-09	2.683E-09	1.854E-09		
SW	1.775E-06	3.951E-07	1.222E-07	6.174E-08	3.836E-08	1.703E-08	6.078E-09	2.944E-09	1.822E-09	1.265E-09		
WSW	1.786E-06	3.997E-07	1.219E-07	6.107E-08	3.769E-08	1.652E-08	5.775E-09	2.762E-09	1.701E-09	1.180E-09		
W	1.743E-06	3.885E-07	1.198E-07	6.041E-08	3.749E-08	1.659E-08	5.901E-09	2.860E-09	1.775E-09	1.237E-09		
WNW	3.407E-06	7.543E-07	2.307E-07	1.158E-07	7.165E-08	3.155E-08	1.114E-08	5.379E-09	3.333E-09	2.320E-09		
NW	5.608E-06	1.277E-06	4.013E-07	2.045E-07	1.277E-07	5.699E-08	2.044E-08	9.909E-09	6.134E-09	4.260E-09		
NNW	1.137E-05	2.649E-06	8.705E-07	4.544E-07	2.886E-07	1.320E-07	4.904E-08	2.430E-08	1.520E-08	1.062E-08		
N	1.383E-05	3.275E-06	1.072E-06	5.583E-07	3.539E-07	1.613E-07	5.959E-08	2.936E-08	1.831E-08	1.276E-08		
NNE	7.660E-06	1.810E-06	5.935E-07	3.094E-07	1.963E-07	8.957E-08	3.314E-08	1.635E-08	1.019E-08	7.104E-09		
NE	3.903E-06	9.132E-07	3.012E-07	1.575E-07	1.001E-07	4.583E-08	1.704E-08	8.429E-09	5.262E-09	3.667E-09		
ENE	3.113E-06	7.369E-07	2.396E-07	1.243E-07	7.854E-08	3.563E-08	1.306E-08	6.397E-09	3.973E-09	2.760E-09		
E	1.774E-06	4.200E-07	1.355E-07	6.996E-08	4.409E-08	1.991E-08	7.260E-09	3.551E-09	2.209E-09	1.539E-09		
ESE	5.311E-06	1.261E-06	4.127E-07	2.148E-07	1.361E-07	6.202E-08	2.288E-08	1.126E-08	7.017E-09	4.886E-09		
SE	5.808E-06	1.366E-06	4.389E-07	2.263E-07	1.425E-07	6.428E-08	2.340E-08	1.144E-08	7.110E-09	4.951E-09		
SSE	5.569E-06	1.281E-06	4.026E-07	2.052E-07	1.282E-07	5.718E-08	2.051E-08	9.939E-09	6.152E-09	4.271E-09		

B272

VENTS GROUND LEVEL RELEASES - JUL-DEC 2011  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.664E-05	8.758E-06	4.532E-06	2.205E-06	8.353E-07	4.321E-07	2.638E-07	1.782E-07	1.290E-07	9.805E-08	7.733E-08	
SSW	1.635E-05	5.240E-06	2.641E-06	1.270E-06	4.838E-07	2.515E-07	1.541E-07	1.045E-07	7.584E-08	5.781E-08	4.571E-08	
SW	1.057E-05	3.227E-06	1.606E-06	7.720E-07	2.976E-07	1.561E-07	9.634E-08	6.572E-08	4.796E-08	3.672E-08	2.915E-08	
WSW	1.011E-05	3.213E-06	1.626E-06	7.849E-07	3.000E-07	1.563E-07	9.592E-08	6.513E-08	4.733E-08	3.611E-08	2.857E-08	
W	1.009E-05	3.157E-06	1.581E-06	7.598E-07	2.923E-07	1.530E-07	9.433E-08	6.428E-08	4.686E-08	3.585E-08	2.844E-08	
WNW	1.960E-05	6.184E-06	3.089E-06	1.480E-06	5.663E-07	2.954E-07	1.815E-07	1.234E-07	8.978E-08	6.858E-08	5.432E-08	
NW	3.160E-05	1.007E-05	5.107E-06	2.476E-06	9.656E-07	5.102E-07	3.166E-07	2.168E-07	1.587E-07	1.219E-07	9.698E-08	
NNW	6.797E-05	2.047E-05	1.031E-05	5.032E-06	2.027E-06	1.094E-06	6.898E-07	4.785E-07	3.540E-07	2.742E-07	2.198E-07	
N	8.061E-05	2.452E-05	1.263E-05	6.232E-06	2.504E-06	1.349E-06	8.493E-07	5.884E-07	4.348E-07	3.365E-07	2.696E-07	
NNE	4.533E-05	1.364E-05	6.982E-06	3.440E-06	1.384E-06	7.466E-07	4.704E-07	3.261E-07	2.411E-07	1.866E-07	1.496E-07	
NE	2.366E-05	7.022E-06	3.538E-06	1.732E-06	6.996E-07	3.784E-07	2.389E-07	1.659E-07	1.228E-07	9.517E-08	7.635E-08	
ENE	1.828E-05	5.514E-06	2.843E-06	1.406E-06	5.626E-07	3.022E-07	1.898E-07	1.312E-07	9.680E-08	7.479E-08	5.984E-08	
E	1.017E-05	3.128E-06	1.625E-06	8.045E-07	3.199E-07	1.711E-07	1.071E-07	7.390E-08	5.440E-08	4.196E-08	3.352E-08	
ESE	3.142E-05	9.416E-06	4.847E-06	2.399E-06	9.640E-07	5.194E-07	3.270E-07	2.265E-07	1.673E-07	1.295E-07	1.037E-07	
SE	3.285E-05	1.027E-05	5.319E-06	2.620E-06	1.039E-06	5.547E-07	3.469E-07	2.391E-07	1.759E-07	1.356E-07	1.083E-07	
SSE	3.116E-05	9.915E-06	5.092E-06	2.484E-06	9.689E-07	5.120E-07	3.177E-07	2.177E-07	1.593E-07	1.223E-07	9.736E-08	

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	6.278E-08	2.992E-08	1.821E-08	9.481E-09	5.952E-09	4.131E-09	3.055E-09	2.360E-09	1.883E-09	1.539E-09	1.282E-09	
SSW	3.720E-08	1.791E-08	1.099E-08	5.789E-09	3.668E-09	2.565E-09	1.909E-09	1.482E-09	1.188E-09	9.753E-10	8.158E-10	
SW	2.382E-08	1.165E-08	7.234E-09	3.873E-09	2.482E-09	1.750E-09	1.311E-09	1.024E-09	8.243E-10	6.793E-10	5.702E-10	
WSW	2.326E-08	1.122E-08	6.894E-09	3.638E-09	2.307E-09	1.615E-09	1.202E-09	9.346E-10	7.495E-10	6.156E-10	5.153E-10	
W	2.322E-08	1.131E-08	7.002E-09	3.735E-09	2.389E-09	1.682E-09	1.259E-09	9.827E-10	7.909E-10	6.516E-10	5.468E-10	
WNW	4.428E-08	2.147E-08	1.324E-08	7.033E-09	4.488E-09	3.155E-09	2.359E-09	1.839E-09	1.479E-09	1.218E-09	1.021E-09	
NW	7.935E-08	3.896E-08	2.423E-08	1.298E-08	8.306E-09	5.848E-09	4.375E-09	3.413E-09	2.745E-09	2.260E-09	1.895E-09	
NNW	1.811E-07	9.106E-08	5.755E-08	3.150E-08	2.042E-08	1.452E-08	1.095E-08	8.593E-09	6.947E-09	5.745E-09	4.836E-09	
N	2.218E-07	1.112E-07	7.012E-08	3.823E-08	2.471E-08	1.752E-08	1.318E-08	1.033E-08	8.337E-09	6.885E-09	5.788E-09	
NNE	1.231E-07	6.180E-08	3.900E-08	2.129E-08	1.378E-08	9.779E-09	7.362E-09	5.771E-09	4.660E-09	3.850E-09	3.238E-09	
NE	6.291E-08	3.169E-08	2.005E-08	1.098E-08	7.126E-09	5.069E-09	3.822E-09	3.000E-09	2.425E-09	2.005E-09	1.688E-09	
ENE	4.919E-08	2.455E-08	1.544E-08	8.382E-09	5.404E-09	3.825E-09	2.873E-09	2.248E-09	1.813E-09	1.496E-09	1.256E-09	
E	2.752E-08	1.366E-08	8.560E-09	4.627E-09	2.974E-09	2.101E-09	1.576E-09	1.231E-09	9.920E-10	8.178E-10	6.865E-10	
ESE	8.533E-08	4.276E-08	2.695E-08	1.468E-08	9.487E-09	6.727E-09	5.060E-09	3.963E-09	3.199E-09	2.641E-09	2.220E-09	
SE	8.887E-08	4.409E-08	2.760E-08	1.491E-08	9.577E-09	6.764E-09	5.071E-09	3.963E-09	3.192E-09	2.631E-09	2.209E-09	
SSE	7.966E-08	3.912E-08	2.433E-08	1.303E-08	8.339E-09	5.872E-09	4.392E-09	3.426E-09	2.755E-09	2.268E-09	1.901E-09	

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE											
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50		
S	4.437E-06	9.606E-07	2.745E-07	1.313E-07	7.808E-08	3.202E-08	9.853E-09	4.186E-09	2.377E-09	1.546E-09		
SSW	2.609E-06	5.553E-07	1.602E-07	7.716E-08	4.614E-08	1.912E-08	6.002E-09	2.597E-09	1.492E-09	9.793E-10		
SW	1.595E-06	3.401E-07	1.000E-07	4.875E-08	2.942E-08	1.239E-08	4.001E-09	1.769E-09	1.030E-09	6.818E-10		
WSW	1.605E-06	3.439E-07	9.970E-08	4.814E-08	2.884E-08	1.197E-08	3.770E-09	1.634E-09	9.406E-10	6.181E-10		
W	1.566E-06	3.343E-07	9.797E-08	4.765E-08	2.870E-08	1.204E-08	3.863E-09	1.701E-09	9.886E-10	6.541E-10		
WNW	3.062E-06	6.489E-07	1.886E-07	9.131E-08	5.483E-08	2.288E-08	7.281E-09	3.192E-09	1.850E-09	1.222E-09		
NW	5.040E-06	1.099E-06	3.283E-07	1.613E-07	9.783E-08	4.139E-08	1.340E-08	5.914E-09	3.434E-09	2.269E-09		
NNW	1.022E-05	2.280E-06	7.131E-07	3.592E-07	2.216E-07	9.617E-08	3.236E-08	1.467E-08	8.639E-09	5.764E-09		
N	1.243E-05	2.819E-06	8.782E-07	4.412E-07	2.717E-07	1.175E-07	3.930E-08	1.770E-08	1.039E-08	6.909E-09		
NNE	6.887E-06	1.558E-06	4.863E-07	2.446E-07	1.507E-07	6.529E-08	2.189E-08	9.878E-09	5.802E-09	3.863E-09		
NE	3.510E-06	7.862E-07	2.469E-07	1.246E-07	7.694E-08	3.345E-08	1.128E-08	5.119E-09	3.016E-09	2.012E-09		
ENE	2.798E-06	6.344E-07	1.963E-07	9.825E-08	6.032E-08	2.598E-08	8.626E-09	3.866E-09	2.261E-09	1.501E-09		
E	1.594E-06	3.615E-07	1.109E-07	5.523E-08	3.380E-08	1.447E-08	4.766E-09	2.124E-09	1.239E-09	8.208E-10		
ESE	4.774E-06	1.085E-06	3.381E-07	1.698E-07	1.045E-07	4.519E-08	1.510E-08	6.796E-09	3.985E-09	2.650E-09		
SE	5.219E-06	1.175E-06	3.592E-07	1.786E-07	1.092E-07	4.671E-08	1.536E-08	6.837E-09	3.986E-09	2.641E-09		
SSE	5.005E-06	1.102E-06	3.295E-07	1.619E-07	9.821E-08	4.155E-08	1.346E-08	5.938E-09	3.446E-09	2.276E-09		

B273



VENTS GROUND LEVEL RELEASES - JUL-DEC 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) AT FIXED POINTS BY DOWNWIND SECTORS *****											
DIRECTIONS											
DIRECTION	DISTANCES IN MILES										
FROM SITE	.25	.50	.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S	2.225E-07	7.526E-08	3.864E-08	1.837E-08	6.599E-09	3.272E-09	1.927E-09	1.262E-09	8.878E-10	6.579E-10	5.070E-10
SSW	1.194E-07	4.038E-08	2.073E-08	9.858E-09	3.541E-09	1.756E-09	1.034E-09	6.770E-10	4.764E-10	3.531E-10	2.721E-10
SW	6.514E-08	2.203E-08	1.131E-08	5.377E-09	1.932E-09	9.579E-10	5.640E-10	3.693E-10	2.599E-10	1.926E-10	1.484E-10
WSW	7.220E-08	2.441E-08	1.254E-08	5.959E-09	2.141E-09	1.062E-09	6.251E-10	4.093E-10	2.880E-10	2.134E-10	1.645E-10
W	7.057E-08	2.386E-08	1.225E-08	5.825E-09	2.092E-09	1.038E-09	6.110E-10	4.001E-10	2.815E-10	2.086E-10	1.608E-10
WNW	1.487E-07	5.030E-08	2.582E-08	1.228E-08	4.410E-09	2.187E-09	1.288E-09	8.432E-10	5.933E-10	4.397E-10	3.389E-10
NW	2.058E-07	6.958E-08	3.572E-08	1.698E-08	6.100E-09	3.025E-09	1.781E-09	1.166E-09	8.208E-10	6.083E-10	4.687E-10
NNW	2.699E-07	9.126E-08	4.686E-08	2.228E-08	8.002E-09	3.968E-09	2.337E-09	1.530E-09	1.077E-09	7.978E-10	6.148E-10
N	3.041E-07	1.028E-07	5.279E-08	2.510E-08	9.015E-09	4.471E-09	2.633E-09	1.724E-09	1.213E-09	8.989E-10	6.927E-10
NNE	1.618E-07	5.472E-08	2.809E-08	1.336E-08	4.798E-09	2.379E-09	1.401E-09	9.173E-10	6.455E-10	4.784E-10	3.686E-10
NE	8.580E-08	2.901E-08	1.490E-08	7.082E-09	2.544E-09	1.262E-09	7.428E-10	4.864E-10	3.423E-10	2.536E-10	1.955E-10
ENE	7.058E-08	2.387E-08	1.225E-08	5.826E-09	2.093E-09	1.038E-09	6.111E-10	4.001E-10	2.816E-10	2.087E-10	1.608E-10
E	4.560E-08	1.542E-08	7.918E-09	3.764E-09	1.352E-09	6.706E-10	3.948E-10	2.585E-10	1.819E-10	1.348E-10	1.039E-10
ESE	1.200E-07	4.058E-08	2.083E-08	9.905E-09	3.558E-09	1.764E-09	1.039E-09	6.803E-10	4.787E-10	3.547E-10	2.734E-10
SE	1.678E-07	5.673E-08	2.913E-08	1.385E-08	4.974E-09	2.467E-09	1.452E-09	9.510E-10	6.692E-10	4.959E-10	3.822E-10
SSE	1.862E-07	6.297E-08	3.233E-08	1.537E-08	5.521E-09	2.738E-09	1.612E-09	1.056E-09	7.428E-10	5.505E-10	4.242E-10
DIRECTIONS	DISTANCES IN MILES										
FROM SITE	5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
S	4.028E-10	1.789E-10	1.084E-10	5.479E-11	3.316E-11	2.223E-11	1.593E-11	1.196E-11	9.301E-12	7.430E-12	6.064E-12
SSW	2.161E-10	9.602E-11	5.816E-11	2.940E-11	1.779E-11	1.193E-11	8.549E-12	6.419E-12	4.991E-12	3.987E-12	3.254E-12
SW	1.179E-10	5.238E-11	3.173E-11	1.604E-11	9.706E-12	6.508E-12	4.663E-12	3.502E-12	2.723E-12	2.175E-12	1.775E-12
WSW	1.307E-10	5.805E-11	3.516E-11	1.777E-11	1.076E-11	7.212E-12	5.168E-12	3.881E-12	3.017E-12	2.410E-12	1.967E-12
W	1.277E-10	5.674E-11	3.437E-11	1.737E-11	1.051E-11	7.050E-12	5.052E-12	3.793E-12	2.949E-12	2.356E-12	1.923E-12
WNW	2.692E-10	1.196E-10	7.244E-11	3.662E-11	2.216E-11	1.486E-11	1.065E-11	7.995E-12	6.216E-12	4.965E-12	4.053E-12
NW	3.724E-10	1.654E-10	1.002E-10	5.065E-11	3.066E-11	2.055E-11	1.473E-11	1.106E-11	8.599E-12	6.869E-12	5.606E-12
NNW	4.884E-10	2.170E-10	1.314E-10	6.643E-11	4.021E-11	2.696E-11	1.932E-11	1.451E-11	1.128E-11	9.009E-12	7.354E-12
N	5.503E-10	2.445E-10	1.481E-10	7.485E-11	4.530E-11	3.038E-11	2.177E-11	1.634E-11	1.271E-11	1.015E-11	8.285E-12
NNE	2.929E-10	1.301E-10	7.881E-11	3.983E-11	2.411E-11	1.616E-11	1.158E-11	8.697E-12	6.763E-12	5.402E-12	4.409E-12
NE	1.553E-10	6.898E-11	4.179E-11	2.112E-11	1.278E-11	8.571E-12	6.141E-12	4.612E-12	3.586E-12	2.864E-12	2.338E-12
ENE	1.277E-10	5.675E-11	3.438E-11	1.738E-11	1.052E-11	7.051E-12	5.052E-12	3.794E-12	2.950E-12	2.356E-12	1.923E-12
E	8.254E-11	3.667E-11	2.221E-11	1.123E-11	6.795E-12	4.556E-12	3.264E-12	2.451E-12	1.906E-12	1.522E-12	1.243E-12
ESE	2.172E-10	9.648E-11	5.844E-11	2.954E-11	1.788E-11	1.199E-11	8.589E-12	6.450E-12	5.015E-12	4.006E-12	3.270E-12
SE	3.036E-10	1.349E-10	8.170E-11	4.130E-11	2.499E-11	1.676E-11	1.201E-11	9.017E-12	7.011E-12	5.600E-12	4.571E-12
SSE	3.370E-10	1.497E-10	9.069E-11	4.584E-11	2.774E-11	1.860E-11	1.333E-11	1.001E-11	7.782E-12	6.216E-12	5.074E-12

B274

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) BY DOWNWIND SECTORS *****											
SEGMENT BOUNDARIES IN MILES											
DIRECTION	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	
FROM SITE											
S	3.777E-08	7.736E-09	2.020E-09	9.070E-10	5.131E-10	1.973E-10	5.709E-11	2.263E-11	1.208E-11	7.478E-12	
SSW	2.027E-08	4.151E-09	1.084E-09	4.867E-10	2.754E-10	1.059E-10	3.063E-11	1.214E-11	6.484E-12	4.013E-12	
SW	1.106E-08	2.264E-09	5.912E-10	2.655E-10	1.502E-10	5.776E-11	1.671E-11	6.623E-12	3.537E-12	2.189E-12	
WSW	1.225E-08	2.510E-09	6.552E-10	2.942E-10	1.665E-10	6.401E-11	1.852E-11	7.340E-12	3.920E-12	2.426E-12	
W	1.198E-08	2.453E-09	6.404E-10	2.876E-10	1.627E-10	6.257E-11	1.810E-11	7.174E-12	3.831E-12	2.371E-12	
WNW	2.524E-08	5.170E-09	1.350E-09	6.062E-10	3.429E-10	1.319E-10	3.815E-11	1.512E-11	8.075E-12	4.998E-12	
NW	3.492E-08	7.152E-09	1.867E-09	8.386E-10	4.744E-10	1.824E-10	5.278E-11	2.092E-11	1.117E-11	6.914E-12	
NNW	4.580E-08	9.381E-09	2.449E-09	1.100E-09	6.222E-10	2.393E-10	6.922E-11	2.744E-11	1.465E-11	9.068E-12	
N	5.160E-08	1.057E-08	2.759E-09	1.239E-09	7.011E-10	2.696E-10	7.799E-11	3.091E-11	1.651E-11	1.022E-11	
NNE	2.746E-08	5.625E-09	1.468E-09	6.595E-10	3.731E-10	1.435E-10	4.151E-11	1.645E-11	8.785E-12	5.437E-12	
NE	1.456E-08	2.982E-09	7.786E-10	3.497E-10	1.978E-10	7.607E-11	2.201E-11	8.722E-12	4.658E-12	2.883E-12	
ENE	1.198E-08	2.454E-09	6.405E-10	2.877E-10	1.627E-10	6.258E-11	1.810E-11	7.176E-12	3.832E-12	2.372E-12	
E	7.739E-09	1.585E-09	4.138E-10	1.859E-10	1.051E-10	4.044E-11	1.170E-11	4.636E-12	2.476E-12	1.532E-12	
ESE	2.036E-08	4.171E-09	1.089E-09	4.890E-10	2.767E-10	1.064E-10	3.078E-11	1.220E-11	6.514E-12	4.032E-12	
SE	2.847E-08	5.831E-09	1.522E-09	6.837E-10	3.868E-10	1.487E-10	4.303E-11	1.705E-11	9.107E-12	5.637E-12	
SSE	3.160E-08	6.473E-09	1.690E-09	7.589E-10	4.293E-10	1.651E-10	4.776E-11	1.893E-11	1.011E-11	6.257E-12	

VENTS GROUND LEVEL RELEASES - JUL-DEC 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS  
SPECIFIC POINTS OF INTEREST

RELEASE TYPE OF	DIRECTION	DIST.	X/Q	X/Q	X/Q	D/Q	
			NO	2.26 DAY	8.0 DAY		
			DECAY	DECAY	DECAY		
			UNDEPLETED	UNDEPLETED	DEPLETED		
A Site Boundary	S	.80	4.4E-06	4.4E-06	3.9E-06	3.3E-08	
A Site Boundary	SSW	.82	2.3E-06	2.3E-06	2.1E-06	1.6E-08	
A Site Boundary	SW	.97	9.4E-07	9.3E-07	8.2E-07	5.7E-09	
A Site Boundary	WSW	.93	1.1E-06	1.1E-06	9.5E-07	7.3E-09	
A Site Boundary	W	.91	1.1E-06	1.1E-06	9.6E-07	7.4E-09	
A Site Boundary	WNW	.94	2.0E-06	2.0E-06	1.7E-06	1.4E-08	
A Site Boundary	NW	.81	4.7E-06	4.7E-06	4.2E-06	2.9E-08	
A Site Boundary	NNW	.69	1.3E-05	1.3E-05	1.2E-05	5.4E-08	
A Site Boundary	N	.67	1.7E-05	1.7E-05	1.5E-05	6.3E-08	
A Site Boundary	NNE	.60	1.1E-05	1.1E-05	1.0E-05	4.1E-08	
A Site Boundary	NE	.62	5.3E-06	5.3E-06	4.8E-06	2.0E-08	
A Site Boundary	ENE	.59	4.7E-06	4.7E-06	4.2E-06	1.8E-08	
A Site Boundary	E	.53	3.2E-06	3.2E-06	2.9E-06	1.4E-08	
A Site Boundary	ESE	.54	9.1E-06	9.1E-06	8.3E-06	3.6E-08	
A Site Boundary	SE	.65	7.4E-06	7.4E-06	6.7E-06	3.7E-08	
A Site Boundary	SSE	.81	4.7E-06	4.7E-06	4.2E-06	2.6E-08	
A Nearest Res	SSW	2.10	2.7E-07	2.7E-07	2.3E-07	1.6E-09	
A Nearest Res	SW	1.30	4.8E-07	4.8E-07	4.1E-07	2.8E-09	
A Nearest Res	WSW	1.90	2.1E-07	2.1E-07	1.8E-07	1.2E-09	
A Nearest Res	W	1.00	8.7E-07	8.7E-07	7.6E-07	5.8E-09	
A Nearest Res	WNW	1.70	5.1E-07	5.0E-07	4.3E-07	3.2E-09	
A Nearest Res	NW	.90	3.7E-06	3.7E-06	3.2E-06	2.2E-08	
A Nearest Res	NNW	1.90	1.5E-06	1.5E-06	1.2E-06	4.5E-09	
A Nearest Res	N	2.50	1.1E-06	1.0E-06	8.5E-07	2.6E-09	
A Nearest Res	NE	2.80	2.4E-07	2.4E-07	1.9E-07	5.7E-10	
A Nearest Res	ENE	1.70	5.1E-07	5.1E-07	4.3E-07	1.5E-09	
A Nearest Res	E	1.90	2.3E-07	2.3E-07	1.9E-07	7.6E-10	
A Nearest Res	ESE	2.30	4.8E-07	4.7E-07	3.9E-07	1.3E-09	
A Nearest Cow	NNW	3.50	4.6E-07	4.5E-07	3.5E-07	1.1E-09	
A Nearest Garde	SW	1.30	4.8E-07	4.8E-07	4.1E-07	2.8E-09	
A Nearest Garde	WSW	1.90	2.1E-07	2.1E-07	1.8E-07	1.2E-09	
A Nearest Garde	WNW	2.40	2.4E-07	2.4E-07	2.0E-07	1.4E-09	
A Nearest Garde	NW	2.90	2.9E-07	2.9E-07	2.3E-07	1.3E-09	
A Nearest Garde	NNW	2.80	6.9E-07	6.8E-07	5.5E-07	1.8E-09	
A Nearest Garde	NE	2.80	2.4E-07	2.4E-07	1.9E-07	5.7E-10	
A Nearest Garde	ENE	1.70	5.1E-07	5.1E-07	4.3E-07	1.5E-09	
A Nearest Garde	E	1.90	2.3E-07	2.3E-07	1.9E-07	7.6E-10	
A Nearest Garde	ESE	3.00	2.9E-07	2.8E-07	2.3E-07	6.8E-10	

B275

**Atmospheric Diffusion Estimates**

**Ground Level Releases**

January-December 2011

VENTS GROUND LEVEL RELEASES - JAN-DEC 2011  
 NO DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED) SECTOR	DISTANCE IN MILES FROM THE SITE										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.107E-05	1.049E-05	5.560E-06	2.763E-06	1.095E-06	5.869E-07	3.692E-07	2.562E-07	1.898E-07	1.474E-07	1.186E-07
SSW	2.039E-05	6.853E-06	3.584E-06	1.768E-06	6.997E-07	3.750E-07	2.358E-07	1.636E-07	1.212E-07	9.412E-08	7.571E-08
SW	1.249E-05	4.171E-06	2.206E-06	1.095E-06	4.309E-07	2.301E-07	1.443E-07	9.986E-08	7.385E-08	5.725E-08	4.599E-08
WSW	1.258E-05	4.378E-06	2.343E-06	1.164E-06	4.553E-07	2.418E-07	1.510E-07	1.042E-07	7.678E-08	5.936E-08	4.756E-08
W	1.279E-05	4.396E-06	2.321E-06	1.147E-06	4.481E-07	2.380E-07	1.486E-07	1.025E-07	7.553E-08	5.839E-08	4.678E-08
WNW	2.049E-05	6.949E-06	3.633E-06	1.786E-06	6.984E-07	3.713E-07	2.321E-07	1.602E-07	1.182E-07	9.150E-08	7.338E-08
NW	3.118E-05	1.038E-05	5.460E-06	2.708E-06	1.084E-06	5.860E-07	3.710E-07	2.587E-07	1.926E-07	1.501E-07	1.212E-07
NNW	5.815E-05	1.824E-05	9.438E-06	4.693E-06	1.946E-06	1.077E-06	6.940E-07	4.909E-07	3.697E-07	2.911E-07	2.370E-07
N	6.945E-05	2.190E-05	1.153E-05	5.782E-06	2.393E-06	1.322E-06	8.509E-07	6.013E-07	4.524E-07	3.560E-07	2.897E-07
NNE	3.903E-05	1.230E-05	6.456E-06	3.233E-06	1.336E-06	7.377E-07	4.745E-07	3.352E-07	2.521E-07	1.984E-07	1.614E-07
NE	1.871E-05	5.852E-06	3.040E-06	1.515E-06	6.266E-07	3.462E-07	2.228E-07	1.574E-07	1.185E-07	9.323E-08	7.586E-08
ENE	1.597E-05	5.060E-06	2.690E-06	1.356E-06	5.557E-07	3.050E-07	1.952E-07	1.374E-07	1.030E-07	8.080E-08	6.557E-08
E	1.229E-05	3.950E-06	2.100E-06	1.056E-06	4.322E-07	2.370E-07	1.516E-07	1.066E-07	7.991E-08	6.266E-08	5.083E-08
ESE	2.511E-05	8.064E-06	4.307E-06	2.171E-06	8.863E-07	4.852E-07	3.101E-07	2.179E-07	1.632E-07	1.279E-07	1.037E-07
SE	2.996E-05	9.925E-06	5.282E-06	2.644E-06	1.068E-06	5.808E-07	3.693E-07	2.584E-07	1.928E-07	1.507E-07	1.218E-07
SSE	3.041E-05	1.014E-05	5.371E-06	2.675E-06	1.071E-06	5.783E-07	3.659E-07	2.550E-07	1.897E-07	1.479E-07	1.193E-07

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED) SECTOR	DISTANCE IN MILES FROM THE SITE										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	9.801E-08	5.014E-08	3.241E-08	1.854E-08	1.255E-08	9.291E-09	7.279E-09	5.928E-09	4.966E-09	4.250E-09	3.700E-09
SSW	6.259E-08	3.205E-08	2.073E-08	1.188E-08	8.056E-09	5.974E-09	4.687E-09	3.822E-09	3.205E-09	2.746E-09	2.393E-09
SW	3.798E-08	1.937E-08	1.249E-08	7.131E-09	4.824E-09	3.571E-09	2.797E-09	2.278E-09	1.908E-09	1.633E-09	1.421E-09
WSW	3.917E-08	1.976E-08	1.264E-08	7.122E-09	4.769E-09	3.502E-09	2.725E-09	2.206E-09	1.839E-09	1.567E-09	1.358E-09
W	3.854E-08	1.946E-08	1.246E-08	7.041E-09	4.727E-09	3.479E-09	2.712E-09	2.200E-09	1.837E-09	1.567E-09	1.360E-09
WNW	6.051E-08	3.070E-08	1.973E-08	1.122E-08	7.572E-09	5.598E-09	4.381E-09	3.564E-09	2.984E-09	2.553E-09	2.221E-09
NW	1.005E-07	5.208E-08	3.396E-08	1.968E-08	1.343E-08	1.001E-08	7.887E-09	6.453E-09	5.427E-09	4.661E-09	4.070E-09
NNW	1.981E-07	1.055E-07	7.016E-08	4.171E-08	2.896E-08	2.186E-08	1.740E-08	1.436E-08	1.216E-08	1.051E-08	9.228E-09
N	2.419E-07	1.286E-07	8.530E-08	5.055E-08	3.501E-08	2.638E-08	2.096E-08	1.727E-08	1.461E-08	1.261E-08	1.106E-08
NNE	1.347E-07	7.158E-08	4.748E-08	2.813E-08	1.949E-08	1.469E-08	1.167E-08	9.614E-09	8.135E-09	7.023E-09	6.160E-09
NE	6.336E-08	3.370E-08	2.238E-08	1.329E-08	9.218E-09	6.955E-09	5.533E-09	4.563E-09	3.864E-09	3.339E-09	2.931E-09
ENE	5.463E-08	2.877E-08	1.897E-08	1.115E-08	7.682E-09	5.765E-09	4.565E-09	3.751E-09	3.166E-09	2.727E-09	2.388E-09
E	4.233E-08	2.226E-08	1.467E-08	8.606E-09	5.920E-09	4.437E-09	3.511E-09	2.883E-09	2.432E-09	2.094E-09	1.832E-09
ESE	8.633E-08	4.535E-08	2.985E-08	1.749E-08	1.202E-08	9.005E-09	7.121E-09	5.844E-09	4.927E-09	4.241E-09	3.710E-09
SE	1.012E-07	5.268E-08	3.446E-08	2.003E-08	1.369E-08	1.021E-08	8.047E-09	6.586E-09	5.540E-09	4.759E-09	4.155E-09
SSE	9.889E-08	5.113E-08	3.329E-08	1.924E-08	1.311E-08	9.756E-09	7.675E-09	6.272E-09	5.270E-09	4.522E-09	3.945E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE										
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	
S	5.413E-06	1.240E-06	3.821E-07	1.926E-07	1.195E-07	5.290E-08	1.896E-08	9.354E-09	5.947E-09	4.258E-09	
SSW	3.503E-06	7.928E-07	2.440E-07	1.230E-07	7.631E-08	3.381E-08	1.215E-08	6.014E-09	3.834E-09	2.751E-09	
SW	2.149E-06	4.892E-07	1.494E-07	7.496E-08	4.636E-08	2.045E-08	7.297E-09	3.596E-09	2.285E-09	1.636E-09	
WSW	2.271E-06	5.179E-07	1.565E-07	7.797E-08	4.795E-08	2.091E-08	7.302E-09	3.529E-09	2.214E-09	1.570E-09	
W	2.260E-06	5.099E-07	1.540E-07	7.669E-08	4.717E-08	2.059E-08	7.217E-09	3.505E-09	2.208E-09	1.570E-09	
WNW	3.549E-06	7.946E-07	2.405E-07	1.200E-07	7.398E-08	3.245E-08	1.149E-08	5.637E-09	3.577E-09	2.558E-09	
NW	5.330E-06	1.224E-06	3.834E-07	1.953E-07	1.221E-07	5.479E-08	2.008E-08	1.007E-08	6.472E-09	4.669E-09	
NNW	9.285E-06	2.170E-06	7.149E-07	3.744E-07	2.386E-07	1.104E-07	4.236E-08	2.197E-08	1.439E-08	1.052E-08	
N	1.128E-05	2.670E-06	8.767E-07	4.583E-07	2.917E-07	1.345E-07	5.136E-08	2.651E-08	1.731E-08	1.263E-08	
NNE	6.322E-06	1.492E-06	4.890E-07	2.554E-07	1.625E-07	7.490E-08	2.859E-08	1.476E-08	9.638E-09	7.033E-09	
NE	2.987E-06	6.994E-07	2.295E-07	1.200E-07	7.638E-08	3.526E-08	1.350E-08	6.990E-09	4.574E-09	3.343E-09	
ENE	2.624E-06	6.221E-07	2.014E-07	1.044E-07	6.603E-08	3.016E-08	1.135E-08	5.796E-09	3.761E-09	2.732E-09	
E	2.047E-06	4.841E-07	1.564E-07	8.097E-08	5.119E-08	2.335E-08	8.759E-09	4.462E-09	2.890E-09	2.097E-09	
ESE	4.192E-06	9.934E-07	3.199E-07	1.654E-07	1.044E-07	4.756E-08	1.781E-08	9.056E-09	5.860E-09	4.248E-09	
SE	5.141E-06	1.202E-06	3.813E-07	1.955E-07	1.227E-07	5.536E-08	2.042E-08	1.027E-08	6.605E-09	4.767E-09	
SSE	5.233E-06	1.208E-06	3.782E-07	1.924E-07	1.202E-07	5.381E-08	1.964E-08	9.817E-09	6.291E-09	4.530E-09	

B277

VENTS GROUND LEVEL RELEASES - JAN-DEC 2011  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.105E-05	1.048E-05	5.547E-06	2.755E-06	1.089E-06	5.831E-07	3.662E-07	2.536E-07	1.876E-07	1.454E-07	1.167E-07	
SSW	2.038E-05	6.842E-06	3.575E-06	1.762E-06	6.963E-07	3.725E-07	2.338E-07	1.619E-07	1.197E-07	9.281E-08	7.452E-08	
SW	1.248E-05	4.163E-06	2.200E-06	1.091E-06	4.286E-07	2.284E-07	1.430E-07	9.877E-08	7.290E-08	5.641E-08	4.522E-08	
WSW	1.257E-05	4.371E-06	2.338E-06	1.161E-06	4.533E-07	2.404E-07	1.499E-07	1.032E-07	7.599E-08	5.866E-08	4.693E-08	
W	1.278E-05	4.390E-06	2.316E-06	1.143E-06	4.461E-07	2.366E-07	1.475E-07	1.015E-07	7.473E-08	5.768E-08	4.614E-08	
WNW	2.047E-05	6.939E-06	3.625E-06	1.780E-06	6.953E-07	3.691E-07	2.303E-07	1.587E-07	1.169E-07	9.035E-08	7.234E-08	
NW	3.116E-05	1.036E-05	5.447E-06	2.699E-06	1.079E-06	5.821E-07	3.678E-07	2.561E-07	1.902E-07	1.480E-07	1.193E-07	
NNW	5.808E-05	1.820E-05	9.408E-06	4.673E-06	1.933E-06	1.067E-06	6.863E-07	4.843E-07	3.639E-07	2.859E-07	2.323E-07	
N	6.937E-05	2.185E-05	1.149E-05	5.758E-06	2.378E-06	1.311E-06	8.419E-07	5.936E-07	4.456E-07	3.499E-07	2.840E-07	
NNE	3.899E-05	1.227E-05	6.435E-06	3.220E-06	1.328E-06	7.314E-07	4.694E-07	3.308E-07	2.483E-07	1.949E-07	1.582E-07	
NE	1.869E-05	5.839E-06	3.030E-06	1.509E-06	6.226E-07	3.432E-07	2.204E-07	1.554E-07	1.166E-07	9.158E-08	7.435E-08	
ENE	1.596E-05	5.050E-06	2.682E-06	1.351E-06	5.523E-07	3.025E-07	1.932E-07	1.357E-07	1.015E-07	7.944E-08	6.433E-08	
E	1.228E-05	3.943E-06	2.094E-06	1.052E-06	4.298E-07	2.352E-07	1.502E-07	1.054E-07	7.884E-08	6.170E-08	4.996E-08	
ESE	2.508E-05	8.049E-06	4.294E-06	2.162E-06	8.812E-07	4.815E-07	3.071E-07	2.153E-07	1.609E-07	1.259E-07	1.018E-07	
SE	2.993E-05	9.908E-06	5.269E-06	2.635E-06	1.063E-06	5.768E-07	3.660E-07	2.556E-07	1.904E-07	1.485E-07	1.198E-07	
SSE	3.038E-05	1.013E-05	5.358E-06	2.666E-06	1.065E-06	5.744E-07	3.628E-07	2.524E-07	1.874E-07	1.458E-07	1.174E-07	

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	9.634E-08	4.884E-08	3.127E-08	1.756E-08	1.166E-08	8.467E-09	6.507E-09	5.199E-09	4.272E-09	3.587E-09	3.062E-09	
SSW	6.149E-08	3.119E-08	1.998E-08	1.123E-08	7.462E-09	5.424E-09	4.171E-09	3.333E-09	2.740E-09	2.301E-09	1.965E-09	
SW	3.727E-08	1.882E-08	1.202E-08	6.724E-09	4.458E-09	3.233E-09	2.482E-09	1.980E-09	1.625E-09	1.363E-09	1.163E-09	
WSW	3.859E-08	1.931E-08	1.226E-08	6.799E-09	4.482E-09	3.239E-09	2.480E-09	1.976E-09	1.621E-09	1.359E-09	1.160E-09	
W	3.795E-08	1.901E-08	1.207E-08	6.705E-09	4.426E-09	3.202E-09	2.454E-09	1.957E-09	1.606E-09	1.347E-09	1.149E-09	
WNW	5.955E-08	2.995E-08	1.908E-08	1.066E-08	7.070E-09	5.134E-09	3.946E-09	3.154E-09	2.594E-09	2.179E-09	1.863E-09	
NW	9.872E-08	5.066E-08	3.272E-08	1.858E-08	1.244E-08	9.088E-09	7.017E-09	5.627E-09	4.639E-09	3.905E-09	3.342E-09	
NNW	1.936E-07	1.020E-07	6.698E-08	3.888E-08	2.636E-08	1.943E-08	1.510E-08	1.217E-08	1.007E-08	8.496E-09	7.285E-09	
N	2.367E-07	1.244E-07	8.157E-08	4.725E-08	3.198E-08	2.356E-08	1.829E-08	1.473E-08	1.218E-08	1.028E-08	8.816E-09	
NNE	1.318E-07	6.919E-08	4.537E-08	2.626E-08	1.777E-08	1.308E-08	1.015E-08	8.175E-09	6.758E-09	5.701E-09	4.886E-09	
NE	6.195E-08	3.257E-08	2.138E-08	1.239E-08	8.397E-09	6.188E-09	4.808E-09	3.873E-09	3.204E-09	2.704E-09	2.319E-09	
ENE	5.347E-08	2.786E-08	1.816E-08	1.044E-08	7.033E-09	5.161E-09	3.996E-09	3.211E-09	2.651E-09	2.234E-09	1.913E-09	
E	4.152E-08	2.162E-08	1.410E-08	8.103E-09	5.461E-09	4.011E-09	3.109E-09	2.501E-09	2.067E-09	1.744E-09	1.496E-09	
ESE	8.460E-08	4.398E-08	2.864E-08	1.643E-08	1.105E-08	8.103E-09	6.272E-09	5.038E-09	4.158E-09	3.503E-09	3.000E-09	
SE	9.935E-08	5.122E-08	3.318E-08	1.891E-08	1.266E-08	9.260E-09	7.153E-09	5.738E-09	4.731E-09	3.983E-09	3.409E-09	
SSE	9.713E-08	4.974E-08	3.208E-08	1.818E-08	1.214E-08	8.858E-09	6.831E-09	5.472E-09	4.507E-09	3.791E-09	3.242E-09	

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE										
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	
S	5.401E-06	1.234E-06	3.790E-07	1.904E-07	1.177E-07	5.159E-08	1.798E-08	8.534E-09	5.219E-09	3.595E-09	
SSW	3.495E-06	7.893E-07	2.420E-07	1.215E-07	7.511E-08	3.294E-08	1.150E-08	5.466E-09	3.346E-09	2.306E-09	
SW	2.143E-06	4.868E-07	1.481E-07	7.401E-08	4.559E-08	1.990E-08	6.893E-09	3.259E-09	1.988E-09	1.366E-09	
WSW	2.267E-06	5.159E-07	1.554E-07	7.718E-08	4.732E-08	2.046E-08	6.982E-09	3.267E-09	1.985E-09	1.363E-09	
W	2.256E-06	5.079E-07	1.529E-07	7.589E-08	4.653E-08	2.013E-08	6.884E-09	3.229E-09	1.965E-09	1.350E-09	
WNW	3.542E-06	7.915E-07	2.387E-07	1.188E-07	7.294E-08	3.170E-08	1.094E-08	5.175E-09	3.167E-09	2.185E-09	
NW	5.318E-06	1.218E-06	3.803E-07	1.930E-07	1.202E-07	5.337E-08	1.899E-08	9.153E-09	5.648E-09	3.914E-09	
NNW	9.258E-06	2.157E-06	7.072E-07	3.686E-07	2.338E-07	1.068E-07	3.956E-08	1.954E-08	1.220E-08	8.512E-09	
N	1.124E-05	2.655E-06	8.676E-07	4.514E-07	2.860E-07	1.303E-07	4.809E-08	2.370E-08	1.478E-08	1.030E-08	
NNE	6.303E-06	1.483E-06	4.838E-07	2.515E-07	1.593E-07	7.251E-08	2.673E-08	1.316E-08	8.201E-09	5.712E-09	
NE	2.978E-06	6.953E-07	2.271E-07	1.182E-07	7.486E-08	3.412E-08	1.261E-08	6.225E-09	3.885E-09	2.709E-09	
ENE	2.617E-06	6.187E-07	1.993E-07	1.029E-07	6.479E-08	2.924E-08	1.064E-08	5.194E-09	3.222E-09	2.238E-09	
E	2.042E-06	4.816E-07	1.550E-07	7.991E-08	5.031E-08	2.270E-08	8.260E-09	4.037E-09	2.509E-09	1.748E-09	
ESE	4.181E-06	9.883E-07	3.169E-07	1.631E-07	1.026E-07	4.619E-08	1.675E-08	8.157E-09	5.055E-09	3.511E-09	
SE	5.129E-06	1.196E-06	3.780E-07	1.931E-07	1.207E-07	5.390E-08	1.930E-08	9.325E-09	5.758E-09	3.992E-09	
SSE	5.221E-06	1.203E-06	3.751E-07	1.901E-07	1.183E-07	5.242E-08	1.858E-08	8.922E-09	5.493E-09	3.800E-09	

B278

VENTS GROUND LEVEL RELEASES - JAN-DEC 2011  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.940E-05	9.577E-06	4.951E-06	2.417E-06	9.284E-07	4.851E-07	2.984E-07	2.029E-07	1.476E-07	1.127E-07	8.925E-08
SSW	1.930E-05	6.255E-06	3.191E-06	1.546E-06	5.934E-07	3.099E-07	1.906E-07	1.296E-07	9.425E-08	7.197E-08	5.699E-08
SW	1.182E-05	3.807E-06	1.964E-06	9.574E-07	3.654E-07	1.901E-07	1.166E-07	7.908E-08	5.741E-08	4.376E-08	3.460E-08
WSW	1.190E-05	3.996E-06	2.086E-06	1.018E-06	3.862E-07	1.999E-07	1.221E-07	8.253E-08	5.974E-08	4.542E-08	3.582E-08
W	1.210E-05	4.013E-06	2.067E-06	1.003E-06	3.801E-07	1.967E-07	1.201E-07	8.118E-08	5.876E-08	4.467E-08	3.523E-08
WNW	1.939E-05	6.343E-06	3.235E-06	1.562E-06	5.924E-07	3.069E-07	1.876E-07	1.269E-07	9.197E-08	6.999E-08	5.526E-08
NW	2.950E-05	9.475E-06	4.862E-06	2.368E-06	9.196E-07	4.843E-07	2.998E-07	2.049E-07	1.498E-07	1.148E-07	9.122E-08
NNW	5.501E-05	1.665E-05	8.403E-06	4.103E-06	1.650E-06	8.895E-07	5.604E-07	3.884E-07	2.872E-07	2.223E-07	1.782E-07
N	6.571E-05	1.998E-05	1.026E-05	5.055E-06	2.028E-06	1.092E-06	6.872E-07	4.759E-07	3.515E-07	2.720E-07	2.178E-07
NNE	3.693E-05	1.122E-05	5.748E-06	2.827E-06	1.133E-06	6.094E-07	3.832E-07	2.653E-07	1.959E-07	1.515E-07	1.213E-07
NE	1.770E-05	5.341E-06	2.706E-06	1.325E-06	5.312E-07	2.859E-07	1.799E-07	1.246E-07	9.203E-08	7.120E-08	5.703E-08
ENE	1.511E-05	4.618E-06	2.395E-06	1.186E-06	4.712E-07	2.519E-07	1.577E-07	1.087E-07	8.004E-08	6.173E-08	4.931E-08
E	1.163E-05	3.605E-06	1.870E-06	9.234E-07	3.665E-07	1.958E-07	1.225E-07	8.442E-08	6.212E-08	4.789E-08	3.825E-08
ESE	2.376E-05	7.360E-06	3.835E-06	1.898E-06	7.515E-07	4.009E-07	2.505E-07	1.725E-07	1.268E-07	9.773E-08	7.800E-08
SE	2.834E-05	9.059E-06	4.704E-06	2.312E-06	9.060E-07	4.800E-07	2.984E-07	2.046E-07	1.499E-07	1.152E-07	9.169E-08
SSE	2.877E-05	9.258E-06	4.783E-06	2.339E-06	9.080E-07	4.780E-07	2.957E-07	2.020E-07	1.475E-07	1.130E-07	8.979E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	7.270E-08	3.509E-08	2.155E-08	1.135E-08	7.175E-09	5.006E-09	3.717E-09	2.882E-09	2.306E-09	1.890E-09	1.578E-09
SSW	4.642E-08	2.242E-08	1.378E-08	7.270E-09	4.603E-09	3.215E-09	2.390E-09	1.855E-09	1.485E-09	1.218E-09	1.018E-09
SW	2.816E-08	1.354E-08	8.301E-09	4.361E-09	2.755E-09	1.921E-09	1.426E-09	1.105E-09	8.836E-10	7.239E-10	6.044E-10
WSW	2.908E-08	1.384E-08	8.416E-09	4.371E-09	2.736E-09	1.895E-09	1.399E-09	1.079E-09	8.599E-10	7.022E-10	5.847E-10
W	2.860E-08	1.363E-08	8.297E-09	4.318E-09	2.709E-09	1.880E-09	1.390E-09	1.074E-09	8.568E-10	7.004E-10	5.838E-10
WNW	4.490E-08	2.149E-08	1.313E-08	6.874E-09	4.336E-09	3.022E-09	2.242E-09	1.737E-09	1.390E-09	1.139E-09	9.511E-10
NW	7.454E-08	3.643E-08	2.258E-08	1.204E-08	7.674E-09	5.389E-09	4.022E-09	3.132E-09	2.515E-09	2.068E-09	1.732E-09
NNW	1.467E-07	7.368E-08	4.652E-08	2.542E-08	1.646E-08	1.170E-08	8.811E-09	6.912E-09	5.585E-09	4.616E-09	3.884E-09
N	1.792E-07	8.978E-08	5.658E-08	3.083E-08	1.993E-08	1.413E-08	1.063E-08	8.330E-09	6.724E-09	5.552E-09	4.668E-09
NNE	9.980E-08	4.998E-08	3.149E-08	1.716E-08	1.109E-08	7.862E-09	5.914E-09	4.633E-09	3.740E-09	3.088E-09	2.596E-09
NE	4.693E-08	2.353E-08	1.484E-08	8.099E-09	5.242E-09	3.722E-09	2.803E-09	2.198E-09	1.775E-09	1.467E-09	1.234E-09
ENE	4.047E-08	2.010E-08	1.259E-08	6.806E-09	4.375E-09	3.091E-09	2.318E-09	1.811E-09	1.459E-09	1.202E-09	1.009E-09
E	3.138E-08	1.556E-08	9.743E-09	5.260E-09	3.378E-09	2.385E-09	1.788E-09	1.397E-09	1.125E-09	9.273E-10	7.784E-10
ESE	6.398E-08	3.169E-08	1.982E-08	1.068E-08	6.854E-09	4.835E-09	3.621E-09	2.827E-09	2.275E-09	1.874E-09	1.572E-09
SE	7.504E-08	3.684E-08	2.290E-08	1.225E-08	7.819E-09	5.494E-09	4.103E-09	3.196E-09	2.567E-09	2.111E-09	1.768E-09
SSE	7.334E-08	3.576E-08	2.213E-08	1.177E-08	7.489E-09	5.251E-09	3.915E-09	3.045E-09	2.443E-09	2.006E-09	1.679E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	4.853E-06	1.062E-06	3.100E-07	1.501E-07	9.007E-08	3.743E-08	1.176E-08	5.069E-09	2.901E-09	1.897E-09
SSW	3.141E-06	6.792E-07	1.980E-07	9.585E-08	5.751E-08	2.392E-08	7.532E-09	3.255E-09	1.867E-09	1.223E-09
SW	1.926E-06	4.191E-07	1.212E-07	5.840E-08	3.493E-08	1.446E-08	4.523E-09	1.945E-09	1.112E-09	7.269E-10
WSW	2.036E-06	4.438E-07	1.270E-07	6.079E-08	3.617E-08	1.482E-08	4.543E-09	1.921E-09	1.087E-09	7.054E-10
W	2.027E-06	4.370E-07	1.250E-07	5.980E-08	3.557E-08	1.459E-08	4.487E-09	1.905E-09	1.082E-09	7.036E-10
WNW	3.182E-06	6.809E-07	1.952E-07	9.359E-08	5.579E-08	2.298E-08	7.136E-09	3.060E-09	1.749E-09	1.144E-09
NW	4.779E-06	1.048E-06	3.111E-07	1.522E-07	9.203E-08	3.874E-08	1.244E-08	5.451E-09	3.151E-09	2.076E-09
NNW	8.324E-06	1.857E-06	5.794E-07	2.914E-07	1.796E-07	7.784E-08	2.613E-08	1.181E-08	6.949E-09	4.632E-09
N	1.011E-05	2.285E-06	7.107E-07	3.567E-07	2.196E-07	9.490E-08	3.171E-08	1.428E-08	8.375E-09	5.572E-09
NNE	5.666E-06	1.277E-06	3.963E-07	1.988E-07	1.223E-07	5.283E-08	1.764E-08	7.942E-09	4.659E-09	3.099E-09
NE	2.678E-06	5.985E-07	1.860E-07	9.340E-08	5.749E-08	2.487E-08	8.327E-09	3.760E-09	2.210E-09	1.472E-09
ENE	2.352E-06	5.325E-07	1.632E-07	8.126E-08	4.972E-08	2.129E-08	7.011E-09	3.124E-09	1.822E-09	1.207E-09
E	1.835E-06	4.144E-07	1.268E-07	6.307E-08	3.856E-08	1.649E-08	5.420E-09	2.411E-09	1.405E-09	9.308E-10
ESE	3.757E-06	8.505E-07	2.594E-07	1.288E-07	7.866E-08	3.359E-08	1.101E-08	4.888E-09	2.844E-09	1.881E-09
SE	4.608E-06	1.029E-06	3.093E-07	1.523E-07	9.248E-08	3.914E-08	1.265E-08	5.558E-09	3.215E-09	2.119E-09
SSE	4.691E-06	1.035E-06	3.068E-07	1.500E-07	9.059E-08	3.805E-08	1.217E-08	5.313E-09	3.064E-09	2.014E-09

B279

VENTS GROUND LEVEL RELEASES - JAN-DEC 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

\*\*\*\*\* RELATIVE DEPOSITION PER UNIT AREA (M\*\*-2) AT FIXED POINTS BY DOWNWIND SECTORS \*\*\*\*\*

DIRECTION FROM SITE	DISTANCES IN MILES										
	.25	.50	.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S	2.153E-07	7.281E-08	3.738E-08	1.777E-08	6.384E-09	3.166E-09	1.864E-09	1.221E-09	8.589E-10	6.366E-10	4.905E-10
SSW	1.295E-07	4.378E-08	2.248E-08	1.069E-08	3.839E-09	1.904E-09	1.121E-09	7.340E-10	5.165E-10	3.827E-10	2.949E-10
SW	7.482E-08	2.530E-08	1.299E-08	6.176E-09	2.218E-09	1.100E-09	6.478E-10	4.242E-10	2.985E-10	2.212E-10	1.705E-10
WSW	8.693E-08	2.940E-08	1.509E-08	7.176E-09	2.577E-09	1.278E-09	7.526E-10	4.928E-10	3.468E-10	2.570E-10	1.980E-10
W	9.205E-08	3.113E-08	1.598E-08	7.598E-09	2.729E-09	1.353E-09	7.969E-10	5.218E-10	3.672E-10	2.721E-10	2.097E-10
WNW	1.510E-07	5.106E-08	2.622E-08	1.246E-08	4.477E-09	2.220E-09	1.307E-09	8.560E-10	6.023E-10	4.464E-10	3.440E-10
NW	2.032E-07	6.872E-08	3.528E-08	1.677E-08	6.025E-09	2.988E-09	1.759E-09	1.152E-09	8.107E-10	6.008E-10	4.630E-10
NNW	2.194E-07	7.420E-08	3.810E-08	1.811E-08	6.506E-09	3.227E-09	1.900E-09	1.244E-09	8.754E-10	6.487E-10	4.999E-10
N	2.681E-07	9.068E-08	4.656E-08	2.213E-08	7.951E-09	3.943E-09	2.322E-09	1.520E-09	1.070E-09	7.927E-10	6.109E-10
NNE	1.470E-07	4.971E-08	2.552E-08	1.213E-08	4.359E-09	2.162E-09	1.273E-09	8.334E-10	5.864E-10	4.346E-10	3.349E-10
NE	7.969E-08	2.695E-08	1.384E-08	6.578E-09	2.363E-09	1.172E-09	6.900E-10	4.518E-10	3.179E-10	2.356E-10	1.816E-10
ENE	6.945E-08	2.349E-08	1.206E-08	5.733E-09	2.059E-09	1.021E-09	6.013E-10	3.937E-10	2.770E-10	2.053E-10	1.582E-10
E	6.030E-08	2.039E-08	1.047E-08	4.977E-09	1.788E-09	8.866E-10	5.221E-10	3.418E-10	2.405E-10	1.783E-10	1.374E-10
ESE	1.241E-07	4.196E-08	2.155E-08	1.024E-08	3.679E-09	1.825E-09	1.074E-09	7.035E-10	4.950E-10	3.668E-10	2.827E-10
SE	1.876E-07	6.344E-08	3.257E-08	1.549E-08	5.563E-09	2.759E-09	1.624E-09	1.064E-09	7.484E-10	5.546E-10	4.274E-10
SSE	2.075E-07	7.017E-08	3.603E-08	1.713E-08	6.153E-09	3.051E-09	1.797E-09	1.176E-09	8.278E-10	6.135E-10	4.728E-10

DIRECTION FROM SITE	DISTANCES IN MILES										
	5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
S	3.897E-10	1.731E-10	1.049E-10	5.301E-11	3.208E-11	2.151E-11	1.541E-11	1.157E-11	8.999E-12	7.188E-12	5.867E-12
SSW	2.343E-10	1.041E-10	6.305E-11	3.187E-11	1.929E-11	1.293E-11	9.267E-12	6.959E-12	5.411E-12	4.322E-12	3.528E-12
SW	1.354E-10	6.016E-11	3.644E-11	1.842E-11	1.115E-11	7.475E-12	5.356E-12	4.022E-12	3.127E-12	2.498E-12	2.039E-12
WSW	1.573E-10	6.989E-11	4.234E-11	2.140E-11	1.295E-11	8.684E-12	6.223E-12	4.673E-12	3.633E-12	2.902E-12	2.369E-12
W	1.666E-10	7.401E-11	4.483E-11	2.266E-11	1.371E-11	9.195E-12	6.589E-12	4.947E-12	3.847E-12	3.073E-12	2.508E-12
WNW	2.733E-10	1.214E-10	7.354E-11	3.717E-11	2.250E-11	1.508E-11	1.081E-11	8.116E-12	6.310E-12	5.041E-12	4.114E-12
NW	3.678E-10	1.634E-10	9.898E-11	5.003E-11	3.028E-11	2.030E-11	1.455E-11	1.092E-11	8.493E-12	6.784E-12	5.538E-12
NNW	3.972E-10	1.764E-10	1.069E-10	5.402E-11	3.270E-11	2.192E-11	1.571E-11	1.179E-11	9.171E-12	7.326E-12	5.979E-12
N	4.853E-10	2.156E-10	1.306E-10	6.601E-11	3.995E-11	2.679E-11	1.919E-11	1.441E-11	1.121E-11	8.952E-12	7.307E-12
NNE	2.661E-10	1.182E-10	7.160E-11	3.619E-11	2.190E-11	1.469E-11	1.052E-11	7.902E-12	6.144E-12	4.908E-12	4.006E-12
NE	1.442E-10	6.407E-11	3.881E-11	1.962E-11	1.187E-11	7.961E-12	5.705E-12	4.283E-12	3.331E-12	2.660E-12	2.172E-12
ENE	1.257E-10	5.584E-11	3.383E-11	1.710E-11	1.035E-11	6.938E-12	4.971E-12	3.733E-12	2.903E-12	2.319E-12	1.892E-12
E	1.091E-10	4.848E-11	2.937E-11	1.484E-11	8.984E-12	6.024E-12	4.316E-12	3.241E-12	2.520E-12	2.013E-12	1.643E-12
ESE	2.246E-10	9.977E-11	6.044E-11	3.055E-11	1.849E-11	1.240E-11	8.883E-12	6.670E-12	5.186E-12	4.143E-12	3.381E-12
SE	3.395E-10	1.508E-10	9.137E-11	4.618E-11	2.795E-11	1.874E-11	1.343E-11	1.008E-11	7.841E-12	6.263E-12	5.112E-12
SSE	3.756E-10	1.669E-10	1.011E-10	5.109E-11	3.092E-11	2.073E-11	1.485E-11	1.115E-11	8.673E-12	6.928E-12	5.655E-12

\*\*\*\*\* RELATIVE DEPOSITION PER UNIT AREA (M\*\*-2) BY DOWNWIND SECTORS \*\*\*\*\*

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	3.654E-08	7.485E-09	1.954E-09	8.776E-10	4.965E-10	1.909E-10	5.523E-11	2.189E-11	1.169E-11	7.235E-12
SSW	2.197E-08	4.500E-09	1.175E-09	5.277E-10	2.985E-10	1.148E-10	3.321E-11	1.316E-11	7.029E-12	4.350E-12
SW	1.270E-08	2.601E-09	6.790E-10	3.049E-10	1.725E-10	6.634E-11	1.919E-11	7.607E-12	4.062E-12	2.514E-12
WSW	1.475E-08	3.022E-09	7.889E-10	3.543E-10	2.004E-10	7.708E-11	2.230E-11	8.838E-12	4.719E-12	2.921E-12
W	1.562E-08	3.200E-09	8.353E-10	3.751E-10	2.122E-10	8.161E-11	2.361E-11	9.358E-12	4.997E-12	3.093E-12
WNW	2.562E-08	5.249E-09	1.370E-09	6.154E-10	3.481E-10	1.339E-10	3.873E-11	1.535E-11	8.197E-12	5.074E-12
NW	3.449E-08	7.064E-09	1.844E-09	8.283E-10	4.686E-10	1.802E-10	5.213E-11	2.066E-11	1.103E-11	6.829E-12
NNW	3.724E-08	7.628E-09	1.991E-09	8.944E-10	5.060E-10	1.946E-10	5.629E-11	2.231E-11	1.191E-11	7.374E-12
N	4.551E-08	9.321E-09	2.433E-09	1.093E-09	6.183E-10	2.378E-10	6.878E-11	2.726E-11	1.456E-11	9.011E-12
NNE	2.495E-08	5.110E-09	1.334E-09	5.991E-10	3.389E-10	1.303E-10	3.771E-11	1.495E-11	7.981E-12	4.940E-12
NE	1.352E-08	2.770E-09	7.232E-10	3.248E-10	1.837E-10	7.066E-11	2.044E-11	8.102E-12	4.326E-12	2.678E-12
ENE	1.179E-08	2.414E-09	6.303E-10	2.831E-10	1.601E-10	6.158E-11	1.781E-11	7.061E-12	3.770E-12	2.334E-12
E	1.023E-08	2.096E-09	5.472E-10	2.458E-10	1.390E-10	5.346E-11	1.547E-11	6.130E-12	3.274E-12	2.026E-12
ESE	2.106E-08	4.314E-09	1.126E-09	5.058E-10	2.861E-10	1.100E-10	3.183E-11	1.262E-11	6.737E-12	4.170E-12
SE	3.184E-08	6.522E-09	1.702E-09	7.646E-10	4.326E-10	1.663E-10	4.812E-11	1.907E-11	1.019E-11	6.304E-12
SSE	3.522E-08	7.214E-09	1.883E-09	8.458E-10	4.785E-10	1.840E-10	5.323E-11	2.110E-11	1.127E-11	6.973E-12

B280

VENTS GROUND LEVEL RELEASES - JAN-DEC 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS  
SPECIFIC POINTS OF INTEREST

RELEASE TYPE OF	DIRECTION	DIST.	X/Q	X/Q	X/Q	D/Q	
			NO	2.26 DAY	8.0 DAY		
			DECAY	DECAY	DECAY		
			UNDEPLETED	UNDEPLETED	DEPLETED		
A Site Boundary	S	.80	4.8E-06	4.8E-06	4.2E-06	3.2E-08	
A Site Boundary	SSW	.82	2.8E-06	2.8E-06	2.5E-06	1.8E-08	
A Site Boundary	SW	.97	1.2E-06	1.2E-06	1.0E-06	6.6E-09	
A Site Boundary	WSW	.93	1.4E-06	1.4E-06	1.2E-06	8.8E-09	
A Site Boundary	W	.91	1.4E-06	1.4E-06	1.3E-06	9.6E-09	
A Site Boundary	WNW	.94	2.1E-06	2.1E-06	1.8E-06	1.5E-08	
A Site Boundary	NW	.81	4.5E-06	4.5E-06	4.0E-06	2.9E-08	
A Site Boundary	NNW	.69	1.1E-05	1.1E-05	9.7E-06	4.4E-08	
A Site Boundary	N	.67	1.4E-05	1.4E-05	1.2E-05	5.6E-08	
A Site Boundary	NNE	.60	9.2E-06	9.2E-06	8.3E-06	3.7E-08	
A Site Boundary	NE	.62	4.1E-06	4.0E-06	3.6E-06	1.9E-08	
A Site Boundary	ENE	.59	3.9E-06	3.9E-06	3.5E-06	1.8E-08	
A Site Boundary	E	.53	3.6E-06	3.6E-06	3.3E-06	1.9E-08	
A Site Boundary	ESE	.54	7.2E-06	7.2E-06	6.5E-06	3.7E-08	
A Site Boundary	SE	.65	6.6E-06	6.6E-06	5.9E-06	4.1E-08	
A Site Boundary	SSE	.81	4.4E-06	4.4E-06	3.9E-06	2.9E-08	
A Nearest Res	SSW	2.10	3.4E-07	3.4E-07	2.8E-07	1.7E-09	
A Nearest Res	SW	1.30	6.0E-07	5.9E-07	5.1E-07	3.2E-09	
A Nearest Res	WSW	1.90	2.7E-07	2.7E-07	2.2E-07	1.4E-09	
A Nearest Res	W	1.00	1.1E-06	1.1E-06	1.0E-06	7.6E-09	
A Nearest Res	WNW	1.70	5.3E-07	5.3E-07	4.4E-07	3.3E-09	
A Nearest Res	NW	.90	3.5E-06	3.5E-06	3.1E-06	2.2E-08	
A Nearest Res	NNW	1.90	1.2E-06	1.2E-06	9.9E-07	3.7E-09	
A Nearest Res	N	2.50	8.5E-07	8.4E-07	6.9E-07	2.3E-09	
A Nearest Res	NE	2.80	1.8E-07	1.8E-07	1.4E-07	5.3E-10	
A Nearest Res	ENE	1.70	4.3E-07	4.2E-07	3.6E-07	1.5E-09	
A Nearest Res	E	1.90	2.6E-07	2.6E-07	2.2E-07	1.0E-09	
A Nearest Res	ESE	2.30	3.7E-07	3.6E-07	3.0E-07	1.3E-09	
A Nearest Cow	NNW	3.50	3.7E-07	3.6E-07	2.9E-07	8.8E-10	
A Nearest Garde	SW	1.30	6.0E-07	5.9E-07	5.1E-07	3.2E-09	
A Nearest Garde	WSW	1.90	2.7E-07	2.7E-07	2.2E-07	1.4E-09	
A Nearest Garde	WNW	2.40	2.5E-07	2.5E-07	2.1E-07	1.4E-09	
A Nearest Garde	NW	2.90	2.8E-07	2.7E-07	2.2E-07	1.2E-09	
A Nearest Garde	NNW	2.80	5.6E-07	5.5E-07	4.5E-07	1.5E-09	
A Nearest Garde	NE	2.80	1.8E-07	1.8E-07	1.4E-07	5.3E-10	
A Nearest Garde	ENE	1.70	4.3E-07	4.2E-07	3.6E-07	1.5E-09	
A Nearest Garde	E	1.90	2.6E-07	2.6E-07	2.2E-07	1.0E-09	
A Nearest Garde	ESE	3.00	2.2E-07	2.2E-07	1.7E-07	7.0E-10	



