

Nebraska Public Power District

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NLS2022014
April 27, 2022

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

Subject: Annual Radioactive Effluent Release Report
Cooper Nuclear Station, Docket No. 50-298, DPR-46

Dear Sir or Madam:

The purpose of this letter is to transmit to the Nuclear Regulatory Commission (NRC) the Cooper Nuclear Station (CNS) Annual Radioactive Effluent Release Report for the period January 1, 2021, through December 31, 2021. This report is enclosed. During the period from January 1, 2021, through December 31, 2021, there were no changes to the Offsite Dose Assessment Manual (ODAM) or the Process Control Program (PCP), and as such, copies of the ODA M and PCP are not being transmitted with this letter. This document is being submitted for NRC use per the requirements of Technical Specification 5.6.3 and CNS ODA M Section D 5.3.

This letter contains no regulatory commitments.

Should you have any questions or require additional information, please contact me at (402) 825-5416.

Sincerely,

Linda Dewhirst
Regulatory Affairs and Compliance Manager

/sj

Enclosure - Radioactive Effluent Release Report January 1, 2021 through December 31, 2021

cc: Regional Administrator w/ enclosure
USNRC - Region IV

Senior Resident Inspector w/ enclosure
USNRC - CNS

Cooper Project Manager w/ enclosure
USNRC - NRR Plant Licensing Branch IV

CNS Records w/ enclosure

NPG Distribution w/o enclosure

NLS2022014
Enclosure

Enclosure

Radioactive Effluent Release Report
January 1, 2021 through December 31, 2021

**NEBRASKA PUBLIC POWER DISTRICT
COOPER NUCLEAR STATION**

RADIOACTIVE EFFLUENT RELEASE REPORT

January 1, 2021 through December 31, 2021

USNRC Docket 50-298

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INTRODUCTION

This report summarizes meteorological data and doses from radioactive effluents for the Cooper Nuclear Station for the period January through December, 2021. 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 four 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 D presents the latest groundwater report.

APPENDIX A

SOURCE TERMS

EFFLUENT AND WASTE DISPOSAL REPORTS

SUPPLEMENTAL INFORMATION

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT

January 1, 2021 through December 31, 2021

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, 2021 through December 31, 2021

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 2×10^{-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 2021 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 an offsite laboratory.

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	0	
2.	Total time period for batch releases	0	minutes
3.	Maximum time period for batch release	0	minutes
4.	Average time period for batch release	0	minutes
5.	Minimum time period for batch release	0	minutes
6.	Average stream flow during periods of release of effluent into a flowing stream	NA	liters/minute
7.	Total activity released	0	Ci

b. Gaseous

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

F. Abnormal Release

a. Liquid

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

b. Gaseous

1.	Number of releases:	0	
2.	Total activity released	0	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 %	
A. Fission and activation gases							
1.	Total release	Ci	5.79E-01	2.78E+00	3.03E+00	6.41E+01	2.0E+01
2.	Average release rate for period	μCi/sec	7.44E-02	3.54E-01	3.81E-01	8.07E+00	
B. Iodines							
1.	Total iodine 131	Ci	1.39E-05	2.30E-05	3.03E-05	3.53E-05	3.0E+01
2.	Average release rate for period	μCi/sec	1.78E-06	2.93E-06	3.81E-06	4.44E-06	
C. Particulates							
1.	Particulates with half- lives >8 days	Ci	2.57E-06	5.32E-06	1.16E-05	1.47E-05	5.0E+01
2.	Average release rate for period	μCi/sec	3.30E-07	6.77E-07	1.46E-06	1.86E-06	
3.	Gross alpha radioactivity	Ci	1.16E-07	1.91E-06	2.79E-06	2.11E-06	
D. Tritium							
1.	Total release	Ci	3.54E+00	4.60E+00	4.69E+00	4.26E+00	3.0E+01
2.	Average release rate for period	μCi/sec	4.55E-01	5.85E-01	5.90E-01	5.36E-01	
E. Carbon-14							
1.	Total release	Ci	2.99E+00	3.02E+00	3.05E+00	3.05E+00	NA
2.	Release Rate	μCi/sec	3.84E-01	3.84E-01	3.84E-01	3.84E-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	8.05E-02	8.60E-02	2.07E-01
krypton-83m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
krypton-85m	Ci	0.00E+00	1.25E-01	1.04E-01	4.22E+00
krypton-85	Ci	0.00E+00	0.00E+00	0.00E+00	1.46E+01
krypton-87	Ci	0.00E+00	5.47E-01	4.91E-01	7.58E+00
krypton-88	Ci	0.00E+00	4.17E-01	3.45E-01	1.07E+01
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	1.44E-01
xenon-133	Ci	0.00E+00	2.59E-02	3.17E-02	3.56E+00
xenon-135m	Ci	9.12E-02	2.79E-01	3.17E-01	1.16E+00
xenon-135	Ci	1.13E-02	3.51E-01	4.73E-01	1.54E+01
xenon-137	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
xenon-138	Ci	4.63E-01	9.57E-01	1.18E+00	3.58E+00
Total for period	Ci	5.79E-01	2.78E+00	3.03E+00	6.12E+01
2. Iodines					
iodine-131	Ci	8.18E-06	1.32E-05	1.60E-05	2.01E-05
iodine-132	Ci	0.00E+00	4.91E-05	8.16E-06	4.56E-05
iodine-133	Ci	3.02E-05	9.61E-05	5.48E-05	1.11E-04
iodine-134	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
iodine-135	Ci	0.00E+00	1.02E-04	0.00E+00	9.28E-05
Total for period	Ci	3.84E-05	2.60E-04	7.90E-05	2.70E-04

* 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	1.40E-07	5.11E-07	0.00E+00
chromium-51	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
manganese-54	Ci	0.00E+00	0.00E+00	8.25E-08	1.14E-07
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	0.00E+00	0.00E+00	1.71E-08	0.00E+00
cobalt-60	Ci	1.07E-07	1.53E-07	1.16E-06	7.78E-07
zinc-65	Ci	0.00E+00	3.82E-09	4.71E-07	1.40E-07
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	4.37E-05	0.00E+00	0.00E+00
strontium-89	Ci	3.02E-07	4.25E-07	9.62E-07	9.80E-07
strontium-90	Ci	0.00E+00	8.22E-09	9.22E-09	1.54E-08
strontium-91	Ci	0.00E+00	8.98E-06	2.98E-05	1.38E-05
yttrium-91m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
yttrium-93	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-124	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	3.37E-07	0.00E+00	1.00E-07	0.00E+00
cesium-138	Ci	0.00E+00	5.01E-03	3.46E-04	9.48E-04
barium-139	Ci	9.37E-04	1.26E-03	2.25E-03	1.69E-03
barium-140	Ci	0.00E+00	1.12E-08	1.30E-06	0.00E+00
lanthanum-140	Ci	1.94E-07	5.34E-07	2.04E-06	4.25E-07
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	9.38E-04	6.32E-03	2.63E-03	2.65E-03
Total for period with >8d half life	Ci	7.46E-07	6.01E-07	4.10E-06	2.03E-06

* 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	1.23E-01
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	1.91E-01
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	1.41E+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	1.27E+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	2.99E+00
2. Iodines					
iodine-131	Ci	5.70E-06	9.83E-06	1.43E-05	1.52E-05
iodine-132	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
iodine-133	Ci	4.39E-05	6.37E-05	6.90E-05	7.24E-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	4.96E-05	7.35E-05	8.33E-05	8.76E-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	0.00E+00	0.00E+00	0.00E+00	0.00E+00
chromium-51	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
manganese-54	Ci	2.82E-07	0.00E+00	8.11E-07	2.85E-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	0.00E+00	0.00E+00	0.00E+00	3.02E-07
iron-59	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
cobalt-60	Ci	4.43E-07	3.87E-06	4.42E-06	8.18E-06
zinc-65	Ci	0.00E+00	0.00E+00	6.77E-07	5.62E-07
rubidium-89	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
strontium-89	Ci	8.54E-07	3.17E-07	1.56E-06	8.26E-07
strontium-90	Ci	0.00E+00	1.60E-07	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
niobium-95	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
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-124	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
cesium-137	Ci	2.42E-07	3.76E-07	0.00E+00	0.00E+00
cesium-138	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
barium-139	Ci	0.00E+00	2.29E-03	4.18E-03	4.94E-03
barium-140	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
lanthanum-140	Ci	0.00E+00	5.22E-07	0.00E+00	0.00E+00
cerium-141	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	1.82E-06	2.30E-03	4.19E-03	4.95E-03
 Total for period >8 day half life	Ci	1.82E-06	4.72E-06	7.47E-06	1.27E-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 %	
A. Fission and activation products							
1.	Total release (not including tritium, gases or alpha)	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.0E+01
2.	Average diluted concentration during period	μCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
B. Tritium							
1.	Total release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.0E+01
2.	Average diluted concentration during period	μCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
C. Dissolved and entrained gases							
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	
D. Gross alpha radioactivity							
1.	Total release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.0E+01
E. Volume of waste released (prior to dilution)							
		liters	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0E+01
F. Volume of dilution water used during period							
		liters	0.00E+00	0.00E+00	0.00E+00	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	0.00E+00	0.00E+00	0.00E+00
manganese-54	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
iron-55	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	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-60	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
zinc-65	Ci	0.00E+00	0.00E+00	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
strontium-92	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
technetium-101m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
antimony-124	Ci	0.00E+00	0.00E+00	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	0.00E+00	0.00E+00	0.00E+00
cesium-137	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
Total for period	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-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, 2021 through December 31, 2021

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.	m ³	22.89	N/A
	Ci	3.44E+01	15%
b. Dry compressible waste, contaminated equip, etc.	m ³	102.00	N/A
	Ci	2.27E+01	25%
c. Irradiated components, control rods, etc.	m ³	0.00	N/A
	Ci	0.00E+00	N/A
d. Other	m ³	0.00	N/A
	Ci	0.00E+00	N/A

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

a. Resin

americium-241	1.50E-04	iron-59	0.00E-00
antimony-125	0.00E+00	lanthanum-140	9.49E-04
barium-140	8.25E-04	maganese-54	3.86E+00
carbon-14	2.63E-01	nickel-63	1.71E+00
cesuim-134	0.00E+00	niobium-95	0.00E-00
cesium-137	3.53E-01	plutonium-238	1.65E-04
chromium-51	0.00E-00	plutonium-239	1.77E-04
cobalt-57	0.00E-00	plutonium-241	1.25E-02
cobalt-58	6.19E-01	silver-110m	7.69E-03
cobalt-60	5.86E+01	strontium-89	6.52E-01
curium-242	8.31E-05	strontium-90	1.82E-01
curium-244	9.63E-05	technetium-99	7.19E-03
iodine-129	1.60E-03	tritium	3.69E-02
iodine-131	2.27E-04	zinc-65	3.74E+00
iron-55	3.00E+01		

TABLE 3

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS (continued)
PERIOD: January 1, 2021 through December 31, 2021

b. DAW

americium-241	1.54E-04	nickel-63	1.75E+00
antimony-124	2.48E-02	niobium-94	0.00E-00
carbon-14	1.38E-03	niobium-95	1.71E-01
cesium-137	1.02E-01	plutonium-238	1.76E-04
chromium-51	1.33E+00	plutonium-239	1.78E-04
cobalt-58	3.09E-01	plutonium-241	1.32E-02
cobalt-60	5.88E+01	silver-110m	0.00E-00
curium-242	1.16E-04	strontium-89	2.53E-02
curium-244	9.93E-05	strontium-90	6.30E-03
iodine-129	3.40E-03	technetium-99	790E-03
iron-55	3.10E+01	tin-113	1.00E-02
iron-59	1.20E-01	tritium	7.59E-04
manganese-54	3.54E+00	zinc-65	2.64E+00
nickel-59	0.00E-00	zirconium-95	1.21E-01

c. N/A

TABLE 3

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS (continued)
PERIOD: January 1, 2021 through December 31, 2021

3. Solid Waste Disposition

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
6	Exclusive Use	UT
3	Exclusive Use	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*		NNW	N	N	N	N
	1. Total	mrad	2.69E-06	8.01E-05	5.03E-05	3.95E-03	3.45E-03
	Percent of Technical Specification						
	2. Limit		0.00%	0.00%	0.00%	0.08%	0.03%
	Most Exposed Resident*		NW	NW	NW	NW	NW
	1. Total	mrad	2.39E-05	2.74E-04	2.80E-04	2.45E-03	3.63E-03
	Percent of Technical Specification						
	2. Limit		0.00%	0.01%	0.01%	0.05%	0.04%
B.	Maximum beta air dose						
	Site boundary*		NNW	N	N	N	N
	1. Total	mrad	1.33E-06	4.95E-05	3.10E-05	6.17E-03	4.97E-03
	Percent of Technical Specification						
	2. Limit		0.00%	0.00%	0.00%	0.06%	0.02%
	Most Exposed Resident*		NW	NW	NW	NW	NW
	1. Total	mrad	1.19E-05	1.69E-04	1.72E-04	2.50E-03	3.07E-03
	Percent of Technical Specification						
	2. Limit		0.00%	0.00%	0.00%	0.03%	0.02%
C.	Maximum organ dose due to I-131, I-133, and particulates (>8 day half lives)						
	Site boundary*		NNW	N	N	N	N
	1. Total	mrem	2.56E-03	1.07E-02	1.62E-02	1.23E-02	3.91E-02
	Percent of Technical Specification						
	2. Limit		0.03%	0.14%	0.22%	0.16%	0.26%
	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	8.33E-04	3.13E-03	4.68E-03	4.48E-03	1.30E-02
	Percent of Technical Specification						
	2. Limit		0.01%	0.04%	0.06%	0.06%	0.09%
	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 0.0391 mrem/year which was 0.26% 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.						

*Resident and Site Boundary Key: N is 0.67 miles North, NW is 0.90 miles Northwest, and NNW is 0.69 miles North-Northwest.

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	3.56E-01	2.64E-01	4.25E-01	4.78E-01	1.42E+00
2.	Percent of Technical Specification Limit		3.56%	2.64%	4.25%	4.78%	7.10%
3.	Organ	mrem	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	0.00E-00	0.00E-00	0.00E-00	0.00E-00
2.	Percent of Technical Specification Limit		0.00%	0.00%	0.00%	0.00%	0.00%
B. Maximum Organ Dose							
1.	Total	mrem	0.00E-00	0.00E-00	0.00E-00	0.00E-00	0.00E-00
2.	Percent of Technical Specification Limit		0.00%	0.00%	0.00%	0.00%	0.00%

SUPPLEMENTAL INFORMATION

- A. Unplanned Releases, Leaks, or Spills:
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 is being reported per the requirements of ODAM Specification D 3.3.2, Condition B, Required Action B.2.1.
 - a. The ERP process flow measuring device was declared inoperable (ODAM LCO 3.3.2-4.d) on 12/10/2020 at 10:38 due to flow transmitter equipment malfunction. Attempts to perform maintenance activities to restore operability were unsuccessful. On 12/18/2020 at 09:30, DEC 5376823 temporarily substituted a fixed value of 5500 CFM for the flow rate to restore operability to the remainder of the ERP Kaman effluent monitor (TRM LCO 3.3.3.-8 and ODAM D3.3.2-4.a) until the flow measuring device could be fixed. The flow rate of 5500 CFM is the maximum expected ERP flow. Using this conservative value ensures ERP effluent monitors indicate a conservative release rate. Attempts to perform maintenance activities to restore operability remained unsuccessful throughout 2021; therefore, DEC 5376823 remains in place. ERP process flow measuring device was out of service for 365 days in 2021. (CR-2021-00019).
 - 2) The following is being reported per the requirements of ODAM Specification D 3.3.2, Condition I, Required Action I.2.2.
 - a. From 2/19/21 22:20 to 2/25/21 00:44, Radwaste/Augmented Radwaste (RW/ARW) building effluent continuous particulate and iodine monitoring did not occur because sample line flow for primary and backup RW/ARW effluent monitors was lost. Noble gas grab samples were able to be obtained via an alternate RW/ARW sample point during this timeframe. Loss of sample flow and subsequent equipment damage was associated with extreme cold weather conditions (low of -22 degF) that existed. This same polar vortex severely impacted the entire Midwest & Texas. Primary and backup RW/ARW effluent monitors were out of service for 122 hours in 2021. (CNS-2021-00830).

APPENDIX B
METEOROLOGY

CONTENTS

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ATMOSPHERIC DIFFUSION MODEL	B324

METEOROLOGICAL DATA SUMMARIES

Meteorological data collected onsite for the period January 1, 2021 through December 31, 2021, were reduced, validated, summarized for analysis, and included in appropriate dose calculations. Some adjustments were necessary during the validation of the data and they are discussed beginning on page B6. 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.

DATA RECOVERY

Data recovery statistics are provided in Table 1 for all pertinent meteorological parameters. Average data recovery for all parameters in 2021 exceeded 99.8%.

	<u>Average Data Recovery</u>
January 1 - March 31, 2021 (Q1)	99.9%
April 1 - June 30, 2021 (Q2)	99.7%
First Semiannual Period - January 1 - June 30, 2021 (SEM1)	99.8%
July 1 - September 30, 2021 (Q3)	99.8%
October 1 - December 31, 2021 (Q4)	99.9%
Second Semiannual Period - July 1 - December 31, 2021 (SEM2)	99.9%
Annual Period - January 1 - December 31, 2021 (ANN)	99.8%

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	North	14.3%	North	16.1%
Q2	South-southeast	16.3%	South	17.3%
SEM1	South-southeast	12.4%	South	12.6%
Q3	South-southeast	17.4%	South	20.2%
Q4	South	12.6%	South	13.9%
SEM2	South-southeast	14.8%	South	17.1%
ANN	South-southeast	13.6%	South	14.8%

	<u>Mean Wind Speed at 100m Level</u>	<u>Mean Wind Speed at 10m Level</u>
Q1	14.0 MPH	8.9 MPH
Q2	13.2 MPH	8.8 MPH
SEM1	13.6 MPH	8.8 MPH
Q3	11.3 MPH	6.5 MPH
Q4	13.8 MPH	8.3 MPH
SEM2	12.5 MPH	7.4 MPH
ANN	13.1 MPH	8.1 MPH

	<u>Maximum Hourly Average Wind Speed/(Date at 100m Level)</u>	<u>Maximum Hourly Average Wind Speed/(Date at 10m Level)</u>
Q1	47.1 MPH/(21/03/29)	39.0 MPH/(21/03/29)
Q2	38.7 MPH/(21/04/02)	32.8 MPH/(21/04/02)
SEM1	47.1 MPH/(21/03/29)	39.0 MPH/(21/03/29)
Q3	35.6 MPH/(21/07/10)	27.5 MPH/(21/07/10)
Q4	55.6 MPH/(21/12/15)	45.5 MPH/(21/12/15)
SEM2	55.6 MPH/(21/12/15)	45.5 MPH/(21/12/15)
ANN	55.6 MPH/(21/12/15)	45.5 MPH/(21/12/15)

TEMPERATURE AT 10-METER LEVEL

	<u>Mean Hourly Average Temperature</u>	<u>Average Daily Maximum</u>	<u>Average Daily Minimum</u>
Q1	33.2 Degrees F	41.2 Degrees F	25.5 Degrees F
Q2	64.2 Degrees F	73.4 Degrees F	54.9 Degrees F
SEM1	48.8 Degrees F	57.4 Degrees F	40.3 Degrees F
Q3	74.9 Degrees F	84.2 Degrees F	65.6 Degrees F
Q4	47.3 Degrees F	57.5 Degrees F	37.5 Degrees F
SEM2	61.1 Degrees F	70.8 Degrees F	51.5 Degrees F
ANN	55.0 Degrees F	64.1 Degrees F	46.0 Degrees F

	<u>Maximum Temperature (Date)</u>	<u>Minimum Temperature (Date)</u>
Q1	78.0 Degrees F (21/03/29)	-21.9 Degrees F (21/02/16)
Q2	99.8 Degrees F (21/06/17)	24.7 Degrees F (21/04/01)
SEM1	99.8 Degrees F (21/06/17)	-21.9 Degrees F (21/02/16)
Q3	94.9 Degrees F (21/07/29)	42.1 Degrees F (21/09/25)
Q4	85.4 Degrees F (21/10/08)	14.0 Degrees F (21/12/19)
SEM2	94.9 Degrees F (21/07/29)	14.0 Degrees F (21/12/19)
ANN	99.8 Degrees F (21/06/17)	-21.9 Degrees F (21/02/16)

PRECIPITATION

	<u>Total Precipitation</u>	<u>Maximum Daily Precipitation Total/ (Date)</u>	<u>Maximum Hourly Precipitation Total/ (Date)</u>
Q1	6.13 Inches	2.39 Inches (21/03/14)	0.43 Inches (21/03/14)
Q2	12.15 Inches	3.37 Inches (21/06/24)	1.32 Inches (21/06/24)
SEM1	18.28 Inches	3.37 Inches (21/06/24)	1.32 Inches (21/06/24)
Q3	9.06 Inches	2.07 Inches (21/09/30)	1.10 Inches (21/09/30)
Q4	3.30 Inches	0.92 Inches (21/10/27)	0.30 Inches (21/10/24)
SEM2	12.36 Inches	2.07 Inches (21/09/30)	1.10 Inches (21/09/30)
ANN	30.64 Inches	3.37 Inches (21/06/24)	1.32 Inches (21/06/24)

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.

	<u>Unstable Conditions Classes A-C</u>	<u>Neutral Conditions Class D</u>	<u>Stable Conditions Classes E-G</u>
Q1	1%	58%	41%
Q2	9%	53%	38%
SEM1	6%	55%	39%
Q3	5%	43%	52%
Q4	<1%	45%	54%
SEM2	3%	44%	53%
ANN	4%	49%	46%

TABLE 1. Meteorological Data Recovery

Data Recovery (% of total Observations)

	January- March <u>2021</u>	April- June <u>2021</u>	January- June <u>2021</u>	July- Sept. <u>2021</u>	October- Dec. <u>2021</u>	July- Dec. <u>2021</u>	January- Dec. <u>2021</u>
100m wind speed	100.0	100.0	100.0	100.0	99.9	99.9	99.9
100m wind direction	100.0	100.0	100.0	100.0	99.9	99.9	99.9
100m ambient temperature	100.0	100.0	100.0	100.0	100.0	100.0	100.0
60m wind speed	99.8	100.0	99.9	100.0	100.0	100.0	99.9
60m wind direction	99.8	100.0	99.9	100.0	100.0	100.0	99.9
60m ambient temperature	100.0	100.0	100.0	100.0	100.0	100.0	100.0
10m wind speed	99.9	99.9	99.9	100.0	100.0	100.0	99.9
10m wind direction	99.9	99.9	99.9	100.0	100.0	100.0	99.9
10m ambient temperature	100.0	100.0	100.0	100.0	100.0	100.0	100.0
10m dew point	99.5	100.0	99.8	99.6	100.0	99.8	99.8
100m-10m delta T	100.0	98.3	99.1	98.6	100.0	99.3	99.2
100m-60m delta T	100.0	100.0	100.0	100.0	100.0	100.0	100.0
60m-10m delta T	100.0	97.9	99.0	98.6	100.0	99.3	99.1
Precipitation	99.9	100.0	99.9	99.9	100.0	99.9	99.9
100m JFD	100.0	98.3	99.1	98.6	100.0	99.3	99.2
10m JFD	99.9	97.9	98.9	98.6	100.0	99.3	99.1

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

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, 2021. 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.

**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 2021

MONTHLY HOUR AVERAGES FOR THE PERIOD

JANUARY

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	29.1	31	26.1	31	88.5	31	3.9	31	28.0
2	31	28.5	31	25.8	31	89.6	31	3.9	31	27.6
3	31	28.5	31	25.8	31	89.8	31	3.9	31	27.5
4	31	28.4	31	25.9	31	90.2	31	3.9	31	27.5
5	31	28.1	31	25.6	31	90.3	31	3.8	31	27.2
6	31	27.8	31	25.2	31	90.0	31	3.8	31	26.9
7	31	27.4	31	24.9	31	90.1	31	3.7	31	26.5
8	31	27.4	31	24.7	31	89.4	31	3.7	31	26.5
9	31	27.6	31	24.8	31	88.9	31	3.7	31	26.7
10	31	28.9	31	25.2	31	86.2	31	3.8	31	27.6
11	31	30.8	31	25.7	31	82.1	31	3.9	31	29.0
12	31	32.8	31	26.0	31	77.2	31	3.9	31	30.3
13	31	34.6	31	26.2	31	72.8	31	3.9	31	31.4
14	31	35.7	31	26.5	31	71.2	31	3.9	31	32.2
15	31	36.1	31	26.8	31	70.7	31	4.0	31	32.5
16	31	36.2	31	27.3	31	71.8	31	4.1	31	32.7
17	31	35.7	31	27.7	31	74.4	31	4.1	31	32.5
18	31	34.6	31	27.8	31	77.7	31	4.2	31	32.0
19	31	33.5	31	27.6	31	80.2	31	4.1	31	31.3
20	31	32.7	31	27.4	31	82.0	31	4.1	31	30.7
21	31	31.9	31	27.1	31	83.2	31	4.0	31	30.1
22	31	31.1	31	26.9	31	84.8	31	4.0	31	29.5
23	31	30.4	31	26.8	31	86.6	31	4.0	31	29.1
24	31	29.8	31	26.5	31	87.6	31	4.0	31	28.6
HOURLY MEAN		31.2		26.3		83.1		3.9		29.3
AVG DAILY MAX		37.6		30.3		95.9		4.6		34.1
AVG DAILY MIN		25.0		22.2		67.1		3.3		24.4
ABSOLUTE MAX		53.8		38.0		100.0		6.1		44.6
ABSOLUTE MIN		15.6		11.2		33.7		2.1		15.0
TOTAL OBS		744		744		744		744		744

B8

PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JAN-MAR 2021

MONTHLY HOUR AVERAGES FOR THE PERIOD

FEBRUARY

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	28	18.4	28	13.2	28	80.1	28	2.8	28	16.9
2	28	17.6	28	12.7	28	80.8	28	2.7	28	16.3
3	28	17.1	28	12.4	28	81.5	28	2.7	28	16.0
4	28	16.5	28	12.1	28	82.5	28	2.7	28	15.5
5	28	16.1	28	11.9	28	83.2	28	2.7	28	15.1
6	28	15.5	28	11.7	28	84.6	28	2.6	28	14.6
7	28	15.0	28	11.5	28	85.7	28	2.6	28	14.2
8	28	14.8	28	11.4	28	86.2	28	2.6	28	14.0
9	28	15.5	28	11.2	28	83.1	28	2.6	28	14.5
10	28	17.1	28	11.1	28	77.1	28	2.6	28	15.6
11	28	18.7	28	11.4	28	72.9	28	2.6	28	16.8
12	28	19.9	28	11.6	28	70.0	28	2.7	28	17.8
13	28	21.0	28	11.8	28	67.8	28	2.7	28	18.6
14	28	22.3	28	12.0	28	64.9	28	2.8	28	19.4
15	28	23.4	28	12.4	28	63.0	28	2.8	28	20.2
16	28	24.0	28	12.7	28	62.6	28	2.8	28	20.6
17	28	24.1	28	13.3	28	64.1	28	2.8	28	20.7
18	28	23.6	28	14.1	28	67.8	28	2.9	28	20.6
19	28	22.3	28	14.7	28	73.2	28	3.0	28	19.9
20	28	20.9	28	14.3	28	76.2	28	2.9	28	18.9
21	28	19.9	28	14.2	28	78.3	28	2.9	28	18.3
22	28	19.0	28	13.7	28	79.6	28	2.9	28	17.6
23	28	18.7	28	13.4	28	79.8	28	2.8	28	17.3
24	28	18.4	28	13.2	28	80.2	28	2.8	28	17.0
HOURLY MEAN		19.2		12.6		76.1		2.8		17.4
AVG DAILY MAX		26.7		18.0		90.9		3.4		23.3
AVG DAILY MIN		12.3		7.9		59.3		2.2		11.7
ABSOLUTE MAX		67.2		44.7		100.0		7.7		53.4
ABSOLUTE MIN		-21.9		-22.0		37.0		.4		-21.9
TOTAL OBS		672		672		672		672		672

B9

PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JAN-MAR 2021

MONTHLY HOUR AVERAGES FOR THE PERIOD

MARCH

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	44.7	31	37.5	31	77.5	31	6.1	31	41.5
2	31	43.9	31	37.0	31	78.5	31	6.0	31	40.9
3	31	42.9	31	36.4	31	79.5	31	5.9	31	40.1
4	31	42.2	31	35.6	31	79.2	31	5.7	31	39.4
5	31	41.0	31	35.3	31	81.6	31	5.7	31	38.6
6	31	40.5	31	35.3	31	82.8	31	5.7	31	38.4
7	31	39.9	31	35.0	31	83.8	31	5.7	31	37.9
8	31	40.5	31	35.0	31	82.0	31	5.7	31	38.2
9	31	42.7	30	35.2	30	76.1	30	5.7	30	39.7
10	31	46.0	30	36.0	30	69.7	30	5.9	30	41.8
11	31	49.0	30	36.3	30	63.5	30	5.9	30	43.6
12	31	51.5	30	36.6	30	59.2	30	5.9	30	44.9
13	31	53.5	30	36.7	30	55.6	30	5.9	30	46.0
14	31	54.9	30	36.5	30	53.6	30	5.9	30	46.6
15	31	55.8	30	36.3	30	52.3	30	5.8	30	47.0
16	31	56.6	30	36.1	30	51.3	30	5.8	30	47.2
17	31	56.7	30	36.6	30	51.7	30	5.9	30	47.5
18	31	55.7	30	37.1	30	53.9	30	6.0	30	47.2
19	31	53.6	31	37.9	31	59.5	31	6.2	31	46.3
20	31	51.3	31	38.0	31	63.5	31	6.2	31	45.2
21	31	49.6	31	37.8	31	66.5	31	6.1	31	44.3
22	31	47.9	31	37.6	31	69.8	31	6.1	31	43.4
23	31	46.9	31	37.4	31	71.6	31	6.1	31	42.7
24	31	45.8	31	37.3	31	74.2	31	6.1	31	42.1
HOURLY MEAN		48.0		36.5		68.3		5.9		42.9
AVG DAILY MAX		57.8		42.0		88.0		7.2		48.9
AVG DAILY MIN		38.0		31.7		48.9		4.9		36.0
ABSOLUTE MAX		78.0		55.9		100.0		11.4		61.1
ABSOLUTE MIN		23.4		10.1		21.4		1.9		23.4
TOTAL OBS		744		734		734		734		734

B10

PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JAN-MAR 2021

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	31.1	90	26.0	90	82.1	90	4.3	90	29.2
2	90	30.4	90	25.6	90	83.0	90	4.3	90	28.6
3	90	29.9	90	25.3	90	83.7	90	4.2	90	28.2
4	90	29.5	90	25.0	90	84.0	90	4.2	90	27.9
5	90	28.8	90	24.7	90	85.1	90	4.1	90	27.4
6	90	28.3	90	24.5	90	85.9	90	4.1	90	27.0
7	90	27.9	90	24.2	90	86.5	90	4.0	90	26.6
8	90	28.0	90	24.1	90	85.9	90	4.0	90	26.7
9	90	29.0	89	24.0	89	82.8	89	4.0	89	27.2
10	90	31.1	89	24.4	89	77.8	89	4.1	89	28.6
11	90	33.3	89	24.8	89	72.9	89	4.2	89	30.1
12	90	35.2	89	25.0	89	68.8	89	4.2	89	31.3
13	90	36.9	89	25.2	89	65.4	89	4.2	89	32.3
14	90	38.1	89	25.3	89	63.3	89	4.2	89	33.0
15	90	39.0	89	25.5	89	62.1	89	4.2	89	33.5
16	90	39.4	89	25.7	89	62.0	89	4.2	89	33.8
17	90	39.3	89	26.2	89	63.5	89	4.3	89	33.9
18	90	38.5	89	26.6	89	66.6	89	4.4	89	33.5
19	90	36.9	90	27.2	90	70.9	90	4.5	90	32.9
20	90	35.4	90	27.0	90	73.8	90	4.5	90	32.0
21	90	34.3	90	26.7	90	75.9	90	4.4	90	31.3
22	90	33.2	90	26.5	90	78.0	90	4.4	90	30.6
23	90	32.5	90	26.3	90	79.3	90	4.4	90	30.1
24	90	31.8	90	26.1	90	80.7	90	4.4	90	29.6
HOURLY MEAN		33.2		25.5		75.9		4.2		30.2
AVG DAILY MAX		41.2		30.5		91.6		5.1		35.8
AVG DAILY MIN		25.5		21.0		58.4		3.5		24.4
ABSOLUTE MAX		78.0		55.9		100.0		11.4		61.1
ABSOLUTE MIN		-21.9		-22.0		21.4		.4		-21.9
TOTAL OBS		2160		2150		2150		2150		2150

B11

PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY APR-JUN 2021

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	49.6	30	40.0	30	70.7	30	6.9	30	45.2
2	30	48.3	30	39.6	30	72.8	30	6.8	30	44.4
3	30	47.1	30	39.8	30	76.5	30	6.8	30	43.8
4	30	46.2	30	39.7	30	78.7	30	6.8	30	43.3
5	30	45.3	30	39.7	30	81.2	30	6.8	30	42.8
6	30	44.8	30	39.7	30	82.8	30	6.8	30	42.5
7	30	44.9	30	39.2	30	80.8	30	6.7	30	42.4
8	30	46.8	30	39.3	30	76.0	30	6.8	30	43.5
9	30	49.5	30	39.9	30	70.6	30	6.9	30	45.1
10	30	52.5	30	40.0	30	64.2	30	6.9	30	46.6
11	30	55.1	30	39.2	30	57.5	30	6.7	30	47.6
12	30	57.2	30	38.9	30	53.3	30	6.6	30	48.5
13	30	59.0	30	39.0	30	50.7	30	6.6	30	49.3
14	30	60.5	30	39.1	30	49.0	30	6.6	30	50.0
15	30	61.6	30	39.2	30	47.7	30	6.7	30	50.6
16	30	62.1	30	38.8	30	46.5	30	6.5	30	50.6
17	30	62.1	30	38.9	30	46.8	30	6.5	30	50.7
18	30	61.7	30	39.2	30	48.1	30	6.6	30	50.6
19	30	60.4	30	39.9	30	51.0	30	6.8	30	50.3
20	30	58.0	30	40.4	30	55.2	30	6.9	30	49.4
21	30	56.0	30	40.7	30	59.4	30	7.0	30	48.5
22	30	54.3	30	40.7	30	62.6	30	7.0	30	47.7
23	30	53.1	30	40.7	30	65.0	30	7.0	30	47.1
24	30	51.8	30	40.7	30	67.5	30	7.0	30	46.5
HOURLY MEAN		53.7		39.7		63.1		6.8		47.0
AVG DAILY MAX		63.9		44.6		86.2		8.0		51.9
AVG DAILY MIN		43.8		35.0		42.5		5.7		41.1
ABSOLUTE MAX		87.6		60.3		100.0		13.0		68.7
ABSOLUTE MIN		24.7		15.6		20.4		2.5		22.9
TOTAL OBS		720		720		720		720		720

B12

PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY APR-JUN 2021

MONTHLY HOUR AVERAGES FOR THE PERIOD

MAY

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	59.1	31	53.7	31	83.2	31	11.3	31	56.3
2	31	58.5	31	53.6	31	84.5	31	11.3	31	56.0
3	31	57.7	31	53.2	31	85.8	31	11.2	31	55.5
4	31	56.9	31	52.8	31	86.8	31	11.0	31	54.9
5	31	56.2	31	52.4	31	87.5	31	10.9	31	54.4
6	31	55.7	31	52.3	31	88.3	31	10.9	31	54.1
7	31	56.5	31	52.3	31	86.1	31	10.9	31	54.5
8	31	58.3	31	52.2	31	81.4	31	10.9	31	55.3
9	31	60.2	31	52.0	31	76.2	31	10.7	31	56.0
10	31	61.8	31	51.4	31	71.7	31	10.6	31	56.5
11	31	63.5	31	51.3	31	68.0	31	10.5	31	57.2
12	31	65.3	31	51.3	31	64.1	31	10.5	31	57.9
13	31	66.9	31	51.3	31	60.6	31	10.4	31	58.6
14	31	68.1	31	51.1	31	57.7	31	10.3	31	59.0
15	31	68.8	31	51.0	31	56.1	31	10.3	31	59.2
16	31	69.2	31	51.0	31	55.7	31	10.3	31	59.4
17	31	69.0	31	51.3	31	56.6	31	10.3	31	59.4
18	31	68.1	31	51.6	31	58.8	31	10.5	31	59.2
19	31	66.7	31	52.4	31	63.1	31	10.8	31	59.1
20	31	64.7	31	53.2	31	68.8	31	11.0	31	58.6
21	31	62.8	31	53.8	31	74.2	31	11.2	31	58.0
22	31	61.3	31	54.0	31	78.5	31	11.3	31	57.5
23	31	60.3	31	54.2	31	81.5	31	11.4	31	57.1
24	31	59.3	31	54.2	31	83.5	31	11.4	31	56.7
HOURLY MEAN		62.3		52.4		73.3		10.8		57.1
AVG DAILY MAX		70.1		57.5		93.1		12.7		60.9
AVG DAILY MIN		54.5		48.1		52.9		9.4		52.9
ABSOLUTE MAX		85.0		72.1		100.0		19.7		73.3
ABSOLUTE MIN		35.8		25.1		24.3		3.5		35.1
TOTAL OBS		744		744		744		744		744

B13

PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY APR-JUN 2021

MONTHLY HOUR AVERAGES FOR THE PERIOD

JUNE

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	71.9	30	65.0	30	79.9	30	15.7	30	67.5
2	30	70.7	30	64.7	30	82.4	30	15.7	30	66.9
3	30	69.6	30	64.5	30	84.6	30	15.6	30	66.4
4	30	68.0	30	64.3	30	88.2	30	15.5	30	65.7
5	30	67.5	30	64.5	30	89.5	30	15.6	30	65.7
6	30	67.4	30	64.2	30	89.1	30	15.5	30	65.4
7	30	68.9	30	64.3	30	85.4	30	15.5	30	66.1
8	30	71.8	30	64.9	30	79.4	30	15.7	30	67.5
9	30	75.0	30	65.4	30	73.3	30	15.9	30	68.9
10	30	77.9	30	65.1	30	66.6	30	15.7	30	69.7
11	30	79.7	30	64.0	30	60.5	30	15.0	30	69.7
12	30	81.5	30	63.6	30	56.8	30	14.8	30	70.1
13	30	83.1	30	63.1	30	53.2	30	14.6	30	70.3
14	30	84.5	30	62.3	30	49.6	30	14.2	30	70.4
15	30	85.2	30	62.1	30	48.1	30	14.1	30	70.4
16	30	85.6	30	62.4	30	48.3	30	14.2	30	70.7
17	30	85.4	30	63.4	30	50.2	30	14.7	30	71.2
18	30	84.8	30	64.5	30	52.9	30	15.3	30	71.6
19	30	83.0	30	65.3	30	57.7	30	15.8	30	71.6
20	30	80.3	30	66.2	30	63.9	30	16.3	30	71.2
21	30	77.4	30	66.4	30	70.3	30	16.4	30	70.3
22	30	75.7	30	66.0	30	73.4	30	16.2	30	69.5
23	30	74.6	30	65.7	30	75.1	30	16.1	30	68.9
24	30	73.4	30	65.7	30	77.8	30	16.1	30	68.5
HOURLY MEAN		76.8		64.5		69.0		15.4		68.9
AVG DAILY MAX		86.3		68.9		92.3		17.9		72.6
AVG DAILY MIN		66.4		59.6		46.4		12.9		64.4
ABSOLUTE MAX		99.8		78.0		100.0		23.7		78.6
ABSOLUTE MIN		51.9		46.0		26.5		7.7		52.6
TOTAL OBS		720		720		720		720		720

B14

PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY APR-JUN 2021

APR-JUN HOUR AVERAGES FOR THE PERIOD

10.0 METERS 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	60.2	91	52.9	91	78.0	91	11.3	91	56.3
2	91	59.1	91	52.7	91	79.9	91	11.2	91	55.8
3	91	58.1	91	52.5	91	82.3	91	11.2	91	55.2
4	91	57.0	91	52.3	91	84.6	91	11.1	91	54.6
5	91	56.3	91	52.2	91	86.1	91	11.1	91	54.3
6	91	56.0	91	52.1	91	86.8	91	11.1	91	54.0
7	91	56.8	91	51.9	91	84.1	91	11.0	91	54.3
8	91	59.0	91	52.2	91	79.0	91	11.1	91	55.4
9	91	61.6	91	52.4	91	73.4	91	11.2	91	56.7
10	91	64.0	91	52.2	91	67.5	91	11.0	91	57.6
11	91	66.1	91	51.5	91	62.0	91	10.7	91	58.1
12	91	68.0	91	51.3	91	58.1	91	10.6	91	58.8
13	91	69.7	91	51.1	91	54.9	91	10.6	91	59.4
14	91	71.0	91	50.8	91	52.2	91	10.4	91	59.8
15	91	71.9	91	50.8	91	50.7	91	10.3	91	60.1
16	91	72.3	91	50.7	91	50.2	91	10.3	91	60.2
17	91	72.1	91	51.2	91	51.3	91	10.5	91	60.4
18	91	71.5	91	51.8	91	53.4	91	10.8	91	60.5
19	91	70.0	91	52.5	91	57.3	91	11.1	91	60.3
20	91	67.7	91	53.3	91	62.7	91	11.4	91	59.7
21	91	65.4	91	53.6	91	68.0	91	11.5	91	58.9
22	91	63.7	91	53.6	91	71.6	91	11.5	91	58.2
23	91	62.6	91	53.5	91	73.9	91	11.5	91	57.7
24	91	61.5	91	53.5	91	76.3	91	11.5	91	57.2
HOURLY MEAN		64.2		52.2		68.5		11.0		57.7
AVG DAILY MAX		73.4		57.0		90.6		12.9		61.8
AVG DAILY MIN		54.9		47.6		47.3		9.3		52.8
ABSOLUTE MAX		99.8		78.0		100.0		23.7		78.6
ABSOLUTE MIN		24.7		15.6		20.4		2.5		22.9
TOTAL OBS		2184		2184		2184		2184		2184

B15

PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JAN-JUN 2021

JAN-JUN HOUR AVERAGES FOR THE PERIOD

10.0 METERS 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	45.7	181	39.5	181	80.0	181	7.8	181	42.8
2	181	44.9	181	39.2	181	81.5	181	7.8	181	42.3
3	181	44.1	181	39.0	181	83.0	181	7.7	181	41.8
4	181	43.3	181	38.7	181	84.3	181	7.7	181	41.3
5	181	42.6	181	38.5	181	85.6	181	7.6	181	40.9
6	181	42.2	181	38.3	181	86.3	181	7.6	181	40.6
7	181	42.4	181	38.2	181	85.3	181	7.6	181	40.5
8	181	43.6	181	38.2	181	82.4	181	7.6	181	41.1
9	181	45.4	180	38.4	180	78.0	180	7.6	180	42.1
10	181	47.7	180	38.4	180	72.6	180	7.6	180	43.3
11	181	49.8	180	38.3	180	67.4	180	7.5	180	44.3
12	181	51.7	180	38.3	180	63.4	180	7.5	180	45.2
13	181	53.4	180	38.3	180	60.1	180	7.4	180	46.0
14	181	54.7	180	38.2	180	57.7	180	7.3	180	46.6
15	181	55.5	180	38.3	180	56.3	180	7.3	180	46.9
16	181	55.9	180	38.3	180	56.0	180	7.3	180	47.2
17	181	55.8	180	38.8	180	57.3	180	7.5	180	47.3
18	181	55.1	180	39.3	180	59.9	180	7.6	180	47.2
19	181	53.6	181	39.9	181	64.1	181	7.8	181	46.7
20	181	51.6	181	40.2	181	68.2	181	7.9	181	46.0
21	181	49.9	181	40.3	181	72.0	181	8.0	181	45.2
22	181	48.5	181	40.1	181	74.8	181	8.0	181	44.5
23	181	47.6	181	40.0	181	76.6	181	7.9	181	44.0
24	181	46.7	181	39.9	181	78.5	181	7.9	181	43.5
HOURLY MEAN		48.8		38.9		72.2		7.7		44.0
AVG DAILY MAX		57.4		43.8		91.1		9.0		48.9
AVG DAILY MIN		40.3		34.4		52.8		6.4		38.7
ABSOLUTE MAX		99.8		78.0		100.0		23.7		78.6
ABSOLUTE MIN		-21.9		-22.0		20.4		.4		-21.9
TOTAL OBS		4344		4334		4334		4334		4334

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PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JUL-SEP 2021

MONTHLY HOUR AVERAGES FOR THE PERIOD

JULY

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER	(DEG F)	NUMBER	(DEG F)	NUMBER	(%)	NUMBER	(GM/M3)	NUMBER	(DEG F)
	OBS		OBS		OBS		OBS		OBS	
1	31	72.3	31	69.8	31	91.6	31	18.4	31	70.6
2	31	71.2	31	69.4	31	93.4	31	18.1	31	70.0
3	31	70.6	31	69.2	31	94.5	31	18.0	31	69.7
4	31	69.8	31	68.8	31	95.4	31	17.8	31	69.1
5	31	69.0	31	68.5	31	96.8	31	17.6	31	68.6
6	31	68.6	31	68.1	31	96.7	31	17.4	31	68.2
7	31	69.6	31	67.9	31	93.5	31	17.3	31	68.5
8	31	72.2	31	68.2	31	87.2	31	17.4	31	69.6
9	31	74.9	31	68.5	31	81.0	31	17.5	31	70.7
10	31	77.5	31	68.8	31	75.5	31	17.6	31	71.7
11	31	79.4	31	68.5	31	70.1	31	17.4	31	72.1
12	31	81.0	31	68.4	31	66.4	31	17.3	31	72.6
13	31	82.2	31	68.3	31	63.7	31	17.2	31	72.9
14	31	83.2	31	68.2	31	61.7	31	17.1	31	73.2
15	31	84.0	31	68.2	31	59.9	31	17.1	31	73.4
16	31	84.0	31	68.3	31	60.0	31	17.2	31	73.5
17	31	83.9	31	68.8	31	61.4	31	17.5	31	73.7
18	31	83.4	31	69.4	31	63.8	31	17.9	31	73.9
19	31	82.1	31	70.6	31	69.0	31	18.7	31	74.3
20	31	79.4	31	71.7	31	77.7	31	19.4	31	74.2
21	31	77.0	31	71.7	31	83.8	31	19.5	31	73.4
22	31	75.6	31	71.3	31	86.7	31	19.2	31	72.7
23	31	74.4	31	70.7	31	88.6	31	18.9	31	72.0
24	31	73.2	31	70.2	31	90.3	31	18.6	31	71.2
HOURLY MEAN		76.6		69.2		79.5		17.9		71.7
AVG DAILY MAX		84.7		72.9		98.1		20.2		75.0
AVG DAILY MIN		68.2		65.5		58.0		15.8		67.6
ABSOLUTE MAX		94.9		81.5		100.0		26.3		82.9
ABSOLUTE MIN		59.1		57.1		43.1		11.6		59.9
TOTAL OBS		744		744		744		744		744

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PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JUL-SEP 2021

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	72.7	31	69.8	31	90.8	31	18.5	31	70.8
2	31	71.9	31	69.4	31	91.7	31	18.2	31	70.3
3	31	71.1	31	68.9	31	92.7	31	17.9	31	69.7
4	31	70.4	31	68.5	31	93.2	31	17.7	31	69.2
5	31	69.7	31	68.2	31	94.1	31	17.5	31	68.7
6	31	69.0	31	67.8	31	95.3	31	17.4	31	68.2
7	31	69.2	31	67.7	31	94.1	31	17.2	31	68.2
8	31	71.2	31	68.0	31	89.5	31	17.4	31	69.1
9	31	73.7	31	68.4	31	83.8	31	17.6	31	70.3
10	31	76.3	31	68.6	31	77.7	31	17.6	31	71.2
11	31	78.8	31	68.9	31	72.3	31	17.7	31	72.2
12	31	80.9	31	69.0	31	67.5	31	17.7	31	72.9
13	31	82.6	31	68.8	31	63.5	31	17.6	31	73.4
14	31	83.7	31	68.8	31	61.2	31	17.6	31	73.7
15	31	84.5	31	68.8	31	59.8	31	17.6	31	73.9
16	31	84.8	31	68.9	31	59.7	31	17.7	31	74.2
17	31	84.9	31	69.4	31	60.4	31	18.0	31	74.4
18	31	84.1	31	70.2	31	63.5	31	18.5	31	74.7
19	31	82.2	31	71.3	31	70.0	31	19.2	31	74.8
20	31	79.2	31	71.6	31	77.9	31	19.4	31	74.0
21	31	77.4	31	71.4	31	82.1	31	19.3	31	73.3
22	31	75.9	31	71.0	31	85.2	31	19.0	31	72.6
23	31	74.4	31	70.4	31	87.7	31	18.8	31	71.7
24	31	73.2	31	70.0	31	89.7	31	18.5	31	71.1
HOURLY MEAN		76.7		69.3		79.3		18.1		71.8
AVG DAILY MAX		85.2		73.3		97.3		20.4		75.7
AVG DAILY MIN		68.2		65.6		58.1		16.0		67.5
ABSOLUTE MAX		93.4		80.0		100.0		25.1		81.9
ABSOLUTE MIN		57.6		56.1		42.4		11.2		58.3
TOTAL OBS		744		744		744		744		744

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PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JUL-SEP 2021

MONTHLY HOUR AVERAGES FOR THE PERIOD

SEPTEMBER

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	66.4	30	61.0	30	83.8	30	13.9	30	63.2
2	30	65.2	30	60.6	30	86.0	30	13.8	30	62.5
3	30	64.4	30	60.2	30	86.9	30	13.6	30	61.9
4	30	63.5	30	59.9	30	88.5	30	13.5	30	61.4
5	30	62.7	30	59.7	30	90.1	30	13.4	30	60.9
6	30	62.2	30	59.5	30	90.6	30	13.3	30	60.6
7	30	61.9	30	59.2	30	90.9	30	13.3	30	60.3
8	30	63.8	30	59.9	30	87.4	30	13.5	30	61.5
9	30	67.7	28	60.7	28	78.7	28	13.8	28	63.6
10	30	71.7	28	60.7	28	69.2	28	13.7	28	65.2
11	30	75.1	29	60.0	29	61.0	29	13.4	29	66.1
12	30	77.7	29	60.2	29	56.4	29	13.4	29	67.0
13	30	79.4	29	59.9	29	52.9	29	13.2	29	67.5
14	30	80.8	29	59.4	29	49.7	29	12.9	29	67.6
15	30	81.7	29	58.9	29	47.6	29	12.7	29	67.7
16	30	81.7	30	59.2	30	48.5	30	12.8	30	67.8
17	30	81.1	30	59.9	30	50.8	30	13.1	30	67.9
18	30	78.9	30	61.2	30	56.7	30	13.8	30	67.9
19	30	75.7	30	62.2	30	64.9	30	14.3	30	67.3
20	30	72.7	30	62.3	30	71.2	30	14.4	30	66.4
21	30	70.9	30	62.2	30	75.0	30	14.4	30	65.6
22	30	69.4	30	61.7	30	77.7	30	14.2	30	64.8
23	30	68.2	30	61.6	30	80.5	30	14.2	30	64.3
24	30	67.1	30	61.4	30	82.9	30	14.1	30	63.7
HOURLY MEAN		71.2		60.5		72.1		13.6		64.7
AVG DAILY MAX		82.6		64.6		95.5		15.6		69.3
AVG DAILY MIN		60.1		56.3		46.4		11.7		58.8
ABSOLUTE MAX		94.4		73.2		100.0		20.4		75.7
ABSOLUTE MIN		42.1		39.1		23.5		6.0		42.5
TOTAL OBS		720		711		711		711		711

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PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JUL-SEP 2021

JUL-SEP HOUR AVERAGES FOR THE PERIOD

10.0 METERS 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	70.5	92	66.9	92	88.8	92	16.9	92	68.2
2	92	69.5	92	66.5	92	90.4	92	16.7	92	67.6
3	92	68.8	92	66.2	92	91.4	92	16.6	92	67.1
4	92	68.0	92	65.8	92	92.4	92	16.4	92	66.6
5	92	67.2	92	65.5	92	93.7	92	16.2	92	66.2
6	92	66.7	92	65.2	92	94.2	92	16.1	92	65.8
7	92	67.0	92	65.0	92	92.9	92	16.0	92	65.7
8	92	69.1	92	65.4	92	88.0	92	16.1	92	66.8
9	92	72.2	90	66.1	90	81.2	90	16.4	90	68.4
10	92	75.2	90	66.2	90	74.3	90	16.4	90	69.5
11	92	77.8	91	65.9	91	68.0	91	16.2	91	70.2
12	92	79.9	91	66.0	91	63.6	91	16.2	91	70.9
13	92	81.5	91	65.8	91	60.2	91	16.1	91	71.3
14	92	82.6	91	65.6	91	57.7	91	16.0	91	71.6
15	92	83.4	91	65.4	91	56.0	91	15.8	91	71.7
16	92	83.5	92	65.5	92	56.2	92	15.9	92	71.8
17	92	83.3	92	66.1	92	57.6	92	16.2	92	72.1
18	92	82.2	92	67.0	92	61.4	92	16.7	92	72.2
19	92	80.0	92	68.1	92	68.0	92	17.4	92	72.2
20	92	77.2	92	68.6	92	75.6	92	17.8	92	71.6
21	92	75.2	92	68.5	92	80.4	92	17.8	92	70.8
22	92	73.7	92	68.1	92	83.3	92	17.5	92	70.1
23	92	72.4	92	67.7	92	85.7	92	17.3	92	69.4
24	92	71.2	92	67.2	92	87.7	92	17.1	92	68.7
HOURLY MEAN		74.9		66.4		77.1		16.6		69.4
AVG DAILY MAX		84.2		70.3		97.0		18.8		73.4
AVG DAILY MIN		65.6		62.6		54.2		14.5		64.7
ABSOLUTE MAX		94.9		81.5		100.0		26.3		82.9
ABSOLUTE MIN		42.1		39.1		23.5		6.0		42.5
TOTAL OBS		2208		2199		2199		2199		2199

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PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY OCT-DEC 2021

MONTHLY HOUR AVERAGES FOR THE PERIOD

OCTOBER

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	54.4	31	50.1	31	86.0	31	9.8	31	52.2
2	31	53.6	31	49.9	31	87.3	31	9.8	31	51.8
3	31	53.0	31	49.7	31	88.4	31	9.8	31	51.4
4	31	52.5	31	49.7	31	90.0	31	9.8	31	51.1
5	31	51.8	31	49.6	31	91.7	31	9.7	31	50.7
6	31	51.4	31	49.5	31	92.3	31	9.7	31	50.5
7	31	51.1	31	49.3	31	92.9	31	9.7	31	50.2
8	31	51.7	31	49.2	31	90.9	31	9.6	31	50.5
9	31	53.9	31	49.6	31	85.6	31	9.7	31	51.8
10	31	56.7	31	49.6	31	78.0	31	9.6	31	53.1
11	31	59.8	31	49.3	31	70.2	31	9.4	31	54.2
12	31	62.2	31	48.6	31	63.8	31	9.2	31	55.0
13	31	64.0	31	48.0	31	59.1	31	8.9	31	55.5
14	31	65.4	31	47.4	31	55.3	31	8.7	31	55.8
15	31	66.5	31	47.1	31	53.1	31	8.7	31	56.2
16	31	66.7	31	47.2	31	52.9	31	8.7	31	56.3
17	31	66.0	31	47.7	31	54.9	31	8.9	31	56.2
18	31	63.8	31	48.8	31	60.5	31	9.2	31	55.8
19	31	61.5	31	49.3	31	65.9	31	9.4	31	55.0
20	31	59.6	31	49.3	31	69.9	31	9.5	31	54.2
21	31	57.9	31	49.5	31	74.6	31	9.5	31	53.6
22	31	56.7	31	49.5	31	77.8	31	9.5	31	53.0
23	31	55.5	31	49.3	31	80.5	31	9.5	31	52.3
24	31	54.6	31	49.2	31	82.9	31	9.5	31	51.8
HOURLY MEAN		57.9		49.0		75.2		9.4		53.3
AVG DAILY MAX		67.7		54.1		96.2		11.1		57.9
AVG DAILY MIN		48.4		44.2		50.3		7.9		47.4
ABSOLUTE MAX		85.4		68.1		100.0		17.4		70.4
ABSOLUTE MIN		31.4		29.8		25.7		4.2		31.8
TOTAL OBS		744		744		744		744		744

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PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY OCT-DEC 2021

MONTHLY HOUR AVERAGES FOR THE PERIOD

NOVEMBER

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER	(DEG F)	NUMBER	(DEG F)	NUMBER	(%)	NUMBER	(GM/M3)	NUMBER	(DEG F)
	OBS		OBS		OBS		OBS		OBS	
1	30	41.7	30	33.8	30	74.4	30	5.3	30	38.4
2	30	41.2	30	33.5	30	75.2	30	5.3	30	38.0
3	30	40.7	30	33.3	30	75.8	30	5.2	30	37.6
4	30	40.0	30	32.9	30	76.7	30	5.2	30	37.1
5	30	39.2	30	32.8	30	78.4	30	5.1	30	36.6
6	30	38.6	30	32.8	30	80.1	30	5.1	30	36.3
7	30	38.0	30	32.5	30	80.8	30	5.1	30	35.8
8	30	37.5	30	32.2	30	81.6	30	5.0	30	35.4
9	30	39.0	30	32.5	30	78.0	30	5.1	30	36.4
10	30	42.8	30	33.3	30	70.3	30	5.3	30	38.9
11	30	46.2	30	33.8	30	62.9	30	5.4	30	41.0
12	30	49.4	30	33.6	30	55.9	30	5.4	30	42.6
13	30	51.7	30	33.5	30	51.3	30	5.3	30	43.7
14	30	53.4	30	33.4	30	48.2	30	5.3	30	44.5
15	30	54.5	30	33.3	30	46.3	30	5.3	30	45.0
16	30	54.8	30	33.8	30	46.7	30	5.4	30	45.4
17	30	53.5	30	34.8	30	50.7	30	5.6	30	45.1
18	30	50.9	30	35.8	30	57.6	30	5.8	30	44.1
19	30	48.7	30	35.9	30	62.8	30	5.9	30	43.1
20	30	46.9	30	35.6	30	66.1	30	5.8	30	42.0
21	30	45.4	30	35.4	30	69.0	30	5.8	30	41.2
22	30	44.3	30	35.1	30	71.0	30	5.7	30	40.4
23	30	43.7	30	34.9	30	72.1	30	5.6	30	40.0
24	30	42.6	30	34.5	30	74.1	30	5.5	30	39.2
HOURLY MEAN		45.2		33.9		66.9		5.4		40.3
AVG DAILY MAX		55.5		39.3		88.0		6.6		46.6
AVG DAILY MIN		35.4		28.6		43.8		4.4		33.6
ABSOLUTE MAX		75.0		58.0		100.0		12.4		59.9
ABSOLUTE MIN		22.4		12.5		27.3		2.1		20.6
TOTAL OBS		720		720		720		720		720