**Atmospheric Diffusion Estimates**

**Elevated Releases**

January-March 2011

ERP ELEVATED STACK RELEASES - JAN-MAR 2011  
 NO DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.999E-15	2.457E-09	3.820E-08	7.228E-08	8.789E-08	7.671E-08	6.305E-08	5.169E-08	4.290E-08	4.660E-08	4.780E-08
SSW	1.885E-15	1.765E-09	2.869E-08	5.552E-08	6.894E-08	6.068E-08	5.008E-08	5.127E-08	4.893E-08	4.125E-08	3.536E-08
SW	5.136E-16	6.432E-10	2.543E-08	6.666E-08	1.050E-07	6.947E-08	4.903E-08	3.652E-08	2.837E-08	2.278E-08	1.878E-08
WSW	9.861E-16	1.062E-09	5.026E-08	1.350E-07	1.968E-07	1.190E-07	7.970E-08	5.735E-08	4.347E-08	3.426E-08	2.782E-08
W	2.807E-10	5.784E-08	2.225E-07	2.549E-07	2.014E-07	1.199E-07	7.976E-08	5.729E-08	4.345E-08	3.430E-08	2.793E-08
WNW	7.910E-11	1.205E-08	1.456E-07	2.641E-07	3.009E-07	1.781E-07	1.182E-07	8.752E-08	6.785E-08	5.317E-08	4.303E-08
NW	2.955E-11	2.825E-09	7.091E-08	2.054E-07	3.168E-07	1.817E-07	1.182E-07	8.453E-08	6.383E-08	4.973E-08	4.004E-08
NNW	4.016E-11	8.810E-09	4.284E-08	7.640E-08	1.098E-07	1.032E-07	9.028E-08	7.606E-08	6.421E-08	5.017E-08	4.053E-08
N	1.131E-15	9.578E-10	1.532E-08	3.025E-08	4.030E-08	3.886E-08	3.434E-08	2.919E-08	2.498E-08	2.160E-08	1.890E-08
NNE	2.245E-09	1.168E-08	2.598E-08	3.782E-08	4.470E-08	4.038E-08	3.433E-08	2.898E-08	2.466E-08	2.123E-08	1.852E-08
NE	9.669E-16	7.569E-10	1.182E-08	2.333E-08	3.179E-08	3.055E-08	2.707E-08	2.357E-08	2.055E-08	1.805E-08	1.601E-08
ENE	4.560E-16	4.871E-10	8.811E-09	1.854E-08	2.614E-08	2.511E-08	2.211E-08	1.914E-08	1.662E-08	1.456E-08	1.288E-08
E	3.174E-16	2.413E-10	4.182E-09	8.827E-09	1.255E-08	1.207E-08	1.061E-08	9.147E-09	7.905E-09	6.890E-09	6.070E-09
ESE	4.313E-11	2.897E-09	1.588E-08	2.728E-08	3.363E-08	3.057E-08	2.609E-08	2.210E-08	1.886E-08	1.628E-08	1.423E-08
SE	2.157E-11	3.552E-09	3.808E-08	6.854E-08	8.145E-08	7.098E-08	5.851E-08	4.816E-08	4.011E-08	3.391E-08	2.907E-08
SSE	8.380E-11	7.444E-09	5.007E-08	8.628E-08	1.014E-07	8.807E-08	7.235E-08	5.936E-08	4.931E-08	4.159E-08	3.561E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	4.166E-08	2.510E-08	1.600E-08	8.928E-09	6.042E-09	4.451E-09	3.426E-09	2.749E-09	2.283E-09	1.936E-09	1.667E-09
SSW	3.140E-08	2.086E-08	1.331E-08	7.450E-09	5.144E-09	3.792E-09	2.926E-09	2.352E-09	1.949E-09	1.651E-09	1.425E-09
SW	1.651E-08	9.817E-09	6.238E-09	3.462E-09	2.306E-09	1.678E-09	1.294E-09	1.035E-09	8.532E-10	7.198E-10	6.184E-10
WSW	2.362E-08	1.285E-08	8.287E-09	4.607E-09	3.008E-09	2.164E-09	1.655E-09	1.320E-09	1.086E-09	9.146E-10	7.844E-10
W	2.330E-08	1.220E-08	8.336E-09	5.161E-09	3.727E-09	2.740E-09	2.122E-09	1.711E-09	1.422E-09	1.208E-09	1.044E-09
WNW	3.597E-08	1.897E-08	1.238E-08	7.111E-09	4.744E-09	3.469E-09	2.692E-09	2.169E-09	1.797E-09	1.522E-09	1.312E-09
NW	3.325E-08	1.708E-08	1.097E-08	6.136E-09	4.028E-09	2.911E-09	2.241E-09	1.793E-09	1.479E-09	1.248E-09	1.072E-09
NNW	3.404E-08	1.821E-08	1.166E-08	6.572E-09	4.396E-09	3.224E-09	2.517E-09	2.042E-09	1.712E-09	1.459E-09	1.263E-09
N	1.676E-08	1.064E-08	8.792E-09	6.849E-09	5.466E-09	4.339E-09	3.391E-09	2.748E-09	2.290E-09	1.951E-09	1.691E-09
NNE	2.002E-08	3.151E-08	2.056E-08	1.190E-08	8.113E-09	6.039E-09	4.751E-09	3.883E-09	3.262E-09	2.799E-09	2.442E-09
NE	1.836E-08	3.392E-08	2.226E-08	1.299E-08	8.894E-09	6.646E-09	5.314E-09	4.391E-09	3.727E-09	3.201E-09	2.794E-09
ENE	1.426E-08	2.460E-08	1.640E-08	9.739E-09	6.735E-09	5.064E-09	4.217E-09	3.569E-09	3.003E-09	2.579E-09	2.252E-09
E	6.582E-09	1.395E-08	9.469E-09	5.754E-09	4.041E-09	3.073E-09	2.458E-09	2.036E-09	1.828E-09	1.645E-09	1.442E-09
ESE	1.476E-08	1.751E-08	1.161E-08	6.825E-09	4.685E-09	3.501E-09	2.616E-09	2.260E-09	1.901E-09	1.632E-09	1.424E-09
SE	2.526E-08	1.486E-08	1.086E-08	7.049E-09	4.881E-09	3.660E-09	2.888E-09	2.362E-09	1.955E-09	1.655E-09	1.426E-09
SSE	3.589E-08	3.484E-08	2.222E-08	1.246E-08	8.294E-09	6.064E-09	4.702E-09	3.795E-09	3.155E-09	2.682E-09	2.320E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE										
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	
S	4.540E-08	7.945E-08	6.215E-08	4.682E-08	4.517E-08	2.474E-08	9.217E-09	4.465E-09	2.765E-09	1.939E-09	
SSW	3.463E-08	6.229E-08	5.339E-08	4.667E-08	3.564E-08	1.985E-08	7.727E-09	3.806E-09	2.362E-09	1.656E-09	
SW	3.824E-08	8.070E-08	4.948E-08	2.857E-08	1.913E-08	9.714E-09	3.565E-09	1.692E-09	1.040E-09	7.218E-10	
WSW	7.699E-08	1.485E-07	8.124E-08	4.392E-08	2.817E-08	1.322E-08	4.714E-09	2.186E-09	1.327E-09	9.172E-10	
W	2.003E-07	1.771E-07	8.147E-08	4.392E-08	2.810E-08	1.295E-08	5.229E-09	2.756E-09	1.718E-09	1.211E-09	
WNW	1.686E-07	2.382E-07	1.219E-07	6.788E-08	4.342E-08	1.982E-08	7.230E-09	3.498E-09	2.176E-09	1.526E-09	
NW	1.156E-07	2.320E-07	1.217E-07	6.437E-08	4.039E-08	1.796E-08	6.273E-09	2.941E-09	1.801E-09	1.251E-09	
NNW	5.019E-08	9.945E-08	8.804E-08	6.225E-08	4.098E-08	1.882E-08	6.736E-09	3.254E-09	2.052E-09	1.461E-09	
N	1.877E-08	3.742E-08	3.349E-08	2.490E-08	1.891E-08	1.118E-08	6.666E-09	4.260E-09	2.757E-09	1.955E-09	
NNE	2.807E-08	4.125E-08	3.380E-08	2.459E-08	1.988E-08	2.409E-08	1.214E-08	6.077E-09	3.895E-09	2.804E-09	
NE	1.448E-08	2.936E-08	2.660E-08	2.046E-08	1.749E-08	2.528E-08	1.323E-08	6.713E-09	4.402E-09	3.206E-09	
ENE	1.129E-08	2.399E-08	2.172E-08	1.655E-08	1.389E-08	1.866E-08	9.885E-09	5.171E-09	3.538E-09	2.584E-09	
E	5.370E-09	1.151E-08	1.041E-08	7.873E-09	6.503E-09	1.032E-08	5.818E-09	3.085E-09	2.077E-09	1.624E-09	
ESE	1.806E-08	3.086E-08	2.569E-08	1.880E-08	1.503E-08	1.427E-08	6.936E-09	3.521E-09	2.266E-09	1.635E-09	
SE	4.395E-08	7.393E-08	5.770E-08	4.005E-08	2.909E-08	1.539E-08	6.933E-09	3.677E-09	2.357E-09	1.659E-09	
SSE	5.669E-08	9.212E-08	7.134E-08	4.924E-08	3.748E-08	2.946E-08	1.278E-08	6.114E-09	3.810E-09	2.688E-09	

B283

ERP ELEVATED STACK RELEASES - JAN-MAR 2011  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.998E-15	2.456E-09	3.816E-08	7.219E-08	8.771E-08	7.650E-08	6.282E-08	5.147E-08	4.268E-08	4.632E-08	4.746E-08
SSW	1.885E-15	1.764E-09	2.866E-08	5.544E-08	6.877E-08	6.048E-08	4.987E-08	5.101E-08	4.863E-08	4.096E-08	3.508E-08
SW	5.134E-16	6.427E-10	2.540E-08	6.654E-08	1.047E-07	6.918E-08	4.877E-08	3.628E-08	2.816E-08	2.258E-08	1.859E-08
WSW	9.858E-16	1.061E-09	5.021E-08	1.348E-07	1.962E-07	1.185E-07	7.930E-08	5.700E-08	4.316E-08	3.398E-08	2.757E-08
W	2.806E-10	5.780E-08	2.223E-07	2.546E-07	2.010E-07	1.195E-07	7.945E-08	5.702E-08	4.320E-08	3.408E-08	2.772E-08
WNW	7.909E-11	1.204E-08	1.454E-07	2.637E-07	3.002E-07	1.776E-07	1.178E-07	8.713E-08	6.750E-08	5.286E-08	4.275E-08
NW	2.955E-11	2.824E-09	7.083E-08	2.051E-07	3.160E-07	1.811E-07	1.176E-07	8.407E-08	6.343E-08	4.937E-08	3.971E-08
NNW	4.013E-11	8.792E-09	4.274E-08	7.623E-08	1.095E-07	1.029E-07	8.988E-08	7.567E-08	6.382E-08	4.982E-08	4.021E-08
N	1.131E-15	9.573E-10	1.531E-08	3.021E-08	4.021E-08	3.875E-08	3.422E-08	2.908E-08	2.486E-08	2.149E-08	1.879E-08
NNE	2.245E-09	1.168E-08	2.596E-08	3.776E-08	4.458E-08	4.023E-08	3.417E-08	2.881E-08	2.449E-08	2.107E-08	1.836E-08
NE	9.667E-16	7.565E-10	1.181E-08	2.331E-08	3.173E-08	3.047E-08	2.698E-08	2.347E-08	2.045E-08	1.795E-08	1.591E-08
ENE	4.559E-16	4.868E-10	8.799E-09	1.851E-08	2.606E-08	2.501E-08	2.200E-08	1.903E-08	1.651E-08	1.444E-08	1.277E-08
E	3.174E-16	2.411E-10	4.176E-09	8.808E-09	1.251E-08	1.202E-08	1.055E-08	9.082E-09	7.840E-09	6.826E-09	6.008E-09
ESE	4.313E-11	2.896E-09	1.587E-08	2.724E-08	3.356E-08	3.049E-08	2.600E-08	2.201E-08	1.877E-08	1.619E-08	1.414E-08
SE	2.157E-11	3.551E-09	3.805E-08	6.848E-08	8.133E-08	7.084E-08	5.837E-08	4.801E-08	3.997E-08	3.377E-08	2.894E-08
SSE	8.378E-11	7.441E-09	5.003E-08	8.618E-08	1.012E-07	8.784E-08	7.211E-08	5.912E-08	4.908E-08	4.136E-08	3.539E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	4.134E-08	2.480E-08	1.574E-08	8.715E-09	5.849E-09	4.274E-09	3.264E-09	2.597E-09	2.139E-09	1.800E-09	1.538E-09
SSW	3.112E-08	2.058E-08	1.307E-08	7.252E-09	4.962E-09	3.625E-09	2.772E-09	2.209E-09	1.814E-09	1.523E-09	1.303E-09
SW	1.633E-08	9.650E-09	6.096E-09	3.345E-09	2.202E-09	1.584E-09	1.207E-09	9.546E-10	7.779E-10	6.488E-10	5.511E-10
WSW	2.338E-08	1.266E-08	8.117E-09	4.466E-09	2.886E-09	2.055E-09	1.556E-09	1.229E-09	1.001E-09	8.342E-10	7.084E-10
W	2.311E-08	1.205E-08	8.181E-09	4.998E-09	3.554E-09	2.579E-09	1.972E-09	1.570E-09	1.288E-09	1.080E-09	9.220E-10
WNW	3.570E-08	1.876E-08	1.220E-08	6.954E-09	4.605E-09	3.342E-09	2.574E-09	2.059E-09	1.693E-09	1.423E-09	1.218E-09
NW	3.295E-08	1.685E-08	1.078E-08	5.977E-09	3.890E-09	2.788E-09	2.128E-09	1.690E-09	1.382E-09	1.157E-09	9.860E-10
NNW	3.374E-08	1.798E-08	1.146E-08	6.404E-09	4.246E-09	3.087E-09	2.389E-09	1.922E-09	1.597E-09	1.350E-09	1.158E-09
N	1.664E-08	1.053E-08	8.676E-09	6.713E-09	5.320E-09	4.194E-09	3.256E-09	2.621E-09	2.170E-09	1.836E-09	1.581E-09
NNE	1.982E-08	3.102E-08	2.014E-08	1.154E-08	7.781E-09	5.732E-09	4.463E-09	3.610E-09	3.002E-09	2.550E-09	2.202E-09
NE	1.822E-08	3.345E-08	2.184E-08	1.262E-08	8.561E-09	6.335E-09	5.016E-09	4.104E-09	3.448E-09	2.933E-09	2.536E-09
ENE	1.413E-08	2.432E-08	1.615E-08	9.519E-09	6.534E-09	4.877E-09	4.031E-09	3.386E-09	2.827E-09	2.411E-09	2.090E-09
E	6.511E-09	1.372E-08	9.264E-09	5.567E-09	3.866E-09	2.907E-09	2.300E-09	1.884E-09	1.671E-09	1.486E-09	1.288E-09
ESE	1.465E-08	1.733E-08	1.145E-08	6.687E-09	4.559E-09	3.385E-09	2.652E-09	2.156E-09	1.801E-09	1.536E-09	1.332E-09
SE	2.513E-08	1.474E-08	1.075E-08	6.931E-09	4.772E-09	3.557E-09	2.791E-09	2.269E-09	1.868E-09	1.572E-09	1.347E-09
SSE	3.564E-08	3.439E-08	2.183E-08	1.213E-08	8.001E-09	5.795E-09	4.451E-09	3.560E-09	2.931E-09	2.468E-09	2.115E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	4.535E-08	7.928E-08	6.193E-08	4.658E-08	4.485E-08	2.445E-08	9.003E-09	4.290E-09	2.613E-09	1.803E-09
SSW	3.459E-08	6.213E-08	5.316E-08	4.639E-08	3.536E-08	1.959E-08	7.528E-09	3.640E-09	2.219E-09	1.528E-09
SW	3.818E-08	8.044E-08	4.922E-08	2.836E-08	1.894E-08	9.554E-09	3.448E-09	1.598E-09	9.595E-10	6.509E-10
WSW	7.687E-08	1.480E-07	8.085E-08	4.362E-08	2.792E-08	1.302E-08	4.575E-09	2.077E-09	1.235E-09	8.370E-10
W	2.001E-07	1.767E-07	8.115E-08	4.368E-08	2.790E-08	1.279E-08	5.064E-09	2.596E-09	1.577E-09	1.083E-09
WNW	1.683E-07	2.376E-07	1.215E-07	6.753E-08	4.314E-08	1.961E-08	7.076E-09	3.372E-09	2.066E-09	1.427E-09
NW	1.154E-07	2.314E-07	1.211E-07	6.397E-08	4.007E-08	1.773E-08	6.116E-09	2.818E-09	1.698E-09	1.160E-09
NNW	5.008E-08	9.915E-08	8.765E-08	6.187E-08	4.066E-08	1.858E-08	6.568E-09	3.117E-09	1.932E-09	1.352E-09
N	1.874E-08	3.734E-08	3.337E-08	2.478E-08	1.879E-08	1.107E-08	6.530E-09	4.119E-09	2.631E-09	1.841E-09
NNE	2.803E-08	4.113E-08	3.364E-08	2.442E-08	1.971E-08	2.370E-08	1.178E-08	5.771E-09	3.622E-09	2.555E-09
NE	1.446E-08	2.930E-08	2.650E-08	2.036E-08	1.737E-08	2.491E-08	1.287E-08	6.401E-09	4.115E-09	2.938E-09
ENE	1.127E-08	2.392E-08	2.162E-08	1.644E-08	1.377E-08	1.843E-08	9.667E-09	4.981E-09	3.357E-09	2.416E-09
E	5.360E-09	1.147E-08	1.035E-08	7.809E-09	6.436E-09	1.014E-08	5.633E-09	2.920E-09	1.922E-09	1.468E-09
ESE	1.804E-08	3.079E-08	2.560E-08	1.871E-08	1.494E-08	1.412E-08	6.799E-09	3.405E-09	2.162E-09	1.539E-09
SE	4.391E-08	7.381E-08	5.755E-08	3.990E-08	2.896E-08	1.527E-08	6.819E-09	3.575E-09	2.265E-09	1.576E-09
SSE	5.663E-08	9.194E-08	7.111E-08	4.901E-08	3.725E-08	2.909E-08	1.245E-08	5.846E-09	3.575E-09	2.475E-09

B284

ERP ELEVATED STACK RELEASES - JAN-MAR 2011  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.999E-15	2.457E-09	3.819E-08	7.226E-08	8.704E-08	7.524E-08	6.127E-08	4.980E-08	4.100E-08	4.432E-08	4.533E-08
SSW	1.885E-15	1.765E-09	2.869E-08	5.550E-08	6.826E-08	5.950E-08	4.864E-08	4.941E-08	4.682E-08	3.918E-08	3.336E-08
SW	5.136E-16	6.430E-10	2.542E-08	6.662E-08	1.037E-07	6.790E-08	4.751E-08	3.513E-08	2.711E-08	2.164E-08	1.775E-08
WSW	9.860E-16	1.062E-09	5.025E-08	1.347E-07	1.937E-07	1.158E-07	7.681E-08	5.480E-08	4.122E-08	3.226E-08	2.604E-08
W	2.807E-10	5.758E-08	2.208E-07	2.511E-07	1.961E-07	1.155E-07	7.618E-08	5.431E-08	4.091E-08	3.211E-08	2.601E-08
WNW	7.910E-11	1.202E-08	1.453E-07	2.616E-07	2.950E-07	1.728E-07	1.137E-07	8.362E-08	6.448E-08	5.019E-08	4.035E-08
NW	2.955E-11	2.810E-09	7.082E-08	2.045E-07	3.120E-07	1.770E-07	1.140E-07	8.092E-08	6.069E-08	4.695E-08	3.753E-08
NNW	4.016E-11	8.732E-09	4.236E-08	7.582E-08	1.085E-07	1.013E-07	8.822E-08	7.409E-08	6.237E-08	4.847E-08	3.892E-08
N	1.131E-15	9.576E-10	1.532E-08	3.024E-08	3.995E-08	3.824E-08	3.358E-08	2.839E-08	2.417E-08	2.082E-08	1.814E-08
NNE	2.245E-09	1.158E-08	2.572E-08	3.757E-08	4.416E-08	3.958E-08	3.341E-08	2.802E-08	2.370E-08	2.030E-08	1.763E-08
NE	9.668E-16	7.568E-10	1.182E-08	2.333E-08	3.153E-08	3.009E-08	2.651E-08	2.297E-08	1.995E-08	1.747E-08	1.545E-08
ENE	4.560E-16	4.870E-10	8.808E-09	1.853E-08	2.591E-08	2.469E-08	2.160E-08	1.859E-08	1.606E-08	1.400E-08	1.234E-08
E	3.174E-16	2.412E-10	4.180E-09	8.821E-09	1.244E-08	1.186E-08	1.035E-08	8.863E-09	7.615E-09	6.604E-09	5.791E-09
ESE	4.313E-11	2.878E-09	1.581E-08	2.720E-08	3.329E-08	3.004E-08	2.546E-08	2.143E-08	1.819E-08	1.563E-08	1.361E-08
SE	2.157E-11	3.542E-09	3.804E-08	6.849E-08	8.067E-08	6.968E-08	5.696E-08	4.652E-08	3.848E-08	3.231E-08	2.754E-08
SSE	8.379E-11	7.403E-09	4.990E-08	8.610E-08	1.004E-07	8.635E-08	7.031E-08	5.721E-08	4.716E-08	3.949E-08	3.359E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	3.931E-08	2.311E-08	1.427E-08	7.510E-09	4.786E-09	3.352E-09	2.476E-09	1.913E-09	1.537E-09	1.266E-09	1.061E-09
SSW	2.948E-08	1.918E-08	1.186E-08	6.258E-09	4.078E-09	2.886E-09	2.148E-09	1.671E-09	1.343E-09	1.106E-09	9.296E-10
SW	1.554E-08	9.029E-09	5.551E-09	2.894E-09	1.806E-09	1.244E-09	9.214E-10	7.115E-10	5.680E-10	4.650E-10	3.884E-10
WSW	2.199E-08	1.160E-08	7.243E-09	3.805E-09	2.369E-09	1.637E-09	1.207E-09	9.319E-10	7.436E-10	6.087E-10	5.084E-10
W	2.159E-08	1.108E-08	7.428E-09	4.366E-09	2.986E-09	2.109E-09	1.575E-09	1.230E-09	9.910E-10	8.185E-10	6.892E-10
WNW	3.350E-08	1.709E-08	1.080E-08	5.821E-09	3.627E-09	2.523E-09	1.884E-09	1.467E-09	1.177E-09	9.682E-10	8.121E-10
NW	3.095E-08	1.535E-08	9.538E-09	5.034E-09	3.148E-09	2.182E-09	1.620E-09	1.256E-09	1.004E-09	8.239E-10	6.894E-10
NNW	3.249E-08	1.683E-08	1.041E-08	5.476E-09	3.390E-09	2.329E-09	1.722E-09	1.338E-09	1.082E-09	8.941E-10	7.511E-10
N	1.603E-08	1.005E-08	8.284E-09	6.447E-09	5.020E-09	3.802E-09	2.883E-09	2.273E-09	1.848E-09	1.538E-09	1.305E-09
NNE	1.905E-08	3.020E-08	1.903E-08	1.033E-08	6.583E-09	4.631E-09	3.467E-09	2.710E-09	2.186E-09	1.806E-09	1.521E-09
NE	1.774E-08	3.285E-08	2.080E-08	1.140E-08	7.347E-09	5.216E-09	3.999E-09	3.197E-09	2.633E-09	2.199E-09	1.870E-09
ENE	1.368E-08	2.381E-08	1.535E-08	8.486E-09	5.404E-09	3.791E-09	2.969E-09	2.405E-09	1.960E-09	1.635E-09	1.389E-09
E	6.284E-09	1.350E-08	8.860E-09	5.008E-09	3.232E-09	2.289E-09	1.719E-09	1.346E-09	1.146E-09	9.853E-10	8.323E-10
ESE	1.411E-08	1.680E-08	1.078E-08	5.929E-09	3.770E-09	2.640E-09	1.967E-09	1.529E-09	1.227E-09	1.009E-09	8.453E-10
SE	2.379E-08	1.369E-08	9.873E-09	6.286E-09	4.284E-09	3.172E-09	2.478E-09	2.000E-09	1.613E-09	1.333E-09	1.123E-09
SSE	3.374E-08	3.251E-08	2.002E-08	1.056E-08	6.640E-09	4.624E-09	3.433E-09	2.665E-09	2.138E-09	1.757E-09	1.473E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	4.539E-08	7.851E-08	6.040E-08	4.478E-08	4.280E-08	2.278E-08	7.802E-09	3.384E-09	1.931E-09	1.270E-09
SSW	3.462E-08	6.153E-08	5.184E-08	4.465E-08	3.365E-08	1.821E-08	6.534E-09	2.908E-09	1.682E-09	1.111E-09
SW	3.823E-08	7.955E-08	4.799E-08	2.732E-08	1.808E-08	8.930E-09	3.001E-09	1.265E-09	7.168E-10	4.671E-10
WSW	7.687E-08	1.460E-07	7.841E-08	4.169E-08	2.638E-08	1.197E-08	3.931E-09	1.660E-09	9.388E-10	6.115E-10
W	1.980E-07	1.725E-07	7.791E-08	4.139E-08	2.618E-08	1.179E-08	4.433E-09	2.129E-09	1.237E-09	8.217E-10
WNW	1.674E-07	2.333E-07	1.174E-07	6.451E-08	4.073E-08	1.794E-08	5.953E-09	2.562E-09	1.476E-09	9.723E-10
NW	1.151E-07	2.281E-07	1.175E-07	6.123E-08	3.788E-08	1.623E-08	5.197E-09	2.215E-09	1.264E-09	8.276E-10
NNW	4.976E-08	9.803E-08	8.606E-08	6.042E-08	3.937E-08	1.746E-08	5.646E-09	2.369E-09	1.350E-09	8.969E-10
N	1.876E-08	3.703E-08	3.274E-08	2.410E-08	1.815E-08	1.060E-08	6.221E-09	3.759E-09	2.285E-09	1.543E-09
NNE	2.784E-08	4.066E-08	3.290E-08	2.364E-08	1.895E-08	2.276E-08	1.060E-08	4.686E-09	2.727E-09	1.813E-09
NE	1.448E-08	2.907E-08	2.605E-08	1.987E-08	1.690E-08	2.414E-08	1.169E-08	5.297E-09	3.211E-09	2.206E-09
ENE	1.128E-08	2.373E-08	2.122E-08	1.600E-08	1.333E-08	1.780E-08	8.640E-09	3.892E-09	2.397E-09	1.640E-09
E	5.368E-09	1.138E-08	1.016E-08	7.586E-09	6.214E-09	9.836E-09	5.075E-09	2.313E-09	1.377E-09	9.764E-10
ESE	1.800E-08	3.049E-08	2.507E-08	1.814E-08	1.439E-08	1.353E-08	6.048E-09	2.672E-09	1.539E-09	1.013E-09
SE	4.391E-08	7.308E-08	5.618E-08	3.843E-08	2.757E-08	1.424E-08	6.193E-09	3.191E-09	1.989E-09	1.338E-09
SSE	5.655E-08	9.097E-08	6.935E-08	4.711E-08	3.540E-08	2.723E-08	1.092E-08	4.685E-09	2.684E-09	1.765E-09

B285

ERP ELEVATED STACK RELEASES - JAN-MAR 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) AT FIXED POINTS BY DOWNWIND SECTORS *****												
DIRECTIONS FROM SITE												
DISTANCES IN MILES												
	.25	.50	.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	
S	2.209E-10	1.326E-09	2.822E-09	2.924E-09	1.826E-09	1.224E-09	8.649E-10	6.353E-10	4.812E-10	3.980E-10	3.612E-10	
SSW	1.540E-10	9.239E-10	1.967E-09	2.038E-09	1.273E-09	8.534E-10	6.028E-10	4.428E-10	4.226E-10	3.195E-10	2.500E-10	
SW	5.222E-11	3.133E-10	6.671E-10	6.910E-10	8.474E-10	4.624E-10	2.867E-10	1.947E-10	1.407E-10	1.064E-10	8.324E-11	
WSW	8.838E-11	5.302E-10	1.129E-09	2.676E-09	1.447E-09	7.874E-10	4.871E-10	3.303E-10	2.384E-10	1.802E-10	1.410E-10	
W	3.494E-10	5.148E-09	4.866E-09	3.147E-09	1.516E-09	8.162E-10	5.021E-10	3.391E-10	2.442E-10	1.842E-10	1.440E-10	
WNW	3.709E-10	8.527E-10	5.108E-09	3.905E-09	2.415E-09	1.218E-09	7.224E-10	4.780E-10	3.519E-10	2.666E-10	2.129E-10	
NW	3.668E-10	8.286E-10	1.489E-09	3.671E-09	2.461E-09	1.226E-09	7.227E-10	4.759E-10	3.402E-10	2.590E-10	2.079E-10	
NNW	5.824E-10	7.494E-10	1.045E-09	9.561E-10	1.083E-09	5.876E-10	3.636E-10	3.033E-10	2.227E-10	1.754E-10	1.464E-10	
N	8.570E-11	5.141E-10	1.095E-09	1.134E-09	7.083E-10	4.749E-10	3.355E-10	2.464E-10	1.866E-10	1.449E-10	1.147E-10	
NNE	1.628E-09	1.533E-09	1.613E-09	1.291E-09	7.035E-10	4.509E-10	3.117E-10	2.265E-10	1.706E-10	1.321E-10	1.046E-10	
NE	6.963E-11	4.177E-10	8.895E-10	9.214E-10	5.755E-10	3.859E-10	2.726E-10	2.002E-10	1.516E-10	1.177E-10	9.321E-11	
ENE	4.419E-11	2.651E-10	5.645E-10	5.847E-10	3.652E-10	2.449E-10	1.730E-10	1.271E-10	9.624E-11	7.469E-11	5.915E-11	
E	2.544E-11	1.526E-10	3.250E-10	3.366E-10	2.103E-10	1.410E-10	9.959E-11	7.316E-11	5.541E-11	4.301E-11	3.406E-11	
ESE	5.957E-10	8.297E-10	1.216E-09	1.133E-09	6.735E-10	4.446E-10	3.118E-10	2.282E-10	1.726E-10	1.338E-10	1.060E-10	
SE	5.021E-10	1.640E-09	3.217E-09	3.269E-09	2.024E-09	1.354E-09	9.553E-10	7.013E-10	5.310E-10	4.121E-10	3.263E-10	
SSE	1.056E-09	2.221E-09	3.902E-09	3.853E-09	2.355E-09	1.569E-09	1.105E-09	8.102E-10	6.132E-10	4.758E-10	3.768E-10	
DIRECTIONS FROM SITE												
DISTANCES IN MILES												
	5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00	
S	2.903E-10	1.611E-10	1.020E-10	5.492E-11	3.396E-11	2.910E-11	2.083E-11	1.563E-11	1.231E-11	9.821E-12	8.017E-12	
SSW	2.019E-10	1.101E-10	6.929E-11	3.707E-11	2.848E-11	1.974E-11	1.415E-11	1.062E-11	8.335E-12	6.658E-12	5.435E-12	
SW	6.723E-11	4.079E-11	2.661E-11	1.475E-11	9.194E-12	7.330E-12	5.335E-12	4.006E-12	3.115E-12	2.488E-12	2.031E-12	
WSW	1.142E-10	6.452E-11	4.124E-11	2.799E-11	1.694E-11	1.136E-11	8.219E-12	6.172E-12	4.799E-12	3.833E-12	3.129E-12	
W	1.158E-10	5.218E-11	4.649E-11	2.647E-11	1.926E-11	1.297E-11	9.291E-12	6.977E-12	5.424E-12	4.333E-12	3.537E-12	
WNW	1.787E-10	9.804E-11	6.665E-11	3.839E-11	2.513E-11	1.716E-11	1.274E-11	9.565E-12	7.437E-12	5.941E-12	4.849E-12	
NW	1.752E-10	9.756E-11	6.683E-11	4.163E-11	2.522E-11	1.691E-11	1.254E-11	9.418E-12	7.420E-12	5.927E-12	4.838E-12	
NNW	1.284E-10	8.147E-11	5.953E-11	3.641E-11	2.326E-11	1.543E-11	9.796E-12	7.653E-12	6.156E-12	4.921E-12	4.019E-12	
N	9.239E-11	4.375E-11	2.666E-11	1.400E-11	4.062E-11	2.415E-11	1.731E-11	1.300E-11	1.011E-11	8.073E-12	6.590E-12	
NNE	8.438E-11	1.139E-10	7.293E-11	3.931E-11	2.426E-11	1.619E-11	1.151E-11	8.568E-12	6.614E-12	5.253E-12	4.267E-12	
NE	7.507E-11	1.681E-10	1.046E-10	5.460E-11	3.336E-11	2.231E-11	1.555E-11	1.162E-11	9.033E-12	7.236E-12	5.906E-12	
ENE	4.764E-11	9.855E-11	7.733E-11	4.978E-11	3.211E-11	2.119E-11	1.478E-11	8.961E-12	6.974E-12	5.577E-12	4.558E-12	
E	2.743E-11	4.796E-11	3.698E-11	2.352E-11	1.513E-11	9.994E-12	6.980E-12	5.084E-12	3.853E-12	2.796E-12	2.276E-12	
ESE	8.539E-11	1.045E-10	7.677E-11	4.716E-11	3.014E-11	1.998E-11	1.403E-11	1.029E-11	7.845E-12	6.166E-12	4.964E-12	
SE	2.629E-10	1.245E-10	7.587E-11	3.987E-11	2.422E-11	1.654E-11	1.222E-11	1.862E-11	1.435E-11	1.139E-11	9.260E-12	
SSE	3.035E-10	2.909E-10	1.781E-10	9.115E-11	5.539E-11	3.710E-11	2.654E-11	1.990E-11	1.545E-11	1.233E-11	1.005E-11	

B286

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) BY DOWNWIND SECTORS *****												
SEGMENT BOUNDARIES IN MILES												
DIRECTION FROM SITE	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50		
S	2.535E-09	1.803E-09	8.689E-10	4.936E-10	3.458E-10	1.636E-10	5.607E-11	2.709E-11	1.585E-11	9.892E-12		
SSW	1.767E-09	1.256E-09	6.056E-10	3.891E-10	2.528E-10	1.124E-10	4.041E-11	1.983E-11	1.076E-11	6.702E-12		
SW	5.991E-10	6.415E-10	2.967E-10	1.430E-10	8.417E-11	4.037E-11	1.492E-11	7.029E-12	4.046E-12	2.505E-12		
WSW	1.683E-09	1.427E-09	5.044E-10	2.425E-10	1.427E-10	6.523E-11	2.603E-11	1.159E-11	6.234E-12	3.859E-12		
W	4.165E-09	1.567E-09	5.207E-10	2.484E-10	1.455E-10	6.380E-11	2.771E-11	1.317E-11	7.047E-12	4.362E-12		
WNW	3.628E-09	2.214E-09	7.567E-10	3.555E-10	2.162E-10	1.020E-10	3.878E-11	1.752E-11	9.621E-12	5.980E-12		
NW	2.312E-09	2.181E-09	7.583E-10	3.480E-10	2.109E-10	1.012E-10	3.994E-11	1.738E-11	9.548E-12	5.966E-12		
NNW	9.398E-10	8.346E-10	3.992E-10	2.277E-10	1.483E-10	8.215E-11	3.570E-11	1.526E-11	7.695E-12	4.953E-12		
N	9.832E-10	6.992E-10	3.370E-10	1.878E-10	1.154E-10	4.696E-11	2.865E-11	2.581E-11	1.313E-11	8.126E-12		
NNE	1.452E-09	7.218E-10	3.147E-10	1.719E-10	1.053E-10	8.913E-11	4.009E-11	1.647E-11	8.664E-12	5.291E-12		
NE	7.988E-10	5.681E-10	2.738E-10	1.526E-10	9.375E-11	1.192E-10	5.628E-11	2.256E-11	1.176E-11	7.276E-12		
ENE	5.069E-10	3.605E-10	1.738E-10	9.684E-11	5.949E-11	7.780E-11	4.805E-11	2.154E-11	9.867E-12	5.614E-12		
E	2.919E-10	2.076E-10	1.001E-10	5.576E-11	3.425E-11	3.852E-11	2.278E-11	1.016E-11	5.157E-12	2.917E-12		
ESE	1.093E-09	6.740E-10	3.138E-10	1.737E-10	1.066E-10	8.793E-11	4.618E-11	2.031E-11	1.043E-11	6.218E-12		
SE	2.889E-09	2.003E-09	9.600E-10	5.344E-10	3.282E-10	1.336E-10	4.092E-11	1.866E-11	1.517E-11	1.148E-11		
SSE	3.507E-09	2.338E-09	1.111E-09	6.171E-10	3.790E-10	2.436E-10	9.457E-11	3.775E-11	2.010E-11	1.241E-11		

ERP ELEVATED STACK RELEASES - JAN-MAR 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS  
SPECIFIC POINTS OF INTEREST

RELEASE TYPE OF	DIRECTION	DIST.	X/Q NO DECAY UNDEPLETED	X/Q 2.26 DAY DECAY UNDEPLETED	X/Q 8.0 DAY DECAY DEPLETED	D/Q	
A	Site Boundary	S	.80	4.7E-08	4.7E-08	4.7E-08	3.0E-09
A	Site Boundary	SSW	.82	3.8E-08	3.8E-08	3.8E-08	2.1E-09
A	Site Boundary	SW	.97	6.3E-08	6.3E-08	6.3E-08	7.1E-10
A	Site Boundary	WSW	.93	1.1E-07	1.1E-07	1.1E-07	2.2E-09
A	Site Boundary	W	.91	2.5E-07	2.5E-07	2.5E-07	3.6E-09
A	Site Boundary	WNW	.94	2.4E-07	2.4E-07	2.4E-07	4.3E-09
A	Site Boundary	NW	.81	1.0E-07	1.0E-07	1.0E-07	1.5E-09
A	Site Boundary	NNW	.69	3.2E-08	3.1E-08	3.1E-08	9.6E-10
A	Site Boundary	N	.67	9.2E-09	9.2E-09	9.2E-09	9.2E-10
A	Site Boundary	NNE	.60	1.6E-08	1.6E-08	1.5E-08	1.5E-09
A	Site Boundary	NE	.62	4.6E-09	4.6E-09	4.6E-09	6.5E-10
A	Site Boundary	ENE	.59	2.1E-09	2.1E-09	2.1E-09	3.7E-10
A	Site Boundary	E	.53	3.9E-10	3.9E-10	3.9E-10	1.7E-10
A	Site Boundary	ESE	.54	3.9E-09	3.9E-09	3.9E-09	8.8E-10
A	Site Boundary	SE	.65	2.0E-08	2.0E-08	2.0E-08	2.6E-09
A	Site Boundary	SSE	.81	6.1E-08	6.1E-08	6.1E-08	4.0E-09
A	Nearest Res	SSW	2.10	5.9E-08	5.8E-08	5.7E-08	7.9E-10
A	Nearest Res	SW	1.30	9.8E-08	9.8E-08	9.7E-08	1.1E-09
A	Nearest Res	WSW	1.90	1.3E-07	1.3E-07	1.3E-07	8.8E-10
A	Nearest Res	W	1.00	2.5E-07	2.5E-07	2.5E-07	3.1E-09
A	Nearest Res	WNW	1.70	2.4E-07	2.4E-07	2.3E-07	1.8E-09
A	Nearest Res	NW	.90	1.5E-07	1.5E-07	1.5E-07	3.9E-09
A	Nearest Res	NNW	1.90	1.1E-07	1.1E-07	1.0E-07	6.6E-10
A	Nearest Res	N	2.50	3.4E-08	3.4E-08	3.4E-08	3.4E-10
A	Nearest Res	NE	2.80	2.5E-08	2.5E-08	2.4E-08	2.3E-10
A	Nearest Res	ENE	1.70	2.6E-08	2.6E-08	2.6E-08	3.1E-10
A	Nearest Res	E	1.90	1.2E-08	1.2E-08	1.2E-08	1.5E-10
A	Nearest Res	ESE	2.30	2.8E-08	2.8E-08	2.7E-08	3.6E-10
A	Nearest Cow	NNW	3.50	6.4E-08	6.4E-08	6.2E-08	2.2E-10
A	Nearest Garde	SW	1.30	9.8E-08	9.8E-08	9.7E-08	1.1E-09
A	Nearest Garde	WSW	1.90	1.3E-07	1.3E-07	1.3E-07	8.8E-10
A	Nearest Garde	WNW	2.40	1.3E-07	1.3E-07	1.2E-07	7.9E-10
A	Nearest Garde	NW	2.90	9.0E-08	8.9E-08	8.6E-08	5.1E-10
A	Nearest Garde	NNW	2.80	8.1E-08	8.1E-08	7.9E-08	3.3E-10
A	Nearest Garde	NE	2.80	2.5E-08	2.5E-08	2.4E-08	2.3E-10
A	Nearest Garde	ENE	1.70	2.6E-08	2.6E-08	2.6E-08	3.1E-10
A	Nearest Garde	E	1.90	1.2E-08	1.2E-08	1.2E-08	1.5E-10
A	Nearest Garde	ESE	3.00	2.2E-08	2.2E-08	2.1E-08	2.3E-10
A	MAXIMUM CHI/Q	S	1.50	8.8E-08	8.8E-08	8.7E-08	1.8E-09
A	MAXIMUM CHI/Q	SSW	1.50	6.9E-08	6.9E-08	6.8E-08	1.3E-09
A	MAXIMUM CHI/Q	SW	1.50	1.1E-07	1.0E-07	1.0E-07	8.5E-10
A	MAXIMUM CHI/Q	WSW	1.50	2.0E-07	2.0E-07	1.9E-07	1.4E-09
A	MAXIMUM CHI/Q	W	1.00	2.5E-07	2.5E-07	2.5E-07	3.1E-09
A	MAXIMUM CHI/Q	WNW	1.50	3.0E-07	3.0E-07	2.9E-07	2.4E-09
A	MAXIMUM CHI/Q	NW	1.50	3.2E-07	3.2E-07	3.1E-07	2.5E-09
A	MAXIMUM CHI/Q	NNW	1.50	1.1E-07	1.1E-07	1.1E-07	1.1E-09
A	MAXIMUM CHI/Q	N	1.50	4.0E-08	4.0E-08	4.0E-08	7.1E-10
A	MAXIMUM CHI/Q	NNE	1.50	4.5E-08	4.5E-08	4.4E-08	7.0E-10
A	MAXIMUM CHI/Q	NE	7.50	3.4E-08	3.3E-08	3.3E-08	1.7E-10
A	MAXIMUM CHI/Q	ENE	1.50	2.6E-08	2.6E-08	2.6E-08	3.7E-10
A	MAXIMUM CHI/Q	E	7.50	1.4E-08	1.4E-08	1.4E-08	4.8E-11
A	MAXIMUM CHI/Q	ESE	1.50	3.4E-08	3.4E-08	3.3E-08	6.7E-10
A	MAXIMUM CHI/Q	SE	1.50	8.1E-08	8.1E-08	8.1E-08	2.0E-09
A	MAXIMUM CHI/Q	SSE	1.50	1.0E-07	1.0E-07	1.0E-07	2.4E-09

B287

**Atmospheric Diffusion Estimates**

**Elevated Releases**

April-June 2011

ERP ELEVATED STACK RELEASES - APR-JUN 2011  
 NO DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.210E-11	5.283E-09	3.382E-08	5.825E-08	6.958E-08	6.122E-08	5.080E-08	4.202E-08	3.516E-08	3.971E-08	4.300E-08	
SSW	3.747E-08	1.651E-08	1.749E-08	2.466E-08	3.012E-08	2.774E-08	2.393E-08	2.711E-08	2.864E-08	2.528E-08	2.257E-08	
SW	1.932E-08	6.810E-09	3.301E-08	7.947E-08	1.255E-07	8.391E-08	5.999E-08	4.524E-08	3.555E-08	2.884E-08	2.399E-08	
WSW	9.426E-08	3.815E-08	5.451E-08	1.117E-07	1.680E-07	1.030E-07	6.976E-08	5.070E-08	3.877E-08	3.080E-08	2.520E-08	
W	3.602E-08	8.786E-08	2.638E-07	2.959E-07	2.399E-07	1.443E-07	9.678E-08	6.990E-08	5.322E-08	4.214E-08	3.439E-08	
WNW	1.204E-07	1.212E-07	3.206E-07	4.411E-07	4.269E-07	2.464E-07	1.609E-07	1.171E-07	8.961E-08	6.980E-08	5.620E-08	
NW	4.001E-09	4.500E-08	1.555E-07	2.904E-07	4.147E-07	2.398E-07	1.574E-07	1.143E-07	8.753E-08	6.874E-08	5.575E-08	
NNW	1.518E-09	1.329E-08	5.221E-08	9.639E-08	1.444E-07	1.394E-07	1.239E-07	1.056E-07	8.972E-08	7.022E-08	5.681E-08	
N	2.376E-08	4.422E-08	6.031E-08	6.507E-08	6.340E-08	5.543E-08	4.673E-08	3.868E-08	3.247E-08	2.769E-08	2.394E-08	
NNE	3.025E-09	2.488E-08	3.835E-08	3.811E-08	3.521E-08	3.040E-08	2.572E-08	2.181E-08	1.868E-08	1.618E-08	1.418E-08	
NE	2.581E-10	1.545E-08	2.590E-08	2.314E-08	1.736E-08	1.314E-08	1.023E-08	8.204E-09	6.752E-09	5.682E-09	4.873E-09	
ENE	1.936E-09	1.242E-08	1.653E-08	1.482E-08	1.267E-08	1.077E-08	9.122E-09	7.786E-09	6.726E-09	5.883E-09	5.209E-09	
E	2.448E-11	1.772E-09	9.950E-09	1.714E-08	2.152E-08	1.989E-08	1.716E-08	1.463E-08	1.254E-08	1.084E-08	9.485E-09	
ESE	2.930E-11	2.366E-09	1.321E-08	2.243E-08	2.803E-08	2.605E-08	2.260E-08	1.936E-08	1.664E-08	1.443E-08	1.265E-08	
SE	1.290E-08	1.691E-08	3.893E-08	5.449E-08	5.864E-08	4.951E-08	4.004E-08	3.249E-08	2.676E-08	2.242E-08	1.907E-08	
SSE	1.986E-09	1.216E-08	3.562E-08	5.466E-08	6.380E-08	5.648E-08	4.720E-08	3.926E-08	3.297E-08	2.805E-08	2.419E-08	

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	3.827E-08	2.555E-08	1.656E-08	9.468E-09	6.617E-09	4.988E-09	3.877E-09	3.137E-09	2.632E-09	2.252E-09	1.950E-09	
SSW	2.097E-08	1.606E-08	1.046E-08	6.021E-09	4.285E-09	3.225E-09	2.514E-09	2.038E-09	1.703E-09	1.452E-09	1.260E-09	
SW	2.163E-08	1.419E-08	9.154E-09	5.192E-09	3.543E-09	2.623E-09	2.049E-09	1.651E-09	1.370E-09	1.163E-09	1.005E-09	
WSW	2.169E-08	1.251E-08	8.327E-09	4.798E-09	3.185E-09	2.323E-09	1.797E-09	1.448E-09	1.202E-09	1.020E-09	8.811E-10	
W	2.874E-08	1.512E-08	1.024E-08	6.130E-09	4.234E-09	3.088E-09	2.387E-09	1.921E-09	1.593E-09	1.351E-09	1.166E-09	
WNW	4.672E-08	2.417E-08	1.560E-08	8.848E-09	5.887E-09	4.298E-09	3.330E-09	2.681E-09	2.220E-09	1.880E-09	1.621E-09	
NW	4.679E-08	2.515E-08	1.675E-08	9.888E-09	6.624E-09	4.866E-09	3.837E-09	3.121E-09	2.600E-09	2.214E-09	1.918E-09	
NNW	4.779E-08	2.569E-08	1.649E-08	9.325E-09	6.245E-09	4.583E-09	3.579E-09	2.904E-09	2.433E-09	2.074E-09	1.795E-09	
N	2.102E-08	1.293E-08	1.031E-08	8.019E-09	6.884E-09	5.838E-09	4.612E-09	3.765E-09	3.150E-09	2.693E-09	2.342E-09	
NNE	1.554E-08	2.183E-08	1.424E-08	8.238E-09	5.617E-09	4.182E-09	3.291E-09	2.689E-09	2.260E-09	1.939E-09	1.691E-09	
NE	5.124E-09	6.548E-09	4.218E-09	2.407E-09	1.631E-09	1.208E-09	9.548E-10	7.818E-10	6.573E-10	5.624E-10	4.894E-10	
ENE	5.811E-09	8.483E-09	5.588E-09	3.267E-09	2.239E-09	1.672E-09	1.359E-09	1.132E-09	9.490E-10	8.129E-10	7.080E-10	
E	9.970E-09	1.157E-08	7.573E-09	4.393E-09	2.992E-09	2.224E-09	1.747E-09	1.426E-09	1.233E-09	1.079E-09	9.390E-10	
ESE	1.306E-08	1.500E-08	1.007E-08	6.024E-09	4.186E-09	3.157E-09	2.509E-09	2.066E-09	1.747E-09	1.507E-09	1.321E-09	
SE	1.646E-08	9.472E-09	6.815E-09	4.538E-09	3.287E-09	2.610E-09	2.195E-09	1.914E-09	1.608E-09	1.380E-09	1.204E-09	
SSE	2.490E-08	2.517E-08	1.608E-08	9.042E-09	6.034E-09	4.419E-09	3.430E-09	2.772E-09	2.306E-09	1.962E-09	1.698E-09	

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE											
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50		
S	3.833E-08	6.335E-08	5.007E-08	3.885E-08	4.027E-08	2.438E-08	9.778E-09	4.978E-09	3.156E-09	2.253E-09		
SSW	2.046E-08	2.785E-08	2.622E-08	2.692E-08	2.278E-08	1.466E-08	6.236E-09	3.223E-09	2.046E-09	1.456E-09		
SW	4.784E-08	9.677E-08	6.047E-08	3.576E-08	2.455E-08	1.361E-08	5.339E-09	2.639E-09	1.658E-09	1.166E-09		
WSW	7.631E-08	1.266E-07	7.100E-08	3.915E-08	2.556E-08	1.269E-08	4.865E-09	2.342E-09	1.454E-09	1.022E-09		
W	2.390E-07	2.098E-07	9.870E-08	5.377E-08	3.459E-08	1.598E-08	6.201E-09	3.113E-09	1.929E-09	1.354E-09		
WNW	3.299E-07	3.499E-07	1.662E-07	8.992E-08	5.672E-08	2.537E-08	9.032E-09	4.334E-09	2.691E-09	1.885E-09		
NW	1.909E-07	3.094E-07	1.621E-07	8.801E-08	5.628E-08	2.622E-08	9.962E-09	4.923E-09	3.127E-09	2.218E-09		
NNW	6.319E-08	1.315E-07	1.207E-07	8.682E-08	5.744E-08	2.651E-08	9.549E-09	4.625E-09	2.918E-09	2.077E-09		
N	5.885E-08	6.023E-08	4.583E-08	3.242E-08	2.397E-08	1.357E-08	8.024E-09	5.626E-09	3.773E-09	2.699E-09		
NNE	3.525E-08	3.372E-08	2.541E-08	1.862E-08	1.528E-08	1.706E-08	8.406E-09	4.208E-09	2.697E-09	1.942E-09		
NE	2.235E-08	1.677E-08	1.020E-08	6.759E-09	5.206E-09	5.196E-09	2.464E-09	1.219E-09	7.838E-10	5.635E-10		
ENE	1.486E-08	1.230E-08	9.027E-09	6.707E-09	5.631E-09	6.603E-09	3.326E-09	1.698E-09	1.127E-09	8.144E-10		
E	1.133E-08	1.982E-08	1.688E-08	1.249E-08	1.007E-08	9.437E-09	4.477E-09	2.238E-09	1.444E-09	1.073E-09		
ESE	1.490E-08	2.591E-08	2.222E-08	1.658E-08	1.333E-08	1.238E-08	6.105E-09	3.172E-09	2.071E-09	1.509E-09		
SE	4.095E-08	5.366E-08	3.954E-08	2.674E-08	1.910E-08	9.845E-09	4.488E-09	2.625E-09	1.878E-09	1.382E-09		
SSE	3.887E-08	5.851E-08	4.650E-08	3.289E-08	2.560E-08	2.107E-08	9.270E-09	4.454E-09	2.783E-09	1.966E-09		

B289



ERP ELEVATED STACK RELEASES - APR-JUN 2011  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.208E-11	5.278E-09	3.378E-08	5.816E-08	6.943E-08	6.104E-08	5.061E-08	4.183E-08	3.497E-08	3.946E-08	4.268E-08
SSW	3.742E-08	1.647E-08	1.746E-08	2.462E-08	3.004E-08	2.763E-08	2.380E-08	2.692E-08	2.840E-08	2.504E-08	2.231E-08
SW	1.931E-08	6.803E-09	3.298E-08	7.936E-08	1.252E-07	8.365E-08	5.975E-08	4.502E-08	3.535E-08	2.865E-08	2.382E-08
WSW	9.415E-08	3.806E-08	5.443E-08	1.116E-07	1.676E-07	1.027E-07	6.950E-08	5.048E-08	3.857E-08	3.062E-08	2.503E-08
W	3.600E-08	8.781E-08	2.636E-07	2.955E-07	2.394E-07	1.439E-07	9.644E-08	6.960E-08	5.295E-08	4.189E-08	3.416E-08
WNW	1.203E-07	1.210E-07	3.203E-07	4.405E-07	4.261E-07	2.458E-07	1.603E-07	1.166E-07	8.919E-08	6.942E-08	5.586E-08
NW	3.999E-09	4.497E-08	1.553E-07	2.901E-07	4.139E-07	2.392E-07	1.569E-07	1.138E-07	8.708E-08	6.832E-08	5.537E-08
NNW	1.517E-09	1.329E-08	5.217E-08	9.629E-08	1.442E-07	1.390E-07	1.235E-07	1.050E-07	8.919E-08	6.975E-08	5.638E-08
N	2.376E-08	4.421E-08	6.028E-08	6.501E-08	6.331E-08	5.533E-08	4.662E-08	3.856E-08	3.236E-08	2.757E-08	2.383E-08
NNE	3.025E-09	2.487E-08	3.832E-08	3.807E-08	3.514E-08	3.032E-08	2.563E-08	2.172E-08	1.858E-08	1.608E-08	1.409E-08
NE	2.580E-10	1.544E-08	2.588E-08	2.311E-08	1.733E-08	1.311E-08	1.020E-08	8.176E-09	6.726E-09	5.656E-09	4.848E-09
ENE	1.936E-09	1.242E-08	1.652E-08	1.481E-08	1.265E-08	1.075E-08	9.096E-09	7.759E-09	6.697E-09	5.854E-09	5.180E-09
E	2.447E-11	1.772E-09	9.942E-09	1.712E-08	2.148E-08	1.984E-08	1.711E-08	1.458E-08	1.248E-08	1.079E-08	9.435E-09
ESE	2.929E-11	2.365E-09	1.321E-08	2.241E-08	2.799E-08	2.599E-08	2.254E-08	1.929E-08	1.657E-08	1.436E-08	1.258E-08
SE	1.289E-08	1.691E-08	3.890E-08	5.443E-08	5.853E-08	4.938E-08	3.990E-08	3.236E-08	2.229E-08	1.896E-08	1.896E-08
SSE	1.986E-09	1.216E-08	3.560E-08	5.459E-08	6.366E-08	5.630E-08	4.701E-08	3.906E-08	3.277E-08	2.786E-08	2.401E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	3.794E-08	2.518E-08	1.625E-08	9.195E-09	6.361E-09	4.746E-09	3.652E-09	2.925E-09	2.430E-09	2.058E-09	1.765E-09
SSW	2.070E-08	1.570E-08	1.014E-08	5.742E-09	4.013E-09	2.967E-09	2.274E-09	1.813E-09	1.488E-09	1.248E-09	1.065E-09
SW	2.145E-08	1.401E-08	8.995E-09	5.056E-09	3.419E-09	2.509E-09	1.942E-09	1.551E-09	1.276E-09	1.073E-09	9.188E-10
WSW	2.152E-08	1.237E-08	8.198E-09	4.687E-09	3.086E-09	2.233E-09	1.714E-09	1.370E-09	1.128E-09	9.496E-10	8.138E-10
W	2.852E-08	1.495E-08	1.008E-08	5.983E-09	4.098E-09	2.964E-09	2.272E-09	1.813E-09	1.491E-09	1.254E-09	1.074E-09
WNW	4.640E-08	2.392E-08	1.538E-08	8.665E-09	5.725E-09	4.149E-09	3.192E-09	2.552E-09	2.098E-09	1.765E-09	1.511E-09
NW	4.642E-08	2.483E-08	1.645E-08	9.607E-09	6.371E-09	4.631E-09	3.612E-09	2.905E-09	2.395E-09	2.018E-09	1.730E-09
NNW	4.738E-08	2.535E-08	1.620E-08	9.077E-09	6.023E-09	4.381E-09	3.389E-09	2.726E-09	2.263E-09	1.911E-09	1.639E-09
N	2.091E-08	1.282E-08	1.017E-08	7.809E-09	6.602E-09	5.516E-09	4.305E-09	3.473E-09	2.871E-09	2.426E-09	2.085E-09
NNE	1.542E-08	2.140E-08	1.385E-08	7.897E-09	5.305E-09	3.891E-09	3.016E-09	2.428E-09	2.010E-09	1.699E-09	1.460E-09
NE	5.094E-09	6.492E-09	4.170E-09	2.366E-09	1.594E-09	1.174E-09	9.225E-10	7.511E-10	6.278E-10	5.342E-10	4.622E-10
ENE	5.774E-09	8.388E-09	5.504E-09	3.193E-09	2.172E-09	1.609E-09	1.298E-09	1.073E-09	8.927E-10	7.588E-10	6.559E-10
E	9.912E-09	1.145E-08	7.475E-09	4.307E-09	2.914E-09	2.151E-09	1.678E-09	1.360E-09	1.168E-09	1.015E-09	8.764E-10
ESE	1.298E-08	1.477E-08	9.850E-09	5.819E-09	3.991E-09	2.970E-09	2.329E-09	1.892E-09	1.578E-09	1.343E-09	1.161E-09
SE	1.635E-08	9.373E-09	6.719E-09	4.436E-09	3.184E-09	2.502E-09	2.080E-09	1.791E-09	1.490E-09	1.265E-09	1.092E-09
SSE	2.469E-08	2.485E-08	1.581E-08	8.816E-09	5.835E-09	4.238E-09	3.263E-09	2.616E-09	2.159E-09	1.822E-09	1.565E-09

DIRECTION FROM SITE	CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	3.828E-08	6.320E-08	4.988E-08	3.864E-08	3.997E-08	2.405E-08	9.503E-09	4.739E-09	2.944E-09	2.060E-09
SSW	2.042E-08	2.776E-08	2.607E-08	2.670E-08	2.252E-08	1.434E-08	5.951E-09	2.969E-09	1.821E-09	1.252E-09
SW	4.778E-08	9.654E-08	6.023E-08	3.556E-08	2.437E-08	1.343E-08	5.204E-09	2.525E-09	1.558E-09	1.076E-09
WSW	7.620E-08	1.263E-07	7.074E-08	3.894E-08	2.538E-08	1.255E-08	4.756E-09	2.253E-09	1.376E-09	9.521E-10
W	2.387E-07	2.094E-07	9.836E-08	5.349E-08	3.436E-08	1.580E-08	6.056E-09	2.990E-09	1.821E-09	1.257E-09
WNW	3.295E-07	3.492E-07	1.656E-07	8.950E-08	5.637E-08	2.512E-08	8.851E-09	4.187E-09	2.562E-09	1.770E-09
NW	1.907E-07	3.088E-07	1.616E-07	8.756E-08	5.589E-08	2.590E-08	9.689E-09	4.687E-09	2.913E-09	2.023E-09
NNW	6.314E-08	1.312E-07	1.202E-07	8.631E-08	5.701E-08	2.618E-08	9.303E-09	4.422E-09	2.739E-09	1.915E-09
N	5.881E-08	6.014E-08	4.572E-08	3.231E-08	2.386E-08	1.344E-08	7.798E-09	5.321E-09	3.481E-09	2.432E-09
NNE	3.522E-08	3.365E-08	2.532E-08	1.853E-08	1.517E-08	1.671E-08	8.068E-09	3.918E-09	2.437E-09	1.702E-09
NE	2.233E-08	1.674E-08	1.017E-08	6.733E-09	5.179E-09	5.149E-09	2.424E-09	1.185E-09	7.531E-10	5.353E-10
ENE	1.485E-08	1.228E-08	9.001E-09	6.679E-09	5.600E-09	6.525E-09	3.253E-09	1.635E-09	1.069E-09	7.603E-10
E	1.132E-08	1.978E-08	1.683E-08	1.244E-08	1.001E-08	9.343E-09	4.392E-09	2.165E-09	1.378E-09	1.009E-09
ESE	1.489E-08	2.586E-08	2.216E-08	1.651E-08	1.325E-08	1.219E-08	5.902E-09	2.986E-09	1.897E-09	1.345E-09
SE	4.091E-08	5.355E-08	3.941E-08	2.662E-08	1.898E-08	9.743E-09	4.387E-09	2.515E-09	1.759E-09	1.268E-09
SSE	3.883E-08	5.837E-08	4.631E-08	3.270E-08	2.540E-08	2.080E-08	9.046E-09	4.274E-09	2.627E-09	1.826E-09

B290

ERP ELEVATED STACK RELEASES - APR-JUN 2011  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	DISTANCE IN MILES FROM THE SITE										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.210E-11	5.250E-09	3.367E-08	5.808E-08	6.883E-08	6.002E-08	4.939E-08	4.054E-08	3.367E-08	3.794E-08	4.107E-08
SSW	3.746E-08	1.636E-08	1.732E-08	2.453E-08	2.977E-08	2.721E-08	2.331E-08	2.631E-08	2.775E-08	2.440E-08	2.172E-08
SW	1.932E-08	6.755E-09	3.296E-08	7.941E-08	1.240E-07	8.215E-08	5.831E-08	4.372E-08	3.418E-08	2.761E-08	2.288E-08
WSW	9.423E-08	3.779E-08	5.410E-08	1.112E-07	1.656E-07	1.006E-07	6.763E-08	4.884E-08	3.714E-08	2.936E-08	2.391E-08
W	3.602E-08	8.714E-08	2.616E-07	2.914E-07	2.340E-07	1.395E-07	9.289E-08	6.668E-08	5.050E-08	3.979E-08	3.233E-08
WNW	1.204E-07	1.202E-07	3.175E-07	4.348E-07	4.168E-07	2.376E-07	1.536E-07	1.109E-07	8.429E-08	6.517E-08	5.209E-08
NW	4.000E-09	4.460E-08	1.538E-07	2.875E-07	4.081E-07	2.339E-07	1.524E-07	1.101E-07	8.393E-08	6.555E-08	5.285E-08
NNW	1.517E-09	1.319E-08	5.182E-08	9.599E-08	1.429E-07	1.371E-07	1.215E-07	1.032E-07	8.750E-08	6.815E-08	5.483E-08
N	2.376E-08	4.383E-08	5.939E-08	6.424E-08	6.241E-08	5.426E-08	4.549E-08	3.745E-08	3.129E-08	2.655E-08	2.287E-08
NNE	3.025E-09	2.466E-08	3.765E-08	3.742E-08	3.453E-08	2.971E-08	2.504E-08	2.115E-08	1.805E-08	1.559E-08	1.363E-08
NE	2.581E-10	1.531E-08	2.538E-08	2.260E-08	1.688E-08	1.272E-08	9.848E-09	7.854E-09	6.432E-09	5.387E-09	4.601E-09
ENE	1.936E-09	1.231E-08	1.620E-08	1.451E-08	1.239E-08	1.051E-08	8.879E-09	7.558E-09	6.513E-09	5.684E-09	5.024E-09
E	2.447E-11	1.761E-09	9.907E-09	1.709E-08	2.131E-08	1.956E-08	1.678E-08	1.423E-08	1.213E-08	1.045E-08	9.108E-09
ESE	2.929E-11	2.351E-09	1.316E-08	2.237E-08	2.777E-08	2.563E-08	2.211E-08	1.885E-08	1.613E-08	1.394E-08	1.217E-08
SE	1.290E-08	1.677E-08	3.856E-08	5.414E-08	5.788E-08	4.844E-08	3.882E-08	3.123E-08	2.551E-08	2.121E-08	1.792E-08
SSE	1.986E-09	1.207E-08	3.537E-08	5.442E-08	6.307E-08	5.537E-08	4.591E-08	3.790E-08	3.161E-08	2.672E-08	2.291E-08

SECTOR	DISTANCE IN MILES FROM THE SITE										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	3.643E-08	2.386E-08	1.498E-08	8.032E-09	5.237E-09	3.725E-09	2.770E-09	2.153E-09	1.744E-09	1.447E-09	1.218E-09
SSW	2.015E-08	1.519E-08	9.555E-09	5.126E-09	3.379E-09	2.430E-09	1.822E-09	1.426E-09	1.152E-09	9.531E-10	8.033E-10
SW	2.059E-08	1.328E-08	8.288E-09	4.399E-09	2.790E-09	1.945E-09	1.460E-09	1.137E-09	9.147E-10	7.539E-10	6.336E-10
WSW	2.051E-08	1.152E-08	7.423E-09	4.042E-09	2.561E-09	1.795E-09	1.340E-09	1.046E-09	8.430E-10	6.963E-10	5.863E-10
W	2.691E-08	1.392E-08	9.261E-09	5.233E-09	3.411E-09	2.391E-09	1.784E-09	1.391E-09	1.120E-09	9.247E-10	7.782E-10
WNW	4.300E-08	2.150E-08	1.344E-08	7.173E-09	4.480E-09	3.117E-09	2.324E-09	1.808E-09	1.451E-09	1.193E-09	1.001E-09
NW	4.409E-08	2.296E-08	1.479E-08	8.195E-09	5.163E-09	3.598E-09	2.721E-09	2.137E-09	1.724E-09	1.425E-09	1.200E-09
NNW	4.586E-08	2.386E-08	1.479E-08	7.787E-09	4.812E-09	3.300E-09	2.433E-09	1.885E-09	1.522E-09	1.257E-09	1.056E-09
N	2.001E-08	1.214E-08	9.627E-09	7.467E-09	6.291E-09	5.088E-09	3.894E-09	3.089E-09	2.516E-09	2.098E-09	1.782E-09
NNE	1.496E-08	2.100E-08	1.321E-08	7.148E-09	4.551E-09	3.197E-09	2.390E-09	1.864E-09	1.501E-09	1.238E-09	1.041E-09
NE	4.848E-09	6.240E-09	3.886E-09	2.098E-09	1.356E-09	9.659E-10	7.377E-10	5.861E-10	4.793E-10	3.996E-10	3.395E-10
ENE	5.622E-09	8.235E-09	5.241E-09	2.851E-09	1.796E-09	1.250E-09	9.553E-10	7.593E-10	6.167E-10	5.127E-10	4.342E-10
E	9.574E-09	1.110E-08	7.029E-09	3.808E-09	2.400E-09	1.671E-09	1.239E-09	9.600E-10	7.911E-10	6.644E-10	5.590E-10
ESE	1.257E-08	1.445E-08	9.375E-09	5.232E-09	3.355E-09	2.364E-09	1.768E-09	1.379E-09	1.109E-09	9.135E-10	7.663E-10
SE	1.536E-08	8.595E-09	6.069E-09	3.960E-09	2.830E-09	2.233E-09	1.872E-09	1.627E-09	1.341E-09	1.130E-09	9.688E-10
SSE	2.353E-08	2.364E-08	1.459E-08	7.731E-09	4.890E-09	3.421E-09	2.551E-09	1.988E-09	1.599E-09	1.319E-09	1.109E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	3.820E-08	6.253E-08	4.869E-08	3.726E-08	3.843E-08	2.271E-08	8.333E-09	3.746E-09	2.173E-09	1.450E-09
SSW	2.031E-08	2.747E-08	2.555E-08	2.606E-08	2.193E-08	1.379E-08	5.334E-09	2.440E-09	1.435E-09	9.567E-10
SW	4.778E-08	9.548E-08	5.883E-08	3.441E-08	2.343E-08	1.269E-08	4.548E-09	1.976E-09	1.145E-09	7.570E-10
WSW	7.586E-08	1.246E-07	6.890E-08	3.752E-08	2.427E-08	1.170E-08	4.135E-09	1.817E-09	1.053E-09	6.990E-10
W	2.361E-07	2.048E-07	9.484E-08	5.104E-08	3.253E-08	1.474E-08	5.318E-09	2.420E-09	1.400E-09	9.284E-10
WNW	3.258E-07	3.412E-07	1.589E-07	8.461E-08	5.260E-08	2.270E-08	7.369E-09	3.164E-09	1.820E-09	1.198E-09
NW	1.889E-07	3.039E-07	1.572E-07	8.439E-08	5.337E-08	2.403E-08	8.314E-09	3.664E-09	2.146E-09	1.430E-09
NNW	6.286E-08	1.299E-07	1.183E-07	8.461E-08	5.545E-08	2.472E-08	8.021E-09	3.356E-09	1.903E-09	1.261E-09
N	5.809E-08	5.920E-08	4.461E-08	3.124E-08	2.290E-08	1.277E-08	7.424E-09	4.931E-09	3.101E-09	2.105E-09
NNE	3.466E-08	3.303E-08	2.473E-08	1.800E-08	1.470E-08	1.619E-08	7.340E-09	3.235E-09	1.876E-09	1.243E-09
NE	2.190E-08	1.630E-08	9.816E-09	6.440E-09	4.925E-09	4.885E-09	2.166E-09	9.787E-10	5.887E-10	4.009E-10
ENE	1.459E-08	1.203E-08	8.786E-09	6.496E-09	5.441E-09	6.324E-09	2.913E-09	1.278E-09	7.610E-10	5.145E-10
E	1.129E-08	1.960E-08	1.650E-08	1.209E-08	9.679E-09	8.950E-09	3.898E-09	1.692E-09	9.753E-10	6.629E-10
ESE	1.485E-08	2.562E-08	2.175E-08	1.607E-08	1.284E-08	1.177E-08	5.318E-09	2.390E-09	1.388E-09	9.170E-10
SE	4.064E-08	5.285E-08	3.835E-08	2.551E-08	1.794E-08	8.975E-09	3.927E-09	2.248E-09	1.588E-09	1.133E-09
SSE	3.866E-08	5.773E-08	4.523E-08	3.154E-08	2.427E-08	1.959E-08	7.992E-09	3.464E-09	2.001E-09	1.324E-09

B291

ERP ELEVATED STACK RELEASES - APR-JUN 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

\*\*\*\*\* RELATIVE DEPOSITION PER UNIT AREA (M\*\*-2) AT FIXED POINTS BY DOWNWIND SECTORS \*\*\*\*\*

DIRECTION FROM SITE	DISTANCES IN MILES										
	.25	.50	.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S	4.167E-10	1.140E-09	2.154E-09	2.169E-09	1.338E-09	8.935E-10	6.300E-10	4.624E-10	3.500E-10	2.886E-10	2.624E-10
SSW	5.759E-10	7.349E-10	1.019E-09	9.302E-10	5.469E-10	3.599E-10	2.519E-10	1.843E-10	1.734E-10	1.312E-10	1.027E-10
SW	3.318E-10	6.303E-10	1.069E-09	1.045E-09	1.244E-09	6.760E-10	4.180E-10	2.833E-10	2.046E-10	1.546E-10	1.209E-10
WSW	1.366E-09	1.391E-09	1.598E-09	2.922E-09	1.394E-09	7.548E-10	4.661E-10	3.158E-10	2.279E-10	1.722E-10	1.348E-10
W	1.667E-09	8.275E-09	7.296E-09	4.566E-09	2.338E-09	1.228E-09	7.447E-10	4.975E-10	3.552E-10	2.662E-10	2.073E-10
WNW	5.353E-09	4.912E-09	1.297E-08	8.239E-09	5.071E-09	2.528E-09	1.487E-09	9.742E-10	6.930E-10	5.195E-10	4.090E-10
NW	5.307E-09	4.634E-09	4.407E-09	6.696E-09	4.104E-09	2.040E-09	1.202E-09	7.921E-10	5.665E-10	4.317E-10	3.466E-10
NNW	1.679E-09	1.910E-09	2.429E-09	2.141E-09	2.345E-09	1.271E-09	7.854E-10	6.390E-10	4.606E-10	3.542E-10	2.877E-10
N	6.337E-09	5.371E-09	4.885E-09	3.557E-09	1.813E-09	1.133E-09	7.735E-10	5.584E-10	4.193E-10	3.243E-10	2.568E-10
NNE	2.885E-09	2.346E-09	1.992E-09	1.375E-09	6.714E-10	4.124E-10	2.790E-10	2.004E-10	1.501E-10	1.160E-10	9.184E-11
NE	2.346E-09	1.834E-09	1.448E-09	9.366E-10	4.316E-10	2.585E-10	1.725E-10	1.231E-10	9.183E-11	7.084E-11	5.608E-11
ENE	2.079E-09	1.594E-09	1.210E-09	7.525E-10	3.337E-10	1.963E-10	1.297E-10	9.199E-11	6.846E-11	5.275E-11	4.176E-11
E	3.105E-10	5.028E-10	7.977E-10	7.637E-10	4.600E-10	3.050E-10	2.143E-10	1.570E-10	1.188E-10	9.214E-11	7.296E-11
ESE	3.291E-10	6.143E-10	1.035E-09	1.010E-09	6.136E-10	4.080E-10	2.870E-10	2.105E-10	1.592E-10	1.235E-10	9.784E-11
SE	2.478E-09	2.622E-09	3.127E-09	2.675E-09	1.518E-09	9.867E-10	6.869E-10	5.009E-10	3.780E-10	2.930E-10	2.320E-10
SSE	1.461E-09	1.965E-09	2.819E-09	2.606E-09	1.543E-09	1.017E-09	7.130E-10	5.217E-10	3.944E-10	3.059E-10	2.422E-10