B22

PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY OCT-DEC 2021

MONTHLY HOUR AVERAGES FOR THE PERIOD

DECEMBER

10.0 METER LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER	(DEG F)	NUMBER	(DEG F)	NUMBER	(%)	NUMBER	(GM/M3)	NUMBER	(DEG F)
	OBS		OBS		OBS		OBS		OBS	
1	31	35.3	31	28.3	31	76.5	31	4.4	31	32.6
2	31	34.9	31	28.2	31	77.7	31	4.4	31	32.4
3	31	34.7	31	28.1	31	77.8	31	4.4	31	32.2
4	31	34.3	31	27.8	31	78.0	31	4.4	31	31.8
5	31	33.9	31	27.7	31	78.8	31	4.3	31	31.5
6	31	33.3	31	27.7	31	80.4	31	4.3	31	31.2
7	31	33.2	31	27.7	31	80.8	31	4.4	31	31.2
8	31	33.0	31	27.8	31	81.5	31	4.4	31	31.1
9	31	33.5	31	27.8	31	79.7	31	4.4	31	31.4
10	31	36.4	31	28.7	31	74.3	31	4.5	31	33.5
11	31	39.3	31	29.2	31	68.1	31	4.6	31	35.3
12	31	42.2	31	29.4	31	62.1	31	4.6	31	37.0
13	31	44.5	31	28.9	31	56.1	31	4.5	31	38.1
14	31	46.5	31	29.3	31	53.4	31	4.6	31	39.3
15	31	47.6	31	29.4	31	51.5	31	4.6	31	39.9
16	31	47.8	31	29.3	31	50.8	31	4.6	31	40.0
17	31	46.3	31	29.6	31	53.8	31	4.6	31	39.3
18	31	43.6	31	29.4	31	58.8	31	4.6	31	37.8
19	31	41.4	31	28.8	31	62.5	31	4.5	31	36.4
20	31	39.4	31	28.5	31	66.6	31	4.5	31	35.1
21	31	37.9	31	28.2	31	69.7	31	4.4	31	34.1
22	31	36.7	31	27.8	31	71.6	31	4.4	31	33.3
23	31	35.6	31	27.4	31	73.3	31	4.3	31	32.6
24	31	34.8	31	27.3	31	75.3	31	4.3	31	32.0
HOURLY MEAN		38.6		28.4		69.1		4.5		34.5
AVG DAILY MAX		49.1		35.2		89.3		5.8		41.7
AVG DAILY MIN		28.6		21.5		47.4		3.3		26.7
ABSOLUTE MAX		73.9		60.0		100.0		12.9		65.3
ABSOLUTE MIN		14.0		7.3		25.7		1.7		12.8
TOTAL OBS		744		744		744		744		744

B23

PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY OCT-DEC 2021

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	43.8	92	37.4	92	79.0	92	6.6	92	41.1
2	92	43.3	92	37.3	92	80.1	92	6.5	92	40.8
3	92	42.8	92	37.1	92	80.7	92	6.5	92	40.4
4	92	42.3	92	36.9	92	81.6	92	6.4	92	40.0
5	92	41.7	92	36.7	92	83.0	92	6.4	92	39.7
6	92	41.1	92	36.7	92	84.3	92	6.4	92	39.3
7	92	40.8	92	36.6	92	84.9	92	6.4	92	39.1
8	92	40.8	92	36.5	92	84.7	92	6.4	92	39.0
9	92	42.2	92	36.7	92	81.1	92	6.4	92	39.9
10	92	45.3	92	37.3	92	74.2	92	6.5	92	41.8
11	92	48.4	92	37.5	92	67.1	92	6.5	92	43.5
12	92	51.3	92	37.2	92	60.6	92	6.4	92	44.9
13	92	53.4	92	36.8	92	55.5	92	6.3	92	45.8
14	92	55.1	92	36.7	92	52.4	92	6.2	92	46.6
15	92	56.2	92	36.7	92	50.3	92	6.2	92	47.1
16	92	56.4	92	36.8	92	50.2	92	6.2	92	47.3
17	92	55.3	92	37.4	92	53.2	92	6.4	92	46.9
18	92	52.8	92	38.0	92	59.0	92	6.6	92	45.9
19	92	50.5	92	38.0	92	63.8	92	6.6	92	44.8
20	92	48.7	92	37.8	92	67.6	92	6.6	92	43.8
21	92	47.1	92	37.7	92	71.1	92	6.6	92	43.0
22	92	45.9	92	37.5	92	73.5	92	6.5	92	42.2
23	92	45.0	92	37.2	92	75.4	92	6.5	92	41.6
24	92	44.0	92	37.0	92	77.5	92	6.4	92	41.0
HOURLY MEAN		47.3		37.1		70.4		6.4		42.7
AVG DAILY MAX		57.5		42.9		91.2		7.8		48.7
AVG DAILY MIN		37.5		31.5		47.2		5.2		35.9
ABSOLUTE MAX		85.4		68.1		100.0		17.4		70.4
ABSOLUTE MIN		14.0		7.3		25.7		1.7		12.8
TOTAL OBS		2208		2208		2208		2208		2208

B24

PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JUL-DEC 2021

JUL-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	184	57.2	184	52.2	184	83.9	184	11.7	184	54.7
2	184	56.4	184	51.9	184	85.3	184	11.6	184	54.2
3	184	55.8	184	51.6	184	86.1	184	11.5	184	53.8
4	184	55.1	184	51.3	184	87.0	184	11.4	184	53.3
5	184	54.4	184	51.1	184	88.3	184	11.3	184	52.9
6	184	53.9	184	50.9	184	89.3	184	11.2	184	52.5
7	184	53.9	184	50.8	184	88.9	184	11.2	184	52.4
8	184	54.9	184	50.9	184	86.4	184	11.2	184	52.9
9	184	57.2	182	51.2	182	81.2	182	11.3	182	54.0
10	184	60.2	182	51.6	182	74.3	182	11.4	182	55.5
11	184	63.1	183	51.6	183	67.5	183	11.3	183	56.8
12	184	65.6	183	51.5	183	62.1	183	11.3	183	57.8
13	184	67.4	183	51.2	183	57.9	183	11.2	183	58.5
14	184	68.9	183	51.1	183	55.0	183	11.1	183	59.0
15	184	69.8	183	51.0	183	53.1	183	11.0	183	59.3
16	184	70.0	184	51.2	184	53.2	184	11.1	184	59.5
17	184	69.3	184	51.7	184	55.4	184	11.3	184	59.5
18	184	67.5	184	52.5	184	60.2	184	11.7	184	59.1
19	184	65.3	184	53.1	184	65.9	184	12.0	184	58.5
20	184	62.9	184	53.2	184	71.6	184	12.2	184	57.7
21	184	61.1	184	53.1	184	75.7	184	12.2	184	56.9
22	184	59.8	184	52.8	184	78.4	184	12.0	184	56.2
23	184	58.7	184	52.4	184	80.5	184	11.9	184	55.5
24	184	57.6	184	52.1	184	82.6	184	11.8	184	54.9
HOURLY MEAN		61.1		51.8		73.7		11.5		56.1
AVG DAILY MAX		70.8		56.6		94.1		13.3		61.0
AVG DAILY MIN		51.5		47.0		50.7		9.9		50.3
ABSOLUTE MAX		94.9		81.5		100.0		26.3		82.9
ABSOLUTE MIN		14.0		7.3		23.5		1.7		12.8
TOTAL OBS		4416		4407		4407		4407		4407

B25

PROGRAM: WETTEMP
 VERSION: PC-1.0

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JAN-DEC 2021

JAN-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	365	51.5	365	45.9	365	82.0	365	9.8	365	48.8
2	365	50.7	365	45.6	365	83.4	365	9.7	365	48.3
3	365	50.0	365	45.4	365	84.6	365	9.6	365	47.8
4	365	49.3	365	45.1	365	85.7	365	9.5	365	47.4
5	365	48.6	365	44.9	365	87.0	365	9.5	365	47.0
6	365	48.1	365	44.7	365	87.8	365	9.4	365	46.6
7	365	48.2	365	44.5	365	87.1	365	9.4	365	46.5
8	365	49.3	365	44.6	365	84.4	365	9.4	365	47.1
9	365	51.3	362	44.8	362	79.6	362	9.5	362	48.1
10	365	54.0	362	45.0	362	73.4	362	9.5	362	49.4
11	365	56.5	363	45.0	363	67.5	363	9.4	363	50.6
12	365	58.7	363	45.0	363	62.8	363	9.4	363	51.6
13	365	60.5	363	44.8	363	59.0	363	9.3	363	52.3
14	365	61.8	363	44.7	363	56.3	363	9.2	363	52.8
15	365	62.7	363	44.7	363	54.7	363	9.2	363	53.2
16	365	63.0	364	44.8	364	54.6	364	9.2	364	53.4
17	365	62.6	364	45.3	364	56.4	364	9.4	364	53.5
18	365	61.3	364	46.0	364	60.0	364	9.7	364	53.2
19	365	59.5	365	46.6	365	65.0	365	9.9	365	52.7
20	365	57.3	365	46.8	365	69.9	365	10.1	365	51.9
21	365	55.6	365	46.7	365	73.9	365	10.1	365	51.1
22	365	54.2	365	46.5	365	76.6	365	10.0	365	50.4
23	365	53.2	365	46.3	365	78.6	365	9.9	365	49.8
24	365	52.2	365	46.1	365	80.6	365	9.9	365	49.2
HOURLY MEAN		55.0		45.4		73.0		9.6		50.1
AVG DAILY MAX		64.1		50.3		92.6		11.2		55.0
AVG DAILY MIN		46.0		40.7		51.8		8.2		44.5
ABSOLUTE MAX		99.8		81.5		100.0		26.3		82.9
ABSOLUTE MIN		-21.9		-22.0		20.4		.4		-21.9
TOTAL OBS		8760		8741		8741		8741		8741

B26

Wind Direction Frequencies

10-Meter Level

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

PROGRAM: WINPER
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JANUARY

HR. OF DAY	WIND DIRECTION																CALM	TOTAL
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		
1	19.4	6.5	6.5	9.7	6.5	00.0	6.5	9.7	00.0	12.9	6.5	3.2	00.0	00.0	6.5	6.5	00.0	100.
2	9.7	12.9	00.0	6.5	3.2	3.2	6.5	6.5	6.5	16.1	00.0	6.5	3.2	00.0	6.5	9.7	3.2	100.
3	12.9	6.5	9.7	00.0	3.2	3.2	3.2	16.1	6.5	12.9	6.5	00.0	3.2	3.2	00.0	12.9	00.0	100.
4	12.9	3.2	3.2	6.5	00.0	6.5	3.2	9.7	16.1	6.5	3.2	00.0	00.0	3.2	12.9	12.9	00.0	100.
5	19.4	3.2	00.0	6.5	3.2	3.2	3.2	12.9	6.5	3.2	6.5	00.0	3.2	9.7	3.2	12.9	3.2	100.
6	19.4	00.0	00.0	6.5	3.2	9.7	3.2	6.5	00.0	16.1	6.5	00.0	3.2	6.5	9.7	9.7	00.0	100.
7	19.4	00.0	00.0	6.5	00.0	3.2	9.7	9.7	9.7	00.0	6.5	3.2	00.0	6.5	12.9	9.7	3.2	100.
8	22.6	00.0	3.2	3.2	00.0	3.2	9.7	9.7	3.2	6.5	3.2	00.0	3.2	6.5	9.7	9.7	6.5	100.
9	12.9	9.7	00.0	6.5	00.0	9.7	6.5	12.9	3.2	9.7	00.0	00.0	6.5	3.2	9.7	6.5	3.2	100.
10	16.1	6.5	3.2	6.5	00.0	9.7	6.5	9.7	6.5	9.7	00.0	3.2	00.0	3.2	12.9	6.5	00.0	100.
11	12.9	3.2	6.5	3.2	3.2	6.5	9.7	9.7	3.2	9.7	3.2	00.0	3.2	3.2	12.9	9.7	00.0	100.
12	12.9	9.7	3.2	3.2	00.0	6.5	9.7	00.0	6.5	12.9	3.2	3.2	3.2	3.2	16.1	6.5	00.0	100.
13	9.7	12.9	3.2	3.2	3.2	00.0	3.2	6.5	6.5	9.7	3.2	3.2	00.0	9.7	19.4	6.5	00.0	100.
14	19.4	3.2	3.2	6.5	00.0	00.0	3.2	6.5	6.5	6.5	6.5	00.0	3.2	6.5	25.8	3.2	00.0	100.
15	16.1	3.2	3.2	6.5	00.0	00.0	6.5	3.2	6.5	3.2	9.7	3.2	00.0	6.5	19.4	12.9	00.0	100.
16	19.4	9.7	3.2	6.5	00.0	3.2	9.7	00.0	3.2	3.2	9.7	3.2	3.2	3.2	6.5	16.1	00.0	100.
17	16.1	9.7	6.5	3.2	3.2	6.5	6.5	00.0	3.2	3.2	6.5	6.5	00.0	3.2	9.7	16.1	00.0	100.
18	10.0	10.0	6.7	00.0	00.0	3.3	10.0	3.3	00.0	6.7	3.3	00.0	6.7	00.0	13.3	23.3	3.3	100.
19	6.7	10.0	00.0	00.0	3.3	3.3	10.0	3.3	00.0	10.0	3.3	00.0	6.7	10.0	13.3	20.0	00.0	100.
20	9.7	6.5	6.5	00.0	00.0	9.7	3.2	6.5	3.2	6.5	00.0	6.5	6.5	6.5	16.1	12.9	00.0	100.
21	3.2	9.7	9.7	00.0	00.0	9.7	3.2	6.5	3.2	9.7	00.0	3.2	6.5	3.2	16.1	16.1	00.0	100.
22	9.7	6.5	3.2	3.2	6.5	3.2	6.5	6.5	3.2	3.2	9.7	3.2	9.7	6.5	00.0	19.4	00.0	100.
23	9.7	6.5	3.2	00.0	3.2	6.5	6.5	6.5	6.5	3.2	9.7	3.2	3.2	9.7	9.7	12.9	00.0	100.
24	12.9	00.0	3.2	3.2	00.0	6.5	9.7	6.5	3.2	9.7	12.9	3.2	3.2	00.0	9.7	16.1	00.0	100.
ALL	13.9	6.2	3.6	4.0	1.8	4.9	6.5	7.0	4.7	8.0	5.0	2.3	3.2	4.7	11.3	12.0	.9	100.

NUMBER OF OBS = 742

B28

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

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	25.0	10.7	3.6	00.0	00.0	7.1	7.1	10.7	3.6	7.1	7.1	00.0	3.6	3.6	3.6	7.1	00.0	100.
2	25.0	7.1	3.6	00.0	00.0	7.1	10.7	3.6	10.7	3.6	00.0	3.6	7.1	3.6	3.6	7.1	3.6	100.
3	28.6	3.6	3.6	00.0	3.6	3.6	7.1	3.6	7.1	3.6	10.7	00.0	3.6	7.1	3.6	7.1	3.6	100.
4	25.0	7.1	00.0	3.6	00.0	00.0	14.3	3.6	7.1	00.0	00.0	7.1	3.6	10.7	7.1	10.7	00.0	100.
5	21.4	10.7	7.1	00.0	00.0	3.6	7.1	14.3	3.6	7.1	3.6	3.6	3.6	00.0	7.1	7.1	00.0	100.
6	17.9	10.7	3.6	00.0	00.0	3.6	17.9	7.1	10.7	7.1	3.6	00.0	00.0	3.6	3.6	10.7	00.0	100.
7	14.3	14.3	00.0	3.6	3.6	00.0	7.1	17.9	3.6	00.0	3.6	7.1	00.0	3.6	10.7	10.7	00.0	100.
8	17.9	7.1	00.0	00.0	3.6	3.6	10.7	7.1	10.7	3.6	3.6	00.0	7.1	00.0	3.6	17.9	3.6	100.
9	28.6	3.6	00.0	00.0	3.6	7.1	10.7	10.7	3.6	7.1	3.6	3.6	00.0	3.6	3.6	10.7	00.0	100.
10	28.6	7.1	00.0	00.0	3.6	10.7	10.7	3.6	3.6	3.6	00.0	3.6	3.6	00.0	10.7	7.1	3.6	100.
11	28.6	7.1	00.0	00.0	3.6	7.1	7.1	7.1	7.1	3.6	3.6	00.0	3.6	14.3	3.6	00.0	00.0	100.
12	21.4	14.3	00.0	00.0	3.6	7.1	3.6	7.1	7.1	3.6	10.7	7.1	00.0	00.0	7.1	7.1	00.0	100.
13	28.6	7.1	00.0	00.0	3.6	3.6	7.1	3.6	10.7	00.0	10.7	10.7	00.0	3.6	3.6	7.1	00.0	100.
14	17.9	14.3	3.6	00.0	3.6	3.6	7.1	7.1	7.1	3.6	7.1	7.1	00.0	3.6	7.1	7.1	00.0	100.
15	35.7	3.6	00.0	00.0	00.0	10.7	7.1	3.6	3.6	3.6	10.7	3.6	00.0	3.6	10.7	3.6	00.0	100.
16	28.6	10.7	00.0	00.0	3.6	10.7	3.6	7.1	7.1	3.6	00.0	3.6	00.0	7.1	10.7	3.6	00.0	100.
17	25.0	7.1	7.1	00.0	10.7	3.6	7.1	7.1	00.0	7.1	00.0	3.6	00.0	3.6	10.7	7.1	00.0	100.
18	25.0	14.3	7.1	3.6	3.6	3.6	10.7	3.6	00.0	00.0	7.1	3.6	00.0	7.1	3.6	7.1	00.0	100.
19	32.1	14.3	00.0	7.1	3.6	3.6	3.6	3.6	00.0	3.6	00.0	3.6	7.1	7.1	3.6	3.6	3.6	100.
20	21.4	10.7	7.1	00.0	3.6	00.0	14.3	00.0	00.0	00.0	3.6	7.1	3.6	10.7	7.1	7.1	3.6	100.
21	17.9	10.7	3.6	3.6	3.6	3.6	3.6	7.1	00.0	3.6	00.0	7.1	7.1	7.1	7.1	10.7	3.6	100.
22	28.6	3.6	3.6	00.0	00.0	7.1	3.6	10.7	7.1	7.1	3.6	10.7	3.6	3.6	3.6	3.6	00.0	100.
23	25.0	00.0	3.6	00.0	00.0	3.6	10.7	10.7	10.7	00.0	10.7	7.1	7.1	00.0	00.0	10.7	00.0	100.
24	28.6	3.6	3.6	00.0	3.6	00.0	10.7	10.7	7.1	7.1	00.0	3.6	10.7	00.0	7.1	00.0	3.6	100.
ALL	24.9	8.5	2.5	.9	2.7	4.8	8.5	7.1	5.5	3.7	4.3	4.6	3.0	4.0	6.4	7.4	1.2	100.

NUMBER OF OBS = 672

B29

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

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	3.2	3.2	9.7	9.7	6.5	00.0	16.1	12.9	6.5	3.2	00.0	00.0	12.9	3.2	3.2	3.2	100.
2	9.7	3.2	3.2	9.7	12.9	6.5	3.2	12.9	9.7	6.5	00.0	00.0	00.0	6.5	9.7	6.5	00.0	100.
3	12.9	6.5	3.2	6.5	12.9	3.2	3.2	12.9	9.7	6.5	3.2	3.2	00.0	9.7	00.0	6.5	00.0	100.
4	6.5	3.2	6.5	6.5	3.2	9.7	3.2	9.7	16.1	00.0	6.5	00.0	00.0	6.5	6.5	9.7	6.5	100.
5	9.7	6.5	3.2	6.5	6.5	6.5	00.0	19.4	12.9	3.2	00.0	00.0	3.2	3.2	9.7	9.7	00.0	100.
6	12.9	3.2	6.5	9.7	9.7	3.2	00.0	12.9	12.9	00.0	3.2	00.0	3.2	6.5	9.7	3.2	3.2	100.
7	9.7	3.2	6.5	00.0	9.7	3.2	3.2	16.1	12.9	00.0	3.2	3.2	00.0	3.2	9.7	16.1	00.0	100.
8	9.7	9.7	3.2	3.2	6.5	6.5	3.2	12.9	12.9	00.0	00.0	00.0	6.5	3.2	9.7	9.7	3.2	100.
9	6.5	3.2	12.9	3.2	12.9	9.7	00.0	9.7	19.4	00.0	00.0	00.0	00.0	6.5	12.9	3.2	00.0	100.
10	6.5	9.7	6.5	6.5	6.5	16.1	3.2	6.5	12.9	9.7	00.0	00.0	00.0	00.0	9.7	6.5	00.0	100.
11	12.9	6.5	3.2	6.5	6.5	25.8	00.0	00.0	9.7	16.1	00.0	00.0	00.0	3.2	6.5	3.2	00.0	100.
12	16.1	3.2	00.0	00.0	12.9	12.9	9.7	3.2	9.7	16.1	00.0	00.0	00.0	3.2	9.7	3.2	00.0	100.
13	12.9	3.2	00.0	3.2	6.5	19.4	6.5	6.5	16.1	6.5	00.0	3.2	00.0	00.0	6.5	9.7	00.0	100.
14	9.7	6.5	00.0	00.0	9.7	9.7	16.1	3.2	16.1	9.7	3.2	00.0	00.0	00.0	9.7	6.5	00.0	100.
15	12.9	3.2	00.0	00.0	9.7	9.7	16.1	3.2	9.7	12.9	9.7	00.0	00.0	00.0	9.7	3.2	00.0	100.
16	12.9	3.2	00.0	3.2	9.7	16.1	6.5	3.2	12.9	9.7	6.5	00.0	00.0	3.2	3.2	9.7	00.0	100.
17	9.7	3.2	00.0	6.5	6.5	12.9	9.7	3.2	9.7	16.1	00.0	00.0	3.2	00.0	3.2	16.1	00.0	100.
18	6.5	3.2	3.2	6.5	9.7	12.9	6.5	6.5	6.5	16.1	00.0	00.0	00.0	3.2	6.5	12.9	00.0	100.
19	3.2	9.7	00.0	9.7	6.5	6.5	3.2	12.9	22.6	00.0	3.2	00.0	00.0	3.2	00.0	19.4	00.0	100.
20	9.7	00.0	3.2	3.2	6.5	9.7	3.2	6.5	22.6	00.0	00.0	3.2	00.0	6.5	6.5	12.9	6.5	100.
21	19.4	00.0	00.0	3.2	12.9	00.0	3.2	12.9	12.9	6.5	6.5	00.0	00.0	00.0	9.7	9.7	3.2	100.
22	16.1	9.7	3.2	6.5	6.5	6.5	00.0	16.1	12.9	3.2	00.0	3.2	00.0	00.0	9.7	6.5	00.0	100.
23	6.5	6.5	9.7	6.5	6.5	00.0	00.0	22.6	9.7	00.0	3.2	3.2	3.2	00.0	12.9	9.7	00.0	100.
24	9.7	9.7	6.5	6.5	9.7	00.0	3.2	19.4	3.2	6.5	9.7	3.2	3.2	3.2	6.5	00.0	00.0	100.
ALL	10.3	5.0	3.5	5.1	8.7	8.9	4.3	10.3	12.8	6.3	2.6	.9	.9	3.5	7.5	8.2	1.1	100.

NUMBER OF OBS = 744

B30

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

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	16.7	6.7	4.4	6.7	5.6	4.4	4.4	12.2	5.6	8.9	5.6	1.1	1.1	5.6	4.4	5.6	1.1	100.
2	14.4	7.8	2.2	5.6	5.6	5.6	6.7	7.8	8.9	8.9	00.0	3.3	3.3	3.3	6.7	7.8	2.2	100.
3	17.8	5.6	5.6	2.2	6.7	3.3	4.4	11.1	7.8	7.8	6.7	1.1	2.2	6.7	1.1	8.9	1.1	100.
4	14.4	4.4	3.3	5.6	1.1	5.6	6.7	7.8	13.3	2.2	3.3	2.2	1.1	6.7	8.9	11.1	2.2	100.
5	16.7	6.7	3.3	4.4	3.3	4.4	3.3	15.6	7.8	4.4	3.3	1.1	3.3	4.4	6.7	10.0	1.1	100.
6	16.7	4.4	3.3	5.6	4.4	5.6	6.7	8.9	7.8	7.8	4.4	00.0	2.2	5.6	7.8	7.8	1.1	100.
7	14.4	5.6	2.2	3.3	4.4	2.2	6.7	14.4	8.9	00.0	4.4	4.4	00.0	4.4	11.1	12.2	1.1	100.
8	16.7	5.6	2.2	2.2	3.3	4.4	7.8	10.0	8.9	3.3	2.2	00.0	5.6	3.3	7.8	12.2	4.4	100.
9	15.6	5.6	4.4	3.3	5.6	8.9	5.6	11.1	8.9	5.6	1.1	1.1	2.2	4.4	8.9	6.7	1.1	100.
10	16.7	7.8	3.3	4.4	3.3	12.2	6.7	6.7	7.8	7.8	00.0	2.2	1.1	1.1	11.1	6.7	1.1	100.
11	17.8	5.6	3.3	3.3	4.4	13.3	5.6	5.6	6.7	10.0	2.2	1.1	1.1	3.3	11.1	5.6	00.0	100.
12	16.7	8.9	1.1	1.1	5.6	8.9	7.8	3.3	7.8	11.1	4.4	3.3	1.1	2.2	11.1	5.6	00.0	100.
13	16.7	7.8	1.1	2.2	4.4	7.8	5.6	5.6	11.1	5.6	4.4	5.6	00.0	4.4	10.0	7.8	00.0	100.
14	15.6	7.8	2.2	2.2	4.4	4.4	8.9	5.6	10.0	6.7	5.6	2.2	1.1	3.3	14.4	5.6	00.0	100.
15	21.1	3.3	1.1	2.2	3.3	6.7	10.0	3.3	6.7	6.7	10.0	2.2	00.0	3.3	13.3	6.7	00.0	100.
16	20.0	7.8	1.1	3.3	4.4	10.0	6.7	3.3	7.8	5.6	5.6	2.2	1.1	4.4	6.7	10.0	00.0	100.
17	16.7	6.7	4.4	3.3	6.7	7.8	7.8	3.3	4.4	8.9	2.2	3.3	1.1	2.2	7.8	13.3	00.0	100.
18	13.5	9.0	5.6	3.4	4.5	6.7	9.0	4.5	2.2	7.9	3.4	1.1	2.2	3.4	7.9	14.6	1.1	100.
19	13.5	11.2	00.0	5.6	4.5	4.5	5.6	6.7	7.9	4.5	2.2	1.1	4.5	6.7	5.6	14.6	1.1	100.
20	13.3	5.6	5.6	1.1	3.3	6.7	6.7	4.4	8.9	2.2	1.1	5.6	3.3	7.8	10.0	11.1	3.3	100.
21	13.3	6.7	4.4	2.2	5.6	4.4	3.3	8.9	5.6	6.7	2.2	3.3	4.4	3.3	11.1	12.2	2.2	100.
22	17.8	6.7	3.3	3.3	4.4	5.6	3.3	11.1	7.8	4.4	4.4	5.6	4.4	3.3	4.4	10.0	00.0	100.
23	13.3	4.4	5.6	2.2	3.3	3.3	5.6	13.3	8.9	1.1	7.8	4.4	4.4	3.3	7.8	11.1	00.0	100.
24	16.7	4.4	4.4	3.3	4.4	2.2	7.8	12.2	4.4	7.8	7.8	3.3	5.6	1.1	7.8	5.6	1.1	100.
ALL	16.1	6.5	3.2	3.4	4.4	6.2	6.3	8.2	7.7	6.1	3.9	2.5	2.4	4.1	8.5	9.3	1.1	100.