DIRECTION FROM SITE	DISTANCES IN MILES										
	5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
S	2.109E-10	1.350E-10	8.954E-11	5.043E-11	3.157E-11	2.426E-11	1.737E-11	1.304E-11	1.028E-11	8.179E-12	6.677E-12
SSW	8.330E-11	6.006E-11	4.120E-11	2.394E-11	1.588E-11	1.073E-11	7.701E-12	5.791E-12	4.537E-12	3.624E-12	2.958E-12
SW	9.722E-11	6.955E-11	4.758E-11	2.756E-11	1.737E-11	1.277E-11	9.027E-12	6.778E-12	5.270E-12	4.210E-12	3.436E-12
WSW	1.131E-10	7.432E-11	5.039E-11	3.245E-11	1.969E-11	1.323E-11	9.511E-12	7.142E-12	5.553E-12	4.436E-12	3.620E-12
W	1.667E-10	7.548E-11	6.698E-11	3.812E-11	2.755E-11	1.847E-11	1.323E-11	9.938E-12	7.727E-12	6.172E-12	5.038E-12
WNW	3.373E-10	1.733E-10	1.134E-10	6.339E-11	4.504E-11	3.113E-11	2.234E-11	1.679E-11	1.309E-11	1.045E-11	8.532E-12
NW	2.918E-10	1.619E-10	1.108E-10	7.246E-11	4.412E-11	2.957E-11	2.078E-11	1.561E-11	1.216E-11	9.712E-12	7.927E-12
NNW	2.456E-10	1.429E-10	1.002E-10	5.936E-11	3.769E-11	2.509E-11	1.896E-11	1.419E-11	1.078E-11	8.612E-12	7.029E-12
N	2.072E-10	9.866E-11	6.050E-11	3.225E-11	5.352E-11	3.587E-11	2.571E-11	1.930E-11	1.501E-11	1.199E-11	9.785E-12
NNE	7.417E-11	1.149E-10	7.134E-11	3.712E-11	2.267E-11	1.516E-11	1.083E-11	8.095E-12	6.273E-12	4.996E-12	4.068E-12
NE	4.533E-11	5.348E-11	3.256E-11	1.656E-11	1.005E-11	6.733E-12	4.861E-12	3.650E-12	2.838E-12	2.267E-12	1.851E-12
ENE	3.377E-11	4.233E-11	3.163E-11	1.979E-11	1.282E-11	8.596E-12	6.103E-12	3.951E-12	3.073E-12	2.456E-12	2.005E-12
E	5.878E-11	7.128E-11	5.228E-11	3.206E-11	2.048E-11	1.357E-11	9.529E-12	6.987E-12	5.326E-12	4.239E-12	3.455E-12
ESE	7.882E-11	8.819E-11	6.373E-11	3.863E-11	2.461E-11	1.631E-11	1.147E-11	8.423E-12	6.431E-12	5.061E-12	4.080E-12
SE	1.870E-10	8.875E-11	5.422E-11	2.867E-11	1.756E-11	1.206E-11	8.930E-12	1.048E-11	8.174E-12	6.573E-12	5.407E-12
SSE	1.952E-10	2.045E-10	1.251E-10	6.403E-11	3.890E-11	2.606E-11	1.865E-11	1.398E-11	1.085E-11	8.661E-12	7.064E-12

\*\*\*\*\* RELATIVE DEPOSITION PER UNIT AREA (M\*\*-2) BY DOWNWIND SECTORS \*\*\*\*\*

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	1.935E-09	1.325E-09	6.332E-10	3.587E-10	2.511E-10	1.317E-10	5.074E-11	2.345E-11	1.322E-11	8.245E-12
SSW	9.164E-10	5.490E-10	2.536E-10	1.604E-10	1.040E-10	5.684E-11	2.419E-11	1.089E-11	5.859E-12	3.648E-12
SW	9.607E-10	9.472E-10	4.329E-10	2.080E-10	1.221E-10	6.593E-11	2.748E-11	1.250E-11	6.846E-12	4.238E-12
WSW	2.140E-09	1.450E-09	4.830E-10	2.318E-10	1.378E-10	7.231E-11	3.077E-11	1.346E-11	7.213E-12	4.465E-12
W	6.300E-09	2.340E-09	7.748E-10	3.620E-10	2.097E-10	9.197E-11	3.983E-11	1.880E-11	1.004E-11	6.213E-12
WNW	9.078E-09	4.645E-09	1.559E-09	7.073E-10	4.152E-10	1.831E-10	6.635E-11	3.133E-11	1.696E-11	1.052E-11
NW	5.475E-09	3.763E-09	1.262E-09	5.796E-10	3.515E-10	1.680E-10	6.838E-11	2.993E-11	1.577E-11	9.776E-12
NNW	2.186E-09	1.822E-09	8.564E-10	4.711E-10	2.918E-10	1.467E-10	5.881E-11	2.600E-11	1.425E-11	8.668E-12
N	4.403E-09	1.898E-09	7.834E-10	4.229E-10	2.584E-10	1.058E-10	4.798E-11	3.651E-11	1.950E-11	1.207E-11
NNE	1.796E-09	7.126E-10	2.831E-10	1.515E-10	9.245E-11	8.649E-11	3.830E-11	1.543E-11	8.181E-12	5.031E-12
NE	1.307E-09	4.669E-10	1.757E-10	9.276E-11	5.647E-11	4.237E-11	1.722E-11	6.868E-12	3.687E-12	2.282E-12
ENE	1.092E-09	3.657E-10	1.324E-10	6.920E-11	4.206E-11	3.567E-11	1.932E-11	8.726E-12	4.231E-12	2.472E-12
E	7.171E-10	4.586E-10	2.156E-10	1.196E-10	7.339E-11	6.006E-11	3.141E-11	1.380E-11	7.080E-12	4.271E-12
ESE	9.303E-10	6.102E-10	2.887E-10	1.603E-10	9.841E-11	7.523E-11	3.797E-11	1.659E-11	8.534E-12	5.103E-12
SE	2.814E-09	1.539E-09	6.925E-10	3.807E-10	2.334E-10	9.524E-11	2.941E-11	1.228E-11	9.157E-12	6.615E-12
SSE	2.535E-09	1.546E-09	7.176E-10	3.970E-10	2.436E-10	1.671E-10	6.644E-11	2.652E-11	1.412E-11	8.719E-12

B292

ERP ELEVATED STACK RELEASES - APR-JUN 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS  
SPECIFIC POINTS OF INTEREST

RELEASE TYPE OF	DIRECTION	DIST.	X/Q NO DECAY	X/Q 2.26 DAY UNDEPLETED DECAY	X/Q 8.0 DAY UNDEPLETED DEPLETED	D/Q
A Site Boundary	S	.80	4.0E-08	4.0E-08	4.0E-08	2.2E-09
A Site Boundary	SSW	.82	1.9E-08	1.9E-08	1.9E-08	1.0E-09
A Site Boundary	SW	.97	7.5E-08	7.5E-08	7.5E-08	1.1E-09
A Site Boundary	WSW	.93	9.4E-08	9.3E-08	9.3E-08	2.6E-09
A Site Boundary	W	.91	2.9E-07	2.9E-07	2.9E-07	5.3E-09
A Site Boundary	WNW	.94	4.2E-07	4.2E-07	4.1E-07	9.2E-09
A Site Boundary	NW	.81	1.9E-07	1.9E-07	1.9E-07	4.1E-09
A Site Boundary	NNW	.69	3.8E-08	3.8E-08	3.8E-08	2.3E-09
A Site Boundary	N	.67	5.4E-08	5.4E-08	5.3E-08	5.0E-09
A Site Boundary	NNE	.60	3.1E-08	3.1E-08	3.1E-08	2.2E-09
A Site Boundary	NE	.62	2.2E-08	2.2E-08	2.2E-08	1.6E-09
A Site Boundary	ENE	.59	1.4E-08	1.4E-08	1.4E-08	1.4E-09
A Site Boundary	E	.53	2.2E-09	2.2E-09	2.2E-09	5.3E-10
A Site Boundary	ESE	.54	3.3E-09	3.3E-09	3.2E-09	6.7E-10
A Site Boundary	SE	.65	2.7E-08	2.7E-08	2.7E-08	2.9E-09
A Site Boundary	SSE	.81	4.1E-08	4.1E-08	4.1E-08	2.9E-09
A Nearest Res	SSW	2.10	2.7E-08	2.7E-08	2.6E-08	3.3E-10
A Nearest Res	SW	1.30	1.2E-07	1.2E-07	1.1E-07	1.7E-09
A Nearest Res	WSW	1.90	1.1E-07	1.1E-07	1.1E-07	8.4E-10
A Nearest Res	W	1.00	3.0E-07	3.0E-07	2.9E-07	4.6E-09
A Nearest Res	WNW	1.70	3.4E-07	3.4E-07	3.3E-07	3.7E-09
A Nearest Res	NW	.90	2.4E-07	2.4E-07	2.4E-07	8.1E-09
A Nearest Res	NNW	1.90	1.4E-07	1.4E-07	1.4E-07	1.4E-09
A Nearest Res	N	2.50	4.7E-08	4.7E-08	4.5E-08	7.7E-10
A Nearest Res	NE	2.80	8.9E-09	8.9E-09	8.6E-09	1.4E-10
A Nearest Res	ENE	1.70	1.2E-08	1.2E-08	1.2E-08	2.6E-10
A Nearest Res	E	1.90	2.0E-08	2.0E-08	2.0E-08	3.3E-10
A Nearest Res	ESE	2.30	2.4E-08	2.4E-08	2.4E-08	3.3E-10
A Nearest Cow	NNW	3.50	9.0E-08	8.9E-08	8.8E-08	4.6E-10
A Nearest Garde	SW	1.30	1.2E-07	1.2E-07	1.1E-07	1.7E-09
A Nearest Garde	WSW	1.90	1.1E-07	1.1E-07	1.1E-07	8.4E-10
A Nearest Garde	WNW	2.40	1.7E-07	1.7E-07	1.7E-07	1.6E-09
A Nearest Garde	NW	2.90	1.2E-07	1.2E-07	1.2E-07	8.5E-10
A Nearest Garde	NNW	2.80	1.1E-07	1.1E-07	1.1E-07	7.4E-10
A Nearest Garde	NE	2.80	8.9E-09	8.9E-09	8.6E-09	1.4E-10
A Nearest Garde	ENE	1.70	1.2E-08	1.2E-08	1.2E-08	2.6E-10
A Nearest Garde	E	1.90	2.0E-08	2.0E-08	2.0E-08	3.3E-10
A Nearest Garde	ESE	3.00	1.9E-08	1.9E-08	1.9E-08	2.1E-10
A MAXIMUM CHI/Q	S	1.50	7.0E-08	6.9E-08	6.9E-08	1.3E-09
A MAXIMUM CHI/Q	SSW	.25	2.9E-08	2.9E-08	2.9E-08	5.8E-10
A MAXIMUM CHI/Q	SW	1.50	1.3E-07	1.3E-07	1.2E-07	1.2E-09
A MAXIMUM CHI/Q	WSW	1.50	1.7E-07	1.7E-07	1.7E-07	1.4E-09
A MAXIMUM CHI/Q	W	1.00	3.0E-07	3.0E-07	2.9E-07	4.6E-09
A MAXIMUM CHI/Q	WNW	1.00	4.4E-07	4.4E-07	4.3E-07	8.2E-09
A MAXIMUM CHI/Q	NW	1.50	4.1E-07	4.1E-07	4.1E-07	4.1E-09
A MAXIMUM CHI/Q	NNW	1.50	1.4E-07	1.4E-07	1.4E-07	2.3E-09
A MAXIMUM CHI/Q	N	1.00	6.5E-08	6.5E-08	6.4E-08	3.6E-09
A MAXIMUM CHI/Q	NNE	.75	3.8E-08	3.8E-08	3.8E-08	2.0E-09
A MAXIMUM CHI/Q	NE	.75	2.6E-08	2.6E-08	2.5E-08	1.4E-09
A MAXIMUM CHI/Q	ENE	.75	1.7E-08	1.7E-08	1.6E-08	1.2E-09
A MAXIMUM CHI/Q	E	1.50	2.2E-08	2.1E-08	2.1E-08	4.6E-10
A MAXIMUM CHI/Q	ESE	1.50	2.8E-08	2.8E-08	2.8E-08	6.1E-10
A MAXIMUM CHI/Q	SE	1.50	5.9E-08	5.9E-08	5.8E-08	1.5E-09
A MAXIMUM CHI/Q	SSE	1.50	6.4E-08	6.4E-08	6.3E-08	1.5E-09

B293

**Atmospheric Diffusion Estimates**

**Elevated Releases**

January-June 2011

ERP ELEVATED STACK RELEASES - JAN-JUN 2011  
 NO DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	1.612E-11	3.876E-09	3.600E-08	6.523E-08	7.870E-08	6.893E-08	5.690E-08	4.684E-08	3.901E-08	4.314E-08	4.539E-08
SSW	1.882E-08	9.170E-09	2.307E-08	4.003E-08	4.945E-08	4.414E-08	3.695E-08	3.914E-08	3.874E-08	3.323E-08	2.893E-08
SW	9.703E-09	3.740E-09	2.924E-08	7.309E-08	1.153E-07	7.672E-08	5.453E-08	4.090E-08	3.198E-08	2.582E-08	2.140E-08
WSW	4.734E-08	1.969E-08	5.240E-08	1.233E-07	1.823E-07	1.110E-07	7.471E-08	5.401E-08	4.111E-08	3.252E-08	2.651E-08
W	1.823E-08	7.292E-08	2.432E-07	2.755E-07	2.207E-07	1.321E-07	8.831E-08	6.363E-08	4.836E-08	3.824E-08	3.117E-08
WNW	6.052E-08	6.685E-08	2.335E-07	3.530E-07	3.642E-07	2.124E-07	1.396E-07	1.024E-07	7.878E-08	6.152E-08	4.965E-08
NW	2.024E-09	2.400E-08	1.134E-07	2.481E-07	3.660E-07	2.109E-07	1.379E-07	9.947E-08	7.573E-08	5.927E-08	4.793E-08
NNW	7.821E-10	1.106E-08	4.754E-08	8.644E-08	1.272E-07	1.214E-07	1.072E-07	9.087E-08	7.702E-08	6.024E-08	4.871E-08
N	1.193E-08	2.268E-08	3.791E-08	4.774E-08	5.190E-08	4.718E-08	4.056E-08	3.396E-08	2.874E-08	2.466E-08	2.143E-08
NNE	2.637E-09	1.831E-08	3.220E-08	3.797E-08	3.994E-08	3.537E-08	3.001E-08	2.538E-08	2.165E-08	1.870E-08	1.634E-08
NE	1.296E-10	8.133E-09	1.889E-08	2.323E-08	2.454E-08	2.181E-08	1.862E-08	1.585E-08	1.362E-08	1.184E-08	1.042E-08
ENE	9.724E-10	6.479E-09	1.269E-08	1.667E-08	1.937E-08	1.791E-08	1.559E-08	1.344E-08	1.165E-08	1.020E-08	9.029E-09
E	1.229E-11	1.010E-09	7.078E-09	1.300E-08	1.706E-08	1.600E-08	1.390E-08	1.190E-08	1.023E-08	8.876E-09	7.785E-09
ESE	3.618E-11	2.630E-09	1.454E-08	2.484E-08	3.082E-08	2.830E-08	2.434E-08	2.072E-08	1.775E-08	1.535E-08	1.344E-08
SE	6.488E-09	1.026E-08	3.850E-08	6.148E-08	6.999E-08	6.020E-08	4.923E-08	4.029E-08	3.341E-08	2.814E-08	2.405E-08
SSE	1.039E-09	9.814E-09	4.281E-08	7.040E-08	8.253E-08	7.220E-08	5.972E-08	4.926E-08	4.110E-08	3.479E-08	2.988E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	3.996E-08	2.532E-08	1.628E-08	9.199E-09	6.330E-09	4.721E-09	3.653E-09	2.944E-09	2.458E-09	2.095E-09	1.809E-09
SSW	2.616E-08	1.845E-08	1.188E-08	6.732E-09	4.713E-09	3.507E-09	2.719E-09	2.195E-09	1.825E-09	1.552E-09	1.342E-09
SW	1.908E-08	1.201E-08	7.703E-09	4.331E-09	2.927E-09	2.153E-09	1.673E-09	1.344E-09	1.113E-09	9.425E-10	8.125E-10
WSW	2.265E-08	1.268E-08	8.307E-09	4.703E-09	3.097E-09	2.244E-09	1.726E-09	1.384E-09	1.144E-09	9.675E-10	8.330E-10
W	2.603E-08	1.367E-08	9.293E-09	5.648E-09	3.982E-09	2.915E-09	2.255E-09	1.817E-09	1.507E-09	1.280E-09	1.105E-09
WNW	4.137E-08	2.158E-08	1.400E-08	7.983E-09	5.318E-09	3.885E-09	3.012E-09	2.426E-09	2.009E-09	1.702E-09	1.468E-09
NW	4.005E-08	2.113E-08	1.387E-08	8.020E-09	5.332E-09	3.892E-09	3.042E-09	2.460E-09	2.042E-09	1.733E-09	1.497E-09
NNW	4.095E-08	2.197E-08	1.409E-08	7.955E-09	5.325E-09	3.907E-09	3.050E-09	2.475E-09	2.074E-09	1.768E-09	1.530E-09
N	1.890E-08	1.179E-08	9.556E-09	7.437E-09	6.178E-09	5.092E-09	4.004E-09	3.259E-09	2.722E-09	2.324E-09	2.018E-09
NNE	1.777E-08	2.665E-08	1.738E-08	1.006E-08	6.859E-09	5.106E-09	4.018E-09	3.284E-09	2.759E-09	2.367E-09	2.065E-09
NE	1.171E-08	2.017E-08	1.320E-08	7.673E-09	5.246E-09	3.915E-09	3.125E-09	2.579E-09	2.185E-09	1.876E-09	1.637E-09
ENE	1.001E-08	1.651E-08	1.097E-08	6.489E-09	4.477E-09	3.360E-09	2.782E-09	2.345E-09	1.971E-09	1.692E-09	1.477E-09
E	8.284E-09	1.275E-08	8.517E-09	5.071E-09	3.514E-09	2.647E-09	2.101E-09	1.730E-09	1.529E-09	1.361E-09	1.189E-09
ESE	1.391E-08	1.625E-08	1.083E-08	6.423E-09	4.434E-09	3.329E-09	2.635E-09	2.163E-09	1.824E-09	1.569E-09	1.372E-09
SE	2.084E-08	1.215E-08	8.831E-09	5.788E-09	4.081E-09	3.133E-09	2.540E-09	2.137E-09	1.781E-09	1.517E-09	1.314E-09
SSE	3.037E-08	2.998E-08	1.914E-08	1.074E-08	7.159E-09	5.238E-09	4.063E-09	3.281E-09	2.729E-09	2.320E-09	2.008E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	4.185E-08	7.136E-08	5.608E-08	4.282E-08	4.271E-08	2.456E-08	9.498E-09	4.723E-09	2.961E-09	2.097E-09
SSW	2.752E-08	4.499E-08	3.974E-08	3.675E-08	2.918E-08	1.724E-08	6.978E-09	3.513E-09	2.204E-09	1.555E-09
SW	4.306E-08	8.877E-08	5.500E-08	3.218E-08	2.185E-08	1.167E-08	4.456E-09	2.167E-09	1.350E-09	9.449E-10
WSW	7.665E-08	1.375E-07	7.610E-08	4.152E-08	2.686E-08	1.295E-08	4.790E-09	2.264E-09	1.391E-09	9.700E-10
W	2.197E-07	1.935E-07	9.012E-08	4.887E-08	3.136E-08	1.447E-08	5.717E-09	2.935E-09	1.824E-09	1.283E-09
WNW	2.496E-07	2.943E-07	1.441E-07	7.895E-08	5.010E-08	2.261E-08	8.135E-09	3.918E-09	2.435E-09	1.706E-09
NW	1.534E-07	2.709E-07	1.420E-07	7.624E-08	4.837E-08	2.211E-08	8.126E-09	3.936E-09	2.467E-09	1.737E-09
NNW	5.672E-08	1.155E-07	1.044E-07	7.459E-08	4.925E-08	2.268E-08	8.149E-09	3.942E-09	2.487E-09	1.771E-09
N	3.889E-08	4.888E-08	3.969E-08	2.868E-08	2.145E-08	1.238E-08	7.348E-09	4.946E-09	3.267E-09	2.329E-09
NNE	3.167E-08	3.747E-08	2.959E-08	2.159E-08	1.757E-08	2.056E-08	1.027E-08	5.138E-09	3.293E-09	2.371E-09
NE	1.843E-08	2.304E-08	1.836E-08	1.358E-08	1.132E-08	1.519E-08	7.822E-09	3.954E-09	2.585E-09	1.879E-09
ENE	1.308E-08	1.812E-08	1.535E-08	1.161E-08	9.741E-09	1.260E-08	6.591E-09	3.427E-09	2.328E-09	1.695E-09
E	8.362E-09	1.568E-08	1.366E-08	1.019E-08	8.293E-09	9.876E-09	5.145E-09	2.660E-09	1.759E-09	1.347E-09
ESE	1.647E-08	2.837E-08	2.395E-08	1.768E-08	1.418E-08	1.332E-08	6.519E-09	3.346E-09	2.168E-09	1.572E-09
SE	4.244E-08	6.375E-08	4.858E-08	3.337E-08	2.407E-08	1.261E-08	5.705E-09	3.149E-09	2.117E-09	1.520E-09
SSE	4.774E-08	7.525E-08	5.887E-08	4.103E-08	3.151E-08	2.525E-08	1.101E-08	5.280E-09	3.294E-09	2.326E-09

B295

ERP ELEVATED STACK RELEASES - JAN-JUN 2011  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	1.611E-11	3.873E-09	3.596E-08	6.515E-08	7.853E-08	6.873E-08	5.669E-08	4.663E-08	3.881E-08	4.287E-08	4.506E-08
SSW	1.879E-08	9.148E-09	2.304E-08	3.996E-08	4.932E-08	4.398E-08	3.678E-08	3.891E-08	3.847E-08	3.296E-08	2.867E-08
SW	9.697E-09	3.736E-09	2.921E-08	7.298E-08	1.150E-07	7.645E-08	5.428E-08	4.067E-08	3.177E-08	2.563E-08	2.122E-08
WSW	4.728E-08	1.964E-08	5.233E-08	1.231E-07	1.819E-07	1.106E-07	7.438E-08	5.373E-08	4.085E-08	3.229E-08	2.629E-08
W	1.822E-08	7.287E-08	2.430E-07	2.751E-07	2.203E-07	1.317E-07	8.798E-08	6.334E-08	4.810E-08	3.800E-08	3.096E-08
WNW	6.047E-08	6.677E-08	2.333E-07	3.525E-07	3.634E-07	2.119E-07	1.391E-07	1.019E-07	7.839E-08	6.118E-08	4.933E-08
NW	2.023E-09	2.399E-08	1.133E-07	2.478E-07	3.652E-07	2.103E-07	1.373E-07	9.899E-08	7.531E-08	5.889E-08	4.757E-08
NNW	7.819E-10	1.105E-08	4.748E-08	8.631E-08	1.269E-07	1.210E-07	1.068E-07	9.042E-08	7.656E-08	5.983E-08	4.833E-08
N	1.193E-08	2.268E-08	3.789E-08	4.769E-08	5.181E-08	4.707E-08	4.045E-08	3.384E-08	2.863E-08	2.454E-08	2.132E-08
NNE	2.637E-09	1.830E-08	3.217E-08	3.791E-08	3.984E-08	3.525E-08	2.988E-08	2.525E-08	2.152E-08	1.857E-08	1.622E-08
NE	1.296E-10	8.129E-09	1.888E-08	2.321E-08	2.450E-08	2.175E-08	1.855E-08	1.579E-08	1.356E-08	1.178E-08	1.035E-08
ENE	9.722E-10	6.477E-09	1.268E-08	1.665E-08	1.933E-08	1.785E-08	1.552E-08	1.337E-08	1.158E-08	1.013E-08	8.960E-09
E	1.229E-11	1.010E-09	7.072E-09	1.298E-08	1.701E-08	1.595E-08	1.384E-08	1.184E-08	1.017E-08	8.818E-09	7.729E-09
ESE	3.618E-11	2.629E-09	1.453E-08	2.482E-08	3.076E-08	2.823E-08	2.426E-08	2.064E-08	1.766E-08	1.527E-08	1.336E-08
SE	6.486E-09	1.026E-08	3.848E-08	6.142E-08	6.988E-08	6.006E-08	4.910E-08	4.015E-08	3.327E-08	2.800E-08	2.392E-08
SSE	1.039E-09	9.809E-09	4.278E-08	7.032E-08	8.237E-08	7.200E-08	5.951E-08	4.905E-08	4.089E-08	3.458E-08	2.968E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	3.963E-08	2.499E-08	1.600E-08	8.956E-09	6.106E-09	4.511E-09	3.459E-09	2.762E-09	2.285E-09	1.930E-09	1.652E-09
SSW	2.589E-08	1.813E-08	1.160E-08	6.494E-09	4.486E-09	3.295E-09	2.522E-09	2.010E-09	1.650E-09	1.385E-09	1.183E-09
SW	1.890E-08	1.184E-08	7.552E-09	4.204E-09	2.813E-09	2.048E-09	1.576E-09	1.254E-09	1.028E-09	8.618E-10	7.357E-10
WSW	2.245E-08	1.251E-08	8.158E-09	4.577E-09	2.986E-09	2.144E-09	1.635E-09	1.300E-09	1.064E-09	8.921E-10	7.614E-10
W	2.583E-08	1.350E-08	9.136E-09	5.493E-09	3.827E-09	2.773E-09	2.123E-09	1.692E-09	1.390E-09	1.167E-09	9.982E-10
WNW	4.108E-08	2.135E-08	1.380E-08	7.813E-09	5.167E-09	3.748E-09	2.884E-09	2.306E-09	1.896E-09	1.595E-09	1.365E-09
NW	3.971E-08	2.086E-08	1.363E-08	7.800E-09	5.136E-09	3.714E-09	2.873E-09	2.300E-09	1.891E-09	1.589E-09	1.360E-09
NNW	4.059E-08	2.168E-08	1.384E-08	7.746E-09	5.139E-09	3.737E-09	2.891E-09	2.325E-09	1.931E-09	1.632E-09	1.400E-09
N	1.879E-08	1.168E-08	9.428E-09	7.263E-09	5.964E-09	4.858E-09	3.783E-09	3.049E-09	2.522E-09	2.133E-09	1.834E-09
NNE	1.761E-08	2.619E-08	1.698E-08	9.709E-09	6.538E-09	4.807E-09	3.736E-09	3.016E-09	2.504E-09	2.122E-09	1.829E-09
NE	1.163E-08	1.991E-08	1.297E-08	7.471E-09	5.062E-09	3.743E-09	2.960E-09	2.420E-09	2.032E-09	1.728E-09	1.494E-09
ENE	9.933E-09	1.632E-08	1.081E-08	6.342E-09	4.343E-09	3.236E-09	2.659E-09	2.224E-09	1.856E-09	1.581E-09	1.370E-09
E	8.219E-09	1.258E-08	8.366E-09	4.934E-09	3.388E-09	2.528E-09	1.988E-09	1.621E-09	1.418E-09	1.249E-09	1.082E-09
ESE	1.381E-08	1.605E-08	1.065E-08	6.251E-09	4.274E-09	3.177E-09	2.490E-09	2.024E-09	1.689E-09	1.439E-09	1.246E-09
SE	2.072E-08	1.204E-08	8.723E-09	5.678E-09	3.974E-09	3.027E-09	2.434E-09	2.029E-09	1.678E-09	1.418E-09	1.219E-09
SSE	3.014E-08	2.960E-08	1.881E-08	1.046E-08	6.913E-09	5.013E-09	3.855E-09	3.085E-09	2.543E-09	2.144E-09	1.839E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	4.180E-08	7.120E-08	5.588E-08	4.259E-08	4.240E-08	2.425E-08	9.254E-09	4.515E-09	2.779E-09	1.932E-09
SSW	2.747E-08	4.487E-08	3.955E-08	3.650E-08	2.891E-08	1.695E-08	6.736E-09	3.303E-09	2.019E-09	1.389E-09
SW	4.300E-08	8.852E-08	5.475E-08	3.197E-08	2.167E-08	1.150E-08	4.330E-09	2.063E-09	1.260E-09	8.643E-10
WSW	7.653E-08	1.371E-07	7.577E-08	4.127E-08	2.665E-08	1.278E-08	4.666E-09	2.165E-09	1.306E-09	8.948E-10
W	2.195E-07	1.931E-07	8.979E-08	4.861E-08	3.114E-08	1.430E-08	5.562E-09	2.794E-09	1.700E-09	1.171E-09
WNW	2.492E-07	2.936E-07	1.437E-07	7.856E-08	4.978E-08	2.238E-08	7.967E-09	3.781E-09	2.315E-09	1.599E-09
NW	1.532E-07	2.702E-07	1.415E-07	7.582E-08	4.802E-08	2.183E-08	7.910E-09	3.757E-09	2.308E-09	1.593E-09
NNW	5.664E-08	1.153E-07	7.415E-08	4.887E-08	1.125E-08	2.240E-08	7.942E-09	3.772E-09	2.337E-09	1.634E-09
N	3.886E-08	4.879E-08	3.957E-08	2.856E-08	2.134E-08	1.226E-08	7.167E-09	4.723E-09	3.058E-09	2.138E-09
NNE	3.164E-08	3.737E-08	2.946E-08	2.146E-08	1.743E-08	2.019E-08	9.915E-09	4.840E-09	3.027E-09	2.127E-09
NE	1.841E-08	2.299E-08	1.830E-08	1.352E-08	1.125E-08	1.498E-08	7.621E-09	3.782E-09	2.427E-09	1.732E-09
ENE	1.306E-08	1.807E-08	1.528E-08	1.154E-08	9.667E-09	1.245E-08	6.446E-09	3.300E-09	2.208E-09	1.584E-09
E	8.352E-09	1.564E-08	1.360E-08	1.013E-08	8.233E-09	9.739E-09	5.009E-09	2.541E-09	1.649E-09	1.237E-09
ESE	1.646E-08	2.832E-08	2.387E-08	1.760E-08	1.409E-08	1.315E-08	6.349E-09	3.194E-09	2.029E-09	1.442E-09
SE	4.241E-08	6.364E-08	4.844E-08	3.323E-08	2.395E-08	1.250E-08	5.598E-09	3.043E-09	2.011E-09	1.421E-09
SSE	4.769E-08	7.508E-08	5.866E-08	4.082E-08	3.130E-08	2.492E-08	1.074E-08	5.056E-09	3.099E-09	2.149E-09

ERP ELEVATED STACK RELEASES - JAN-JUN 2011  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	1.612E-11	3.859E-09	3.592E-08	6.514E-08	7.789E-08	6.760E-08	5.530E-08	4.515E-08	3.732E-08	4.112E-08	4.319E-08	
SSW	1.881E-08	9.092E-09	2.298E-08	3.995E-08	4.893E-08	4.328E-08	3.592E-08	3.781E-08	3.724E-08	3.176E-08	2.752E-08	
SW	9.701E-09	3.712E-09	2.921E-08	7.305E-08	1.139E-07	7.506E-08	5.293E-08	3.944E-08	3.066E-08	2.464E-08	2.033E-08	
WSW	4.732E-08	1.951E-08	5.218E-08	1.229E-07	1.796E-07	1.082E-07	7.220E-08	5.181E-08	3.917E-08	3.080E-08	2.497E-08	
W	1.823E-08	7.243E-08	2.413E-07	2.713E-07	2.151E-07	1.276E-07	8.457E-08	6.052E-08	4.573E-08	3.597E-08	2.918E-08	
WNW	6.051E-08	6.633E-08	2.318E-07	3.486E-07	3.561E-07	2.054E-07	1.337E-07	9.732E-08	7.443E-08	5.771E-08	4.625E-08	
NW	2.024E-09	2.380E-08	1.125E-07	2.462E-07	3.603E-07	2.055E-07	1.333E-07	9.555E-08	7.236E-08	5.629E-08	4.523E-08	
NNW	7.820E-10	1.097E-08	4.711E-08	8.595E-08	1.258E-07	1.193E-07	1.049E-07	8.869E-08	7.499E-08	5.835E-08	4.691E-08	
N	1.193E-08	2.249E-08	3.745E-08	4.732E-08	5.123E-08	4.628E-08	3.956E-08	3.294E-08	2.775E-08	2.370E-08	2.052E-08	
NNE	2.637E-09	1.815E-08	3.171E-08	3.749E-08	3.932E-08	3.462E-08	2.920E-08	2.457E-08	2.086E-08	1.793E-08	1.562E-08	
NE	1.296E-10	8.064E-09	1.863E-08	2.296E-08	2.417E-08	2.137E-08	1.814E-08	1.538E-08	1.316E-08	1.140E-08	1.000E-08	
ENE	9.723E-10	6.424E-09	1.252E-08	1.651E-08	1.912E-08	1.757E-08	1.521E-08	1.305E-08	1.126E-08	9.824E-09	8.668E-09	
E	1.229E-11	1.004E-09	7.056E-09	1.298E-08	1.689E-08	1.573E-08	1.357E-08	1.156E-08	9.884E-09	8.536E-09	7.457E-09	
ESE	3.618E-11	2.613E-09	1.448E-08	2.477E-08	3.051E-08	2.782E-08	2.378E-08	2.013E-08	1.716E-08	1.478E-08	1.289E-08	
SE	6.487E-09	1.019E-08	3.830E-08	6.128E-08	6.923E-08	5.901E-08	4.785E-08	3.884E-08	3.197E-08	2.674E-08	2.271E-08	
SSE	1.039E-09	9.745E-09	4.260E-08	7.019E-08	8.164E-08	7.079E-08	5.806E-08	4.751E-08	3.935E-08	3.308E-08	2.823E-08	

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	3.787E-08	2.348E-08	1.463E-08	7.772E-09	5.012E-09	3.539E-09	2.624E-09	2.034E-09	1.641E-09	1.357E-09	1.140E-09	
SSW	2.479E-08	1.718E-08	1.070E-08	5.690E-09	3.727E-09	2.657E-09	1.984E-09	1.548E-09	1.247E-09	1.029E-09	8.662E-10	
SW	1.808E-08	1.116E-08	6.925E-09	3.650E-09	2.300E-09	1.596E-09	1.192E-09	9.254E-10	7.421E-10	6.101E-10	5.115E-10	
WSW	2.125E-08	1.156E-08	7.333E-09	3.924E-09	2.465E-09	1.716E-09	1.274E-09	9.892E-10	7.935E-10	6.527E-10	5.475E-10	
W	2.426E-08	1.250E-08	8.348E-09	4.801E-09	3.199E-09	2.251E-09	1.680E-09	1.311E-09	1.056E-09	8.718E-10	7.339E-10	
WNW	3.827E-08	1.931E-08	1.213E-08	6.500E-09	4.055E-09	2.822E-09	2.105E-09	1.638E-09	1.315E-09	1.081E-09	9.068E-10	
NW	3.755E-08	1.917E-08	1.218E-08	6.621E-09	4.159E-09	2.893E-09	2.173E-09	1.698E-09	1.366E-09	1.126E-09	9.460E-10	
NNW	3.921E-08	2.036E-08	1.261E-08	6.637E-09	4.104E-09	2.817E-09	2.079E-09	1.613E-09	1.303E-09	1.076E-09	9.041E-10	
N	1.803E-08	1.110E-08	8.959E-09	6.959E-09	5.658E-09	4.448E-09	3.390E-09	2.683E-09	2.183E-09	1.819E-09	1.544E-09	
NNE	1.700E-08	2.558E-08	1.611E-08	8.731E-09	5.563E-09	3.911E-09	2.926E-09	2.285E-09	1.842E-09	1.521E-09	1.280E-09	
NE	1.127E-08	1.949E-08	1.231E-08	6.727E-09	4.338E-09	3.081E-09	2.361E-09	1.886E-09	1.551E-09	1.295E-09	1.101E-09	
ENE	9.634E-09	1.599E-08	1.027E-08	5.656E-09	3.592E-09	2.515E-09	1.958E-09	1.578E-09	1.285E-09	1.071E-09	9.095E-10	
E	7.936E-09	1.229E-08	7.940E-09	4.406E-09	2.814E-09	1.978E-09	1.478E-09	1.152E-09	9.679E-10	8.242E-10	6.951E-10	
ESE	1.333E-08	1.562E-08	1.008E-08	5.579E-09	3.561E-09	2.501E-09	1.867E-09	1.454E-09	1.168E-09	9.610E-10	8.056E-10	
SE	1.956E-08	1.113E-08	7.963E-09	5.118E-09	3.554E-09	2.700E-09	2.174E-09	1.813E-09	1.476E-09	1.231E-09	1.045E-09	
SSE	2.861E-08	2.805E-08	1.729E-08	9.138E-09	5.761E-09	4.020E-09	2.990E-09	2.325E-09	1.867E-09	1.537E-09	1.291E-09	

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE										
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	
S	4.178E-08	7.048E-08	5.452E-08	4.100E-08	4.060E-08	2.274E-08	8.069E-09	3.566E-09	2.052E-09	1.361E-09	
SSW	2.743E-08	4.443E-08	3.864E-08	3.531E-08	2.776E-08	1.599E-08	5.931E-09	2.673E-09	1.558E-09	1.034E-09	
SW	4.302E-08	8.755E-08	5.344E-08	3.088E-08	2.077E-08	1.082E-08	3.778E-09	1.622E-09	9.318E-10	6.127E-10	
WSW	7.636E-08	1.353E-07	7.364E-08	3.959E-08	2.532E-08	1.183E-08	4.033E-09	1.739E-09	9.961E-10	6.554E-10	
W	2.171E-07	1.887E-07	8.641E-08	4.624E-08	2.937E-08	1.327E-08	4.878E-09	2.275E-09	1.319E-09	8.753E-10	
WNW	2.469E-07	2.875E-07	1.383E-07	7.460E-08	4.669E-08	2.033E-08	6.664E-09	2.864E-09	1.648E-09	1.086E-09	
NW	1.522E-07	2.661E-07	1.375E-07	7.286E-08	4.566E-08	2.015E-08	6.762E-09	2.943E-09	1.707E-09	1.130E-09	
NNW	5.634E-08	1.140E-07	1.023E-07	7.257E-08	4.745E-08	2.110E-08	6.839E-09	2.865E-09	1.628E-09	1.080E-09	
N	3.851E-08	4.816E-08	3.870E-08	2.769E-08	2.054E-08	1.169E-08	6.825E-09	4.348E-09	2.695E-09	1.825E-09	
NNE	3.127E-08	3.683E-08	2.880E-08	2.081E-08	1.682E-08	1.946E-08	8.962E-09	3.957E-09	2.299E-09	1.527E-09	
NE	1.821E-08	2.266E-08	1.790E-08	1.312E-08	1.088E-08	1.447E-08	6.906E-09	3.129E-09	1.894E-09	1.299E-09	
ENE	1.294E-08	1.785E-08	1.498E-08	1.123E-08	9.369E-09	1.204E-08	5.764E-09	2.579E-09	1.575E-09	1.075E-09	
E	8.342E-09	1.551E-08	1.334E-08	9.848E-09	7.954E-09	9.391E-09	4.484E-09	2.001E-09	1.175E-09	8.190E-10	
ESE	1.642E-08	2.804E-08	2.340E-08	1.710E-08	1.361E-08	1.265E-08	5.681E-09	2.530E-09	1.463E-09	9.648E-10	
SE	4.227E-08	6.292E-08	4.722E-08	3.194E-08	2.273E-08	1.160E-08	5.055E-09	2.717E-09	1.788E-09	1.235E-09	
SSE	4.756E-08	7.427E-08	5.723E-08	3.929E-08	2.981E-08	2.339E-08	9.449E-09	4.072E-09	2.341E-09	1.544E-09	

B297



ERP ELEVATED STACK RELEASES - JAN-JUN 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

\*\*\*\*\* RELATIVE DEPOSITION PER UNIT AREA (M\*\*-2) AT FIXED POINTS BY DOWNWIND SECTORS \*\*\*\*\*

DIRECTION FROM SITE	DISTANCES IN MILES										
	.25	.50	.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S	3.193E-10	1.232E-09	2.487E-09	2.545E-09	1.581E-09	1.058E-09	7.469E-10	5.485E-10	4.153E-10	3.431E-10	3.115E-10
SSW	3.659E-10	8.290E-10	1.491E-09	1.481E-09	9.082E-10	6.055E-10	4.266E-10	3.130E-10	2.974E-10	2.249E-10	1.760E-10
SW	1.926E-10	4.725E-10	8.690E-10	8.686E-10	1.047E-09	5.696E-10	3.526E-10	2.392E-10	1.728E-10	1.306E-10	1.022E-10
WSW	7.298E-10	9.627E-10	1.364E-09	2.799E-09	1.421E-09	7.711E-10	4.765E-10	3.230E-10	2.331E-10	1.762E-10	1.378E-10
W	1.011E-09	6.718E-09	6.086E-09	3.860E-09	1.929E-09	1.023E-09	6.239E-10	4.186E-10	2.999E-10	2.254E-10	1.758E-10
WNW	2.873E-09	2.891E-09	9.058E-09	6.082E-09	3.749E-09	1.876E-09	1.106E-09	7.272E-10	5.232E-10	3.936E-10	3.114E-10
NW	2.848E-09	2.739E-09	2.954E-09	5.190E-09	3.286E-09	1.635E-09	9.634E-10	6.347E-10	4.538E-10	3.457E-10	2.775E-10
NNW	1.133E-09	1.332E-09	1.740E-09	1.551E-09	1.717E-09	9.309E-10	5.754E-10	4.719E-10	3.422E-10	2.652E-10	2.174E-10
N	3.225E-09	2.953E-09	2.998E-09	2.351E-09	1.263E-09	8.055E-10	5.554E-10	4.031E-10	3.035E-10	2.350E-10	1.860E-10
NNE	2.259E-09	1.941E-09	1.803E-09	1.333E-09	6.874E-10	4.315E-10	2.953E-10	2.134E-10	1.603E-10	1.240E-10	9.821E-11
NE	1.213E-09	1.129E-09	1.170E-09	9.290E-10	5.032E-10	3.219E-10	2.223E-10	1.615E-10	1.216E-10	9.417E-11	7.456E-11
ENE	1.066E-09	9.324E-10	8.887E-10	6.690E-10	3.494E-10	2.205E-10	1.512E-10	1.095E-10	8.229E-11	6.367E-11	5.042E-11
E	1.686E-10	3.285E-10	5.624E-10	5.511E-10	3.357E-10	2.233E-10	1.572E-10	1.153E-10	8.723E-11	6.768E-11	5.360E-11
ESE	4.619E-10	7.216E-10	1.125E-09	1.071E-09	6.434E-10	4.262E-10	2.994E-10	2.193E-10	1.659E-10	1.287E-10	1.019E-10
SE	1.494E-09	2.133E-09	3.172E-09	2.971E-09	1.770E-09	1.170E-09	8.205E-10	6.007E-10	4.542E-10	3.523E-10	2.790E-10
SSE	1.260E-09	2.092E-09	3.358E-09	3.227E-09	1.947E-09	1.292E-09	9.079E-10	6.653E-10	5.033E-10	3.904E-10	3.092E-10

DIRECTION FROM SITE	DISTANCES IN MILES										
	5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
S	2.504E-10	1.480E-10	9.575E-11	5.267E-11	3.276E-11	2.667E-11	1.909E-11	1.432E-11	1.129E-11	8.997E-12	7.344E-12
SSW	1.424E-10	8.498E-11	5.518E-11	3.047E-11	2.215E-11	1.522E-11	1.091E-11	8.197E-12	6.428E-12	5.135E-12	4.191E-12
SW	8.229E-11	5.524E-11	3.714E-11	2.118E-11	1.330E-11	1.006E-11	7.189E-12	5.398E-12	4.197E-12	3.353E-12	2.737E-12
WSW	1.137E-10	6.944E-11	4.584E-11	3.023E-11	1.832E-11	1.230E-11	8.868E-12	6.659E-12	5.177E-12	4.136E-12	3.376E-12
W	1.414E-10	6.388E-11	5.678E-11	3.232E-11	2.342E-11	1.573E-11	1.127E-11	8.464E-12	6.581E-12	5.257E-12	4.291E-12
WNW	2.584E-10	1.358E-10	9.014E-11	5.095E-11	3.513E-11	2.418E-11	1.756E-11	1.319E-11	1.027E-11	8.207E-12	6.698E-12
NW	2.338E-10	1.299E-10	8.891E-11	5.711E-11	3.471E-11	2.327E-11	1.668E-11	1.253E-11	9.799E-12	7.828E-12	6.389E-12
NNW	1.873E-10	1.123E-10	7.996E-11	4.794E-11	3.050E-11	2.028E-11	1.440E-11	1.094E-11	8.478E-12	6.774E-12	5.531E-12
N	1.501E-10	7.132E-11	4.365E-11	2.316E-11	4.710E-11	3.004E-11	2.153E-11	1.616E-11	1.257E-11	1.004E-11	8.195E-12
NNE	7.925E-11	1.144E-10	7.213E-11	3.821E-11	2.346E-11	1.567E-11	1.117E-11	8.331E-12	6.443E-12	5.124E-12	4.167E-12
NE	6.014E-11	1.105E-10	6.844E-11	3.550E-11	2.165E-11	1.449E-11	1.018E-11	7.616E-12	5.922E-12	4.741E-12	3.869E-12
ENE	4.068E-11	7.032E-11	5.438E-11	3.472E-11	2.243E-11	1.487E-11	1.042E-11	6.445E-12	5.015E-12	4.010E-12	3.276E-12
E	4.317E-11	5.967E-11	4.466E-11	2.781E-11	1.782E-11	1.179E-11	8.260E-12	6.040E-12	4.593E-12	3.521E-12	2.868E-12
ESE	8.209E-11	9.630E-11	7.022E-11	4.287E-11	2.736E-11	1.814E-11	1.275E-11	9.353E-12	7.135E-12	5.611E-12	4.520E-12
SE	2.248E-10	1.065E-10	6.500E-11	3.425E-11	2.088E-11	1.429E-11	1.057E-11	1.453E-11	1.125E-11	8.971E-12	7.325E-12
SSE	2.491E-10	2.475E-10	1.515E-10	7.753E-11	4.711E-11	3.156E-11	2.258E-11	1.692E-11	1.314E-11	1.049E-11	8.552E-12

B298

\*\*\*\*\* RELATIVE DEPOSITION PER UNIT AREA (M\*\*-2) BY DOWNWIND SECTORS \*\*\*\*\*

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	2.234E-09	1.563E-09	7.505E-10	4.258E-10	2.983E-10	1.475E-10	5.339E-11	2.526E-11	1.453E-11	9.065E-12
SSW	1.340E-09	9.011E-10	4.289E-10	2.743E-10	1.780E-10	8.449E-11	3.227E-11	1.534E-11	8.298E-12	5.168E-12
SW	7.807E-10	7.951E-10	3.651E-10	1.757E-10	1.032E-10	5.321E-11	2.123E-11	9.777E-12	5.452E-12	3.375E-12
WSW	1.913E-09	1.438E-09	4.936E-10	2.371E-10	1.403E-10	6.878E-11	2.841E-11	1.253E-11	6.726E-12	4.163E-12
W	5.237E-09	1.955E-09	6.483E-10	3.054E-10	1.777E-10	7.794E-11	3.380E-11	1.600E-11	8.548E-12	5.291E-12
WNW	6.365E-09	3.435E-09	1.160E-09	5.321E-10	3.161E-10	1.427E-10	5.263E-11	2.445E-11	1.333E-11	8.260E-12
NW	3.900E-09	2.975E-09	1.011E-09	4.643E-10	2.815E-10	1.347E-10	5.422E-11	2.368E-11	1.267E-11	7.879E-12
NNW	1.565E-09	1.331E-09	6.288E-10	3.499E-10	2.204E-10	1.146E-10	4.731E-11	2.065E-11	1.099E-11	6.819E-12
N	2.700E-09	1.301E-09	5.612E-10	3.058E-10	1.872E-10	7.652E-11	3.836E-11	3.118E-11	1.633E-11	1.011E-11
NNE	1.625E-09	7.172E-10	2.989E-10	1.617E-10	9.884E-11	8.780E-11	3.919E-11	1.595E-11	8.422E-12	5.160E-12
NE	1.054E-09	5.173E-10	2.245E-10	1.225E-10	7.503E-11	8.062E-11	3.667E-11	1.468E-11	7.705E-12	4.768E-12
ENE	8.007E-10	3.631E-10	1.530E-10	8.296E-11	5.074E-11	5.665E-11	3.362E-11	1.511E-11	7.037E-12	4.036E-12
E	5.054E-10	3.336E-10	1.581E-10	8.779E-11	5.391E-11	4.933E-11	2.711E-11	1.199E-11	6.123E-12	3.597E-12
ESE	1.011E-09	6.419E-10	3.012E-10	1.670E-10	1.025E-10	8.155E-11	4.206E-11	1.844E-11	9.477E-12	5.658E-12
SE	2.852E-09	1.770E-09	8.257E-10	4.572E-10	2.806E-10	1.143E-10	3.514E-11	1.456E-11	1.215E-11	9.036E-12
SSE	3.018E-09	1.940E-09	9.132E-10	5.066E-10	3.110E-10	2.052E-10	8.044E-11	3.211E-11	1.710E-11	1.056E-11

ERP ELEVATED STACK RELEASES - JAN-JUN 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS  
SPECIFIC POINTS OF INTEREST

RELEASE TYPE OF	DIRECTION	DIST.	X/Q NO DECAY	X/Q 2.26 DAY DECAY	X/Q 8.0 DAY DECAY	D/Q
			UNDEPLETED	UNDEPLETED	DEPLETED	
A Site Boundary	S	.80	4.3E-08	4.3E-08	4.3E-08	2.6E-09
A Site Boundary	SSW	.82	2.9E-08	2.9E-08	2.9E-08	1.6E-09
A Site Boundary	SW	.97	6.9E-08	6.9E-08	6.9E-08	8.9E-10
A Site Boundary	WSW	.93	1.0E-07	1.0E-07	1.0E-07	2.4E-09
A Site Boundary	W	.91	2.7E-07	2.7E-07	2.7E-07	4.5E-09
A Site Boundary	WNW	.94	3.3E-07	3.3E-07	3.3E-07	6.8E-09
A Site Boundary	NW	.81	1.5E-07	1.5E-07	1.5E-07	2.9E-09
A Site Boundary	NNW	.69	3.5E-08	3.5E-08	3.5E-08	1.6E-09
A Site Boundary	N	.67	3.2E-08	3.2E-08	3.1E-08	2.9E-09
A Site Boundary	NNE	.60	2.3E-08	2.3E-08	2.3E-08	1.9E-09
A Site Boundary	NE	.62	1.3E-08	1.3E-08	1.3E-08	1.1E-09
A Site Boundary	ENE	.59	8.2E-09	8.2E-09	8.1E-09	9.0E-10
A Site Boundary	E	.53	1.3E-09	1.3E-09	1.3E-09	3.5E-10
A Site Boundary	ESE	.54	3.6E-09	3.6E-09	3.6E-09	7.8E-10
A Site Boundary	SE	.65	2.4E-08	2.4E-08	2.3E-08	2.7E-09
A Site Boundary	SSE	.81	5.1E-08	5.1E-08	5.1E-08	3.4E-09
A Nearest Res	SSW	2.10	4.3E-08	4.3E-08	4.2E-08	5.6E-10
A Nearest Res	SW	1.30	1.1E-07	1.1E-07	1.1E-07	1.4E-09
A Nearest Res	WSW	1.90	1.2E-07	1.2E-07	1.2E-07	8.6E-10
A Nearest Res	W	1.00	2.8E-07	2.8E-07	2.7E-07	3.9E-09
A Nearest Res	WNW	1.70	2.9E-07	2.9E-07	2.8E-07	2.8E-09
A Nearest Res	NW	.90	1.9E-07	1.9E-07	1.9E-07	6.0E-09
A Nearest Res	NNW	1.90	1.2E-07	1.2E-07	1.2E-07	1.0E-09
A Nearest Res	N	2.50	4.1E-08	4.0E-08	4.0E-08	5.6E-10
A Nearest Res	NE	2.80	1.7E-08	1.7E-08	1.6E-08	1.8E-10
A Nearest Res	ENE	1.70	1.9E-08	1.9E-08	1.9E-08	2.8E-10
A Nearest Res	E	1.90	1.6E-08	1.6E-08	1.6E-08	2.4E-10
A Nearest Res	ESE	2.30	2.6E-08	2.6E-08	2.5E-08	3.4E-10
A Nearest Res	SE	3.50	7.7E-08	7.7E-08	7.5E-08	3.4E-10
A Nearest Res	SSE	1.30	1.1E-07	1.1E-07	1.1E-07	1.4E-09
A Nearest Res	SSW	1.90	1.2E-07	1.2E-07	1.2E-07	8.6E-10
A Nearest Res	SW	2.40	1.5E-07	1.5E-07	1.4E-07	1.2E-09
A Nearest Res	WSW	2.90	1.1E-07	1.1E-07	1.0E-07	6.9E-10
A Nearest Res	W	2.80	9.7E-08	9.7E-08	9.5E-08	5.4E-10
A Nearest Res	WNW	2.80	1.7E-08	1.7E-08	1.6E-08	1.8E-10
A Nearest Res	NW	1.70	1.9E-08	1.9E-08	1.9E-08	2.8E-10
A Nearest Res	NNW	1.90	1.6E-08	1.6E-08	1.6E-08	2.4E-10
A Nearest Res	N	3.00	2.1E-08	2.1E-08	2.0E-08	2.2E-10
A Nearest Res	NNE	1.50	7.9E-08	7.9E-08	7.8E-08	1.6E-09
A Nearest Res	NE	1.50	4.9E-08	4.9E-08	4.9E-08	9.1E-10
A Nearest Res	ENE	1.50	1.2E-07	1.1E-07	1.1E-07	1.0E-09
A Nearest Res	E	1.50	1.8E-07	1.8E-07	1.8E-07	1.4E-09
A Nearest Res	ESE	1.00	2.8E-07	2.8E-07	2.7E-07	3.9E-09
A Nearest Res	SE	1.50	3.6E-07	3.6E-07	3.6E-07	3.7E-09
A Nearest Res	SSE	1.50	3.7E-07	3.7E-07	3.6E-07	3.3E-09
A Nearest Res	SSW	1.50	1.3E-07	1.3E-07	1.3E-07	1.7E-09
A Nearest Res	SW	1.50	5.2E-08	5.2E-08	5.1E-08	1.3E-09
A Nearest Res	WSW	1.50	4.0E-08	4.0E-08	3.9E-08	6.9E-10
A Nearest Res	W	1.50	2.5E-08	2.4E-08	2.4E-08	5.0E-10
A Nearest Res	WNW	1.50	1.9E-08	1.9E-08	1.9E-08	3.5E-10
A Nearest Res	NW	1.50	1.7E-08	1.7E-08	1.7E-08	3.4E-10
A Nearest Res	NNW	1.50	3.1E-08	3.1E-08	3.1E-08	6.4E-10
A Nearest Res	N	1.50	7.0E-08	7.0E-08	6.9E-08	1.8E-09
A Nearest Res	NNE	1.50	8.3E-08	8.2E-08	8.2E-08	1.9E-09

B299

**Atmospheric Diffusion Estimates**

**Elevated Releases**

July-September 2011

ERP ELEVATED STACK RELEASES - JUL-SEP 2011  
 NO DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.897E-07	2.413E-07	2.084E-07	1.650E-07	1.225E-07	9.295E-08	7.220E-08	5.760E-08	4.712E-08	5.079E-08	5.277E-08
SSW	3.954E-07	1.996E-07	1.188E-07	9.311E-08	8.080E-08	6.663E-08	5.428E-08	5.606E-08	5.541E-08	4.777E-08	4.181E-08
SW	3.832E-07	2.236E-07	1.922E-07	1.947E-07	2.009E-07	1.279E-07	8.911E-08	6.625E-08	5.165E-08	4.173E-08	3.467E-08
WSW	2.640E-07	1.269E-07	1.375E-07	1.879E-07	2.353E-07	1.437E-07	9.744E-08	7.102E-08	5.450E-08	4.345E-08	3.569E-08
W	4.758E-07	2.870E-07	3.431E-07	3.105E-07	2.191E-07	1.297E-07	8.653E-08	6.245E-08	4.764E-08	3.783E-08	3.099E-08
WNW	2.599E-07	3.100E-07	5.605E-07	6.697E-07	6.168E-07	3.616E-07	2.400E-07	1.802E-07	1.430E-07	1.132E-07	9.259E-08
NW	2.651E-07	1.817E-07	3.336E-07	5.899E-07	8.181E-07	4.700E-07	3.066E-07	2.206E-07	1.676E-07	1.310E-07	1.058E-07
NNW	1.060E-07	9.193E-08	1.308E-07	1.724E-07	2.206E-07	2.020E-07	1.745E-07	1.466E-07	1.248E-07	9.773E-08	7.912E-08
N	1.113E-07	6.370E-08	6.369E-08	5.867E-08	5.180E-08	4.414E-08	3.696E-08	3.054E-08	2.562E-08	2.184E-08	1.888E-08
NNE	1.195E-07	7.094E-08	6.106E-08	4.896E-08	3.781E-08	2.996E-08	2.421E-08	1.997E-08	1.680E-08	1.439E-08	1.252E-08
NE	2.189E-08	4.673E-08	6.484E-08	5.065E-08	3.084E-08	2.053E-08	1.470E-08	1.109E-08	8.711E-09	7.055E-09	5.857E-09
ENE	1.684E-08	1.800E-08	1.854E-08	1.340E-08	7.968E-09	5.297E-09	3.795E-09	2.871E-09	2.263E-09	1.841E-09	1.537E-09
E	2.242E-08	6.593E-09	3.880E-09	4.297E-09	4.631E-09	3.962E-09	3.255E-09	2.685E-09	2.248E-09	1.914E-09	1.655E-09
ESE	4.215E-08	3.281E-08	2.851E-08	2.296E-08	1.809E-08	1.450E-08	1.178E-08	9.762E-09	8.247E-09	7.090E-09	6.191E-09
SE	8.037E-08	5.707E-08	4.508E-08	3.528E-08	2.819E-08	2.311E-08	1.916E-08	1.614E-08	1.383E-08	1.203E-08	1.062E-08
SSE	1.405E-07	1.255E-07	1.154E-07	9.893E-08	8.168E-08	6.533E-08	5.226E-08	4.248E-08	3.519E-08	2.969E-08	2.547E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	4.624E-08	2.837E-08	1.820E-08	1.028E-08	7.050E-09	5.246E-09	4.077E-09	3.298E-09	2.757E-09	2.353E-09	2.038E-09
SSW	3.802E-08	2.632E-08	1.696E-08	9.634E-09	6.664E-09	4.937E-09	3.836E-09	3.103E-09	2.585E-09	2.201E-09	1.907E-09
SW	3.155E-08	2.691E-08	1.814E-08	1.095E-08	8.369E-09	6.739E-09	5.702E-09	4.689E-09	3.950E-09	3.399E-09	2.972E-09
WSW	3.106E-08	1.953E-08	1.382E-08	8.650E-09	5.846E-09	4.324E-09	3.393E-09	2.759E-09	2.308E-09	1.974E-09	1.716E-09
W	2.601E-08	1.401E-08	1.001E-08	6.734E-09	5.235E-09	3.939E-09	3.088E-09	2.517E-09	2.111E-09	1.809E-09	1.576E-09
WNW	7.865E-08	4.486E-08	3.121E-08	1.985E-08	1.394E-08	1.061E-08	8.552E-09	7.095E-09	6.015E-09	5.155E-09	4.492E-09
NW	8.827E-08	4.627E-08	3.019E-08	1.731E-08	1.151E-08	8.405E-09	6.550E-09	5.289E-09	4.391E-09	3.728E-09	3.222E-09
NNW	6.675E-08	3.652E-08	2.354E-08	1.340E-08	9.023E-09	6.653E-09	5.231E-09	4.271E-09	3.616E-09	3.105E-09	2.693E-09
N	1.656E-08	1.013E-08	7.917E-09	5.674E-09	4.400E-09	3.488E-09	2.727E-09	2.212E-09	1.844E-09	1.571E-09	1.362E-09
NNE	1.361E-08	1.631E-08	1.052E-08	6.000E-09	4.058E-09	3.003E-09	2.351E-09	1.914E-09	1.603E-09	1.371E-09	1.193E-09
NE	5.579E-09	2.639E-08	1.800E-08	1.107E-08	7.862E-09	6.036E-09	5.039E-09	4.307E-09	3.819E-09	3.330E-09	2.932E-09
ENE	1.482E-09	4.334E-09	3.057E-09	1.951E-09	1.416E-09	1.103E-09	1.007E-09	9.104E-10	7.758E-10	6.740E-10	5.945E-10
E	1.715E-09	4.519E-09	3.161E-09	1.993E-09	1.433E-09	1.108E-09	8.979E-10	7.515E-10	6.972E-10	6.445E-10	5.679E-10
ESE	6.494E-09	1.125E-08	7.801E-09	4.866E-09	3.475E-09	2.674E-09	2.157E-09	1.799E-09	1.537E-09	1.337E-09	1.181E-09
SE	9.491E-09	6.300E-09	5.458E-09	4.972E-09	4.162E-09	3.684E-09	3.364E-09	3.123E-09	2.676E-09	2.335E-09	2.067E-09
SSE	2.605E-08	3.154E-08	2.045E-08	1.174E-08	7.967E-09	5.912E-09	4.640E-09	3.784E-09	3.174E-09	2.720E-09	2.370E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	1.964E-07	1.188E-07	7.190E-08	5.151E-08	4.976E-08	2.782E-08	1.060E-08	5.260E-09	3.314E-09	2.356E-09
SSW	1.253E-07	7.724E-08	5.828E-08	5.269E-08	4.217E-08	2.476E-08	9.943E-09	4.957E-09	3.115E-09	2.206E-09
SW	2.003E-07	1.671E-07	9.030E-08	5.204E-08	3.560E-08	2.404E-08	1.140E-08	6.759E-09	4.697E-09	3.404E-09
WSW	1.575E-07	1.841E-07	9.921E-08	5.501E-08	3.628E-08	1.955E-08	8.553E-09	4.357E-09	2.768E-09	1.978E-09
W	3.161E-07	1.997E-07	8.842E-08	4.814E-08	3.117E-08	1.490E-08	6.797E-09	3.944E-09	2.526E-09	1.812E-09
WNW	5.534E-07	5.151E-07	2.485E-07	1.423E-07	9.354E-08	4.630E-08	1.975E-08	1.067E-08	7.100E-09	5.164E-09
NW	4.137E-07	6.127E-07	3.158E-07	1.688E-07	1.068E-07	4.846E-08	1.759E-08	8.491E-09	5.307E-09	3.737E-09
NNW	1.406E-07	2.016E-07	1.707E-07	1.207E-07	8.005E-08	3.747E-08	1.371E-08	6.716E-09	4.296E-09	3.104E-09
N	6.146E-08	4.992E-08	3.631E-08	2.559E-08	1.890E-08	1.058E-08	5.606E-09	3.427E-09	2.219E-09	1.574E-09
NNE	5.788E-08	3.680E-08	2.405E-08	1.679E-08	1.348E-08	1.314E-08	6.140E-09	3.024E-09	1.920E-09	1.374E-09
NE	5.451E-08	3.066E-08	1.481E-08	8.761E-09	6.109E-09	1.804E-08	1.118E-08	6.124E-09	4.330E-09	3.327E-09
ENE	1.614E-08	7.988E-09	3.826E-09	2.276E-09	1.607E-09	3.133E-09	1.959E-09	1.148E-09	8.867E-10	6.747E-10
E	4.668E-09	4.260E-09	3.215E-09	2.245E-09	1.754E-09	3.292E-09	2.004E-09	1.111E-09	7.726E-10	6.318E-10
ESE	2.700E-08	1.758E-08	1.170E-08	8.239E-09	6.569E-09	8.659E-09	4.900E-09	2.681E-09	1.801E-09	1.339E-09
SE	4.339E-08	2.751E-08	1.900E-08	1.380E-08	1.062E-08	6.635E-09	4.720E-09	3.684E-09	3.022E-09	2.337E-09
SSE	1.103E-07	7.825E-08	5.183E-08	3.518E-08	2.693E-08	2.539E-08	1.200E-08	5.951E-09	3.796E-09	2.725E-09

B301

ERP ELEVATED STACK RELEASES - JUL-SEP 2011  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.894E-07	2.409E-07	2.080E-07	1.646E-07	1.222E-07	9.262E-08	7.188E-08	5.730E-08	4.683E-08	5.044E-08	5.236E-08
SSW	3.949E-07	1.992E-07	1.186E-07	9.286E-08	8.050E-08	6.630E-08	5.394E-08	5.563E-08	5.491E-08	4.727E-08	4.131E-08
SW	3.828E-07	2.232E-07	1.918E-07	1.942E-07	2.001E-07	1.272E-07	8.847E-08	6.566E-08	5.110E-08	4.121E-08	3.417E-08
WSW	2.639E-07	1.267E-07	1.373E-07	1.875E-07	2.346E-07	1.431E-07	9.691E-08	7.054E-08	5.406E-08	4.305E-08	3.530E-08
W	4.754E-07	2.867E-07	3.427E-07	3.099E-07	2.185E-07	1.292E-07	8.606E-08	6.203E-08	4.724E-08	3.746E-08	3.064E-08
WNW	2.597E-07	3.098E-07	5.598E-07	6.685E-07	6.151E-07	3.602E-07	2.388E-07	1.790E-07	1.417E-07	1.120E-07	9.145E-08
NW	2.648E-07	1.814E-07	3.331E-07	5.889E-07	8.161E-07	4.685E-07	3.053E-07	2.195E-07	1.666E-07	1.301E-07	1.050E-07
NNW	1.059E-07	9.183E-08	1.306E-07	1.722E-07	2.201E-07	2.014E-07	1.738E-07	1.459E-07	1.239E-07	9.694E-08	7.839E-08
N	1.112E-07	6.362E-08	6.361E-08	5.859E-08	5.169E-08	4.402E-08	3.683E-08	3.041E-08	2.550E-08	2.172E-08	1.876E-08
NNE	1.194E-07	7.085E-08	6.098E-08	4.889E-08	3.773E-08	2.989E-08	2.413E-08	1.990E-08	1.674E-08	1.433E-08	1.246E-08
NE	2.188E-08	4.667E-08	6.471E-08	5.051E-08	3.073E-08	2.044E-08	1.462E-08	1.102E-08	8.649E-09	6.998E-09	5.805E-09
ENE	1.684E-08	1.799E-08	1.852E-08	1.338E-08	7.950E-09	5.281E-09	3.782E-09	2.859E-09	2.252E-09	1.831E-09	1.527E-09
E	2.241E-08	6.589E-09	3.876E-09	4.292E-09	4.623E-09	3.954E-09	3.246E-09	2.859E-09	2.240E-09	1.906E-09	1.648E-09
ESE	4.212E-08	3.278E-08	2.847E-08	2.292E-08	1.805E-08	1.445E-08	1.173E-08	9.707E-09	8.191E-09	7.034E-09	6.135E-09
SE	8.030E-08	5.699E-08	4.501E-08	3.522E-08	2.811E-08	2.303E-08	1.907E-08	1.604E-08	1.373E-08	1.194E-08	1.052E-08
SSE	1.404E-07	1.253E-07	1.152E-07	9.871E-08	8.143E-08	6.507E-08	5.200E-08	4.223E-08	3.495E-08	2.945E-08	2.523E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	4.584E-08	2.800E-08	1.788E-08	1.001E-08	6.803E-09	5.016E-09	3.862E-09	3.096E-09	2.564E-09	2.169E-09	1.861E-09
SSW	3.751E-08	2.578E-08	1.650E-08	9.241E-09	6.306E-09	4.609E-09	3.534E-09	2.821E-09	2.319E-09	1.949E-09	1.667E-09
SW	3.102E-08	2.591E-08	1.721E-08	1.008E-08	7.427E-09	5.767E-09	4.689E-09	3.738E-09	3.060E-09	2.560E-09	2.179E-09
WSW	3.068E-08	1.906E-08	1.332E-08	8.107E-09	5.359E-09	3.879E-09	2.976E-09	2.371E-09	1.944E-09	1.630E-09	1.391E-09
W	2.568E-08	1.372E-08	9.693E-09	6.346E-09	4.775E-09	3.501E-09	2.684E-09	2.141E-09	1.758E-09	1.476E-09	1.261E-09
WNW	7.751E-08	4.366E-08	2.996E-08	1.847E-08	1.260E-08	9.321E-09	7.297E-09	5.883E-09	4.847E-09	4.055E-09	3.452E-09
NW	8.750E-08	4.566E-08	2.966E-08	1.685E-08	1.111E-08	8.039E-09	6.210E-09	4.970E-09	4.089E-09	3.441E-09	2.948E-09
NNW	6.603E-08	3.583E-08	2.293E-08	1.285E-08	8.530E-09	6.198E-09	4.798E-09	3.857E-09	3.208E-09	2.710E-09	2.318E-09
N	1.645E-08	1.003E-08	7.812E-09	5.564E-09	4.284E-09	3.370E-09	2.617E-09	2.108E-09	1.746E-09	1.477E-09	1.272E-09
NNE	1.354E-08	1.618E-08	1.040E-08	5.899E-09	3.966E-09	2.918E-09	2.271E-09	1.838E-09	1.530E-09	1.301E-09	1.125E-09
NE	5.524E-09	2.471E-08	1.647E-08	9.680E-09	6.588E-09	4.852E-09	3.883E-09	3.185E-09	2.702E-09	2.266E-09	1.927E-09
ENE	1.471E-09	4.111E-09	2.841E-09	1.741E-09	1.216E-09	9.120E-10	7.961E-10	6.893E-10	5.674E-10	4.768E-10	4.072E-10
E	1.706E-09	4.307E-09	2.955E-09	1.794E-09	1.243E-09	9.270E-10	7.255E-10	5.872E-10	5.223E-10	4.636E-10	3.962E-10
ESE	6.425E-09	1.095E-08	7.514E-09	4.588E-09	3.208E-09	2.417E-09	1.910E-09	1.561E-09	1.308E-09	1.117E-09	9.685E-10
SE	9.394E-09	6.197E-09	5.334E-09	4.786E-09	3.944E-09	3.433E-09	3.080E-09	2.808E-09	2.371E-09	2.039E-09	1.779E-09
SSE	2.579E-08	3.083E-08	1.982E-08	1.119E-08	7.472E-09	5.457E-09	4.216E-09	3.387E-09	2.799E-09	2.364E-09	2.031E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE										
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	
S	1.960E-07	1.185E-07	7.158E-08	5.120E-08	4.937E-08	2.747E-08	1.033E-08	5.031E-09	3.112E-09	2.172E-09	
SSW	1.251E-07	7.694E-08	5.791E-08	5.221E-08	4.167E-08	2.426E-08	9.549E-09	4.632E-09	2.833E-09	1.954E-09	
SW	1.998E-07	1.664E-07	8.967E-08	5.149E-08	3.509E-08	2.318E-08	1.048E-08	5.778E-09	3.751E-09	2.567E-09	
WSW	1.573E-07	1.835E-07	9.868E-08	5.457E-08	3.588E-08	1.909E-08	8.043E-09	3.912E-09	2.381E-09	1.635E-09	
W	3.157E-07	1.991E-07	8.795E-08	4.774E-08	3.082E-08	1.459E-08	6.391E-09	3.514E-09	2.151E-09	1.480E-09	
WNW	5.526E-07	5.137E-07	2.473E-07	1.411E-07	9.239E-08	4.509E-08	1.842E-08	9.387E-09	5.893E-09	4.066E-09	
NW	4.130E-07	6.111E-07	3.145E-07	1.678E-07	1.060E-07	4.785E-08	1.715E-08	8.126E-09	4.989E-09	3.451E-09	
NNW	1.405E-07	2.011E-07	1.700E-07	1.199E-07	7.931E-08	3.680E-08	1.317E-08	6.260E-09	3.878E-09	2.712E-09	
N	6.138E-08	4.981E-08	3.618E-08	2.546E-08	1.878E-08	1.047E-08	5.494E-09	3.313E-09	2.116E-09	1.481E-09	
NNE	5.780E-08	3.673E-08	2.398E-08	1.672E-08	1.341E-08	1.302E-08	6.040E-09	2.939E-09	1.844E-09	1.304E-09	
NE	5.439E-08	3.055E-08	1.473E-08	8.698E-09	6.054E-09	1.678E-08	9.816E-09	4.927E-09	3.200E-09	2.270E-09	
ENE	1.612E-08	7.971E-09	3.813E-09	2.265E-09	1.597E-09	2.960E-09	1.752E-09	9.467E-10	6.734E-10	4.779E-10	
E	4.664E-09	4.252E-09	3.207E-09	2.237E-09	1.746E-09	3.128E-09	1.807E-09	9.306E-10	6.020E-10	4.560E-10	
ESE	2.696E-08	1.753E-08	1.165E-08	8.183E-09	6.509E-09	8.417E-09	4.625E-09	2.425E-09	1.565E-09	1.119E-09	
SE	4.332E-08	2.743E-08	1.892E-08	1.371E-08	1.052E-08	6.524E-09	4.534E-09	3.428E-09	2.719E-09	2.041E-09	
SSE	1.101E-07	7.800E-08	5.158E-08	3.493E-08	2.669E-08	2.481E-08	1.145E-08	5.498E-09	3.400E-09	2.370E-09	

B302

ERP ELEVATED STACK RELEASES - JUL-SEP 2011  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.896E-07	2.390E-07	2.040E-07	1.611E-07	1.192E-07	8.991E-08	6.938E-08	5.499E-08	4.470E-08	4.817E-08	5.007E-08
SSW	3.952E-07	1.977E-07	1.164E-07	9.126E-08	7.900E-08	6.472E-08	5.234E-08	5.383E-08	5.302E-08	4.546E-08	3.961E-08
SW	3.831E-07	2.215E-07	1.883E-07	1.913E-07	1.965E-07	1.237E-07	8.540E-08	6.297E-08	4.873E-08	3.912E-08	3.231E-08
WSW	2.640E-07	1.257E-07	1.353E-07	1.857E-07	2.310E-07	1.396E-07	9.390E-08	6.795E-08	5.181E-08	4.109E-08	3.357E-08
W	4.757E-07	2.821E-07	3.374E-07	3.040E-07	2.120E-07	1.240E-07	8.190E-08	5.860E-08	4.436E-08	3.500E-08	2.850E-08
WNW	2.598E-07	3.073E-07	5.534E-07	6.589E-07	6.010E-07	3.481E-07	2.289E-07	1.707E-07	1.347E-07	1.060E-07	8.616E-08
NW	2.650E-07	1.800E-07	3.293E-07	5.838E-07	8.044E-07	4.574E-07	2.959E-07	2.115E-07	1.598E-07	1.241E-07	9.959E-08
NNW	1.060E-07	9.109E-08	1.288E-07	1.705E-07	2.175E-07	1.980E-07	1.704E-07	1.427E-07	1.211E-07	9.435E-08	7.594E-08
N	1.112E-07	6.312E-08	6.247E-08	5.752E-08	5.067E-08	4.300E-08	3.584E-08	2.947E-08	2.462E-08	2.090E-08	1.800E-08
NNE	1.194E-07	7.028E-08	5.978E-08	4.781E-08	3.682E-08	2.907E-08	2.340E-08	1.613E-08	1.377E-08	1.194E-08	1.194E-08
NE	2.189E-08	4.629E-08	6.334E-08	4.908E-08	2.960E-08	1.957E-08	1.391E-08	1.043E-08	8.140E-09	6.553E-09	5.409E-09
ENE	1.684E-08	1.784E-08	1.812E-08	1.300E-08	7.663E-09	5.058E-09	3.599E-09	2.704E-09	2.117E-09	1.712E-09	1.421E-09
E	2.242E-08	6.534E-09	3.830E-09	4.266E-09	4.569E-09	3.877E-09	3.159E-09	2.586E-09	2.151E-09	1.820E-09	1.566E-09
ESE	4.214E-08	3.251E-08	2.792E-08	2.245E-08	1.765E-08	1.408E-08	1.139E-08	9.389E-09	7.897E-09	6.763E-09	5.885E-09
SE	8.035E-08	5.654E-08	4.414E-08	3.449E-08	2.750E-08	2.247E-08	1.855E-08	1.556E-08	1.329E-08	1.153E-08	1.014E-08
SSE	1.405E-07	1.243E-07	1.131E-07	9.691E-08	7.980E-08	6.346E-08	5.042E-08	4.071E-08	3.351E-08	2.810E-08	2.396E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	4.372E-08	2.624E-08	1.629E-08	8.643E-09	5.544E-09	3.902E-09	2.905E-09	2.260E-09	1.824E-09	1.509E-09	1.269E-09
SSW	3.590E-08	2.439E-08	1.520E-08	8.090E-09	5.236E-09	3.715E-09	2.778E-09	2.169E-09	1.750E-09	1.445E-09	1.217E-09
SW	2.934E-08	2.490E-08	1.623E-08	9.123E-09	6.435E-09	4.820E-09	3.866E-09	3.046E-09	2.467E-09	2.045E-09	1.726E-09
WSW	2.913E-08	1.793E-08	1.230E-08	7.271E-09	4.671E-09	3.307E-09	2.493E-09	1.955E-09	1.581E-09	1.310E-09	1.105E-09
W	2.379E-08	1.252E-08	8.830E-09	5.657E-09	4.147E-09	2.984E-09	2.246E-09	1.764E-09	1.429E-09	1.186E-09	1.002E-09
WNW	7.277E-08	4.033E-08	2.719E-08	1.616E-08	1.048E-08	7.439E-09	5.683E-09	4.508E-09	3.670E-09	3.031E-09	2.550E-09
NW	8.255E-08	4.185E-08	2.642E-08	1.423E-08	8.942E-09	6.220E-09	4.662E-09	3.637E-09	2.926E-09	2.412E-09	2.028E-09
NNW	6.369E-08	3.371E-08	2.097E-08	1.111E-08	6.904E-09	4.754E-09	3.520E-09	2.734E-09	2.220E-09	1.840E-09	1.545E-09
N	1.574E-08	9.493E-09	7.378E-09	5.254E-09	3.965E-09	3.005E-09	2.278E-09	1.796E-09	1.459E-09	1.213E-09	1.028E-09
NNE	1.303E-08	1.562E-08	9.726E-09	5.238E-09	3.369E-09	2.388E-09	1.801E-09	1.416E-09	1.149E-09	9.545E-10	8.079E-10
NE	5.147E-09	2.531E-08	1.658E-08	9.362E-09	6.043E-09	4.273E-09	3.324E-09	2.695E-09	2.280E-09	1.907E-09	1.616E-09
ENE	1.370E-09	4.158E-09	2.823E-09	1.660E-09	1.096E-09	7.869E-10	6.661E-10	5.627E-10	4.535E-10	3.739E-10	3.139E-10
E	1.622E-09	4.344E-09	2.925E-09	1.701E-09	1.113E-09	7.940E-10	5.987E-10	4.693E-10	4.082E-10	3.558E-10	2.983E-10
ESE	6.183E-09	1.087E-08	7.291E-09	4.241E-09	2.795E-09	2.008E-09	1.526E-09	1.205E-09	9.782E-10	8.119E-10	6.855E-10
SE	9.042E-09	5.946E-09	5.150E-09	4.709E-09	3.932E-09	3.472E-09	3.161E-09	2.916E-09	2.445E-09	2.092E-09	1.816E-09
SSE	2.448E-08	2.971E-08	1.859E-08	1.001E-08	6.382E-09	4.486E-09	3.356E-09	2.620E-09	2.110E-09	1.741E-09	1.464E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	1.927E-07	1.155E-07	6.910E-08	4.896E-08	4.715E-08	2.570E-08	8.965E-09	3.941E-09	2.278E-09	1.514E-09
SSW	1.233E-07	7.538E-08	5.624E-08	5.037E-08	3.997E-08	2.286E-08	8.402E-09	3.746E-09	2.183E-09	1.451E-09
SW	1.970E-07	1.630E-07	8.665E-08	4.914E-08	3.323E-08	2.203E-08	9.507E-09	4.869E-09	3.060E-09	2.052E-09
WSW	1.556E-07	1.804E-07	9.572E-08	5.234E-08	3.415E-08	1.792E-08	7.234E-09	3.345E-09	1.966E-09	1.314E-09
W	3.103E-07	1.933E-07	8.381E-08	4.487E-08	2.868E-08	1.339E-08	5.691E-09	2.999E-09	1.775E-09	1.190E-09
WNW	5.456E-07	5.015E-07	2.374E-07	1.341E-07	8.709E-08	4.170E-08	1.609E-08	7.546E-09	4.524E-09	3.042E-09
NW	4.092E-07	6.011E-07	3.052E-07	1.610E-07	1.005E-07	4.404E-08	1.459E-08	6.322E-09	3.659E-09	2.422E-09
NNW	1.390E-07	1.984E-07	1.667E-07	1.171E-07	7.686E-08	3.471E-08	1.143E-08	4.833E-09	2.763E-09	1.844E-09
N	6.041E-08	4.878E-08	3.520E-08	2.459E-08	1.802E-08	9.941E-09	5.153E-09	2.970E-09	1.805E-09	1.217E-09
NNE	5.679E-08	3.582E-08	2.324E-08	1.611E-08	1.288E-08	1.242E-08	5.405E-09	2.415E-09	1.424E-09	9.579E-10
NE	5.321E-08	2.947E-08	1.403E-08	8.190E-09	5.651E-09	1.695E-09	9.491E-09	4.366E-09	2.717E-09	1.910E-09
ENE	1.578E-08	7.691E-09	3.630E-09	2.131E-09	1.488E-09	2.945E-09	1.668E-09	8.211E-10	5.506E-10	3.753E-10
E	4.625E-09	4.195E-09	3.122E-09	2.149E-09	1.662E-09	3.108E-09	1.711E-09	8.009E-10	4.830E-10	3.500E-10
ESE	2.651E-08	1.713E-08	1.131E-08	7.891E-09	6.255E-09	8.237E-09	4.276E-09	2.025E-09	1.210E-09	8.144E-10
SE	4.260E-08	2.682E-08	1.840E-08	1.327E-08	1.015E-08	6.280E-09	4.462E-09	3.470E-09	2.807E-09	2.095E-09
SSE	1.084E-07	7.634E-08	5.001E-08	3.350E-08	2.538E-08	2.361E-08	1.031E-08	4.539E-09	2.636E-09	1.748E-09

B303

ERP ELEVATED STACK RELEASES - JUL-SEP 2011  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) AT FIXED POINTS BY DOWNWIND SECTORS *****												
DIRECTION	DISTANCES IN MILES											
FROM SITE	0.25	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	
S	9.827E-09	7.949E-09	6.689E-09	4.581E-09	2.222E-09	1.361E-09	9.195E-10	6.602E-10	4.943E-10	3.902E-10	3.576E-10	
SSW	5.948E-09	4.813E-09	4.053E-09	2.777E-09	1.348E-09	8.259E-10	5.579E-10	4.006E-10	3.605E-10	2.728E-10	2.138E-10	
SW	8.208E-09	6.285E-09	4.764E-09	2.957E-09	1.913E-09	1.025E-09	6.328E-10	4.292E-10	3.104E-10	2.350E-10	1.843E-10	
WSW	6.434E-09	5.043E-09	4.003E-09	3.883E-09	1.911E-09	1.021E-09	6.276E-10	4.242E-10	3.059E-10	2.312E-10	1.810E-10	
W	7.719E-09	1.250E-08	8.822E-09	5.150E-09	2.273E-09	1.208E-09	7.394E-10	4.983E-10	3.585E-10	2.704E-10	2.114E-10	
WNW	1.369E-08	1.098E-08	1.692E-08	1.090E-08	6.080E-09	3.055E-09	1.806E-09	1.187E-09	8.562E-10	6.397E-10	5.006E-10	
NW	8.107E-09	7.022E-09	6.601E-09	9.851E-09	6.023E-09	2.996E-09	1.766E-09	1.165E-09	8.335E-10	6.355E-10	5.104E-10	
NNW	5.735E-09	4.874E-09	4.451E-09	3.251E-09	2.888E-09	1.555E-09	9.585E-10	7.664E-10	5.531E-10	4.258E-10	3.460E-10	
N	4.907E-09	3.935E-09	3.261E-09	2.204E-09	1.057E-09	6.445E-10	4.342E-10	3.113E-10	2.329E-10	1.799E-10	1.424E-10	
NNE	4.626E-09	3.588E-09	2.791E-09	1.779E-09	8.086E-10	4.812E-10	3.200E-10	2.278E-10	1.698E-10	1.310E-10	1.037E-10	
NE	2.818E-09	2.142E-09	1.598E-09	9.756E-10	4.244E-10	2.473E-10	1.625E-10	1.149E-10	8.540E-11	6.577E-11	5.206E-11	
ENE	1.531E-09	1.131E-09	7.910E-10	4.486E-10	1.793E-10	9.989E-11	6.393E-11	4.455E-11	3.284E-11	2.520E-11	1.995E-11	
E	5.186E-10	4.266E-10	3.697E-10	2.593E-10	1.283E-10	7.927E-11	5.378E-11	3.870E-11	2.901E-11	1.377E-11	1.775E-11	
ESE	1.803E-09	1.422E-09	1.143E-09	7.516E-10	3.518E-10	2.121E-10	1.421E-10	1.016E-10	7.587E-11	5.856E-11	4.636E-11	
SE	2.581E-09	2.063E-09	1.698E-09	1.141E-09	5.447E-10	3.313E-10	2.230E-10	1.598E-10	1.195E-10	9.228E-11	7.305E-11	
SSE	5.967E-09	4.923E-09	4.286E-09	3.019E-09	1.499E-09	9.270E-10	6.293E-10	4.531E-10	3.397E-10	2.626E-10	2.079E-10	

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) AT FIXED POINTS BY DOWNWIND SECTORS *****												
DIRECTION	DISTANCES IN MILES											
FROM SITE	5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00	
S	2.878E-10	1.717E-10	1.123E-10	6.300E-11	3.995E-11	3.059E-11	2.212E-11	1.676E-11	1.309E-11	1.047E-11	8.565E-12	
SSW	1.743E-10	1.053E-10	6.913E-11	3.891E-11	2.561E-11	1.869E-11	1.348E-11	1.018E-11	7.921E-12	6.328E-12	5.165E-12	
SW	1.509E-10	8.829E-11	5.765E-11	3.246E-11	2.083E-11	1.557E-11	1.137E-11	8.537E-12	6.638E-12	5.302E-12	4.328E-12	
WSW	1.458E-10	8.364E-11	5.420E-11	3.620E-11	2.193E-11	1.472E-11	1.062E-11	7.975E-12	6.201E-12	4.953E-12	4.043E-12	
W	1.701E-10	7.685E-11	5.414E-11	2.961E-11	2.315E-11	1.570E-11	1.125E-11	8.446E-12	6.567E-12	5.246E-12	4.282E-12	
WNW	4.094E-10	2.032E-10	1.303E-10	7.182E-11	4.912E-11	3.655E-11	2.614E-11	1.961E-11	1.532E-11	1.224E-11	9.989E-12	
NW	4.300E-10	2.388E-10	1.635E-10	1.026E-10	6.292E-11	4.245E-11	3.085E-11	2.320E-11	1.802E-11	1.439E-11	1.175E-11	
NNW	2.949E-10	1.707E-10	1.195E-10	7.087E-11	4.525E-11	3.034E-11	2.178E-11	1.662E-11	1.288E-11	1.029E-11	8.399E-12	
N	1.150E-10	5.490E-11	3.375E-11	1.812E-11	4.082E-11	2.477E-11	1.776E-11	1.334E-11	1.038E-11	8.294E-12	6.772E-12	
NNE	8.382E-11	1.348E-10	8.214E-11	4.194E-11	2.559E-11	1.724E-11	1.241E-11	9.363E-12	7.301E-12	5.853E-12	4.792E-12	
NE	4.212E-11	4.098E-11	2.728E-11	1.546E-11	9.835E-12	6.689E-12	4.593E-12	3.298E-12	2.552E-12	2.023E-12	1.652E-12	
ENE	1.617E-11	1.171E-11	7.917E-12	4.626E-12	3.020E-12	2.095E-12	1.542E-12	1.168E-12	9.088E-13	7.273E-13	5.945E-13	
E	1.433E-11	1.506E-11	1.085E-11	6.589E-12	4.230E-12	2.831E-12	2.010E-12	1.490E-12	1.146E-12	9.133E-13	7.439E-13	
ESE	3.746E-11	4.098E-11	2.985E-11	1.831E-11	1.180E-11	7.915E-12	5.628E-12	4.179E-12	3.215E-12	2.553E-12	2.073E-12	
SE	5.902E-11	2.817E-11	1.732E-11	9.314E-12	5.876E-12	4.221E-12	3.327E-12	9.366E-12	7.217E-12	5.736E-12	4.678E-12	
SSE	1.678E-10	1.751E-10	1.081E-10	5.622E-11	3.457E-11	2.334E-11	1.682E-11	1.269E-11	9.902E-12	7.948E-12	6.514E-12	

B304

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) BY DOWNWIND SECTORS *****										
DIRECTION	SEGMENT BOUNDARIES IN MILES									
FROM SITE	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	6.032E-09	2.364E-09	9.336E-10	5.021E-10	3.414E-10	1.711E-10	6.371E-11	2.970E-11	1.689E-11	1.054E-11
SSW	3.655E-09	1.434E-09	5.665E-10	3.385E-10	2.167E-10	1.046E-10	3.972E-11	1.845E-11	1.026E-11	6.369E-12
SW	4.299E-09	1.750E-09	6.560E-10	3.156E-10	1.870E-10	8.859E-11	3.289E-11	1.529E-11	8.623E-12	5.337E-12
WSW	4.180E-09	1.954E-09	6.512E-10	3.112E-10	1.828E-10	8.437E-11	3.386E-11	1.500E-11	8.055E-12	4.986E-12
W	8.006E-09	2.439E-09	7.678E-10	3.649E-10	2.136E-10	8.747E-11	3.219E-11	1.590E-11	8.531E-12	5.280E-12
WNW	1.292E-08	5.807E-09	1.891E-09	8.682E-10	5.080E-10	2.166E-10	7.473E-11	3.574E-11	1.984E-11	1.232E-11
NW	8.139E-09	5.528E-09	1.854E-09	8.527E-10	5.177E-10	2.478E-10	9.850E-11	4.327E-11	2.341E-11	1.449E-11
NNW	4.012E-09	2.376E-09	1.041E-09	5.656E-10	3.507E-10	1.755E-10	7.029E-11	3.089E-11	1.667E-11	1.035E-11
N	2.941E-09	1.129E-09	4.411E-10	2.351E-10	1.434E-10	5.887E-11	3.168E-11	2.624E-11	1.347E-11	8.347E-12
NNE	2.519E-09	8.788E-10	3.261E-10	1.716E-10	1.044E-10	1.001E-10	4.361E-11	1.754E-11	9.449E-12	5.889E-12
NE	1.442E-09	4.681E-10	1.661E-10	8.636E-11	5.244E-11	3.514E-11	1.558E-11	6.689E-12	3.384E-12	2.042E-12
ENE	7.143E-10	2.039E-10	6.577E-11	3.327E-11	2.011E-11	1.102E-11	4.643E-12	2.120E-12	1.176E-12	7.319E-13
E	3.333E-10	1.356E-10	5.455E-11	2.927E-11	1.787E-11	1.303E-11	6.487E-12	2.875E-12	1.507E-12	9.194E-13
ESE	1.031E-09	3.786E-10	1.446E-10	7.662E-11	4.668E-11	3.525E-11	1.798E-11	8.037E-12	4.226E-12	2.572E-12
SE	1.532E-09	5.824E-10	2.266E-10	1.206E-10	7.355E-11	3.020E-11	9.565E-12	4.305E-12	6.822E-12	5.783E-12
SSE	3.864E-09	1.582E-09	6.382E-10	3.427E-10	2.092E-10	1.437E-10	5.813E-11	2.372E-11	1.281E-11	7.996E-12

ERP ELEVATED STACK RELEASES - JUL-SEP 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS  
SPECIFIC POINTS OF INTEREST

RELEASE TYPE OF	DIRECTION	DIST.	X/Q NO DECAY UNDEPLETED	X/Q 2.26 DAY DECAY UNDEPLETED	X/Q 8.0 DAY DECAY DEPLETED	D/Q
A Site Boundary	S	.80	1.9E-07	1.9E-07	1.9E-07	6.2E-09
A Site Boundary	SSW	.82	1.0E-07	1.0E-07	9.9E-08	3.6E-09
A Site Boundary	SW	.97	1.9E-07	1.9E-07	1.9E-07	3.1E-09
A Site Boundary	WSW	.93	1.7E-07	1.7E-07	1.7E-07	3.6E-09
A Site Boundary	W	.91	3.2E-07	3.2E-07	3.2E-07	6.1E-09
A Site Boundary	WNW	.94	6.5E-07	6.5E-07	6.4E-07	1.2E-08
A Site Boundary	NW	.81	3.9E-07	3.9E-07	3.9E-07	6.2E-09
A Site Boundary	NNW	.69	1.1E-07	1.1E-07	1.1E-07	4.5E-09
A Site Boundary	N	.67	5.9E-08	5.9E-08	5.8E-08	3.4E-09
A Site Boundary	NNE	.60	6.1E-08	6.1E-08	6.0E-08	3.2E-09
A Site Boundary	NE	.62	5.9E-08	5.9E-08	5.8E-08	1.8E-09
A Site Boundary	ENE	.59	1.8E-08	1.8E-08	1.8E-08	9.9E-10
A Site Boundary	E	.53	4.9E-09	4.9E-09	4.8E-09	4.2E-10
A Site Boundary	ESE	.54	3.0E-08	3.0E-08	3.0E-08	1.4E-09
A Site Boundary	SE	.65	4.6E-08	4.6E-08	4.5E-08	1.8E-09
A Site Boundary	SSE	.81	1.1E-07	1.1E-07	1.1E-07	3.9E-09
A Nearest Res	SSW	2.10	6.4E-08	6.3E-08	6.2E-08	7.6E-10
A Nearest Res	SW	1.30	2.0E-07	2.0E-07	2.0E-07	2.6E-09
A Nearest Res	WSW	1.90	1.6E-07	1.6E-07	1.5E-07	1.1E-09
A Nearest Res	W	1.00	3.1E-07	3.1E-07	3.0E-07	5.2E-09
A Nearest Res	WNW	1.70	4.9E-07	4.9E-07	4.7E-07	4.5E-09
A Nearest Res	NW	.90	4.8E-07	4.8E-07	4.8E-07	1.1E-08
A Nearest Res	NNW	1.90	2.1E-07	2.1E-07	2.0E-07	1.7E-09
A Nearest Res	N	2.50	3.7E-08	3.7E-08	3.6E-08	4.3E-10
A Nearest Res	NE	2.80	1.2E-08	1.2E-08	1.2E-08	1.3E-10
A Nearest Res	ENE	1.70	6.7E-09	6.7E-09	6.4E-09	1.3E-10
A Nearest Res	E	1.90	4.1E-09	4.1E-09	4.0E-09	8.6E-11
A Nearest Res	ESE	2.30	1.3E-08	1.3E-08	1.2E-08	1.7E-10
A Nearest Res	SE	2.30	1.3E-08	1.3E-08	1.2E-08	1.7E-10
A Nearest Res	SSE	3.50	1.2E-07	1.2E-07	1.2E-07	5.5E-10
A Nearest Res	SSW	1.30	2.0E-07	2.0E-07	2.0E-07	2.6E-09
A Nearest Res	SW	1.90	1.6E-07	1.6E-07	1.5E-07	1.1E-09
A Nearest Res	WSW	2.40	2.6E-07	2.6E-07	2.5E-07	2.0E-09
A Nearest Res	W	2.90	2.3E-07	2.3E-07	2.3E-07	1.3E-09
A Nearest Res	WNW	2.80	1.6E-07	1.6E-07	1.5E-07	8.7E-10
A Nearest Res	NW	2.80	1.2E-08	1.2E-08	1.2E-08	1.3E-10
A Nearest Res	NNW	2.80	1.2E-08	1.2E-08	1.2E-08	1.3E-10
A Nearest Res	N	1.70	6.7E-09	6.7E-09	6.4E-09	1.3E-10
A Nearest Res	NE	1.90	4.1E-09	4.1E-09	4.0E-09	8.6E-11
A Nearest Res	ENE	3.00	9.8E-09	9.7E-09	9.4E-09	1.0E-10
A Nearest Res	E	.25	2.3E-07	2.3E-07	2.3E-07	9.8E-09
A Nearest Res	ESE	.25	3.1E-07	3.1E-07	3.1E-07	5.9E-09
A Nearest Res	SE	.25	3.0E-07	3.0E-07	3.0E-07	8.2E-09
A Nearest Res	SSE	.25	2.0E-07	2.0E-07	2.0E-07	6.4E-09
A Nearest Res	SSW	.25	3.7E-07	3.7E-07	3.7E-07	7.7E-09
A Nearest Res	SW	1.00	6.7E-07	6.7E-07	6.6E-07	1.1E-08
A Nearest Res	WSW	1.50	8.2E-07	8.2E-07	8.0E-07	6.0E-09
A Nearest Res	W	1.50	2.2E-07	2.2E-07	2.2E-07	2.9E-09
A Nearest Res	WNW	.25	8.5E-08	8.5E-08	8.5E-08	4.9E-09
A Nearest Res	NW	.25	9.2E-08	9.2E-08	9.2E-08	4.6E-09
A Nearest Res	NNW	.75	6.5E-08	6.4E-08	6.3E-08	1.6E-09
A Nearest Res	N	.75	1.8E-08	1.8E-08	1.8E-08	7.9E-10
A Nearest Res	NE	.25	1.7E-08	1.7E-08	1.7E-08	5.2E-10
A Nearest Res	ENE	.25	3.3E-08	3.3E-08	3.3E-08	1.8E-09
A Nearest Res	E	.25	6.3E-08	6.3E-08	6.3E-08	2.6E-09
A Nearest Res	ESE	.25	1.1E-07	1.1E-07	1.1E-07	6.0E-09
A Nearest Res	SE	.25	1.1E-07	1.1E-07	1.1E-07	6.0E-09
A Nearest Res	SSE	.25	1.1E-07	1.1E-07	1.1E-07	6.0E-09

B305



**Atmospheric Diffusion Estimates**

**Elevated Releases**

October-December 2011

ERP ELEVATED STACK RELEASES - OCT-DEC 2011  
 NO DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.769E-15	1.945E-09	2.948E-08	5.614E-08	7.139E-08	6.528E-08	5.577E-08	4.719E-08	4.022E-08	4.826E-08	5.452E-08
SSW	1.004E-15	8.164E-10	1.329E-08	2.627E-08	3.413E-08	3.113E-08	2.641E-08	2.857E-08	2.894E-08	2.518E-08	2.229E-08
SW	2.021E-16	1.848E-10	6.677E-09	1.983E-08	5.046E-08	3.852E-08	3.007E-08	2.420E-08	2.001E-08	1.692E-08	1.458E-08
WSW	8.880E-17	8.585E-11	4.767E-09	1.783E-08	5.188E-08	3.678E-08	2.749E-08	2.148E-08	1.738E-08	1.445E-08	1.229E-08
W	1.627E-14	2.327E-09	1.952E-08	3.323E-08	3.692E-08	2.414E-08	1.717E-08	1.299E-08	1.028E-08	8.419E-09	7.077E-09
WNW	2.265E-15	1.266E-09	2.211E-08	4.807E-08	7.360E-08	4.706E-08	3.316E-08	2.680E-08	2.265E-08	1.844E-08	1.542E-08
NW	6.200E-11	4.040E-09	3.854E-08	1.056E-07	2.085E-07	1.278E-07	8.767E-08	6.690E-08	5.357E-08	4.312E-08	3.572E-08
NNW	2.262E-11	2.079E-09	3.009E-08	7.832E-08	1.614E-07	1.823E-07	1.821E-07	1.699E-07	1.566E-07	1.241E-07	1.015E-07
N	2.058E-10	1.161E-08	3.258E-08	4.658E-08	5.905E-08	6.043E-08	5.653E-08	5.005E-08	4.418E-08	3.916E-08	3.493E-08
NNE	3.100E-11	2.486E-09	1.538E-08	2.869E-08	4.072E-08	4.092E-08	3.748E-08	3.346E-08	2.975E-08	2.654E-08	2.385E-08
NE	6.569E-16	7.400E-10	1.321E-08	2.780E-08	3.999E-08	3.921E-08	3.505E-08	3.063E-08	2.674E-08	2.349E-08	2.082E-08
ENE	4.518E-16	6.103E-10	1.172E-08	2.515E-08	3.558E-08	3.390E-08	2.953E-08	2.526E-08	2.166E-08	1.844E-08	1.542E-08
E	4.183E-16	4.801E-10	8.827E-09	1.855E-08	2.588E-08	2.463E-08	2.150E-08	1.846E-08	1.589E-08	1.381E-08	1.213E-08
ESE	1.003E-15	8.863E-10	1.431E-08	2.791E-08	3.610E-08	3.326E-08	2.861E-08	2.438E-08	2.093E-08	1.817E-08	1.596E-08
SE	2.771E-15	1.885E-09	2.817E-08	5.323E-08	6.668E-08	6.024E-08	5.103E-08	4.293E-08	3.642E-08	3.128E-08	2.720E-08
SSE	5.180E-11	4.129E-09	2.682E-08	4.797E-08	6.353E-08	6.128E-08	5.459E-08	4.768E-08	4.162E-08	3.655E-08	3.236E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	4.916E-08	3.513E-08	2.307E-08	1.341E-08	9.600E-09	7.362E-09	5.758E-09	4.682E-09	3.958E-09	3.407E-09	2.961E-09
SSW	2.074E-08	1.881E-08	1.244E-08	7.310E-09	5.489E-09	4.231E-09	3.320E-09	2.707E-09	2.274E-09	1.948E-09	1.698E-09
SW	1.428E-08	1.384E-08	9.383E-09	5.678E-09	4.261E-09	3.368E-09	2.770E-09	2.268E-09	1.909E-09	1.641E-09	1.434E-09
WSW	1.138E-08	8.709E-09	6.562E-09	4.269E-09	2.918E-09	2.176E-09	1.715E-09	1.402E-09	1.179E-09	1.012E-09	8.837E-10
W	6.072E-09	3.532E-09	2.828E-09	2.203E-09	1.845E-09	1.393E-09	1.100E-09	9.025E-10	7.608E-10	6.548E-10	5.729E-10
WNW	1.346E-08	8.446E-09	6.207E-09	4.189E-09	3.000E-09	2.313E-09	1.883E-09	1.569E-09	1.329E-09	1.144E-09	1.000E-09
NW	3.083E-08	1.852E-08	1.338E-08	8.763E-09	6.018E-09	4.506E-09	3.683E-09	3.054E-09	2.571E-09	2.209E-09	1.930E-09
NNW	8.700E-08	4.996E-08	3.267E-08	1.894E-08	1.290E-08	9.596E-09	7.607E-09	6.252E-09	5.317E-09	4.572E-09	3.980E-09
N	3.148E-08	2.101E-08	1.800E-08	1.459E-08	1.224E-08	1.009E-08	7.945E-09	6.474E-09	5.417E-09	4.631E-09	4.027E-09
NNE	2.843E-08	5.188E-08	3.398E-08	1.978E-08	1.352E-08	1.008E-08	7.946E-09	6.502E-09	5.469E-09	4.696E-09	4.100E-09
NE	2.355E-08	4.405E-08	2.899E-08	1.697E-08	1.165E-08	8.722E-09	7.004E-09	5.808E-09	4.953E-09	4.256E-09	3.718E-09
ENE	1.723E-08	2.413E-08	1.597E-08	9.387E-09	6.449E-09	4.825E-09	4.001E-09	3.375E-09	2.833E-09	2.429E-09	2.117E-09
E	1.298E-08	1.999E-08	1.332E-08	7.898E-09	5.457E-09	4.100E-09	3.249E-09	2.670E-09	2.347E-09	2.080E-09	1.816E-09
ESE	1.686E-08	2.253E-08	1.507E-08	8.956E-09	6.189E-09	4.648E-09	3.679E-09	3.021E-09	2.547E-09	2.191E-09	1.916E-09
SE	2.393E-08	1.478E-08	1.151E-08	8.429E-09	6.250E-09	4.988E-09	4.168E-09	3.591E-09	3.019E-09	2.591E-09	2.260E-09
SSE	3.614E-08	4.658E-08	3.019E-08	1.731E-08	1.171E-08	8.664E-09	6.783E-09	5.520E-09	4.620E-09	3.951E-09	3.437E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	3.521E-08	6.529E-08	5.488E-08	4.527E-08	5.068E-08	3.289E-08	1.386E-08	7.317E-09	4.714E-09	3.405E-09
SSW	1.629E-08	3.105E-08	2.854E-08	2.740E-08	2.257E-08	1.641E-08	7.640E-09	4.202E-09	2.717E-09	1.952E-09
SW	1.108E-08	3.835E-08	2.998E-08	2.003E-08	1.516E-08	1.196E-08	5.872E-09	3.367E-09	2.275E-09	1.644E-09
WSW	9.534E-09	3.760E-08	2.756E-08	1.743E-08	1.259E-08	8.348E-09	4.178E-09	2.189E-09	1.407E-09	1.014E-09
W	2.179E-08	3.042E-08	1.736E-08	1.034E-08	7.102E-09	3.783E-09	2.183E-09	1.396E-09	9.050E-10	6.558E-10
WNW	2.902E-08	5.613E-08	3.432E-08	2.223E-08	1.558E-08	8.564E-09	4.109E-09	2.324E-09	1.567E-09	1.146E-09
NW	6.066E-08	1.497E-07	9.006E-08	5.340E-08	3.610E-08	1.897E-08	8.569E-09	4.580E-09	3.050E-09	2.213E-09
NNW	4.530E-08	1.522E-07	1.773E-07	1.480E-07	1.029E-07	5.051E-08	1.931E-08	9.682E-09	6.283E-09	4.574E-09
N	3.414E-08	5.689E-08	5.498E-08	4.394E-08	3.490E-08	2.200E-08	1.430E-08	9.805E-09	6.491E-09	4.640E-09
NNE	1.843E-08	3.814E-08	3.679E-08	2.959E-08	2.635E-08	3.871E-08	2.015E-08	1.014E-08	6.521E-09	4.704E-09
NE	1.692E-08	3.694E-08	3.439E-08	2.661E-08	2.262E-08	3.280E-08	1.728E-08	8.816E-09	5.824E-09	4.263E-09
ENE	1.522E-08	3.252E-08	2.899E-08	2.158E-08	1.741E-08	1.897E-08	9.544E-09	4.928E-09	3.348E-09	2.433E-09
E	1.129E-08	2.369E-08	2.112E-08	1.583E-08	1.295E-08	1.547E-08	8.018E-09	4.122E-09	2.712E-09	2.061E-09
ESE	1.737E-08	3.302E-08	2.816E-08	2.086E-08	1.695E-08	1.795E-08	9.084E-09	4.671E-09	3.028E-09	2.195E-09
SE	3.347E-08	6.083E-08	5.025E-08	3.632E-08	2.720E-08	1.536E-08	8.146E-09	4.997E-09	3.538E-09	2.595E-09
SSE	3.118E-08	5.907E-08	5.361E-08	4.142E-08	3.500E-08	3.697E-08	1.768E-08	8.724E-09	5.538E-09	3.959E-09

B307

ERP ELEVATED STACK RELEASES - OCT-DEC 2011  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.769E-15	1.945E-09	2.945E-08	5.608E-08	7.126E-08	6.511E-08	5.558E-08	4.700E-08	4.002E-08	4.798E-08	5.414E-08
SSW	1.004E-15	8.160E-10	1.327E-08	2.623E-08	3.403E-08	3.101E-08	2.627E-08	2.838E-08	2.870E-08	2.493E-08	2.204E-08
SW	2.021E-16	1.847E-10	6.670E-09	1.980E-08	5.024E-08	3.828E-08	2.983E-08	2.396E-08	1.977E-08	1.669E-08	1.436E-08
WSW	8.878E-17	8.579E-11	4.760E-09	1.778E-08	5.162E-08	3.652E-08	2.724E-08	2.124E-08	1.715E-08	1.424E-08	1.208E-08
W	1.627E-14	2.324E-09	1.947E-08	3.311E-08	3.673E-08	2.398E-08	1.702E-08	1.286E-08	1.016E-08	8.310E-09	6.974E-09
WNW	2.264E-15	1.265E-09	2.208E-08	4.796E-08	7.329E-08	4.679E-08	3.291E-08	2.655E-08	2.241E-08	1.821E-08	1.520E-08
NW	6.199E-11	4.039E-09	3.851E-08	1.054E-07	2.078E-07	1.273E-07	8.721E-08	6.646E-08	5.315E-08	4.272E-08	3.534E-08
NNW	2.262E-11	2.078E-09	3.006E-08	7.822E-08	1.610E-07	1.816E-07	1.813E-07	1.690E-07	1.555E-07	1.232E-07	1.007E-07
N	2.057E-10	1.161E-08	3.256E-08	4.654E-08	5.894E-08	6.025E-08	5.631E-08	4.981E-08	4.392E-08	3.889E-08	3.466E-08
NNE	3.100E-11	2.485E-09	1.537E-08	2.864E-08	4.061E-08	4.077E-08	3.731E-08	3.327E-08	2.955E-08	2.634E-08	2.364E-08
NE	6.567E-16	7.395E-10	1.319E-08	2.775E-08	3.986E-08	3.905E-08	3.486E-08	3.042E-08	2.653E-08	2.328E-08	2.061E-08
ENE	4.516E-16	6.098E-10	1.170E-08	2.509E-08	3.545E-08	3.373E-08	2.935E-08	2.507E-08	2.148E-08	1.856E-08	1.622E-08
E	4.182E-16	4.797E-10	8.814E-09	1.851E-08	2.580E-08	2.452E-08	2.138E-08	1.834E-08	1.577E-08	1.369E-08	1.202E-08
ESE	1.002E-15	8.858E-10	1.429E-08	2.787E-08	3.603E-08	3.317E-08	2.850E-08	2.427E-08	2.082E-08	1.806E-08	1.585E-08
SE	2.770E-15	1.884E-09	2.815E-08	5.317E-08	6.656E-08	6.009E-08	5.086E-08	4.276E-08	3.625E-08	3.111E-08	2.703E-08
SSE	5.180E-11	4.128E-09	2.680E-08	4.791E-08	6.339E-08	6.108E-08	5.435E-08	4.741E-08	4.134E-08	3.625E-08	3.207E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	4.876E-08	3.464E-08	2.263E-08	1.303E-08	9.218E-09	6.991E-09	5.409E-09	4.351E-09	3.638E-09	3.098E-09	2.663E-09
SSW	2.047E-08	1.836E-08	1.204E-08	6.953E-09	5.121E-09	3.874E-09	2.985E-09	2.391E-09	1.973E-09	1.660E-09	1.421E-09
SW	1.403E-08	1.349E-08	9.064E-09	5.393E-09	3.982E-09	3.098E-09	2.507E-09	2.020E-09	1.673E-09	1.415E-09	1.216E-09
WSW	1.117E-08	8.469E-09	6.326E-09	4.045E-09	2.716E-09	1.990E-09	1.541E-09	1.239E-09	1.024E-09	8.638E-10	7.413E-10
W	5.975E-09	3.452E-09	2.748E-09	2.116E-09	1.753E-09	1.308E-09	1.021E-09	8.273E-10	6.892E-10	5.862E-10	5.069E-10
WNW	1.325E-08	8.243E-09	6.006E-09	3.985E-09	2.805E-09	2.127E-09	1.702E-09	1.394E-09	1.161E-09	9.824E-10	8.452E-10
NW	3.047E-08	1.816E-08	1.302E-08	8.397E-09	5.682E-09	4.192E-09	3.373E-09	2.755E-09	2.285E-09	1.934E-09	1.665E-09
NNW	8.619E-08	4.926E-08	3.206E-08	1.841E-08	1.243E-08	9.157E-09	7.193E-09	5.857E-09	4.936E-09	4.207E-09	3.629E-09
N	3.120E-08	2.072E-08	1.767E-08	1.419E-08	1.181E-08	9.648E-09	7.531E-09	6.083E-09	5.047E-09	4.278E-09	3.689E-09
NNE	2.815E-08	5.102E-08	3.323E-08	1.912E-08	1.292E-08	9.532E-09	7.428E-09	6.011E-09	4.999E-09	4.246E-09	3.666E-09
NE	2.329E-08	4.326E-08	2.829E-08	1.636E-08	1.109E-08	8.202E-09	6.504E-09	5.326E-09	4.484E-09	3.806E-09	3.284E-09
ENE	1.703E-08	2.377E-08	1.566E-08	9.118E-09	6.206E-09	4.602E-09	3.783E-09	3.164E-09	2.632E-09	2.237E-09	1.934E-09
E	1.285E-08	1.965E-08	1.301E-08	7.623E-09	5.204E-09	3.864E-09	3.025E-09	2.456E-09	2.131E-09	1.865E-09	1.609E-09
ESE	1.673E-08	2.224E-08	1.480E-08	8.721E-09	5.973E-09	4.446E-09	3.488E-09	2.838E-09	2.372E-09	2.023E-09	1.754E-09
SE	2.377E-08	1.462E-08	1.135E-08	8.244E-09	6.067E-09	4.804E-09	3.984E-09	3.404E-09	2.840E-09	2.419E-09	2.094E-09
SSE	3.575E-08	4.572E-08	2.944E-08	1.667E-08	1.113E-08	8.135E-09	6.289E-09	5.054E-09	4.177E-09	3.528E-09	3.031E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	3.517E-08	6.515E-08	5.469E-08	4.504E-08	5.032E-08	3.244E-08	1.347E-08	6.952E-09	4.382E-09	3.097E-09
SSW	1.626E-08	3.095E-08	2.838E-08	2.717E-08	2.232E-08	1.602E-08	7.269E-09	3.851E-09	2.401E-09	1.664E-09
SW	1.106E-08	3.816E-08	2.974E-08	1.979E-08	1.492E-08	1.164E-08	5.581E-09	3.097E-09	2.027E-09	1.418E-09
WSW	9.509E-09	3.739E-08	2.731E-08	1.721E-08	1.238E-08	8.116E-09	3.961E-09	2.004E-09	1.243E-09	8.658E-10
W	2.172E-08	3.026E-08	1.721E-08	1.023E-08	7.000E-09	3.700E-09	2.095E-09	1.312E-09	8.299E-10	5.874E-10
WNW	2.896E-08	5.588E-08	3.407E-08	2.199E-08	1.537E-08	8.361E-09	3.910E-09	2.138E-09	1.393E-09	9.844E-10
NW	6.058E-08	1.493E-07	8.959E-08	5.298E-08	3.572E-08	1.861E-08	8.218E-09	4.262E-09	2.752E-09	1.938E-09
NNW	4.524E-08	1.518E-07	1.764E-07	1.471E-07	1.020E-07	4.982E-08	1.878E-08	9.243E-09	5.888E-09	4.209E-09
N	3.412E-08	5.677E-08	5.476E-08	4.369E-08	3.463E-08	2.169E-08	1.390E-08	9.377E-09	6.102E-09	4.287E-09
NNE	1.841E-08	3.802E-08	3.662E-08	2.939E-08	2.611E-08	3.803E-08	1.950E-08	9.595E-09	6.030E-09	4.255E-09
NE	1.689E-08	3.681E-08	3.420E-08	2.641E-08	2.240E-08	3.217E-08	1.667E-08	8.294E-09	5.342E-09	3.813E-09
ENE	1.519E-08	3.239E-08	2.881E-08	2.139E-08	1.721E-08	1.867E-08	9.277E-09	4.702E-09	3.138E-09	2.242E-09
E	1.127E-08	2.361E-08	2.100E-08	1.571E-08	1.282E-08	1.519E-08	7.745E-09	3.885E-09	2.495E-09	1.849E-09
ESE	1.735E-08	3.294E-08	2.805E-08	2.075E-08	1.683E-08	1.771E-08	8.851E-09	4.470E-09	2.846E-09	2.027E-09
SE	3.343E-08	6.071E-08	5.008E-08	3.615E-08	2.703E-08	1.520E-08	7.967E-09	4.813E-09	3.355E-09	2.424E-09
SSE	3.114E-08	5.892E-08	5.337E-08	4.114E-08	3.467E-08	3.627E-08	1.705E-08	8.196E-09	5.073E-09	3.536E-09

B308

ERP ELEVATED STACK RELEASES - OCT-DEC 2011  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.769E-15	1.945E-09	2.947E-08	5.612E-08	7.075E-08	6.417E-08	5.443E-08	4.578E-08	3.879E-08	4.655E-08	5.265E-08	
SSW	1.004E-15	8.163E-10	1.329E-08	2.626E-08	3.380E-08	3.055E-08	2.570E-08	2.762E-08	2.786E-08	2.411E-08	2.126E-08	
SW	2.021E-16	1.848E-10	6.675E-09	1.982E-08	5.010E-08	3.811E-08	2.967E-08	2.383E-08	1.967E-08	1.661E-08	1.430E-08	
WSW	8.880E-17	8.584E-11	4.765E-09	1.780E-08	5.151E-08	3.637E-08	2.709E-08	2.112E-08	1.705E-08	1.416E-08	1.202E-08	
W	1.627E-14	2.326E-09	1.947E-08	3.309E-08	3.644E-08	2.365E-08	1.672E-08	1.259E-08	9.928E-09	8.104E-09	6.793E-09	
WNW	2.264E-15	1.266E-09	2.209E-08	4.773E-08	7.265E-08	4.619E-08	3.241E-08	2.614E-08	2.207E-08	1.791E-08	1.492E-08	
NW	6.200E-11	4.009E-09	3.838E-08	1.050E-07	2.061E-07	1.256E-07	8.575E-08	6.524E-08	5.213E-08	4.179E-08	3.445E-08	
NNW	2.262E-11	2.069E-09	3.004E-08	7.825E-08	1.603E-07	1.804E-07	1.800E-07	1.678E-07	1.545E-07	1.221E-07	9.940E-08	
N	2.057E-10	1.151E-08	3.223E-08	4.622E-08	5.841E-08	5.956E-08	5.556E-08	4.906E-08	4.321E-08	3.822E-08	3.403E-08	
NNE	3.100E-11	2.471E-09	1.532E-08	2.862E-08	4.036E-08	4.034E-08	3.678E-08	3.271E-08	2.899E-08	2.580E-08	2.314E-08	
NE	6.569E-16	7.399E-10	1.320E-08	2.778E-08	3.964E-08	3.859E-08	3.428E-08	2.980E-08	2.590E-08	2.266E-08	2.001E-08	
ENE	4.517E-16	6.102E-10	1.171E-08	2.513E-08	3.524E-08	3.329E-08	2.877E-08	2.444E-08	2.083E-08	1.793E-08	1.560E-08	
E	4.183E-16	4.800E-10	8.823E-09	1.854E-08	2.564E-08	2.420E-08	2.097E-08	1.789E-08	1.532E-08	1.324E-08	1.158E-08	
ESE	1.003E-15	8.862E-10	1.430E-08	2.790E-08	3.578E-08	3.270E-08	2.793E-08	2.366E-08	2.020E-08	1.745E-08	1.527E-08	
SE	2.771E-15	1.885E-09	2.817E-08	5.321E-08	6.608E-08	5.920E-08	4.978E-08	4.160E-08	3.509E-08	2.998E-08	2.594E-08	
SSE	5.180E-11	4.105E-09	2.673E-08	4.787E-08	6.295E-08	6.034E-08	5.346E-08	4.649E-08	4.042E-08	3.537E-08	3.123E-08	

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	4.737E-08	3.329E-08	2.114E-08	1.148E-08	7.608E-09	5.469E-09	4.069E-09	3.163E-09	2.573E-09	2.147E-09	1.812E-09	
SSW	1.974E-08	1.774E-08	1.134E-08	6.219E-09	4.325E-09	3.186E-09	2.404E-09	1.893E-09	1.538E-09	1.277E-09	1.081E-09	
SW	1.400E-08	1.342E-08	8.772E-09	4.912E-09	3.367E-09	2.466E-09	1.940E-09	1.532E-09	1.247E-09	1.038E-09	8.805E-10	
WSW	1.113E-08	8.352E-09	6.074E-09	3.726E-09	2.428E-09	1.737E-09	1.320E-09	1.044E-09	8.505E-10	7.094E-10	6.025E-10	
W	5.814E-09	3.350E-09	2.664E-09	1.956E-09	1.537E-09	1.116E-09	8.509E-10	6.761E-10	5.535E-10	4.637E-10	3.954E-10	
WNW	1.297E-08	7.892E-09	5.600E-09	3.503E-09	2.292E-09	1.643E-09	1.273E-09	1.021E-09	8.349E-10	6.953E-10	5.897E-10	
NW	2.959E-08	1.724E-08	1.203E-08	7.341E-09	4.683E-09	3.293E-09	2.568E-09	2.053E-09	1.671E-09	1.391E-09	1.180E-09	
NNW	8.473E-08	4.711E-08	2.970E-08	1.596E-08	9.947E-09	6.866E-09	5.117E-09	4.011E-09	3.288E-09	2.739E-09	2.314E-09	
N	3.062E-08	2.031E-08	1.739E-08	1.408E-08	1.152E-08	9.005E-09	6.872E-09	5.444E-09	4.440E-09	3.706E-09	3.152E-09	
NNE	2.765E-08	5.036E-08	3.184E-08	1.736E-08	1.111E-08	7.848E-09	5.894E-09	4.619E-09	3.735E-09	3.093E-09	2.610E-09	
NE	2.267E-08	4.257E-08	2.703E-08	1.482E-08	9.507E-09	6.720E-09	5.156E-09	4.127E-09	3.408E-09	2.844E-09	2.416E-09	
ENE	1.638E-08	2.309E-08	1.478E-08	8.115E-09	5.156E-09	3.611E-09	2.823E-09	2.280E-09	1.853E-09	1.541E-09	1.306E-09	
E	1.239E-08	1.922E-08	1.238E-08	6.841E-09	4.357E-09	3.056E-09	2.279E-09	1.773E-09	1.481E-09	1.254E-09	1.056E-09	
ESE	1.614E-08	2.171E-08	1.405E-08	7.794E-09	4.976E-09	3.494E-09	2.608E-09	2.030E-09	1.630E-09	1.341E-09	1.124E-09	
SE	2.273E-08	1.381E-08	1.068E-08	7.778E-09	5.733E-09	4.558E-09	3.801E-09	3.254E-09	2.670E-09	2.241E-09	1.914E-09	
SSE	3.490E-08	4.479E-08	2.801E-08	1.501E-08	9.472E-09	6.608E-09	4.912E-09	3.815E-09	3.060E-09	2.515E-09	2.108E-09	

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE										
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	
S	3.520E-08	6.458E-08	5.357E-08	4.374E-08	4.889E-08	3.102E-08	1.191E-08	5.479E-09	3.197E-09	2.149E-09	
SSW	1.628E-08	3.068E-08	2.776E-08	2.636E-08	2.154E-08	1.534E-08	6.516E-09	3.177E-09	1.904E-09	1.282E-09	
SW	1.108E-08	3.804E-08	2.958E-08	1.969E-08	1.487E-08	1.148E-08	5.083E-09	2.496E-09	1.540E-09	1.042E-09	
WSW	9.519E-09	3.729E-08	2.718E-08	1.711E-08	1.232E-08	7.956E-09	3.671E-09	1.754E-09	1.049E-09	7.116E-10	
W	2.171E-08	3.001E-08	1.692E-08	9.993E-09	6.819E-09	3.593E-09	1.927E-09	1.122E-09	6.794E-10	4.650E-10	
WNW	2.886E-08	5.535E-08	3.358E-08	2.165E-08	1.508E-08	8.001E-09	3.431E-09	1.668E-09	1.022E-09	6.976E-10	
NW	6.034E-08	1.478E-07	8.816E-08	5.194E-08	3.483E-08	1.767E-08	7.202E-09	3.374E-09	2.055E-09	1.396E-09	
NNW	4.525E-08	1.510E-07	1.752E-07	1.459E-07	1.007E-07	4.773E-08	1.634E-08	6.988E-09	4.051E-09	2.744E-09	
N	3.385E-08	5.621E-08	5.403E-08	4.298E-08	3.401E-08	2.130E-08	1.368E-08	8.822E-09	5.469E-09	3.718E-09	
NNE	1.837E-08	3.774E-08	3.610E-08	2.884E-08	2.560E-08	3.708E-08	1.780E-08	7.938E-09	4.647E-09	3.104E-09	
NE	1.691E-08	3.654E-08	3.364E-08	2.578E-08	2.178E-08	3.124E-08	1.517E-08	6.838E-09	4.147E-09	2.853E-09	
ENE	1.521E-08	3.213E-08	2.825E-08	2.076E-08	1.658E-08	1.791E-08	8.282E-09	3.708E-09	2.272E-09	1.546E-09	
E	1.129E-08	2.342E-08	2.060E-08	1.526E-08	1.237E-08	1.466E-08	6.968E-09	3.092E-09	1.806E-09	1.248E-09	
ESE	1.736E-08	3.266E-08	2.749E-08	2.014E-08	1.624E-08	1.707E-08	7.931E-09	3.535E-09	2.043E-09	1.346E-09	
SE	3.346E-08	6.016E-08	4.902E-08	3.500E-08	2.595E-08	1.440E-08	7.515E-09	4.569E-09	3.188E-09	2.247E-09	
SSE	3.110E-08	5.844E-08	5.250E-08	4.023E-08	3.382E-08	3.514E-08	1.544E-08	6.693E-09	3.841E-09	2.526E-09	

B309

ERP ELEVATED STACK RELEASES - OCT-DEC 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) AT FIXED POINTS BY DOWNWIND SECTORS *****												
DIRECTION FROM SITE	DISTANCES IN MILES											
	.25	.50	.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	
S	1.882E-10	1.129E-09	2.405E-09	2.491E-09	1.556E-09	1.043E-09	7.368E-10	5.413E-10	4.099E-10	3.540E-10	3.077E-10	
SSW	7.726E-11	4.635E-10	9.870E-10	1.022E-09	6.386E-10	4.282E-10	3.024E-10	2.222E-10	2.107E-10	1.594E-10	1.248E-10	
SW	1.545E-11	9.270E-11	1.974E-10	2.045E-10	2.539E-10	1.381E-10	8.543E-11	5.793E-11	4.182E-11	3.161E-11	2.472E-11	
WSW	8.428E-12	5.057E-11	1.077E-10	2.330E-10	1.381E-10	7.515E-11	4.648E-11	3.152E-11	2.276E-11	1.720E-11	1.345E-11	
W	5.619E-12	1.721E-10	1.859E-10	1.948E-10	9.140E-11	4.972E-11	3.076E-11	2.085E-11	1.506E-11	1.138E-11	8.901E-12	
WNW	1.405E-11	8.428E-11	5.241E-10	4.864E-10	2.854E-10	1.463E-10	8.791E-11	5.999E-11	4.746E-11	3.754E-11	3.150E-11	
NW	5.941E-10	6.850E-10	8.809E-10	1.810E-09	1.176E-09	5.876E-10	3.498E-10	2.358E-10	1.743E-10	1.387E-10	1.170E-10	
NNW	3.652E-10	7.513E-10	1.311E-09	1.291E-09	1.529E-09	8.341E-10	5.218E-10	4.682E-10	3.671E-10	3.112E-10	2.801E-10	
N	2.293E-09	2.243E-09	2.465E-09	2.023E-09	1.119E-09	7.215E-10	5.001E-10	3.640E-10	2.744E-10	2.125E-10	1.683E-10	
NNE	3.441E-10	6.248E-10	1.042E-09	1.013E-09	6.145E-10	4.084E-10	2.873E-10	2.106E-10	1.593E-10	1.236E-10	9.790E-11	
NE	6.462E-11	3.877E-10	8.255E-10	8.550E-10	5.341E-10	3.581E-10	2.529E-10	1.858E-10	1.407E-10	1.092E-10	8.650E-11	
ENE	5.478E-11	3.287E-10	6.998E-10	7.249E-10	4.528E-10	3.036E-10	2.145E-10	1.575E-10	1.193E-10	9.261E-11	7.334E-11	
E	4.355E-11	2.613E-10	5.563E-10	5.762E-10	3.599E-10	2.413E-10	1.705E-10	1.252E-10	9.484E-11	7.361E-11	5.829E-11	
ESE	7.867E-11	4.719E-10	1.005E-09	1.041E-09	6.502E-10	4.359E-10	3.079E-10	2.262E-10	1.713E-10	1.330E-10	1.053E-10	
SE	1.840E-10	1.104E-09	2.351E-09	2.435E-09	1.521E-09	1.020E-09	7.203E-10	5.292E-10	4.008E-10	3.111E-10	2.463E-10	
SSE	6.896E-10	1.258E-09	2.101E-09	2.044E-09	1.241E-09	8.246E-10	5.801E-10	4.252E-10	3.217E-10	2.496E-10	1.977E-10	
DIRECTION FROM SITE	DISTANCES IN MILES											
	5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00	
S	2.473E-10	1.768E-10	1.208E-10	6.992E-11	4.402E-11	3.280E-11	2.339E-11	1.747E-11	1.336E-11	1.065E-11	8.696E-12	
SSW	1.013E-10	6.427E-11	4.251E-11	2.388E-11	1.694E-11	1.143E-11	8.194E-12	6.155E-12	4.864E-12	3.885E-12	3.171E-12	
SW	1.987E-11	2.697E-11	2.067E-11	1.309E-11	8.416E-12	5.931E-12	3.441E-12	2.583E-12	2.009E-12	1.605E-12	1.310E-12	
WSW	1.087E-11	1.594E-11	1.234E-11	7.076E-12	4.282E-12	2.871E-12	2.100E-12	1.577E-12	1.226E-12	9.792E-13	7.992E-13	
W	7.155E-12	3.201E-12	8.755E-12	5.602E-12	2.880E-12	2.044E-12	1.464E-12	1.100E-12	8.549E-13	6.829E-13	5.574E-13	
WNW	2.940E-11	1.962E-11	1.464E-11	9.095E-12	5.710E-12	3.806E-12	2.521E-12	1.893E-12	1.472E-12	1.176E-12	9.595E-13	
NW	1.037E-10	6.763E-11	5.001E-11	3.108E-11	1.904E-11	1.273E-11	8.738E-12	6.562E-12	5.128E-12	4.096E-12	3.343E-12	
NNW	2.630E-10	1.995E-10	1.563E-10	1.005E-10	6.483E-11	4.280E-11	2.659E-11	1.932E-11	1.467E-11	1.172E-11	9.568E-12	
N	1.357E-10	6.444E-11	3.940E-11	2.088E-11	8.835E-11	4.904E-11	3.468E-11	2.604E-11	2.025E-11	1.617E-11	1.320E-11	
NNE	7.887E-11	2.074E-10	1.313E-10	6.975E-11	4.285E-11	2.862E-11	2.038E-11	1.519E-11	1.174E-11	9.331E-12	7.582E-12	
NE	6.967E-11	1.638E-10	1.029E-10	5.424E-11	3.325E-11	2.222E-11	1.572E-11	1.164E-11	9.049E-12	7.291E-12	5.951E-12	
ENE	5.906E-11	8.764E-11	6.620E-11	4.148E-11	2.661E-11	1.759E-11	1.232E-11	7.872E-12	6.128E-12	4.902E-12	4.008E-12	
E	4.695E-11	6.806E-11	5.125E-11	3.204E-11	2.054E-11	1.358E-11	9.505E-12	6.940E-12	5.273E-12	3.902E-12	3.179E-12	
ESE	8.481E-11	1.115E-10	8.280E-11	5.122E-11	3.276E-11	2.167E-11	1.518E-11	1.110E-11	8.446E-12	6.622E-12	5.320E-12	
SE	1.984E-10	9.393E-11	5.724E-11	3.007E-11	1.831E-11	1.260E-11	9.456E-12	2.137E-11	1.635E-11	1.289E-11	1.042E-11	
SSE	1.592E-10	2.420E-10	1.523E-10	8.045E-11	4.933E-11	3.297E-11	2.349E-11	1.752E-11	1.355E-11	1.077E-11	8.755E-12	

B310

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) BY DOWNWIND SECTORS *****										
DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	2.159E-09	1.536E-09	7.403E-10	4.262E-10	2.991E-10	1.676E-10	6.972E-11	3.203E-11	1.760E-11	1.073E-11
SSW	8.864E-10	6.303E-10	3.039E-10	1.944E-10	1.264E-10	6.283E-11	2.494E-11	1.161E-11	6.246E-12	3.911E-12
SW	1.773E-10	1.915E-10	8.848E-11	4.253E-11	2.497E-11	2.260E-11	1.270E-11	5.597E-12	2.609E-12	1.615E-12
WSW	1.507E-10	1.312E-10	4.814E-11	2.314E-11	1.361E-11	1.321E-11	7.003E-12	2.939E-12	1.592E-12	9.856E-13
W	1.868E-10	9.585E-11	3.185E-11	1.531E-11	8.988E-12	6.548E-12	5.093E-12	2.035E-12	1.111E-12	6.874E-13
WNW	4.096E-10	2.682E-10	9.230E-11	4.726E-11	3.251E-11	1.958E-11	8.823E-12	3.800E-12	1.912E-12	1.183E-12
NW	1.250E-09	1.055E-09	3.676E-10	1.783E-10	1.185E-10	6.781E-11	2.993E-11	1.281E-11	6.637E-12	4.123E-12
NNW	1.178E-09	1.167E-09	5.836E-10	3.747E-10	2.830E-10	1.944E-10	9.703E-11	4.219E-11	1.963E-11	1.180E-11
N	2.219E-09	1.143E-09	5.047E-10	2.764E-10	1.693E-10	6.915E-11	5.498E-11	5.378E-11	2.630E-11	1.628E-11
NNE	9.361E-10	6.114E-10	2.889E-10	1.604E-10	9.847E-11	1.450E-10	7.146E-11	2.912E-11	1.536E-11	9.398E-12
NE	7.413E-10	5.272E-10	2.541E-10	1.416E-10	8.700E-11	1.158E-10	5.572E-11	2.256E-11	1.182E-11	7.316E-12
ENE	6.285E-10	4.470E-10	2.155E-10	1.201E-10	7.376E-11	7.176E-11	4.037E-11	1.789E-11	8.477E-12	4.934E-12
E	4.996E-10	3.553E-10	1.713E-10	9.543E-11	5.863E-11	5.590E-11	3.120E-11	1.381E-11	7.038E-12	4.040E-12
ESE	9.025E-10	6.418E-10	3.094E-10	1.724E-10	1.059E-10	9.283E-11	5.003E-11	2.203E-11	1.126E-11	6.680E-12
SE	2.111E-09	1.501E-09	7.237E-10	4.033E-10	2.478E-10	1.008E-10	3.088E-11	1.286E-11	1.605E-11	1.300E-11
SSE	1.888E-09	1.234E-09	5.833E-10	3.238E-10	1.988E-10	1.837E-10	8.259E-11	3.354E-11	1.771E-11	1.085E-11

ERP ELEVATED STACK RELEASES - OCT-DEC 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS  
SPECIFIC POINTS OF INTEREST

RELEASE TYPE OF	DIRECTION	DIST.	X/Q			D/Q
			NO	2.26 DAY	8.0 DAY	
			DECAY	DECAY	DECAY	
			UNDEPLETED	UNDEPLETED	DEPLETED	
A Site Boundary	S	.80	3.6E-08	3.6E-08	3.6E-08	2.5E-09
A Site Boundary	SSW	.82	1.8E-08	1.8E-08	1.8E-08	1.1E-09
A Site Boundary	SW	.97	1.8E-08	1.8E-08	1.8E-08	2.1E-10
A Site Boundary	WSW	.93	1.3E-08	1.3E-08	1.3E-08	2.3E-10
A Site Boundary	W	.91	3.0E-08	2.9E-08	2.9E-08	1.5E-10
A Site Boundary	WNW	.94	4.2E-08	4.2E-08	4.2E-08	5.4E-10
A Site Boundary	NW	.81	5.4E-08	5.4E-08	5.4E-08	8.8E-10
A Site Boundary	NNW	.69	1.9E-08	1.9E-08	1.9E-08	1.2E-09
A Site Boundary	N	.67	2.5E-08	2.5E-08	2.5E-08	2.4E-09
A Site Boundary	NNE	.60	5.9E-09	5.9E-09	5.8E-09	7.8E-10
A Site Boundary	NE	.62	4.8E-09	4.8E-09	4.8E-09	6.0E-10
A Site Boundary	ENE	.59	2.7E-09	2.7E-09	2.7E-09	4.6E-10
A Site Boundary	E	.53	7.8E-10	7.8E-10	7.8E-10	2.9E-10
A Site Boundary	ESE	.54	1.8E-09	1.7E-09	1.8E-09	5.5E-10
A Site Boundary	SE	.65	1.4E-08	1.4E-08	1.4E-08	1.8E-09
A Site Boundary	SSE	.81	3.3E-08	3.3E-08	3.3E-08	2.2E-09
A Nearest Res	SSW	2.10	3.0E-08	3.0E-08	3.0E-08	4.0E-10
A Nearest Res	SW	1.30	3.9E-08	3.9E-08	3.9E-08	3.4E-10
A Nearest Res	WSW	1.90	3.9E-08	3.9E-08	3.9E-08	8.4E-11
A Nearest Res	W	1.00	3.3E-08	3.3E-08	3.3E-08	1.9E-10
A Nearest Res	WNW	1.70	6.1E-08	6.0E-08	6.0E-08	2.1E-10
A Nearest Res	NW	.90	7.7E-08	7.7E-08	7.7E-08	2.1E-09
A Nearest Res	NNW	1.90	1.8E-07	1.8E-07	1.8E-07	9.3E-10
A Nearest Res	N	2.50	5.7E-08	5.6E-08	5.6E-08	5.0E-10
A Nearest Res	NE	2.80	3.2E-08	3.2E-08	3.2E-08	2.1E-10
A Nearest Res	ENE	1.70	3.6E-08	3.5E-08	3.5E-08	3.8E-10
A Nearest Res	E	1.90	2.5E-08	2.5E-08	2.5E-08	2.6E-10
A Nearest Res	ESE	2.30	3.0E-08	3.0E-08	3.0E-08	3.5E-10
A Nearest Res	NNW	3.50	1.6E-07	1.6E-07	1.5E-07	3.7E-10
A Nearest Res	SW	1.30	3.9E-08	3.9E-08	3.9E-08	3.4E-10
A Nearest Res	WSW	1.90	3.9E-08	3.9E-08	3.9E-08	8.4E-11
A Nearest Res	WNW	2.40	3.5E-08	3.5E-08	3.5E-08	9.6E-11
A Nearest Res	NW	2.90	7.0E-08	7.0E-08	6.9E-08	2.5E-10
A Nearest Res	NNW	2.80	1.7E-07	1.7E-07	1.7E-07	5.2E-10
A Nearest Res	NE	2.80	3.2E-08	3.2E-08	3.2E-08	2.1E-10
A Nearest Res	ENE	1.70	3.6E-08	3.5E-08	3.5E-08	3.8E-10
A Nearest Res	E	1.90	2.5E-08	2.5E-08	2.5E-08	2.6E-10
A Nearest Res	ESE	3.00	2.4E-08	2.4E-08	2.4E-08	2.3E-10
A MAXIMUM CHI/Q	S	1.50	7.1E-08	7.1E-08	7.1E-08	1.6E-09
A MAXIMUM CHI/Q	SSW	1.50	3.4E-08	3.4E-08	3.4E-08	6.4E-10
A MAXIMUM CHI/Q	SW	1.50	5.0E-08	5.0E-08	5.0E-08	2.5E-10
A MAXIMUM CHI/Q	WSW	1.50	5.2E-08	5.2E-08	5.2E-08	1.4E-10
A MAXIMUM CHI/Q	W	1.50	3.7E-08	3.7E-08	3.6E-08	9.1E-11
A MAXIMUM CHI/Q	WNW	1.50	7.4E-08	7.3E-08	7.3E-08	2.9E-10
A MAXIMUM CHI/Q	NW	1.50	2.1E-07	2.1E-07	2.1E-07	1.2E-09
A MAXIMUM CHI/Q	NNW	2.00	1.8E-07	1.8E-07	1.8E-07	8.3E-10
A MAXIMUM CHI/Q	N	2.00	6.0E-08	6.0E-08	6.0E-08	7.2E-10
A MAXIMUM CHI/Q	NNE	7.50	5.2E-08	5.1E-08	5.0E-08	2.1E-10
A MAXIMUM CHI/Q	NE	7.50	4.4E-08	4.3E-08	4.3E-08	1.6E-10
A MAXIMUM CHI/Q	ENE	1.50	3.6E-08	3.5E-08	3.5E-08	4.5E-10
A MAXIMUM CHI/Q	E	1.50	2.6E-08	2.6E-08	2.6E-08	3.6E-10
A MAXIMUM CHI/Q	ESE	1.50	3.6E-08	3.6E-08	3.6E-08	6.5E-10
A MAXIMUM CHI/Q	SE	1.50	6.7E-08	6.7E-08	6.6E-08	1.5E-09
A MAXIMUM CHI/Q	SSE	1.50	6.4E-08	6.3E-08	6.3E-08	1.2E-09