NUMBER OF OBS = 2158

B31

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

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	13.3	3.3	00.0	00.0	00.0	00.0	00.0	6.7	23.3	6.7	3.3	3.3	3.3	6.7	20.0	10.0	00.0	100.
2	16.7	00.0	00.0	00.0	00.0	00.0	3.3	13.3	16.7	3.3	3.3	3.3	3.3	16.7	13.3	6.7	00.0	100.
3	16.7	3.3	00.0	3.3	3.3	00.0	3.3	10.0	16.7	00.0	3.3	3.3	00.0	20.0	6.7	10.0	00.0	100.
4	10.0	3.3	00.0	3.3	00.0	3.3	3.3	13.3	20.0	00.0	00.0	00.0	6.7	6.7	6.7	23.3	00.0	100.
5	10.0	3.3	00.0	00.0	00.0	00.0	6.7	13.3	10.0	3.3	6.7	3.3	6.7	3.3	6.7	23.3	3.3	100.
6	10.0	6.7	00.0	00.0	00.0	3.3	3.3	13.3	10.0	6.7	3.3	6.7	6.7	3.3	13.3	10.0	3.3	100.
7	13.3	00.0	00.0	00.0	00.0	00.0	3.3	20.0	10.0	6.7	3.3	3.3	6.7	00.0	16.7	13.3	3.3	100.
8	10.0	3.3	00.0	00.0	00.0	00.0	3.3	20.0	13.3	6.7	00.0	00.0	3.3	13.3	10.0	16.7	00.0	100.
9	6.7	3.3	3.3	00.0	00.0	00.0	3.3	16.7	13.3	3.3	6.7	00.0	3.3	00.0	26.7	13.3	00.0	100.
10	13.3	3.3	3.3	00.0	00.0	00.0	6.7	13.3	10.0	10.0	3.3	00.0	00.0	00.0	23.3	13.3	00.0	100.
11	13.3	6.7	00.0	00.0	00.0	6.7	3.3	3.3	16.7	6.7	3.3	3.3	00.0	3.3	16.7	16.7	00.0	100.
12	13.3	00.0	3.3	00.0	00.0	3.3	3.3	6.7	16.7	10.0	00.0	3.3	00.0	6.7	13.3	20.0	00.0	100.
13	13.3	00.0	00.0	00.0	00.0	3.3	00.0	10.0	13.3	13.3	00.0	3.3	00.0	6.7	10.0	26.7	00.0	100.
14	10.0	3.3	00.0	00.0	00.0	00.0	3.3	6.7	13.3	13.3	3.3	3.3	00.0	10.0	26.7	6.7	00.0	100.
15	00.0	3.3	00.0	00.0	00.0	00.0	00.0	6.7	16.7	10.0	00.0	10.0	00.0	10.0	16.7	26.7	00.0	100.
16	13.3	00.0	00.0	00.0	00.0	00.0	00.0	00.0	23.3	6.7	00.0	6.7	00.0	6.7	26.7	16.7	00.0	100.
17	6.7	3.3	3.3	00.0	00.0	00.0	00.0	10.0	13.3	6.7	3.3	00.0	3.3	10.0	10.0	30.0	00.0	100.
18	16.7	3.3	00.0	00.0	00.0	00.0	3.3	6.7	6.7	13.3	3.3	00.0	3.3	6.7	16.7	20.0	00.0	100.
19	6.7	6.7	00.0	00.0	00.0	00.0	3.3	13.3	10.0	6.7	00.0	00.0	3.3	00.0	26.7	23.3	00.0	100.
20	3.3	3.3	00.0	00.0	00.0	00.0	3.3	16.7	16.7	00.0	00.0	3.3	6.7	3.3	26.7	16.7	00.0	100.
21	10.0	00.0	00.0	00.0	00.0	00.0	3.3	13.3	16.7	6.7	00.0	3.3	3.3	10.0	26.7	3.3	3.3	100.
22	13.3	00.0	00.0	00.0	00.0	00.0	3.3	13.3	20.0	6.7	00.0	00.0	6.7	16.7	10.0	10.0	00.0	100.
23	16.7	3.3	00.0	00.0	00.0	00.0	6.7	10.0	16.7	6.7	3.3	3.3	00.0	6.7	10.0	16.7	00.0	100.
24	13.3	00.0	00.0	00.0	00.0	00.0	00.0	13.3	20.0	6.7	6.7	00.0	3.3	6.7	13.3	16.7	00.0	100.
ALL	11.2	2.6	.6	.3	.1	.8	2.9	11.2	15.1	6.7	2.4	2.6	2.9	7.2	16.4	16.2	.6	100.

NUMBER OF OBS = 720

B32

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

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	12.9	3.2	9.7	3.2	6.5	00.0	9.7	16.1	12.9	6.5	00.0	6.5	00.0	3.2	9.7	00.0	00.0	100.
2	9.7	3.2	3.2	9.7	3.2	3.2	9.7	19.4	6.5	16.1	3.2	00.0	6.5	3.2	3.2	00.0	00.0	100.
3	12.9	3.2	3.2	3.2	3.2	00.0	9.7	16.1	6.5	12.9	9.7	00.0	6.5	3.2	3.2	6.5	00.0	100.
4	9.7	6.5	6.5	3.2	00.0	6.5	6.5	16.1	6.5	9.7	9.7	00.0	3.2	3.2	00.0	12.9	00.0	100.
5	12.9	6.5	6.5	00.0	9.7	3.2	16.1	12.9	6.5	00.0	9.7	00.0	00.0	00.0	9.7	3.2	3.2	100.
6	9.7	3.2	6.5	3.2	6.5	3.2	16.1	3.2	19.4	6.5	6.5	3.2	00.0	3.2	00.0	9.7	00.0	100.
7	16.1	3.2	6.5	00.0	6.5	6.5	12.9	12.9	16.1	3.2	00.0	00.0	00.0	00.0	3.2	6.5	6.5	100.
8	16.1	3.2	00.0	3.2	6.5	9.7	9.7	22.6	9.7	6.5	00.0	3.2	3.2	00.0	00.0	6.5	00.0	100.
9	9.7	6.5	3.2	00.0	6.5	6.5	9.7	19.4	19.4	6.5	00.0	3.2	00.0	3.2	3.2	3.2	00.0	100.
10	3.2	6.5	6.5	00.0	3.2	16.1	6.5	19.4	9.7	9.7	3.2	00.0	6.5	00.0	3.2	6.5	00.0	100.
11	9.7	3.2	3.2	3.2	6.5	3.2	16.1	16.1	12.9	9.7	3.2	00.0	3.2	00.0	6.5	3.2	00.0	100.
12	9.7	3.2	00.0	9.7	6.5	6.5	9.7	16.1	16.1	9.7	00.0	00.0	3.2	3.2	00.0	6.5	00.0	100.
13	3.2	6.5	6.5	00.0	00.0	6.5	16.1	16.1	19.4	6.5	00.0	00.0	00.0	3.2	3.2	12.9	00.0	100.
14	12.9	00.0	6.5	3.2	3.2	00.0	12.9	16.1	22.6	9.7	00.0	00.0	00.0	00.0	3.2	9.7	00.0	100.
15	9.7	6.5	6.5	00.0	6.5	3.2	6.5	35.5	9.7	6.5	00.0	00.0	00.0	00.0	00.0	9.7	00.0	100.
16	9.7	9.7	3.2	00.0	3.2	9.7	9.7	6.5	32.3	9.7	00.0	00.0	00.0	00.0	00.0	6.5	00.0	100.
17	12.9	3.2	3.2	6.5	3.2	3.2	12.9	19.4	16.1	6.5	6.5	00.0	00.0	00.0	00.0	6.5	00.0	100.
18	12.9	3.2	00.0	9.7	3.2	3.2	12.9	19.4	12.9	6.5	00.0	00.0	3.2	00.0	3.2	9.7	00.0	100.
19	9.7	6.5	6.5	6.5	00.0	3.2	9.7	19.4	16.1	6.5	00.0	00.0	00.0	3.2	3.2	9.7	00.0	100.
20	3.2	6.5	9.7	3.2	00.0	3.2	12.9	19.4	19.4	3.2	00.0	00.0	6.5	00.0	6.5	6.5	00.0	100.
21	00.0	3.2	9.7	6.5	3.2	00.0	9.7	9.7	25.8	6.5	3.2	3.2	00.0	3.2	6.5	9.7	00.0	100.
22	9.7	3.2	9.7	00.0	6.5	6.5	9.7	6.5	19.4	9.7	3.2	00.0	00.0	9.7	3.2	3.2	00.0	100.
23	6.5	00.0	6.5	9.7	00.0	3.2	12.9	12.9	12.9	6.5	9.7	00.0	3.2	6.5	00.0	9.7	00.0	100.
24	9.7	00.0	3.2	16.1	00.0	3.2	9.7	12.9	12.9	00.0	6.5	3.2	00.0	12.9	00.0	9.7	00.0	100.
ALL	9.7	4.2	5.2	4.2	3.9	4.6	11.2	16.0	15.1	7.3	3.1	.9	1.9	2.6	3.0	7.0	.4	100.

NUMBER OF OBS = 744

B33

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

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	16.7	00.0	3.3	3.3	00.0	00.0	3.3	6.7	30.0	13.3	00.0	3.3	3.3	00.0	6.7	10.0	00.0	100.
2	3.3	3.3	00.0	6.7	00.0	6.7	00.0	16.7	16.7	13.3	6.7	6.7	00.0	3.3	10.0	6.7	00.0	100.
3	6.7	3.3	00.0	00.0	3.3	00.0	6.7	10.0	30.0	10.0	3.3	00.0	3.3	3.3	6.7	13.3	00.0	100.
4	10.0	3.3	00.0	3.3	00.0	00.0	6.7	3.3	20.0	13.3	00.0	00.0	10.0	00.0	10.0	10.0	10.0	100.
5	13.3	00.0	3.3	6.7	00.0	00.0	3.3	10.0	16.7	6.7	6.7	00.0	3.3	6.7	10.0	6.7	6.7	100.
6	16.7	00.0	3.3	00.0	3.3	00.0	6.7	13.3	10.0	6.7	6.7	00.0	00.0	00.0	3.3	23.3	6.7	100.
7	3.3	10.0	6.7	3.3	00.0	3.3	10.0	20.0	23.3	6.7	00.0	3.3	00.0	00.0	00.0	6.7	3.3	100.
8	3.3	6.7	3.3	00.0	6.7	3.3	13.3	23.3	30.0	3.3	00.0	00.0	3.3	00.0	00.0	3.3	00.0	100.
9	3.3	6.7	6.7	00.0	3.3	6.7	13.3	13.3	30.0	10.0	3.3	00.0	00.0	3.3	00.0	00.0	00.0	100.
10	3.3	13.3	3.3	3.3	3.3	6.7	13.3	13.3	20.0	13.3	3.3	3.3	00.0	00.0	00.0	00.0	00.0	100.
11	00.0	10.0	3.3	00.0	3.3	00.0	23.3	13.3	13.3	16.7	3.3	3.3	00.0	3.3	00.0	6.7	00.0	100.
12	3.3	10.0	10.0	00.0	3.3	3.3	20.0	10.0	20.0	16.7	00.0	00.0	3.3	00.0	00.0	00.0	00.0	100.
13	00.0	3.3	6.7	10.0	00.0	00.0	13.3	20.0	20.0	16.7	3.3	00.0	00.0	3.3	00.0	3.3	00.0	100.
14	00.0	6.7	00.0	6.7	3.3	3.3	13.3	20.0	23.3	6.7	3.3	6.7	00.0	3.3	00.0	3.3	00.0	100.
15	00.0	10.0	00.0	3.3	3.3	00.0	6.7	33.3	16.7	6.7	6.7	00.0	3.3	6.7	00.0	3.3	00.0	100.
16	00.0	3.3	6.7	3.3	3.3	6.7	6.7	20.0	20.0	13.3	6.7	00.0	00.0	3.3	3.3	3.3	00.0	100.
17	3.3	3.3	3.3	3.3	3.3	3.3	13.3	23.3	16.7	6.7	6.7	00.0	00.0	00.0	6.7	6.7	00.0	100.
18	3.3	3.3	10.0	00.0	3.3	3.3	16.7	16.7	16.7	13.3	00.0	3.3	00.0	00.0	6.7	3.3	00.0	100.
19	3.3	00.0	6.7	6.7	00.0	6.7	20.0	16.7	13.3	10.0	00.0	00.0	3.3	00.0	6.7	6.7	00.0	100.
20	6.7	3.3	3.3	3.3	00.0	00.0	16.7	10.0	20.0	10.0	00.0	3.3	00.0	3.3	13.3	6.7	00.0	100.
21	00.0	00.0	6.7	00.0	00.0	00.0	10.0	10.0	30.0	00.0	00.0	6.7	00.0	10.0	13.3	13.3	00.0	100.
22	3.3	10.0	00.0	3.3	00.0	00.0	3.3	13.3	23.3	10.0	00.0	3.3	6.7	3.3	6.7	10.0	3.3	100.
23	3.4	00.0	3.4	00.0	3.4	6.9	00.0	6.9	34.5	00.0	10.3	00.0	3.4	3.4	3.4	10.3	10.3	100.
24	10.0	00.0	00.0	3.3	3.3	3.3	6.7	3.3	30.0	10.0	6.7	3.3	00.0	3.3	3.3	6.7	6.7	100.
ALL	4.9	4.6	3.8	2.9	2.1	2.6	10.3	14.5	21.8	9.7	3.2	1.9	1.8	2.5	4.6	6.8	1.9	100.

NUMBER OF OBS = 719

B34

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

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	14.3	2.2	4.4	2.2	2.2	00.0	4.4	9.9	22.0	8.8	1.1	4.4	2.2	3.3	12.1	6.6	00.0	100.
2	9.9	2.2	1.1	5.5	1.1	3.3	4.4	16.5	13.2	11.0	4.4	3.3	3.3	7.7	8.8	4.4	00.0	100.
3	12.1	3.3	1.1	2.2	3.3	00.0	6.6	12.1	17.6	7.7	5.5	1.1	3.3	8.8	5.5	9.9	00.0	100.
4	9.9	4.4	2.2	3.3	00.0	3.3	5.5	11.0	15.4	7.7	3.3	00.0	6.6	3.3	5.5	15.4	3.3	100.
5	12.1	3.3	3.3	2.2	3.3	1.1	8.8	12.1	11.0	3.3	7.7	1.1	3.3	3.3	8.8	11.0	4.4	100.
6	12.1	3.3	3.3	1.1	3.3	2.2	8.8	9.9	13.2	6.6	5.5	3.3	2.2	2.2	5.5	14.3	3.3	100.
7	11.0	4.4	4.4	1.1	2.2	3.3	8.8	17.6	16.5	5.5	1.1	2.2	2.2	00.0	6.6	8.8	4.4	100.
8	9.9	4.4	1.1	1.1	4.4	4.4	8.8	22.0	17.6	5.5	00.0	1.1	3.3	4.4	3.3	8.8	00.0	100.
9	6.6	5.5	4.4	00.0	3.3	4.4	8.8	16.5	20.9	6.6	3.3	1.1	1.1	2.2	9.9	5.5	00.0	100.
10	6.6	7.7	4.4	1.1	2.2	7.7	8.8	15.4	13.2	11.0	3.3	1.1	2.2	00.0	8.8	6.6	00.0	100.
11	7.7	6.6	2.2	1.1	3.3	3.3	14.3	11.0	14.3	11.0	3.3	2.2	1.1	2.2	7.7	8.8	00.0	100.
12	8.8	4.4	4.4	3.3	3.3	4.4	11.0	11.0	17.6	12.1	00.0	1.1	2.2	3.3	4.4	8.8	00.0	100.
13	5.5	3.3	4.4	3.3	00.0	3.3	9.9	15.4	17.6	12.1	1.1	1.1	00.0	4.4	4.4	14.3	00.0	100.
14	7.7	3.3	2.2	3.3	2.2	1.1	9.9	14.3	19.8	9.9	2.2	3.3	00.0	4.4	9.9	6.6	00.0	100.
15	3.3	6.6	2.2	1.1	3.3	1.1	4.4	25.3	14.3	7.7	2.2	3.3	1.1	5.5	5.5	13.2	00.0	100.
16	7.7	4.4	3.3	1.1	2.2	5.5	5.5	8.8	25.3	9.9	2.2	2.2	00.0	3.3	9.9	8.8	00.0	100.
17	7.7	3.3	3.3	3.3	2.2	2.2	8.8	17.6	15.4	6.6	5.5	00.0	1.1	3.3	5.5	14.3	00.0	100.
18	11.0	3.3	3.3	3.3	2.2	2.2	11.0	14.3	12.1	11.0	1.1	1.1	2.2	2.2	8.8	11.0	00.0	100.
19	6.6	4.4	4.4	4.4	00.0	3.3	11.0	16.5	13.2	7.7	00.0	00.0	2.2	1.1	12.1	13.2	00.0	100.
20	4.4	4.4	4.4	2.2	00.0	1.1	11.0	15.4	18.7	4.4	00.0	2.2	4.4	2.2	15.4	9.9	00.0	100.
21	3.3	1.1	5.5	2.2	1.1	00.0	7.7	11.0	24.2	4.4	1.1	4.4	1.1	7.7	15.4	8.8	1.1	100.
22	8.8	4.4	3.3	1.1	2.2	2.2	5.5	11.0	20.9	8.8	1.1	1.1	4.4	9.9	6.6	7.7	1.1	100.
23	8.9	1.1	3.3	3.3	1.1	3.3	6.7	10.0	21.1	4.4	7.8	1.1	2.2	5.6	4.4	12.2	3.3	100.
24	11.0	00.0	1.1	6.6	1.1	2.2	5.5	9.9	20.9	5.5	6.6	2.2	1.1	7.7	5.5	11.0	2.2	100.
ALL	8.6	3.8	3.2	2.5	2.1	2.7	8.2	13.9	17.3	7.9	2.9	1.8	2.2	4.1	7.9	10.0	1.0	100.

NUMBER OF OBS = 2183

B35

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

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	15.5	4.4	4.4	4.4	3.9	2.2	4.4	11.0	13.8	8.8	3.3	2.8	1.7	4.4	8.3	6.1	.6	100.
2	12.2	5.0	1.7	5.5	3.3	4.4	5.5	12.2	11.0	9.9	2.2	3.3	3.3	5.5	7.7	6.1	1.1	100.
3	14.9	4.4	3.3	2.2	5.0	1.7	5.5	11.6	12.7	7.7	6.1	1.1	2.8	7.7	3.3	9.4	.6	100.
4	12.2	4.4	2.8	4.4	.6	4.4	6.1	9.4	14.4	5.0	3.3	1.1	3.9	5.0	7.2	13.3	2.8	100.
5	14.4	5.0	3.3	3.3	3.3	2.8	6.1	13.8	9.4	3.9	5.5	1.1	3.3	3.9	7.7	10.5	2.8	100.
6	14.4	3.9	3.3	3.3	3.9	3.9	7.7	9.4	10.5	7.2	5.0	1.7	2.2	3.9	6.6	11.0	2.2	100.
7	12.7	5.0	3.3	2.2	3.3	2.8	7.7	16.0	12.7	2.8	2.8	3.3	1.1	2.2	8.8	10.5	2.8	100.
8	13.3	5.0	1.7	1.7	3.9	4.4	8.3	16.0	13.3	4.4	1.1	.6	4.4	3.9	5.5	10.5	2.2	100.
9	11.0	5.5	4.4	1.7	4.4	6.6	7.2	13.8	14.9	6.1	2.2	1.1	1.7	3.3	9.4	6.1	.6	100.
10	11.6	7.7	3.9	2.8	2.8	9.9	7.7	11.0	10.5	9.4	1.7	1.7	1.7	.6	9.9	6.6	.6	100.
11	12.7	6.1	2.8	2.2	3.9	8.3	9.9	8.3	10.5	10.5	2.8	1.7	1.1	2.8	9.4	7.2	00.0	100.
12	12.7	6.6	2.8	2.2	4.4	6.6	9.4	7.2	12.7	11.6	2.2	2.2	1.7	2.8	7.7	7.2	00.0	100.
13	11.0	5.5	2.8	2.8	2.2	5.5	7.7	10.5	14.4	8.8	2.8	3.3	00.0	4.4	7.2	11.0	00.0	100.
14	11.6	5.5	2.2	2.8	3.3	2.8	9.4	9.9	14.9	8.3	3.9	2.8	.6	3.9	12.2	6.1	00.0	100.
15	12.2	5.0	1.7	1.7	3.3	3.9	7.2	14.4	10.5	7.2	6.1	2.8	.6	4.4	9.4	9.9	00.0	100.
16	13.8	6.1	2.2	2.2	3.3	7.7	6.1	6.1	16.6	7.7	3.9	2.2	.6	3.9	8.3	9.4	00.0	100.
17	12.2	5.0	3.9	3.3	4.4	5.0	8.3	10.5	9.9	7.7	3.9	1.7	1.1	2.8	6.6	13.8	00.0	100.
18	12.2	6.1	4.4	3.3	3.3	4.4	10.0	9.4	7.2	9.4	2.2	1.1	2.2	2.8	8.3	12.8	.6	100.
19	10.0	7.8	2.2	5.0	2.2	3.9	8.3	11.7	10.6	6.1	1.1	.6	3.3	3.9	8.9	13.9	.6	100.
20	8.8	5.0	5.0	1.7	1.7	3.9	8.8	9.9	13.8	3.3	.6	3.9	3.9	5.0	12.7	10.5	1.7	100.
21	8.3	3.9	5.0	2.2	3.3	2.2	5.5	9.9	14.9	5.5	1.7	3.9	2.8	5.5	13.3	10.5	1.7	100.
22	13.3	5.5	3.3	2.2	3.3	3.9	4.4	11.0	14.4	6.6	2.8	3.3	4.4	6.6	5.5	8.8	.6	100.
23	11.1	2.8	4.4	2.8	2.2	3.3	6.1	11.7	15.0	2.8	7.8	2.8	3.3	4.4	6.1	11.7	1.7	100.
24	13.8	2.2	2.8	5.0	2.8	2.2	6.6	11.0	12.7	6.6	7.2	2.8	3.3	4.4	6.6	8.3	1.7	100.
ALL	12.3	5.1	3.2	2.9	3.2	4.4	7.3	11.1	12.6	7.0	3.4	2.2	2.3	4.1	8.2	9.6	1.0	100.

NUMBER OF OBS = 4341

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

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	12.9	3.2	3.2	00.0	3.2	3.2	00.0	3.2	22.6	3.2	6.5	3.2	3.2	3.2	9.7	9.7	9.7	100.
2	22.6	00.0	3.2	3.2	00.0	3.2	00.0	6.5	19.4	16.1	6.5	00.0	3.2	3.2	00.0	9.7	3.2	100.
3	19.4	6.5	3.2	00.0	6.5	00.0	00.0	9.7	16.1	9.7	6.5	6.5	00.0	00.0	3.2	12.9	00.0	100.
4	6.5	6.5	9.7	00.0	3.2	3.2	00.0	9.7	12.9	12.9	9.7	00.0	9.7	9.7	3.2	3.2	00.0	100.
5	9.7	00.0	6.5	9.7	6.5	00.0	00.0	3.2	12.9	9.7	3.2	00.0	3.2	6.5	12.9	00.0	16.1	100.
6	9.7	00.0	3.2	6.5	3.2	3.2	00.0	3.2	22.6	9.7	6.5	00.0	6.5	3.2	00.0	9.7	12.9	100.
7	22.6	3.2	3.2	6.5	6.5	3.2	00.0	9.7	22.6	3.2	00.0	3.2	00.0	00.0	00.0	9.7	6.5	100.
8	6.5	16.1	3.2	9.7	9.7	6.5	3.2	12.9	12.9	00.0	9.7	00.0	3.2	3.2	00.0	3.2	00.0	100.
9	12.9	9.7	6.5	9.7	00.0	6.5	6.5	6.5	9.7	3.2	16.1	9.7	00.0	00.0	00.0	3.2	00.0	100.
10	12.9	9.7	3.2	3.2	9.7	3.2	6.5	00.0	9.7	9.7	16.1	6.5	00.0	3.2	3.2	3.2	00.0	100.
11	19.4	6.5	3.2	9.7	3.2	6.5	3.2	3.2	16.1	9.7	9.7	3.2	3.2	3.2	00.0	00.0	00.0	100.
12	12.9	6.5	9.7	00.0	6.5	6.5	00.0	6.5	22.6	12.9	6.5	00.0	3.2	00.0	3.2	3.2	00.0	100.
13	12.9	9.7	6.5	6.5	6.5	6.5	00.0	9.7	22.6	12.9	3.2	3.2	00.0	00.0	00.0	00.0	00.0	100.
14	9.7	3.2	6.5	00.0	12.9	3.2	6.5	9.7	29.0	6.5	00.0	00.0	3.2	6.5	00.0	3.2	00.0	100.
15	9.7	00.0	6.5	3.2	12.9	6.5	6.5	12.9	16.1	16.1	00.0	00.0	00.0	00.0	6.5	3.2	00.0	100.
16	9.7	6.5	3.2	00.0	16.1	3.2	9.7	19.4	19.4	3.2	00.0	00.0	00.0	00.0	3.2	6.5	00.0	100.
17	12.9	00.0	9.7	6.5	6.5	00.0	16.1	22.6	9.7	00.0	6.5	00.0	00.0	00.0	3.2	6.5	00.0	100.
18	12.9	00.0	6.5	9.7	3.2	3.2	12.9	22.6	9.7	00.0	3.2	00.0	00.0	3.2	3.2	9.7	00.0	100.
19	9.7	3.2	6.5	9.7	6.5	00.0	9.7	22.6	12.9	00.0	00.0	00.0	3.2	3.2	9.7	3.2	00.0	100.
20	12.9	3.2	3.2	00.0	00.0	6.5	6.5	3.2	25.8	6.5	00.0	00.0	3.2	3.2	12.9	9.7	3.2	100.
21	3.2	6.5	00.0	3.2	00.0	3.2	3.2	6.5	19.4	9.7	00.0	00.0	00.0	9.7	16.1	12.9	6.5	100.
22	12.9	3.2	00.0	00.0	3.2	3.2	00.0	3.2	32.3	3.2	00.0	3.2	00.0	9.7	6.5	12.9	6.5	100.
23	6.5	6.5	00.0	00.0	3.2	3.2	3.2	3.2	22.6	3.2	6.5	00.0	6.5	3.2	9.7	12.9	9.7	100.
24	6.5	3.2	00.0	00.0	3.2	3.2	00.0	3.2	25.8	6.5	00.0	00.0	00.0	6.5	12.9	16.1	12.9	100.
ALL	12.0	4.7	4.4	4.0	5.5	3.6	3.9	8.9	18.5	7.0	4.8	1.6	2.2	3.4	5.0	6.9	3.6	100.

NUMBER OF OBS = 744

B37

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

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	3.2	00.0	3.2	00.0	3.2	3.2	9.7	16.1	32.3	3.2	00.0	3.2	00.0	3.2	16.1	00.0	3.2	100.
2	6.5	00.0	00.0	6.5	3.2	9.7	00.0	9.7	35.5	00.0	3.2	00.0	6.5	3.2	00.0	12.9	3.2	100.
3	6.5	6.5	6.5	00.0	3.2	3.2	6.5	9.7	35.5	3.2	00.0	00.0	3.2	3.2	6.5	3.2	3.2	100.
4	6.5	3.2	6.5	00.0	00.0	00.0	6.5	16.1	32.3	6.5	3.2	00.0	00.0	3.2	3.2	9.7	3.2	100.
5	6.5	3.2	00.0	00.0	3.2	00.0	16.1	16.1	19.4	6.5	6.5	00.0	00.0	3.2	3.2	9.7	6.5	100.
6	6.5	3.2	00.0	00.0	00.0	3.2	9.7	32.3	16.1	00.0	00.0	00.0	00.0	6.5	6.5	16.1	00.0	100.
7	12.9	00.0	6.5	00.0	00.0	9.7	6.5	16.1	19.4	00.0	3.2	3.2	00.0	3.2	6.5	6.5	6.5	100.
8	6.5	00.0	3.2	3.2	00.0	12.9	9.7	25.8	25.8	3.2	00.0	00.0	00.0	00.0	00.0	6.5	3.2	100.
9	6.5	3.2	3.2	3.2	00.0	9.7	9.7	19.4	29.0	12.9	00.0	00.0	00.0	00.0	00.0	3.2	00.0	100.
10	3.2	3.2	3.2	00.0	3.2	9.7	9.7	12.9	29.0	12.9	3.2	3.2	00.0	00.0	00.0	6.5	00.0	100.
11	9.7	6.5	00.0	00.0	3.2	3.2	19.4	9.7	38.7	6.5	00.0	3.2	00.0	00.0	00.0	00.0	00.0	100.
12	6.5	9.7	00.0	00.0	6.5	00.0	9.7	22.6	29.0	3.2	3.2	3.2	00.0	00.0	00.0	6.5	00.0	100.
13	6.5	3.2	6.5	3.2	3.2	6.5	9.7	22.6	22.6	6.5	00.0	3.2	00.0	3.2	00.0	3.2	00.0	100.
14	6.5	6.5	3.2	00.0	3.2	6.5	19.4	19.4	22.6	3.2	00.0	00.0	00.0	3.2	00.0	6.5	00.0	100.
15	6.5	6.5	6.5	00.0	3.2	9.7	16.1	25.8	16.1	3.2	00.0	00.0	00.0	00.0	3.2	3.2	00.0	100.
16	00.0	6.5	3.2	6.5	3.2	9.7	16.1	22.6	19.4	3.2	00.0	00.0	00.0	00.0	3.2	6.5	00.0	100.
17	6.5	00.0	3.2	3.2	9.7	6.5	12.9	25.8	19.4	3.2	00.0	00.0	00.0	00.0	00.0	9.7	00.0	100.
18	9.7	00.0	3.2	6.5	3.2	3.2	19.4	35.5	9.7	00.0	00.0	3.2	00.0	00.0	3.2	3.2	00.0	100.
19	6.5	6.5	00.0	3.2	3.2	3.2	12.9	35.5	12.9	3.2	00.0	00.0	3.2	00.0	00.0	9.7	00.0	100.
20	3.2	3.2	3.2	00.0	3.2	00.0	9.7	25.8	16.1	6.5	00.0	3.2	00.0	3.2	12.9	9.7	00.0	100.
21	9.7	00.0	3.2	00.0	00.0	3.2	9.7	25.8	12.9	3.2	00.0	3.2	3.2	9.7	3.2	9.7	3.2	100.
22	3.2	3.2	3.2	00.0	00.0	6.5	12.9	12.9	19.4	3.2	6.5	9.7	3.2	00.0	6.5	6.5	3.2	100.
23	3.2	3.2	00.0	3.2	3.2	00.0	6.5	19.4	29.0	6.5	00.0	00.0	3.2	6.5	6.5	6.5	3.2	100.
24	3.2	3.2	00.0	3.2	3.2	00.0	6.5	16.1	35.5	6.5	00.0	00.0	3.2	6.5	3.2	3.2	6.5	100.
ALL	6.0	3.4	2.8	1.7	2.7	5.0	11.0	20.6	24.1	4.4	1.2	1.6	1.1	2.4	3.5	6.6	1.9	100.

NUMBER OF OBS = 744

B38

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

PROGRAM: WINPER
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

SEPTEMBER

HR. OF DAY	WIND DIRECTION																CALM	TOTAL
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		
1	10.0	10.0	00.0	00.0	00.0	10.0	00.0	13.3	20.0	13.3	3.3	00.0	3.3	3.3	3.3	10.0	00.0	100.
2	3.3	6.7	00.0	3.3	00.0	00.0	6.7	13.3	26.7	6.7	3.3	00.0	00.0	3.3	3.3	13.3	10.0	100.
3	3.3	10.0	00.0	00.0	6.7	3.3	3.3	20.0	10.0	10.0	10.0	00.0	10.0	3.3	00.0	6.7	3.3	100.
4	6.7	00.0	00.0	3.3	6.7	00.0	6.7	20.0	10.0	16.7	3.3	3.3	10.0	00.0	6.7	6.7	00.0	100.
5	00.0	3.3	00.0	3.3	00.0	10.0	3.3	23.3	26.7	3.3	00.0	00.0	6.7	00.0	3.3	13.3	3.3	100.
6	6.7	3.3	00.0	3.3	3.3	6.7	6.7	20.0	13.3	6.7	3.3	00.0	3.3	00.0	6.7	10.0	6.7	100.
7	3.3	3.3	00.0	3.3	6.7	6.7	6.7	16.7	20.0	6.7	3.3	00.0	00.0	3.3	10.0	6.7	3.3	100.
8	3.3	00.0	3.3	00.0	10.0	3.3	16.7	20.0	10.0	10.0	6.7	00.0	00.0	00.0	6.7	6.7	3.3	100.
9	3.3	3.3	00.0	00.0	3.3	16.7	10.0	16.7	13.3	10.0	3.3	3.3	00.0	00.0	6.7	10.0	00.0	100.
10	00.0	3.3	6.7	00.0	00.0	6.7	20.0	6.7	23.3	6.7	6.7	3.3	3.3	6.7	3.3	3.3	00.0	100.
11	3.3	3.3	00.0	3.3	00.0	3.3	23.3	6.7	16.7	6.7	6.7	3.3	3.3	00.0	10.0	10.0	00.0	100.
12	10.0	00.0	3.3	00.0	00.0	3.3	16.7	20.0	10.0	13.3	00.0	10.0	00.0	00.0	6.7	6.7	00.0	100.
13	6.7	00.0	00.0	00.0	00.0	10.0	16.7	10.0	16.7	10.0	00.0	6.7	00.0	3.3	6.7	13.3	00.0	100.
14	13.3	3.3	00.0	00.0	00.0	00.0	23.3	13.3	16.7	3.3	3.3	00.0	3.3	00.0	10.0	10.0	00.0	100.
15	13.3	6.7	00.0	00.0	00.0	3.3	13.3	13.3	20.0	6.7	6.7	00.0	3.3	00.0	3.3	10.0	00.0	100.
16	6.7	3.3	3.3	00.0	00.0	3.3	20.0	6.7	23.3	6.7	3.3	00.0	00.0	00.0	3.3	20.0	00.0	100.
17	10.0	10.0	00.0	00.0	00.0	3.3	16.7	10.0	20.0	10.0	3.3	00.0	00.0	00.0	00.0	16.7	00.0	100.
18	3.3	3.3	00.0	00.0	00.0	6.7	13.3	13.3	13.3	10.0	00.0	3.3	3.3	3.3	10.0	16.7	00.0	100.
19	3.3	6.7	00.0	00.0	00.0	6.7	10.0	13.3	16.7	3.3	3.3	3.3	00.0	10.0	13.3	10.0	00.0	100.
20	10.0	6.7	00.0	00.0	00.0	3.3	6.7	13.3	20.0	6.7	00.0	00.0	3.3	00.0	10.0	20.0	00.0	100.
21	13.3	3.3	00.0	00.0	00.0	3.3	6.7	16.7	16.7	6.7	00.0	3.3	10.0	00.0	3.3	10.0	6.7	100.
22	13.3	3.3	3.3	00.0	00.0	6.7	6.7	13.3	23.3	10.0	00.0	6.7	6.7	00.0	3.3	3.3	00.0	100.
23	6.7	6.7	00.0	00.0	3.3	3.3	6.7	20.0	26.7	00.0	00.0	00.0	00.0	6.7	00.0	13.3	6.7	100.
24	6.7	6.7	00.0	00.0	3.3	6.7	3.3	13.3	20.0	10.0	6.7	6.7	00.0	6.7	3.3	6.7	00.0	100.
ALL	6.7	4.4	.8	.8	1.8	5.3	11.0	14.7	18.1	8.1	3.2	2.2	2.9	2.1	5.6	10.6	1.8	100.

NUMBER OF OBS = 720

B39

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

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	4.3	2.2	00.0	2.2	5.4	3.3	10.9	25.0	6.5	3.3	2.2	2.2	3.3	9.8	6.5	4.3	100.
2	10.9	2.2	1.1	4.3	1.1	4.3	2.2	9.8	27.2	7.6	4.3	00.0	3.3	3.3	1.1	12.0	5.4	100.
3	9.8	7.6	3.3	00.0	5.4	2.2	3.3	13.0	20.7	7.6	5.4	2.2	4.3	2.2	3.3	7.6	2.2	100.
4	6.5	3.3	5.4	1.1	3.3	1.1	4.3	15.2	18.5	12.0	5.4	1.1	6.5	4.3	4.3	6.5	1.1	100.
5	5.4	2.2	2.2	4.3	3.3	3.3	6.5	14.1	19.6	6.5	3.3	00.0	3.3	3.3	6.5	7.6	8.7	100.
6	7.6	2.2	1.1	3.3	2.2	4.3	5.4	18.5	17.4	5.4	3.3	00.0	3.3	3.3	4.3	12.0	6.5	100.
7	13.0	2.2	3.3	3.3	4.3	6.5	4.3	14.1	20.7	3.3	2.2	2.2	00.0	2.2	5.4	7.6	5.4	100.
8	5.4	5.4	3.3	4.3	6.5	7.6	9.8	19.6	16.3	4.3	5.4	00.0	1.1	1.1	2.2	5.4	2.2	100.
9	7.6	5.4	3.3	4.3	1.1	10.9	8.7	14.1	17.4	8.7	6.5	4.3	00.0	00.0	2.2	5.4	00.0	100.
10	5.4	5.4	4.3	1.1	4.3	6.5	12.0	6.5	20.7	9.8	8.7	4.3	1.1	3.3	2.2	4.3	00.0	100.
11	10.9	5.4	1.1	4.3	2.2	4.3	15.2	6.5	23.9	7.6	5.4	3.3	2.2	1.1	3.3	3.3	00.0	100.
12	9.8	5.4	4.3	00.0	4.3	3.3	8.7	16.3	20.7	9.8	3.3	4.3	1.1	00.0	3.3	5.4	00.0	100.
13	8.7	4.3	4.3	3.3	3.3	7.6	8.7	14.1	20.7	9.8	1.1	4.3	00.0	2.2	2.2	5.4	00.0	100.
14	9.8	4.3	3.3	00.0	5.4	3.3	16.3	14.1	22.8	4.3	1.1	00.0	2.2	3.3	3.3	6.5	00.0	100.
15	9.8	4.3	4.3	1.1	5.4	6.5	12.0	17.4	17.4	8.7	2.2	00.0	1.1	00.0	4.3	5.4	00.0	100.
16	5.4	5.4	3.3	2.2	6.5	5.4	15.2	16.3	20.7	4.3	1.1	00.0	00.0	00.0	3.3	10.9	00.0	100.
17	9.8	3.3	4.3	3.3	5.4	3.3	15.2	19.6	16.3	4.3	3.3	00.0	00.0	00.0	1.1	10.9	00.0	100.
18	8.7	1.1	3.3	5.4	2.2	4.3	15.2	23.9	10.9	3.3	1.1	2.2	1.1	2.2	5.4	9.8	00.0	100.
19	6.5	5.4	2.2	4.3	3.3	3.3	10.9	23.9	14.1	2.2	1.1	1.1	2.2	4.3	7.6	7.6	00.0	100.
20	8.7	4.3	2.2	00.0	1.1	3.3	7.6	14.1	20.7	6.5	00.0	1.1	2.2	2.2	12.0	13.0	1.1	100.
21	8.7	3.3	1.1	1.1	00.0	3.3	6.5	16.3	16.3	6.5	00.0	2.2	4.3	6.5	7.6	10.9	5.4	100.
22	9.8	3.3	2.2	00.0	1.1	5.4	6.5	9.8	25.0	5.4	2.2	6.5	3.3	3.3	5.4	7.6	3.3	100.
23	5.4	5.4	00.0	1.1	3.3	2.2	5.4	14.1	26.1	3.3	2.2	00.0	3.3	5.4	5.4	10.9	6.5	100.
24	5.4	4.3	00.0	1.1	3.3	3.3	3.3	10.9	27.2	7.6	2.2	2.2	1.1	6.5	6.5	8.7	6.5	100.
ALL	8.2	4.2	2.7	2.2	3.4	4.6	8.6	14.7	20.2	6.5	3.1	1.8	2.0	2.6	4.7	8.0	2.4	100.

NUMBER OF OBS = 2208

B40

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

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	3.2	00.0	3.2	6.5	3.2	9.7	6.5	16.1	00.0	00.0	3.2	9.7	6.5	00.0	19.4	9.7	100.
2	12.9	3.2	00.0	3.2	3.2	00.0	12.9	12.9	6.5	6.5	00.0	3.2	3.2	6.5	3.2	12.9	9.7	100.
3	3.2	6.5	3.2	3.2	3.2	00.0	9.7	9.7	3.2	3.2	3.2	00.0	3.2	12.9	6.5	16.1	12.9	100.
4	16.1	00.0	00.0	6.5	6.5	00.0	9.7	6.5	3.2	6.5	00.0	3.2	00.0	3.2	19.4	9.7	9.7	100.
5	12.9	6.5	3.2	3.2	3.2	3.2	6.5	9.7	12.9	3.2	6.5	00.0	00.0	9.7	6.5	12.9	00.0	100.
6	9.7	00.0	3.2	6.5	3.2	3.2	16.1	3.2	6.5	3.2	3.2	3.2	00.0	6.5	16.1	9.7	6.5	100.
7	12.9	00.0	00.0	6.5	00.0	3.2	16.1	6.5	9.7	3.2	3.2	00.0	6.5	6.5	9.7	9.7	6.5	100.
8	16.1	00.0	3.2	3.2	6.5	00.0	12.9	16.1	3.2	00.0	3.2	00.0	00.0	3.2	6.5	19.4	6.5	100.
9	3.2	9.7	3.2	00.0	3.2	3.2	19.4	9.7	3.2	3.2	3.2	6.5	00.0	3.2	6.5	19.4	3.2	100.
10	9.7	6.5	3.2	00.0	6.5	3.2	12.9	19.4	00.0	3.2	00.0	3.2	3.2	6.5	6.5	16.1	00.0	100.
11	12.9	3.2	9.7	3.2	00.0	6.5	12.9	6.5	6.5	6.5	3.2	00.0	6.5	3.2	9.7	9.7	00.0	100.
12	6.5	6.5	6.5	3.2	6.5	3.2	12.9	6.5	3.2	3.2	6.5	3.2	3.2	6.5	3.2	19.4	00.0	100.
13	12.9	00.0	6.5	6.5	6.5	3.2	16.1	6.5	6.5	3.2	00.0	3.2	3.2	9.7	00.0	16.1	00.0	100.
14	16.1	00.0	6.5	00.0	9.7	6.5	16.1	3.2	3.2	6.5	3.2	00.0	6.5	3.2	3.2	16.1	00.0	100.
15	6.5	00.0	00.0	3.2	12.9	9.7	12.9	3.2	3.2	9.7	00.0	00.0	3.2	9.7	3.2	22.6	00.0	100.
16	00.0	00.0	3.2	00.0	12.9	00.0	22.6	3.2	6.5	3.2	3.2	00.0	3.2	6.5	6.5	29.0	00.0	100.
17	3.2	6.5	00.0	00.0	12.9	3.2	19.4	6.5	3.2	3.2	00.0	3.2	00.0	12.9	6.5	19.4	00.0	100.
18	6.5	00.0	3.2	00.0	6.5	6.5	9.7	6.5	9.7	00.0	3.2	00.0	00.0	16.1	16.1	12.9	3.2	100.
19	9.7	00.0	3.2	3.2	6.5	00.0	16.1	3.2	6.5	3.2	00.0	6.5	3.2	6.5	19.4	12.9	00.0	100.
20	6.5	00.0	3.2	3.2	3.2	3.2	12.9	3.2	00.0	3.2	3.2	3.2	3.2	6.5	19.4	19.4	6.5	100.
21	3.2	6.5	3.2	3.2	6.5	00.0	9.7	9.7	6.5	3.2	3.2	00.0	3.2	9.7	6.5	22.6	3.2	100.
22	9.7	00.0	3.2	00.0	3.2	00.0	9.7	3.2	16.1	3.2	6.5	3.2	6.5	00.0	16.1	12.9	6.5	100.
23	6.5	3.2	6.5	00.0	3.2	3.2	9.7	9.7	6.5	00.0	3.2	00.0	3.2	6.5	9.7	19.4	9.7	100.
24	12.9	00.0	6.5	3.2	00.0	3.2	6.5	9.7	6.5	9.7	00.0	6.5	3.2	6.5	6.5	9.7	9.7	100.
ALL	8.9	2.6	3.4	2.7	5.5	2.8	13.0	7.5	6.2	3.8	2.4	2.2	3.1	7.0	8.6	16.1	4.3	100.

NUMBER OF OBS = 744

B41

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

PROGRAM: WINPER
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

NOVEMBER

HR. OF DAY	WIND DIRECTION																TOTAL	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		CALM
1	13.3	00.0	3.3	00.0	3.3	00.0	3.3	13.3	26.7	00.0	3.3	00.0	00.0	6.7	10.0	13.3	3.3	100.
2	10.0	3.3	00.0	00.0	3.3	00.0	3.3	16.7	23.3	00.0	3.3	00.0	00.0	10.0	13.3	10.0	3.3	100.
3	6.7	3.3	00.0	3.3	00.0	3.3	3.3	23.3	16.7	3.3	00.0	6.7	00.0	10.0	10.0	10.0	00.0	100.
4	10.0	3.3	3.3	00.0	00.0	00.0	6.7	23.3	13.3	00.0	3.3	00.0	10.0	13.3	10.0	3.3	00.0	100.
5	6.7	00.0	3.3	00.0	00.0	3.3	3.3	30.0	10.0	3.3	00.0	00.0	3.3	13.3	3.3	13.3	6.7	100.
6	10.0	00.0	00.0	00.0	6.7	00.0	10.0	20.0	10.0	00.0	3.3	3.3	3.3	10.0	10.0	10.0	3.3	100.
7	13.3	00.0	00.0	00.0	3.3	00.0	10.0	13.3	20.0	00.0	00.0	00.0	6.7	6.7	10.0	10.0	6.7	100.
8	3.3	00.0	00.0	00.0	00.0	3.3	3.3	26.7	13.3	3.3	3.3	00.0	3.3	13.3	6.7	10.0	10.0	100.
9	00.0	3.3	00.0	00.0	00.0	3.3	3.3	40.0	10.0	00.0	00.0	3.3	00.0	16.7	3.3	13.3	3.3	100.
10	6.7	00.0	00.0	00.0	00.0	3.3	13.3	13.3	23.3	3.3	3.3	3.3	6.7	6.7	10.0	6.7	00.0	100.
11	6.7	00.0	00.0	00.0	3.3	00.0	13.3	13.3	23.3	3.3	6.7	3.3	00.0	3.3	16.7	6.7	00.0	100.
12	6.7	00.0	3.3	3.3	00.0	00.0	10.0	10.0	20.0	10.0	00.0	6.7	6.7	3.3	13.3	6.7	00.0	100.
13	3.3	3.3	3.3	00.0	00.0	3.3	6.7	00.0	30.0	10.0	00.0	6.7	00.0	13.3	10.0	10.0	00.0	100.
14	3.3	3.3	6.7	00.0	00.0	00.0	00.0	6.7	26.7	13.3	00.0	3.3	6.7	6.7	10.0	13.3	00.0	100.
15	00.0	10.0	00.0	00.0	00.0	3.3	00.0	3.3	30.0	13.3	00.0	00.0	6.7	10.0	13.3	10.0	00.0	100.
16	00.0	3.3	6.7	00.0	00.0	3.3	00.0	3.3	30.0	10.0	3.3	00.0	3.3	10.0	10.0	16.7	00.0	100.
17	3.3	3.3	3.3	3.3	00.0	3.3	3.3	20.0	20.0	3.3	00.0	00.0	3.3	10.0	16.7	6.7	00.0	100.
18	10.0	00.0	3.3	00.0	00.0	00.0	00.0	20.0	23.3	00.0	6.7	6.7	6.7	3.3	13.3	6.7	00.0	100.
19	3.3	3.3	3.3	00.0	00.0	00.0	3.3	10.0	30.0	00.0	00.0	10.0	3.3	6.7	6.7	16.7	3.3	100.
20	3.3	6.7	3.3	00.0	00.0	3.3	00.0	20.0	20.0	00.0	00.0	3.3	3.3	6.7	6.7	13.3	10.0	100.
21	6.7	00.0	3.3	3.3	00.0	3.3	00.0	10.0	33.3	00.0	00.0	3.3	00.0	10.0	6.7	13.3	6.7	100.
22	13.3	3.3	00.0	00.0	6.7	00.0	00.0	20.0	23.3	00.0	00.0	3.3	00.0	00.0	13.3	13.3	3.3	100.
23	6.7	6.7	3.3	00.0	3.3	00.0	3.3	13.3	20.0	00.0	3.3	00.0	6.7	6.7	6.7	16.7	3.3	100.
24	6.7	3.3	3.3	00.0	3.3	3.3	3.3	13.3	20.0	6.7	3.3	00.0	00.0	10.0	6.7	13.3	3.3	100.
ALL	6.4	2.5	2.2	.6	1.4	1.7	4.3	16.0	21.5	3.5	1.8	2.6	3.3	8.6	9.9	11.0	2.8	100.

NUMBER OF OBS = 720

B42

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

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	6.5	6.5	00.0	00.0	00.0	6.5	12.9	9.7	12.9	9.7	3.2	3.2	3.2	00.0	16.1	9.7	00.0	100.
2	12.9	00.0	3.2	00.0	3.2	3.2	9.7	9.7	22.6	3.2	6.5	3.2	00.0	00.0	12.9	9.7	00.0	100.
3	6.5	3.2	6.5	00.0	00.0	6.5	6.5	16.1	19.4	6.5	6.5	3.2	00.0	6.5	9.7	3.2	00.0	100.
4	9.7	3.2	6.5	00.0	00.0	00.0	12.9	9.7	19.4	9.7	3.2	6.5	3.2	00.0	9.7	6.5	00.0	100.
5	12.9	3.2	3.2	3.2	3.2	6.5	6.5	12.9	16.1	6.5	6.5	6.5	00.0	3.2	9.7	00.0	00.0	100.
6	6.5	12.9	3.2	3.2	00.0	3.2	6.5	19.4	16.1	6.5	00.0	3.2	3.2	3.2	00.0	9.7	3.2	100.
7	6.5	6.5	00.0	6.5	3.2	00.0	6.5	19.4	16.1	3.2	6.5	3.2	3.2	3.2	6.5	6.5	3.2	100.
8	3.2	6.5	00.0	3.2	9.7	00.0	12.9	16.1	19.4	00.0	00.0	6.5	6.5	00.0	6.5	6.5	3.2	100.
9	3.2	6.5	3.2	3.2	6.5	3.2	3.2	19.4	19.4	3.2	6.5	3.2	6.5	00.0	9.7	00.0	3.2	100.
10	3.2	00.0	3.2	3.2	6.5	6.5	6.5	6.5	19.4	3.2	9.7	3.2	9.7	6.5	3.2	9.7	00.0	100.
11	6.5	3.2	00.0	6.5	3.2	12.9	00.0	3.2	19.4	6.5	6.5	3.2	6.5	6.5	3.2	12.9	00.0	100.
12	6.5	00.0	6.5	3.2	00.0	9.7	3.2	9.7	19.4	3.2	6.5	6.5	6.5	6.5	3.2	9.7	00.0	100.
13	9.7	00.0	3.2	9.7	00.0	6.5	6.5	00.0	9.7	12.9	3.2	9.7	6.5	9.7	9.7	3.2	00.0	100.
14	3.2	00.0	6.5	00.0	6.5	6.5	6.5	6.5	3.2	12.9	6.5	6.5	6.5	9.7	6.5	12.9	00.0	100.
15	6.5	00.0	3.2	00.0	3.2	9.7	6.5	00.0	12.9	6.5	12.9	9.7	3.2	00.0	9.7	16.1	00.0	100.
16	12.9	3.2	00.0	00.0	3.2	3.2	12.9	00.0	16.1	9.7	00.0	9.7	3.2	3.2	6.5	16.1	00.0	100.
17	6.5	3.2	3.2	00.0	3.2	3.2	12.9	6.5	9.7	9.7	9.7	00.0	3.2	00.0	3.2	25.8	00.0	100.
18	9.7	3.2	00.0	3.2	3.2	00.0	9.7	12.9	9.7	16.1	3.2	00.0	00.0	00.0	6.5	22.6	00.0	100.
19	12.9	6.5	00.0	00.0	6.5	00.0	6.5	9.7	6.5	6.5	9.7	00.0	00.0	00.0	6.5	22.6	6.5	100.
20	12.9	9.7	00.0	3.2	00.0	3.2	9.7	6.5	12.9	3.2	12.9	3.2	00.0	00.0	12.9	6.5	3.2	100.
21	16.1	3.2	00.0	00.0	6.5	9.7	6.5	9.7	9.7	3.2	00.0	6.5	6.5	00.0	9.7	9.7	3.2	100.
22	22.6	3.2	00.0	00.0	3.2	3.2	6.5	9.7	12.9	3.2	3.2	3.2	3.2	00.0	12.9	9.7	3.2	100.
23	9.7	16.1	3.2	00.0	00.0	3.2	12.9	6.5	9.7	6.5	00.0	6.5	3.2	3.2	6.5	9.7	3.2	100.
24	12.9	9.7	3.2	00.0	3.2	3.2	12.9	3.2	12.9	6.5	3.2	00.0	00.0	9.7	9.7	9.7	00.0	100.
ALL	9.1	4.6	2.4	2.0	3.1	4.6	8.2	9.3	14.4	6.6	5.2	4.4	3.5	3.0	7.9	10.3	1.3	100.

NUMBER OF OBS = 744

B43

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

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	7.6	3.3	1.1	1.1	3.3	3.3	8.7	9.8	18.5	3.3	2.2	2.2	4.3	4.3	8.7	14.1	4.3	100.
2	12.0	2.2	1.1	1.1	3.3	1.1	8.7	13.0	17.4	3.3	3.3	2.2	1.1	5.4	9.8	10.9	4.3	100.
3	5.4	4.3	3.3	2.2	1.1	3.3	6.5	16.3	13.0	4.3	3.3	3.3	1.1	9.8	8.7	9.8	4.3	100.
4	12.0	2.2	3.3	2.2	2.2	00.0	9.8	13.0	12.0	5.4	2.2	3.3	4.3	5.4	13.0	6.5	3.3	100.
5	10.9	3.3	3.3	2.2	2.2	4.3	5.4	17.4	13.0	4.3	4.3	2.2	1.1	8.7	6.5	8.7	2.2	100.
6	8.7	4.3	2.2	3.3	3.3	2.2	10.9	14.1	10.9	3.3	2.2	3.3	2.2	6.5	8.7	9.8	4.3	100.
7	10.9	2.2	00.0	4.3	2.2	1.1	10.9	13.0	15.2	2.2	3.3	1.1	5.4	5.4	8.7	8.7	5.4	100.
8	7.6	2.2	1.1	2.2	5.4	1.1	9.8	19.6	12.0	1.1	2.2	2.2	3.3	5.4	6.5	12.0	6.5	100.
9	2.2	6.5	2.2	1.1	3.3	3.3	8.7	22.8	10.9	2.2	3.3	4.3	2.2	6.5	6.5	10.9	3.3	100.
10	6.5	2.2	2.2	1.1	4.3	4.3	10.9	13.0	14.1	3.3	4.3	3.3	6.5	6.5	6.5	10.9	00.0	100.
11	8.7	2.2	3.3	3.3	2.2	6.5	8.7	7.6	16.3	5.4	5.4	2.2	4.3	4.3	9.8	9.8	00.0	100.
12	6.5	2.2	5.4	3.3	2.2	4.3	8.7	8.7	14.1	5.4	4.3	5.4	5.4	5.4	6.5	12.0	00.0	100.
13	8.7	1.1	4.3	5.4	2.2	4.3	9.8	2.2	15.2	8.7	1.1	6.5	3.3	10.9	6.5	9.8	00.0	100.
14	7.6	1.1	6.5	00.0	5.4	4.3	7.6	5.4	10.9	10.9	3.3	3.3	6.5	6.5	6.5	14.1	00.0	100.
15	4.3	3.3	1.1	1.1	5.4	7.6	6.5	2.2	15.2	9.8	4.3	3.3	4.3	6.5	8.7	16.3	00.0	100.
16	4.3	2.2	3.3	00.0	5.4	2.2	12.0	2.2	17.4	7.6	2.2	3.3	3.3	6.5	7.6	20.7	00.0	100.
17	4.3	4.3	2.2	1.1	5.4	3.3	12.0	10.9	10.9	5.4	3.3	1.1	2.2	7.6	8.7	17.4	00.0	100.
18	8.7	1.1	2.2	1.1	3.3	2.2	6.5	13.0	14.1	5.4	4.3	2.2	2.2	6.5	12.0	14.1	1.1	100.
19	8.7	3.3	2.2	1.1	4.3	00.0	8.7	7.6	14.1	3.3	3.3	5.4	2.2	4.3	10.9	17.4	3.3	100.
20	7.6	5.4	2.2	2.2	1.1	3.3	7.6	9.8	10.9	2.2	5.4	3.3	2.2	4.3	13.0	13.0	6.5	100.
21	8.7	3.3	2.2	2.2	4.3	4.3	5.4	9.8	16.3	2.2	1.1	3.3	3.3	6.5	7.6	15.2	4.3	100.
22	15.2	2.2	1.1	00.0	4.3	1.1	5.4	10.9	17.4	2.2	3.3	3.3	3.3	00.0	14.1	12.0	4.3	100.
23	7.6	8.7	4.3	00.0	2.2	2.2	8.7	9.8	12.0	2.2	2.2	2.2	4.3	5.4	7.6	15.2	5.4	100.
24	10.9	4.3	4.3	1.1	2.2	3.3	7.6	8.7	13.0	7.6	2.2	2.2	1.1	8.7	7.6	10.9	4.3	100.
ALL	8.2	3.2	2.7	1.8	3.4	3.0	8.6	10.9	13.9	4.6	3.2	3.1	3.3	6.2	8.8	12.5	2.8	100.

NUMBER OF OBS = 2208

B44

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

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	8.2	3.8	1.6	.5	2.7	4.3	6.0	10.3	21.7	4.9	2.7	2.2	3.3	3.8	9.2	10.3	4.3	100.
2	11.4	2.2	1.1	2.7	2.2	2.7	5.4	11.4	22.3	5.4	3.8	1.1	2.2	4.3	5.4	11.4	4.9	100.
3	7.6	6.0	3.3	1.1	3.3	2.7	4.9	14.7	16.8	6.0	4.3	2.7	2.7	6.0	6.0	8.7	3.3	100.
4	9.2	2.7	4.3	1.6	2.7	.5	7.1	14.1	15.2	8.7	3.8	2.2	5.4	4.9	8.7	6.5	2.2	100.
5	8.2	2.7	2.7	3.3	2.7	3.8	6.0	15.8	16.3	5.4	3.8	1.1	2.2	6.0	6.5	8.2	5.4	100.
6	8.2	3.3	1.6	3.3	2.7	3.3	8.2	16.3	14.1	4.3	2.7	1.6	2.7	4.9	6.5	10.9	5.4	100.
7	12.0	2.2	1.6	3.8	3.3	3.8	7.6	13.6	17.9	2.7	2.7	1.6	2.7	3.8	7.1	8.2	5.4	100.
8	6.5	3.8	2.2	3.3	6.0	4.3	9.8	19.6	14.1	2.7	3.8	1.1	2.2	3.3	4.3	8.7	4.3	100.
9	4.9	6.0	2.7	2.7	2.2	7.1	8.7	18.5	14.1	5.4	4.9	4.3	1.1	3.3	4.3	8.2	1.6	100.
10	6.0	3.8	3.3	1.1	4.3	5.4	11.4	9.8	17.4	6.5	6.5	3.8	3.8	4.9	4.3	7.6	00.0	100.
11	9.8	3.8	2.2	3.8	2.2	5.4	12.0	7.1	20.1	6.5	5.4	2.7	3.3	2.7	6.5	6.5	00.0	100.
12	8.2	3.8	4.9	1.6	3.3	3.8	8.7	12.5	17.4	7.6	3.8	4.9	3.3	2.7	4.9	8.7	00.0	100.
13	8.7	2.7	4.3	4.3	2.7	6.0	9.2	8.2	17.9	9.2	1.1	5.4	1.6	6.5	4.3	7.6	00.0	100.
14	8.7	2.7	4.9	00.0	5.4	3.8	12.0	9.8	16.8	7.6	2.2	1.6	4.3	4.9	4.9	10.3	00.0	100.
15	7.1	3.8	2.7	1.1	5.4	7.1	9.2	9.8	16.3	9.2	3.3	1.6	2.7	3.3	6.5	10.9	00.0	100.
16	4.9	3.8	3.3	1.1	6.0	3.8	13.6	9.2	19.0	6.0	1.6	1.6	1.6	3.3	5.4	15.8	00.0	100.
17	7.1	3.8	3.3	2.2	5.4	3.3	13.6	15.2	13.6	4.9	3.3	.5	1.1	3.8	4.9	14.1	00.0	100.
18	8.7	1.1	2.7	3.3	2.7	3.3	10.9	18.5	12.5	4.3	2.7	2.2	1.6	4.3	8.7	12.0	.5	100.
19	7.6	4.3	2.2	2.7	3.8	1.6	9.8	15.8	14.1	2.7	2.2	3.3	2.2	4.3	9.2	12.5	1.6	100.
20	8.2	4.9	2.2	1.1	1.1	3.3	7.6	12.0	15.8	4.3	2.7	2.2	2.2	3.3	12.5	13.0	3.8	100.
21	8.7	3.3	1.6	1.6	2.2	3.8	6.0	13.0	16.3	4.3	.5	2.7	3.8	6.5	7.6	13.0	4.9	100.
22	12.5	2.7	1.6	00.0	2.7	3.3	6.0	10.3	21.2	3.8	2.7	4.9	3.3	1.6	9.8	9.8	3.8	100.
23	6.5	7.1	2.2	.5	2.7	2.2	7.1	12.0	19.0	2.7	2.2	1.1	3.8	5.4	6.5	13.0	6.0	100.
24	8.2	4.3	2.2	1.1	2.7	3.3	5.4	9.8	20.1	7.6	2.2	2.2	1.1	7.6	7.1	9.8	5.4	100.
ALL	8.2	3.7	2.7	2.0	3.4	3.8	8.6	12.8	17.1	5.5	3.1	2.4	2.7	4.4	6.7	10.2	2.6	100.