B311

**Atmospheric Diffusion Estimates**

**Elevated Releases**

July-December 2011

ERP ELEVATED STACK RELEASES - JUL-DEC 2011  
 NO DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES FROM THE SITE											
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	1.499E-07	1.258E-07	1.221E-07	1.125E-07	9.786E-08	7.960E-08	6.427E-08	5.258E-08	4.379E-08	4.957E-08	5.364E-08	2.046E-07	1.037E-07	6.791E-08	6.086E-08	5.828E-08	4.950E-08	4.082E-08	4.278E-08	4.262E-08	3.685E-08	3.239E-08
SSW	1.983E-07	1.158E-07	1.027E-07	1.103E-07	1.283E-07	8.466E-08	6.050E-08	4.582E-08	3.624E-08	2.962E-08	2.485E-08	1.366E-07	6.570E-08	7.346E-08	1.058E-07	1.468E-07	9.208E-08	6.365E-08	4.707E-08	3.654E-08	2.941E-08	2.435E-08
SW	2.462E-07	1.497E-07	1.870E-07	1.767E-07	1.312E-07	7.875E-08	5.301E-08	3.853E-08	2.956E-08	2.358E-08	1.939E-08	1.345E-07	1.610E-07	3.007E-07	3.697E-07	3.546E-07	2.097E-07	1.400E-07	1.059E-07	8.459E-08	6.720E-08	5.507E-08
WSW	1.372E-07	9.598E-08	1.912E-07	3.562E-07	5.241E-07	3.051E-07	2.013E-07	1.468E-07	1.130E-07	8.903E-08	7.240E-08	1.372E-07	9.598E-08	1.912E-07	3.562E-07	5.241E-07	3.051E-07	2.013E-07	1.468E-07	1.130E-07	8.903E-08	7.240E-08
W	5.488E-08	4.858E-08	8.218E-08	1.270E-07	1.920E-07	1.925E-07	1.782E-07	1.579E-07	1.400E-07	1.103E-07	8.982E-08	5.488E-08	4.858E-08	8.218E-08	1.270E-07	1.920E-07	1.925E-07	1.782E-07	1.579E-07	1.400E-07	1.103E-07	8.982E-08
WNW	5.767E-08	3.857E-08	4.868E-08	5.284E-08	5.529E-08	5.200E-08	4.640E-08	3.994E-08	3.457E-08	3.019E-08	2.662E-08	5.767E-08	3.857E-08	4.868E-08	5.284E-08	5.529E-08	5.200E-08	4.640E-08	3.994E-08	3.457E-08	3.019E-08	2.662E-08
NW	6.183E-08	3.791E-08	3.902E-08	3.918E-08	3.921E-08	3.525E-08	3.062E-08	2.649E-08	2.306E-08	2.027E-08	1.800E-08	6.183E-08	3.791E-08	3.902E-08	3.918E-08	3.921E-08	3.525E-08	3.062E-08	2.649E-08	2.306E-08	2.027E-08	1.800E-08
NNW	1.133E-08	2.454E-08	3.992E-08	3.962E-08	3.526E-08	2.956E-08	2.454E-08	2.054E-08	1.744E-08	1.502E-08	1.311E-08	1.133E-08	2.454E-08	3.992E-08	3.962E-08	3.526E-08	2.956E-08	2.454E-08	2.054E-08	1.744E-08	1.502E-08	1.311E-08
N	8.714E-09	9.610E-09	1.525E-08	1.907E-08	2.130E-08	1.911E-08	1.624E-08	1.371E-08	1.166E-08	1.004E-08	8.754E-09	8.714E-09	9.610E-09	1.525E-08	1.907E-08	2.130E-08	1.911E-08	1.624E-08	1.371E-08	1.166E-08	1.004E-08	8.754E-09
NNE	1.160E-08	3.643E-09	6.267E-09	1.117E-08	1.394E-08	1.394E-08	1.207E-08	1.031E-08	8.852E-09	7.676E-09	6.733E-09	1.160E-08	3.643E-09	6.267E-09	1.117E-08	1.394E-08	1.394E-08	1.207E-08	1.031E-08	8.852E-09	7.676E-09	6.733E-09
NE	2.181E-08	1.741E-08	2.166E-08	2.535E-08	2.678E-08	2.355E-08	1.990E-08	1.682E-08	1.437E-08	1.244E-08	1.091E-08	2.181E-08	1.741E-08	2.166E-08	2.535E-08	2.678E-08	2.355E-08	1.990E-08	1.682E-08	1.437E-08	1.244E-08	1.091E-08
ENE	4.159E-08	3.044E-08	3.692E-08	4.394E-08	4.676E-08	4.103E-08	3.454E-08	2.907E-08	2.473E-08	2.132E-08	1.862E-08	4.159E-08	3.044E-08	3.692E-08	4.394E-08	4.676E-08	4.103E-08	3.454E-08	2.907E-08	2.473E-08	2.132E-08	1.862E-08
E	7.273E-08	6.693E-08	7.266E-08	7.434E-08	7.292E-08	6.337E-08	5.338E-08	4.498E-08	3.829E-08	3.299E-08	2.879E-08	7.273E-08	6.693E-08	7.266E-08	7.434E-08	7.292E-08	6.337E-08	5.338E-08	4.498E-08	3.829E-08	3.299E-08	2.879E-08

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES FROM THE SITE											
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	4.769E-08	3.185E-08	2.072E-08	1.192E-08	8.396E-09	6.374E-09	4.975E-09	4.039E-09	3.403E-09	2.922E-09	2.536E-09	2.971E-08	2.325E-08	1.520E-08	8.796E-09	6.376E-09	4.845E-09	3.787E-09	3.078E-09	2.581E-09	2.206E-09	1.918E-09
SSW	2.306E-08	2.016E-08	1.358E-08	8.173E-09	6.173E-09	4.920E-09	4.103E-09	3.366E-09	2.834E-09	2.436E-09	2.129E-09	2.306E-08	2.016E-08	1.358E-08	8.173E-09	6.173E-09	4.920E-09	4.103E-09	3.366E-09	2.834E-09	2.436E-09	2.129E-09
SW	2.150E-08	1.418E-08	1.018E-08	6.405E-09	4.339E-09	3.216E-09	2.523E-09	2.055E-09	1.721E-09	1.473E-09	1.282E-09	2.150E-08	1.418E-08	1.018E-08	6.405E-09	4.339E-09	3.216E-09	2.523E-09	2.055E-09	1.721E-09	1.473E-09	1.282E-09
WSW	1.633E-08	8.906E-09	6.485E-09	4.470E-09	3.510E-09	2.637E-09	2.070E-09	1.689E-09	1.418E-09	1.216E-09	1.060E-09	1.633E-08	8.906E-09	6.485E-09	4.470E-09	3.510E-09	2.637E-09	2.070E-09	1.689E-09	1.418E-09	1.216E-09	1.060E-09
W	4.691E-08	2.702E-08	1.890E-08	1.208E-08	8.492E-09	6.466E-09	5.214E-09	4.324E-09	3.660E-09	3.138E-09	2.736E-09	4.691E-08	2.702E-08	1.890E-08	1.208E-08	8.492E-09	6.466E-09	5.214E-09	4.324E-09	3.660E-09	3.138E-09	2.736E-09
WNW	6.098E-08	3.330E-08	2.249E-08	1.356E-08	9.129E-09	6.733E-09	5.357E-09	4.380E-09	3.660E-09	3.123E-09	2.711E-09	6.098E-08	3.330E-08	2.249E-08	1.356E-08	9.129E-09	6.733E-09	5.357E-09	4.380E-09	3.660E-09	3.123E-09	2.711E-09
NW	7.639E-08	4.285E-08	2.783E-08	1.599E-08	1.084E-08	8.026E-09	6.337E-09	5.191E-09	4.402E-09	3.781E-09	3.286E-09	7.639E-08	4.285E-08	2.783E-08	1.599E-08	1.084E-08	8.026E-09	6.337E-09	5.191E-09	4.402E-09	3.781E-09	3.286E-09
NNW	2.375E-08	1.537E-08	1.278E-08	9.971E-09	8.180E-09	6.670E-09	5.243E-09	4.267E-09	3.566E-09	3.046E-09	2.647E-09	2.375E-08	1.537E-08	1.278E-08	9.971E-09	8.180E-09	6.670E-09	5.243E-09	4.267E-09	3.566E-09	3.046E-09	2.647E-09
N	2.078E-08	3.391E-08	2.215E-08	1.284E-08	8.764E-09	6.529E-09	5.140E-09	4.203E-09	3.532E-09	3.032E-09	2.645E-09	2.078E-08	3.391E-08	2.215E-08	1.284E-08	8.764E-09	6.529E-09	5.140E-09	4.203E-09	3.532E-09	3.032E-09	2.645E-09
NNE	1.429E-08	3.465E-08	2.312E-08	1.380E-08	9.602E-09	7.263E-09	5.927E-09	4.978E-09	4.317E-09	3.733E-09	3.272E-09	1.429E-08	3.465E-08	2.312E-08	1.380E-08	9.602E-09	7.263E-09	5.927E-09	4.978E-09	4.317E-09	3.733E-09	3.272E-09
NE	9.135E-09	1.382E-08	9.228E-09	5.493E-09	3.807E-09	2.868E-09	2.418E-09	2.067E-09	1.740E-09	1.495E-09	1.307E-09	9.135E-09	1.382E-08	9.228E-09	5.493E-09	3.807E-09	2.868E-09	2.418E-09	2.067E-09	1.740E-09	1.495E-09	1.307E-09
ENE	7.180E-09	1.213E-08	8.173E-09	4.916E-09	3.429E-09	2.595E-09	2.068E-09	1.707E-09	1.522E-09	1.365E-09	1.195E-09	7.180E-09	1.213E-08	8.173E-09	4.916E-09	3.429E-09	2.595E-09	2.068E-09	1.707E-09	1.522E-09	1.365E-09	1.195E-09
E	1.150E-08	1.660E-08	1.123E-08	6.786E-09	4.743E-09	3.592E-09	2.862E-09	2.363E-09	2.002E-09	1.729E-09	1.518E-09	1.150E-08	1.660E-08	1.123E-08	6.786E-09	4.743E-09	3.592E-09	2.862E-09	2.363E-09	2.002E-09	1.729E-09	1.518E-09
ESE	1.646E-08	1.039E-08	8.381E-09	6.635E-09	5.161E-09	4.300E-09	3.736E-09	3.329E-09	2.824E-09	2.443E-09	2.146E-09	1.646E-08	1.039E-08	8.381E-09	6.635E-09	5.161E-09	4.300E-09	3.736E-09	3.329E-09	2.824E-09	2.443E-09	2.146E-09
SE	3.091E-08	3.898E-08	2.527E-08	1.451E-08	9.832E-09	7.286E-09	5.712E-09	4.653E-09	3.899E-09	3.338E-09	2.906E-09	3.091E-08	3.898E-08	2.527E-08	1.451E-08	9.832E-09	7.286E-09	5.712E-09	4.653E-09	3.899E-09	3.338E-09	2.906E-09
SSE																						

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	1.186E-07	9.299E-08	6.368E-08	4.850E-08	5.023E-08	3.042E-08	1.231E-08	6.354E-09	4.064E-09	2.921E-09
SSW	7.272E-08	5.495E-08	4.392E-08	4.047E-08	3.272E-08	2.110E-08	9.143E-09	4.830E-09	3.091E-09	2.211E-09
SW	1.090E-07	1.049E-07	6.107E-08	3.646E-08	2.560E-08	1.788E-08	8.485E-09	4.927E-09	3.374E-09	2.440E-09
WSW	8.612E-08	1.134E-07	6.460E-08	3.683E-08	2.479E-08	1.403E-08	6.326E-09	3.238E-09	2.062E-09	1.476E-09
W	1.741E-07	1.180E-07	5.408E-08	2.985E-08	1.950E-08	9.481E-09	4.491E-09	2.643E-09	1.694E-09	1.218E-09
WNW	3.003E-07	2.935E-07	1.450E-07	8.407E-08	5.564E-08	2.783E-08	1.200E-08	6.505E-09	4.325E-09	3.144E-09
NW	2.434E-07	3.895E-07	2.072E-07	1.136E-07	7.310E-08	3.465E-08	1.357E-08	6.821E-09	4.385E-09	3.130E-09
NNW	9.464E-08	1.778E-07	1.739E-07	1.338E-07	9.092E-08	4.363E-08	1.633E-08	8.100E-09	5.218E-09	3.782E-09
N	4.828E-08	5.328E-08	4.531E-08	3.444E-08	2.661E-08	1.608E-08	9.798E-09	6.502E-09	4.279E-09	3.052E-09
NNE	3.884E-08	3.745E-08	3.020E-08	2.297E-08	1.970E-08	2.576E-08	1.310E-08	6.570E-09	4.215E-09	3.037E-09
NE	3.637E-08	3.370E-08	2.428E-08	1.740E-08	1.411E-08	2.500E-08	1.400E-08	7.352E-09	4.997E-09	3.735E-09
ENE	1.570E-08	1.983E-08	1.599E-08	1.163E-08	9.277E-09	1.074E-08	5.574E-09	2.939E-09	2.043E-09	1.498E-09
E	7.865E-09	1.364E-08	1.187E-08	8.821E-09	7.178E-09	9.272E-09	4.979E-09	2.607E-09	1.740E-09	1.348E-09
ESE	2.235E-08	2.503E-08	1.964E-08	1.433E-08	1.158E-08	1.308E-08	6.866E-09	3.607E-09	2.368E-09	1.732E-09
SE	3.860E-08	4.359E-08	3.408E-08	2.467E-08	1.862E-08	1.085E-08	6.368E-09	4.304E-09	3.253E-09	2.446E-09
SSE	7.213E-08	6.899E-08	5.269E-08	3.818E-08	3.082E-08					



ERP ELEVATED STACK RELEASES - JUL-DEC 2011  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	1.497E-07	1.256E-07	1.218E-07	1.122E-07	9.762E-08	7.934E-08	6.402E-08	5.233E-08	4.355E-08	4.925E-08	5.324E-08	
SSW	2.043E-07	1.035E-07	6.776E-08	6.071E-08	5.808E-08	4.926E-08	4.058E-08	4.247E-08	4.225E-08	3.648E-08	3.201E-08	
SW	1.981E-07	1.156E-07	1.025E-07	1.100E-07	1.277E-07	8.419E-08	6.006E-08	4.541E-08	3.586E-08	2.926E-08	2.449E-08	
WSW	1.365E-07	6.562E-08	7.334E-08	1.056E-07	1.463E-07	9.164E-08	6.325E-08	4.671E-08	3.621E-08	2.910E-08	2.406E-08	
W	2.460E-07	1.495E-07	1.867E-07	1.763E-07	1.308E-07	7.839E-08	5.270E-08	3.825E-08	2.930E-08	2.335E-08	1.917E-08	
WNW	1.344E-07	1.609E-07	3.003E-07	3.691E-07	3.536E-07	2.088E-07	1.393E-07	1.052E-07	8.385E-08	6.650E-08	5.441E-08	
NW	1.371E-07	9.583E-08	1.909E-07	3.556E-07	5.227E-07	3.041E-07	2.004E-07	1.460E-07	1.123E-07	8.833E-08	7.175E-08	
NNW	5.484E-08	4.852E-08	8.208E-08	1.268E-07	1.916E-07	1.919E-07	1.774E-07	1.570E-07	1.390E-07	1.095E-07	8.904E-08	
N	5.763E-08	3.852E-08	4.863E-08	5.277E-08	5.518E-08	5.185E-08	4.623E-08	3.976E-08	3.438E-08	3.000E-08	2.643E-08	
NNE	6.178E-08	3.786E-08	3.897E-08	3.912E-08	3.912E-08	3.514E-08	3.050E-08	2.636E-08	2.293E-08	2.013E-08	1.786E-08	
NE	1.132E-08	2.451E-08	3.985E-08	3.953E-08	3.514E-08	2.943E-08	2.440E-08	2.041E-08	1.731E-08	1.488E-08	1.298E-08	
ENE	8.713E-09	9.603E-09	1.523E-08	1.903E-08	2.123E-08	1.902E-08	1.614E-08	1.361E-08	1.156E-08	9.943E-09	8.657E-09	
E	1.160E-08	3.641E-09	6.259E-09	1.115E-08	1.484E-08	1.388E-08	1.201E-08	1.025E-08	8.788E-09	7.613E-09	6.670E-09	
ESE	2.180E-08	1.739E-08	2.163E-08	2.531E-08	2.672E-08	2.348E-08	1.982E-08	1.674E-08	1.428E-08	1.235E-08	1.082E-08	
SE	4.155E-08	3.040E-08	3.687E-08	4.388E-08	4.677E-08	4.091E-08	3.441E-08	2.894E-08	2.460E-08	2.119E-08	1.849E-08	
SSE	7.267E-08	6.685E-08	7.254E-08	7.420E-08	7.273E-08	6.314E-08	5.313E-08	4.472E-08	3.802E-08	3.273E-08	2.853E-08	

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	4.728E-08	3.139E-08	2.031E-08	1.155E-08	8.038E-09	6.025E-09	4.649E-09	3.731E-09	3.106E-09	2.636E-09	2.263E-09	
SSW	2.931E-08	2.266E-08	1.467E-08	8.330E-09	5.902E-09	4.386E-09	3.362E-09	2.682E-09	2.205E-09	1.850E-09	1.580E-09	
SW	2.269E-08	1.954E-08	1.301E-08	7.658E-09	5.636E-09	4.377E-09	3.550E-09	2.845E-09	2.343E-09	1.971E-09	1.686E-09	
WSW	2.121E-08	1.385E-08	9.836E-09	6.058E-09	4.027E-09	2.929E-09	2.256E-09	1.804E-09	1.485E-09	1.249E-09	1.069E-09	
W	1.612E-08	8.723E-09	6.294E-09	4.252E-09	3.263E-09	2.404E-09	1.854E-09	1.487E-09	1.227E-09	1.035E-09	8.881E-10	
WNW	4.626E-08	2.635E-08	1.821E-08	1.134E-08	7.775E-09	5.776E-09	4.542E-09	3.674E-09	3.035E-09	2.546E-09	2.174E-09	
NW	6.035E-08	3.275E-08	2.195E-08	1.303E-08	8.651E-09	6.294E-09	4.929E-09	3.970E-09	3.272E-09	2.755E-09	2.360E-09	
NNW	7.564E-08	4.218E-08	2.724E-08	1.548E-08	1.038E-08	7.601E-09	5.935E-09	4.807E-09	4.030E-09	3.422E-09	2.943E-09	
N	2.356E-08	1.518E-08	1.256E-08	9.723E-09	7.912E-09	6.398E-09	4.987E-09	4.026E-09	3.338E-09	2.828E-09	2.438E-09	
NNE	2.060E-08	3.335E-08	2.165E-08	1.241E-08	8.373E-09	6.167E-09	4.801E-09	3.882E-09	3.227E-09	2.740E-09	2.365E-09	
NE	1.413E-08	3.345E-08	2.203E-08	1.282E-08	8.709E-09	6.432E-09	5.119E-09	4.196E-09	3.544E-09	2.995E-09	2.571E-09	
ENE	9.023E-09	1.354E-08	8.979E-09	5.269E-09	3.602E-09	2.676E-09	2.222E-09	1.870E-09	1.554E-09	1.318E-09	1.137E-09	
E	7.106E-09	1.183E-08	7.893E-09	4.657E-09	3.187E-09	2.367E-09	1.851E-09	1.501E-09	1.309E-09	1.149E-09	9.884E-10	
ESE	1.140E-08	1.632E-08	1.098E-08	6.546E-09	4.517E-09	3.378E-09	2.658E-09	2.167E-09	1.814E-09	1.548E-09	1.342E-09	
SE	1.633E-08	1.026E-08	8.237E-09	6.451E-09	4.963E-09	4.087E-09	3.508E-09	3.088E-09	2.591E-09	2.217E-09	1.927E-09	
SSE	3.059E-08	3.816E-08	2.456E-08	1.389E-08	9.274E-09	6.773E-09	5.234E-09	4.204E-09	3.474E-09	2.933E-09	2.519E-09	

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT	SEGMENT BOUNDARIES IN MILES FROM THE SITE										
	DIRECTION FROM SITE	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	1.184E-07	9.274E-08	6.343E-08	4.823E-08	4.985E-08	2.999E-08	1.193E-08	6.011E-09	3.756E-09	2.637E-09	
SSW	7.256E-08	5.475E-08	4.365E-08	4.011E-08	3.233E-08	2.058E-08	8.660E-09	4.381E-09	2.694E-09	1.855E-09	
SW	1.087E-07	1.044E-07	6.063E-08	3.607E-08	2.524E-08	1.734E-08	7.950E-09	4.382E-09	2.855E-09	1.976E-09	
WSW	8.598E-08	1.130E-07	6.421E-08	3.650E-08	2.450E-08	1.370E-08	5.995E-09	2.953E-09	1.812E-09	1.252E-09	
W	1.738E-07	1.176E-07	5.377E-08	2.959E-08	1.928E-08	9.288E-09	4.267E-09	2.413E-09	1.493E-09	1.038E-09	
WNW	2.999E-07	2.927E-07	1.442E-07	8.335E-08	5.497E-08	2.715E-08	1.128E-08	5.815E-09	3.678E-09	2.553E-09	
NW	2.430E-07	3.884E-07	2.063E-07	1.128E-07	7.244E-08	3.408E-08	1.307E-08	6.377E-09	3.978E-09	2.762E-09	
NNW	9.451E-08	1.773E-07	1.731E-07	1.329E-07	9.014E-08	4.298E-08	1.583E-08	7.674E-09	4.833E-09	3.425E-09	
N	4.822E-08	5.317E-08	4.514E-08	3.425E-08	2.642E-08	1.588E-08	9.549E-09	6.237E-09	4.039E-09	2.835E-09	
NNE	3.879E-08	3.735E-08	3.008E-08	2.284E-08	1.955E-08	2.532E-08	1.267E-08	6.209E-09	3.895E-09	2.745E-09	
NE	3.630E-08	3.358E-08	2.415E-08	1.727E-08	1.397E-08	2.408E-08	1.304E-08	6.514E-09	4.211E-09	3.001E-09	
ENE	1.567E-08	1.976E-08	1.590E-08	1.153E-08	9.174E-09	1.051E-08	5.352E-09	2.741E-09	1.850E-09	1.321E-09	
E	7.853E-09	1.360E-08	1.181E-08	8.758E-09	7.111E-09	9.031E-09	4.723E-09	2.379E-09	1.528E-09	1.137E-09	
ESE	2.232E-08	2.497E-08	1.956E-08	1.425E-08	1.149E-08	1.285E-08	6.628E-09	3.394E-09	2.173E-09	1.551E-09	
SE	3.855E-08	4.349E-08	3.396E-08	2.454E-08	1.849E-08	1.071E-08	6.186E-09	4.089E-09	3.019E-09	2.221E-09	
SSE	7.201E-08	6.879E-08	5.244E-08	3.792E-08	3.054E-08	3.043E-08	1.421E-08	6.825E-09	4.220E-09	2.940E-09	

B314

ERP ELEVATED STACK RELEASES - JUL-DEC 2011  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	1.499E-07	1.246E-07	1.198E-07	1.104E-07	9.583E-08	7.749E-08	6.217E-08	5.054E-08	4.185E-08	4.739E-08	5.134E-08	
SSW	2.045E-07	1.027E-07	6.664E-08	5.989E-08	5.719E-08	4.823E-08	3.948E-08	4.117E-08	4.086E-08	3.514E-08	3.075E-08	
SW	1.983E-07	1.147E-07	1.007E-07	1.085E-07	1.258E-07	8.232E-08	5.839E-08	4.395E-08	3.458E-08	2.813E-08	2.350E-08	
WSW	1.366E-07	6.509E-08	7.232E-08	1.047E-07	1.444E-07	8.978E-08	6.163E-08	4.531E-08	3.500E-08	2.805E-08	2.313E-08	
W	2.461E-07	1.471E-07	1.840E-07	1.733E-07	1.273E-07	7.555E-08	5.040E-08	3.635E-08	2.769E-08	2.197E-08	1.797E-08	
WNW	1.344E-07	1.596E-07	2.970E-07	3.640E-07	3.460E-07	2.023E-07	1.339E-07	1.007E-07	8.007E-08	6.323E-08	5.152E-08	
NW	1.372E-07	9.509E-08	1.889E-07	3.527E-07	5.158E-07	2.975E-07	1.948E-07	1.413E-07	1.083E-07	8.481E-08	6.857E-08	
NNW	5.487E-08	4.813E-08	8.112E-08	1.260E-07	1.899E-07	1.895E-07	1.750E-07	1.548E-07	1.371E-07	1.076E-07	8.714E-08	
N	5.766E-08	3.822E-08	4.788E-08	5.207E-08	5.440E-08	5.099E-08	4.535E-08	3.892E-08	3.358E-08	2.925E-08	2.573E-08	
NNE	6.181E-08	3.756E-08	3.833E-08	3.855E-08	3.853E-08	3.451E-08	2.986E-08	2.574E-08	2.234E-08	1.958E-08	1.735E-08	
NE	1.133E-08	2.431E-08	3.914E-08	3.880E-08	3.445E-08	2.876E-08	2.376E-08	1.980E-08	1.674E-08	1.435E-08	1.249E-08	
ENE	8.714E-09	9.524E-09	1.503E-08	1.886E-08	2.097E-08	1.870E-08	1.577E-08	1.323E-08	1.118E-08	9.575E-09	8.304E-09	
E	1.160E-08	3.613E-09	6.239E-09	1.115E-08	1.474E-08	1.369E-08	1.177E-08	9.986E-09	8.522E-09	7.351E-09	6.418E-09	
ESE	2.181E-08	1.725E-08	2.135E-08	2.508E-08	2.640E-08	2.307E-08	1.937E-08	1.627E-08	1.383E-08	1.192E-08	1.042E-08	
SE	4.158E-08	3.017E-08	3.643E-08	4.352E-08	4.612E-08	4.020E-08	3.362E-08	2.813E-08	2.381E-08	2.043E-08	1.777E-08	
SSE	7.271E-08	6.632E-08	7.142E-08	7.325E-08	7.167E-08	6.195E-08	5.189E-08	4.349E-08	3.684E-08	3.160E-08	2.746E-08	

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	4.552E-08	2.985E-08	1.879E-08	1.011E-08	6.622E-09	4.725E-09	3.516E-09	2.734E-09	2.217E-09	1.843E-09	1.553E-09	
SSW	2.813E-08	2.170E-08	1.371E-08	7.414E-09	4.993E-09	3.618E-09	2.716E-09	2.128E-09	1.724E-09	1.427E-09	1.203E-09	
SW	2.179E-08	1.895E-08	1.233E-08	6.906E-09	4.804E-09	3.562E-09	2.830E-09	2.231E-09	1.811E-09	1.504E-09	1.273E-09	
WSW	2.039E-08	1.319E-08	9.175E-09	5.456E-09	3.519E-09	2.500E-09	1.888E-09	1.485E-09	1.205E-09	1.000E-09	8.464E-10	
W	1.506E-08	8.052E-09	5.798E-09	3.805E-09	2.820E-09	2.030E-09	1.534E-09	1.209E-09	9.824E-10	8.174E-10	6.927E-10	
WNW	4.365E-08	2.443E-08	1.656E-08	9.881E-09	6.408E-09	4.555E-09	3.486E-09	2.770E-09	2.256E-09	1.866E-09	1.573E-09	
NW	5.741E-08	3.037E-08	1.984E-08	1.120E-08	7.073E-09	4.937E-09	3.757E-09	2.960E-09	2.392E-09	1.978E-09	1.667E-09	
NNW	7.371E-08	4.003E-08	2.509E-08	1.339E-08	8.333E-09	5.745E-09	4.269E-09	3.333E-09	2.720E-09	2.261E-09	1.906E-09	
N	2.291E-08	1.471E-08	1.220E-08	9.511E-09	7.607E-09	5.898E-09	4.493E-09	3.555E-09	2.896E-09	2.416E-09	2.052E-09	
NNE	2.010E-08	3.279E-08	2.067E-08	1.124E-08	7.206E-09	5.092E-09	3.827E-09	3.001E-09	2.427E-09	2.011E-09	1.697E-09	
NE	1.364E-08	3.339E-08	2.146E-08	1.190E-08	7.653E-09	5.411E-09	4.174E-09	3.359E-09	2.801E-09	2.340E-09	1.986E-09	
ENE	8.659E-09	1.322E-08	8.536E-09	4.737E-09	3.029E-09	2.130E-09	1.688E-09	1.374E-09	1.115E-09	9.263E-10	7.838E-10	
E	6.844E-09	1.166E-08	7.584E-09	4.239E-09	2.717E-09	1.913E-09	1.430E-09	1.114E-09	9.397E-10	8.016E-10	6.740E-10	
ESE	1.099E-08	1.602E-08	1.048E-08	5.908E-09	3.811E-09	2.696E-09	2.024E-09	1.583E-09	1.276E-09	1.053E-09	8.849E-10	
SE	1.565E-08	9.741E-09	7.820E-09	6.185E-09	4.793E-09	3.985E-09	3.457E-09	3.064E-09	2.541E-09	2.153E-09	1.854E-09	
SSE	2.950E-08	3.716E-08	2.325E-08	1.249E-08	7.914E-09	5.539E-09	4.128E-09	3.213E-09	2.581E-09	2.125E-09	1.783E-09	

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE										
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	
S	1.167E-07	9.092E-08	6.160E-08	4.644E-08	4.801E-08	2.842E-08	1.049E-08	4.748E-09	2.761E-09	1.847E-09	
SSW	7.165E-08	5.381E-08	4.249E-08	3.877E-08	3.108E-08	1.958E-08	7.737E-09	3.624E-09	2.142E-09	1.432E-09	
SW	1.073E-07	1.026E-07	5.900E-08	3.480E-08	2.424E-08	1.664E-08	7.177E-09	3.600E-09	2.242E-09	1.509E-09	
WSW	8.511E-08	1.113E-07	6.261E-08	3.529E-08	2.357E-08	1.300E-08	5.422E-09	2.527E-09	1.493E-09	1.004E-09	
W	1.710E-07	1.145E-07	5.149E-08	2.799E-08	1.808E-08	8.608E-09	3.810E-09	2.042E-09	1.215E-09	8.201E-10	
WNW	2.963E-07	2.861E-07	1.389E-07	7.956E-08	5.207E-08	2.520E-08	9.821E-09	4.621E-09	2.778E-09	1.873E-09	
NW	2.409E-07	3.826E-07	2.008E-07	1.088E-07	6.925E-08	3.170E-08	1.129E-08	5.035E-09	2.971E-09	1.985E-09	
NNW	9.374E-08	1.756E-07	1.708E-07	1.309E-07	8.823E-08	4.087E-08	1.374E-08	5.845E-09	3.367E-09	2.265E-09	
N	4.759E-08	5.237E-08	4.428E-08	3.346E-08	2.573E-08	1.542E-08	9.263E-09	5.792E-09	3.572E-09	2.424E-09	
NNE	3.826E-08	3.675E-08	2.945E-08	2.226E-08	1.903E-08	2.458E-08	1.154E-08	5.150E-09	3.018E-09	2.018E-09	
NE	3.570E-08	3.289E-08	2.351E-08	1.671E-08	1.347E-08	2.370E-08	1.213E-08	5.514E-09	3.379E-09	2.345E-09	
ENE	1.551E-08	1.949E-08	1.553E-08	1.115E-08	8.812E-09	1.012E-08	4.822E-09	2.193E-09	1.365E-09	9.295E-10	
E	7.840E-09	1.348E-08	1.157E-08	8.494E-09	6.852E-09	8.778E-09	4.306E-09	1.934E-09	1.138E-09	7.953E-10	
ESE	2.210E-08	2.462E-08	1.912E-08	1.380E-08	1.107E-08	1.244E-08	5.993E-09	2.725E-09	1.592E-09	1.057E-09	
SE	3.819E-08	4.291E-08	3.318E-08	2.375E-08	1.777E-08	1.020E-08	5.930E-09	3.989E-09	2.977E-09	2.157E-09	
SSE	7.110E-08	6.770E-08	5.121E-08	3.674E-08	2.944E-08	2.928E-08	1.285E-08	5.608E-09	3.234E-09	2.134E-09	

B315

ERP ELEVATED STACK RELEASES - JUL-DEC 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) AT FIXED POINTS BY DOWNWIND SECTORS *****												
DIRECTIONS FROM SITE												
DISTANCES IN MILES												
DIRECTION FROM SITE	.25	.50	.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	
S	5.176E-09	4.658E-09	4.622E-09	3.572E-09	1.901E-09	1.208E-09	8.314E-10	6.028E-10	4.536E-10	3.728E-10	3.335E-10	
SSW	3.115E-09	2.714E-09	2.573E-09	1.930E-09	1.006E-09	6.339E-10	4.346E-10	3.144E-10	2.882E-10	2.181E-10	1.708E-10	
SW	4.254E-09	3.297E-09	2.559E-09	1.628E-09	1.112E-09	5.968E-10	3.684E-10	2.499E-10	1.806E-10	1.367E-10	1.072E-10	
WSW	3.334E-09	2.634E-09	2.123E-09	2.121E-09	1.055E-09	5.646E-10	3.471E-10	2.347E-10	1.692E-10	1.279E-10	1.001E-10	
W	3.997E-09	6.549E-09	4.655E-09	2.759E-09	1.220E-09	6.488E-10	3.974E-10	2.679E-10	1.928E-10	1.454E-10	1.137E-10	
WNW	7.091E-09	5.724E-09	9.006E-09	5.874E-09	3.283E-09	1.651E-09	9.767E-10	6.431E-10	4.659E-10	3.491E-10	2.742E-10	
NW	4.481E-09	3.964E-09	3.841E-09	5.970E-09	3.684E-09	1.834E-09	1.083E-09	7.165E-10	5.154E-10	3.958E-10	3.206E-10	
NNW	3.144E-09	2.885E-09	2.936E-09	2.306E-09	2.232E-09	1.207E-09	7.479E-10	6.226E-10	4.634E-10	3.705E-10	3.142E-10	
N	3.646E-09	3.119E-09	2.877E-09	2.117E-09	1.087E-09	6.816E-10	4.660E-10	3.367E-10	2.529E-10	1.956E-10	1.549E-10	
NNE	2.560E-09	2.158E-09	1.947E-09	1.409E-09	7.151E-10	4.461E-10	3.043E-10	2.195E-10	1.648E-10	1.274E-10	1.009E-10	
NE	1.490E-09	1.296E-09	1.226E-09	9.179E-10	4.776E-10	3.010E-10	2.063E-10	1.493E-10	1.122E-10	8.681E-11	6.873E-11	
ENE	8.187E-10	7.439E-10	7.477E-10	5.827E-10	3.117E-10	1.985E-10	1.368E-10	9.922E-11	7.468E-11	5.782E-11	4.578E-11	
E	2.894E-10	3.470E-10	4.601E-10	4.126E-10	2.403E-10	1.576E-10	1.102E-10	8.053E-11	6.084E-11	4.717E-11	3.735E-11	
ESE	9.711E-10	9.638E-10	1.076E-09	8.912E-10	4.957E-10	3.201E-10	2.221E-10	1.617E-10	1.219E-10	9.447E-11	7.480E-11	
SE	1.425E-09	1.600E-09	2.013E-09	1.766E-09	1.016E-09	6.635E-10	4.630E-10	3.380E-10	2.552E-10	1.979E-10	1.567E-10	
SSE	3.420E-09	3.154E-09	3.232E-09	2.548E-09	1.374E-09	8.775E-10	6.055E-10	4.396E-10	3.310E-10	2.563E-10	2.029E-10	
DIRECTIONS FROM SITE												
DISTANCES IN MILES												
DIRECTION FROM SITE	5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00	
S	2.683E-10	1.742E-10	1.165E-10	6.636E-11	4.193E-11	3.167E-11	2.274E-11	1.711E-11	1.322E-11	1.056E-11	8.631E-12	
SSW	1.391E-10	8.557E-11	5.635E-11	3.170E-11	2.146E-11	1.520E-11	1.094E-11	8.244E-12	6.451E-12	5.153E-12	4.206E-12	
SW	8.760E-11	5.860E-11	3.973E-11	2.307E-11	1.481E-11	1.090E-11	7.531E-12	5.655E-12	4.397E-12	3.513E-12	2.867E-12	
WSW	8.069E-11	5.094E-11	3.398E-11	2.213E-11	1.341E-11	8.996E-12	6.505E-12	4.885E-12	3.798E-12	3.034E-12	2.476E-12	
W	9.144E-11	4.131E-11	3.224E-11	1.801E-11	1.336E-11	9.104E-12	6.524E-12	4.899E-12	3.809E-12	3.043E-12	2.483E-12	
WNW	2.260E-10	1.146E-10	7.444E-11	4.152E-11	2.815E-11	2.074E-11	1.473E-11	1.106E-11	8.633E-12	6.896E-12	5.629E-12	
NW	2.725E-10	1.563E-10	1.088E-10	6.812E-11	4.178E-11	2.813E-11	2.020E-11	1.518E-11	1.180E-11	9.429E-12	7.696E-12	
NNW	2.795E-10	1.846E-10	1.372E-10	8.515E-11	5.469E-11	3.635E-11	2.410E-11	1.792E-11	1.374E-11	1.098E-11	8.963E-12	
N	1.250E-10	5.950E-11	3.648E-11	1.945E-11	6.375E-11	3.648E-11	2.592E-11	1.947E-11	1.514E-11	1.210E-11	9.874E-12	
NNE	8.144E-11	1.699E-10	1.059E-10	5.539E-11	3.393E-11	2.275E-11	1.627E-11	1.218E-11	9.448E-12	7.535E-12	6.141E-12	
NE	5.546E-11	1.002E-10	6.374E-11	3.416E-11	2.112E-11	1.418E-11	9.957E-12	7.319E-12	5.686E-12	4.565E-12	3.726E-12	
ENE	3.693E-11	4.836E-11	3.604E-11	2.241E-11	1.440E-11	9.571E-12	6.739E-12	4.402E-12	3.427E-12	2.742E-12	2.241E-12	
E	3.010E-11	4.067E-11	3.037E-11	1.889E-11	1.211E-11	8.025E-12	5.631E-12	4.124E-12	3.140E-12	2.358E-12	1.920E-12	
ESE	6.031E-11	7.503E-11	5.540E-11	3.419E-11	2.191E-11	1.455E-11	1.024E-11	7.521E-12	5.739E-12	4.517E-12	3.640E-12	
SE	1.263E-10	5.990E-11	3.659E-11	1.933E-11	1.187E-11	8.264E-12	6.284E-12	4.516E-12	3.162E-12	2.188E-12	1.625E-12	
SSE	1.637E-10	2.074E-10	1.295E-10	6.792E-11	4.170E-11	2.799E-11	2.004E-11	1.503E-11	1.166E-11	9.312E-12	7.596E-12	

B316

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) BY DOWNWIND SECTORS *****										
DIRECTIONS FROM SITE										
SEGMENT BOUNDARIES IN MILES										
DIRECTION FROM SITE	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	4.163E-09	1.964E-09	8.403E-10	4.654E-10	3.210E-10	1.694E-10	6.664E-11	3.083E-11	1.724E-11	1.064E-11
SSW	2.319E-09	1.046E-09	4.397E-10	2.690E-10	1.731E-10	8.447E-11	3.263E-11	1.516E-11	8.330E-12	5.187E-12
SW	2.309E-09	9.975E-10	3.819E-10	1.837E-10	1.087E-10	5.666E-11	2.310E-11	1.059E-11	5.712E-12	3.536E-12
WSW	2.236E-09	1.074E-09	3.601E-10	1.722E-10	1.012E-10	5.001E-11	2.089E-11	9.176E-12	4.934E-12	3.054E-12
W	4.233E-09	1.308E-09	4.126E-10	1.962E-10	1.148E-10	4.842E-11	1.910E-11	9.206E-12	4.948E-12	3.062E-12
WNW	6.885E-09	3.134E-09	1.023E-09	4.720E-10	2.785E-10	1.215E-10	4.289E-11	2.031E-11	1.118E-11	6.941E-12
NW	4.815E-09	3.370E-09	1.137E-09	5.273E-10	3.250E-10	1.610E-10	6.546E-11	2.859E-11	1.533E-11	9.491E-12
NNW	2.645E-09	1.793E-09	8.202E-10	4.735E-10	3.180E-10	1.846E-10	8.319E-11	3.634E-11	1.809E-11	1.105E-11
N	2.593E-09	1.136E-09	4.718E-10	2.550E-10	1.559E-10	6.382E-11	4.292E-11	3.953E-11	1.966E-11	1.217E-11
NNE	1.755E-09	7.498E-10	3.082E-10	1.662E-10	1.016E-10	1.218E-10	5.707E-11	2.314E-11	1.231E-11	7.585E-12
NE	1.105E-09	4.970E-10	2.087E-10	1.131E-10	6.917E-11	7.407E-11	3.494E-11	1.434E-11	7.451E-12	4.586E-12
ENE	6.735E-10	3.216E-10	1.382E-10	7.527E-11	4.607E-11	4.034E-11	2.188E-11	9.726E-12	4.698E-12	2.759E-12
E	4.138E-10	2.418E-10	1.110E-10	6.126E-11	3.758E-11	3.374E-11	1.843E-11	8.157E-12	4.179E-12	2.427E-12
ESE	9.691E-10	5.056E-10	2.241E-10	1.228E-10	7.526E-11	6.304E-11	3.345E-11	1.479E-11	7.619E-12	4.554E-12
SE	1.811E-09	1.026E-09	4.665E-10	2.570E-10	1.576E-10	6.429E-11	1.985E-11	8.435E-12	1.128E-11	9.265E-12
SSE	2.911E-09	1.414E-09	6.117E-10	3.336E-10	2.042E-10	1.630E-10	6.994E-11	2.846E-11	1.518E-11	9.373E-12

ERP ELEVATED STACK RELEASES - JUL-DEC 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS  
SPECIFIC POINTS OF INTEREST

RELEASE TYPE OF	DIRECTION	DIST.	X/Q			D/Q
			NO DECAY	2.26 DAY DECAY	8.0 DAY DECAY	
			UNDEPLETED	UNDEPLETED	DEPLETED	
A Site Boundary	S	.80	1.2E-07	1.2E-07	1.2E-07	4.4E-09
A Site Boundary	SSW	.82	6.1E-08	6.1E-08	6.0E-08	2.4E-09
A Site Boundary	SW	.97	1.1E-07	1.1E-07	1.1E-07	1.7E-09
A Site Boundary	WSW	.93	9.4E-08	9.4E-08	9.3E-08	2.0E-09
A Site Boundary	W	.91	1.8E-07	1.8E-07	1.8E-07	3.2E-09
A Site Boundary	WNW	.94	3.6E-07	3.6E-07	3.5E-07	6.6E-09
A Site Boundary	NW	.81	2.3E-07	2.3E-07	2.3E-07	3.6E-09
A Site Boundary	NNW	.69	6.7E-08	6.7E-08	6.6E-08	2.9E-09
A Site Boundary	N	.67	4.3E-08	4.3E-08	4.2E-08	2.9E-09
A Site Boundary	NNE	.60	3.4E-08	3.4E-08	3.4E-08	2.0E-09
A Site Boundary	NE	.62	3.3E-08	3.3E-08	3.2E-08	1.2E-09
A Site Boundary	ENE	.59	1.1E-08	1.1E-08	1.1E-08	7.3E-10
A Site Boundary	E	.53	2.9E-09	2.9E-09	2.9E-09	3.6E-10
A Site Boundary	ESE	.54	1.6E-08	1.6E-08	1.6E-08	9.7E-10
A Site Boundary	SE	.65	3.0E-08	3.0E-08	3.0E-08	1.8E-09
A Site Boundary	SSE	.81	7.2E-08	7.2E-08	7.1E-08	3.1E-09
A Nearest Res	SSW	2.10	4.8E-08	4.7E-08	4.6E-08	5.8E-10
A Nearest Res	SW	1.30	1.2E-07	1.2E-07	1.2E-07	1.5E-09
A Nearest Res	WSW	1.90	1.0E-07	1.0E-07	9.8E-08	6.3E-10
A Nearest Res	W	1.00	1.8E-07	1.8E-07	1.7E-07	2.8E-09
A Nearest Res	WNW	1.70	2.8E-07	2.8E-07	2.7E-07	2.4E-09
A Nearest Res	NW	.90	2.9E-07	2.9E-07	2.8E-07	6.6E-09
A Nearest Res	NNW	1.90	1.9E-07	1.9E-07	1.9E-07	1.3E-09
A Nearest Res	N	2.50	4.6E-08	4.6E-08	4.5E-08	4.7E-10
A Nearest Res	NE	2.80	2.2E-08	2.2E-08	2.1E-08	1.7E-10
A Nearest Res	ENE	1.70	2.1E-08	2.1E-08	2.0E-08	2.5E-10
A Nearest Res	E	1.90	1.4E-08	1.4E-08	1.4E-08	1.7E-10
A Nearest Res	ESE	2.30	2.1E-08	2.1E-08	2.1E-08	2.6E-10
A Nearest Res	NNW	3.50	1.4E-07	1.4E-07	1.4E-07	4.6E-10
A Nearest Res	SW	1.30	1.2E-07	1.2E-07	1.2E-07	1.5E-09
A Nearest Res	WSW	1.90	1.0E-07	1.0E-07	9.8E-08	6.3E-10
A Nearest Res	WNW	2.40	1.5E-07	1.5E-07	1.4E-07	1.1E-09
A Nearest Res	NW	2.90	1.6E-07	1.5E-07	1.5E-07	7.7E-10
A Nearest Res	NNW	2.80	1.7E-07	1.6E-07	1.6E-07	7.1E-10
A Nearest Res	NE	2.80	2.2E-08	2.2E-08	2.1E-08	1.7E-10
A Nearest Res	ENE	1.70	2.1E-08	2.1E-08	2.0E-08	2.5E-10
A Nearest Res	E	1.90	1.4E-08	1.4E-08	1.4E-08	1.7E-10
A Nearest Res	ESE	3.00	1.7E-08	1.7E-08	1.6E-08	1.6E-10
A MAXIMUM CHI/Q	S	.25	1.2E-07	1.2E-07	1.2E-07	5.2E-09
A MAXIMUM CHI/Q	SSW	.25	1.6E-07	1.6E-07	1.6E-07	3.1E-09
A MAXIMUM CHI/Q	SW	.25	1.5E-07	1.5E-07	1.5E-07	4.3E-09
A MAXIMUM CHI/Q	WSW	1.50	1.5E-07	1.5E-07	1.4E-07	1.1E-09
A MAXIMUM CHI/Q	W	.25	1.9E-07	1.9E-07	1.9E-07	4.0E-09
A MAXIMUM CHI/Q	WNW	1.00	3.7E-07	3.7E-07	3.6E-07	5.9E-09
A MAXIMUM CHI/Q	NW	1.50	5.2E-07	5.2E-07	5.2E-07	3.7E-09
A MAXIMUM CHI/Q	NNW	2.00	1.9E-07	1.9E-07	1.9E-07	1.2E-09
A MAXIMUM CHI/Q	N	.25	4.4E-08	4.4E-08	4.4E-08	3.6E-09
A MAXIMUM CHI/Q	NNE	.25	4.8E-08	4.8E-08	4.8E-08	2.6E-09
A MAXIMUM CHI/Q	NE	.75	4.0E-08	4.0E-08	3.9E-08	1.2E-09
A MAXIMUM CHI/Q	ENE	1.50	2.1E-08	2.1E-08	2.1E-08	3.1E-10
A MAXIMUM CHI/Q	E	1.50	1.5E-08	1.5E-08	1.5E-08	2.4E-10
A MAXIMUM CHI/Q	ESE	1.50	2.7E-08	2.7E-08	2.6E-08	5.0E-10
A MAXIMUM CHI/Q	SE	1.50	4.7E-08	4.7E-08	4.6E-08	1.0E-09
A MAXIMUM CHI/Q	SSE	1.00	7.4E-08	7.4E-08	7.3E-08	2.5E-09

B317

**Atmospheric Diffusion Estimates**

**Elevated Releases**

January-December 2011

ERP ELEVATED STACK RELEASES - JAN-DEC 2011  
 NO DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES FROM THE SITE									
	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500	1.500	2.000	2.500	3.000	3.500	4.000	4.500		
S	7.434E-08	6.433E-08	7.867E-08	8.865E-08	8.820E-08	7.422E-08	6.056E-08	4.969E-08	4.139E-08	4.634E-08	4.949E-08									
SSW	1.109E-07	5.602E-08	4.530E-08	5.035E-08	5.383E-08	4.679E-08	3.887E-08	4.094E-08	4.066E-08	3.502E-08	3.064E-08									
SW	1.032E-07	5.929E-08	6.565E-08	9.154E-08	1.217E-07	8.064E-08	5.746E-08	4.331E-08	3.406E-08	2.768E-08	2.308E-08									
WSW	9.161E-08	4.250E-08	6.284E-08	1.147E-07	1.647E-07	1.016E-07	6.923E-08	5.057E-08	3.884E-08	3.098E-08	2.543E-08									
W	1.313E-07	1.110E-07	2.153E-07	2.265E-07	1.763E-07	1.056E-07	7.079E-08	5.117E-08	3.903E-08	3.097E-08	2.533E-08									
WNW	9.718E-08	1.136E-07	2.668E-07	3.613E-07	3.594E-07	2.110E-07	1.398E-07	1.041E-07	8.153E-08	6.421E-08	5.221E-08									
NW	6.905E-08	5.969E-08	1.520E-07	3.017E-07	4.444E-07	2.577E-07	1.694E-07	1.230E-07	9.428E-08	7.407E-08	6.010E-08									
NNW	2.760E-08	2.966E-08	6.472E-08	1.066E-07	1.593E-07	1.566E-07	1.424E-07	1.241E-07	1.082E-07	8.502E-08	6.903E-08									
N	3.461E-08	3.056E-08	4.325E-08	5.027E-08	5.358E-08	4.957E-08	4.346E-08	3.693E-08	3.163E-08	2.740E-08	2.400E-08									
NNE	3.198E-08	2.803E-08	3.558E-08	3.857E-08	3.958E-08	3.531E-08	3.031E-08	2.593E-08	2.235E-08	1.947E-08	1.717E-08									
NE	5.681E-09	1.627E-08	2.932E-08	3.136E-08	2.986E-08	2.565E-08	2.155E-08	1.818E-08	1.551E-08	1.341E-08	1.175E-08									
ENE	4.811E-09	8.031E-09	1.396E-08	1.786E-08	2.033E-08	1.851E-08	1.591E-08	1.357E-08	1.165E-08	1.012E-08	8.890E-09									
E	5.758E-09	2.316E-09	6.676E-09	1.210E-08	1.598E-08	1.498E-08	1.299E-08	1.111E-08	9.548E-09	8.282E-09	7.265E-09									
ESE	1.083E-08	9.956E-09	1.807E-08	2.509E-08	2.882E-08	2.595E-08	2.214E-08	1.879E-08	1.607E-08	1.391E-08	1.218E-08									
SE	2.389E-08	2.027E-08	3.772E-08	5.279E-08	5.847E-08	5.069E-08	4.195E-08	3.473E-08	2.911E-08	2.476E-08	2.136E-08									
SSE	3.658E-08	3.813E-08	5.761E-08	7.235E-08	7.777E-08	6.783E-08	5.659E-08	4.715E-08	3.972E-08	3.391E-08	2.935E-08									

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES FROM THE SITE									
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000		
S	4.380E-08	2.854E-08	1.847E-08	1.053E-08	7.342E-09	5.528E-09	4.298E-09	3.478E-09	2.918E-09	2.497E-09	2.163E-09									
SSW	2.792E-08	2.085E-08	1.354E-08	7.765E-09	5.548E-09	4.180E-09	3.256E-09	2.639E-09	2.205E-09	1.881E-09	1.632E-09									
SW	2.102E-08	1.594E-08	1.053E-08	6.179E-09	4.484E-09	3.477E-09	2.832E-09	2.308E-09	1.934E-09	1.655E-09	1.441E-09									
WSW	2.208E-08	1.340E-08	9.205E-09	5.517E-09	3.691E-09	2.709E-09	2.108E-09	1.705E-09	1.420E-09	1.210E-09	1.048E-09									
W	2.122E-08	1.131E-08	7.915E-09	5.088E-09	3.779E-09	2.803E-09	2.184E-09	1.771E-09	1.478E-09	1.261E-09	1.094E-09									
WNW	4.399E-08	2.414E-08	1.630E-08	9.901E-09	6.801E-09	5.090E-09	4.038E-09	3.309E-09	2.776E-09	2.369E-09	2.057E-09									
NW	5.046E-08	2.720E-08	1.817E-08	1.079E-08	7.229E-09	5.312E-09	4.200E-09	3.420E-09	2.852E-09	2.428E-09	2.104E-09									
NNW	5.846E-08	3.226E-08	2.086E-08	1.191E-08	8.038E-09	5.934E-09	4.667E-09	3.811E-09	3.218E-09	2.757E-09	2.393E-09									
N	2.131E-08	1.357E-08	1.115E-08	8.704E-09	7.200E-09	5.915E-09	4.653E-09	3.789E-09	3.167E-09	2.705E-09	2.350E-09									
NNE	1.926E-08	3.049E-08	1.992E-08	1.155E-08	7.883E-09	5.873E-09	4.624E-09	3.781E-09	3.178E-09	2.728E-09	2.381E-09									
NE	1.299E-08	2.709E-08	1.793E-08	1.059E-08	7.321E-09	5.509E-09	4.458E-09	3.719E-09	3.197E-09	2.757E-09	2.412E-09									
ENE	9.575E-09	1.513E-08	1.008E-08	5.974E-09	4.130E-09	3.104E-09	2.590E-09	2.196E-09	1.847E-09	1.586E-09	1.385E-09									
E	7.738E-09	1.247E-08	8.363E-09	5.006E-09	3.481E-09	2.628E-09	2.090E-09	1.723E-09	1.530E-09	1.367E-09	1.196E-09									
ESE	1.271E-08	1.652E-08	1.111E-08	6.659E-09	4.631E-09	3.495E-09	2.778E-09	2.289E-09	1.935E-09	1.670E-09	1.463E-09									
SE	1.867E-08	1.128E-08	8.609E-09	6.211E-09	4.621E-09	3.717E-09	3.140E-09	2.736E-09	2.305E-09	1.982E-09	1.732E-09									
SSE	3.065E-08	3.450E-08	2.222E-08	1.263E-08	8.501E-09	6.266E-09	4.891E-09	3.970E-09	3.316E-09	2.831E-09	2.459E-09									

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	7.992E-08	8.209E-08	5.986E-08	4.565E-08	4.645E-08	2.745E-08	1.088E-08	5.520E-09	3.499E-09	2.498E-09
SSW	4.993E-08	4.993E-08	4.181E-08	3.859E-08	3.093E-08	1.917E-08	8.062E-09	4.175E-09	2.650E-09	1.885E-09
SW	7.574E-08	9.675E-08	5.798E-08	3.427E-08	2.368E-08	1.467E-08	6.393E-09	3.488E-09	2.315E-09	1.658E-09
WSW	8.135E-08	1.255E-07	7.040E-08	3.920E-08	2.583E-08	1.346E-08	5.525E-09	2.730E-09	1.712E-09	1.212E-09
W	1.971E-07	1.561E-07	7.224E-08	3.943E-08	2.548E-08	1.200E-08	5.134E-09	2.815E-09	1.777E-09	1.263E-09
WNW	2.747E-07	2.939E-07	1.445E-07	8.137E-08	5.272E-08	2.507E-08	9.946E-09	5.126E-09	3.315E-09	2.374E-09
NW	1.980E-07	3.297E-07	1.744E-07	9.479E-08	6.067E-08	2.836E-08	1.085E-08	5.378E-09	3.426E-09	2.434E-09
NNW	7.552E-08	1.464E-07	1.388E-07	1.039E-07	6.985E-08	3.302E-08	1.218E-08	5.989E-09	3.830E-09	2.759E-09
N	4.355E-08	5.106E-08	4.247E-08	3.153E-08	2.401E-08	1.421E-08	8.580E-09	5.753E-09	3.799E-09	2.710E-09
NNE	3.523E-08	3.746E-08	2.989E-08	2.228E-08	1.863E-08	2.330E-08	1.178E-08	5.910E-09	3.792E-09	2.733E-09
NE	2.733E-08	2.832E-08	2.129E-08	1.547E-08	1.270E-08	1.989E-08	1.077E-08	5.572E-09	3.731E-09	2.760E-09
ENE	1.438E-08	1.897E-08	1.567E-08	1.162E-08	9.507E-09	1.165E-08	6.066E-09	3.172E-09	2.176E-09	1.589E-09
E	8.116E-09	1.467E-08	1.277E-08	9.514E-09	7.742E-09	9.592E-09	5.074E-09	2.640E-09	1.755E-09	1.352E-09
ESE	1.939E-08	2.671E-08	2.181E-08	1.602E-08	1.289E-08	1.327E-08	6.746E-09	3.511E-09	2.294E-09	1.672E-09
SE	4.054E-08	5.375E-08	4.139E-08	2.906E-08	2.137E-08	1.174E-08	6.037E-09	3.727E-09	2.687E-09	1.986E-09
SSE	5.984E-08	7.215E-08	5.581E-08	3.963E-08	3.118E-08	2.818E-08	1.293E-08	6.312E-09	3.984E-09	2.837E-09

B319

ERP ELEVATED STACK RELEASES - JAN-DEC 2011  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	7.425E-08	6.422E-08	7.854E-08	8.850E-08	8.800E-08	7.400E-08	6.033E-08	4.946E-08	4.116E-08	4.605E-08	4.913E-08	
SSW	1.108E-07	5.591E-08	4.521E-08	5.025E-08	5.366E-08	4.660E-08	3.866E-08	4.067E-08	4.034E-08	3.470E-08	3.032E-08	
SW	1.031E-07	5.919E-08	6.553E-08	9.134E-08	1.213E-07	8.027E-08	5.712E-08	4.300E-08	3.377E-08	2.740E-08	2.282E-08	
WSW	9.153E-08	4.244E-08	6.275E-08	1.145E-07	1.642E-07	1.012E-07	6.887E-08	5.025E-08	3.855E-08	3.071E-08	2.518E-08	
W	1.312E-07	1.109E-07	2.151E-07	2.261E-07	1.759E-07	1.053E-07	7.047E-08	5.089E-08	3.877E-08	3.073E-08	2.511E-08	
WNW	9.712E-08	1.134E-07	2.665E-07	3.607E-07	3.585E-07	2.103E-07	1.392E-07	1.035E-07	8.098E-08	6.370E-08	5.174E-08	
NW	6.898E-08	5.961E-08	1.518E-07	3.012E-07	4.433E-07	2.568E-07	1.686E-07	1.224E-07	9.368E-08	7.352E-08	5.960E-08	
NNW	2.758E-08	2.963E-08	6.464E-08	1.064E-07	1.590E-07	1.561E-07	1.418E-07	1.234E-07	1.075E-07	8.440E-08	6.846E-08	
N	3.459E-08	3.053E-08	4.322E-08	5.021E-08	5.348E-08	4.944E-08	4.331E-08	3.678E-08	3.148E-08	2.725E-08	2.385E-08	
NNE	3.196E-08	2.800E-08	3.554E-08	3.851E-08	3.949E-08	3.520E-08	3.019E-08	2.580E-08	2.222E-08	1.934E-08	1.703E-08	
NE	5.678E-09	1.625E-08	2.927E-08	3.130E-08	2.977E-08	2.556E-08	2.145E-08	1.808E-08	1.541E-08	1.331E-08	1.165E-08	
ENE	4.810E-09	8.027E-09	1.394E-08	1.783E-08	2.027E-08	1.843E-08	1.583E-08	1.349E-08	1.157E-08	1.003E-08	8.807E-09	
E	5.756E-09	2.314E-09	6.669E-09	1.208E-08	1.594E-08	1.492E-08	1.293E-08	1.105E-08	9.487E-09	8.222E-09	7.205E-09	
ESE	1.083E-08	9.947E-09	1.805E-08	2.506E-08	2.876E-08	2.588E-08	2.206E-08	1.871E-08	1.599E-08	1.382E-08	1.210E-08	
SE	2.387E-08	2.024E-08	3.768E-08	5.273E-08	5.837E-08	5.057E-08	4.182E-08	3.459E-08	2.897E-08	2.463E-08	2.123E-08	
SSE	3.656E-08	3.809E-08	5.754E-08	7.224E-08	7.759E-08	6.761E-08	5.635E-08	4.691E-08	3.948E-08	3.367E-08	2.912E-08	

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	4.343E-08	2.815E-08	1.812E-08	1.023E-08	7.056E-09	5.255E-09	4.044E-09	3.239E-09	2.690E-09	2.277E-09	1.953E-09	
SSW	2.758E-08	2.039E-08	1.313E-08	7.411E-09	5.194E-09	3.841E-09	2.942E-09	2.345E-09	1.927E-09	1.617E-09	1.381E-09	
SW	2.075E-08	1.557E-08	1.020E-08	5.878E-09	4.181E-09	3.178E-09	2.534E-09	2.027E-09	1.668E-09	1.403E-09	1.200E-09	
WSW	2.183E-08	1.315E-08	8.966E-09	5.291E-09	3.489E-09	2.525E-09	1.936E-09	1.545E-09	1.269E-09	1.066E-09	9.116E-10	
W	2.101E-08	1.114E-08	7.737E-09	4.894E-09	3.566E-09	2.603E-09	1.999E-09	1.598E-09	1.315E-09	1.106E-09	9.468E-10	
WNW	4.353E-08	2.372E-08	1.589E-08	9.482E-09	6.406E-09	4.714E-09	3.676E-09	2.961E-09	2.442E-09	2.052E-09	1.755E-09	
NW	4.998E-08	2.678E-08	1.777E-08	1.040E-08	6.888E-09	4.999E-09	3.897E-09	3.131E-09	2.578E-09	2.169E-09	1.857E-09	
NNW	5.792E-08	3.180E-08	2.045E-08	1.156E-08	7.724E-09	5.645E-09	4.394E-09	3.552E-09	2.968E-09	2.516E-09	2.162E-09	
N	2.115E-08	1.342E-08	1.098E-08	8.491E-09	6.947E-09	5.643E-09	4.396E-09	3.546E-09	2.936E-09	2.485E-09	2.139E-09	
NNE	1.910E-08	2.994E-08	1.943E-08	1.112E-08	7.495E-09	5.514E-09	4.287E-09	3.463E-09	2.875E-09	2.438E-09	2.103E-09	
NE	1.287E-08	2.641E-08	1.732E-08	1.004E-08	6.819E-09	5.041E-09	4.005E-09	3.281E-09	2.765E-09	2.344E-09	2.018E-09	
ENE	9.479E-09	1.491E-08	9.877E-09	5.796E-09	3.966E-09	2.952E-09	2.437E-09	2.044E-09	1.703E-09	1.448E-09	1.253E-09	
E	7.669E-09	1.223E-08	8.145E-09	4.805E-09	3.293E-09	2.452E-09	1.923E-09	1.564E-09	1.366E-09	1.201E-09	1.036E-09	
ESE	1.261E-08	1.626E-08	1.087E-08	6.435E-09	4.421E-09	3.295E-09	2.587E-09	2.106E-09	1.759E-09	1.500E-09	1.299E-09	
SE	1.854E-08	1.116E-08	8.483E-09	6.064E-09	4.467E-09	3.556E-09	2.970E-09	2.557E-09	2.133E-09	1.816E-09	1.572E-09	
SSE	3.038E-08	3.389E-08	2.169E-08	1.218E-08	8.094E-09	5.893E-09	4.543E-09	3.644E-09	3.007E-09	2.537E-09	2.178E-09	

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE											
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50		
S	7.978E-08	8.188E-08	5.963E-08	4.539E-08	4.610E-08	2.709E-08	1.057E-08	5.251E-09	3.260E-09	2.279E-09		
SSW	4.983E-08	4.977E-08	4.158E-08	3.829E-08	3.060E-08	1.876E-08	7.697E-09	3.842E-09	2.356E-09	1.622E-09		
SW	7.559E-08	9.641E-08	5.764E-08	3.398E-08	2.341E-08	1.433E-08	6.084E-09	3.188E-09	2.035E-09	1.406E-09		
WSW	8.121E-08	1.252E-07	7.004E-08	3.890E-08	2.558E-08	1.322E-08	5.307E-09	2.547E-09	1.552E-09	1.069E-09		
W	1.968E-07	1.557E-07	7.192E-08	3.917E-08	2.526E-08	1.182E-08	4.936E-09	2.618E-09	1.605E-09	1.109E-09		
WNW	2.744E-07	2.931E-07	1.439E-07	8.083E-08	5.224E-08	2.464E-08	9.538E-09	4.750E-09	2.968E-09	2.058E-09		
NW	1.977E-07	3.288E-07	1.736E-07	9.419E-08	6.016E-08	2.793E-08	1.048E-08	5.062E-09	3.139E-09	2.175E-09		
NNW	7.542E-08	1.460E-07	1.383E-07	1.032E-07	6.928E-08	3.256E-08	1.183E-08	5.699E-09	3.570E-09	2.519E-09		
N	4.351E-08	5.096E-08	4.233E-08	3.138E-08	2.386E-08	1.405E-08	8.359E-09	5.492E-09	3.556E-09	2.490E-09		
NNE	3.518E-08	3.736E-08	2.977E-08	2.215E-08	1.848E-08	2.286E-08	1.136E-08	5.552E-09	3.475E-09	2.444E-09		
NE	2.728E-08	2.824E-08	2.120E-08	1.537E-08	1.259E-08	1.936E-08	1.023E-08	5.101E-09	3.291E-09	2.348E-09		
ENE	1.436E-08	1.891E-08	1.559E-08	1.153E-08	9.419E-09	1.147E-08	5.890E-09	3.016E-09	2.026E-09	1.451E-09		
E	8.104E-09	1.463E-08	1.271E-08	9.453E-09	7.678E-09	9.400E-09	4.875E-09	2.465E-09	1.591E-09	1.189E-09		
ESE	1.937E-08	2.666E-08	2.174E-08	1.594E-08	1.280E-08	1.305E-08	6.525E-09	3.312E-09	2.111E-09	1.502E-09		
SE	4.049E-08	5.365E-08	4.126E-08	2.892E-08	2.124E-08	1.161E-08	5.892E-09	3.565E-09	2.514E-09	1.820E-09		
SSE	5.975E-08	7.197E-08	5.558E-08	3.939E-08	3.093E-08	2.769E-08	1.248E-08	5.940E-09	3.658E-09	2.543E-09		

B320

ERP ELEVATED STACK RELEASES - JAN-DEC 2011  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	.250	.500	.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	7.432E-08	6.374E-08	7.750E-08	8.760E-08	8.679E-08	7.250E-08	5.871E-08	4.783E-08	3.957E-08	4.424E-08	4.724E-08	
SSW	1.109E-07	5.550E-08	4.463E-08	4.984E-08	5.302E-08	4.573E-08	3.768E-08	3.947E-08	3.903E-08	3.343E-08	2.912E-08	
SW	1.032E-07	5.874E-08	6.465E-08	9.064E-08	1.198E-07	7.864E-08	5.562E-08	4.165E-08	3.258E-08	2.635E-08	2.187E-08	
WSW	9.159E-08	4.211E-08	6.217E-08	1.139E-07	1.621E-07	9.906E-08	6.696E-08	4.859E-08	3.710E-08	2.943E-08	2.405E-08	
W	1.312E-07	1.095E-07	2.129E-07	2.227E-07	1.716E-07	1.018E-07	6.762E-08	4.853E-08	3.678E-08	2.902E-08	2.362E-08	
WNW	9.717E-08	1.126E-07	2.641E-07	3.562E-07	3.511E-07	2.038E-07	1.337E-07	9.892E-08	7.710E-08	6.033E-08	4.874E-08	
NW	6.903E-08	5.914E-08	1.504E-07	2.990E-07	4.374E-07	2.512E-07	1.638E-07	1.183E-07	9.022E-08	7.047E-08	5.684E-08	
NNW	2.760E-08	2.940E-08	6.397E-08	1.058E-07	1.576E-07	1.541E-07	1.397E-07	1.214E-07	1.057E-07	8.271E-08	6.680E-08	
N	3.461E-08	3.029E-08	4.262E-08	4.967E-08	5.280E-08	4.862E-08	4.243E-08	3.590E-08	3.064E-08	2.645E-08	2.310E-08	
NNE	3.198E-08	2.777E-08	3.499E-08	3.802E-08	3.893E-08	3.457E-08	2.953E-08	2.515E-08	2.160E-08	1.875E-08	1.648E-08	
NE	5.681E-09	1.612E-08	2.880E-08	3.082E-08	2.927E-08	2.503E-08	2.093E-08	1.757E-08	1.493E-08	1.286E-08	1.123E-08	
ENE	4.811E-09	7.961E-09	1.377E-08	1.767E-08	2.004E-08	1.813E-08	1.549E-08	1.313E-08	1.122E-08	9.698E-09	8.485E-09	
E	5.757E-09	2.298E-09	6.651E-09	1.207E-08	1.582E-08	1.472E-08	1.268E-08	1.078E-08	9.210E-09	7.950E-09	6.943E-09	
ESE	1.083E-08	9.870E-09	1.789E-08	2.493E-08	2.847E-08	2.546E-08	2.159E-08	1.822E-08	1.551E-08	1.336E-08	1.166E-08	
SE	2.389E-08	2.009E-08	3.737E-08	5.248E-08	5.777E-08	4.968E-08	4.079E-08	3.353E-08	2.792E-08	2.361E-08	2.026E-08	
SSE	3.658E-08	3.779E-08	5.689E-08	7.170E-08	7.670E-08	6.641E-08	5.500E-08	4.553E-08	3.811E-08	3.236E-08	2.786E-08	