NUMBER OF OBS = 4416

B45

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION 2021

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	11.8	4.1	3.0	2.5	3.3	3.3	5.2	10.7	17.8	6.8	3.0	2.5	2.5	4.1	8.8	8.2	2.5	100.
2	11.8	3.6	1.4	4.1	2.7	3.6	5.5	11.8	16.7	7.7	3.0	2.2	2.7	4.9	6.6	8.8	3.0	100.
3	11.2	5.2	3.3	1.6	4.1	2.2	5.2	13.2	14.8	6.8	5.2	1.9	2.7	6.8	4.7	9.0	1.9	100.
4	10.7	3.6	3.6	3.0	1.6	2.5	6.6	11.8	14.8	6.8	3.6	1.6	4.7	4.9	7.9	9.9	2.5	100.
5	11.2	3.8	3.0	3.3	3.0	3.3	6.0	14.8	12.9	4.7	4.7	1.1	2.7	4.9	7.1	9.3	4.1	100.
6	11.2	3.6	2.5	3.3	3.3	3.6	7.9	12.9	12.3	5.8	3.8	1.6	2.5	4.4	6.6	11.0	3.8	100.
7	12.3	3.6	2.5	3.0	3.3	3.3	7.7	14.8	15.3	2.7	2.7	2.5	1.9	3.0	7.9	9.3	4.1	100.
8	9.9	4.4	1.9	2.5	4.9	4.4	9.0	17.8	13.7	3.6	2.5	.8	3.3	3.6	4.9	9.6	3.3	100.
9	7.9	5.8	3.6	2.2	3.3	6.8	7.9	16.2	14.5	5.8	3.6	2.7	1.4	3.3	6.8	7.1	1.1	100.
10	8.8	5.8	3.6	1.9	3.6	7.7	9.6	10.4	14.0	7.9	4.1	2.7	2.7	2.7	7.1	7.1	.3	100.
11	11.2	4.9	2.5	3.0	3.0	6.8	11.0	7.7	15.3	8.5	4.1	2.2	2.2	2.7	7.9	6.8	00.0	100.
12	10.4	5.2	3.8	1.9	3.8	5.2	9.0	9.9	15.1	9.6	3.0	3.6	2.5	2.7	6.3	7.9	00.0	100.
13	9.9	4.1	3.6	3.6	2.5	5.8	8.5	9.3	16.2	9.0	1.9	4.4	.8	5.5	5.8	9.3	00.0	100.
14	10.1	4.1	3.6	1.4	4.4	3.3	10.7	9.9	15.9	7.9	3.0	2.2	2.5	4.4	8.5	8.2	00.0	100.
15	9.6	4.4	2.2	1.4	4.4	5.5	8.2	12.1	13.4	8.2	4.7	2.2	1.6	3.8	7.9	10.4	00.0	100.
16	9.3	4.9	2.7	1.6	4.7	5.8	9.9	7.7	17.8	6.8	2.7	1.9	1.1	3.6	6.8	12.6	00.0	100.
17	9.6	4.4	3.6	2.7	4.9	4.1	11.0	12.9	11.8	6.3	3.6	1.1	1.1	3.3	5.8	14.0	00.0	100.
18	10.4	3.6	3.6	3.3	3.0	3.8	10.4	14.0	9.9	6.9	2.5	1.6	1.9	3.6	8.5	12.4	.5	100.
19	8.8	6.0	2.2	3.8	3.0	2.7	9.1	13.7	12.4	4.4	1.6	1.9	2.7	4.1	9.1	13.2	1.1	100.
20	8.5	4.9	3.6	1.4	1.4	3.6	8.2	11.0	14.8	3.8	1.6	3.0	3.0	4.1	12.6	11.8	2.7	100.
21	8.5	3.6	3.3	1.9	2.7	3.0	5.8	11.5	15.6	4.9	1.1	3.3	3.3	6.0	10.4	11.8	3.3	100.
22	12.9	4.1	2.5	1.1	3.0	3.6	5.2	10.7	17.8	5.2	2.7	4.1	3.8	4.1	7.7	9.3	2.2	100.
23	8.8	4.9	3.3	1.6	2.5	2.7	6.6	11.8	17.0	2.7	4.9	1.9	3.6	4.9	6.3	12.4	3.8	100.
24	11.0	3.3	2.5	3.0	2.7	2.7	6.0	10.4	16.4	7.1	4.7	2.5	2.2	6.0	6.8	9.0	3.6	100.
ALL	10.2	4.4	3.0	2.5	3.3	4.1	7.9	11.9	14.8	6.3	3.3	2.3	2.5	4.2	7.5	9.9	1.8	100.

NUMBER OF OBS = 8757

B46

Wind Direction Frequencies

100-Meter Level

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

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	6.5	6.5	00.0	9.7	6.5	6.5	3.2	9.7	9.7	3.2	6.5	6.5	9.7	9.7	00.0	100.
2	3.2	9.7	00.0	6.5	3.2	9.7	6.5	6.5	9.7	00.0	12.9	9.7	00.0	3.2	9.7	9.7	00.0	100.
3	6.5	3.2	6.5	6.5	00.0	9.7	9.7	3.2	3.2	6.5	16.1	3.2	3.2	3.2	6.5	12.9	00.0	100.
4	6.5	9.7	00.0	6.5	00.0	6.5	9.7	3.2	9.7	3.2	6.5	3.2	6.5	6.5	6.5	16.1	00.0	100.
5	16.1	00.0	00.0	6.5	00.0	6.5	3.2	12.9	6.5	6.5	3.2	3.2	3.2	9.7	9.7	12.9	00.0	100.
6	16.1	00.0	00.0	3.2	3.2	6.5	3.2	9.7	9.7	3.2	6.5	3.2	3.2	9.7	9.7	12.9	00.0	100.
7	16.1	00.0	00.0	3.2	3.2	9.7	00.0	16.1	3.2	6.5	3.2	3.2	3.2	12.9	6.5	12.9	00.0	100.
8	16.1	00.0	00.0	6.5	3.2	3.2	9.7	12.9	00.0	6.5	3.2	3.2	6.5	12.9	3.2	12.9	00.0	100.
9	22.6	00.0	00.0	6.5	3.2	6.5	3.2	12.9	00.0	9.7	6.5	00.0	3.2	12.9	9.7	3.2	00.0	100.
10	12.9	3.2	00.0	6.5	00.0	9.7	3.2	12.9	3.2	3.2	6.5	3.2	3.2	6.5	12.9	12.9	00.0	100.
11	9.7	6.5	3.2	3.2	3.2	6.5	6.5	9.7	3.2	6.5	6.5	00.0	6.5	6.5	12.9	9.7	00.0	100.
12	9.7	6.5	3.2	00.0	3.2	6.5	6.5	6.5	6.5	12.9	00.0	00.0	6.5	6.5	16.1	9.7	00.0	100.
13	12.9	3.2	3.2	6.5	3.2	00.0	3.2	6.5	6.5	9.7	3.2	3.2	00.0	16.1	16.1	6.5	00.0	100.
14	16.1	3.2	3.2	3.2	3.2	00.0	6.5	3.2	6.5	6.5	6.5	3.2	00.0	9.7	25.8	3.2	00.0	100.
15	12.9	6.5	3.2	3.2	3.2	3.2	3.2	6.5	3.2	00.0	12.9	3.2	00.0	6.5	22.6	9.7	00.0	100.
16	22.6	00.0	3.2	3.2	3.2	3.2	6.5	6.5	00.0	3.2	9.7	3.2	00.0	6.5	19.4	9.7	00.0	100.
17	16.1	3.2	6.5	00.0	3.2	6.5	6.5	3.2	3.2	00.0	9.7	3.2	3.2	6.5	12.9	16.1	00.0	100.
18	6.5	6.5	9.7	00.0	00.0	9.7	9.7	3.2	00.0	00.0	9.7	00.0	6.5	6.5	12.9	19.4	00.0	100.
19	6.5	9.7	6.5	00.0	3.2	9.7	3.2	6.5	00.0	6.5	3.2	00.0	6.5	6.5	19.4	12.9	00.0	100.
20	3.2	12.9	6.5	00.0	00.0	9.7	6.5	6.5	00.0	3.2	6.5	00.0	3.2	9.7	16.1	16.1	00.0	100.
21	6.5	3.2	3.2	9.7	3.2	9.7	6.5	6.5	00.0	00.0	9.7	00.0	6.5	3.2	9.7	22.6	00.0	100.
22	9.7	3.2	6.5	6.5	3.2	9.7	3.2	9.7	00.0	3.2	6.5	00.0	9.7	00.0	16.1	12.9	00.0	100.
23	9.7	3.2	6.5	00.0	6.5	9.7	3.2	6.5	6.5	3.2	6.5	00.0	6.5	3.2	19.4	9.7	00.0	100.
24	6.5	3.2	6.5	00.0	6.5	6.5	6.5	6.5	3.2	9.7	3.2	9.7	3.2	6.5	12.9	9.7	00.0	100.
ALL	11.2	4.2	3.5	3.9	2.6	7.0	5.5	7.7	3.6	5.0	7.0	2.6	4.0	7.4	13.2	11.8	00.0	100.

NUMBER OF OBS = 744

B48

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

PROGRAM: WINPER
 VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

FEBRUARY

HR. OF DAY	WIND DIRECTION																TOTAL	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		CALM
1	17.9	10.7	10.7	00.0	00.0	00.0	14.3	3.6	10.7	00.0	7.1	3.6	3.6	7.1	3.6	7.1	00.0	100.
2	25.0	10.7	3.6	3.6	00.0	3.6	10.7	10.7	00.0	00.0	3.6	7.1	7.1	7.1	3.6	3.6	00.0	100.
3	21.4	10.7	3.6	00.0	3.6	7.1	3.6	10.7	3.6	00.0	3.6	3.6	10.7	7.1	3.6	7.1	00.0	100.
4	21.4	10.7	7.1	00.0	00.0	00.0	14.3	7.1	00.0	00.0	3.6	3.6	10.7	3.6	10.7	7.1	00.0	100.
5	21.4	10.7	3.6	00.0	00.0	3.6	10.7	10.7	00.0	00.0	3.6	7.1	3.6	7.1	3.6	14.3	00.0	100.
6	17.9	14.3	3.6	3.6	00.0	00.0	10.7	14.3	00.0	00.0	3.6	7.1	3.6	7.1	3.6	10.7	00.0	100.
7	17.9	17.9	00.0	3.6	00.0	00.0	14.3	3.6	3.6	00.0	7.1	7.1	00.0	7.1	10.7	7.1	00.0	100.
8	17.9	10.7	3.6	3.6	00.0	3.6	10.7	7.1	00.0	7.1	00.0	7.1	00.0	7.1	7.1	14.3	00.0	100.
9	25.0	10.7	00.0	00.0	3.6	00.0	14.3	3.6	7.1	3.6	3.6	3.6	00.0	7.1	10.7	7.1	00.0	100.
10	25.0	10.7	00.0	3.6	00.0	7.1	10.7	7.1	3.6	3.6	00.0	3.6	00.0	00.0	14.3	10.7	00.0	100.
11	25.0	7.1	3.6	3.6	00.0	7.1	3.6	14.3	3.6	3.6	3.6	3.6	00.0	7.1	14.3	00.0	00.0	100.
12	28.6	7.1	00.0	3.6	00.0	3.6	7.1	7.1	7.1	3.6	7.1	10.7	00.0	00.0	10.7	3.6	00.0	100.
13	28.6	7.1	00.0	00.0	3.6	3.6	7.1	3.6	10.7	00.0	10.7	10.7	00.0	3.6	3.6	7.1	00.0	100.
14	28.6	7.1	00.0	00.0	3.6	3.6	7.1	7.1	7.1	3.6	7.1	7.1	00.0	7.1	3.6	7.1	00.0	100.
15	35.7	00.0	00.0	00.0	7.1	3.6	7.1	3.6	3.6	7.1	7.1	3.6	00.0	7.1	10.7	3.6	00.0	100.
16	32.1	3.6	00.0	00.0	7.1	3.6	10.7	3.6	7.1	3.6	00.0	3.6	3.6	14.3	3.6	3.6	00.0	100.
17	32.1	00.0	7.1	00.0	3.6	10.7	3.6	7.1	00.0	10.7	00.0	3.6	00.0	10.7	7.1	3.6	00.0	100.
18	28.6	3.6	7.1	3.6	00.0	14.3	7.1	3.6	00.0	3.6	3.6	3.6	00.0	10.7	7.1	3.6	00.0	100.
19	25.0	10.7	00.0	10.7	10.7	7.1	3.6	3.6	00.0	3.6	00.0	7.1	3.6	7.1	3.6	3.6	00.0	100.
20	25.0	14.3	3.6	3.6	7.1	10.7	7.1	3.6	00.0	3.6	00.0	3.6	7.1	7.1	3.6	00.0	00.0	100.
21	25.0	10.7	00.0	3.6	3.6	3.6	14.3	7.1	00.0	00.0	3.6	7.1	7.1	00.0	3.6	10.7	00.0	100.
22	28.6	3.6	3.6	3.6	00.0	10.7	7.1	7.1	7.1	3.6	00.0	3.6	10.7	00.0	3.6	7.1	00.0	100.
23	28.6	7.1	3.6	00.0	00.0	7.1	7.1	7.1	10.7	3.6	00.0	7.1	7.1	00.0	00.0	10.7	00.0	100.
24	28.6	7.1	7.1	00.0	00.0	3.6	7.1	10.7	7.1	3.6	3.6	7.1	7.1	00.0	7.1	00.0	00.0	100.
ALL	25.4	8.6	3.0	2.1	2.2	4.9	8.9	7.0	3.9	2.8	3.4	5.7	3.6	5.7	6.4	6.4	00.0	100.

NUMBER OF OBS = 672

B49

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

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	00.0	3.2	9.7	6.5	9.7	9.7	3.2	9.7	9.7	9.7	6.5	3.2	3.2	9.7	3.2	3.2	00.0	100.
2	6.5	00.0	3.2	12.9	9.7	9.7	3.2	9.7	9.7	6.5	00.0	6.5	6.5	6.5	6.5	3.2	00.0	100.
3	6.5	00.0	6.5	3.2	16.1	9.7	00.0	12.9	9.7	6.5	00.0	3.2	6.5	6.5	6.5	6.5	00.0	100.
4	3.2	6.5	00.0	12.9	3.2	12.9	3.2	12.9	16.1	3.2	00.0	6.5	00.0	6.5	3.2	9.7	00.0	100.
5	00.0	6.5	3.2	6.5	12.9	6.5	3.2	12.9	16.1	3.2	00.0	6.5	00.0	9.7	3.2	9.7	00.0	100.
6	3.2	6.5	3.2	6.5	16.1	3.2	00.0	12.9	19.4	3.2	00.0	6.5	3.2	6.5	3.2	6.5	00.0	100.
7	3.2	3.2	9.7	3.2	9.7	6.5	3.2	12.9	12.9	6.5	6.5	3.2	00.0	6.5	6.5	6.5	00.0	100.
8	00.0	9.7	3.2	6.5	16.1	3.2	00.0	22.6	9.7	00.0	00.0	6.5	3.2	6.5	6.5	6.5	00.0	100.
9	00.0	6.5	3.2	9.7	9.7	9.7	6.5	6.5	19.4	00.0	00.0	00.0	00.0	9.7	12.9	6.5	00.0	100.
10	6.5	6.5	6.5	6.5	12.9	9.7	3.2	3.2	19.4	6.5	00.0	00.0	00.0	3.2	9.7	6.5	00.0	100.
11	12.9	00.0	3.2	9.7	9.7	16.1	3.2	9.7	6.5	12.9	00.0	00.0	00.0	3.2	9.7	3.2	00.0	100.
12	16.1	00.0	00.0	6.5	6.5	19.4	9.7	3.2	12.9	9.7	00.0	00.0	3.2	00.0	9.7	3.2	00.0	100.
13	12.9	3.2	00.0	3.2	9.7	19.4	3.2	9.7	12.9	6.5	00.0	3.2	00.0	00.0	12.9	3.2	00.0	100.
14	12.9	3.2	3.2	00.0	12.9	12.9	9.7	3.2	16.1	9.7	3.2	00.0	00.0	3.2	9.7	00.0	00.0	100.
15	12.9	00.0	00.0	00.0	9.7	25.8	00.0	3.2	12.9	12.9	6.5	00.0	00.0	00.0	12.9	3.2	00.0	100.
16	16.1	00.0	00.0	3.2	9.7	19.4	3.2	3.2	16.1	6.5	6.5	00.0	3.2	00.0	9.7	3.2	00.0	100.
17	12.9	3.2	00.0	6.5	12.9	12.9	3.2	3.2	9.7	16.1	00.0	3.2	00.0	3.2	9.7	3.2	00.0	100.
18	6.5	6.5	00.0	9.7	6.5	12.9	6.5	6.5	12.9	9.7	00.0	00.0	3.2	00.0	9.7	9.7	00.0	100.
19	3.2	6.5	3.2	9.7	6.5	6.5	12.9	12.9	12.9	3.2	00.0	00.0	00.0	6.5	6.5	9.7	00.0	100.
20	9.7	3.2	3.2	6.5	12.9	9.7	6.5	16.1	9.7	3.2	00.0	00.0	3.2	3.2	9.7	3.2	00.0	100.
21	6.5	9.7	3.2	3.2	16.1	6.5	6.5	19.4	9.7	3.2	00.0	00.0	3.2	3.2	3.2	6.5	00.0	100.
22	12.9	6.5	3.2	9.7	16.1	3.2	3.2	19.4	9.7	3.2	00.0	00.0	3.2	00.0	6.5	3.2	00.0	100.
23	12.9	3.2	9.7	9.7	12.9	3.2	3.2	16.1	12.9	3.2	00.0	00.0	3.2	3.2	6.5	00.0	00.0	100.
24	00.0	12.9	3.2	12.9	9.7	6.5	00.0	16.1	6.5	6.5	6.5	3.2	00.0	3.2	6.5	6.5	00.0	100.
ALL	7.4	4.4	3.4	6.9	11.2	10.6	4.0	10.8	12.6	6.3	1.5	2.2	1.9	4.2	7.7	5.1	00.0	100.

NUMBER OF OBS = 744

B50

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

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	6.7	5.6	8.9	4.4	3.3	6.7	7.8	6.7	7.8	6.7	7.8	3.3	4.4	7.8	5.6	6.7	00.0	100.
2	11.1	6.7	2.2	7.8	4.4	7.8	6.7	8.9	6.7	2.2	5.6	7.8	4.4	5.6	6.7	5.6	00.0	100.
3	11.1	4.4	5.6	3.3	6.7	8.9	4.4	8.9	5.6	4.4	6.7	3.3	6.7	5.6	5.6	8.9	00.0	100.
4	10.0	8.9	2.2	6.7	1.1	6.7	8.9	7.8	8.9	2.2	3.3	4.4	5.6	5.6	6.7	11.1	00.0	100.
5	12.2	5.6	2.2	4.4	4.4	5.6	5.6	12.2	7.8	3.3	2.2	5.6	2.2	8.9	5.6	12.2	00.0	100.
6	12.2	6.7	2.2	4.4	6.7	3.3	4.4	12.2	10.0	2.2	3.3	5.6	3.3	7.8	5.6	10.0	00.0	100.
7	12.2	6.7	3.3	3.3	4.4	5.6	5.6	11.1	6.7	4.4	5.6	4.4	1.1	8.9	7.8	8.9	00.0	100.
8	11.1	6.7	2.2	5.6	6.7	3.3	6.7	14.4	3.3	4.4	1.1	5.6	3.3	8.9	5.6	11.1	00.0	100.
9	15.6	5.6	1.1	5.6	5.6	5.6	7.8	7.8	8.9	4.4	3.3	1.1	1.1	10.0	11.1	5.6	00.0	100.
10	14.4	6.7	2.2	5.6	4.4	8.9	5.6	7.8	8.9	4.4	2.2	2.2	1.1	3.3	12.2	10.0	00.0	100.
11	15.6	4.4	3.3	5.6	4.4	10.0	4.4	11.1	4.4	7.8	3.3	1.1	2.2	5.6	12.2	4.4	00.0	100.
12	17.8	4.4	1.1	3.3	3.3	10.0	7.8	5.6	8.9	8.9	2.2	3.3	3.3	2.2	12.2	5.6	00.0	100.
13	17.8	4.4	1.1	3.3	5.6	7.8	4.4	6.7	10.0	5.6	4.4	5.6	00.0	6.7	11.1	5.6	00.0	100.
14	18.9	4.4	2.2	1.1	6.7	5.6	7.8	4.4	10.0	6.7	5.6	3.3	00.0	6.7	13.3	3.3	00.0	100.
15	20.0	2.2	1.1	1.1	6.7	11.1	3.3	4.4	6.7	6.7	8.9	2.2	00.0	4.4	15.6	5.6	00.0	100.
16	23.3	1.1	1.1	2.2	6.7	8.9	6.7	4.4	7.8	4.4	5.6	2.2	2.2	6.7	11.1	5.6	00.0	100.
17	20.0	2.2	4.4	2.2	6.7	10.0	4.4	4.4	4.4	8.9	3.3	3.3	1.1	6.7	10.0	7.8	00.0	100.
18	13.3	5.6	5.6	4.4	2.2	12.2	7.8	4.4	4.4	4.4	4.4	1.1	3.3	5.6	10.0	11.1	00.0	100.
19	11.1	8.9	3.3	6.7	6.7	7.8	6.7	7.8	4.4	4.4	1.1	2.2	3.3	6.7	10.0	8.9	00.0	100.
20	12.2	10.0	4.4	3.3	6.7	10.0	6.7	8.9	3.3	3.3	2.2	1.1	4.4	6.7	10.0	6.7	00.0	100.
21	12.2	7.8	2.2	5.6	7.8	6.7	8.9	11.1	3.3	1.1	4.4	2.2	5.6	2.2	5.6	13.3	00.0	100.
22	16.7	4.4	4.4	6.7	6.7	7.8	4.4	12.2	5.6	3.3	2.2	1.1	7.8	00.0	8.9	7.8	00.0	100.
23	16.7	4.4	6.7	3.3	6.7	6.7	4.4	10.0	10.0	3.3	2.2	2.2	5.6	2.2	8.9	6.7	00.0	100.
24	11.1	7.8	5.6	4.4	5.6	5.6	4.4	11.1	5.6	6.7	4.4	6.7	3.3	3.3	8.9	5.6	00.0	100.
ALL	14.3	5.6	3.3	4.4	5.4	7.6	6.1	8.5	6.8	4.8	4.0	3.4	3.1	5.7	9.2	7.8	00.0	100.

NUMBER OF OBS = 2160

BS1

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

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	16.7	00.0	00.0	3.3	00.0	00.0	00.0	13.3	10.0	6.7	6.7	3.3	3.3	00.0	23.3	13.3	00.0	100.
2	16.7	00.0	00.0	00.0	00.0	3.3	00.0	13.3	6.7	10.0	3.3	3.3	3.3	3.3	23.3	13.3	00.0	100.
3	20.0	00.0	00.0	00.0	00.0	3.3	00.0	16.7	6.7	6.7	3.3	00.0	6.7	10.0	16.7	10.0	00.0	100.
4	13.3	6.7	00.0	00.0	00.0	3.3	00.0	20.0	3.3	10.0	00.0	00.0	6.7	10.0	6.7	20.0	00.0	100.
5	13.3	6.7	00.0	00.0	00.0	3.3	3.3	13.3	3.3	10.0	3.3	3.3	3.3	13.3	00.0	23.3	00.0	100.
6	10.0	00.0	00.0	3.3	00.0	3.3	3.3	16.7	00.0	10.0	3.3	6.7	3.3	6.7	10.0	23.3	00.0	100.
7	13.3	00.0	00.0	00.0	3.3	3.3	00.0	16.7	3.3	6.7	3.3	10.0	00.0	10.0	13.3	16.7	00.0	100.
8	6.7	6.7	00.0	00.0	00.0	3.3	3.3	16.7	6.7	3.3	3.3	3.3	3.3	10.0	20.0	13.3	00.0	100.
9	3.3	6.7	00.0	00.0	00.0	3.3	6.7	6.7	13.3	10.0	3.3	00.0	00.0	6.7	26.7	13.3	00.0	100.
10	10.0	00.0	3.3	00.0	00.0	00.0	6.7	13.3	6.7	13.3	3.3	00.0	00.0	6.7	20.0	16.7	00.0	100.
11	6.7	6.7	00.0	00.0	00.0	6.7	3.3	3.3	16.7	6.7	3.3	3.3	00.0	10.0	13.3	20.0	00.0	100.
12	6.7	00.0	3.3	00.0	00.0	6.7	00.0	6.7	16.7	10.0	00.0	3.3	00.0	10.0	16.7	20.0	00.0	100.
13	10.0	00.0	00.0	00.0	00.0	00.0	6.7	6.7	16.7	10.0	00.0	3.3	3.3	6.7	23.3	13.3	00.0	100.
14	6.7	3.3	00.0	00.0	00.0	00.0	3.3	6.7	16.7	10.0	3.3	00.0	6.7	6.7	26.7	10.0	00.0	100.
15	00.0	3.3	00.0	00.0	00.0	00.0	00.0	10.0	16.7	6.7	3.3	3.3	3.3	10.0	20.0	23.3	00.0	100.
16	6.7	00.0	00.0	00.0	00.0	00.0	00.0	6.7	20.0	3.3	00.0	6.7	3.3	20.0	16.7	16.7	00.0	100.
17	10.0	00.0	3.3	00.0	00.0	00.0	3.3	6.7	16.7	3.3	3.3	00.0	3.3	10.0	16.7	23.3	00.0	100.
18	10.0	3.3	00.0	00.0	00.0	00.0	3.3	10.0	10.0	6.7	3.3	00.0	3.3	10.0	13.3	26.7	00.0	100.
19	3.3	10.0	00.0	00.0	00.0	00.0	6.7	10.0	13.3	3.3	00.0	00.0	3.3	6.7	16.7	26.7	00.0	100.
20	6.7	6.7	00.0	00.0	3.3	00.0	3.3	16.7	10.0	3.3	00.0	3.3	6.7	3.3	16.7	20.0	00.0	100.
21	10.0	6.7	00.0	00.0	00.0	00.0	10.0	16.7	10.0	3.3	3.3	00.0	3.3	6.7	23.3	6.7	00.0	100.
22	10.0	00.0	3.3	00.0	00.0	00.0	3.3	10.0	23.3	6.7	00.0	3.3	3.3	6.7	13.3	16.7	00.0	100.
23	10.0	3.3	3.3	00.0	00.0	00.0	3.3	10.0	20.0	10.0	3.3	00.0	3.3	00.0	13.3	20.0	00.0	100.
24	10.0	00.0	00.0	3.3	00.0	00.0	00.0	13.3	13.3	10.0	3.3	3.3	3.3	00.0	13.3	26.7	00.0	100.
ALL	9.6	2.9	.7	.4	.3	1.7	2.9	11.7	11.7	7.5	2.5	2.5	3.2	7.6	16.8	18.1	00.0	100.