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES FROM THE SITE											
	SECTOR	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	4.167E-08	2.662E-08	1.667E-08	8.922E-09	5.801E-09	4.120E-09	3.061E-09	2.376E-09	1.923E-09	1.595E-09	1.342E-09	
SSW	2.644E-08	1.944E-08	1.221E-08	6.552E-09	4.362E-09	3.139E-09	2.351E-09	1.839E-09	1.486E-09	1.229E-09	1.035E-09	
SW	1.989E-08	1.492E-08	9.532E-09	5.219E-09	3.505E-09	2.540E-09	1.978E-09	1.552E-09	1.255E-09	1.040E-09	8.778E-10	
WSW	2.081E-08	1.234E-08	8.219E-09	4.659E-09	2.972E-09	2.093E-09	1.570E-09	1.228E-09	9.917E-10	8.205E-10	6.918E-10	
W	1.970E-08	1.030E-08	7.098E-09	4.329E-09	3.035E-09	2.160E-09	1.622E-09	1.271E-09	1.028E-09	8.520E-10	7.194E-10	
WNW	4.082E-08	2.172E-08	1.421E-08	8.086E-09	5.158E-09	3.633E-09	2.752E-09	2.169E-09	1.756E-09	1.450E-09	1.220E-09	
NW	4.743E-08	2.475E-08	1.600E-08	8.906E-09	5.614E-09	3.914E-09	2.964E-09	2.328E-09	1.878E-09	1.551E-09	1.306E-09	
NNW	5.626E-08	3.006E-08	1.876E-08	9.964E-09	6.188E-09	4.260E-09	3.158E-09	2.460E-09	2.001E-09	1.660E-09	1.397E-09	
N	2.045E-08	1.289E-08	1.057E-08	8.234E-09	6.649E-09	5.200E-09	3.963E-09	3.136E-09	2.553E-09	2.128E-09	1.808E-09	
NNE	1.854E-08	2.938E-08	1.852E-08	1.006E-08	6.433E-09	4.535E-09	3.401E-09	2.662E-09	2.149E-09	1.778E-09	1.498E-09	
NE	1.244E-08	2.613E-08	1.668E-08	9.197E-09	5.922E-09	4.195E-09	3.228E-09	2.591E-09	2.149E-09	1.795E-09	1.525E-09	
ENE	9.147E-09	1.458E-08	9.384E-09	5.184E-09	3.302E-09	2.316E-09	1.817E-09	1.471E-09	1.196E-09	9.958E-10	8.442E-10	
E	7.396E-09	1.200E-08	7.779E-09	4.332E-09	2.772E-09	1.950E-09	1.457E-09	1.136E-09	9.562E-10	8.151E-10	6.863E-10	
ESE	1.217E-08	1.591E-08	1.035E-08	5.792E-09	3.723E-09	2.628E-09	1.970E-09	1.539E-09	1.239E-09	1.022E-09	8.578E-10	
SE	1.762E-08	1.044E-08	7.893E-09	5.650E-09	4.172E-09	3.342E-09	2.815E-09	2.439E-09	2.009E-09	1.693E-09	1.450E-09	
SSE	2.907E-08	3.262E-08	2.028E-08	1.082E-08	6.840E-09	4.781E-09	3.560E-09	2.770E-09	2.225E-09	1.832E-09	1.537E-09	

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES FROM THE SITE									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	7.893E-08	8.062E-08	5.804E-08	4.371E-08	4.429E-08	2.554E-08	9.258E-09	4.144E-09	2.399E-09	1.598E-09
SSW	4.936E-08	4.908E-08	4.054E-08	3.702E-08	2.940E-08	1.778E-08	6.835E-09	3.150E-09	1.851E-09	1.233E-09
SW	7.489E-08	9.502E-08	5.617E-08	3.280E-08	2.246E-08	1.363E-08	5.415E-09	2.572E-09	1.561E-09	1.044E-09
WSW	8.070E-08	1.234E-07	6.817E-08	3.746E-08	2.445E-08	1.239E-08	4.700E-09	2.118E-09	1.236E-09	8.236E-10
W	1.943E-07	1.519E-07	6.908E-08	3.718E-08	2.377E-08	1.097E-08	4.369E-09	2.178E-09	1.279E-09	8.551E-10
WNW	2.714E-07	2.868E-07	1.385E-07	7.694E-08	4.924E-08	2.263E-08	8.146E-09	3.687E-09	2.178E-09	1.455E-09
NW	1.962E-07	3.239E-07	1.689E-07	9.072E-08	5.739E-08	2.590E-08	9.020E-09	3.987E-09	2.338E-09	1.557E-09
NNW	7.488E-08	1.445E-07	1.362E-07	1.014E-07	6.761E-08	3.086E-08	1.024E-08	4.333E-09	2.485E-09	1.664E-09
N	4.301E-08	5.025E-08	4.147E-08	3.055E-08	2.311E-08	1.354E-08	8.049E-09	5.091E-09	3.150E-09	2.136E-09
NNE	3.473E-08	3.679E-08	2.912E-08	2.153E-08	1.791E-08	2.214E-08	1.033E-08	4.588E-09	2.678E-09	1.784E-09
NE	2.688E-08	2.773E-08	2.068E-08	1.490E-08	1.216E-08	1.889E-08	9.404E-09	4.269E-09	2.604E-09	1.800E-09
ENE	1.421E-08	1.866E-08	1.525E-08	1.119E-08	9.090E-09	1.106E-08	5.281E-09	2.380E-09	1.465E-09	9.991E-10
E	8.093E-09	1.450E-08	1.246E-08	9.178E-09	7.409E-09	9.101E-09	4.405E-09	1.972E-09	1.159E-09	8.092E-10
ESE	1.923E-08	2.635E-08	2.128E-08	1.547E-08	1.235E-08	1.261E-08	5.885E-09	2.657E-09	1.548E-09	1.025E-09
SE	4.025E-08	5.300E-08	4.026E-08	2.788E-08	2.028E-08	1.090E-08	5.492E-09	3.353E-09	2.383E-09	1.697E-09
SSE	5.923E-08	7.102E-08	5.426E-08	3.804E-08	2.964E-08	2.634E-08	1.115E-08	4.842E-09	2.788E-09	1.839E-09

B321



ERP ELEVATED STACK RELEASES - JAN-DEC 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) AT FIXED POINTS BY DOWNWIND SECTORS *****												
DIRECTION		DISTANCES IN MILES										
FROM SITE		.25	.50	.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S		2.727E-09	2.931E-09	3.546E-09	3.054E-09	1.739E-09	1.132E-09	7.888E-10	5.754E-10	4.343E-10	3.578E-10	3.224E-10
SSW		1.729E-09	1.764E-09	2.028E-09	1.704E-09	9.564E-10	6.196E-10	4.305E-10	3.137E-10	2.928E-10	2.215E-10	1.734E-10
SW		2.207E-09	1.873E-09	1.707E-09	1.245E-09	1.079E-09	5.830E-10	3.604E-10	2.444E-10	1.766E-10	1.336E-10	1.046E-10
WSW		2.021E-09	1.791E-09	1.741E-09	2.463E-09	1.240E-09	6.687E-10	4.124E-10	2.792E-10	2.015E-10	1.523E-10	1.192E-10
W		2.491E-09	6.634E-09	5.376E-09	3.314E-09	1.577E-09	8.375E-10	5.116E-10	3.439E-10	2.468E-10	1.857E-10	1.450E-10
WNW		4.964E-09	4.296E-09	9.032E-09	5.979E-09	3.518E-09	1.764E-09	1.042E-09	6.855E-10	4.948E-10	3.715E-10	2.930E-10
NW		3.658E-09	3.347E-09	3.394E-09	5.577E-09	3.483E-09	1.734E-09	1.023E-09	6.753E-10	4.844E-10	3.705E-10	2.989E-10
NNW		2.130E-09	2.102E-09	2.333E-09	1.925E-09	1.972E-09	1.068E-09	6.609E-10	5.466E-10	4.023E-10	3.174E-10	2.654E-10
N		3.434E-09	3.035E-09	2.938E-09	2.235E-09	1.176E-09	7.440E-10	5.111E-10	3.702E-10	2.784E-10	2.155E-10	1.706E-10
NNE		2.408E-09	2.049E-09	1.875E-09	1.371E-09	7.011E-10	4.388E-10	2.997E-10	2.165E-10	1.626E-10	1.257E-10	9.955E-11
NE		1.350E-09	1.212E-09	1.198E-09	9.234E-10	4.905E-10	3.115E-10	2.144E-10	1.554E-10	1.169E-10	9.051E-11	7.167E-11
ENE		9.435E-10	8.389E-10	8.187E-10	6.261E-10	3.307E-10	2.095E-10	1.440E-10	1.044E-10	7.851E-11	6.076E-11	4.811E-11
E		2.285E-10	3.377E-10	5.117E-10	4.824E-10	2.884E-10	1.908E-10	1.339E-10	9.805E-11	7.415E-11	5.751E-11	4.554E-11
ESE		7.144E-10	8.417E-10	1.101E-09	9.819E-10	5.702E-10	3.736E-10	2.611E-10	1.907E-10	1.441E-10	1.117E-10	8.846E-11
SE		1.460E-09	1.869E-09	2.597E-09	2.373E-09	1.396E-09	9.187E-10	6.432E-10	4.705E-10	3.555E-10	2.577E-10	2.183E-10
SSE		2.331E-09	2.619E-09	3.296E-09	2.891E-09	1.663E-09	1.086E-09	7.581E-10	5.535E-10	4.179E-10	3.240E-10	2.565E-10
DIRECTION		DISTANCES IN MILES										
FROM SITE		5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
S		2.593E-10	1.610E-10	1.060E-10	5.945E-11	3.731E-11	2.915E-11	2.090E-11	1.570E-11	1.225E-11	9.772E-12	7.982E-12
SSW		1.407E-10	8.527E-11	5.576E-11	3.108E-11	2.181E-11	1.521E-11	1.092E-11	8.221E-12	6.440E-12	5.144E-12	4.199E-12
SW		8.491E-11	5.688E-11	3.841E-11	2.210E-11	1.404E-11	1.047E-11	7.356E-12	5.524E-12	4.295E-12	3.431E-12	2.800E-12
WSW		9.733E-11	6.026E-11	3.995E-11	2.622E-11	1.588E-11	1.066E-11	7.696E-12	5.779E-12	4.493E-12	3.589E-12	2.930E-12
W		1.166E-10	5.268E-11	4.461E-11	2.523E-11	1.843E-11	1.245E-11	8.918E-12	6.696E-12	5.207E-12	4.159E-12	3.395E-12
WNW		2.423E-10	1.253E-10	8.233E-11	4.626E-11	3.166E-11	2.246E-11	1.615E-11	1.213E-11	9.458E-12	7.555E-12	6.167E-12
NW		2.530E-10	1.430E-10	9.879E-11	6.257E-11	3.822E-11	2.568E-11	1.842E-11	1.384E-11	1.079E-11	8.622E-12	7.038E-12
NNW		2.330E-10	1.481E-10	1.083E-10	6.639E-11	4.249E-11	2.824E-11	1.921E-11	1.440E-11	1.109E-11	8.858E-12	7.232E-12
N		1.376E-10	6.546E-11	4.009E-11	2.132E-11	5.536E-11	3.324E-11	2.371E-11	1.780E-11	1.384E-11	1.106E-11	9.028E-12
NNE		8.034E-11	1.419E-10	8.889E-11	4.674E-11	2.866E-11	1.919E-11	1.370E-11	1.024E-11	7.935E-12	6.321E-12	5.147E-12
NE		5.781E-11	1.054E-10	6.609E-11	3.482E-11	2.138E-11	1.433E-11	1.007E-11	7.466E-12	5.803E-12	4.652E-12	3.797E-12
ENE		3.881E-11	5.942E-11	4.528E-11	2.861E-11	1.844E-11	1.224E-11	8.596E-12	5.431E-12	4.227E-12	3.380E-12	2.763E-12
E		3.669E-11	5.025E-11	3.758E-11	2.339E-11	1.499E-11	9.924E-12	6.957E-12	5.090E-12	3.873E-12	2.944E-12	2.399E-12
ESE		7.129E-11	8.575E-11	6.287E-11	3.857E-11	2.466E-11	1.636E-11	1.150E-11	8.445E-12	6.443E-12	5.069E-12	4.084E-12
SE		1.759E-10	8.341E-11	5.091E-11	2.685E-11	1.641E-11	1.130E-11	8.445E-12	1.484E-11	1.143E-11	9.079E-12	7.387E-12
SSE		2.068E-10	2.276E-10	1.406E-10	7.277E-11	4.443E-11	2.979E-11	2.132E-11	1.598E-11	1.241E-11	9.905E-12	8.079E-12

B322

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) BY DOWNWIND SECTORS *****											
DIRECTION		SEGMENT BOUNDARIES IN MILES									
FROM SITE		.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S		3.191E-09	1.762E-09	7.951E-10	4.455E-10	3.095E-10	1.584E-10	5.996E-11	2.802E-11	1.587E-11	9.843E-12
SSW		1.825E-09	9.728E-10	4.342E-10	2.716E-10	1.756E-10	8.448E-11	3.245E-11	1.526E-11	8.314E-12	5.178E-12
SW		1.538E-09	8.953E-10	3.734E-10	1.796E-10	1.059E-10	5.490E-11	2.214E-11	1.018E-11	5.579E-12	3.453E-12
WSW		2.073E-09	1.258E-09	4.275E-10	2.049E-10	1.209E-10	5.947E-11	2.468E-11	1.087E-11	5.837E-12	3.613E-12
W		4.739E-09	1.634E-09	5.314E-10	2.513E-10	1.465E-10	6.330E-11	2.652E-11	1.263E-11	6.764E-12	4.186E-12
WNW		6.623E-09	3.285E-09	1.092E-09	5.023E-10	2.975E-10	1.322E-10	4.778E-11	2.239E-11	1.226E-11	7.605E-12
NW		4.354E-09	3.171E-09	1.073E-09	4.955E-10	3.031E-10	1.478E-10	5.980E-11	2.612E-11	1.399E-11	8.679E-12
NNW		2.100E-09	1.560E-09	7.237E-10	4.112E-10	2.688E-10	1.493E-10	6.509E-11	2.843E-11	1.451E-11	8.916E-12
N		2.647E-09	1.219E-09	5.168E-10	2.806E-10	1.717E-10	7.023E-11	4.062E-11	3.532E-11	1.798E-11	1.113E-11
NNE		1.690E-09	7.334E-10	3.035E-10	1.639E-10	1.002E-10	1.047E-10	4.807E-11	1.952E-11	1.035E-11	6.365E-12
NE		1.079E-09	5.072E-10	2.167E-10	1.179E-10	7.212E-11	7.735E-11	3.579E-11	1.450E-11	7.576E-12	4.676E-12
ENE		7.376E-10	3.425E-10	1.456E-10	7.914E-11	4.842E-11	4.856E-11	2.780E-11	1.244E-11	5.877E-12	3.402E-12
E		4.600E-10	2.881E-10	1.347E-10	7.464E-11	4.581E-11	4.161E-11	2.281E-11	1.009E-11	5.160E-12	3.017E-12
ESE		9.905E-10	5.743E-10	2.630E-10	1.451E-10	8.899E-11	7.237E-11	3.779E-11	1.663E-11	8.556E-12	5.111E-12
SE		2.336E-09	1.401E-09	6.476E-10	3.580E-10	2.196E-10	8.953E-11	2.756E-11	1.152E-11	1.172E-11	9.150E-12
SSE		2.965E-09	1.680E-09	7.638E-10	4.208E-10	2.581E-10	1.843E-10	7.524E-11	3.031E-11	1.615E-11	9.971E-12

ERP ELEVATED STACK RELEASES - JAN-DEC 2011  
CORRECTED USING STANDARD OPEN TERRAIN FACTORS  
SPECIFIC POINTS OF INTEREST

RELEASE TYPE OF	DIRECTION	DIST.	X/Q		D/Q	
			NO	DAY		
			UNDEPLETED	UNDEPLETED	DEPLETED	
			DECAY	DECAY	DECAY	
A Site Boundary	S	.80	8.0E-08	8.0E-08	7.9E-08	3.5E-09
A Site Boundary	SSW	.82	4.5E-08	4.5E-08	4.4E-08	2.0E-09
A Site Boundary	SW	.97	8.8E-08	8.8E-08	8.7E-08	1.3E-09
A Site Boundary	WSW	.93	9.8E-08	9.8E-08	9.8E-08	2.2E-09
A Site Boundary	W	.91	2.3E-07	2.3E-07	2.2E-07	3.9E-09
A Site Boundary	WNW	.94	3.4E-07	3.4E-07	3.4E-07	6.7E-09
A Site Boundary	NW	.81	1.9E-07	1.9E-07	1.9E-07	3.2E-09
A Site Boundary	NNW	.69	5.1E-08	5.1E-08	5.0E-08	2.3E-09
A Site Boundary	N	.67	3.7E-08	3.7E-08	3.7E-08	2.9E-09
A Site Boundary	NNE	.60	2.9E-08	2.9E-08	2.8E-08	1.9E-09
A Site Boundary	NE	.62	2.3E-08	2.3E-08	2.3E-08	1.2E-09
A Site Boundary	ENE	.59	9.4E-09	9.4E-09	9.3E-09	8.2E-10
A Site Boundary	E	.53	2.1E-09	2.1E-09	2.1E-09	3.5E-10
A Site Boundary	ESE	.54	9.9E-09	9.9E-09	9.8E-09	8.7E-10
A Site Boundary	SE	.65	2.7E-08	2.7E-08	2.7E-08	2.3E-09
A Site Boundary	SSE	.81	6.2E-08	6.1E-08	6.1E-08	3.3E-09
A Nearest Res	SSW	2.10	4.5E-08	4.5E-08	4.4E-08	5.7E-10
A Nearest Res	SW	1.30	1.2E-07	1.2E-07	1.1E-07	1.4E-09
A Nearest Res	WSW	1.90	1.1E-07	1.1E-07	1.1E-07	7.5E-10
A Nearest Res	W	1.00	2.3E-07	2.3E-07	2.2E-07	3.3E-09
A Nearest Res	WNW	1.70	2.9E-07	2.8E-07	2.8E-07	2.6E-09
A Nearest Res	NW	.90	2.4E-07	2.4E-07	2.4E-07	6.3E-09
A Nearest Res	NNW	1.90	1.6E-07	1.6E-07	1.6E-07	1.2E-09
A Nearest Res	N	2.50	4.3E-08	4.3E-08	4.2E-08	5.1E-10
A Nearest Res	NE	2.80	1.9E-08	1.9E-08	1.9E-08	1.8E-10
A Nearest Res	ENE	1.70	2.0E-08	2.0E-08	2.0E-08	2.7E-10
A Nearest Res	E	1.90	1.5E-08	1.5E-08	1.5E-08	2.1E-10
A Nearest Res	ESE	2.30	2.4E-08	2.4E-08	2.3E-08	3.0E-10
A Nearest Cow	NNW	3.50	1.1E-07	1.1E-07	1.1E-07	4.0E-10
A Nearest Garde	SW	1.30	1.2E-07	1.2E-07	1.1E-07	1.4E-09
A Nearest Garde	WSW	1.90	1.1E-07	1.1E-07	1.1E-07	7.5E-10
A Nearest Garde	WNW	2.40	1.5E-07	1.5E-07	1.4E-07	1.1E-09
A Nearest Garde	NW	2.90	1.3E-07	1.3E-07	1.3E-07	7.3E-10
A Nearest Garde	NNW	2.80	1.3E-07	1.3E-07	1.3E-07	6.2E-10
A Nearest Garde	NE	2.80	1.9E-08	1.9E-08	1.9E-08	1.8E-10
A Nearest Garde	ENE	1.70	2.0E-08	2.0E-08	2.0E-08	2.7E-10
A Nearest Garde	E	1.90	1.5E-08	1.5E-08	1.5E-08	2.1E-10
A Nearest Garde	ESE	3.00	1.9E-08	1.9E-08	1.8E-08	1.9E-10
A MAXIMUM CHI/Q	S	1.00	8.8E-08	8.8E-08	8.7E-08	3.1E-09
A MAXIMUM CHI/Q	SSW	.25	8.6E-08	8.6E-08	8.6E-08	1.7E-09
A MAXIMUM CHI/Q	SW	1.50	1.2E-07	1.2E-07	1.2E-07	1.1E-09
A MAXIMUM CHI/Q	WSW	1.50	1.6E-07	1.6E-07	1.6E-07	1.2E-09
A MAXIMUM CHI/Q	W	1.00	2.3E-07	2.3E-07	2.2E-07	3.3E-09
A MAXIMUM CHI/Q	WNW	1.00	3.6E-07	3.6E-07	3.6E-07	6.0E-09
A MAXIMUM CHI/Q	NW	1.50	4.4E-07	4.4E-07	4.4E-07	3.5E-09
A MAXIMUM CHI/Q	NNW	1.50	1.6E-07	1.6E-07	1.6E-07	2.0E-09
A MAXIMUM CHI/Q	N	1.50	5.4E-08	5.3E-08	5.3E-08	1.2E-09
A MAXIMUM CHI/Q	NNE	1.50	4.0E-08	3.9E-08	3.9E-08	7.0E-10
A MAXIMUM CHI/Q	NE	1.00	3.1E-08	3.1E-08	3.1E-08	9.2E-10
A MAXIMUM CHI/Q	ENE	1.50	2.0E-08	2.0E-08	2.0E-08	3.3E-10
A MAXIMUM CHI/Q	E	1.50	1.6E-08	1.6E-08	1.6E-08	2.9E-10
A MAXIMUM CHI/Q	ESE	1.50	2.9E-08	2.9E-08	2.8E-08	5.7E-10
A MAXIMUM CHI/Q	SE	1.50	5.8E-08	5.8E-08	5.8E-08	1.4E-09
A MAXIMUM CHI/Q	SSE	1.50	7.8E-08	7.8E-08	7.7E-08	1.7E-09

B323

## ATMOSPHERIC DIFFUSION MODEL

Onsite meteorological data from January 1 through December 31, 2011 were used to determine long-term (routine) diffusion estimates for evaluating normal atmospheric releases from Cooper Nuclear Station. Atmospheric dispersion parameters (X/Q values) were determined for the site boundary distances from each release point, the standard population distances, and special locations for nearest residence, cow, and garden using the methodology presented in U.S. NRC Regulatory Guide 1.111 (Rev.1) and the computer code XOQDOQ (NUREG/CR2919). Two release modes were analyzed. Releases from the 99-meter free-standing stack were considered 100 percent elevated, while releases from the reactor building, turbine-generator building, radwaste building and augmented radwaste building vents were considered as a 100 percent ground level release (one combined source term was assumed to apply for these vents).

Winds were obtained from measurements at the 10-meter level (for ground-level releases) and the 100-meter level (for elevated releases), and the stability class was based on the vertical temperature gradient between 60 meters and 10 meters (for ground releases) and 100 meters and 10 meters (for elevated releases). In accordance with Regulatory Guide 1.111, calm periods were distributed directionally in proportion to the directional distribution within a stability class of the lowest wind speed group. For the calculations, calm periods were assigned a speed of one-half the threshold wind speed of the wind vane or anemometer, whichever is higher.

The Gaussian straight-line trajectory model, which assumes that the air flow transports and diffuses effluents along a straight line through the entire region of interest in the airflow direction at the release point, was modified to account for various modes of effluent releases. In the case of an elevated release, plume rise due to momentum effects was incorporated into the calculation. For ground-level releases, building wake effects were considered.

The mathematical equation used in the Gaussian straight-line trajectory model is:

$$(X/Q)_i = 2.032 \sum_{jk} \frac{f_{ijk}}{xu_{jk} \Sigma_{zk}} \exp \left[ \frac{-1/2 h_e^2}{\sigma_{zk}^2} \right] \quad (\text{Eq. 1})$$

and

$$\Sigma_{zk} = (\sigma_{zk}^2 + 0.5 D_z^2 / \pi)^{1/2} \leq \sqrt{3} \sigma_{zk} \quad (\text{Eq. 2})$$

where

I	=	index identifying direction sector;
j	=	index identifying wind speed class;
k	=	index identifying atmospheric stability class;
$\frac{X}{Q}$	=	average effluent concentration normalized by source strength at the specific downwind distance;
f	=	joint frequency distribution of wind direction, wind speed class, and atmospheric stability class;
x	=	distance from the release point to a receptor;
u	=	wind speed;
$\Sigma_z$	=	vertical plume spread with volumetric building wake correction for a release within the building wake cavity;
$\sigma_z$	=	vertical plume spread without volumetric building wake correction;
$D_z$	=	maximum adjacent building height either upwind or downwind of the release point (44.5 meters for ground-level releases); and
$h_e$	=	effective plume height;

The term  $\Sigma_{zk}$  given in Equations 1 and 2 is used for ground-level release ( $h = 0$ ) within the building wake cavity. For an elevated release, no volumetric building wake correction needs to be considered, i.e.,  $\Sigma_{zk} = \sigma_{zk}$ . For all building wake determinations, the reactor building was considered to be the dominating structure in the modification of air flows within the building complex.

Since the model does not directly consider the effects of spatial and temporal variation in airflow due to terrain, appropriate adjustments were made to the calculated  $X/Q$  values, using the default values of Regulatory Guide 1.111, Rev. 0.

**APPENDIX C**  
**DOSE CALCULATIONS**



## CONTENTS

	<u>Page</u>
LIQUID EFFLUENT DOSE CALCULATIONS	C1
GASEOUS EFFLUENT DOSE CALCULATIONS (EXCEPT CARBON-14)	C8
CARBON-14 GASEOUS EFFLUENT DOSE CALCULATIONS	C52
DOSE CALCULATION MODELS	C66

## **LIQUID EFFLUENT DOSE CALCULATIONS**

Doses to the maximum individual and 0 to 50 - mile population resulting from the release of radioactive material in liquid effluents from Cooper Nuclear Station were calculated using the LADTAP II computer program. The LADTAP II program implements the radiological dose models of Regulatory Guide 1.109 for determining the radiation exposure to man from three principal exposure pathways in the aquatic environment -- potable water, aquatic foods, and recreational water use. Doses to both the maximum individual and 0 to 50 mile population are calculated as a function of age group and pathway for significant body organs, and are presented in Tables 1 - 6.

Assumptions and data sources used for input to the LADTAP II code are described in a separate section of this appendix (see page C66).



TABLE 1. Doses to Maximum Individual at the Site Boundary, Resulting From Exposure to Radioactivity Discharged in Liquid Effluents, January-June 2011 Cooper Nuclear Station

Period and Pathway	Dose to Individual, mrem							
	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-LLI
<u>1st Quarter</u>								
Drinking Water		0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
Shoreline	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
<b>Totals</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>
<u>2nd Quarter</u>								
Eating Fish		7.16 E-02	1.02 E-01	6.81 E-02	2.03 E-05	3.46 E-02	1.14 E-02	4.83 E-03
Drinking Water		1.25 E-03	2.64 E-03	2.11 E-03	7.81 E-04	1.39 E-03	9.81 E-04	2.20 E-03
Shoreline	4.68 E-04	3.98 E-04	3.98 E-04	3.98 E-04	3.98 E-04	3.98 E-04	3.98 E-04	3.98 E-04
<b>Totals</b>	<b>4.68 E-04</b>	<b>7.32 E-02</b>	<b>1.05 E-01</b>	<b>7.06 E-02</b>	<b>1.20 E-03</b>	<b>3.64 E-02</b>	<b>1.28 E-02</b>	<b>7.43 E-03</b>
<b>Totals for 1st &amp; 2nd Quarters</b>	<b>4.68 E-04</b>	<b>7.32 E-02</b>	<b>1.05 E-01</b>	<b>7.06 E-02</b>	<b>1.20 E-03</b>	<b>3.64 E-02</b>	<b>1.28 E-02</b>	<b>7.43 E-03</b>

Calculated doses are based on the following periods of exposures: Fishing: April - November; Drinking water and shoreline: January - December

TABLE 2. Doses to Maximum Individual at the Site Boundary, Resulting From Exposure to Radioactivity Discharged in Liquid Effluents, July-December 2011, Cooper Nuclear Station

Period and Pathway	Dose to Individual, mrem							
	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-LLI
<u>3rd Quarter</u>								
Eating Fish		4.13 E-02	5.72 E-02	3.78 E-02	2.31 E-05	1.94 E-02	6.46 E-03	1.65 E-03
Drinking Water		7.17 E-04	1.90 E-03	1.59 E-03	8.92 E-04	1.23 E-03	1.00 E-03	1.24 E-03
Shoreline	1.55 E-04	1.32 E-04	1.32 E-04	1.32 E-04	1.32 E-04	1.32 E-04	1.32 E-04	1.32 E-04
<b>Totals</b>	<b>1.55 E-04</b>	<b>4.21 E-02</b>	<b>5.92 E-02</b>	<b>3.95 E-02</b>	<b>1.05 E-03</b>	<b>2.08 E-02</b>	<b>7.60 E-03</b>	<b>3.02 E-03</b>
<u>4th Quarter</u>								
Eating Fish		0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
Drinking Water		0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
Shoreline	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
<b>Totals</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>
<b>Totals for 3rd &amp; 4th Quarters</b>	<b>1.55 E-04</b>	<b>4.21 E-02</b>	<b>5.92 E-02</b>	<b>3.95 E-02</b>	<b>1.05 E-03</b>	<b>2.08 E-02</b>	<b>7.60 E-03</b>	<b>3.02 E-03</b>

Calculated doses are based on the following periods of exposures: Fishing: April - November; Drinking water and shoreline: January - December

TABLE 3. Summary of Doses to Maximum Individual at the Site Boundary, Resulting from Exposure to Radioactivity Discharged in Liquid Effluents, January-December 2011, Cooper Nuclear Station

Period and Pathway	Dose to Individual, mrem							
	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-LLI
1st Quarter	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
2nd Quarter	4.68 E-04	7.32 E-02	1.05 E-01	7.06 E-02	1.20 E-03	3.64 E-02	1.28 E-02	7.43 E-03
3rd Quarter	1.55 E-04	4.21 E-02	5.92 E-02	3.95 E-02	1.05 E-03	2.08 E-02	7.60 E-03	3.02 E-03
4th Quarter	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
Totals for 2011	6.23 E-04	1.15 E-01	1.64 E-01	1.10 E-01	2.25 E-03	5.72 E-02	2.04 E-02	1.05 E-02

C4

TABLE 4. Doses to Population Within a 50-Mile Radius, Resulting From Exposure to Radioactivity Discharged in Liquid Effluents, January-June 2011, Cooper Nuclear Station

Period and Pathway	Dose to Population, manrem							
	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-LLI
<u>1st Quarter</u>								
Drinking Water		0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
Shoreline	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
<b>Totals</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>
<u>2nd Quarter</u>								
Eating Fish		1.44 E-03	1.91 E-03	1.04 E-03	3.48 E-07	6.43 E-04	2.19 E-04	7.51 E-05
Drinking Water		5.27 E-04	9.44 E-04	6.32 E-04	2.55 E-04	4.77 E-04	3.32 E-04	6.46 E-04
Shoreline	2.02 E-04	0.00 E+00	0.00 E+00	1.72 E-04	1.72 E-04	0.00 E+00	0.00 E+00	0.00 E+00
Swimming	0.00 E+00	0.00 E+00	0.00 E+00	8.84 E-07	8.84 E-07	0.00 E+00	0.00 E+00	0.00 E+00
Boating	0.00 E+00	0.00 E+00	0.00 E+00	3.24 E-06	3.24 E-06	0.00 E+00	0.00 E+00	0.00 E+00
<b>Totals</b>	<b>2.02 E-04</b>	<b>1.97 E-03</b>	<b>2.85 E-03</b>	<b>1.85 E-03</b>	<b>4.31 E-04</b>	<b>1.12 E-03</b>	<b>5.51 E-04</b>	<b>7.21 E-04</b>
<b>Totals for 1st &amp; 2nd Quarters</b>	<b>2.02 E-04</b>	<b>1.97 E-03</b>	<b>2.85 E-03</b>	<b>1.85 E-03</b>	<b>4.31 E-04</b>	<b>1.12 E-03</b>	<b>5.51 E-04</b>	<b>7.21 E-04</b>

Calculated doses are based on the following periods of exposures: Fishing and Boating: April - November; Drinking water and shoreline: January - December; Swimming: June - September. Exposure from drinking water is calculated for the city of St. Joseph, Missouri, nearest public water intake from the Missouri River, 84 miles downstream.

TABLE 5. Doses to Population Within a 50-Mile Radius, Resulting From Exposure to Radioactivity Discharged in Liquid Effluents, July-December 2011, Cooper Nuclear Station

Period and Pathway	Dose to Population, manrem							
	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-LLI
<u>3rd Quarter</u>								
Eating Fish		8.93 E-04	1.15 E-03	6.22 E-04	4.26 E-07	3.88 E-04	1.33 E-04	2.82 E-05
Drinking Water		3.26 E-04	7.18 E-04	5.18 E-04	3.13 E-04	4.46 E-04	3.59 E-04	4.18 E-04
Shoreline	7.16 E-05	0.00 E+00	0.00 E+00	6.11 E-05	6.11 E-05	0.00 E+00	0.00 E+00	0.00 E+00
Swimming	0.00 E+00	0.00 E+00	0.00 E+00	2.62 E-07	2.62 E-07	0.00 E+00	0.00 E+00	0.00 E+00
Boating	0.00 E+00	0.00 E+00	0.00 E+00	9.58 E-07	9.58 E-07	0.00 E+00	0.00 E+00	0.00 E+00
<b>Totals</b>	<b>7.16 E-05</b>	<b>1.22 E-03</b>	<b>1.87 E-03</b>	<b>1.20 E-03</b>	<b>3.76 E-04</b>	<b>8.34 E-04</b>	<b>4.92 E-04</b>	<b>4.46 E-04</b>
<u>4<sup>th</sup> Quarter</u>								
Eating Fish		0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
Drinking Water		0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
Shoreline	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
Boating	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
<b>Totals</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>	<b>0.00 E+00</b>
<b>Totals for 3rd &amp; 4th Quarters</b>	<b>7.16 E-05</b>	<b>1.22 E-03</b>	<b>1.87 E-03</b>	<b>1.20 E-03</b>	<b>3.76 E-04</b>	<b>8.34 E-04</b>	<b>4.92 E-04</b>	<b>4.46 E-04</b>

Calculated doses are based on the following periods of exposures: Fishing and Boating: April - November; Drinking water and shoreline: January - December; Swimming: June - September. Exposure from drinking water is calculated for the city of St. Joseph, Missouri, nearest public water intake from the Missouri River, 84 miles downstream.

TABLE 6. Summary of Doses to Population Within a 50-Mile Radius, Resulting from Exposure to Radioactivity Discharged in Liquid Effluents, January-December 2011 Cooper Nuclear Station

Period and Pathway	Dose to Population, manrem							
	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-LLI
<u>1st Quarter</u>	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
<u>2nd Quarter</u>	2.02 E-04	1.97 E-03	2.85 E-03	1.85 E-03	4.31 E-04	1.12 E-03	5.51 E-04	7.21 E-04
<u>3rd Quarter</u>	7.16 E-05	1.22 E-03	1.87 E-03	1.20 E-03	3.76 E-04	8.34 E-04	4.92 E-04	4.46 E-04
<u>4th Quarter</u>	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
<b>Totals for 2011</b>	<b>2.74 E-04</b>	<b>3.19 E-03</b>	<b>4.72 E-03</b>	<b>3.05 E-03</b>	<b>8.07 E-04</b>	<b>1.95 E-03</b>	<b>1.04 E-03</b>	<b>1.17 E-03</b>

C7

## **GASEOUS EFFLUENT DOSE CALCULATIONS (EXCEPT CARBON-14)**

Doses to the maximum individual and 0 to 50 mile population resulting from the release of radioactive material in gaseous effluents from the Cooper Nuclear Station were calculated using the GASPARG computer code. Four sites were selected for individual dose calculations: the site boundary, the nearest residence, the nearest garden and the nearest cow. GASPARG implements the radiological dose models of Regulatory Guide 1.109 for determining the radiation exposure to man from four principal atmospheric exposure pathways: plume, ground, inhalation, and ingestion. Doses to the maximum individual and the population are calculated as a function of age group and pathway for significant body organs.

Tables 1 through 7 present maximum individual doses. Population doses are given in Tables 8 through 14.

Assumptions and data used for input to the GASPARG code are described in a separate section of this appendix (see page C66).

TABLE 1. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-MARCH 2011

SPECIAL LOCATION NO. 1 A Site Boundary  
 AT .69 MILES NNW

ANNUAL BETA AIR DOSE = 2.87E-07 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 3.10E-07 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 2.06E-07	: 2.06E-07	: 2.06E-07	: 2.06E-07	: 2.06E-07	: 2.06E-07	: 2.09E-07	: 4.68E-07
GROUND	: 3.86E-03	: 3.86E-03	: 3.86E-03	: 3.86E-03	: 3.86E-03	: 3.86E-03	: 3.86E-03	: 4.55E-03
VEGET	:	:	:	:	:	:	:	:
ADULT	: 6.18E-05	: 5.06E-04	: 9.32E-06	: 3.49E-05	: 9.39E-06	: 1.45E-03	: 6.84E-09	: 0.00E+00
TEEN	: 9.65E-05	: 5.38E-04	: 1.50E-05	: 5.34E-05	: 1.42E-05	: 1.96E-03	: 8.65E-09	: 0.00E+00
CHILD	: 1.94E-04	: 3.52E-04	: 3.59E-05	: 8.28E-05	: 2.24E-05	: 3.76E-03	: 1.28E-08	: 0.00E+00
MEAT	:	:	:	:	:	:	:	:
ADULT	: 1.60E-05	: 1.34E-04	: 3.57E-07	: 7.94E-06	: 6.80E-07	: 3.91E-05	: 1.13E-10	: 0.00E+00
TEEN	: 1.27E-05	: 7.20E-05	: 2.69E-07	: 6.16E-06	: 5.16E-07	: 2.83E-05	: 9.71E-11	: 0.00E+00
CHILD	: 1.97E-05	: 3.63E-05	: 4.47E-07	: 7.31E-06	: 6.08E-07	: 4.28E-05	: 1.08E-10	: 0.00E+00
COW MILK	:	:	:	:	:	:	:	:
ADULT	: 6.58E-06	: 3.20E-05	: 3.49E-06	: 7.66E-06	: 7.62E-06	: 1.09E-03	: 3.34E-08	: 0.00E+00
TEEN	: 1.13E-05	: 3.77E-05	: 6.11E-06	: 1.32E-05	: 1.33E-05	: 1.73E-03	: 5.83E-08	: 0.00E+00
CHILD	: 2.23E-05	: 2.51E-05	: 1.42E-05	: 2.15E-05	: 2.16E-05	: 3.42E-03	: 1.21E-07	: 0.00E+00
INFANT	: 3.65E-05	: 3.10E-05	: 2.76E-05	: 4.59E-05	: 3.58E-05	: 8.31E-03	: 2.11E-07	: 0.00E+00
GOATMILK	:	:	:	:	:	:	:	:
ADULT	: 2.87E-06	: 4.95E-06	: 3.49E-06	: 4.57E-06	: 7.17E-06	: 1.31E-03	: 4.02E-09	: 0.00E+00
TEEN	: 4.82E-06	: 6.01E-06	: 6.33E-06	: 8.07E-06	: 1.28E-05	: 2.07E-03	: 7.04E-09	: 0.00E+00
CHILD	: 9.11E-06	: 4.20E-06	: 1.53E-05	: 1.39E-05	: 2.11E-05	: 4.10E-03	: 1.46E-08	: 0.00E+00
INFANT	: 1.66E-05	: 4.90E-06	: 3.13E-05	: 3.32E-05	: 3.66E-05	: 9.97E-03	: 2.54E-08	: 0.00E+00
INHAL	:	:	:	:	:	:	:	:
ADULT	: 1.17E-06	: 1.55E-05	: 5.42E-07	: 1.45E-06	: 1.21E-06	: 1.61E-04	: 3.13E-04	: 0.00E+00
TEEN	: 1.56E-06	: 1.57E-05	: 7.56E-07	: 1.94E-06	: 1.67E-06	: 2.03E-04	: 4.58E-04	: 0.00E+00
CHILD	: 1.77E-06	: 2.09E-05	: 1.00E-06	: 1.82E-06	: 1.58E-06	: 2.35E-04	: 3.71E-04	: 0.00E+00
INFANT	: 1.02E-06	: 1.56E-05	: 7.63E-07	: 1.38E-06	: 1.03E-06	: 2.16E-04	: 2.37E-04	: 0.00E+00

60



TABLE 1. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-MARCH 2011 (Continued)

SPECIAL LOCATION NO. 2 A Site Boundary  
 AT .67 MILES N

ANNUAL BETA AIR DOSE = 4.34E-07 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 7.03E-07 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 4.71E-07	: 4.71E-07	: 4.71E-07	: 4.71E-07	: 4.71E-07	: 4.71E-07	: 4.75E-07	: 9.19E-07
GROUND	: 5.86E-03	: 5.86E-03	: 5.86E-03	: 5.86E-03	: 5.86E-03	: 5.86E-03	: 5.86E-03	: 6.89E-03
VEGET	:	:	:	:	:	:	:	:
ADULT	: 9.36E-05	: 7.67E-04	: 1.41E-05	: 5.29E-05	: 1.42E-05	: 2.20E-03	: 1.04E-08	: 0.00E+00
TEEN	: 1.46E-04	: 8.16E-04	: 2.27E-05	: 8.09E-05	: 2.14E-05	: 2.96E-03	: 1.31E-08	: 0.00E+00
CHILD	: 2.93E-04	: 5.33E-04	: 5.44E-05	: 1.25E-04	: 3.38E-05	: 5.68E-03	: 1.94E-08	: 0.00E+00
MEAT	:	:	:	:	:	:	:	:
ADULT	: 2.43E-05	: 2.03E-04	: 5.40E-07	: 1.20E-05	: 1.03E-06	: 5.92E-05	: 1.70E-10	: 0.00E+00
TEEN	: 1.92E-05	: 1.09E-04	: 4.08E-07	: 9.34E-06	: 7.83E-07	: 4.29E-05	: 1.47E-10	: 0.00E+00
CHILD	: 2.99E-05	: 5.51E-05	: 6.77E-07	: 1.11E-05	: 9.21E-07	: 6.47E-05	: 1.62E-10	: 0.00E+00
COW MILK	:	:	:	:	:	:	:	:
ADULT	: 9.96E-06	: 4.85E-05	: 5.28E-06	: 1.16E-05	: 1.15E-05	: 1.65E-03	: 5.06E-08	: 0.00E+00
TEEN	: 1.71E-05	: 5.71E-05	: 9.24E-06	: 2.00E-05	: 2.01E-05	: 2.61E-03	: 8.84E-08	: 0.00E+00
CHILD	: 3.37E-05	: 3.80E-05	: 2.15E-05	: 3.25E-05	: 3.26E-05	: 5.17E-03	: 1.83E-07	: 0.00E+00
INFANT	: 5.52E-05	: 4.69E-05	: 4.17E-05	: 6.95E-05	: 5.41E-05	: 1.26E-02	: 3.19E-07	: 0.00E+00
GOATMILK	:	:	:	:	:	:	:	:
ADULT	: 4.34E-06	: 7.49E-06	: 5.29E-06	: 6.91E-06	: 1.09E-05	: 1.98E-03	: 6.09E-09	: 0.00E+00
TEEN	: 7.30E-06	: 9.11E-06	: 9.58E-06	: 1.22E-05	: 1.93E-05	: 3.14E-03	: 1.06E-08	: 0.00E+00
CHILD	: 1.38E-05	: 6.36E-06	: 2.32E-05	: 2.10E-05	: 3.20E-05	: 6.21E-03	: 2.20E-08	: 0.00E+00
INFANT	: 2.51E-05	: 7.42E-06	: 4.73E-05	: 5.02E-05	: 5.53E-05	: 1.51E-02	: 3.84E-08	: 0.00E+00
INHAL	:	:	:	:	:	:	:	:
ADULT	: 1.47E-06	: 1.94E-05	: 6.82E-07	: 1.82E-06	: 1.53E-06	: 2.03E-04	: 3.91E-04	: 0.00E+00
TEEN	: 1.96E-06	: 1.97E-05	: 9.51E-07	: 2.44E-06	: 2.10E-06	: 2.56E-04	: 5.72E-04	: 0.00E+00
CHILD	: 2.21E-06	: 2.62E-05	: 1.26E-06	: 2.28E-06	: 1.99E-06	: 2.97E-04	: 4.64E-04	: 0.00E+00
INFANT	: 1.28E-06	: 1.95E-05	: 9.61E-07	: 1.74E-06	: 1.30E-06	: 2.72E-04	: 2.97E-04	: 0.00E+00

C10

TABLE 1. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-MARCH 2011 (Continued)

SPECIAL LOCATION NO. 3 A Nearest Resident  
 AT .90 MILES NW

ANNUAL BETA AIR DOSE = 7.08E-06 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 1.15E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	7.68E-06	7.68E-06	7.68E-06	7.68E-06	7.68E-06	7.68E-06	7.75E-06	1.50E-05
GROUND	2.13E-03	2.13E-03	2.13E-03	2.13E-03	2.13E-03	2.13E-03	2.13E-03	2.50E-03
VEGET								
ADULT	3.41E-05	2.79E-04	5.31E-06	1.93E-05	5.32E-06	8.29E-04	3.81E-09	0.00E+00
TEEN	5.33E-05	2.97E-04	8.55E-06	2.96E-05	8.02E-06	1.12E-03	4.84E-09	0.00E+00
CHILD	1.07E-04	1.94E-04	2.05E-05	4.58E-05	1.27E-05	2.14E-03	7.16E-09	0.00E+00
MEAT								
ADULT	8.83E-06	7.37E-05	1.99E-07	4.38E-06	3.77E-07	2.23E-05	6.55E-11	0.00E+00
TEEN	7.00E-06	3.97E-05	1.50E-07	3.40E-06	2.87E-07	1.61E-05	5.67E-11	0.00E+00
CHILD	1.09E-05	2.00E-05	2.50E-07	4.03E-06	3.38E-07	2.44E-05	6.29E-11	0.00E+00
COW MILK								
ADULT	3.66E-06	1.76E-05	1.97E-06	4.28E-06	4.30E-06	6.22E-04	1.83E-08	0.00E+00
TEEN	6.26E-06	2.08E-05	3.45E-06	7.38E-06	7.50E-06	9.85E-04	3.20E-08	0.00E+00
CHILD	1.24E-05	1.38E-05	8.05E-06	1.20E-05	1.22E-05	1.95E-03	6.63E-08	0.00E+00
INFANT	2.03E-05	1.71E-05	1.56E-05	2.58E-05	2.03E-05	4.74E-03	1.16E-07	0.00E+00
GOATMILK								
ADULT	1.63E-06	2.75E-06	1.99E-06	2.59E-06	4.08E-06	7.46E-04	2.28E-09	0.00E+00
TEEN	2.73E-06	3.34E-06	3.61E-06	4.58E-06	7.26E-06	1.18E-03	4.02E-09	0.00E+00
CHILD	5.15E-06	2.34E-06	8.74E-06	7.88E-06	1.20E-05	2.34E-03	8.23E-09	0.00E+00
INFANT	9.38E-06	2.72E-06	1.78E-05	1.88E-05	2.08E-05	5.68E-03	1.44E-08	0.00E+00
INHAL								
ADULT	4.04E-07	5.35E-06	1.88E-07	5.01E-07	4.22E-07	5.60E-05	1.08E-04	0.00E+00
TEEN	5.39E-07	5.43E-06	2.62E-07	6.71E-07	5.79E-07	7.05E-05	1.57E-04	0.00E+00
CHILD	6.10E-07	7.28E-06	3.49E-07	6.28E-07	5.49E-07	8.18E-05	1.28E-04	0.00E+00
INFANT	3.52E-07	5.44E-06	2.65E-07	4.79E-07	3.59E-07	7.49E-05	8.17E-05	0.00E+00

TABLE 1. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-MARCH 2011 (Continued)

SPECIAL LOCATION NO. 4 A Nearest Cow  
AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 3.02E-06 MILLRADS  
ANNUAL GAMMA AIR DOSE = 4.89E-06 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	3.28E-06	3.28E-06	3.28E-06	3.28E-06	3.28E-06	3.28E-06	3.31E-06	6.39E-06
GROUND	7.66E-05	7.66E-05	7.66E-05	7.66E-05	7.66E-05	7.66E-05	7.66E-05	9.02E-05
VEGET								
ADULT	1.23E-06	1.00E-05	1.95E-07	6.97E-07	1.93E-07	3.03E-05	1.31E-10	0.00E+00
TEEN	1.92E-06	1.07E-05	3.13E-07	1.07E-06	2.92E-07	4.08E-05	1.70E-10	0.00E+00
CHILD	3.85E-06	6.98E-06	7.51E-07	1.65E-06	4.61E-07	7.81E-05	2.51E-10	0.00E+00
MEAT								
ADULT	3.18E-07	2.65E-06	7.18E-09	1.58E-07	1.36E-08	8.14E-07	2.43E-12	0.00E+00
TEEN	2.52E-07	1.43E-06	5.44E-09	1.22E-07	1.04E-08	5.89E-07	2.11E-12	0.00E+00
CHILD	3.91E-07	7.21E-07	9.06E-09	1.45E-07	1.22E-08	8.90E-07	2.35E-12	0.00E+00
COW MILK								
ADULT	1.32E-07	6.35E-07	7.16E-08	1.55E-07	1.56E-07	2.27E-05	5.99E-10	0.00E+00
TEEN	2.26E-07	7.48E-07	1.25E-07	2.67E-07	2.72E-07	3.59E-05	1.05E-09	0.00E+00
CHILD	4.46E-07	4.98E-07	2.93E-07	4.35E-07	4.43E-07	7.11E-05	2.17E-09	0.00E+00
INFANT	7.32E-07	6.13E-07	5.69E-07	9.33E-07	7.37E-07	1.73E-04	3.78E-09	0.00E+00
GOATMILK								
ADULT	5.92E-08	9.92E-08	7.27E-08	9.44E-08	1.49E-07	2.72E-05	7.66E-11	0.00E+00
TEEN	9.93E-08	1.21E-07	1.32E-07	1.67E-07	2.65E-07	4.31E-05	1.36E-10	0.00E+00
CHILD	1.87E-07	8.45E-08	3.19E-07	2.87E-07	4.39E-07	8.53E-05	2.75E-10	0.00E+00
INFANT	3.41E-07	9.81E-08	6.51E-07	6.87E-07	7.60E-07	2.07E-04	4.81E-10	0.00E+00
INHAL								
ADULT	3.64E-08	4.72E-07	1.74E-08	4.56E-08	3.95E-08	5.35E-06	9.56E-06	0.00E+00
TEEN	4.85E-08	4.52E-07	2.43E-08	6.12E-08	5.42E-08	6.73E-06	1.40E-05	0.00E+00
CHILD	5.48E-08	3.65E-07	3.24E-08	5.73E-08	5.13E-08	7.79E-06	1.13E-05	0.00E+00
INFANT	3.18E-08	2.34E-07	2.47E-08	4.40E-08	3.36E-08	7.14E-06	7.23E-06	0.00E+00

TABLE 1. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-MARCH 2011 (Continued)

SPECIAL LOCATION NO. 5 A Nearest Garden  
 AT 1.30 MILES SW

ANNUAL BETA AIR DOSE = 4.63E-06 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 7.48E-06 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	5.02E-06	5.02E-06	5.02E-06	5.02E-06	5.02E-06	5.02E-06	5.06E-06	9.79E-06
GROUND	4.14E-04	4.14E-04	4.14E-04	4.14E-04	4.14E-04	4.14E-04	4.14E-04	4.87E-04
VEGET								
ADULT	6.64E-06	5.43E-05	1.05E-06	3.77E-06	1.05E-06	1.63E-04	7.27E-10	0.00E+00
TEEN	1.04E-05	5.78E-05	1.69E-06	5.76E-06	1.58E-06	2.20E-04	9.35E-10	0.00E+00
CHILD	2.08E-05	3.77E-05	4.05E-06	8.94E-06	2.49E-06	4.22E-04	1.38E-09	0.00E+00
MEAT								
ADULT	1.72E-06	1.43E-05	3.88E-08	8.52E-07	7.36E-08	4.40E-06	1.31E-11	0.00E+00
TEEN	1.36E-06	7.72E-06	2.94E-08	6.61E-07	5.60E-08	3.18E-06	1.13E-11	0.00E+00
CHILD	2.12E-06	3.90E-06	4.90E-08	7.84E-07	6.60E-08	4.81E-06	1.26E-11	0.00E+00
COW MILK								
ADULT	7.14E-07	3.43E-06	3.87E-07	8.37E-07	8.45E-07	1.23E-04	3.40E-09	0.00E+00
TEEN	1.22E-06	4.04E-06	6.79E-07	1.44E-06	1.47E-06	1.94E-04	5.95E-09	0.00E+00
CHILD	2.41E-06	2.69E-06	1.58E-06	2.35E-06	2.40E-06	3.84E-04	1.23E-08	0.00E+00
INFANT	3.96E-06	3.32E-06	3.08E-06	5.04E-06	3.98E-06	9.34E-04	2.15E-08	0.00E+00
GOATMILK								
ADULT	3.20E-07	5.37E-07	3.93E-07	5.11E-07	8.05E-07	1.47E-04	4.32E-10	0.00E+00
TEEN	5.37E-07	6.53E-07	7.11E-07	9.02E-07	1.43E-06	2.33E-04	7.63E-10	0.00E+00
CHILD	1.01E-06	4.57E-07	1.72E-06	1.55E-06	2.37E-06	4.61E-04	1.55E-09	0.00E+00
INFANT	1.84E-06	5.31E-07	3.52E-06	3.71E-06	4.11E-06	1.12E-03	2.71E-09	0.00E+00
INHAL								
ADULT	8.38E-08	1.10E-06	3.90E-08	1.04E-07	8.76E-08	1.17E-05	2.23E-05	0.00E+00
TEEN	1.12E-07	1.08E-06	5.44E-08	1.39E-07	1.20E-07	1.47E-05	3.26E-05	0.00E+00
CHILD	1.26E-07	1.11E-06	7.23E-08	1.30E-07	1.14E-07	1.71E-05	2.64E-05	0.00E+00
INFANT	7.29E-08	7.73E-07	5.51E-08	9.94E-08	7.45E-08	1.57E-05	1.69E-05	0.00E+00

TABLE 2. DOSES TO MAXIMUM INDIVIDUAL (MREM), APRIL-JUNE 2011

SPECIAL LOCATION NO. 1 A Site Boundary  
 AT .69 MILES NNW

ANNUAL BETA AIR DOSE = 9.03E-06 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 1.41E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 9.50E-06	: 9.50E-06	: 9.50E-06	: 9.50E-06	: 9.50E-06	: 9.50E-06	: 9.59E-06	: 1.90E-05
GROUND	: 5.42E-03	: 5.42E-03	: 5.42E-03	: 5.42E-03	: 5.42E-03	: 5.42E-03	: 5.42E-03	: 6.38E-03
VEGET	:	:	:	:	:	:	:	:
ADULT	: 9.57E-05	: 7.82E-04	: 6.38E-05	: 7.14E-05	: 1.69E-05	: 5.99E-04	: 1.98E-06	: 0.00E+00
TEEN	: 1.50E-04	: 8.32E-04	: 9.50E-05	: 1.09E-04	: 2.49E-05	: 8.07E-04	: 3.50E-06	: 0.00E+00
CHILD	: 3.01E-04	: 5.44E-04	: 2.11E-04	: 1.67E-04	: 3.69E-05	: 1.55E-03	: 5.12E-06	: 0.00E+00
MEAT	:	:	:	:	:	:	:	:
ADULT	: 2.74E-05	: 2.23E-04	: 5.00E-06	: 2.26E-05	: 5.80E-06	: 1.61E-05	: 1.12E-06	: 0.00E+00
TEEN	: 2.17E-05	: 1.20E-04	: 3.71E-06	: 1.75E-05	: 4.27E-06	: 1.17E-05	: 1.00E-06	: 0.00E+00
CHILD	: 3.37E-05	: 6.12E-05	: 6.05E-06	: 2.07E-05	: 4.85E-06	: 1.76E-05	: 1.14E-06	: 0.00E+00
COW MILK	:	:	:	:	:	:	:	:
ADULT	: 2.06E-05	: 6.62E-05	: 1.39E-05	: 3.67E-05	: 2.42E-05	: 4.50E-04	: 1.57E-07	: 0.00E+00
TEEN	: 3.55E-05	: 7.70E-05	: 2.20E-05	: 6.17E-05	: 3.92E-05	: 7.12E-04	: 3.09E-07	: 0.00E+00
CHILD	: 7.13E-05	: 5.02E-05	: 4.55E-05	: 9.38E-05	: 5.89E-05	: 1.41E-03	: 4.58E-07	: 0.00E+00
INFANT	: 9.91E-05	: 1.51E-04	: 6.64E-05	: 1.68E-04	: 8.13E-05	: 3.43E-03	: 9.36E-07	: 0.00E+00
GOATMILK	:	:	:	:	:	:	:	:
ADULT	: 3.64E-06	: 8.79E-06	: 7.87E-06	: 6.21E-06	: 5.58E-06	: 5.40E-04	: 5.39E-08	: 0.00E+00
TEEN	: 6.07E-06	: 1.04E-05	: 1.31E-05	: 1.06E-05	: 9.49E-06	: 8.54E-04	: 1.09E-07	: 0.00E+00
CHILD	: 1.18E-05	: 6.95E-06	: 2.95E-05	: 1.68E-05	: 1.50E-05	: 1.69E-03	: 1.66E-07	: 0.00E+00
INFANT	: 1.77E-05	: 1.91E-05	: 4.72E-05	: 3.33E-05	: 2.35E-05	: 4.11E-03	: 3.14E-07	: 0.00E+00
INHAL	:	:	:	:	:	:	:	:
ADULT	: 7.33E-07	: 1.11E-05	: 2.30E-07	: 9.99E-07	: 4.20E-07	: 3.04E-05	: 2.16E-04	: 0.00E+00
TEEN	: 9.82E-07	: 1.01E-05	: 3.04E-07	: 1.32E-06	: 5.59E-07	: 3.82E-05	: 3.16E-04	: 0.00E+00
CHILD	: 1.12E-06	: 3.80E-06	: 3.89E-07	: 1.16E-06	: 4.98E-07	: 4.43E-05	: 2.56E-04	: 0.00E+00
INFANT	: 6.01E-07	: 1.43E-06	: 2.61E-07	: 7.75E-07	: 2.94E-07	: 4.06E-05	: 1.64E-04	: 0.00E+00

C14

TABLE 2. DOSES TO MAXIMUM INDIVIDUAL (MREM), APRIL-JUNE 2011 (Continued)

SPECIAL LOCATION NO. 2 A Site Boundary  
 AT .67 MILES N

ANNUAL BETA AIR DOSE = 1.28E-05 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 2.01E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 1.35E-05	: 1.35E-05	: 1.35E-05	: 1.35E-05	: 1.35E-05	: 1.35E-05	: 1.36E-05	: 2.70E-05
GROUND	: 7.18E-03	: 7.18E-03	: 7.18E-03	: 7.18E-03	: 7.18E-03	: 7.18E-03	: 7.18E-03	: 8.45E-03
VEGET								
ADULT	: 1.28E-04	: 1.04E-03	: 1.31E-04	: 9.48E-05	: 2.25E-05	: 8.14E-04	: 2.64E-06	: 0.00E+00
TEEN	: 2.00E-04	: 1.11E-03	: 1.95E-04	: 1.45E-04	: 3.32E-05	: 1.10E-03	: 4.66E-06	: 0.00E+00
CHILD	: 4.03E-04	: 7.25E-04	: 4.34E-04	: 2.22E-04	: 4.92E-05	: 2.10E-03	: 6.82E-06	: 0.00E+00
MEAT								
ADULT	: 3.63E-05	: 2.96E-04	: 7.14E-06	: 2.99E-05	: 7.69E-06	: 2.19E-05	: 1.49E-06	: 0.00E+00
TEEN	: 2.88E-05	: 1.60E-04	: 5.31E-06	: 2.32E-05	: 5.66E-06	: 1.58E-05	: 1.33E-06	: 0.00E+00
CHILD	: 4.47E-05	: 8.11E-05	: 8.69E-06	: 2.74E-05	: 6.43E-06	: 2.39E-05	: 1.51E-06	: 0.00E+00
COW MILK								
ADULT	: 2.74E-05	: 8.79E-05	: 2.07E-05	: 4.88E-05	: 3.21E-05	: 6.11E-04	: 2.18E-07	: 0.00E+00
TEEN	: 4.72E-05	: 1.02E-04	: 3.29E-05	: 8.20E-05	: 5.21E-05	: 9.68E-04	: 4.30E-07	: 0.00E+00
CHILD	: 9.47E-05	: 6.67E-05	: 6.86E-05	: 1.25E-04	: 7.83E-05	: 1.92E-03	: 6.39E-07	: 0.00E+00
INFANT	: 1.32E-04	: 2.00E-04	: 1.01E-04	: 2.23E-04	: 1.08E-04	: 4.66E-03	: 1.30E-06	: 0.00E+00
GOATMILK								
ADULT	: 5.13E-06	: 1.20E-05	: 1.51E-05	: 8.56E-06	: 7.59E-06	: 7.34E-04	: 1.01E-07	: 0.00E+00
TEEN	: 8.43E-06	: 1.43E-05	: 2.51E-05	: 1.46E-05	: 1.29E-05	: 1.16E-03	: 2.07E-07	: 0.00E+00
CHILD	: 1.62E-05	: 9.64E-06	: 5.67E-05	: 2.33E-05	: 2.05E-05	: 2.30E-03	: 3.15E-07	: 0.00E+00
INFANT	: 2.44E-05	: 2.57E-05	: 8.95E-05	: 4.62E-05	: 3.21E-05	: 5.59E-03	: 5.88E-07	: 0.00E+00
INHAL								
ADULT	: 8.72E-07	: 1.31E-05	: 2.85E-07	: 1.19E-06	: 5.08E-07	: 3.61E-05	: 2.55E-04	: 0.00E+00
TEEN	: 1.17E-06	: 1.19E-05	: 3.77E-07	: 1.57E-06	: 6.77E-07	: 4.54E-05	: 3.72E-04	: 0.00E+00
CHILD	: 1.33E-06	: 4.50E-06	: 4.82E-07	: 1.39E-06	: 6.04E-07	: 5.28E-05	: 3.02E-04	: 0.00E+00
INFANT	: 7.18E-07	: 1.70E-06	: 3.24E-07	: 9.32E-07	: 3.58E-07	: 4.83E-05	: 1.93E-04	: 0.00E+00

C15

TABLE 2. DOSES TO MAXIMUM INDIVIDUAL (MREM), APRIL-JUNE 2011 (Continued)

SPECIAL LOCATION NO. 3 A Nearest Resident  
 AT .90 MILES NW

ANNUAL BETA AIR DOSE = 5.71E-05 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 8.92E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	6.00E-05	6.00E-05	6.00E-05	6.00E-05	6.00E-05	6.00E-05	6.06E-05	1.20E-04
GROUND	3.82E-03	3.82E-03	3.82E-03	3.82E-03	3.82E-03	3.82E-03	3.82E-03	4.50E-03
VEGET								
ADULT	7.14E-05	5.63E-04	1.99E-04	5.09E-05	1.23E-05	4.78E-04	1.44E-06	0.00E+00
TEEN	1.11E-04	6.01E-04	2.97E-04	7.78E-05	1.82E-05	6.44E-04	2.55E-06	0.00E+00
CHILD	2.25E-04	3.96E-04	6.62E-04	1.19E-04	2.71E-05	1.23E-03	3.73E-06	0.00E+00
MEAT								
ADULT	1.94E-05	1.57E-04	5.24E-06	1.59E-05	4.10E-06	1.28E-05	7.92E-07	0.00E+00
TEEN	1.53E-05	8.49E-05	3.90E-06	1.24E-05	3.02E-06	9.30E-06	7.10E-07	0.00E+00
CHILD	2.38E-05	4.31E-05	6.47E-06	1.46E-05	3.44E-06	1.40E-05	8.03E-07	0.00E+00
COW MILK								
ADULT	1.49E-05	4.72E-05	1.71E-05	2.63E-05	1.73E-05	3.59E-04	1.44E-07	0.00E+00
TEEN	2.56E-05	5.50E-05	2.77E-05	4.42E-05	2.82E-05	5.69E-04	2.85E-07	0.00E+00
CHILD	5.12E-05	3.60E-05	5.96E-05	6.74E-05	4.24E-05	1.13E-03	4.27E-07	0.00E+00
INFANT	7.14E-05	1.07E-04	8.91E-05	1.21E-04	5.89E-05	2.74E-03	8.49E-07	0.00E+00
GOATMILK								
ADULT	3.58E-06	7.48E-06	2.10E-05	5.42E-06	4.51E-06	4.31E-04	1.37E-07	0.00E+00
TEEN	5.55E-06	9.08E-06	3.49E-05	9.32E-06	7.71E-06	6.83E-04	2.82E-07	0.00E+00
CHILD	1.03E-05	6.32E-06	7.92E-05	1.51E-05	1.23E-05	1.35E-03	4.32E-07	0.00E+00
INFANT	1.55E-05	1.49E-05	1.23E-04	2.99E-05	1.94E-05	3.29E-03	7.92E-07	0.00E+00
INHAL								
ADULT	5.11E-07	5.18E-06	4.44E-07	7.86E-07	4.53E-07	1.54E-05	9.99E-05	0.00E+00
TEEN	6.90E-07	4.74E-06	5.86E-07	1.06E-06	6.15E-07	1.95E-05	1.46E-04	0.00E+00
CHILD	8.10E-07	2.06E-06	7.60E-07	9.76E-07	5.65E-07	2.27E-05	1.18E-04	0.00E+00
INFANT	4.86E-07	1.24E-06	5.09E-07	7.66E-07	3.57E-07	2.08E-05	7.60E-05	0.00E+00

TABLE 2. DOSES TO MAXIMUM INDIVIDUAL (MREM), APRIL-JUNE 2011 (Continued)

SPECIAL LOCATION NO. 4 A Nearest Cow  
AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 1.14E-05 MILLRADS  
ANNUAL GAMMA AIR DOSE = 1.81E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 1.22E-05	: 1.22E-05	: 1.22E-05	: 1.22E-05	: 1.22E-05	: 1.22E-05	: 1.23E-05	: 2.41E-05
GROUND	: 1.09E-04	: 1.09E-04	: 1.09E-04	: 1.09E-04	: 1.09E-04	: 1.09E-04	: 1.09E-04	: 1.28E-04
VEGET								
ADULT	: 2.18E-06	: 1.65E-05	: 1.11E-05	: 1.47E-06	: 3.67E-07	: 1.55E-05	: 4.28E-08	: 0.00E+00
TEEN	: 3.38E-06	: 1.77E-05	: 1.66E-05	: 2.25E-06	: 5.43E-07	: 2.09E-05	: 7.58E-08	: 0.00E+00
CHILD	: 6.88E-06	: 1.17E-05	: 3.70E-05	: 3.45E-06	: 8.10E-07	: 4.01E-05	: 1.11E-07	: 0.00E+00
MEAT								
ADULT	: 5.54E-07	: 4.49E-06	: 2.10E-07	: 4.55E-07	: 1.18E-07	: 4.17E-07	: 2.27E-08	: 0.00E+00
TEEN	: 4.39E-07	: 2.42E-06	: 1.57E-07	: 3.53E-07	: 8.68E-08	: 3.02E-07	: 2.03E-08	: 0.00E+00
CHILD	: 6.81E-07	: 1.23E-06	: 2.62E-07	: 4.18E-07	: 9.87E-08	: 4.56E-07	: 2.30E-08	: 0.00E+00
COW MILK								
ADULT	: 4.41E-07	: 1.37E-06	: 7.47E-07	: 7.65E-07	: 5.06E-07	: 1.17E-05	: 5.26E-09	: 0.00E+00
TEEN	: 7.51E-07	: 1.60E-06	: 1.22E-06	: 1.29E-06	: 8.24E-07	: 1.85E-05	: 1.05E-08	: 0.00E+00
CHILD	: 1.50E-06	: 1.05E-06	: 2.67E-06	: 1.97E-06	: 1.24E-06	: 3.67E-05	: 1.59E-08	: 0.00E+00
INFANT	: 2.09E-06	: 3.08E-06	: 4.03E-06	: 3.54E-06	: 1.74E-06	: 8.92E-05	: 3.09E-08	: 0.00E+00
GOATMILK								
ADULT	: 1.38E-07	: 2.59E-07	: 1.15E-06	: 1.91E-07	: 1.49E-07	: 1.40E-05	: 7.42E-09	: 0.00E+00
TEEN	: 2.03E-07	: 3.21E-07	: 1.90E-06	: 3.30E-07	: 2.55E-07	: 2.22E-05	: 1.53E-08	: 0.00E+00
CHILD	: 3.66E-07	: 2.30E-07	: 4.32E-06	: 5.42E-07	: 4.09E-07	: 4.40E-05	: 2.35E-08	: 0.00E+00
INFANT	: 5.51E-07	: 4.74E-07	: 6.65E-06	: 1.08E-06	: 6.53E-07	: 1.07E-04	: 4.27E-08	: 0.00E+00
INHAL								
ADULT	: 4.36E-08	: 3.31E-07	: 9.32E-08	: 7.00E-08	: 4.66E-08	: 1.30E-06	: 6.10E-06	: 0.00E+00
TEEN	: 5.88E-08	: 3.09E-07	: 1.19E-07	: 9.47E-08	: 6.37E-08	: 1.65E-06	: 8.94E-06	: 0.00E+00
CHILD	: 7.00E-08	: 1.68E-07	: 1.51E-07	: 8.93E-08	: 5.90E-08	: 1.95E-06	: 7.26E-06	: 0.00E+00
INFANT	: 4.41E-08	: 1.29E-07	: 9.01E-08	: 7.44E-08	: 3.79E-08	: 1.79E-06	: 4.70E-06	: 0.00E+00



TABLE 2. DOSES TO MAXIMUM INDIVIDUAL (MREM), APRIL-JUNE 2011 (Continued)

SPECIAL LOCATION NO. 5 A Nearest Garden  
 AT 1.30 MILES SW

ANNUAL BETA AIR DOSE = 2.85E-05 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 4.46E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	3.00E-05	3.00E-05	3.00E-05	3.00E-05	3.00E-05	3.00E-05	3.03E-05	6.00E-05
GROUND	5.74E-04	5.74E-04	5.74E-04	5.74E-04	5.74E-04	5.74E-04	5.74E-04	6.76E-04
VEGET								
ADULT	1.10E-05	8.54E-05	4.14E-05	7.68E-06	1.88E-06	7.58E-05	2.20E-07	0.00E+00
TEEN	1.72E-05	9.14E-05	6.17E-05	1.18E-05	2.78E-06	1.02E-04	3.89E-07	0.00E+00
CHILD	3.48E-05	6.03E-05	1.38E-04	1.80E-05	4.14E-06	1.96E-04	5.70E-07	0.00E+00
MEAT								
ADULT	2.91E-06	2.36E-05	9.15E-07	2.39E-06	6.18E-07	2.04E-06	1.19E-07	0.00E+00
TEEN	2.30E-06	1.27E-05	6.82E-07	1.86E-06	4.55E-07	1.47E-06	1.07E-07	0.00E+00
CHILD	3.58E-06	6.48E-06	1.14E-06	2.20E-06	5.17E-07	2.23E-06	1.21E-07	0.00E+00
COW MILK								
ADULT	2.27E-06	7.14E-06	3.12E-06	3.98E-06	2.63E-06	5.70E-05	2.40E-08	0.00E+00
TEEN	3.89E-06	8.33E-06	5.06E-06	6.70E-06	4.28E-06	9.03E-05	4.79E-08	0.00E+00
CHILD	7.76E-06	5.46E-06	1.10E-05	1.02E-05	6.44E-06	1.79E-04	7.20E-08	0.00E+00
INFANT	1.08E-05	1.61E-05	1.65E-05	1.83E-05	8.96E-06	4.35E-04	1.42E-07	0.00E+00
GOATMILK								
ADULT	6.13E-07	1.22E-06	4.31E-06	8.91E-07	7.20E-07	6.85E-05	2.80E-08	0.00E+00
TEEN	9.28E-07	1.50E-06	7.17E-06	1.54E-06	1.23E-06	1.08E-04	5.77E-08	0.00E+00
CHILD	1.70E-06	1.05E-06	1.62E-05	2.50E-06	1.97E-06	2.15E-04	8.84E-08	0.00E+00
INFANT	2.56E-06	2.34E-06	2.51E-05	4.98E-06	3.13E-06	5.22E-04	1.61E-07	0.00E+00
INHAL								
ADULT	1.54E-07	1.11E-06	1.84E-07	2.53E-07	1.64E-07	3.58E-06	2.13E-05	0.00E+00
TEEN	2.09E-07	1.03E-06	2.42E-07	3.43E-07	2.25E-07	4.53E-06	3.11E-05	0.00E+00
CHILD	2.50E-07	5.17E-07	3.15E-07	3.23E-07	2.08E-07	5.30E-06	2.52E-05	0.00E+00
INFANT	1.59E-07	4.16E-07	2.11E-07	2.71E-07	1.34E-07	4.85E-06	1.62E-05	0.00E+00

TABLE 3. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-JUNE 2011

SPECIAL LOCATION NO. 1 A Site Boundary  
 AT .69 MILES NNW

ANNUAL BETA AIR DOSE = 9.97E-06 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 1.57E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.05E-05	1.05E-05	1.05E-05	1.05E-05	1.05E-05	1.05E-05	1.06E-05	2.10E-05
GROUND	9.22E-03	9.22E-03	9.22E-03	9.22E-03	9.22E-03	9.22E-03	9.22E-03	1.08E-02
VEGET								
ADULT	1.55E-04	1.27E-03	5.67E-05	1.04E-04	2.58E-05	2.15E-03	1.83E-06	0.00E+00
TEEN	2.43E-04	1.35E-03	8.56E-05	1.59E-04	3.84E-05	2.90E-03	3.22E-06	0.00E+00
CHILD	4.88E-04	8.85E-04	1.93E-04	2.44E-04	5.84E-05	5.55E-03	4.71E-06	0.00E+00
MEAT								
ADULT	4.28E-05	3.52E-04	4.85E-06	2.95E-05	6.08E-06	5.78E-05	1.03E-06	0.00E+00
TEEN	3.39E-05	1.90E-04	3.61E-06	2.28E-05	4.49E-06	4.19E-05	9.24E-07	0.00E+00
CHILD	5.26E-05	9.61E-05	5.88E-06	2.70E-05	5.12E-06	6.32E-05	1.04E-06	0.00E+00
COW MILK								
ADULT	2.61E-05	9.59E-05	1.61E-05	4.21E-05	3.06E-05	1.61E-03	1.78E-07	0.00E+00
TEEN	4.50E-05	1.12E-04	2.60E-05	7.12E-05	5.06E-05	2.55E-03	3.42E-07	0.00E+00
CHILD	8.99E-05	7.36E-05	5.53E-05	1.10E-04	7.78E-05	5.05E-03	5.45E-07	0.00E+00
INFANT	1.31E-04	1.73E-04	8.81E-05	2.04E-04	1.14E-04	1.23E-02	1.08E-06	0.00E+00
GOATMILK								
ADULT	6.42E-06	1.34E-05	9.86E-06	1.07E-05	1.30E-05	1.94E-03	4.61E-08	0.00E+00
TEEN	1.08E-05	1.60E-05	1.70E-05	1.85E-05	2.27E-05	3.06E-03	9.19E-08	0.00E+00
CHILD	2.07E-05	1.09E-05	3.94E-05	3.05E-05	3.70E-05	6.07E-03	1.43E-07	0.00E+00
INFANT	3.43E-05	2.28E-05	7.08E-05	6.66E-05	6.17E-05	1.47E-02	2.71E-07	0.00E+00
INHAL								
ADULT	1.91E-06	2.75E-05	7.13E-07	2.49E-06	1.50E-06	1.67E-04	5.43E-04	0.00E+00
TEEN	2.56E-06	2.63E-05	9.73E-07	3.30E-06	2.04E-06	2.10E-04	7.94E-04	0.00E+00
CHILD	2.90E-06	2.16E-05	1.27E-06	2.99E-06	1.89E-06	2.44E-04	6.43E-04	0.00E+00
INFANT	1.61E-06	1.41E-05	9.24E-07	2.12E-06	1.19E-06	2.23E-04	4.12E-04	0.00E+00

TABLE 3. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-JUNE 2011 (Continued)

SPECIAL LOCATION NO. 2 A Site Boundary  
 AT .67 MILES N

ANNUAL BETA AIR DOSE = 9.12E-06 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 1.43E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	9.64E-06	9.64E-06	9.64E-06	9.64E-06	9.64E-06	9.64E-06	9.73E-06	1.92E-05
GROUND	1.30E-02	1.30E-02	1.30E-02	1.30E-02	1.30E-02	1.30E-02	1.30E-02	1.53E-02
VEGET								
ADULT	2.20E-04	1.80E-03	9.53E-05	1.47E-04	3.65E-05	3.05E-03	2.59E-06	0.00E+00
TEEN	3.44E-04	1.91E-03	1.44E-04	2.25E-04	5.44E-05	4.10E-03	4.56E-06	0.00E+00
CHILD	6.91E-04	1.25E-03	3.23E-04	3.45E-04	8.27E-05	7.86E-03	6.66E-06	0.00E+00
MEAT								
ADULT	6.04E-05	4.97E-04	7.02E-06	4.16E-05	8.58E-06	8.19E-05	1.46E-06	0.00E+00
TEEN	4.78E-05	2.68E-04	5.22E-06	3.23E-05	6.34E-06	5.93E-05	1.30E-06	0.00E+00
CHILD	7.43E-05	1.36E-04	8.52E-06	3.82E-05	7.24E-06	8.96E-05	1.47E-06	0.00E+00
COW MILK								
ADULT	3.69E-05	1.35E-04	2.34E-05	5.95E-05	4.32E-05	2.29E-03	2.55E-07	0.00E+00
TEEN	6.36E-05	1.58E-04	3.79E-05	1.01E-04	7.15E-05	3.62E-03	4.90E-07	0.00E+00
CHILD	1.27E-04	1.04E-04	8.08E-05	1.55E-04	1.10E-04	7.16E-03	7.80E-07	0.00E+00
INFANT	1.85E-04	2.44E-04	1.29E-04	2.89E-04	1.61E-04	1.74E-02	1.54E-06	0.00E+00
GOATMILK								
ADULT	9.18E-06	1.91E-05	1.55E-05	1.52E-05	1.84E-05	2.74E-03	7.49E-08	0.00E+00
TEEN	1.54E-05	2.28E-05	2.65E-05	2.63E-05	3.22E-05	4.34E-03	1.50E-07	0.00E+00
CHILD	2.94E-05	1.55E-05	6.14E-05	4.35E-05	5.25E-05	8.60E-03	2.34E-07	0.00E+00
INFANT	4.87E-05	3.23E-05	1.09E-04	9.48E-05	8.76E-05	2.09E-02	4.39E-07	0.00E+00
INHAL								
ADULT	2.38E-06	3.44E-05	8.60E-07	3.07E-06	1.83E-06	2.04E-04	6.81E-04	0.00E+00
TEEN	3.18E-06	3.29E-05	1.17E-06	4.08E-06	2.49E-06	2.56E-04	9.95E-04	0.00E+00
CHILD	3.61E-06	2.70E-05	1.53E-06	3.69E-06	2.30E-06	2.97E-04	8.06E-04	0.00E+00
INFANT	2.00E-06	1.77E-05	1.11E-06	2.60E-06	1.45E-06	2.72E-04	5.16E-04	0.00E+00

TABLE 3. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-JUNE 2011 (Continued)

SPECIAL LOCATION NO. 3 A Nearest Resident  
 AT .90 MILES NW

ANNUAL BETA AIR DOSE = 5.41E-05 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 8.51E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	5.72E-05	5.72E-05	5.72E-05	5.72E-05	5.72E-05	5.72E-05	5.78E-05	1.14E-04
GROUND	5.99E-03	5.99E-03	5.99E-03	5.99E-03	5.99E-03	5.99E-03	5.99E-03	7.05E-03
VEGET								
ADULT	1.04E-04	8.36E-04	1.55E-04	6.80E-05	1.73E-05	1.48E-03	1.22E-06	0.00E+00
TEEN	1.62E-04	8.91E-04	2.32E-04	1.04E-04	2.58E-05	1.99E-03	2.15E-06	0.00E+00
CHILD	3.27E-04	5.84E-04	5.19E-04	1.60E-04	3.93E-05	3.82E-03	3.15E-06	0.00E+00
MEAT								
ADULT	2.78E-05	2.28E-04	4.46E-06	1.91E-05	3.96E-06	3.98E-05	6.70E-07	0.00E+00
TEEN	2.20E-05	1.23E-04	3.33E-06	1.48E-05	2.93E-06	2.88E-05	6.01E-07	0.00E+00
CHILD	3.42E-05	6.24E-05	5.51E-06	1.76E-05	3.34E-06	4.35E-05	6.79E-07	0.00E+00
COW MILK								
ADULT	1.73E-05	6.27E-05	1.61E-05	2.77E-05	2.02E-05	1.11E-03	1.41E-07	0.00E+00
TEEN	2.97E-05	7.34E-05	2.63E-05	4.69E-05	3.35E-05	1.76E-03	2.74E-07	0.00E+00
CHILD	5.92E-05	4.83E-05	5.73E-05	7.24E-05	5.17E-05	3.48E-03	4.33E-07	0.00E+00
INFANT	8.65E-05	1.13E-04	9.02E-05	1.35E-04	7.60E-05	8.46E-03	8.42E-07	0.00E+00
GOATMILK								
ADULT	5.01E-06	9.73E-06	1.84E-05	7.83E-06	9.07E-06	1.33E-03	1.06E-07	0.00E+00
TEEN	8.08E-06	1.18E-05	3.09E-05	1.36E-05	1.59E-05	2.11E-03	2.17E-07	0.00E+00
CHILD	1.52E-05	8.20E-06	7.07E-05	2.26E-05	2.59E-05	4.18E-03	3.34E-07	0.00E+00
INFANT	2.50E-05	1.59E-05	1.15E-04	4.91E-05	4.33E-05	1.01E-02	6.13E-07	0.00E+00
INHAL								
ADULT	8.79E-07	1.07E-05	5.46E-07	1.22E-06	7.92E-07	6.65E-05	2.11E-04	0.00E+00
TEEN	1.18E-06	1.02E-05	7.33E-07	1.64E-06	1.08E-06	8.36E-05	3.08E-04	0.00E+00
CHILD	1.36E-06	8.70E-06	9.57E-07	1.51E-06	1.00E-06	9.71E-05	2.49E-04	0.00E+00
INFANT	7.91E-07	6.01E-06	6.69E-07	1.15E-06	6.41E-07	8.90E-05	1.60E-04	0.00E+00

TABLE 3. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-JUNE 2011 (Continued)

SPECIAL LOCATION NO. 4 A Nearest Cow  
 AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 2.19E-05 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 3.45E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	2.32E-05	2.32E-05	2.32E-05	2.32E-05	2.32E-05	2.32E-05	2.34E-05	4.62E-05
GROUND	1.86E-04	1.86E-04	1.86E-04	1.86E-04	1.86E-04	1.86E-04	1.86E-04	2.19E-04
VEGET								
ADULT	3.32E-06	2.62E-05	8.48E-06	2.12E-06	5.51E-07	4.80E-05	3.88E-08	0.00E+00
TEEN	5.18E-06	2.80E-05	1.27E-05	3.25E-06	8.21E-07	6.47E-05	6.86E-08	0.00E+00
CHILD	1.05E-05	1.84E-05	2.83E-05	5.00E-06	1.25E-06	1.24E-04	1.00E-07	0.00E+00
MEAT								
ADULT	8.64E-07	7.09E-06	1.79E-07	5.94E-07	1.23E-07	1.29E-06	2.08E-08	0.00E+00
TEEN	6.84E-07	3.82E-06	1.34E-07	4.61E-07	9.11E-08	9.35E-07	1.86E-08	0.00E+00
CHILD	1.06E-06	1.94E-06	2.23E-07	5.45E-07	1.04E-07	1.41E-06	2.11E-08	0.00E+00
COW MILK								
ADULT	5.48E-07	1.96E-06	6.74E-07	8.71E-07	6.38E-07	3.61E-05	5.05E-09	0.00E+00
TEEN	9.36E-07	2.30E-06	1.11E-06	1.47E-06	1.06E-06	5.71E-05	9.94E-09	0.00E+00
CHILD	1.86E-06	1.51E-06	2.44E-06	2.28E-06	1.63E-06	1.13E-04	1.56E-08	0.00E+00
INFANT	2.72E-06	3.50E-06	3.81E-06	4.27E-06	2.41E-06	2.75E-04	3.00E-08	0.00E+00
GOATMILK								
ADULT	1.81E-07	3.33E-07	9.39E-07	2.69E-07	2.98E-07	4.33E-05	5.63E-09	0.00E+00
TEEN	2.83E-07	4.08E-07	1.57E-06	4.69E-07	5.23E-07	6.85E-05	1.16E-08	0.00E+00
CHILD	5.22E-07	2.88E-07	3.59E-06	7.83E-07	8.53E-07	1.36E-04	1.78E-08	0.00E+00
INFANT	8.54E-07	5.27E-07	5.72E-06	1.69E-06	1.43E-06	3.29E-04	3.25E-08	0.00E+00
INHAL								
ADULT	1.15E-07	8.36E-07	1.34E-07	1.83E-07	1.33E-07	5.82E-06	1.63E-05	0.00E+00
TEEN	1.55E-07	7.84E-07	1.78E-07	2.49E-07	1.82E-07	7.32E-06	2.38E-05	0.00E+00
CHILD	1.85E-07	5.15E-07	2.32E-07	2.36E-07	1.70E-07	8.51E-06	1.93E-05	0.00E+00
INFANT	1.18E-07	4.10E-07	1.58E-07	2.00E-07	1.10E-07	7.79E-06	1.24E-05	0.00E+00

C22

TABLE 3. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-JUNE 2011 (Continued)

SPECIAL LOCATION NO. 5 A Nearest Garden  
 AT 1.30 MILES SW

ANNUAL BETA AIR DOSE = 3.13E-05 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 4.93E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	3.31E-05	3.31E-05	3.31E-05	3.31E-05	3.31E-05	3.31E-05	3.34E-05	6.60E-05
GROUND	9.83E-04	9.83E-04	9.83E-04	9.83E-04	9.83E-04	9.83E-04	9.83E-04	1.16E-03
VEGET								
ADULT	1.73E-05	1.38E-04	3.53E-05	1.12E-05	2.88E-06	2.49E-04	2.03E-07	0.00E+00
TEEN	2.70E-05	1.47E-04	5.29E-05	1.71E-05	4.30E-06	3.36E-04	3.58E-07	0.00E+00
CHILD	5.45E-05	9.66E-05	1.18E-04	2.63E-05	6.55E-06	6.44E-04	5.24E-07	0.00E+00
MEAT								
ADULT	4.56E-06	3.75E-05	8.42E-07	3.14E-06	6.50E-07	6.70E-06	1.10E-07	0.00E+00
TEEN	3.61E-06	2.02E-05	6.28E-07	2.43E-06	4.81E-07	4.86E-06	9.85E-08	0.00E+00
CHILD	5.61E-06	1.02E-05	1.04E-06	2.88E-06	5.49E-07	7.33E-06	1.11E-07	0.00E+00
COW MILK								
ADULT	2.87E-06	1.03E-05	3.12E-06	4.58E-06	3.35E-06	1.87E-04	2.52E-08	0.00E+00
TEEN	4.91E-06	1.21E-05	5.10E-06	7.75E-06	5.56E-06	2.96E-04	4.92E-08	0.00E+00
CHILD	9.78E-06	7.97E-06	1.12E-05	1.20E-05	8.57E-06	5.87E-04	7.77E-08	0.00E+00
INFANT	1.43E-05	1.85E-05	1.76E-05	2.24E-05	1.26E-05	1.43E-03	1.50E-07	0.00E+00
GOATMILK								
ADULT	8.92E-07	1.68E-06	4.01E-06	1.36E-06	1.54E-06	2.25E-04	2.37E-08	0.00E+00
TEEN	1.42E-06	2.05E-06	6.73E-06	2.37E-06	2.69E-06	3.56E-04	4.87E-08	0.00E+00
CHILD	2.63E-06	1.44E-06	1.54E-05	3.94E-06	4.40E-06	7.04E-04	7.51E-08	0.00E+00
INFANT	4.32E-06	2.70E-06	2.47E-05	8.53E-06	7.36E-06	1.71E-03	1.37E-07	0.00E+00
INHAL								
ADULT	2.38E-07	2.24E-06	2.21E-07	3.58E-07	2.48E-07	1.45E-05	4.37E-05	0.00E+00
TEEN	3.20E-07	2.15E-06	2.95E-07	4.83E-07	3.39E-07	1.82E-05	6.39E-05	0.00E+00
CHILD	3.76E-07	1.94E-06	3.84E-07	4.54E-07	3.17E-07	2.12E-05	5.18E-05	0.00E+00
INFANT	2.31E-07	1.47E-06	2.63E-07	3.69E-07	2.04E-07	1.94E-05	3.33E-05	0.00E+00

TABLE 4. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 2011

SPECIAL LOCATION NO. 1 A Site Boundary  
 AT .69 MILES NNW

ANNUAL BETA AIR DOSE = 4.24E-06 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 8.20E-06 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	5.50E-06	5.50E-06	5.50E-06	5.50E-06	5.50E-06	5.50E-06	5.54E-06	1.00E-05
GROUND	2.21E-03	2.21E-03	2.21E-03	2.21E-03	2.21E-03	2.21E-03	2.21E-03	2.60E-03
VEGET								
ADULT	8.78E-05	2.74E-04	6.40E-05	1.02E-04	3.45E-05	1.12E-03	9.35E-06	0.00E+00
TEEN	9.84E-05	2.91E-04	1.05E-04	1.62E-04	5.48E-05	1.51E-03	1.75E-05	0.00E+00
CHILD	1.38E-04	1.91E-04	2.49E-04	2.74E-04	8.96E-05	2.89E-03	2.67E-05	0.00E+00
MEAT								
ADULT	1.29E-05	7.19E-05	5.02E-06	1.07E-05	2.46E-06	3.02E-05	7.64E-07	0.00E+00
TEEN	8.62E-06	3.87E-05	4.17E-06	8.52E-06	2.00E-06	2.19E-05	7.23E-07	0.00E+00
CHILD	1.15E-05	1.95E-05	7.68E-06	1.09E-05	2.53E-06	3.30E-05	8.49E-07	0.00E+00
COW MILK								
ADULT	4.08E-05	1.75E-05	4.37E-05	6.07E-05	2.39E-05	8.37E-04	6.46E-06	0.00E+00
TEEN	4.08E-05	2.08E-05	7.93E-05	1.07E-04	4.23E-05	1.32E-03	1.34E-05	0.00E+00
CHILD	3.68E-05	1.40E-05	1.91E-04	1.85E-04	7.01E-05	2.62E-03	2.05E-05	0.00E+00
INFANT	4.33E-05	1.25E-05	3.09E-04	3.66E-04	1.15E-04	6.36E-03	3.71E-05	0.00E+00
GOATMILK								
ADULT	1.15E-04	6.06E-06	1.28E-04	1.75E-04	6.36E-05	1.00E-03	1.94E-05	0.00E+00
TEEN	1.09E-04	7.66E-06	2.32E-04	3.09E-04	1.13E-04	1.59E-03	4.01E-05	0.00E+00
CHILD	8.37E-05	5.64E-06	5.59E-04	5.35E-04	1.87E-04	3.14E-03	6.16E-05	0.00E+00
INFANT	8.42E-05	5.37E-06	8.96E-04	1.05E-03	3.03E-04	7.64E-03	1.11E-04	0.00E+00
INHAL								
ADULT	1.01E-06	4.40E-06	8.91E-07	1.39E-06	6.93E-07	5.61E-05	9.07E-05	0.00E+00
TEEN	9.27E-07	4.02E-06	1.25E-06	1.89E-06	9.49E-07	6.96E-05	1.32E-04	0.00E+00
CHILD	6.88E-07	1.56E-06	1.69E-06	1.81E-06	8.84E-07	7.90E-05	1.07E-04	0.00E+00
INFANT	3.51E-07	5.58E-07	1.07E-06	1.36E-06	5.59E-07	7.23E-05	6.85E-05	0.00E+00

C24

TABLE 4. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 2011 (Continued)

SPECIAL LOCATION NO. 2 A Site Boundary  
 AT .67 MILES N

ANNUAL BETA AIR DOSE = 2.27E-06 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 4.40E-06 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 2.95E-06	: 2.95E-06	: 2.95E-06	: 2.95E-06	: 2.95E-06	: 2.95E-06	: 2.97E-06	: 5.38E-06
GROUND	: 2.02E-03	: 2.02E-03	: 2.02E-03	: 2.02E-03	: 2.02E-03	: 2.02E-03	: 2.02E-03	: 2.38E-03
VEGET								
ADULT	: 8.04E-05	: 2.51E-04	: 5.85E-05	: 9.37E-05	: 3.16E-05	: 1.02E-03	: 8.57E-06	: 0.00E+00
TEEN	: 9.02E-05	: 2.67E-04	: 9.58E-05	: 1.49E-04	: 5.02E-05	: 1.38E-03	: 1.61E-05	: 0.00E+00
CHILD	: 1.27E-04	: 1.75E-04	: 2.28E-04	: 2.51E-04	: 8.20E-05	: 2.64E-03	: 2.44E-05	: 0.00E+00
MEAT								
ADULT	: 1.18E-05	: 6.59E-05	: 4.60E-06	: 9.81E-06	: 2.26E-06	: 2.75E-05	: 7.00E-07	: 0.00E+00
TEEN	: 7.90E-06	: 3.55E-05	: 3.82E-06	: 7.81E-06	: 1.83E-06	: 1.99E-05	: 6.62E-07	: 0.00E+00
CHILD	: 1.05E-05	: 1.79E-05	: 7.03E-06	: 9.97E-06	: 2.32E-06	: 3.01E-05	: 7.78E-07	: 0.00E+00
COW MILK								
ADULT	: 3.74E-05	: 1.61E-05	: 4.00E-05	: 5.56E-05	: 2.18E-05	: 7.63E-04	: 5.92E-06	: 0.00E+00
TEEN	: 3.74E-05	: 1.91E-05	: 7.26E-05	: 9.81E-05	: 3.87E-05	: 1.21E-03	: 1.22E-05	: 0.00E+00
CHILD	: 3.37E-05	: 1.29E-05	: 1.75E-04	: 1.70E-04	: 6.42E-05	: 2.39E-03	: 1.88E-05	: 0.00E+00
INFANT	: 3.97E-05	: 1.14E-05	: 2.83E-04	: 3.35E-04	: 1.05E-04	: 5.80E-03	: 3.40E-05	: 0.00E+00
GOATMILK								
ADULT	: 1.05E-04	: 5.54E-06	: 1.17E-04	: 1.60E-04	: 5.83E-05	: 9.15E-04	: 1.78E-05	: 0.00E+00
TEEN	: 9.98E-05	: 7.01E-06	: 2.12E-04	: 2.83E-04	: 1.03E-04	: 1.45E-03	: 3.67E-05	: 0.00E+00
CHILD	: 7.67E-05	: 5.17E-06	: 5.12E-04	: 4.90E-04	: 1.71E-04	: 2.86E-03	: 5.64E-05	: 0.00E+00
INFANT	: 7.71E-05	: 4.91E-06	: 8.21E-04	: 9.61E-04	: 2.77E-04	: 6.96E-03	: 1.02E-04	: 0.00E+00
INHAL								
ADULT	: 1.18E-06	: 5.17E-06	: 1.05E-06	: 1.64E-06	: 8.20E-07	: 6.70E-05	: 1.07E-04	: 0.00E+00
TEEN	: 1.09E-06	: 4.72E-06	: 1.47E-06	: 2.22E-06	: 1.12E-06	: 8.32E-05	: 1.56E-04	: 0.00E+00
CHILD	: 8.11E-07	: 1.79E-06	: 1.99E-06	: 2.13E-06	: 1.05E-06	: 9.44E-05	: 1.26E-04	: 0.00E+00
INFANT	: 4.14E-07	: 6.16E-07	: 1.26E-06	: 1.60E-06	: 6.62E-07	: 8.64E-05	: 8.04E-05	: 0.00E+00



TABLE 4. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 2011 (Continued)

SPECIAL LOCATION NO. 3 A Nearest Resident  
 AT .90 MILES NW

ANNUAL BETA AIR DOSE = 1.85E-05 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 3.58E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 2.40E-05	: 2.40E-05	: 2.40E-05	: 2.40E-05	: 2.40E-05	: 2.40E-05	: 2.42E-05	: 4.38E-05
GROUND	: 1.47E-03	: 1.47E-03	: 1.47E-03	: 1.47E-03	: 1.47E-03	: 1.47E-03	: 1.47E-03	: 1.73E-03
VEGET	:	:	:	:	:	:	:	:
ADULT	: 5.89E-05	: 1.83E-04	: 4.50E-05	: 6.87E-05	: 2.35E-05	: 8.15E-04	: 6.27E-06	: 0.00E+00
TEEN	: 6.61E-05	: 1.95E-04	: 7.32E-05	: 1.09E-04	: 3.73E-05	: 1.10E-03	: 1.18E-05	: 0.00E+00
CHILD	: 9.27E-05	: 1.27E-04	: 1.73E-04	: 1.84E-04	: 6.10E-05	: 2.11E-03	: 1.79E-05	: 0.00E+00
MEAT	:	:	:	:	:	:	:	:
ADULT	: 8.63E-06	: 4.80E-05	: 3.40E-06	: 7.17E-06	: 1.66E-06	: 2.20E-05	: 5.12E-07	: 0.00E+00
TEEN	: 5.76E-06	: 2.58E-05	: 2.82E-06	: 5.71E-06	: 1.35E-06	: 1.59E-05	: 4.85E-07	: 0.00E+00
CHILD	: 7.68E-06	: 1.30E-05	: 5.18E-06	: 7.30E-06	: 1.71E-06	: 2.40E-05	: 5.70E-07	: 0.00E+00
COW MILK	:	:	:	:	:	:	:	:
ADULT	: 2.75E-05	: 1.18E-05	: 2.95E-05	: 4.09E-05	: 1.63E-05	: 6.10E-04	: 4.34E-06	: 0.00E+00
TEEN	: 2.75E-05	: 1.40E-05	: 5.35E-05	: 7.21E-05	: 2.88E-05	: 9.65E-04	: 8.96E-06	: 0.00E+00
CHILD	: 2.50E-05	: 9.42E-06	: 1.29E-04	: 1.25E-04	: 4.78E-05	: 1.91E-03	: 1.38E-05	: 0.00E+00
INFANT	: 2.95E-05	: 8.39E-06	: 2.08E-04	: 2.47E-04	: 7.82E-05	: 4.64E-03	: 2.49E-05	: 0.00E+00
GOATMILK	:	:	:	:	:	:	:	:
ADULT	: 7.70E-05	: 4.12E-06	: 8.61E-05	: 1.18E-04	: 4.30E-05	: 7.32E-04	: 1.30E-05	: 0.00E+00
TEEN	: 7.32E-05	: 5.21E-06	: 1.56E-04	: 2.08E-04	: 7.61E-05	: 1.16E-03	: 2.69E-05	: 0.00E+00
CHILD	: 5.65E-05	: 3.85E-06	: 3.76E-04	: 3.60E-04	: 1.26E-04	: 2.29E-03	: 4.13E-05	: 0.00E+00
INFANT	: 5.71E-05	: 3.66E-06	: 6.03E-04	: 7.05E-04	: 2.05E-04	: 5.56E-03	: 7.48E-05	: 0.00E+00
INHAL	:	:	:	:	:	:	:	:
ADULT	: 4.32E-07	: 1.88E-06	: 3.88E-07	: 5.99E-07	: 3.07E-07	: 2.55E-05	: 3.86E-05	: 0.00E+00
TEEN	: 3.99E-07	: 1.74E-06	: 5.43E-07	: 8.13E-07	: 4.21E-07	: 3.17E-05	: 5.63E-05	: 0.00E+00
CHILD	: 2.97E-07	: 9.40E-07	: 7.34E-07	: 7.80E-07	: 3.92E-07	: 3.61E-05	: 4.57E-05	: 0.00E+00
INFANT	: 1.53E-07	: 4.79E-07	: 4.64E-07	: 5.87E-07	: 2.48E-07	: 3.30E-05	: 2.91E-05	: 0.00E+00

TABLE 4. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 2011 (Continued)

SPECIAL LOCATION NO. 4 A Nearest Cow  
 AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 4.62E-06 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 8.94E-06 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	6.00E-06	6.00E-06	6.00E-06	6.00E-06	6.00E-06	6.00E-06	6.04E-06	1.09E-05
GROUND	4.38E-05	4.38E-05	4.38E-05	4.38E-05	4.38E-05	4.38E-05	4.38E-05	5.15E-05
VEGET								
ADULT	1.76E-06	5.43E-06	1.40E-06	2.06E-06	7.11E-07	2.59E-05	1.87E-07	0.00E+00
TEEN	1.97E-06	5.79E-06	2.26E-06	3.26E-06	1.13E-06	3.49E-05	3.51E-07	0.00E+00
CHILD	2.77E-06	3.79E-06	5.35E-06	5.50E-06	1.84E-06	6.69E-05	5.34E-07	0.00E+00
MEAT								
ADULT	2.57E-07	1.43E-06	1.02E-07	2.14E-07	4.99E-08	6.98E-07	1.53E-08	0.00E+00
TEEN	1.71E-07	7.67E-07	8.47E-08	1.70E-07	4.04E-08	5.06E-07	1.45E-08	0.00E+00
CHILD	2.28E-07	3.88E-07	1.56E-07	2.18E-07	5.12E-08	7.63E-07	1.70E-08	0.00E+00
COW MILK								
ADULT	8.23E-07	3.51E-07	8.87E-07	1.22E-06	4.92E-07	1.94E-05	1.30E-07	0.00E+00
TEEN	8.25E-07	4.17E-07	1.61E-06	2.16E-06	8.72E-07	3.07E-05	2.68E-07	0.00E+00
CHILD	7.51E-07	2.81E-07	3.87E-06	3.74E-06	1.45E-06	6.07E-05	4.12E-07	0.00E+00
INFANT	8.94E-07	2.51E-07	6.26E-06	7.39E-06	2.37E-06	1.47E-04	7.45E-07	0.00E+00
GOATMILK								
ADULT	2.30E-06	1.24E-07	2.58E-06	3.52E-06	1.29E-06	2.33E-05	3.89E-07	0.00E+00
TEEN	2.19E-06	1.57E-07	4.68E-06	6.21E-06	2.29E-06	3.68E-05	8.03E-07	0.00E+00
CHILD	1.70E-06	1.16E-07	1.13E-05	1.08E-05	3.80E-06	7.28E-05	1.23E-06	0.00E+00
INFANT	1.72E-06	1.11E-07	1.81E-05	2.11E-05	6.15E-06	1.77E-04	2.23E-06	0.00E+00
INHAL								
ADULT	3.04E-08	1.30E-07	2.84E-08	4.26E-08	2.36E-08	2.11E-06	2.64E-06	0.00E+00
TEEN	2.83E-08	1.26E-07	3.96E-08	5.80E-08	3.23E-08	2.63E-06	3.86E-06	0.00E+00
CHILD	2.14E-08	1.20E-07	5.34E-08	5.56E-08	3.02E-08	3.00E-06	3.13E-06	0.00E+00
INFANT	1.12E-08	8.15E-08	3.39E-08	4.22E-08	1.92E-08	2.75E-06	2.00E-06	0.00E+00

TABLE 4. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 2011 (Continued)

SPECIAL LOCATION NO. 5 A Nearest Garden  
 AT 1.30 MILES SW

ANNUAL BETA AIR DOSE = 7.70E-06 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 1.49E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.01E-05	1.82E-05
GROUND	2.12E-04	2.12E-04	2.12E-04	2.12E-04	2.12E-04	2.12E-04	2.12E-04	2.49E-04
VEGET								
ADULT	8.52E-06	2.63E-05	6.76E-06	9.96E-06	3.44E-06	1.26E-04	9.07E-07	0.00E+00
TEEN	9.55E-06	2.80E-05	1.09E-05	1.58E-05	5.46E-06	1.70E-04	1.70E-06	0.00E+00
CHILD	1.34E-05	1.83E-05	2.58E-05	2.66E-05	8.92E-06	3.25E-04	2.59E-06	0.00E+00
MEAT								
ADULT	1.24E-06	6.90E-06	4.94E-07	1.04E-06	2.41E-07	3.39E-06	7.41E-08	0.00E+00
TEEN	8.30E-07	3.71E-06	4.10E-07	8.25E-07	1.96E-07	2.46E-06	7.01E-08	0.00E+00
CHILD	1.11E-06	1.88E-06	7.54E-07	1.05E-06	2.48E-07	3.71E-06	8.24E-08	0.00E+00
COW MILK								
ADULT	3.98E-06	1.70E-06	4.29E-06	5.93E-06	2.38E-06	9.43E-05	6.27E-07	0.00E+00
TEEN	4.00E-06	2.02E-06	7.78E-06	1.05E-05	4.22E-06	1.49E-04	1.30E-06	0.00E+00
CHILD	3.64E-06	1.36E-06	1.87E-05	1.81E-05	7.01E-06	2.95E-04	1.99E-06	0.00E+00
INFANT	4.33E-06	1.21E-06	3.03E-05	3.58E-05	1.15E-05	7.17E-04	3.60E-06	0.00E+00
GOATMILK								
ADULT	1.11E-05	6.02E-07	1.25E-05	1.70E-05	6.26E-06	1.13E-04	1.88E-06	0.00E+00
TEEN	1.06E-05	7.63E-07	2.26E-05	3.00E-05	1.11E-05	1.79E-04	3.89E-06	0.00E+00
CHILD	8.21E-06	5.64E-07	5.45E-05	5.21E-05	1.84E-05	3.54E-04	5.98E-06	0.00E+00
INFANT	8.33E-06	5.37E-07	8.75E-05	1.02E-04	2.98E-05	8.60E-04	1.08E-05	0.00E+00
INHAL								
ADULT	6.84E-08	2.96E-07	6.30E-08	9.55E-08	5.11E-08	4.40E-06	6.02E-06	0.00E+00
TEEN	6.35E-08	2.82E-07	8.79E-08	1.30E-07	7.01E-08	5.48E-06	8.80E-06	0.00E+00
CHILD	4.76E-08	2.26E-07	1.19E-07	1.25E-07	6.53E-08	6.25E-06	7.13E-06	0.00E+00
INFANT	2.47E-08	1.45E-07	7.51E-08	9.42E-08	4.15E-08	5.73E-06	4.55E-06	0.00E+00

TABLE 5. DOSES TO MAXIMUM INDIVIDUAL (MREM), OCTOBER-DECEMBER 2011

SPECIAL LOCATION NO. 1 A Site Boundary  
 AT .69 MILES NNW

ANNUAL BETA AIR DOSE = 7.58E-07 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 1.44E-06 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 9.67E-07	: 9.67E-07	: 9.67E-07	: 9.67E-07	: 9.67E-07	: 9.67E-07	: 9.74E-07	: 1.78E-06
GROUND	: 2.36E-03	: 2.36E-03	: 2.36E-03	: 2.36E-03	: 2.36E-03	: 2.36E-03	: 2.36E-03	: 2.77E-03
VEGET								
ADULT	: 8.57E-05	: 2.94E-04	: 5.83E-05	: 9.66E-05	: 3.13E-05	: 8.78E-04	: 8.65E-06	: 0.00E+00
TEEN	: 9.81E-05	: 3.13E-04	: 9.55E-05	: 1.53E-04	: 4.96E-05	: 1.18E-03	: 1.62E-05	: 0.00E+00
CHILD	: 1.42E-04	: 2.05E-04	: 2.28E-04	: 2.58E-04	: 8.11E-05	: 2.26E-03	: 2.47E-05	: 0.00E+00
MEAT								
ADULT	: 1.32E-05	: 7.74E-05	: 4.63E-06	: 1.05E-05	: 2.26E-06	: 2.35E-05	: 7.07E-07	: 0.00E+00
TEEN	: 8.98E-06	: 4.16E-05	: 3.85E-06	: 8.33E-06	: 1.83E-06	: 1.71E-05	: 6.69E-07	: 0.00E+00
CHILD	: 1.22E-05	: 2.10E-05	: 7.08E-06	: 1.06E-05	: 2.32E-06	: 2.57E-05	: 7.86E-07	: 0.00E+00
COW MILK								
ADULT	: 3.79E-05	: 1.86E-05	: 4.02E-05	: 5.60E-05	: 2.15E-05	: 6.62E-04	: 5.98E-06	: 0.00E+00
TEEN	: 3.79E-05	: 2.20E-05	: 7.29E-05	: 9.87E-05	: 3.81E-05	: 1.05E-03	: 1.24E-05	: 0.00E+00
CHILD	: 3.45E-05	: 1.48E-05	: 1.76E-04	: 1.71E-04	: 6.33E-05	: 2.08E-03	: 1.90E-05	: 0.00E+00
INFANT	: 4.06E-05	: 1.31E-05	: 2.83E-04	: 3.37E-04	: 1.03E-04	: 5.05E-03	: 3.44E-05	: 0.00E+00
GOATMILK								
ADULT	: 1.06E-04	: 5.83E-06	: 1.18E-04	: 1.62E-04	: 5.82E-05	: 7.94E-04	: 1.79E-05	: 0.00E+00
TEEN	: 1.00E-04	: 7.35E-06	: 2.14E-04	: 2.85E-04	: 1.03E-04	: 1.26E-03	: 3.71E-05	: 0.00E+00
CHILD	: 7.69E-05	: 5.40E-06	: 5.16E-04	: 4.94E-04	: 1.71E-04	: 2.49E-03	: 5.70E-05	: 0.00E+00
INFANT	: 7.68E-05	: 5.12E-06	: 8.27E-04	: 9.68E-04	: 2.77E-04	: 6.06E-03	: 1.03E-04	: 0.00E+00
INHAL								
ADULT	: 1.55E-06	: 7.51E-06	: 1.36E-06	: 2.19E-06	: 1.21E-06	: 9.23E-05	: 1.54E-04	: 0.00E+00
TEEN	: 1.46E-06	: 6.87E-06	: 1.91E-06	: 2.97E-06	: 1.66E-06	: 1.17E-04	: 2.24E-04	: 0.00E+00
CHILD	: 1.14E-06	: 2.58E-06	: 2.58E-06	: 2.85E-06	: 1.55E-06	: 1.38E-04	: 1.82E-04	: 0.00E+00
INFANT	: 5.92E-07	: 8.67E-07	: 1.65E-06	: 2.16E-06	: 9.88E-07	: 1.27E-04	: 1.16E-04	: 0.00E+00

TABLE 5. DOSES TO MAXIMUM INDIVIDUAL (MREM), OCTOBER-DECEMBER 2011 (Continued)

SPECIAL LOCATION NO. 2 A Site Boundary  
 AT .67 MILES N

ANNUAL BETA AIR DOSE = 9.97E-07 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 1.90E-06 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.27E-06	1.27E-06	1.27E-06	1.27E-06	1.27E-06	1.27E-06	1.28E-06	2.34E-06
GROUND	3.25E-03	3.25E-03	3.25E-03	3.25E-03	3.25E-03	3.25E-03	3.25E-03	3.82E-03
VEGET								
ADULT	1.18E-04	4.05E-04	8.04E-05	1.33E-04	4.31E-05	1.21E-03	1.19E-05	0.00E+00
TEEN	1.35E-04	4.31E-04	1.32E-04	2.11E-04	6.84E-05	1.63E-03	2.23E-05	0.00E+00
CHILD	1.96E-04	2.82E-04	3.14E-04	3.55E-04	1.12E-04	3.13E-03	3.40E-05	0.00E+00
MEAT								
ADULT	1.82E-05	1.07E-04	6.38E-06	1.44E-05	3.11E-06	3.26E-05	9.73E-07	0.00E+00
TEEN	1.24E-05	5.73E-05	5.30E-06	1.15E-05	2.52E-06	2.36E-05	9.21E-07	0.00E+00
CHILD	1.68E-05	2.90E-05	9.76E-06	1.46E-05	3.20E-06	3.56E-05	1.08E-06	0.00E+00
COW MILK								
ADULT	5.22E-05	2.55E-05	5.54E-05	7.71E-05	2.97E-05	9.15E-04	8.24E-06	0.00E+00
TEEN	5.22E-05	3.03E-05	1.00E-04	1.36E-04	5.26E-05	1.45E-03	1.70E-05	0.00E+00
CHILD	4.75E-05	2.04E-05	2.42E-04	2.35E-04	8.73E-05	2.87E-03	2.62E-05	0.00E+00
INFANT	5.60E-05	1.81E-05	3.90E-04	4.64E-04	1.42E-04	6.98E-03	4.73E-05	0.00E+00
GOATMILK								
ADULT	1.46E-04	8.03E-06	1.63E-04	2.23E-04	8.02E-05	1.10E-03	2.47E-05	0.00E+00
TEEN	1.38E-04	1.01E-05	2.95E-04	3.93E-04	1.42E-04	1.74E-03	5.11E-05	0.00E+00
CHILD	1.06E-04	7.45E-06	7.10E-04	6.80E-04	2.36E-04	3.45E-03	7.85E-05	0.00E+00
INFANT	1.06E-04	7.06E-06	1.14E-03	1.33E-03	3.81E-04	8.38E-03	1.42E-04	0.00E+00
INHAL								
ADULT	2.03E-06	9.86E-06	1.78E-06	2.87E-06	1.57E-06	1.19E-04	2.02E-04	0.00E+00
TEEN	1.91E-06	9.01E-06	2.50E-06	3.89E-06	2.16E-06	1.52E-04	2.94E-04	0.00E+00
CHILD	1.49E-06	3.39E-06	3.38E-06	3.73E-06	2.02E-06	1.79E-04	2.39E-04	0.00E+00
INFANT	7.74E-07	1.14E-06	2.16E-06	2.83E-06	1.29E-06	1.64E-04	1.52E-04	0.00E+00

TABLE 5. DOSES TO MAXIMUM INDIVIDUAL (MREM), OCTOBER-DECEMBER 2011(Continued)

SPECIAL LOCATION NO. 3 A Nearest Resident  
 AT .90 MILES NW

ANNUAL BETA AIR DOSE = 3.07E-06 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 5.85E-06 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 3.92E-06	: 3.92E-06	: 3.92E-06	: 3.92E-06	: 3.92E-06	: 3.92E-06	: 3.95E-06	: 7.20E-06
GROUND	: 4.64E-04	: 4.64E-04	: 4.64E-04	: 4.64E-04	: 4.64E-04	: 4.64E-04	: 4.64E-04	: 5.46E-04
VEGET								
ADULT	: 1.69E-05	: 5.79E-05	: 1.20E-05	: 1.90E-05	: 6.22E-06	: 1.86E-04	: 1.70E-06	: 0.00E+00
TEEN	: 1.94E-05	: 6.17E-05	: 1.95E-05	: 3.02E-05	: 9.87E-06	: 2.51E-04	: 3.19E-06	: 0.00E+00
CHILD	: 2.81E-05	: 4.03E-05	: 4.64E-05	: 5.08E-05	: 1.61E-05	: 4.80E-04	: 4.85E-06	: 0.00E+00
MEAT								
ADULT	: 2.60E-06	: 1.52E-05	: 9.18E-07	: 2.06E-06	: 4.46E-07	: 4.99E-06	: 1.39E-07	: 0.00E+00
TEEN	: 1.77E-06	: 8.20E-06	: 7.61E-07	: 1.64E-06	: 3.61E-07	: 3.62E-06	: 1.32E-07	: 0.00E+00
CHILD	: 2.40E-06	: 4.14E-06	: 1.40E-06	: 2.09E-06	: 4.58E-07	: 5.46E-06	: 1.55E-07	: 0.00E+00
COW MILK								
ADULT	: 7.47E-06	: 3.66E-06	: 7.95E-06	: 1.10E-05	: 4.29E-06	: 1.40E-04	: 1.18E-06	: 0.00E+00
TEEN	: 7.49E-06	: 4.35E-06	: 1.44E-05	: 1.95E-05	: 7.60E-06	: 2.22E-04	: 2.43E-06	: 0.00E+00
CHILD	: 6.84E-06	: 2.92E-06	: 3.47E-05	: 3.37E-05	: 1.26E-05	: 4.40E-04	: 3.74E-06	: 0.00E+00
INFANT	: 8.09E-06	: 2.60E-06	: 5.61E-05	: 6.65E-05	: 2.06E-05	: 1.07E-03	: 6.76E-06	: 0.00E+00
GOATMILK								
ADULT	: 2.08E-05	: 1.16E-06	: 2.33E-05	: 3.18E-05	: 1.15E-05	: 1.68E-04	: 3.53E-06	: 0.00E+00
TEEN	: 1.98E-05	: 1.46E-06	: 4.22E-05	: 5.61E-05	: 2.04E-05	: 2.67E-04	: 7.30E-06	: 0.00E+00
CHILD	: 1.52E-05	: 1.08E-06	: 1.02E-04	: 9.73E-05	: 3.38E-05	: 5.28E-04	: 1.12E-05	: 0.00E+00
INFANT	: 1.52E-05	: 1.02E-06	: 1.63E-04	: 1.91E-04	: 5.48E-05	: 1.28E-03	: 2.03E-05	: 0.00E+00
INHAL								
ADULT	: 2.91E-07	: 1.41E-06	: 2.56E-07	: 4.11E-07	: 2.29E-07	: 1.76E-05	: 2.88E-05	: 0.00E+00
TEEN	: 2.75E-07	: 1.29E-06	: 3.60E-07	: 5.59E-07	: 3.14E-07	: 2.23E-05	: 4.21E-05	: 0.00E+00
CHILD	: 2.14E-07	: 5.25E-07	: 4.87E-07	: 5.36E-07	: 2.93E-07	: 2.63E-05	: 3.41E-05	: 0.00E+00
INFANT	: 1.12E-07	: 1.99E-07	: 3.12E-07	: 4.07E-07	: 1.87E-07	: 2.42E-05	: 2.17E-05	: 0.00E+00

TABLE 5. DOSES TO MAXIMUM INDIVIDUAL (MREM), OCTOBER-DECEMBER 2011(Continued)

SPECIAL LOCATION NO. 4 A Nearest Cow  
AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 6.38E-06 MILLRADS  
ANNUAL GAMMA AIR DOSE = 1.21E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	8.14E-06	8.14E-06	8.14E-06	8.14E-06	8.14E-06	8.14E-06	8.20E-06	1.50E-05
GROUND	4.64E-05	4.64E-05	4.64E-05	4.64E-05	4.64E-05	4.64E-05	4.64E-05	5.46E-05
VEGET								
ADULT	1.69E-06	5.80E-06	1.24E-06	1.91E-06	6.28E-07	1.97E-05	1.70E-07	0.00E+00
TEEN	1.94E-06	6.17E-06	2.02E-06	3.02E-06	9.96E-07	2.65E-05	3.19E-07	0.00E+00
CHILD	2.81E-06	4.04E-06	4.77E-06	5.09E-06	1.63E-06	5.08E-05	4.85E-07	0.00E+00
MEAT								
ADULT	2.60E-07	1.52E-06	9.24E-08	2.06E-07	4.48E-08	5.28E-07	1.39E-08	0.00E+00
TEEN	1.77E-07	8.20E-07	7.66E-08	1.64E-07	3.63E-08	3.83E-07	1.32E-08	0.00E+00
CHILD	2.40E-07	4.14E-07	1.41E-07	2.09E-07	4.60E-08	5.78E-07	1.55E-08	0.00E+00
COW MILK								
ADULT	7.48E-07	3.67E-07	7.99E-07	1.11E-06	4.34E-07	1.48E-05	1.18E-07	0.00E+00
TEEN	7.52E-07	4.36E-07	1.45E-06	1.95E-06	7.68E-07	2.35E-05	2.43E-07	0.00E+00
CHILD	6.88E-07	2.93E-07	3.49E-06	3.38E-06	1.27E-06	4.66E-05	3.74E-07	0.00E+00
INFANT	8.18E-07	2.61E-07	5.63E-06	6.67E-06	2.08E-06	1.13E-04	6.76E-07	0.00E+00
GOATMILK								
ADULT	2.09E-06	1.17E-07	2.34E-06	3.19E-06	1.16E-06	1.78E-05	3.53E-07	0.00E+00
TEEN	1.98E-06	1.48E-07	4.23E-06	5.62E-06	2.05E-06	2.82E-05	7.30E-07	0.00E+00
CHILD	1.53E-06	1.09E-07	1.02E-05	9.74E-06	3.40E-06	5.59E-05	1.12E-06	0.00E+00
INFANT	1.53E-06	1.03E-07	1.63E-05	1.91E-05	5.50E-06	1.36E-04	2.03E-06	0.00E+00
INHAL								
ADULT	4.87E-08	2.34E-07	4.48E-08	6.97E-08	4.13E-08	3.42E-06	4.74E-06	0.00E+00
TEEN	4.64E-08	2.22E-07	6.25E-08	9.47E-08	5.67E-08	4.33E-06	6.92E-06	0.00E+00
CHILD	3.65E-08	1.63E-07	8.43E-08	9.08E-08	5.29E-08	5.11E-06	5.61E-06	0.00E+00
INFANT	1.93E-08	9.98E-08	5.41E-08	6.94E-08	3.39E-08	4.69E-06	3.58E-06	0.00E+00

TABLE 5. DOSES TO MAXIMUM INDIVIDUAL (MREM), OCTOBER-DECEMBER 2011(Continued)

SPECIAL LOCATION NO. 5 A Nearest Garden  
AT 2.80 MILES NNW

ANNUAL BETA AIR DOSE = 6.78E-06 MILLRADS  
ANNUAL GAMMA AIR DOSE = 1.29E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	8.65E-06	8.65E-06	8.65E-06	8.65E-06	8.65E-06	8.65E-06	8.72E-06	1.59E-05
GROUND	7.74E-05	7.74E-05	7.74E-05	7.74E-05	7.74E-05	7.74E-05	7.74E-05	9.10E-05
VEGET								
ADULT	2.82E-06	9.66E-06	2.05E-06	3.18E-06	1.04E-06	3.21E-05	2.84E-07	0.00E+00
TEEN	3.23E-06	1.03E-05	3.32E-06	5.03E-06	1.65E-06	4.32E-05	5.31E-07	0.00E+00
CHILD	4.68E-06	6.72E-06	7.87E-06	8.47E-06	2.70E-06	8.27E-05	8.09E-07	0.00E+00
MEAT								
ADULT	4.33E-07	2.54E-06	1.54E-07	3.44E-07	7.45E-08	8.61E-07	2.32E-08	0.00E+00
TEEN	2.95E-07	1.37E-06	1.27E-07	2.73E-07	6.03E-08	6.23E-07	2.19E-08	0.00E+00
CHILD	4.01E-07	6.90E-07	2.34E-07	3.48E-07	7.65E-08	9.41E-07	2.58E-08	0.00E+00
COW MILK								
ADULT	1.25E-06	6.11E-07	1.33E-06	1.84E-06	7.19E-07	2.42E-05	1.96E-07	0.00E+00
TEEN	1.25E-06	7.26E-07	2.41E-06	3.25E-06	1.27E-06	3.83E-05	4.05E-07	0.00E+00
CHILD	1.14E-06	4.88E-07	5.80E-06	5.63E-06	2.12E-06	7.58E-05	6.23E-07	0.00E+00
INFANT	1.36E-06	4.34E-07	9.37E-06	1.11E-05	3.45E-06	1.84E-04	1.13E-06	0.00E+00
GOATMILK								
ADULT	3.47E-06	1.94E-07	3.89E-06	5.31E-06	1.92E-06	2.90E-05	5.88E-07	0.00E+00
TEEN	3.30E-06	2.45E-07	7.05E-06	9.36E-06	3.41E-06	4.59E-05	1.22E-06	0.00E+00
CHILD	2.54E-06	1.81E-07	1.70E-05	1.62E-05	5.65E-06	9.10E-05	1.87E-06	0.00E+00
INFANT	2.55E-06	1.71E-07	2.72E-05	3.18E-05	9.15E-06	2.21E-04	3.38E-06	0.00E+00
INHAL								
ADULT	7.42E-08	3.57E-07	6.74E-08	1.06E-07	6.13E-08	4.99E-06	7.25E-06	0.00E+00
TEEN	7.05E-08	3.36E-07	9.42E-08	1.44E-07	8.43E-08	6.32E-06	1.06E-05	0.00E+00
CHILD	5.53E-08	2.16E-07	1.27E-07	1.38E-07	7.87E-08	7.45E-06	8.59E-06	0.00E+00
INFANT	2.91E-08	1.24E-07	8.14E-08	1.05E-07	5.03E-08	6.84E-06	5.48E-06	0.00E+00



TABLE 6. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 2011

SPECIAL LOCATION NO. 1 A Site Boundary  
 AT .69 MILES NNW

ANNUAL BETA AIR DOSE = 5.25E-06 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 1.01E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	6.76E-06	6.76E-06	6.76E-06	6.76E-06	6.76E-06	6.76E-06	6.81E-06	1.24E-05
GROUND	4.58E-03	4.58E-03	4.58E-03	4.58E-03	4.58E-03	4.58E-03	4.58E-03	5.39E-03
VEGET								
ADULT	1.74E-04	5.69E-04	1.23E-04	2.00E-04	6.63E-05	2.04E-03	1.81E-05	0.00E+00
TEEN	1.97E-04	6.06E-04	2.02E-04	3.17E-04	1.05E-04	2.74E-03	3.39E-05	0.00E+00
CHILD	2.81E-04	3.96E-04	4.80E-04	5.34E-04	1.72E-04	5.26E-03	5.16E-05	0.00E+00
MEAT								
ADULT	2.62E-05	1.50E-04	9.72E-06	2.13E-05	4.76E-06	5.48E-05	1.48E-06	0.00E+00
TEEN	1.77E-05	8.06E-05	8.07E-06	1.69E-05	3.85E-06	3.97E-05	1.40E-06	0.00E+00
CHILD	2.38E-05	4.07E-05	1.49E-05	2.16E-05	4.89E-06	5.99E-05	1.65E-06	0.00E+00
COW MILK								
ADULT	7.92E-05	3.62E-05	8.45E-05	1.17E-04	4.58E-05	1.53E-03	1.25E-05	0.00E+00
TEEN	7.93E-05	4.30E-05	1.53E-04	2.07E-04	8.11E-05	2.42E-03	2.59E-05	0.00E+00
CHILD	7.18E-05	2.89E-05	3.69E-04	3.59E-04	1.35E-04	4.78E-03	3.98E-05	0.00E+00
INFANT	8.46E-05	2.57E-05	5.96E-04	7.08E-04	2.20E-04	1.16E-02	7.20E-05	0.00E+00
GOATMILK								
ADULT	2.22E-04	1.20E-05	2.48E-04	3.39E-04	1.23E-04	1.83E-03	3.76E-05	0.00E+00
TEEN	2.11E-04	1.51E-05	4.49E-04	5.98E-04	2.17E-04	2.90E-03	7.76E-05	0.00E+00
CHILD	1.62E-04	1.11E-05	1.08E-03	1.04E-03	3.60E-04	5.74E-03	1.19E-04	0.00E+00
INFANT	1.62E-04	1.06E-05	1.73E-03	2.03E-03	5.83E-04	1.39E-02	2.16E-04	0.00E+00
INHAL								
ADULT	2.66E-06	1.22E-05	2.34E-06	3.71E-06	1.92E-06	1.50E-04	2.52E-04	0.00E+00
TEEN	2.48E-06	1.12E-05	3.28E-06	5.04E-06	2.64E-06	1.89E-04	3.68E-04	0.00E+00
CHILD	1.88E-06	4.25E-06	4.44E-06	4.82E-06	2.46E-06	2.18E-04	2.98E-04	0.00E+00
INFANT	9.65E-07	1.46E-06	2.82E-06	3.63E-06	1.56E-06	2.00E-04	1.90E-04	0.00E+00

TABLE 6. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 2011 (Continued)

SPECIAL LOCATION NO. 2 A Site Boundary  
 AT .67 MILES N

ANNUAL BETA AIR DOSE = 3.37E-06 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 6.47E-06 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	4.34E-06	4.34E-06	4.34E-06	4.34E-06	4.34E-06	4.34E-06	4.37E-06	7.95E-06
GROUND	5.34E-03	5.34E-03	5.34E-03	5.34E-03	5.34E-03	5.34E-03	5.34E-03	6.28E-03
VEGET								
ADULT	2.03E-04	6.64E-04	1.43E-04	2.33E-04	7.73E-05	2.37E-03	2.11E-05	0.00E+00
TEEN	2.30E-04	7.07E-04	2.35E-04	3.70E-04	1.23E-04	3.19E-03	3.96E-05	0.00E+00
CHILD	3.28E-04	4.62E-04	5.60E-04	6.23E-04	2.01E-04	6.11E-03	6.02E-05	0.00E+00
MEAT								
ADULT	3.06E-05	1.75E-04	1.13E-05	2.48E-05	5.55E-06	6.37E-05	1.73E-06	0.00E+00
TEEN	2.06E-05	9.40E-05	9.41E-06	1.98E-05	4.49E-06	4.61E-05	1.63E-06	0.00E+00
CHILD	2.77E-05	4.75E-05	1.73E-05	2.52E-05	5.70E-06	6.97E-05	1.92E-06	0.00E+00
COW MILK								
ADULT	9.24E-05	4.22E-05	9.86E-05	1.37E-04	5.34E-05	1.78E-03	1.46E-05	0.00E+00
TEEN	9.25E-05	5.02E-05	1.79E-04	2.42E-04	9.45E-05	2.81E-03	3.02E-05	0.00E+00
CHILD	8.37E-05	3.37E-05	4.30E-04	4.18E-04	1.57E-04	5.56E-03	4.64E-05	0.00E+00
INFANT	9.86E-05	3.00E-05	6.95E-04	8.25E-04	2.56E-04	1.35E-02	8.40E-05	0.00E+00
GOATMILK								
ADULT	2.59E-04	1.39E-05	2.89E-04	3.95E-04	1.43E-04	2.13E-03	4.38E-05	0.00E+00
TEEN	2.46E-04	1.76E-05	5.23E-04	6.97E-04	2.53E-04	3.37E-03	9.06E-05	0.00E+00
CHILD	1.89E-04	1.30E-05	1.26E-03	1.21E-03	4.20E-04	6.67E-03	1.39E-04	0.00E+00
INFANT	1.89E-04	1.23E-05	2.02E-03	2.37E-03	6.80E-04	1.62E-02	2.52E-04	0.00E+00
INHAL								
ADULT	3.33E-06	1.53E-05	2.94E-06	4.65E-06	2.43E-06	1.92E-04	3.15E-04	0.00E+00
TEEN	3.11E-06	1.40E-05	4.12E-06	6.32E-06	3.34E-06	2.41E-04	4.59E-04	0.00E+00
CHILD	2.36E-06	5.27E-06	5.58E-06	6.05E-06	3.11E-06	2.78E-04	3.72E-04	0.00E+00
INFANT	1.21E-06	1.78E-06	3.55E-06	4.56E-06	1.97E-06	2.55E-04	2.37E-04	0.00E+00

TABLE 6. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 2011 (Continued)

SPECIAL LOCATION NO. 3 A Nearest Resident  
 AT .90 MILES NW

ANNUAL BETA AIR DOSE = 2.27E-05 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 4.36E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	2.93E-05	2.93E-05	2.93E-05	2.93E-05	2.93E-05	2.93E-05	2.95E-05	5.36E-05
GROUND	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03	2.20E-03
VEGET								
ADULT	7.14E-05	2.32E-04	5.33E-05	8.20E-05	2.76E-05	9.15E-04	7.41E-06	0.00E+00
TEEN	8.09E-05	2.47E-04	8.66E-05	1.30E-04	4.37E-05	1.23E-03	1.39E-05	0.00E+00
CHILD	1.15E-04	1.62E-04	2.05E-04	2.19E-04	7.14E-05	2.36E-03	2.11E-05	0.00E+00
MEAT								
ADULT	1.07E-05	6.10E-05	4.01E-06	8.70E-06	1.96E-06	2.46E-05	6.05E-07	0.00E+00
TEEN	7.21E-06	3.28E-05	3.33E-06	6.92E-06	1.58E-06	1.78E-05	5.73E-07	0.00E+00
CHILD	9.70E-06	1.66E-05	6.12E-06	8.83E-06	2.01E-06	2.69E-05	6.73E-07	0.00E+00
COW MILK								
ADULT	3.25E-05	1.48E-05	3.48E-05	4.82E-05	1.91E-05	6.86E-04	5.12E-06	0.00E+00
TEEN	3.26E-05	1.76E-05	6.31E-05	8.51E-05	3.37E-05	1.09E-03	1.06E-05	0.00E+00
CHILD	2.97E-05	1.19E-05	1.52E-04	1.47E-04	5.60E-05	2.15E-03	1.63E-05	0.00E+00
INFANT	3.52E-05	1.06E-05	2.46E-04	2.91E-04	9.15E-05	5.23E-03	2.94E-05	0.00E+00
GOATMILK								
ADULT	9.08E-05	4.96E-06	1.02E-04	1.39E-04	5.06E-05	8.24E-04	1.54E-05	0.00E+00
TEEN	8.64E-05	6.28E-06	1.84E-04	2.45E-04	8.95E-05	1.30E-03	3.18E-05	0.00E+00
CHILD	6.66E-05	4.63E-06	4.44E-04	4.24E-04	1.49E-04	2.58E-03	4.88E-05	0.00E+00
INFANT	6.71E-05	4.40E-06	7.12E-04	8.32E-04	2.41E-04	6.27E-03	8.83E-05	0.00E+00
INHAL								
ADULT	7.15E-07	3.28E-06	6.38E-07	1.00E-06	5.34E-07	4.31E-05	6.71E-05	0.00E+00
TEEN	6.69E-07	3.03E-06	8.94E-07	1.36E-06	7.33E-07	5.41E-05	9.81E-05	0.00E+00
CHILD	5.09E-07	1.45E-06	1.21E-06	1.30E-06	6.83E-07	6.25E-05	7.95E-05	0.00E+00
INFANT	2.63E-07	6.64E-07	7.69E-07	9.85E-07	4.34E-07	5.73E-05	5.07E-05	0.00E+00

TABLE 6. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 2011 (Continued)

SPECIAL LOCATION NO. 4 A Nearest Cow  
 AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 1.10E-05 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 2.11E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.41E-05	1.41E-05	1.41E-05	1.41E-05	1.41E-05	1.41E-05	1.42E-05	2.59E-05
GROUND	9.34E-05	9.34E-05	9.34E-05	9.34E-05	9.34E-05	9.34E-05	9.34E-05	1.10E-04
VEGET								
ADULT	3.58E-06	1.16E-05	2.74E-06	4.11E-06	1.39E-06	4.75E-05	3.71E-07	0.00E+00
TEEN	4.06E-06	1.24E-05	4.44E-06	6.52E-06	2.20E-06	6.41E-05	6.95E-07	0.00E+00
CHILD	5.78E-06	8.10E-06	1.05E-05	1.10E-05	3.60E-06	1.23E-04	1.06E-06	0.00E+00
MEAT								
ADULT	5.36E-07	3.05E-06	2.02E-07	4.36E-07	9.82E-08	1.28E-06	3.03E-08	0.00E+00
TEEN	3.61E-07	1.64E-06	1.67E-07	3.47E-07	7.96E-08	9.26E-07	2.87E-08	0.00E+00
CHILD	4.85E-07	8.30E-07	3.08E-07	4.42E-07	1.01E-07	1.40E-06	3.37E-08	0.00E+00
COW MILK								
ADULT	1.63E-06	7.43E-07	1.75E-06	2.42E-06	9.61E-07	3.57E-05	2.57E-07	0.00E+00
TEEN	1.64E-06	8.83E-07	3.17E-06	4.27E-06	1.70E-06	5.65E-05	5.30E-07	0.00E+00
CHILD	1.49E-06	5.95E-07	7.63E-06	7.39E-06	2.83E-06	1.12E-04	8.15E-07	0.00E+00
INFANT	1.78E-06	5.30E-07	1.23E-05	1.46E-05	4.62E-06	2.71E-04	1.47E-06	0.00E+00
GOATMILK								
ADULT	4.55E-06	2.50E-07	5.10E-06	6.96E-06	2.54E-06	4.28E-05	7.70E-07	0.00E+00
TEEN	4.33E-06	3.16E-07	9.24E-06	1.23E-05	4.50E-06	6.77E-05	1.59E-06	0.00E+00
CHILD	3.34E-06	2.33E-07	2.23E-05	2.13E-05	7.47E-06	1.34E-04	2.44E-06	0.00E+00
INFANT	3.38E-06	2.22E-07	3.57E-05	4.17E-05	1.21E-05	3.26E-04	4.42E-06	0.00E+00
INHAL								
ADULT	8.07E-08	3.65E-07	7.48E-08	1.14E-07	6.50E-08	5.64E-06	7.41E-06	0.00E+00
TEEN	7.60E-08	3.50E-07	1.04E-07	1.55E-07	8.93E-08	7.08E-06	1.08E-05	0.00E+00
CHILD	5.85E-08	2.90E-07	1.41E-07	1.49E-07	8.33E-08	8.19E-06	8.77E-06	0.00E+00
INFANT	3.07E-08	1.88E-07	8.96E-08	1.13E-07	5.31E-08	7.51E-06	5.60E-06	0.00E+00

C37

TABLE 6. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 2011 (Continued)

SPECIAL LOCATION NO. 5 A Nearest Garden  
AT 2.80 MILES NNW

ANNUAL BETA AIR DOSE = 3.87E-07 MILLRADS  
ANNUAL GAMMA AIR DOSE = 5.27E-07 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	3.50E-07	3.50E-07	3.50E-07	3.50E-07	3.50E-07	3.50E-07	3.53E-07	7.14E-07
GROUND	1.53E-04	1.53E-04	1.53E-04	1.53E-04	1.53E-04	1.53E-04	1.53E-04	1.80E-04
VEGET								
ADULT	5.86E-06	1.90E-05	4.45E-06	6.72E-06	2.27E-06	7.71E-05	6.07E-07	0.00E+00
TEEN	6.63E-06	2.03E-05	7.22E-06	1.07E-05	3.60E-06	1.04E-04	1.14E-06	0.00E+00
CHILD	9.46E-06	1.32E-05	1.71E-05	1.80E-05	5.88E-06	1.99E-04	1.73E-06	0.00E+00
MEAT								
ADULT	8.77E-07	5.00E-06	3.30E-07	7.13E-07	1.61E-07	2.07E-06	4.96E-08	0.00E+00
TEEN	5.90E-07	2.69E-06	2.73E-07	5.67E-07	1.30E-07	1.50E-06	4.69E-08	0.00E+00
CHILD	7.94E-07	1.36E-06	5.03E-07	7.23E-07	1.65E-07	2.27E-06	5.51E-08	0.00E+00
COW MILK								
ADULT	2.67E-06	1.22E-06	2.86E-06	3.96E-06	1.57E-06	5.78E-05	4.20E-07	0.00E+00
TEEN	2.68E-06	1.44E-06	5.18E-06	6.98E-06	2.78E-06	9.15E-05	8.67E-07	0.00E+00
CHILD	2.44E-06	9.73E-07	1.25E-05	1.21E-05	4.61E-06	1.81E-04	1.33E-06	0.00E+00
INFANT	2.90E-06	8.66E-07	2.02E-05	2.39E-05	7.54E-06	4.40E-04	2.41E-06	0.00E+00
GOATMILK								
ADULT	7.45E-06	4.08E-07	8.34E-06	1.14E-05	4.15E-06	6.94E-05	1.26E-06	0.00E+00
TEEN	7.08E-06	5.16E-07	1.51E-05	2.01E-05	7.35E-06	1.10E-04	2.60E-06	0.00E+00
CHILD	5.46E-06	3.81E-07	3.64E-05	3.48E-05	1.22E-05	2.17E-04	4.00E-06	0.00E+00
INFANT	5.52E-06	3.62E-07	5.84E-05	6.82E-05	1.98E-05	5.28E-04	7.23E-06	0.00E+00
INHAL								
ADULT	1.25E-07	5.67E-07	1.15E-07	1.77E-07	9.81E-08	8.31E-06	1.16E-05	0.00E+00
TEEN	1.18E-07	5.20E-07	1.60E-07	2.40E-07	1.35E-07	1.04E-05	1.69E-05	0.00E+00
CHILD	9.02E-08	2.11E-07	2.16E-07	2.30E-07	1.26E-07	1.21E-05	1.37E-05	0.00E+00
INFANT	4.71E-08	8.02E-08	1.38E-07	1.75E-07	8.00E-08	1.11E-05	8.75E-06	0.00E+00