NUMBER OF OBS = 720

BS2

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

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	6.5	3.2	9.7	3.2	9.7	3.2	19.4	9.7	12.9	6.5	00.0	3.2	00.0	6.5	3.2	3.2	00.0	100.
2	9.7	00.0	9.7	6.5	6.5	6.5	9.7	25.8	3.2	9.7	00.0	3.2	3.2	00.0	3.2	3.2	00.0	100.
3	9.7	3.2	00.0	9.7	6.5	00.0	9.7	29.0	3.2	9.7	3.2	3.2	00.0	3.2	00.0	9.7	00.0	100.
4	3.2	6.5	3.2	9.7	6.5	00.0	6.5	25.8	6.5	6.5	6.5	3.2	3.2	00.0	00.0	12.9	00.0	100.
5	16.1	00.0	00.0	9.7	12.9	3.2	19.4	12.9	12.9	00.0	6.5	00.0	00.0	00.0	3.2	3.2	00.0	100.
6	9.7	00.0	3.2	3.2	9.7	9.7	9.7	19.4	16.1	00.0	3.2	3.2	00.0	00.0	00.0	12.9	00.0	100.
7	12.9	00.0	3.2	6.5	6.5	9.7	12.9	22.6	6.5	3.2	3.2	00.0	3.2	00.0	00.0	9.7	00.0	100.
8	12.9	6.5	00.0	3.2	3.2	9.7	12.9	22.6	9.7	3.2	3.2	3.2	3.2	00.0	00.0	6.5	00.0	100.
9	6.5	6.5	3.2	00.0	6.5	9.7	6.5	25.8	12.9	6.5	00.0	3.2	00.0	3.2	3.2	6.5	00.0	100.
10	6.5	6.5	3.2	00.0	6.5	9.7	9.7	19.4	9.7	9.7	3.2	00.0	6.5	00.0	3.2	6.5	00.0	100.
11	3.2	3.2	6.5	00.0	6.5	9.7	9.7	16.1	12.9	6.5	6.5	00.0	3.2	00.0	9.7	6.5	00.0	100.
12	6.5	3.2	6.5	3.2	9.7	3.2	12.9	16.1	12.9	9.7	00.0	00.0	3.2	3.2	00.0	9.7	00.0	100.
13	6.5	6.5	6.5	00.0	3.2	9.7	9.7	16.1	19.4	6.5	00.0	00.0	3.2	00.0	3.2	9.7	00.0	100.
14	3.2	3.2	3.2	6.5	3.2	00.0	12.9	22.6	19.4	6.5	00.0	00.0	00.0	00.0	3.2	16.1	00.0	100.
15	6.5	6.5	3.2	6.5	3.2	6.5	9.7	29.0	6.5	9.7	00.0	00.0	00.0	00.0	00.0	12.9	00.0	100.
16	6.5	6.5	3.2	00.0	6.5	6.5	9.7	25.8	12.9	9.7	00.0	00.0	00.0	00.0	00.0	12.9	00.0	100.
17	12.9	6.5	00.0	6.5	6.5	3.2	12.9	19.4	19.4	3.2	3.2	00.0	00.0	00.0	3.2	3.2	00.0	100.
18	12.9	3.2	3.2	9.7	3.2	3.2	16.1	19.4	12.9	3.2	00.0	3.2	00.0	00.0	3.2	3.2	3.2	100.
19	9.7	6.5	9.7	9.7	00.0	3.2	6.5	25.8	16.1	3.2	00.0	00.0	3.2	00.0	6.5	00.0	00.0	100.
20	12.9	3.2	3.2	12.9	3.2	3.2	16.1	19.4	16.1	3.2	00.0	00.0	3.2	00.0	3.2	00.0	00.0	100.
21	12.9	3.2	6.5	6.5	9.7	00.0	16.1	22.6	12.9	3.2	3.2	00.0	00.0	00.0	3.2	00.0	00.0	100.
22	9.7	6.5	6.5	3.2	6.5	6.5	19.4	12.9	16.1	3.2	3.2	00.0	00.0	00.0	6.5	00.0	00.0	100.
23	9.7	00.0	9.7	6.5	9.7	9.7	16.1	12.9	12.9	3.2	3.2	00.0	00.0	3.2	00.0	3.2	00.0	100.
24	9.7	00.0	3.2	9.7	9.7	6.5	16.1	12.9	12.9	6.5	3.2	3.2	00.0	3.2	00.0	3.2	00.0	100.
ALL	9.0	3.8	4.4	5.5	6.5	5.5	12.5	20.2	12.4	5.5	2.2	1.2	1.5	.9	2.4	6.5	.1	100.

NUMBER OF OBS = 744

B53

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

PROGRAM: WINPER
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JUNE

HR. OF DAY	WIND DIRECTION																CALM	TOTAL
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		
1	3.3	00.0	00.0	3.3	6.7	6.7	6.7	16.7	20.0	13.3	3.3	3.3	00.0	3.3	3.3	10.0	00.0	100.
2	10.0	3.3	00.0	00.0	3.3	6.7	6.7	16.7	20.0	10.0	10.0	6.7	3.3	00.0	00.0	3.3	00.0	100.
3	3.3	3.3	00.0	3.3	00.0	3.3	20.0	13.3	20.0	10.0	13.3	3.3	00.0	3.3	00.0	3.3	00.0	100.
4	3.3	00.0	6.7	00.0	00.0	6.7	13.3	23.3	13.3	10.0	6.7	3.3	3.3	00.0	00.0	10.0	00.0	100.
5	3.3	00.0	3.3	6.7	3.3	6.7	10.0	23.3	10.0	13.3	00.0	16.7	00.0	00.0	00.0	3.3	00.0	100.
6	6.7	3.3	00.0	6.7	6.7	6.7	3.3	20.0	13.3	13.3	6.7	3.3	6.7	00.0	00.0	3.3	00.0	100.
7	6.7	3.3	3.3	00.0	6.7	6.7	10.0	20.0	10.0	10.0	3.3	3.3	6.7	3.3	00.0	3.3	3.3	100.
8	3.3	3.3	00.0	00.0	6.7	00.0	20.0	13.3	20.0	10.0	3.3	3.3	10.0	00.0	3.3	3.3	00.0	100.
9	3.3	10.0	00.0	00.0	00.0	6.7	23.3	6.7	20.0	13.3	3.3	6.7	3.3	00.0	00.0	3.3	00.0	100.
10	6.7	6.7	3.3	3.3	00.0	13.3	13.3	10.0	23.3	6.7	6.7	00.0	3.3	00.0	00.0	3.3	00.0	100.
11	6.7	10.0	00.0	00.0	3.3	6.7	23.3	10.0	13.3	13.3	3.3	6.7	00.0	00.0	00.0	3.3	00.0	100.
12	3.3	6.7	10.0	00.0	3.3	3.3	26.7	6.7	23.3	10.0	00.0	00.0	3.3	00.0	00.0	3.3	00.0	100.
13	00.0	10.0	3.3	6.7	00.0	00.0	30.0	13.3	16.7	10.0	3.3	00.0	00.0	3.3	00.0	3.3	00.0	100.
14	00.0	6.7	00.0	10.0	3.3	00.0	26.7	10.0	20.0	6.7	3.3	6.7	00.0	3.3	00.0	3.3	00.0	100.
15	00.0	10.0	00.0	3.3	3.3	00.0	23.3	23.3	10.0	10.0	00.0	6.7	00.0	6.7	00.0	3.3	00.0	100.
16	00.0	3.3	6.7	3.3	3.3	6.7	16.7	13.3	20.0	16.7	00.0	00.0	00.0	6.7	00.0	3.3	00.0	100.
17	6.7	3.3	6.7	00.0	3.3	10.0	16.7	16.7	13.3	10.0	3.3	00.0	00.0	3.3	3.3	3.3	00.0	100.
18	3.3	3.3	6.7	00.0	3.3	6.7	16.7	16.7	20.0	6.7	3.3	00.0	00.0	00.0	6.7	6.7	00.0	100.
19	3.3	3.3	6.7	6.7	00.0	6.7	26.7	10.0	20.0	6.7	00.0	00.0	00.0	00.0	3.3	6.7	00.0	100.
20	00.0	6.7	6.7	10.0	00.0	10.0	13.3	20.0	20.0	3.3	00.0	00.0	00.0	00.0	6.7	3.3	00.0	100.
21	3.3	00.0	6.7	6.7	3.3	13.3	13.3	20.0	16.7	3.3	3.3	00.0	00.0	00.0	3.3	6.7	00.0	100.
22	3.3	00.0	00.0	13.3	00.0	6.7	16.7	23.3	20.0	3.3	3.3	00.0	00.0	00.0	3.3	6.7	00.0	100.
23	00.0	3.3	00.0	00.0	13.3	10.0	00.0	33.3	23.3	00.0	6.7	00.0	00.0	3.3	00.0	6.7	00.0	100.
24	3.3	3.3	00.0	00.0	6.7	6.7	13.3	23.3	26.7	3.3	3.3	3.3	00.0	3.3	00.0	3.3	00.0	100.
ALL	3.5	4.3	2.9	3.5	3.3	6.3	16.2	16.8	18.1	8.9	3.8	3.1	1.7	1.7	1.4	4.6	.1	100.

NUMBER OF OBS = 720

BS4

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

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	8.8	1.1	3.3	3.3	5.5	3.3	8.8	13.2	14.3	8.8	3.3	3.3	1.1	3.3	9.9	8.8	00.0	100.
2	12.1	1.1	3.3	2.2	3.3	5.5	5.5	18.7	9.9	9.9	4.4	4.4	3.3	1.1	8.8	6.6	00.0	100.
3	11.0	2.2	00.0	4.4	2.2	2.2	9.9	19.8	9.9	8.8	6.6	2.2	2.2	5.5	5.5	7.7	00.0	100.
4	6.6	4.4	3.3	3.3	2.2	3.3	6.6	23.1	7.7	8.8	4.4	2.2	4.4	3.3	2.2	14.3	00.0	100.
5	11.0	2.2	1.1	5.5	5.5	4.4	11.0	16.5	8.8	7.7	3.3	6.6	1.1	4.4	1.1	9.9	00.0	100.
6	8.8	1.1	1.1	4.4	5.5	6.6	5.5	18.7	9.9	7.7	4.4	4.4	3.3	2.2	3.3	13.2	00.0	100.
7	11.0	1.1	2.2	2.2	5.5	6.6	7.7	19.8	6.6	6.6	3.3	4.4	3.3	4.4	4.4	9.9	1.1	100.
8	7.7	5.5	00.0	1.1	3.3	4.4	12.1	17.6	12.1	5.5	3.3	3.3	5.5	3.3	7.7	7.7	00.0	100.
9	4.4	7.7	1.1	00.0	2.2	6.6	12.1	13.2	15.4	9.9	2.2	3.3	1.1	3.3	9.9	7.7	00.0	100.
10	7.7	4.4	3.3	1.1	2.2	7.7	9.9	14.3	13.2	9.9	4.4	00.0	3.3	2.2	7.7	8.8	00.0	100.
11	5.5	6.6	2.2	00.0	3.3	7.7	12.1	9.9	14.3	8.8	4.4	3.3	1.1	3.3	7.7	9.9	00.0	100.
12	5.5	3.3	6.6	1.1	4.4	4.4	13.2	9.9	17.6	9.9	00.0	1.1	2.2	4.4	5.5	11.0	00.0	100.
13	5.5	5.5	3.3	2.2	1.1	3.3	15.4	12.1	17.6	8.8	1.1	1.1	2.2	3.3	8.8	8.8	00.0	100.
14	3.3	4.4	1.1	5.5	2.2	00.0	14.3	13.2	18.7	7.7	2.2	2.2	2.2	3.3	9.9	9.9	00.0	100.
15	2.2	6.6	1.1	3.3	2.2	2.2	11.0	20.9	11.0	8.8	1.1	3.3	1.1	5.5	6.6	13.2	00.0	100.
16	4.4	3.3	3.3	1.1	3.3	4.4	8.8	15.4	17.6	9.9	00.0	2.2	1.1	8.8	5.5	11.0	00.0	100.
17	9.9	3.3	3.3	2.2	3.3	4.4	11.0	14.3	16.5	5.5	3.3	00.0	1.1	4.4	7.7	9.9	00.0	100.
18	8.8	3.3	3.3	3.3	2.2	3.3	12.1	15.4	14.3	5.5	2.2	1.1	1.1	3.3	7.7	12.1	1.1	100.
19	5.5	6.6	5.5	5.5	00.0	3.3	13.2	15.4	16.5	4.4	00.0	00.0	2.2	2.2	8.8	11.0	00.0	100.
20	6.6	5.5	3.3	7.7	2.2	4.4	11.0	18.7	15.4	3.3	00.0	1.1	3.3	1.1	8.8	7.7	00.0	100.
21	8.8	3.3	4.4	4.4	4.4	4.4	13.2	19.8	13.2	3.3	3.3	00.0	1.1	2.2	9.9	4.4	00.0	100.
22	7.7	2.2	3.3	5.5	2.2	4.4	13.2	15.4	19.8	4.4	2.2	1.1	1.1	2.2	7.7	7.7	00.0	100.
23	6.6	2.2	4.4	2.2	7.7	6.6	6.6	18.7	18.7	4.4	4.4	00.0	1.1	2.2	4.4	9.9	00.0	100.
24	7.7	1.1	1.1	4.4	5.5	4.4	9.9	16.5	17.6	6.6	3.3	3.3	1.1	2.2	4.4	11.0	00.0	100.
ALL	7.4	3.7	2.7	3.2	3.4	4.5	10.6	16.3	14.0	7.3	2.8	2.2	2.1	3.4	6.8	9.7	.1	100.

NUMBER OF OBS = 2184

BSS

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

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	7.7	3.3	6.1	3.9	4.4	5.0	8.3	9.9	11.0	7.7	5.5	3.3	2.8	5.5	7.7	7.7	00.0	100.
2	11.6	3.9	2.8	5.0	3.9	6.6	6.1	13.8	8.3	6.1	5.0	6.1	3.9	3.3	7.7	6.1	00.0	100.
3	11.0	3.3	2.8	3.9	4.4	5.5	7.2	14.4	7.7	6.6	6.6	2.8	4.4	5.5	5.5	8.3	00.0	100.
4	8.3	6.6	2.8	5.0	1.7	5.0	7.7	15.5	8.3	5.5	3.9	3.3	5.0	4.4	4.4	12.7	00.0	100.
5	11.6	3.9	1.7	5.0	5.0	5.0	8.3	14.4	8.3	5.5	2.8	6.1	1.7	6.6	3.3	11.0	00.0	100.
6	10.5	3.9	1.7	4.4	6.1	5.0	5.0	15.5	9.9	5.0	3.9	5.0	3.3	5.0	4.4	11.6	00.0	100.
7	11.6	3.9	2.8	2.8	5.0	6.1	6.6	15.5	6.6	5.5	4.4	4.4	2.2	6.6	6.1	9.4	.6	100.
8	9.4	6.1	1.1	3.3	5.0	3.9	9.4	16.0	7.7	5.0	2.2	4.4	4.4	6.1	6.6	9.4	00.0	100.
9	9.9	6.6	1.1	2.8	3.9	6.1	9.9	10.5	12.2	7.2	2.8	2.2	1.1	6.6	10.5	6.6	00.0	100.
10	11.0	5.5	2.8	3.3	3.3	8.3	7.7	11.0	11.0	7.2	3.3	1.1	2.2	2.8	9.9	9.4	00.0	100.
11	10.5	5.5	2.8	2.8	3.9	8.8	8.3	10.5	9.4	8.3	3.9	2.2	1.7	4.4	9.9	7.2	00.0	100.
12	11.6	3.9	3.9	2.2	3.9	7.2	10.5	7.7	13.3	9.4	1.1	2.2	2.8	3.3	8.8	8.3	00.0	100.
13	11.6	5.0	2.2	2.8	3.3	5.5	9.9	9.4	13.8	7.2	2.8	3.3	1.1	5.0	9.9	7.2	00.0	100.
14	11.0	4.4	1.7	3.3	4.4	2.8	11.0	8.8	14.4	7.2	3.9	2.8	1.1	5.0	11.6	6.6	00.0	100.
15	11.0	4.4	1.1	2.2	4.4	6.6	7.2	12.7	8.8	7.7	5.0	2.8	.6	5.0	11.0	9.4	00.0	100.
16	13.8	2.2	2.2	1.7	5.0	6.6	7.7	9.9	12.7	7.2	2.8	2.2	1.7	7.7	8.3	8.3	00.0	100.
17	14.9	2.8	3.9	2.2	5.0	7.2	7.7	9.4	10.5	7.2	3.3	1.7	1.1	5.5	8.8	8.8	00.0	100.
18	11.0	4.4	4.4	3.9	2.2	7.7	9.9	9.9	9.4	5.0	3.3	1.1	2.2	4.4	8.8	11.6	.6	100.
19	8.3	7.7	4.4	6.1	3.3	5.5	9.9	11.6	10.5	4.4	.6	1.1	2.8	4.4	9.4	9.9	00.0	100.
20	9.4	7.7	3.9	5.5	4.4	7.2	8.8	13.8	9.4	3.3	1.1	1.1	3.9	3.9	9.4	7.2	00.0	100.
21	10.5	5.5	3.3	5.0	6.1	5.5	11.0	15.5	8.3	2.2	3.9	1.1	3.3	2.2	7.7	8.8	00.0	100.
22	12.2	3.3	3.9	6.1	4.4	6.1	8.8	13.8	12.7	3.9	2.2	1.1	4.4	1.1	8.3	7.7	00.0	100.
23	11.6	3.3	5.5	2.8	7.2	6.6	5.5	14.4	14.4	3.9	3.3	1.1	3.3	2.2	6.6	8.3	00.0	100.
24	9.4	4.4	3.3	4.4	5.5	5.0	7.2	13.8	11.6	6.6	3.9	5.0	2.2	2.8	6.6	8.3	00.0	100.
ALL	10.8	4.7	3.0	3.8	4.4	6.0	8.3	12.4	10.4	6.0	3.4	2.8	2.6	4.6	8.0	8.7	.0	100.

NUMBER OF OBS = 4344

B56

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

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	9.7	3.2	6.5	6.5	9.7	9.7	3.2	19.4	16.1	9.7	00.0	00.0	3.2	00.0	3.2	00.0	00.0	100.
2	9.7	6.5	6.5	9.7	3.2	9.7	6.5	12.9	19.4	9.7	00.0	00.0	3.2	3.2	00.0	00.0	00.0	100.
3	6.5	12.9	3.2	9.7	9.7	6.5	00.0	3.2	25.8	9.7	6.5	00.0	00.0	3.2	3.2	00.0	00.0	100.
4	3.2	9.7	3.2	9.7	9.7	6.5	3.2	3.2	16.1	19.4	6.5	00.0	3.2	00.0	3.2	3.2	00.0	100.
5	3.2	6.5	6.5	9.7	12.9	3.2	3.2	6.5	19.4	12.9	3.2	3.2	3.2	00.0	3.2	3.2	00.0	100.
6	3.2	6.5	00.0	3.2	16.1	9.7	3.2	6.5	19.4	12.9	00.0	3.2	3.2	3.2	6.5	3.2	00.0	100.
7	9.7	00.0	00.0	12.9	3.2	12.9	3.2	00.0	22.6	16.1	3.2	3.2	00.0	00.0	6.5	6.5	00.0	100.
8	6.5	6.5	00.0	9.7	16.1	3.2	6.5	00.0	22.6	3.2	9.7	00.0	3.2	00.0	3.2	6.5	3.2	100.
9	9.7	12.9	3.2	6.5	9.7	00.0	6.5	6.5	6.5	9.7	16.1	6.5	3.2	00.0	3.2	00.0	00.0	100.
10	12.9	9.7	3.2	00.0	12.9	00.0	6.5	3.2	3.2	12.9	16.1	6.5	00.0	3.2	00.0	9.7	00.0	100.
11	16.1	3.2	9.7	3.2	3.2	6.5	6.5	00.0	16.1	9.7	12.9	00.0	3.2	3.2	00.0	6.5	00.0	100.
12	12.9	6.5	9.7	6.5	3.2	3.2	3.2	3.2	25.8	9.7	6.5	00.0	3.2	00.0	3.2	3.2	00.0	100.
13	16.1	00.0	12.9	6.5	3.2	6.5	3.2	6.5	25.8	9.7	00.0	6.5	00.0	00.0	00.0	3.2	00.0	100.
14	9.7	6.5	6.5	00.0	16.1	00.0	9.7	9.7	29.0	3.2	00.0	00.0	3.2	00.0	3.2	3.2	00.0	100.
15	9.7	00.0	6.5	9.7	9.7	3.2	9.7	16.1	12.9	12.9	00.0	00.0	00.0	00.0	6.5	3.2	00.0	100.
16	9.7	6.5	3.2	00.0	19.4	3.2	9.7	22.6	12.9	00.0	3.2	00.0	00.0	00.0	6.5	3.2	00.0	100.
17	9.7	00.0	9.7	6.5	3.2	9.7	16.1	16.1	9.7	3.2	3.2	00.0	00.0	00.0	3.2	9.7	00.0	100.
18	12.9	00.0	9.7	6.5	3.2	6.5	16.1	19.4	6.5	00.0	00.0	3.2	00.0	3.2	3.2	9.7	00.0	100.
19	9.7	3.2	6.5	9.7	6.5	00.0	19.4	19.4	6.5	00.0	00.0	3.2	00.0	3.2	3.2	9.7	00.0	100.
20	12.9	9.7	6.5	6.5	6.5	3.2	12.9	22.6	9.7	00.0	00.0	00.0	3.2	3.2	3.2	00.0	00.0	100.
21	9.7	9.7	00.0	9.7	9.7	6.5	12.9	25.8	6.5	00.0	00.0	00.0	00.0	3.2	6.5	00.0	00.0	100.
22	6.5	3.2	12.9	3.2	16.1	6.5	9.7	19.4	12.9	00.0	00.0	00.0	00.0	3.2	00.0	6.5	00.0	100.
23	00.0	12.9	6.5	3.2	3.2	19.4	6.5	19.4	16.1	00.0	00.0	00.0	3.2	00.0	00.0	9.7	00.0	100.
24	3.2	9.7	00.0	6.5	9.7	12.9	6.5	16.1	19.4	6.5	00.0	00.0	3.2	00.0	3.2	3.2	00.0	100.
ALL	8.9	6.0	5.5	6.5	9.0	6.2	7.7	11.6	15.9	7.1	3.6	1.5	1.7	1.3	3.1	4.3	.1	100.

NUMBER OF OBS = 744

BS7

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

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	6.5	6.5	3.2	6.5	16.1	25.8	12.9	16.1	00.0	00.0	00.0	00.0	3.2	3.2	00.0	100.
2	6.5	6.5	00.0	3.2	3.2	6.5	19.4	12.9	29.0	3.2	00.0	3.2	00.0	00.0	00.0	6.5	00.0	100.
3	9.7	3.2	6.5	3.2	3.2	9.7	16.1	12.9	25.8	3.2	00.0	00.0	3.2	00.0	00.0	3.2	00.0	100.
4	6.5	6.5	3.2	3.2	3.2	9.7	19.4	12.9	19.4	6.5	3.2	00.0	00.0	00.0	3.2	3.2	00.0	100.
5	3.2	3.2	00.0	3.2	3.2	6.5	22.6	19.4	19.4	6.5	00.0	3.2	00.0	00.0	3.2	6.5	00.0	100.
6	6.5	00.0	3.2	00.0	3.2	6.5	16.1	29.0	12.9	9.7	3.2	00.0	00.0	3.2	00.0	6.5	00.0	100.
7	9.7	00.0	3.2	3.2	3.2	6.5	19.4	22.6	16.1	3.2	00.0	00.0	00.0	3.2	00.0	6.5	3.2	100.
8	00.0	6.5	3.2	6.5	00.0	3.2	19.4	19.4	29.0	6.5	00.0	00.0	00.0	00.0	00.0	6.5	00.0	100.
9	00.0	3.2	6.5	3.2	00.0	3.2	19.4	12.9	32.3	9.7	3.2	00.0	00.0	00.0	00.0	6.5	00.0	100.
10	00.0	6.5	3.2	3.2	00.0	9.7	9.7	16.1	29.0	9.7	6.5	00.0	00.0	00.0	00.0	6.5	00.0	100.
11	3.2	6.5	00.0	00.0	3.2	3.2	19.4	12.9	38.7	00.0	3.2	3.2	00.0	00.0	00.0	6.5	00.0	100.
12	6.5	6.5	00.0	00.0	6.5	3.2	6.5	29.0	22.6	3.2	3.2	3.2	00.0	00.0	3.2	6.5	00.0	100.
13	3.2	3.2	6.5	3.2	6.5	3.2	16.1	22.6	19.4	3.2	00.0	3.2	00.0	3.2	00.0	6.5	00.0	100.
14	3.2	6.5	3.2	00.0	6.5	6.5	19.4	22.6	19.4	00.0	00.0	00.0	00.0	3.2	00.0	9.7	00.0	100.
15	6.5	3.2	6.5	00.0	6.5	9.7	16.1	25.8	12.9	3.2	00.0	00.0	00.0	00.0	3.2	6.5	00.0	100.
16	6.5	3.2	3.2	00.0	9.7	9.7	25.8	19.4	9.7	00.0	3.2	00.0	00.0	00.0	3.2	6.5	00.0	100.
17	6.5	00.0	3.2	9.7	3.2	6.5	19.4	32.3	6.5	00.0	3.2	00.0	00.0	00.0	00.0	9.7	00.0	100.
18	9.7	00.0	6.5	3.2	3.2	3.2	32.3	25.8	9.7	00.0	00.0	00.0	00.0	00.0	00.0	6.5	00.0	100.
19	9.7	6.5	6.5	3.2	3.2	3.2	22.6	35.5	9.7	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	100.
20	00.0	16.1	3.2	6.5	00.0	6.5	22.6	32.3	9.7	00.0	3.2	00.0	00.0	00.0	00.0	00.0	00.0	100.
21	3.2	9.7	3.2	6.5	3.2	9.7	16.1	29.0	12.9	3.2	00.0	3.2	00.0	00.0	00.0	00.0	00.0	100.
22	00.0	9.7	3.2	6.5	6.5	12.9	9.7	32.3	12.9	3.2	00.0	3.2	00.0	00.0	00.0	00.0	00.0	100.
23	3.2	6.5	3.2	3.2	9.7	9.7	12.9	32.3	6.5	9.7	00.0	00.0	3.2	00.0	00.0	00.0	00.0	100.
24	00.0	3.2	6.5	6.5	3.2	9.7	16.1	29.0	12.9	9.7	00.0	00.0	00.0	00.0	3.2	00.0	00.0	100.
ALL	4.3	4.8	3.8	3.5	3.9	6.9	18.0	23.5	17.9	4.6	1.3	.9	.3	.5	.9	4.7	.1	100.

NUMBER OF OBS = 744

B58

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

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	3.3	3.3	00.0	6.7	3.3	6.7	00.0	30.0	20.0	10.0	00.0	00.0	00.0	6.7	00.0	6.7	3.3	100.
2	00.0	00.0	6.7	3.3	3.3	3.3	6.7	20.0	16.7	10.0	6.7	3.3	00.0	3.3	10.0	6.7	00.0	100.
3	00.0	00.0	00.0	10.0	6.7	6.7	00.0	23.3	16.7	6.7	6.7	00.0	3.3	6.7	00.0	13.3	00.0	100.
4	00.0	3.3	00.0	3.3	6.7	6.7	6.7	16.7	20.0	3.3	6.7	3.3	3.3	3.3	3.3	13.3	00.0	100.
5	00.0	00.0	6.7	00.0	3.3	13.3	6.7	16.7	16.7	6.7	6.7	3.3	00.0	6.7	3.3	10.0	00.0	100.
6	00.0	00.0	3.3	3.3	6.7	10.0	6.7	20.0	10.0	6.7	6.7	6.7	00.0	6.7	3.3	10.0	00.0	100.
7	3.3	00.0	00.0	6.7	3.3	13.3	10.0	16.7	6.7	13.3	3.3	3.3	3.3	3.3	3.3	10.0	00.0	100.
8	00.0	00.0	00.0	6.7	3.3	10.0	6.7	20.0	6.7	10.0	13.3	3.3	00.0	00.0	10.0	10.0	00.0	100.
9	6.7	00.0	00.0	00.0	00.0	16.7	6.7	20.0	10.0	00.0	20.0	3.3	00.0	00.0	3.3	13.3	00.0	100.
10	3.3	3.3	3.3	00.0	00.0	6.7	16.7	16.7	13.3	10.0	6.7	3.3	3.3	6.7	3.3	3.3	00.0	100.
11	6.7	00.0	00.0	3.3	00.0	3.3	20.0	10.0	16.7	6.7	6.7	3.3	3.3	3.3	10.0	6.7	00.0	100.
12	00.0	00.0	3.3	00.0	00.0	3.3	20.0	16.7	10.0	10.0	6.7	6.7	00.0	3.3	3.3	16.7	00.0	100.
13	6.7	00.0	00.0	00.0	00.0	10.0	16.7	10.0	16.7	6.7	00.0	6.7	00.0	6.7	6.7	13.3	00.0	100.
14	13.3	3.3	00.0	00.0	00.0	10.0	16.7	10.0	16.7	3.3	3.3	3.3	00.0	3.3	6.7	10.0	00.0	100.
15	13.3	00.0	00.0	00.0	00.0	6.7	16.7	10.0	20.0	3.3	6.7	3.3	00.0	00.0	10.0	10.0	00.0	100.
16	10.0	3.3	00.0	00.0	00.0	3.3	20.0	13.3	16.7	6.7	3.3	00.0	00.0	00.0	6.7	16.7	00.0	100.
17	3.3	10.0	3.3	00.0	00.0	6.7	13.3	23.3	10.0	6.7	3.3	00.0	00.0	00.0	3.3	16.7	00.0	100.
18	3.3	6.7	3.3	00.0	00.0	6.7	13.3	16.7	10.0	6.7	3.3	3.3	3.3	3.3	3.3	16.7	00.0	100.
19	13.3	3.3	00.0	6.7	00.0	6.7	13.3	16.7	10.0	6.7	3.3	3.3	00.0	3.3	3.3	10.0	00.0	100.
20	6.7	6.7	3.3	3.3	3.3	6.7	16.7	13.3	16.7	3.3	00.0	00.0	00.0	3.3	00.0	16.7	00.0	100.
21	10.0	6.7	00.0	3.3	3.3	6.7	13.3	13.3	16.7	6.7	3.3	00.0	00.0	3.3	00.0	13.3	00.0	100.
22	10.0	10.0	00.0	00.0	6.7	6.7	13.3	16.7	20.0	6.7	00.0	00.0	00.0	3.3	3.3	3.3	00.0	100.
23	10.0	3.3	3.3	3.3	3.3	10.0	6.7	23.3	16.7	10.0	00.0	00.0	00.0	3.3	00.0	6.7	00.0	100.
24	3.3	3.3	6.7	00.0	00.0	10.0	13.3	20.0	10.0	16.7	00.0	00.0	00.0	6.7	00.0	6.7	3.3	100.
ALL	5.3	2.8	1.8	2.5	2.2	7.9	11.7	17.2	14.3	7.4	4.9	2.5	.8	3.6	4.0	10.8	.3	100.