TABLE 7. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-DECEMBER 2011

SPECIAL LOCATION NO. 1 A Site Boundary  
 AT .69 MILES NNW

ANNUAL BETA AIR DOSE = 1.85E-05 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 3.05E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	2.05E-05	2.05E-05	2.05E-05	2.05E-05	2.05E-05	2.05E-05	2.07E-05	4.00E-05
GROUND	1.57E-02	1.57E-02	1.57E-02	1.57E-02	1.57E-02	1.57E-02	1.57E-02	1.84E-02
VEGET								
ADULT	3.43E-04	2.11E-03	1.79E-04	2.98E-04	8.75E-05	4.44E-03	1.71E-05	0.00E+00
TEEN	4.76E-04	2.25E-03	2.83E-04	4.64E-04	1.36E-04	5.99E-03	3.18E-05	0.00E+00
CHILD	8.62E-04	1.47E-03	6.58E-04	7.51E-04	2.16E-04	1.15E-02	4.82E-05	0.00E+00
MEAT								
ADULT	7.67E-05	5.77E-04	1.43E-05	5.55E-05	1.17E-05	1.20E-04	2.54E-06	0.00E+00
TEEN	5.82E-05	3.11E-04	1.13E-05	4.34E-05	8.95E-06	8.66E-05	2.34E-06	0.00E+00
CHILD	8.75E-05	1.58E-04	1.98E-05	5.26E-05	1.06E-05	1.31E-04	2.69E-06	0.00E+00
COW MILK								
ADULT	9.84E-05	1.54E-04	8.99E-05	1.50E-04	7.69E-05	3.33E-03	1.04E-05	0.00E+00
TEEN	1.23E-04	1.80E-04	1.59E-04	2.61E-04	1.32E-04	5.28E-03	2.15E-05	0.00E+00
CHILD	1.75E-04	1.19E-04	3.73E-04	4.34E-04	2.10E-04	1.04E-02	3.31E-05	0.00E+00
INFANT	2.39E-04	2.45E-04	6.01E-04	8.41E-04	3.26E-04	2.54E-02	6.00E-05	0.00E+00
GOATMILK								
ADULT	1.89E-04	2.71E-05	2.15E-04	2.90E-04	1.17E-04	4.00E-03	3.07E-05	0.00E+00
TEEN	1.86E-04	3.31E-05	3.89E-04	5.11E-04	2.06E-04	6.33E-03	6.34E-05	0.00E+00
CHILD	1.59E-04	2.32E-05	9.34E-04	8.84E-04	3.42E-04	1.25E-02	9.74E-05	0.00E+00
INFANT	1.77E-04	3.81E-05	1.51E-03	1.74E-03	5.55E-04	3.05E-02	1.76E-04	0.00E+00
INHAL								
ADULT	4.64E-06	4.54E-05	2.83E-06	6.24E-06	3.54E-06	3.42E-04	9.06E-04	0.00E+00
TEEN	5.33E-06	4.30E-05	3.94E-06	8.37E-06	4.82E-06	4.30E-04	1.32E-03	0.00E+00
CHILD	5.29E-06	3.14E-05	5.27E-06	7.80E-06	4.48E-06	4.98E-04	1.07E-03	0.00E+00
INFANT	2.88E-06	1.95E-05	3.51E-06	5.71E-06	2.84E-06	4.56E-04	6.87E-04	0.00E+00

TABLE 7. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-DECEMBER 2011 (Continued)

SPECIAL LOCATION NO. 2 A Site Boundary  
 AT .67 MILES N

ANNUAL BETA AIR DOSE = 1.34E-05 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 2.21E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.49E-05	1.49E-05	1.49E-05	1.49E-05	1.49E-05	1.49E-05	1.50E-05	2.90E-05
GROUND	1.99E-02	1.99E-02	1.99E-02	1.99E-02	1.99E-02	1.99E-02	1.99E-02	2.35E-02
VEGET								
ADULT	4.37E-04	2.69E-03	2.27E-04	3.79E-04	1.11E-04	5.66E-03	2.18E-05	0.00E+00
TEEN	6.06E-04	2.86E-03	3.59E-04	5.91E-04	1.73E-04	7.62E-03	4.05E-05	0.00E+00
CHILD	1.10E-03	1.87E-03	8.36E-04	9.56E-04	2.75E-04	1.46E-02	6.13E-05	0.00E+00
MEAT								
ADULT	9.76E-05	7.35E-04	1.81E-05	7.06E-05	1.49E-05	1.52E-04	3.23E-06	0.00E+00
TEEN	7.41E-05	3.96E-04	1.44E-05	5.52E-05	1.14E-05	1.10E-04	2.97E-06	0.00E+00
CHILD	1.11E-04	2.00E-04	2.52E-05	6.69E-05	1.35E-05	1.66E-04	3.43E-06	0.00E+00
COW MILK								
ADULT	1.25E-04	1.95E-04	1.14E-04	1.91E-04	9.78E-05	4.24E-03	1.33E-05	0.00E+00
TEEN	1.56E-04	2.29E-04	2.02E-04	3.32E-04	1.67E-04	6.72E-03	2.74E-05	0.00E+00
CHILD	2.23E-04	1.51E-04	4.75E-04	5.53E-04	2.68E-04	1.33E-02	4.22E-05	0.00E+00
INFANT	3.04E-04	3.11E-04	7.65E-04	1.07E-03	4.15E-04	3.23E-02	7.64E-05	0.00E+00
GOATMILK								
ADULT	2.41E-04	3.45E-05	2.74E-04	3.69E-04	1.49E-04	5.09E-03	3.90E-05	0.00E+00
TEEN	2.36E-04	4.21E-05	4.94E-04	6.50E-04	2.63E-04	8.06E-03	8.07E-05	0.00E+00
CHILD	2.02E-04	2.95E-05	1.19E-03	1.12E-03	4.35E-04	1.59E-02	1.24E-04	0.00E+00
INFANT	2.25E-04	4.85E-05	1.92E-03	2.22E-03	7.07E-04	3.88E-02	2.24E-04	0.00E+00
INHAL								
ADULT	5.73E-06	5.62E-05	3.48E-06	7.70E-06	4.39E-06	4.29E-04	1.12E-03	0.00E+00
TEEN	6.58E-06	5.32E-05	4.85E-06	1.03E-05	5.98E-06	5.39E-04	1.64E-03	0.00E+00
CHILD	6.53E-06	3.87E-05	6.49E-06	9.63E-06	5.56E-06	6.25E-04	1.33E-03	0.00E+00
INFANT	3.55E-06	2.40E-05	4.32E-06	7.04E-06	3.52E-06	5.73E-04	8.49E-04	0.00E+00

C40

TABLE 7. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-DECEMBER 2011 (Continued)

SPECIAL LOCATION NO. 3 A Nearest Resident  
 AT .90 MILES NW

ANNUAL BETA AIR DOSE = 8.71E-05 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 1.43E-04 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	9.64E-05	9.64E-05	9.64E-05	9.64E-05	9.64E-05	9.64E-05	9.73E-05	1.88E-04
GROUND	7.86E-03	7.86E-03	7.86E-03	7.86E-03	7.86E-03	7.86E-03	7.86E-03	9.25E-03
VEGET								
ADULT	1.76E-04	1.07E-03	2.15E-04	1.50E-04	4.49E-05	2.39E-03	8.63E-06	0.00E+00
TEEN	2.44E-04	1.14E-03	3.29E-04	2.34E-04	6.95E-05	3.23E-03	1.60E-05	0.00E+00
CHILD	4.43E-04	7.47E-04	7.47E-04	3.79E-04	1.11E-04	6.18E-03	2.43E-05	0.00E+00
MEAT								
ADULT	3.85E-05	2.90E-04	8.55E-06	2.78E-05	5.92E-06	6.44E-05	1.28E-06	0.00E+00
TEEN	2.92E-05	1.56E-04	6.71E-06	2.18E-05	4.51E-06	4.66E-05	1.17E-06	0.00E+00
CHILD	4.39E-05	7.90E-05	1.17E-05	2.64E-05	5.35E-06	7.04E-05	1.35E-06	0.00E+00
COW MILK								
ADULT	4.98E-05	7.76E-05	5.12E-05	7.60E-05	3.93E-05	1.80E-03	5.26E-06	0.00E+00
TEEN	6.23E-05	9.11E-05	8.99E-05	1.32E-04	6.73E-05	2.85E-03	1.09E-05	0.00E+00
CHILD	8.90E-05	6.02E-05	2.10E-04	2.20E-04	1.08E-04	5.63E-03	1.67E-05	0.00E+00
INFANT	1.22E-04	1.23E-04	3.38E-04	4.26E-04	1.68E-04	1.37E-02	3.03E-05	0.00E+00
GOATMILK								
ADULT	9.59E-05	1.47E-05	1.21E-04	1.47E-04	5.97E-05	2.16E-03	1.55E-05	0.00E+00
TEEN	9.45E-05	1.81E-05	2.16E-04	2.58E-04	1.05E-04	3.41E-03	3.20E-05	0.00E+00
CHILD	8.18E-05	1.29E-05	5.17E-04	4.47E-04	1.74E-04	6.76E-03	4.91E-05	0.00E+00
INFANT	9.22E-05	2.04E-05	8.31E-04	8.81E-04	2.84E-04	1.64E-02	8.89E-05	0.00E+00
INHAL								
ADULT	1.66E-06	1.46E-05	1.25E-06	2.33E-06	1.40E-06	1.12E-04	2.90E-04	0.00E+00
TEEN	1.95E-06	1.39E-05	1.72E-06	3.14E-06	1.92E-06	1.41E-04	4.24E-04	0.00E+00
CHILD	1.99E-06	1.07E-05	2.28E-06	2.94E-06	1.78E-06	1.64E-04	3.44E-04	0.00E+00
INFANT	1.13E-06	7.16E-06	1.52E-06	2.24E-06	1.14E-06	1.50E-04	2.20E-04	0.00E+00



TABLE 7. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-DECEMBER 2011 (Continued)

SPECIAL LOCATION NO. 4 A Nearest Cow  
AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 3.99E-05 MILLRADS  
ANNUAL GAMMA AIR DOSE = 6.57E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	4.42E-05	4.42E-05	4.42E-05	4.42E-05	4.42E-05	4.42E-05	4.46E-05	8.63E-05
GROUND	3.15E-04	3.15E-04	3.15E-04	3.15E-04	3.15E-04	3.15E-04	3.15E-04	3.71E-04
VEGET								
ADULT	7.14E-06	4.31E-05	1.22E-05	6.04E-06	1.82E-06	1.00E-04	3.47E-07	0.00E+00
TEEN	9.91E-06	4.60E-05	1.85E-05	9.42E-06	2.82E-06	1.35E-04	6.45E-07	0.00E+00
CHILD	1.81E-05	3.02E-05	4.19E-05	1.53E-05	4.50E-06	2.58E-04	9.76E-07	0.00E+00
MEAT								
ADULT	1.55E-06	1.16E-05	3.83E-07	1.12E-06	2.38E-07	2.69E-06	5.11E-08	0.00E+00
TEEN	1.17E-06	6.25E-06	2.99E-07	8.73E-07	1.81E-07	1.95E-06	4.70E-08	0.00E+00
CHILD	1.76E-06	3.17E-06	5.21E-07	1.06E-06	2.15E-07	2.94E-06	5.42E-08	0.00E+00
COW MILK								
ADULT	2.01E-06	3.13E-06	2.23E-06	3.06E-06	1.59E-06	7.51E-05	2.12E-07	0.00E+00
TEEN	2.52E-06	3.67E-06	3.89E-06	5.32E-06	2.73E-06	1.19E-04	4.37E-07	0.00E+00
CHILD	3.60E-06	2.43E-06	9.10E-06	8.86E-06	4.37E-06	2.35E-04	6.72E-07	0.00E+00
INFANT	4.94E-06	4.95E-06	1.46E-05	1.72E-05	6.81E-06	5.72E-04	1.22E-06	0.00E+00
GOATMILK								
ADULT	3.87E-06	6.23E-07	5.20E-06	5.91E-06	2.42E-06	9.01E-05	6.23E-07	0.00E+00
TEEN	3.83E-06	7.71E-07	9.28E-06	1.04E-05	4.27E-06	1.43E-04	1.29E-06	0.00E+00
CHILD	3.34E-06	5.51E-07	2.21E-05	1.80E-05	7.07E-06	2.82E-04	1.98E-06	0.00E+00
INFANT	3.79E-06	8.51E-07	3.54E-05	3.56E-05	1.15E-05	6.86E-04	3.58E-06	0.00E+00
INHAL								
ADULT	2.27E-07	1.41E-06	2.55E-07	3.52E-07	2.40E-07	1.22E-05	2.76E-05	0.00E+00
TEEN	2.79E-07	1.33E-06	3.43E-07	4.78E-07	3.30E-07	1.54E-05	4.03E-05	0.00E+00
CHILD	3.06E-07	9.75E-07	4.51E-07	4.56E-07	3.08E-07	1.78E-05	3.27E-05	0.00E+00
INFANT	1.91E-07	7.62E-07	3.01E-07	3.77E-07	2.00E-07	1.63E-05	2.10E-05	0.00E+00

TABLE 7. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-DECEMBER 2011 (Continued)

SPECIAL LOCATION NO. 5 A Nearest Garden  
 AT 1.30 MILES SW

ANNUAL BETA AIR DOSE = 4.35E-05 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 7.17E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	4.82E-05	4.82E-05	4.82E-05	4.82E-05	4.82E-05	4.82E-05	4.86E-05	9.41E-05
GROUND	1.15E-03	1.15E-03	1.15E-03	1.15E-03	1.15E-03	1.15E-03	1.15E-03	1.35E-03
VEGET								
ADULT	2.59E-05	1.57E-04	4.31E-05	2.19E-05	6.62E-06	3.63E-04	1.26E-06	0.00E+00
TEEN	3.60E-05	1.67E-04	6.54E-05	3.42E-05	1.03E-05	4.89E-04	2.34E-06	0.00E+00
CHILD	6.56E-05	1.10E-04	1.48E-04	5.54E-05	1.63E-05	9.37E-04	3.55E-06	0.00E+00
MEAT								
ADULT	5.62E-06	4.22E-05	1.38E-06	4.06E-06	8.65E-07	9.76E-06	1.86E-07	0.00E+00
TEEN	4.26E-06	2.27E-05	1.08E-06	3.18E-06	6.60E-07	7.07E-06	1.71E-07	0.00E+00
CHILD	6.40E-06	1.15E-05	1.88E-06	3.85E-06	7.83E-07	1.07E-05	1.97E-07	0.00E+00
COW MILK								
ADULT	7.31E-06	1.14E-05	8.04E-06	1.11E-05	5.79E-06	2.72E-04	7.69E-07	0.00E+00
TEEN	9.15E-06	1.33E-05	1.41E-05	1.93E-05	9.92E-06	4.31E-04	1.59E-06	0.00E+00
CHILD	1.31E-05	8.83E-06	3.28E-05	3.22E-05	1.59E-05	8.54E-04	2.44E-06	0.00E+00
INFANT	1.79E-05	1.80E-05	5.25E-05	6.25E-05	2.47E-05	2.07E-03	4.43E-06	0.00E+00
GOATMILK								
ADULT	1.41E-05	2.25E-06	1.88E-05	2.15E-05	8.79E-06	3.27E-04	2.26E-06	0.00E+00
TEEN	1.39E-05	2.79E-06	3.35E-05	3.79E-05	1.55E-05	5.17E-04	4.68E-06	0.00E+00
CHILD	1.21E-05	1.99E-06	7.99E-05	6.55E-05	2.57E-05	1.02E-03	7.19E-06	0.00E+00
INFANT	1.38E-05	3.08E-06	1.28E-04	1.29E-04	4.18E-05	2.49E-03	1.30E-05	0.00E+00
INHAL								
ADULT	3.30E-07	2.44E-06	3.17E-07	4.90E-07	3.18E-07	1.97E-05	4.81E-05	0.00E+00
TEEN	3.98E-07	2.30E-06	4.29E-07	6.64E-07	4.35E-07	2.48E-05	7.03E-05	0.00E+00
CHILD	4.24E-07	1.59E-06	5.66E-07	6.29E-07	4.06E-07	2.87E-05	5.70E-05	0.00E+00
INFANT	2.55E-07	1.12E-06	3.78E-07	5.04E-07	2.61E-07	2.63E-05	3.65E-05	0.00E+00

C43

TABLE 8. DOSES TO POPULATION WITHIN 50 MILES, JANUARY-MARCH 2011

ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (PERSON-REM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 3.94E-06 : : 1.13% :	: 3.94E-06 : : .95% :	: 3.94E-06 : : 1.18% :	: 3.94E-06 : : 1.16% :	: 3.94E-06 : : 1.18% :	: 3.94E-06 : : .54% :	: 4.01E-06 : : 1.05% :	: 1.04E-05 : : 2.63% :
GROUND	: 3.27E-04 : : 94.33% :	: 3.27E-04 : : 78.79% :	: 3.27E-04 : : 98.14% :	: 3.27E-04 : : 96.26% :	: 3.27E-04 : : 97.91% :	: 3.27E-04 : : 44.57% :	: 3.27E-04 : : 86.01% :	: 3.85E-04 : : 97.37% :
INHAL	: 2.00E-07 : : .06% :	: 2.06E-06 : : .50% :	: 1.07E-07 : : .03% :	: 2.46E-07 : : .07% :	: 2.26E-07 : : .07% :	: 3.24E-05 : : 4.42% :	: 4.92E-05 : : 12.93% :	: 0.00E+00 : : .00% :
VEGET	: 1.02E-05 : : 2.94% :	: 5.55E-05 : : 13.37% :	: 7.30E-07 : : .22% :	: 4.63E-06 : : 1.36% :	: 2.53E-07 : : .08% :	: 4.28E-06 : : .58% :	: 1.96E-10 : : .00% :	: 0.00E+00 : : .00% :
COW MILK	: 2.44E-06 : : .70% :	: 7.21E-06 : : 1.74% :	: 1.35E-06 : : .41% :	: 2.54E-06 : : .75% :	: 2.45E-06 : : .73% :	: 3.59E-04 : : 48.89% :	: 1.52E-09 : : .00% :	: 0.00E+00 : : .00% :
MEAT	: 2.91E-06 : : .84% :	: 1.94E-05 : : 4.66% :	: 6.64E-08 : : .02% :	: 1.36E-06 : : .40% :	: 1.17E-07 : : .04% :	: 7.37E-06 : : 1.00% :	: 2.23E-11 : : .00% :	: 0.00E+00 : : .00% :
*TOTAL*	: 3.47E-04 :	: 4.15E-04 :	: 3.33E-04 :	: 3.40E-04 :	: 3.34E-04 :	: 7.34E-04 :	: 3.80E-04 :	: 3.95E-04 :

TABLE 9. DOSES TO POPULATION WITHIN 50 MILES, APRIL-JUNE 2011

ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (PERSON-REM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 3.60E-05 : : 7.81% :	: 3.60E-05 : : 6.58% :	: 3.60E-05 : : 7.05% :	: 3.60E-05 : : 7.87% :	: 3.60E-05 : : 8.10% :	: 3.60E-05 : : 6.09% :	: 3.64E-05 : : 7.66% :	: 7.89E-05 : : 14.38% :
GROUND	: 3.99E-04 : : 86.60% :	: 3.99E-04 : : 72.88% :	: 3.99E-04 : : 78.09% :	: 3.99E-04 : : 87.24% :	: 3.99E-04 : : 89.81% :	: 3.99E-04 : : 67.50% :	: 3.99E-04 : : 83.90% :	: 4.69E-04 : : 85.62% :
INHAL	: 2.14E-07 : : .05% :	: 1.77E-06 : : .32% :	: 5.71E-07 : : .11% :	: 3.00E-07 : : .07% :	: 1.86E-07 : : .04% :	: 9.59E-06 : : 1.62% :	: 3.98E-05 : : 8.36% :	: 0.00E+00 : : .00% :
VEGET	: 1.45E-05 : : 3.14% :	: 7.12E-05 : : 13.00% :	: 6.31E-05 : : 12.35% :	: 8.28E-06 : : 1.81% :	: 1.58E-06 : : .36% :	: 1.72E-06 : : .29% :	: 1.55E-07 : : .03% :	: 0.00E+00 : : .00% :
COW MILK	: 6.89E-06 : : 1.50% :	: 1.27E-05 : : 2.31% :	: 1.08E-05 : : 2.11% :	: 1.06E-05 : : 2.31% :	: 6.71E-06 : : 1.51% :	: 1.42E-04 : : 24.00% :	: 7.52E-08 : : .02% :	: 0.00E+00 : : .00% :
MEAT	: 4.16E-06 : : .90% :	: 2.69E-05 : : 4.91% :	: 1.48E-06 : : .29% :	: 3.21E-06 : : .70% :	: 8.14E-07 : : .18% :	: 2.92E-06 : : .49% :	: 1.65E-07 : : .03% :	: 0.00E+00 : : .00% :
*TOTAL*	: 4.61E-04	: 5.47E-04	: 5.11E-04	: 4.57E-04	: 4.44E-04	: 5.91E-04	: 4.76E-04	: 5.48E-04

TABLE 10. DOSES TO POPULATION WITHIN 50 MILES, JANUARY-JUNE 2011

ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (PERSON-REM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 4.22E-05 : : 5.22% :	: 4.22E-05 : : 4.38% :	: 4.22E-05 : : 5.00% :	: 4.22E-05 : : 5.29% :	: 4.22E-05 : : 5.42% :	: 4.22E-05 : : 3.19% :	: 4.27E-05 : : 4.98% :	: 9.37E-05 : : 9.91% :
GROUND	: 7.25E-04 : : 89.65% :	: 7.25E-04 : : 75.22% :	: 7.25E-04 : : 85.92% :	: 7.25E-04 : : 90.81% :	: 7.25E-04 : : 93.00% :	: 7.25E-04 : : 54.80% :	: 7.25E-04 : : 84.40% :	: 8.53E-04 : : 90.09% :
INHAL	: 4.16E-07 : : .05% :	: 3.91E-06 : : .41% :	: 6.99E-07 : : .08% :	: 5.49E-07 : : .07% :	: 3.94E-07 : : .05% :	: 3.86E-05 : : 2.92% :	: 9.09E-05 : : 10.58% :	: 0.00E+00 : : .00% :
VEGET	: 2.46E-05 : : 3.05% :	: 1.27E-04 : : 13.14% :	: 6.24E-05 : : 7.40% :	: 1.29E-05 : : 1.62% :	: 1.83E-06 : : .24% :	: 6.00E-06 : : .45% :	: 1.55E-07 : : .02% :	: 0.00E+00 : : .00% :
COW MILK	: 9.32E-06 : : 1.15% :	: 1.99E-05 : : 2.06% :	: 1.19E-05 : : 1.41% :	: 1.31E-05 : : 1.64% :	: 9.16E-06 : : 1.18% :	: 5.01E-04 : : 37.86% :	: 7.57E-08 : : .01% :	: 0.00E+00 : : .00% :
MEAT	: 7.06E-06 : : .87% :	: 4.62E-05 : : 4.80% :	: 1.52E-06 : : .18% :	: 4.57E-06 : : .57% :	: 9.31E-07 : : .12% :	: 1.03E-05 : : .78% :	: 1.65E-07 : : .02% :	: 0.00E+00 : : .00% :
*TOTAL*	: 8.08E-04 :	: 9.64E-04 :	: 8.44E-04 :	: 7.98E-04 :	: 7.79E-04 :	: 1.32E-03 :	: 8.59E-04 :	: 9.46E-04 :

TABLE 11. DOSES TO POPULATION WITHIN 50 MILES, JULY-SEPTEMBER 2011

ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (PERSON-REM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 1.69E-06 : : 1.14% :	: 1.69E-06 : : 1.04% :	: 1.69E-06 : : 1.09% :	: 1.69E-06 : : 1.05% :	: 1.69E-06 : : 1.18% :	: 1.69E-06 : : .49% :	: 1.71E-06 : : 1.13% :	: 3.68E-06 : : 2.32% :
GROUND	: 1.32E-04 : : 88.90% :	: 1.32E-04 : : 81.13% :	: 1.32E-04 : : 84.98% :	: 1.32E-04 : : 82.48% :	: 1.32E-04 : : 92.50% :	: 1.32E-04 : : 38.26% :	: 1.32E-04 : : 87.45% :	: 1.55E-04 : : 97.68% :
INHAL	: 1.48E-07 : : .10% :	: 5.91E-07 : : .36% :	: 1.79E-07 : : .12% :	: 2.43E-07 : : .15% :	: 1.41E-07 : : .10% :	: 1.36E-05 : : 3.95% :	: 1.45E-05 : : 9.61% :	: 0.00E+00 : : .00% :
VEGET	: 7.25E-06 : : 4.88% :	: 1.92E-05 : : 11.81% :	: 8.30E-06 : : 5.35% :	: 1.04E-05 : : 6.53% :	: 3.03E-06 : : 2.13% :	: 2.30E-06 : : .67% :	: 1.04E-06 : : .69% :	: 0.00E+00 : : .00% :
COW MILK	: 6.00E-06 : : 4.04% :	: 2.56E-06 : : 1.57% :	: 1.25E-05 : : 8.06% :	: 1.44E-05 : : 9.03% :	: 5.56E-06 : : 3.90% :	: 1.91E-04 : : 55.49% :	: 1.61E-06 : : 1.07% :	: 0.00E+00 : : .00% :
MEAT	: 1.39E-06 : : .94% :	: 6.65E-06 : : 4.09% :	: 6.33E-07 : : .41% :	: 1.20E-06 : : .75% :	: 2.82E-07 : : .20% :	: 3.95E-06 : : 1.14% :	: 8.92E-08 : : .06% :	: 0.00E+00 : : .00% :
*TOTAL*	: 1.48E-04	: 1.63E-04	: 1.55E-04	: 1.60E-04	: 1.43E-04	: 3.45E-04	: 1.51E-04	: 1.59E-04

TABLE 12. DOSES TO POPULATION WITHIN 50 MILES, OCTOBER-DECEMBER 2011

ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (PERSON-REM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 2.35E-06 : : 1.79% :	: 2.35E-06 : : 1.62% :	: 2.35E-06 : : 1.73% :	: 2.35E-06 : : 1.69% :	: 2.35E-06 : : 1.86% :	: 2.35E-06 : : .89% :	: 2.37E-06 : : 1.66% :	: 5.20E-06 : : 3.63% :
GROUND	: 1.17E-04 : : 89.57% :	: 1.17E-04 : : 81.18% :	: 1.17E-04 : : 86.62% :	: 1.17E-04 : : 84.43% :	: 1.17E-04 : : 93.00% :	: 1.17E-04 : : 44.50% :	: 1.17E-04 : : 82.35% :	: 1.38E-04 : : 96.37% :
INHAL	: 1.92E-07 : : .15% :	: 8.48E-07 : : .59% :	: 2.27E-07 : : .17% :	: 3.17E-07 : : .23% :	: 1.95E-07 : : .15% :	: 1.78E-05 : : 6.74% :	: 2.08E-05 : : 14.61% :	: 0.00E+00 : : .00% :
VEGET	: 5.66E-06 : : 4.32% :	: 1.63E-05 : : 11.24% :	: 6.13E-06 : : 4.52% :	: 7.70E-06 : : 5.54% :	: 2.18E-06 : : 1.73% :	: 1.49E-06 : : .56% :	: 7.47E-07 : : .52% :	: 0.00E+00 : : .00% :
COW MILK	: 4.35E-06 : : 3.32% :	: 2.12E-06 : : 1.47% :	: 8.98E-06 : : 6.62% :	: 1.04E-05 : : 7.46% :	: 3.92E-06 : : 3.10% :	: 1.22E-04 : : 46.34% :	: 1.16E-06 : : .81% :	: 0.00E+00 : : .00% :
MEAT	: 1.12E-06 : : .86% :	: 5.63E-06 : : 3.89% :	: 4.56E-07 : : .34% :	: 9.19E-07 : : .66% :	: 2.01E-07 : : .16% :	: 2.54E-06 : : .96% :	: 6.41E-08 : : .04% :	: 0.00E+00 : : .00% :
*TOTAL*	: 1.31E-04	: 1.45E-04	: 1.36E-04	: 1.39E-04	: 1.26E-04	: 2.64E-04	: 1.43E-04	: 1.43E-04

TABLE 13. DOSES TO POPULATION WITHIN 50 MILES, JULY-DECEMBER 2011

ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (PERSON-REM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 3.70E-06 : : 1.32% :	: 3.70E-06 : : 1.20% :	: 3.70E-06 : : 1.27% :	: 3.70E-06 : : 1.24% :	: 3.70E-06 : : 1.38% :	: 3.70E-06 : : .61% :	: 3.74E-06 : : 1.27% :	: 8.19E-06 : : 2.71% :
GROUND	: 2.50E-04 : : 89.36% :	: 2.50E-04 : : 81.26% :	: 2.50E-04 : : 85.91% :	: 2.50E-04 : : 83.56% :	: 2.50E-04 : : 92.88% :	: 2.50E-04 : : 41.01% :	: 2.50E-04 : : 84.97% :	: 2.94E-04 : : 97.29% :
INHAL	: 3.48E-07 : : .12% :	: 1.45E-06 : : .47% :	: 4.16E-07 : : .14% :	: 5.71E-07 : : .19% :	: 3.39E-07 : : .13% :	: 3.20E-05 : : 5.25% :	: 3.58E-05 : : 12.17% :	: 0.00E+00 : : .00% :
VEGET	: 1.29E-05 : : 4.61% :	: 3.55E-05 : : 11.54% :	: 1.44E-05 : : 4.94% :	: 1.81E-05 : : 6.05% :	: 5.19E-06 : : 1.93% :	: 3.79E-06 : : .62% :	: 1.78E-06 : : .60% :	: 0.00E+00 : : .00% :
COW MILK	: 1.03E-05 : : 3.69% :	: 4.69E-06 : : 1.52% :	: 2.14E-05 : : 7.36% :	: 2.47E-05 : : 8.26% :	: 9.45E-06 : : 3.51% :	: 3.14E-04 : : 51.44% :	: 2.76E-06 : : .94% :	: 0.00E+00 : : .00% :
MEAT	: 2.51E-06 : : .90% :	: 1.23E-05 : : 4.00% :	: 1.09E-06 : : .37% :	: 2.12E-06 : : .71% :	: 4.81E-07 : : .18% :	: 6.49E-06 : : 1.06% :	: 1.53E-07 : : .05% :	: 0.00E+00 : : .00% :
*TOTAL*	: 2.80E-04 :	: 3.08E-04 :	: 2.91E-04 :	: 2.99E-04 :	: 2.69E-04 :	: 6.10E-04 :	: 2.94E-04 :	: 3.02E-04 :



TABLE 14. DOSES TO POPULATION WITHIN 50 MILES, JANUARY-DECEMBER 2011

ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (PERSON-REM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 4.58E-05 : : 4.10% :	: 4.58E-05 : : 3.52% :	: 4.58E-05 : : 3.94% :	: 4.58E-05 : : 4.07% :	: 4.58E-05 : : 4.25% :	: 4.58E-05 : : 2.33% :	: 4.63E-05 : : 3.88% :	: 1.01E-04 : : 7.90% :
GROUND	: 1.00E-03 : : 89.85% :	: 1.00E-03 : : 77.16% :	: 1.00E-03 : : 86.30% :	: 1.00E-03 : : 89.12% :	: 1.00E-03 : : 93.17% :	: 1.00E-03 : : 51.10% :	: 1.00E-03 : : 84.06% :	: 1.18E-03 : : 92.10% :
INHAL	: 7.79E-07 : : .07% :	: 5.89E-06 : : .45% :	: 1.18E-06 : : .10% :	: 1.12E-06 : : .10% :	: 7.40E-07 : : .07% :	: 7.34E-05 : : 3.74% :	: 1.39E-04 : : 11.63% :	: 0.00E+00 : : .00% :
VEGET	: 3.75E-05 : : 3.36% :	: 1.62E-04 : : 12.47% :	: 7.64E-05 : : 6.57% :	: 3.10E-05 : : 2.75% :	: 7.03E-06 : : .65% :	: 9.79E-06 : : .50% :	: 1.93E-06 : : .16% :	: 0.00E+00 : : .00% :
COW MILK	: 1.96E-05 : : 1.76% :	: 2.46E-05 : : 1.89% :	: 3.33E-05 : : 2.86% :	: 3.78E-05 : : 3.36% :	: 1.86E-05 : : 1.73% :	: 8.14E-04 : : 41.48% :	: 2.83E-06 : : .24% :	: 0.00E+00 : : .00% :
MEAT	: 9.58E-06 : : .86% :	: 5.85E-05 : : 4.50% :	: 2.61E-06 : : .22% :	: 6.69E-06 : : .59% :	: 1.41E-06 : : .13% :	: 1.68E-05 : : .85% :	: 3.18E-07 : : .03% :	: 0.00E+00 : : .00% :
*TOTAL*	: 1.12E-03	: 1.30E-03	: 1.16E-03	: 1.13E-03	: 1.08E-03	: 1.96E-03	: 1.19E-03	: 1.28E-03

## CARBON-14 GASEOUS EFFLUENT DOSE CALCULATIONS

Doses to the maximum individual resulting from the release of Carbon-14 in gaseous effluents from the Cooper Nuclear Station (CNS) were calculated using the GASPAR computer code. Four pathways were selected for individual dose calculations: the nearest site boundary for inhalation, nearest garden for vegetation ingestion, nearest animal for meat ingestion, and the nearest milk animal (cow). Based on the 2011 Land Use Census, there are no meat or milk animals identified within 5 miles of CNS. However, CNS maintains a virtual cow receptor at 3.5 miles north-northwest of the plant and conservatively includes this receptor in dose calculations.

Use of a normalized Carbon-14 source term and scaling factors based on the annual thermal gigawatts ( $\text{GW}_T$ ) power generation were utilized to determine the quantity of Carbon-14 in the CNS gaseous effluent discharge for 2011. Specifically, the Boiling Water Reactor proxy production rate of 5.1 curies Carbon-14 per  $\text{GW}_T$  generation using the methodology described in EPRI, 20110 was the basis for the CNS total calculated emissions of 10.4 curies of Carbon-14 in 2011.

GASPAR implements the radiological dose models of Regulatory Guide 1.109 for determining the radiation exposure to man from four principal atmospheric exposure pathways: plume, ground, inhalation, and ingestion. Doses to the maximum individual are calculated as a function of age group and pathway for significant body organs.

Tables 15 through 21 present maximum individual doses. Note that the inhalation pathway was calculated at the closest site boundary receptor and was negligible for Carbon-14 and is not included in the tables. In addition, the doses presented were conservatively calculated based on the annual site X/Qs. These X/Qs result in doses approximately 20% higher than those calculated with the X/Qs based on growing season meteorology.

Additional assumptions and data used for input to the GASPAR code are described in a separate section of this appendix (see page C66).

TABLE 15. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-MARCH 2011

SPECIAL LOCATION NO. 4 A Nearest Cow  
AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 0.00E+00 MILLRADS  
ANNUAL GAMMA AIR DOSE = 0.00E+00 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
VEGET								
ADULT	5.27E-03	5.27E-03	2.64E-02	5.27E-03	5.27E-03	5.27E-03	5.27E-03	5.27E-03
TEEN	8.82E-03	8.82E-03	4.41E-02	8.82E-03	8.82E-03	8.82E-03	8.82E-03	8.82E-03
CHILD	2.15E-02	2.15E-02	1.07E-01	2.15E-02	2.15E-02	2.15E-02	2.15E-02	2.15E-02
MEAT								
ADULT	2.11E-03	2.11E-03	1.05E-02	2.11E-03	2.11E-03	2.11E-03	2.11E-03	2.11E-03
TEEN	1.78E-03	1.78E-03	8.89E-03	1.78E-03	1.78E-03	1.78E-03	1.78E-03	1.78E-03
CHILD	3.34E-03	3.34E-03	1.67E-02	3.34E-03	3.34E-03	3.34E-03	3.34E-03	3.34E-03
COW MILK								
ADULT	2.30E-03	2.30E-03	1.15E-02	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03
TEEN	4.24E-03	4.24E-03	2.12E-02	4.24E-03	4.24E-03	4.24E-03	4.24E-03	4.24E-03
CHILD	1.04E-02	1.04E-02	5.21E-02	1.04E-02	1.04E-02	1.04E-02	1.04E-02	1.04E-02
INFANT	2.18E-02	2.18E-02	1.02E-01	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02
GOATMILK								
ADULT	2.30E-03	2.30E-03	1.15E-02	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03
TEEN	4.24E-03	4.24E-03	2.12E-02	4.24E-03	4.24E-03	4.24E-03	4.24E-03	4.24E-03
CHILD	1.04E-02	1.04E-02	5.21E-02	1.04E-02	1.04E-02	1.04E-02	1.04E-02	1.04E-02
INFANT	2.18E-02	2.18E-02	1.02E-01	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02

CS2

TABLE 15. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-MARCH 2011 (Continued)

SPECIAL LOCATION NO. 5 A Nearest Garden  
 AT 1.30 MILES SW

ANNUAL BETA AIR DOSE = 0.00E+00 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 0.00E+00 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00
GROUND	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00
VEGET	:	:	:	:	:	:	:	:
ADULT	: 1.10E-02	: 1.10E-02	: 5.48E-02	: 1.10E-02	: 1.10E-02	: 1.10E-02	: 1.10E-02	: 1.10E-02
TEEN	: 1.83E-02	: 1.83E-02	: 9.17E-02	: 1.83E-02	: 1.83E-02	: 1.83E-02	: 1.83E-02	: 1.83E-02
CHILD	: 4.46E-02	: 4.46E-02	: 2.23E-01	: 4.46E-02	: 4.46E-02	: 4.46E-02	: 4.46E-02	: 4.46E-02
MEAT	:	:	:	:	:	:	:	:
ADULT	: 4.38E-03	: 4.38E-03	: 2.19E-02	: 4.38E-03	: 4.38E-03	: 4.38E-03	: 4.38E-03	: 4.38E-03
TEEN	: 3.70E-03	: 3.70E-03	: 1.85E-02	: 3.70E-03	: 3.70E-03	: 3.70E-03	: 3.70E-03	: 3.70E-03
CHILD	: 6.95E-03	: 6.95E-03	: 3.47E-02	: 6.95E-03	: 6.95E-03	: 6.95E-03	: 6.95E-03	: 6.95E-03
COW MILK	:	:	:	:	:	:	:	:
ADULT	: 4.77E-03	: 4.77E-03	: 2.39E-02	: 4.77E-03	: 4.77E-03	: 4.77E-03	: 4.77E-03	: 4.77E-03
TEEN	: 8.81E-03	: 8.81E-03	: 4.40E-02	: 8.81E-03	: 8.81E-03	: 8.81E-03	: 8.81E-03	: 8.81E-03
CHILD	: 2.17E-02	: 2.17E-02	: 1.08E-01	: 2.17E-02	: 2.17E-02	: 2.17E-02	: 2.17E-02	: 2.17E-02
INFANT	: 4.53E-02	: 4.53E-02	: 2.12E-01	: 4.53E-02	: 4.53E-02	: 4.53E-02	: 4.53E-02	: 4.53E-02
GOATMILK	:	:	:	:	:	:	:	:
ADULT	: 4.77E-03	: 4.77E-03	: 2.39E-02	: 4.77E-03	: 4.77E-03	: 4.77E-03	: 4.77E-03	: 4.77E-03
TEEN	: 8.81E-03	: 8.81E-03	: 4.40E-02	: 8.81E-03	: 8.81E-03	: 8.81E-03	: 8.81E-03	: 8.81E-03
CHILD	: 2.17E-02	: 2.17E-02	: 1.08E-01	: 2.17E-02	: 2.17E-02	: 2.17E-02	: 2.17E-02	: 2.17E-02
INFANT	: 4.53E-02	: 4.53E-02	: 2.12E-01	: 4.53E-02	: 4.53E-02	: 4.53E-02	: 4.53E-02	: 4.53E-02

CS3

TABLE 16. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), APRIL-JUNE 2011

SPECIAL LOCATION NO. 4 A Nearest Cow  
AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 0.00E+00 MILLRADS  
ANNUAL GAMMA AIR DOSE = 0.00E+00 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
VEGET								
ADULT	2.64E-03	2.64E-03	1.32E-02	2.64E-03	2.64E-03	2.64E-03	2.64E-03	2.64E-03
TEEN	4.41E-03	4.41E-03	2.21E-02	4.41E-03	4.41E-03	4.41E-03	4.41E-03	4.41E-03
CHILD	1.07E-02	1.07E-02	5.37E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02
MEAT								
ADULT	1.05E-03	1.05E-03	5.26E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03
TEEN	8.89E-04	8.89E-04	4.45E-03	8.89E-04	8.89E-04	8.89E-04	8.89E-04	8.89E-04
CHILD	1.67E-03	1.67E-03	8.36E-03	1.67E-03	1.67E-03	1.67E-03	1.67E-03	1.67E-03
COW MILK								
ADULT	1.15E-03	1.15E-03	5.74E-03	1.15E-03	1.15E-03	1.15E-03	1.15E-03	1.15E-03
TEEN	2.12E-03	2.12E-03	1.06E-02	2.12E-03	2.12E-03	2.12E-03	2.12E-03	2.12E-03
CHILD	5.21E-03	5.21E-03	2.60E-02	5.21E-03	5.21E-03	5.21E-03	5.21E-03	5.21E-03
INFANT	1.09E-02	1.09E-02	5.10E-02	1.09E-02	1.09E-02	1.09E-02	1.09E-02	1.09E-02
GOATMILK								
ADULT	1.15E-03	1.15E-03	5.74E-03	1.15E-03	1.15E-03	1.15E-03	1.15E-03	1.15E-03
TEEN	2.12E-03	2.12E-03	1.06E-02	2.12E-03	2.12E-03	2.12E-03	2.12E-03	2.12E-03
CHILD	5.21E-03	5.21E-03	2.60E-02	5.21E-03	5.21E-03	5.21E-03	5.21E-03	5.21E-03
INFANT	1.09E-02	1.09E-02	5.10E-02	1.09E-02	1.09E-02	1.09E-02	1.09E-02	1.09E-02

CS4

TABLE 16. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), APRIL-JUNE 2011(Continued)

SPECIAL LOCATION NO. 5 A Nearest Garden  
 AT 1.30 MILES SW

ANNUAL BETA AIR DOSE = 0.00E+00 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 0.00E+00 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
VEGET								
ADULT	8.61E-03	8.61E-03	4.30E-02	8.61E-03	8.61E-03	8.61E-03	8.61E-03	8.61E-03
TEEN	1.44E-02	1.44E-02	7.20E-02	1.44E-02	1.44E-02	1.44E-02	1.44E-02	1.44E-02
CHILD	3.50E-02	3.50E-02	1.75E-01	3.50E-02	3.50E-02	3.50E-02	3.50E-02	3.50E-02
MEAT								
ADULT	3.43E-03	3.43E-03	1.72E-02	3.43E-03	3.43E-03	3.43E-03	3.43E-03	3.43E-03
TEEN	2.90E-03	2.90E-03	1.45E-02	2.90E-03	2.90E-03	2.90E-03	2.90E-03	2.90E-03
CHILD	5.45E-03	5.45E-03	2.73E-02	5.45E-03	5.45E-03	5.45E-03	5.45E-03	5.45E-03
COW MILK								
ADULT	3.75E-03	3.75E-03	1.87E-02	3.75E-03	3.75E-03	3.75E-03	3.75E-03	3.75E-03
TEEN	6.91E-03	6.91E-03	3.46E-02	6.91E-03	6.91E-03	6.91E-03	6.91E-03	6.91E-03
CHILD	1.70E-02	1.70E-02	8.50E-02	1.70E-02	1.70E-02	1.70E-02	1.70E-02	1.70E-02
INFANT	3.55E-02	3.55E-02	1.66E-01	3.55E-02	3.55E-02	3.55E-02	3.55E-02	3.55E-02
GOATMILK								
ADULT	3.75E-03	3.75E-03	1.87E-02	3.75E-03	3.75E-03	3.75E-03	3.75E-03	3.75E-03
TEEN	6.91E-03	6.91E-03	3.46E-02	6.91E-03	6.91E-03	6.91E-03	6.91E-03	6.91E-03
CHILD	1.70E-02	1.70E-02	8.50E-02	1.70E-02	1.70E-02	1.70E-02	1.70E-02	1.70E-02
INFANT	3.55E-02	3.55E-02	1.66E-01	3.55E-02	3.55E-02	3.55E-02	3.55E-02	3.55E-02

CS5

TABLE 17. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-JUNE 2011

SPECIAL LOCATION NO. 4 A Nearest Cow  
AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 0.00E+00 MILLRADS  
ANNUAL GAMMA AIR DOSE = 0.00E+00 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
VEGET								
ADULT	8.05E-03	8.05E-03	4.03E-02	8.05E-03	8.05E-03	8.05E-03	8.05E-03	8.05E-03
TEEN	1.35E-02	1.35E-02	6.73E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02
CHILD	3.28E-02	3.28E-02	1.64E-01	3.28E-02	3.28E-02	3.28E-02	3.28E-02	3.28E-02
MEAT								
ADULT	3.21E-03	3.21E-03	1.61E-02	3.21E-03	3.21E-03	3.21E-03	3.21E-03	3.21E-03
TEEN	2.71E-03	2.71E-03	1.36E-02	2.71E-03	2.71E-03	2.71E-03	2.71E-03	2.71E-03
CHILD	5.10E-03	5.10E-03	2.55E-02	5.10E-03	5.10E-03	5.10E-03	5.10E-03	5.10E-03
COW MILK								
ADULT	3.50E-03	3.50E-03	1.75E-02	3.50E-03	3.50E-03	3.50E-03	3.50E-03	3.50E-03
TEEN	6.47E-03	6.47E-03	3.23E-02	6.47E-03	6.47E-03	6.47E-03	6.47E-03	6.47E-03
CHILD	1.59E-02	1.59E-02	7.95E-02	1.59E-02	1.59E-02	1.59E-02	1.59E-02	1.59E-02
INFANT	3.32E-02	3.32E-02	1.56E-01	3.32E-02	3.32E-02	3.32E-02	3.32E-02	3.32E-02
GOATMILK								
ADULT	3.50E-03	3.50E-03	1.75E-02	3.50E-03	3.50E-03	3.50E-03	3.50E-03	3.50E-03
TEEN	6.47E-03	6.47E-03	3.23E-02	6.47E-03	6.47E-03	6.47E-03	6.47E-03	6.47E-03
CHILD	1.59E-02	1.59E-02	7.95E-02	1.59E-02	1.59E-02	1.59E-02	1.59E-02	1.59E-02
INFANT	3.32E-02	3.32E-02	1.56E-01	3.32E-02	3.32E-02	3.32E-02	3.32E-02	3.32E-02

TABLE 17. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-JUNE 2011 (Continued)

SPECIAL LOCATION NO. 5 A Nearest Garden  
 AT 1.30 MILES SW

ANNUAL BETA AIR DOSE = 0.00E+00 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 0.00E+00 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
VEGET								
ADULT	1.94E-02	1.94E-02	9.72E-02	1.94E-02	1.94E-02	1.94E-02	1.94E-02	1.94E-02
TEEN	3.25E-02	3.25E-02	1.62E-01	3.25E-02	3.25E-02	3.25E-02	3.25E-02	3.25E-02
CHILD	7.91E-02	7.91E-02	3.96E-01	7.91E-02	7.91E-02	7.91E-02	7.91E-02	7.91E-02
MEAT								
ADULT	7.76E-03	7.76E-03	3.88E-02	7.76E-03	7.76E-03	7.76E-03	7.76E-03	7.76E-03
TEEN	6.55E-03	6.55E-03	3.28E-02	6.55E-03	6.55E-03	6.55E-03	6.55E-03	6.55E-03
CHILD	1.23E-02	1.23E-02	6.16E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02
COW MILK								
ADULT	8.46E-03	8.46E-03	4.23E-02	8.46E-03	8.46E-03	8.46E-03	8.46E-03	8.46E-03
TEEN	1.56E-02	1.56E-02	7.80E-02	1.56E-02	1.56E-02	1.56E-02	1.56E-02	1.56E-02
CHILD	3.84E-02	3.84E-02	1.92E-01	3.84E-02	3.84E-02	3.84E-02	3.84E-02	3.84E-02
INFANT	8.02E-02	8.02E-02	3.76E-01	8.02E-02	8.02E-02	8.02E-02	8.02E-02	8.02E-02
GOATMILK								
ADULT	8.46E-03	8.46E-03	4.23E-02	8.46E-03	8.46E-03	8.46E-03	8.46E-03	8.46E-03
TEEN	1.56E-02	1.56E-02	7.80E-02	1.56E-02	1.56E-02	1.56E-02	1.56E-02	1.56E-02
CHILD	3.84E-02	3.84E-02	1.92E-01	3.84E-02	3.84E-02	3.84E-02	3.84E-02	3.84E-02
INFANT	8.02E-02	8.02E-02	3.76E-01	8.02E-02	8.02E-02	8.02E-02	8.02E-02	8.02E-02

CS7



TABLE 18. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 2011

SPECIAL LOCATION NO. 4 A Nearest Cow  
AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 0.00E+00 MILLRADS  
ANNUAL GAMMA AIR DOSE = 0.00E+00 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
VEGET								
ADULT	4.16E-03	4.16E-03	2.08E-02	4.16E-03	4.16E-03	4.16E-03	4.16E-03	4.16E-03
TEEN	6.96E-03	6.96E-03	3.48E-02	6.96E-03	6.96E-03	6.96E-03	6.96E-03	6.96E-03
CHILD	1.70E-02	1.70E-02	8.48E-02	1.70E-02	1.70E-02	1.70E-02	1.70E-02	1.70E-02
MEAT								
ADULT	1.66E-03	1.66E-03	8.31E-03	1.66E-03	1.66E-03	1.66E-03	1.66E-03	1.66E-03
TEEN	1.40E-03	1.40E-03	7.02E-03	1.40E-03	1.40E-03	1.40E-03	1.40E-03	1.40E-03
CHILD	2.64E-03	2.64E-03	1.32E-02	2.64E-03	2.64E-03	2.64E-03	2.64E-03	2.64E-03
COW MILK								
ADULT	1.81E-03	1.81E-03	9.06E-03	1.81E-03	1.81E-03	1.81E-03	1.81E-03	1.81E-03
TEEN	3.34E-03	3.34E-03	1.67E-02	3.34E-03	3.34E-03	3.34E-03	3.34E-03	3.34E-03
CHILD	8.22E-03	8.22E-03	4.11E-02	8.22E-03	8.22E-03	8.22E-03	8.22E-03	8.22E-03
INFANT	1.72E-02	1.72E-02	8.05E-02	1.72E-02	1.72E-02	1.72E-02	1.72E-02	1.72E-02
GOATMILK								
ADULT	1.81E-03	1.81E-03	9.06E-03	1.81E-03	1.81E-03	1.81E-03	1.81E-03	1.81E-03
TEEN	3.34E-03	3.34E-03	1.67E-02	3.34E-03	3.34E-03	3.34E-03	3.34E-03	3.34E-03
CHILD	8.22E-03	8.22E-03	4.11E-02	8.22E-03	8.22E-03	8.22E-03	8.22E-03	8.22E-03
INFANT	1.72E-02	1.72E-02	8.05E-02	1.72E-02	1.72E-02	1.72E-02	1.72E-02	1.72E-02

CS8

TABLE 18. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 2011 (Continued)

SPECIAL LOCATION NO. 5 A Nearest Garden  
 AT 1.30 MILES SW

ANNUAL BETA AIR DOSE = 0.00E+00 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 0.00E+00 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00
GROUND	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00
VEGET	:	:	:	:	:	:	:	:
ADULT	: 8.47E-03	: 8.47E-03	: 4.23E-02	: 8.47E-03	: 8.47E-03	: 8.47E-03	: 8.47E-03	: 8.47E-03
TEEN	: 1.42E-02	: 1.42E-02	: 7.08E-02	: 1.42E-02	: 1.42E-02	: 1.42E-02	: 1.42E-02	: 1.42E-02
CHILD	: 3.45E-02	: 3.45E-02	: 1.72E-01	: 3.45E-02	: 3.45E-02	: 3.45E-02	: 3.45E-02	: 3.45E-02
MEAT	:	:	:	:	:	:	:	:
ADULT	: 3.38E-03	: 3.38E-03	: 1.69E-02	: 3.38E-03	: 3.38E-03	: 3.38E-03	: 3.38E-03	: 3.38E-03
TEEN	: 2.85E-03	: 2.85E-03	: 1.43E-02	: 2.85E-03	: 2.85E-03	: 2.85E-03	: 2.85E-03	: 2.85E-03
CHILD	: 5.37E-03	: 5.37E-03	: 2.68E-02	: 5.37E-03	: 5.37E-03	: 5.37E-03	: 5.37E-03	: 5.37E-03
COW MILK	:	:	:	:	:	:	:	:
ADULT	: 3.69E-03	: 3.69E-03	: 1.84E-02	: 3.69E-03	: 3.69E-03	: 3.69E-03	: 3.69E-03	: 3.69E-03
TEEN	: 6.80E-03	: 6.80E-03	: 3.40E-02	: 6.80E-03	: 6.80E-03	: 6.80E-03	: 6.80E-03	: 6.80E-03
CHILD	: 1.67E-02	: 1.67E-02	: 8.36E-02	: 1.67E-02	: 1.67E-02	: 1.67E-02	: 1.67E-02	: 1.67E-02
INFANT	: 3.50E-02	: 3.50E-02	: 1.64E-01	: 3.50E-02	: 3.50E-02	: 3.50E-02	: 3.50E-02	: 3.50E-02
GOATMILK	:	:	:	:	:	:	:	:
ADULT	: 3.69E-03	: 3.69E-03	: 1.84E-02	: 3.69E-03	: 3.69E-03	: 3.69E-03	: 3.69E-03	: 3.69E-03
TEEN	: 6.80E-03	: 6.80E-03	: 3.40E-02	: 6.80E-03	: 6.80E-03	: 6.80E-03	: 6.80E-03	: 6.80E-03
CHILD	: 1.67E-02	: 1.67E-02	: 8.36E-02	: 1.67E-02	: 1.67E-02	: 1.67E-02	: 1.67E-02	: 1.67E-02
INFANT	: 3.50E-02	: 3.50E-02	: 1.64E-01	: 3.50E-02	: 3.50E-02	: 3.50E-02	: 3.50E-02	: 3.50E-02

CS9

TABLE 19. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), OCTOBER-DECEMBER 2011

SPECIAL LOCATION NO. 4 A Nearest Cow  
AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 0.00E+00 MILLRADS  
ANNUAL GAMMA AIR DOSE = 0.00E+00 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
VEGET								
ADULT	8.74E-03	8.74E-03	4.37E-02	8.74E-03	8.74E-03	8.74E-03	8.74E-03	8.74E-03
TEEN	1.46E-02	1.46E-02	7.31E-02	1.46E-02	1.46E-02	1.46E-02	1.46E-02	1.46E-02
CHILD	3.56E-02	3.56E-02	1.78E-01	3.56E-02	3.56E-02	3.56E-02	3.56E-02	3.56E-02
MEAT								
ADULT	3.49E-03	3.49E-03	1.74E-02	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03
TEEN	2.95E-03	2.95E-03	1.47E-02	2.95E-03	2.95E-03	2.95E-03	2.95E-03	2.95E-03
CHILD	5.54E-03	5.54E-03	2.77E-02	5.54E-03	5.54E-03	5.54E-03	5.54E-03	5.54E-03
COW MILK								
ADULT	3.81E-03	3.81E-03	1.90E-02	3.81E-03	3.81E-03	3.81E-03	3.81E-03	3.81E-03
TEEN	7.02E-03	7.02E-03	3.51E-02	7.02E-03	7.02E-03	7.02E-03	7.02E-03	7.02E-03
CHILD	1.73E-02	1.73E-02	8.63E-02	1.73E-02	1.73E-02	1.73E-02	1.73E-02	1.73E-02
INFANT	3.61E-02	3.61E-02	1.69E-01	3.61E-02	3.61E-02	3.61E-02	3.61E-02	3.61E-02
GOATMILK								
ADULT	3.81E-03	3.81E-03	1.90E-02	3.81E-03	3.81E-03	3.81E-03	3.81E-03	3.81E-03
TEEN	7.02E-03	7.02E-03	3.51E-02	7.02E-03	7.02E-03	7.02E-03	7.02E-03	7.02E-03
CHILD	1.73E-02	1.73E-02	8.63E-02	1.73E-02	1.73E-02	1.73E-02	1.73E-02	1.73E-02
INFANT	3.61E-02	3.61E-02	1.69E-01	3.61E-02	3.61E-02	3.61E-02	3.61E-02	3.61E-02

C60

TABLE 19. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), OCTOBER-DECEMBER 2011(Continued)

SPECIAL LOCATION NO. 5 A Nearest Garden  
 AT 2.80 MILES NNW

ANNUAL BETA AIR DOSE = 0.00E+00 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 0.00E+00 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
VEGET								
ADULT	1.32E-02	1.32E-02	6.59E-02	1.32E-02	1.32E-02	1.32E-02	1.32E-02	1.32E-02
TEEN	2.21E-02	2.21E-02	1.10E-01	2.21E-02	2.21E-02	2.21E-02	2.21E-02	2.21E-02
CHILD	5.37E-02	5.37E-02	2.68E-01	5.37E-02	5.37E-02	5.37E-02	5.37E-02	5.37E-02
MEAT								
ADULT	5.26E-03	5.26E-03	2.63E-02	5.26E-03	5.26E-03	5.26E-03	5.26E-03	5.26E-03
TEEN	4.45E-03	4.45E-03	2.22E-02	4.45E-03	4.45E-03	4.45E-03	4.45E-03	4.45E-03
CHILD	8.36E-03	8.36E-03	4.18E-02	8.36E-03	8.36E-03	8.36E-03	8.36E-03	8.36E-03
COW MILK								
ADULT	5.74E-03	5.74E-03	2.87E-02	5.74E-03	5.74E-03	5.74E-03	5.74E-03	5.74E-03
TEEN	1.06E-02	1.06E-02	5.29E-02	1.06E-02	1.06E-02	1.06E-02	1.06E-02	1.06E-02
CHILD	2.60E-02	2.60E-02	1.30E-01	2.60E-02	2.60E-02	2.60E-02	2.60E-02	2.60E-02
INFANT	5.44E-02	5.44E-02	2.55E-01	5.44E-02	5.44E-02	5.44E-02	5.44E-02	5.44E-02
GOATMILK								
ADULT	5.74E-03	5.74E-03	2.87E-02	5.74E-03	5.74E-03	5.74E-03	5.74E-03	5.74E-03
TEEN	1.06E-02	1.06E-02	5.29E-02	1.06E-02	1.06E-02	1.06E-02	1.06E-02	1.06E-02
CHILD	2.60E-02	2.60E-02	1.30E-01	2.60E-02	2.60E-02	2.60E-02	2.60E-02	2.60E-02
INFANT	5.44E-02	5.44E-02	2.55E-01	5.44E-02	5.44E-02	5.44E-02	5.44E-02	5.44E-02

TABLE 20. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 2011

SPECIAL LOCATION NO. 4 A Nearest Cow  
AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 0.00E+00 MILLRADS  
ANNUAL GAMMA AIR DOSE = 0.00E+00 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00
GROUND	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00
VEGET	:	:	:	:	:	:	:	:
ADULT	: 1.28E-02	: 1.28E-02	: 6.38E-02	: 1.28E-02	: 1.28E-02	: 1.28E-02	: 1.28E-02	: 1.28E-02
TEEN	: 2.14E-02	: 2.14E-02	: 1.07E-01	: 2.14E-02	: 2.14E-02	: 2.14E-02	: 2.14E-02	: 2.14E-02
CHILD	: 5.20E-02	: 5.20E-02	: 2.60E-01	: 5.20E-02	: 5.20E-02	: 5.20E-02	: 5.20E-02	: 5.20E-02
MEAT	:	:	:	:	:	:	:	:
ADULT	: 5.10E-03	: 5.10E-03	: 2.55E-02	: 5.10E-03	: 5.10E-03	: 5.10E-03	: 5.10E-03	: 5.10E-03
TEEN	: 4.31E-03	: 4.31E-03	: 2.15E-02	: 4.31E-03	: 4.31E-03	: 4.31E-03	: 4.31E-03	: 4.31E-03
CHILD	: 8.09E-03	: 8.09E-03	: 4.05E-02	: 8.09E-03	: 8.09E-03	: 8.09E-03	: 8.09E-03	: 8.09E-03
COW MILK	:	:	:	:	:	:	:	:
ADULT	: 5.56E-03	: 5.56E-03	: 2.78E-02	: 5.56E-03	: 5.56E-03	: 5.56E-03	: 5.56E-03	: 5.56E-03
TEEN	: 1.03E-02	: 1.03E-02	: 5.13E-02	: 1.03E-02	: 1.03E-02	: 1.03E-02	: 1.03E-02	: 1.03E-02
CHILD	: 2.52E-02	: 2.52E-02	: 1.26E-01	: 2.52E-02	: 2.52E-02	: 2.52E-02	: 2.52E-02	: 2.52E-02
INFANT	: 5.27E-02	: 5.27E-02	: 2.47E-01	: 5.27E-02	: 5.27E-02	: 5.27E-02	: 5.27E-02	: 5.27E-02
GOATMILK	:	:	:	:	:	:	:	:
ADULT	: 5.56E-03	: 5.56E-03	: 2.78E-02	: 5.56E-03	: 5.56E-03	: 5.56E-03	: 5.56E-03	: 5.56E-03
TEEN	: 1.03E-02	: 1.03E-02	: 5.13E-02	: 1.03E-02	: 1.03E-02	: 1.03E-02	: 1.03E-02	: 1.03E-02
CHILD	: 2.52E-02	: 2.52E-02	: 1.26E-01	: 2.52E-02	: 2.52E-02	: 2.52E-02	: 2.52E-02	: 2.52E-02
INFANT	: 5.27E-02	: 5.27E-02	: 2.47E-01	: 5.27E-02	: 5.27E-02	: 5.27E-02	: 5.27E-02	: 5.27E-02

TABLE 20. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 2011(Continued)

SPECIAL LOCATION NO. 5 A Nearest Garden  
 AT 2.80 MILES NNW

ANNUAL BETA AIR DOSE = 0.00E+00 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 0.00E+00 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00
GROUND	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00	: 0.00E+00
VEGET	:	:	:	:	:	:	:	:
ADULT	: 1.92E-02	: 1.92E-02	: 9.58E-02	: 1.92E-02	: 1.92E-02	: 1.92E-02	: 1.92E-02	: 1.92E-02
TEEN	: 3.20E-02	: 3.20E-02	: 1.60E-01	: 3.20E-02	: 3.20E-02	: 3.20E-02	: 3.20E-02	: 3.20E-02
CHILD	: 7.80E-02	: 7.80E-02	: 3.90E-01	: 7.80E-02	: 7.80E-02	: 7.80E-02	: 7.80E-02	: 7.80E-02
MEAT	:	:	:	:	:	:	:	:
ADULT	: 7.64E-03	: 7.64E-03	: 3.82E-02	: 7.64E-03	: 7.64E-03	: 7.64E-03	: 7.64E-03	: 7.64E-03
TEEN	: 6.46E-03	: 6.46E-03	: 3.23E-02	: 6.46E-03	: 6.46E-03	: 6.46E-03	: 6.46E-03	: 6.46E-03
CHILD	: 1.21E-02	: 1.21E-02	: 6.07E-02	: 1.21E-02	: 1.21E-02	: 1.21E-02	: 1.21E-02	: 1.21E-02
COW MILK	:	:	:	:	:	:	:	:
ADULT	: 8.34E-03	: 8.34E-03	: 4.17E-02	: 8.34E-03	: 8.34E-03	: 8.34E-03	: 8.34E-03	: 8.34E-03
TEEN	: 1.54E-02	: 1.54E-02	: 7.69E-02	: 1.54E-02	: 1.54E-02	: 1.54E-02	: 1.54E-02	: 1.54E-02
CHILD	: 3.78E-02	: 3.78E-02	: 1.89E-01	: 3.78E-02	: 3.78E-02	: 3.78E-02	: 3.78E-02	: 3.78E-02
INFANT	: 7.91E-02	: 7.91E-02	: 3.70E-01	: 7.91E-02	: 7.91E-02	: 7.91E-02	: 7.91E-02	: 7.91E-02
GOATMILK	:	:	:	:	:	:	:	:
ADULT	: 8.34E-03	: 8.34E-03	: 4.17E-02	: 8.34E-03	: 8.34E-03	: 8.34E-03	: 8.34E-03	: 8.34E-03
TEEN	: 1.54E-02	: 1.54E-02	: 7.69E-02	: 1.54E-02	: 1.54E-02	: 1.54E-02	: 1.54E-02	: 1.54E-02
CHILD	: 3.78E-02	: 3.78E-02	: 1.89E-01	: 3.78E-02	: 3.78E-02	: 3.78E-02	: 3.78E-02	: 3.78E-02
INFANT	: 7.91E-02	: 7.91E-02	: 3.70E-01	: 7.91E-02	: 7.91E-02	: 7.91E-02	: 7.91E-02	: 7.91E-02

TABLE 21. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-DECEMBER 2011

SPECIAL LOCATION NO. 4 A Nearest Cow  
AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 0.00E+00 MILLRADS  
ANNUAL GAMMA AIR DOSE = 0.00E+00 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
VEGET								
ADULT	2.05E-02	2.05E-02	1.03E-01	2.05E-02	2.05E-02	2.05E-02	2.05E-02	2.05E-02
TEEN	3.44E-02	3.44E-02	1.72E-01	3.44E-02	3.44E-02	3.44E-02	3.44E-02	3.44E-02
CHILD	8.36E-02	8.36E-02	4.18E-01	8.36E-02	8.36E-02	8.36E-02	8.36E-02	8.36E-02
MEAT								
ADULT	8.20E-03	8.20E-03	4.10E-02	8.20E-03	8.20E-03	8.20E-03	8.20E-03	8.20E-03
TEEN	6.93E-03	6.93E-03	3.46E-02	6.93E-03	6.93E-03	6.93E-03	6.93E-03	6.93E-03
CHILD	1.30E-02	1.30E-02	6.51E-02	1.30E-02	1.30E-02	1.30E-02	1.30E-02	1.30E-02
COW MILK								
ADULT	8.94E-03	8.94E-03	4.47E-02	8.94E-03	8.94E-03	8.94E-03	8.94E-03	8.94E-03
TEEN	1.65E-02	1.65E-02	8.25E-02	1.65E-02	1.65E-02	1.65E-02	1.65E-02	1.65E-02
CHILD	4.06E-02	4.06E-02	2.03E-01	4.06E-02	4.06E-02	4.06E-02	4.06E-02	4.06E-02
INFANT	8.48E-02	8.48E-02	3.97E-01	8.48E-02	8.48E-02	8.48E-02	8.48E-02	8.48E-02
GOATMILK								
ADULT	8.94E-03	8.94E-03	4.47E-02	8.94E-03	8.94E-03	8.94E-03	8.94E-03	8.94E-03
TEEN	1.65E-02	1.65E-02	8.25E-02	1.65E-02	1.65E-02	1.65E-02	1.65E-02	1.65E-02
CHILD	4.06E-02	4.06E-02	2.03E-01	4.06E-02	4.06E-02	4.06E-02	4.06E-02	4.06E-02
INFANT	8.48E-02	8.48E-02	3.97E-01	8.48E-02	8.48E-02	8.48E-02	8.48E-02	8.48E-02

TABLE 21. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-DECEMBER 2011(Continued)

SPECIAL LOCATION NO. 5 A Nearest Garden  
 AT 1.30 MILES SW

ANNUAL BETA AIR DOSE = 0.00E+00 MILLRADS  
 ANNUAL GAMMA AIR DOSE = 0.00E+00 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
VEGET								
ADULT	3.33E-02	3.33E-02	1.67E-01	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02
TEEN	5.57E-02	5.57E-02	2.79E-01	5.57E-02	5.57E-02	5.57E-02	5.57E-02	5.57E-02
CHILD	1.36E-01	1.36E-01	6.78E-01	1.36E-01	1.36E-01	1.36E-01	1.36E-01	1.36E-01
MEAT								
ADULT	1.33E-02	1.33E-02	6.65E-02	1.33E-02	1.33E-02	1.33E-02	1.33E-02	1.33E-02
TEEN	1.12E-02	1.12E-02	5.62E-02	1.12E-02	1.12E-02	1.12E-02	1.12E-02	1.12E-02
CHILD	2.11E-02	2.11E-02	1.06E-01	2.11E-02	2.11E-02	2.11E-02	2.11E-02	2.11E-02
COW MILK								
ADULT	1.45E-02	1.45E-02	7.25E-02	1.45E-02	1.45E-02	1.45E-02	1.45E-02	1.45E-02
TEEN	2.68E-02	2.68E-02	1.34E-01	2.68E-02	2.68E-02	2.68E-02	2.68E-02	2.68E-02
CHILD	6.58E-02	6.58E-02	3.29E-01	6.58E-02	6.58E-02	6.58E-02	6.58E-02	6.58E-02
INFANT	1.38E-01	1.38E-01	6.44E-01	1.38E-01	1.38E-01	1.38E-01	1.38E-01	1.38E-01
GOATMILK								
ADULT	1.45E-02	1.45E-02	7.25E-02	1.45E-02	1.45E-02	1.45E-02	1.45E-02	1.45E-02
TEEN	2.68E-02	2.68E-02	1.34E-01	2.68E-02	2.68E-02	2.68E-02	2.68E-02	2.68E-02
CHILD	6.58E-02	6.58E-02	3.29E-01	6.58E-02	6.58E-02	6.58E-02	6.58E-02	6.58E-02
INFANT	1.38E-01	1.38E-01	6.44E-01	1.38E-01	1.38E-01	1.38E-01	1.38E-01	1.38E-01

C65



## DOSE CALCULATION MODELS

To evaluate the radiological consequences of the routine release of liquid and gaseous effluents from the Cooper Nuclear Station, two computer codes were used: LADTAP II for liquid doses and GASPAR for gaseous doses. Both of these computer codes implement the dose calculational methodologies of U.S. NRC Regulatory Guide 1.109, Revision 1.

Source terms for each quarter are combined with station-specific demographic data and either hydrological dilution factors, for liquid dose calculations, or atmospheric diffusion estimates, for gaseous dose calculations.

For liquid dose calculations, the hydrological dilution factors used for input to LADTAP II, as well as other input parameters, are listed in Table 22. Other inputs not specifically listed in this table are taken from Regulatory Guide 1.109, Revision 1. Semiannual doses are obtained by summing the contributions from the appropriate quarters.

For gaseous dose calculations, atmospheric diffusion estimates are obtained from the reduction and processing of onsite meteorological data, as described in Appendix B. Source terms for the semiannual period are obtained by summing source terms for the appropriate quarters. Additional input to GASPAR includes the following station-supplied data:

- 0 to 50 mile population distribution
- 0 to 50 mile meat, milk, and vegetable distributions
- Absolute humidity at Cooper Nuclear Station ( $14.61 \text{ g/m}^3$ )
- The fraction of the year that the vegetables are grown (0.5)
- The fraction of the daily feed intake derived from pasture for milk and meat animals (0.5)

Other values used for input to GASPAR are default values from Regulatory Guide 1.109, Rev. 1.

TABLE 22. Values of Parameters Used to Make Dose Estimates Resulting From Liquid Discharges at Cooper Nuclear Station January-December 2011

Parameter	Values Assigned	
	Individual	Population
Cooling flow rate (cfs) * (Average daily value)	Q1 NR	NR
	Q2 903.19	903.19
	Q3 1453.43	1453.43
	Q4 NR	NR
Dilution factor*	Q1 NR	NR
	Q2 1	122.9
	Q3 1	114.4
	Q4 NR	NR
Holding time: Fish Drinking water Shoreline exposure Swimming Boating	24 hr *** 12 hr *** 0 hr *** 0 hr *** 0 hr ***	168 hr *** 22.4 hr ** 22.4 hr ** 22.4 hr ** 22.4 hr **

\* Q1, Q2, Q3, and Q4 represent first, second, third and fourth quarter station data for 2011, respectively.

\*\* Based on an average Missouri River water flow of 5.5 ft/sec, 84 miles down the river.

\*\*\* Values from Regulatory Guide 1.109, Revision 1.

NR- No release



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