NUMBER OF OBS = 720

B59

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

PROGRAM: WINPER
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

JUL-SEP

HR. OF DAY	WIND DIRECTION																CALM	TOTAL
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		
1	4.3	2.2	4.3	6.5	5.4	7.6	6.5	25.0	16.3	12.0	00.0	00.0	1.1	2.2	2.2	3.3	1.1	100.
2	5.4	4.3	4.3	5.4	3.3	6.5	10.9	15.2	21.7	7.6	2.2	2.2	1.1	2.2	3.3	4.3	00.0	100.
3	5.4	5.4	3.3	7.6	6.5	7.6	5.4	13.0	22.8	6.5	4.3	00.0	2.2	3.3	1.1	5.4	00.0	100.
4	3.3	6.5	2.2	5.4	6.5	7.6	9.8	10.9	18.5	9.8	5.4	1.1	2.2	1.1	3.3	6.5	00.0	100.
5	2.2	3.3	4.3	4.3	6.5	7.6	10.9	14.1	18.5	8.7	3.3	3.3	1.1	2.2	3.3	6.5	00.0	100.
6	3.3	2.2	2.2	2.2	8.7	8.7	8.7	18.5	14.1	9.8	3.3	3.3	1.1	4.3	3.3	6.5	00.0	100.
7	7.6	00.0	1.1	7.6	3.3	10.9	10.9	13.0	15.2	10.9	2.2	2.2	1.1	2.2	3.3	7.6	1.1	100.
8	2.2	4.3	1.1	7.6	6.5	5.4	10.9	13.0	19.6	6.5	7.6	1.1	1.1	00.0	4.3	7.6	1.1	100.
9	5.4	5.4	3.3	3.3	3.3	6.5	10.9	13.0	16.3	6.5	13.0	3.3	1.1	00.0	2.2	6.5	00.0	100.
10	5.4	6.5	3.3	1.1	4.3	5.4	10.9	12.0	15.2	10.9	9.8	3.3	1.1	3.3	1.1	6.5	00.0	100.
11	8.7	3.3	3.3	2.2	2.2	4.3	15.2	7.6	23.9	5.4	7.6	2.2	2.2	2.2	3.3	6.5	00.0	100.
12	6.5	4.3	4.3	2.2	3.3	3.3	9.8	16.3	19.6	7.6	5.4	3.3	1.1	1.1	3.3	8.7	00.0	100.
13	8.7	1.1	6.5	3.3	3.3	6.5	12.0	13.0	20.7	6.5	00.0	5.4	00.0	3.3	2.2	7.6	00.0	100.
14	8.7	5.4	3.3	00.0	7.6	5.4	15.2	14.1	21.7	2.2	1.1	1.1	1.1	2.2	3.3	7.6	00.0	100.
15	9.8	1.1	4.3	3.3	5.4	6.5	14.1	17.4	15.2	6.5	2.2	1.1	00.0	00.0	6.5	6.5	00.0	100.
16	8.7	4.3	2.2	00.0	9.8	5.4	18.5	18.5	13.0	2.2	3.3	00.0	00.0	00.0	5.4	8.7	00.0	100.
17	6.5	3.3	5.4	5.4	2.2	7.6	16.3	23.9	8.7	3.3	3.3	00.0	00.0	00.0	2.2	12.0	00.0	100.
18	8.7	2.2	6.5	3.3	2.2	5.4	20.7	20.7	8.7	2.2	1.1	2.2	1.1	2.2	2.2	10.9	00.0	100.
19	10.9	4.3	4.3	6.5	3.3	3.3	18.5	23.9	8.7	2.2	1.1	2.2	00.0	2.2	2.2	6.5	00.0	100.
20	6.5	10.9	4.3	5.4	3.3	5.4	17.4	22.8	12.0	1.1	1.1	00.0	1.1	2.2	1.1	5.4	00.0	100.
21	7.6	8.7	1.1	6.5	5.4	7.6	14.1	22.8	12.0	3.3	1.1	1.1	00.0	2.2	2.2	4.3	00.0	100.
22	5.4	7.6	5.4	3.3	9.8	8.7	10.9	22.8	15.2	3.3	00.0	1.1	00.0	2.2	1.1	3.3	00.0	100.
23	4.3	7.6	4.3	3.3	5.4	13.0	8.7	25.0	13.0	6.5	00.0	00.0	2.2	1.1	00.0	5.4	00.0	100.
24	2.2	5.4	4.3	4.3	4.3	10.9	12.0	21.7	14.1	10.9	00.0	00.0	1.1	2.2	2.2	3.3	1.1	100.
ALL	6.2	4.6	3.7	4.2	5.1	7.0	12.5	17.4	16.0	6.3	3.3	1.6	1.0	1.8	2.7	6.6	.2	100.

NUMBER OF OBS = 2208

B60

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

PROGRAM: WINPER
VERSION: PC-1.0

HOURLY WIND ROSES (PERCENT)

OCTOBER

HR. OF DAY	WIND DIRECTION																CALM	TOTAL
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		
1	00.0	6.5	3.2	3.2	6.5	12.9	9.7	12.9	00.0	00.0	6.5	3.2	6.5	12.9	00.0	16.1	00.0	100.
2	3.2	3.2	00.0	9.7	3.2	6.5	16.1	12.9	00.0	00.0	6.5	3.2	00.0	16.1	3.2	16.1	00.0	100.
3	6.5	00.0	3.2	6.5	6.5	6.5	6.5	22.6	00.0	00.0	6.5	00.0	3.2	9.7	9.7	12.9	00.0	100.
4	9.7	3.2	00.0	6.5	6.5	6.5	6.5	12.9	6.5	6.5	6.5	00.0	3.2	3.2	12.9	9.7	00.0	100.
5	9.7	3.2	3.2	6.5	3.2	3.2	16.1	6.5	3.2	6.5	3.2	3.2	3.2	9.7	9.7	9.7	00.0	100.
6	3.2	3.2	00.0	6.5	9.7	00.0	16.1	6.5	3.2	3.2	3.2	00.0	6.5	6.5	12.9	19.4	00.0	100.
7	12.9	00.0	3.2	9.7	00.0	6.5	16.1	6.5	6.5	00.0	3.2	3.2	00.0	6.5	12.9	12.9	00.0	100.
8	3.2	6.5	3.2	3.2	6.5	6.5	9.7	16.1	00.0	00.0	6.5	00.0	6.5	3.2	12.9	16.1	00.0	100.
9	3.2	6.5	6.5	00.0	3.2	6.5	16.1	6.5	3.2	00.0	00.0	9.7	6.5	3.2	6.5	22.6	00.0	100.
10	6.5	6.5	6.5	3.2	00.0	3.2	12.9	9.7	3.2	3.2	6.5	3.2	3.2	6.5	6.5	19.4	00.0	100.
11	9.7	3.2	3.2	6.5	00.0	9.7	9.7	6.5	6.5	6.5	3.2	00.0	6.5	3.2	6.5	19.4	00.0	100.
12	3.2	9.7	3.2	3.2	3.2	9.7	9.7	6.5	3.2	9.7	00.0	3.2	6.5	3.2	3.2	22.6	00.0	100.
13	6.5	6.5	00.0	6.5	6.5	3.2	16.1	6.5	6.5	3.2	00.0	3.2	6.5	6.5	6.5	16.1	00.0	100.
14	9.7	00.0	6.5	3.2	6.5	6.5	12.9	6.5	3.2	6.5	3.2	00.0	6.5	6.5	6.5	16.1	00.0	100.
15	3.2	00.0	3.2	3.2	12.9	3.2	16.1	3.2	3.2	6.5	3.2	00.0	6.5	6.5	6.5	22.6	00.0	100.
16	00.0	00.0	3.2	3.2	9.7	00.0	22.6	3.2	6.5	3.2	3.2	00.0	3.2	12.9	6.5	22.6	00.0	100.
17	3.2	3.2	3.2	00.0	12.9	3.2	16.1	12.9	00.0	3.2	00.0	3.2	00.0	16.1	6.5	16.1	00.0	100.
18	3.2	3.2	3.2	3.2	9.7	6.5	12.9	9.7	3.2	3.2	3.2	00.0	00.0	16.1	6.5	16.1	00.0	100.
19	9.7	6.5	3.2	6.5	3.2	12.9	9.7	9.7	00.0	00.0	3.2	00.0	3.2	9.7	16.1	6.5	00.0	100.
20	6.5	6.5	00.0	9.7	9.7	3.2	16.1	6.5	3.2	00.0	3.2	3.2	3.2	6.5	12.9	9.7	00.0	100.
21	6.5	00.0	3.2	3.2	9.7	6.5	12.9	9.7	00.0	3.2	9.7	00.0	3.2	6.5	6.5	19.4	00.0	100.
22	3.2	3.2	00.0	3.2	9.7	3.2	6.5	19.4	00.0	3.2	6.5	3.2	9.7	3.2	6.5	19.4	00.0	100.
23	6.5	3.2	00.0	6.5	3.2	6.5	12.9	12.9	00.0	3.2	3.2	6.5	6.5	3.2	6.5	19.4	00.0	100.
24	16.1	00.0	00.0	3.2	9.7	6.5	12.9	12.9	00.0	3.2	3.2	6.5	3.2	6.5	3.2	12.9	00.0	100.
ALL	6.0	3.5	2.6	4.8	6.3	5.8	13.0	9.9	2.6	3.1	3.9	2.3	4.3	7.7	7.8	16.4	00.0	100.

NUMBER OF OBS = 744

B61

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

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	13.3	3.3	00.0	3.3	00.0	6.7	00.0	13.3	26.7	3.3	3.3	3.3	00.0	6.7	10.0	6.7	00.0	100.
2	13.3	00.0	00.0	3.3	00.0	6.7	3.3	16.7	16.7	6.7	3.3	00.0	00.0	10.0	6.7	13.3	00.0	100.
3	20.0	00.0	00.0	00.0	00.0	6.7	3.3	16.7	16.7	10.0	3.3	00.0	00.0	10.0	6.7	6.7	00.0	100.
4	6.7	3.3	00.0	00.0	00.0	3.3	6.7	16.7	16.7	10.0	3.3	00.0	00.0	10.0	6.7	16.7	00.0	100.
5	10.0	3.3	00.0	00.0	00.0	6.7	3.3	16.7	13.3	16.7	00.0	00.0	3.3	10.0	10.0	6.7	00.0	100.
6	6.7	00.0	00.0	00.0	3.3	3.3	3.3	20.0	20.0	6.7	00.0	3.3	00.0	10.0	10.0	13.3	00.0	100.
7	3.3	3.3	00.0	00.0	00.0	3.3	3.3	20.0	20.0	6.7	3.3	00.0	10.0	3.3	6.7	16.7	00.0	100.
8	6.7	3.3	00.0	00.0	00.0	3.3	00.0	20.0	20.0	10.0	3.3	00.0	6.7	10.0	3.3	13.3	00.0	100.
9	3.3	00.0	00.0	00.0	00.0	3.3	00.0	16.7	16.7	13.3	3.3	3.3	6.7	10.0	00.0	23.3	00.0	100.
10	3.3	3.3	00.0	00.0	00.0	00.0	3.3	13.3	23.3	10.0	10.0	00.0	3.3	10.0	10.0	10.0	00.0	100.
11	3.3	3.3	00.0	00.0	00.0	00.0	6.7	23.3	23.3	3.3	3.3	6.7	00.0	6.7	13.3	6.7	00.0	100.
12	3.3	00.0	3.3	3.3	00.0	3.3	3.3	20.0	13.3	10.0	00.0	6.7	6.7	6.7	13.3	6.7	00.0	100.
13	3.3	3.3	3.3	00.0	00.0	6.7	00.0	13.3	20.0	10.0	00.0	6.7	6.7	10.0	6.7	10.0	00.0	100.
14	3.3	3.3	3.3	3.3	00.0	00.0	00.0	6.7	33.3	6.7	00.0	3.3	10.0	6.7	13.3	6.7	00.0	100.
15	00.0	10.0	00.0	00.0	00.0	00.0	3.3	3.3	30.0	13.3	00.0	00.0	10.0	10.0	13.3	6.7	00.0	100.
16	00.0	6.7	3.3	00.0	00.0	3.3	00.0	3.3	33.3	6.7	00.0	00.0	10.0	13.3	10.0	10.0	00.0	100.
17	00.0	3.3	10.0	00.0	00.0	3.3	00.0	16.7	23.3	6.7	00.0	00.0	10.0	6.7	13.3	6.7	00.0	100.
18	3.3	00.0	3.3	6.7	00.0	00.0	3.3	20.0	23.3	3.3	00.0	6.7	00.0	10.0	13.3	6.7	00.0	100.
19	00.0	3.3	3.3	6.7	3.3	00.0	3.3	16.7	23.3	3.3	00.0	6.7	6.7	6.7	6.7	10.0	00.0	100.
20	00.0	3.3	00.0	6.7	3.3	3.3	00.0	16.7	30.0	00.0	00.0	6.7	6.7	00.0	13.3	10.0	00.0	100.
21	3.3	00.0	00.0	3.3	6.7	00.0	6.7	10.0	30.0	6.7	3.3	00.0	3.3	6.7	6.7	13.3	00.0	100.
22	3.3	3.3	00.0	00.0	3.3	3.3	3.3	13.3	30.0	3.3	3.3	00.0	6.7	3.3	6.7	16.7	00.0	100.
23	3.3	3.3	00.0	00.0	6.7	00.0	3.3	20.0	23.3	00.0	3.3	00.0	3.3	6.7	10.0	16.7	00.0	100.
24	10.0	00.0	00.0	3.3	00.0	6.7	3.3	23.3	16.7	3.3	3.3	00.0	3.3	10.0	3.3	13.3	00.0	100.
ALL	5.1	2.6	1.3	1.7	1.1	3.1	2.6	15.7	22.6	7.1	2.1	2.2	4.7	8.1	8.9	11.1	00.0	100.

NUMBER OF OBS = 720

B62

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

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	16.7	3.3	3.3	00.0	00.0	6.7	13.3	10.0	10.0	13.3	00.0	3.3	3.3	3.3	6.7	6.7	00.0	100.
2	6.5	3.2	6.5	00.0	00.0	9.7	16.1	9.7	16.1	6.5	00.0	3.2	3.2	3.2	9.7	6.5	00.0	100.
3	3.2	3.2	3.2	6.5	00.0	12.9	9.7	16.1	9.7	9.7	00.0	6.5	00.0	3.2	12.9	3.2	00.0	100.
4	6.5	3.2	3.2	00.0	00.0	12.9	3.2	22.6	6.5	16.1	3.2	3.2	3.2	00.0	12.9	3.2	00.0	100.
5	6.5	3.2	00.0	3.2	6.5	3.2	9.7	12.9	16.1	9.7	3.2	3.2	6.5	3.2	9.7	00.0	3.2	100.
6	6.5	3.2	00.0	3.2	9.7	00.0	6.5	25.8	9.7	6.5	3.2	3.2	12.9	3.2	6.5	00.0	00.0	100.
7	3.2	6.5	00.0	3.2	9.7	00.0	6.5	19.4	12.9	9.7	3.2	00.0	6.5	12.9	3.2	3.2	00.0	100.
8	00.0	3.2	3.2	3.2	6.5	3.2	3.2	22.6	9.7	12.9	3.2	00.0	6.5	6.5	6.5	9.7	00.0	100.
9	00.0	6.5	3.2	3.2	6.5	3.2	00.0	16.1	19.4	9.7	3.2	3.2	6.5	6.5	9.7	3.2	00.0	100.
10	00.0	3.2	3.2	3.2	3.2	9.7	3.2	3.2	19.4	9.7	6.5	3.2	12.9	3.2	12.9	3.2	00.0	100.
11	6.5	00.0	3.2	6.5	6.5	9.7	00.0	00.0	22.6	6.5	6.5	3.2	6.5	6.5	6.5	9.7	00.0	100.
12	3.2	3.2	3.2	3.2	3.2	6.5	3.2	3.2	22.6	6.5	6.5	9.7	3.2	6.5	3.2	12.9	00.0	100.
13	6.5	00.0	00.0	12.9	00.0	9.7	3.2	00.0	12.9	9.7	9.7	6.5	3.2	12.9	9.7	3.2	00.0	100.
14	3.2	00.0	6.5	00.0	6.5	9.7	3.2	6.5	3.2	12.9	9.7	6.5	3.2	9.7	12.9	6.5	00.0	100.
15	6.5	00.0	3.2	00.0	3.2	9.7	6.5	3.2	9.7	9.7	9.7	12.9	00.0	3.2	9.7	12.9	00.0	100.
16	6.5	3.2	00.0	3.2	00.0	3.2	12.9	6.5	12.9	3.2	3.2	9.7	6.5	00.0	12.9	16.1	00.0	100.
17	3.2	3.2	00.0	00.0	9.7	00.0	16.1	6.5	9.7	3.2	9.7	3.2	3.2	00.0	9.7	22.6	00.0	100.
18	6.5	3.2	00.0	00.0	6.5	3.2	12.9	9.7	9.7	6.5	9.7	3.2	00.0	00.0	9.7	19.4	00.0	100.
19	12.9	6.5	00.0	3.2	3.2	6.5	12.9	16.1	3.2	00.0	9.7	3.2	3.2	00.0	6.5	12.9	00.0	100.
20	12.9	3.2	00.0	3.2	6.5	6.5	6.5	12.9	12.9	00.0	9.7	6.5	00.0	00.0	9.7	9.7	00.0	100.
21	9.7	9.7	3.2	00.0	00.0	12.9	6.5	9.7	16.1	3.2	3.2	6.5	3.2	00.0	9.7	6.5	00.0	100.
22	9.7	12.9	3.2	00.0	00.0	9.7	6.5	9.7	19.4	3.2	00.0	3.2	3.2	00.0	12.9	6.5	00.0	100.
23	12.9	9.7	00.0	00.0	00.0	16.1	6.5	9.7	12.9	6.5	00.0	3.2	3.2	00.0	9.7	9.7	00.0	100.
24	12.9	6.5	00.0	00.0	3.2	6.5	16.1	6.5	9.7	9.7	3.2	3.2	00.0	3.2	12.9	6.5	00.0	100.
ALL	6.7	4.2	2.0	2.4	3.8	7.1	7.7	10.8	12.8	7.7	4.8	4.6	4.2	3.6	9.4	8.1	.1	100.

NUMBER OF OBS = 743

B63

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

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	9.9	4.4	2.2	2.2	2.2	8.8	7.7	12.1	12.1	5.5	3.3	3.3	3.3	7.7	5.5	9.9	00.0	100.
2	7.6	2.2	2.2	4.3	1.1	7.6	12.0	13.0	10.9	4.3	3.3	2.2	1.1	9.8	6.5	12.0	00.0	100.
3	9.8	1.1	2.2	4.3	2.2	8.7	6.5	18.5	8.7	6.5	3.3	2.2	1.1	7.6	9.8	7.6	00.0	100.
4	7.6	3.3	1.1	2.2	2.2	7.6	5.4	17.4	9.8	10.9	4.3	1.1	2.2	4.3	10.9	9.8	00.0	100.
5	8.7	3.3	1.1	3.3	3.3	4.3	9.8	12.0	10.9	10.9	2.2	2.2	4.3	7.6	9.8	5.4	1.1	100.
6	5.4	2.2	00.0	3.3	7.6	1.1	8.7	17.4	10.9	5.4	2.2	2.2	6.5	6.5	9.8	10.9	00.0	100.
7	6.5	3.3	1.1	4.3	3.3	3.3	8.7	15.2	13.0	5.4	3.3	1.1	5.4	7.6	7.6	10.9	00.0	100.
8	3.3	4.3	2.2	2.2	4.3	4.3	4.3	19.6	9.8	7.6	4.3	00.0	6.5	6.5	7.6	13.0	00.0	100.
9	2.2	4.3	3.3	1.1	3.3	4.3	5.4	13.0	13.0	7.6	2.2	5.4	6.5	6.5	5.4	16.3	00.0	100.
10	3.3	4.3	3.3	2.2	1.1	4.3	6.5	8.7	15.2	7.6	7.6	2.2	6.5	6.5	9.8	10.9	00.0	100.
11	6.5	2.2	2.2	4.3	2.2	6.5	5.4	9.8	17.4	5.4	4.3	3.3	4.3	5.4	8.7	12.0	00.0	100.
12	3.3	4.3	3.3	3.3	2.2	6.5	5.4	9.8	13.0	8.7	2.2	6.5	5.4	5.4	6.5	14.1	00.0	100.
13	5.4	3.3	1.1	6.5	2.2	6.5	6.5	6.5	13.0	7.6	3.3	5.4	5.4	9.8	7.6	9.8	00.0	100.
14	5.4	1.1	5.4	2.2	4.3	5.4	5.4	6.5	13.0	8.7	4.3	3.3	6.5	7.6	10.9	9.8	00.0	100.
15	3.3	3.3	2.2	1.1	5.4	4.3	8.7	3.3	14.1	9.8	4.3	4.3	5.4	6.5	9.8	14.1	00.0	100.
16	2.2	3.3	2.2	2.2	3.3	2.2	12.0	4.3	17.4	4.3	2.2	3.3	6.5	8.7	9.8	16.3	00.0	100.
17	2.2	3.3	4.3	00.0	7.6	2.2	10.9	12.0	10.9	4.3	3.3	2.2	4.3	7.6	9.8	15.2	00.0	100.
18	4.3	2.2	2.2	3.3	5.4	3.3	9.8	13.0	12.0	4.3	4.3	3.3	00.0	8.7	9.8	14.1	00.0	100.
19	7.6	5.4	2.2	5.4	3.3	6.5	8.7	14.1	8.7	1.1	4.3	3.3	4.3	5.4	9.8	9.8	00.0	100.
20	6.5	4.3	00.0	6.5	6.5	4.3	7.6	12.0	15.2	00.0	4.3	5.4	3.3	2.2	12.0	9.8	00.0	100.
21	6.5	3.3	2.2	2.2	5.4	6.5	8.7	9.8	15.2	4.3	5.4	2.2	3.3	4.3	7.6	13.0	00.0	100.
22	5.4	6.5	1.1	1.1	4.3	5.4	5.4	14.1	16.3	3.3	3.3	2.2	6.5	2.2	8.7	14.1	00.0	100.
23	7.6	5.4	00.0	2.2	3.3	7.6	7.6	14.1	12.0	3.3	2.2	3.3	4.3	3.3	8.7	15.2	00.0	100.
24	13.0	2.2	00.0	2.2	4.3	6.5	10.9	14.1	8.7	5.4	3.3	3.3	2.2	6.5	6.5	10.9	00.0	100.
ALL	6.0	3.4	1.9	3.0	3.8	5.3	7.8	12.1	12.6	5.9	3.6	3.0	4.4	6.4	8.7	11.9	.0	100.

NUMBER OF OBS = 2207

B64

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

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	7.1	3.3	3.3	4.4	3.8	8.2	7.1	18.6	14.2	8.7	1.6	1.6	2.2	4.9	3.8	6.6	.5	100.
2	6.5	3.3	3.3	4.9	2.2	7.1	11.4	14.1	16.3	6.0	2.7	2.2	1.1	6.0	4.9	8.2	00.0	100.
3	7.6	3.3	2.7	6.0	4.3	8.2	6.0	15.8	15.8	6.5	3.8	1.1	1.6	5.4	5.4	6.5	00.0	100.
4	5.4	4.9	1.6	3.8	4.3	7.6	7.6	14.1	14.1	10.3	4.9	1.1	2.2	2.7	7.1	8.2	00.0	100.
5	5.4	3.3	2.7	3.8	4.9	6.0	10.3	13.0	14.7	9.8	2.7	2.7	2.7	4.9	6.5	6.0	.5	100.
6	4.3	2.2	1.1	2.7	8.2	4.9	8.7	17.9	12.5	7.6	2.7	2.7	3.8	5.4	6.5	8.7	00.0	100.
7	7.1	1.6	1.1	6.0	3.3	7.1	9.8	14.1	14.1	8.2	2.7	1.6	3.3	4.9	5.4	9.2	.5	100.
8	2.7	4.3	1.6	4.9	5.4	4.9	7.6	16.3	14.7	7.1	6.0	.5	3.8	3.3	6.0	10.3	.5	100.
9	3.8	4.9	3.3	2.2	3.3	5.4	8.2	13.0	14.7	7.1	7.6	4.3	3.8	3.3	3.8	11.4	00.0	100.
10	4.3	5.4	3.3	1.6	2.7	4.9	8.7	10.3	15.2	9.2	8.7	2.7	3.8	4.9	5.4	8.7	00.0	100.
11	7.6	2.7	2.7	3.3	2.2	5.4	10.3	8.7	20.7	5.4	6.0	2.7	3.3	3.8	6.0	9.2	00.0	100.
12	4.9	4.3	3.8	2.7	2.7	4.9	7.6	13.0	16.3	8.2	3.8	4.9	3.3	3.3	4.9	11.4	00.0	100.
13	7.1	2.2	3.8	4.9	2.7	6.5	9.2	9.8	16.8	7.1	1.6	5.4	2.7	6.5	4.9	8.7	00.0	100.
14	7.1	3.3	4.3	1.1	6.0	5.4	10.3	10.3	17.4	5.4	2.7	2.2	3.8	4.9	7.1	8.7	00.0	100.
15	6.5	2.2	3.3	2.2	5.4	5.4	11.4	10.3	14.7	8.2	3.3	2.7	2.7	3.3	8.2	10.3	00.0	100.
16	5.4	3.8	2.2	1.1	6.5	3.8	15.2	11.4	15.2	3.3	2.7	1.6	3.3	4.3	7.6	12.5	00.0	100.
17	4.3	3.3	4.9	2.7	4.9	4.9	13.6	17.9	9.8	3.8	3.3	1.1	2.2	3.8	6.0	13.6	00.0	100.
18	6.5	2.2	4.3	3.3	3.8	4.3	15.2	16.8	10.3	3.3	2.7	2.7	.5	5.4	6.0	12.5	00.0	100.
19	9.2	4.9	3.3	6.0	3.3	4.9	13.6	19.0	8.7	1.6	2.7	2.7	2.2	3.8	6.0	8.2	00.0	100.
20	6.5	7.6	2.2	6.0	4.9	4.9	12.5	17.4	13.6	.5	2.7	2.7	2.2	2.2	6.5	7.6	00.0	100.
21	7.1	6.0	1.6	4.3	5.4	7.1	11.4	16.3	13.6	3.8	3.3	1.6	1.6	3.3	4.9	8.7	00.0	100.
22	5.4	7.1	3.3	2.2	7.1	7.1	8.2	18.5	15.8	3.3	1.6	1.6	3.3	2.2	4.9	8.7	00.0	100.
23	6.0	6.5	2.2	2.7	4.3	10.3	8.2	19.6	12.5	4.9	1.1	1.6	3.3	2.2	4.3	10.3	00.0	100.
24	7.6	3.8	2.2	3.3	4.3	8.7	11.4	17.9	11.4	8.2	1.6	1.6	1.6	4.3	4.3	7.1	.5	100.
ALL	6.1	4.0	2.8	3.6	4.4	6.2	10.1	14.8	14.3	6.1	3.4	2.3	2.7	4.1	5.7	9.2	.1	100.

NUMBER OF OBS = 4415

B65

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION 2021

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	7.4	3.3	4.7	4.1	4.1	6.6	7.7	14.3	12.6	8.2	3.6	2.5	2.5	5.2	5.8	7.1	.3	100.
2	9.0	3.6	3.0	4.9	3.0	6.8	8.8	14.0	12.3	6.0	3.8	4.1	2.5	4.7	6.3	7.1	00.0	100.
3	9.3	3.3	2.7	4.9	4.4	6.8	6.6	15.1	11.8	6.6	5.2	1.9	3.0	5.5	5.5	7.4	00.0	100.
4	6.8	5.8	2.2	4.4	3.0	6.3	7.7	14.8	11.2	7.9	4.4	2.2	3.6	3.6	5.8	10.4	00.0	100.
5	8.5	3.6	2.2	4.4	4.9	5.5	9.3	13.7	11.5	7.7	2.7	4.4	2.2	5.8	4.9	8.5	.3	100.
6	7.4	3.0	1.4	3.6	7.1	4.9	6.8	16.7	11.2	6.3	3.3	3.8	3.6	5.2	5.5	10.1	00.0	100.
7	9.3	2.7	1.9	4.4	4.1	6.6	8.2	14.8	10.4	6.8	3.6	3.0	2.7	5.8	5.8	9.3	.5	100.
8	6.0	5.2	1.4	4.1	5.2	4.4	8.5	16.2	11.2	6.0	4.1	2.5	4.1	4.7	6.3	9.9	.3	100.
9	6.8	5.8	2.2	2.5	3.6	5.8	9.0	11.8	13.4	7.1	5.2	3.3	2.5	4.9	7.1	9.0	00.0	100.
10	7.7	5.5	3.0	2.5	3.0	6.6	8.2	10.7	13.2	8.2	6.0	1.9	3.0	3.8	7.7	9.0	00.0	100.
11	9.0	4.1	2.7	3.0	3.0	7.1	9.3	9.6	15.1	6.8	4.9	2.5	2.5	4.1	7.9	8.2	00.0	100.
12	8.2	4.1	3.8	2.5	3.3	6.0	9.0	10.4	14.8	8.8	2.5	3.6	3.0	3.3	6.8	9.9	00.0	100.
13	9.3	3.6	3.0	3.8	3.0	6.0	9.6	9.6	15.3	7.1	2.2	4.4	1.9	5.8	7.4	7.9	00.0	100.
14	9.0	3.8	3.0	2.2	5.2	4.1	10.7	9.6	15.9	6.3	3.3	2.5	2.5	4.9	9.3	7.7	00.0	100.
15	8.8	3.3	2.2	2.2	4.9	6.0	9.3	11.5	11.8	7.9	4.1	2.7	1.6	4.1	9.6	9.9	00.0	100.
16	9.6	3.0	2.2	1.4	5.8	5.2	11.5	10.7	14.0	5.2	2.7	1.9	2.5	6.0	7.9	10.4	00.0	100.
17	9.6	3.0	4.4	2.5	4.9	6.0	10.7	13.7	10.1	5.5	3.3	1.4	1.6	4.7	7.4	11.2	00.0	100.
18	8.8	3.3	4.4	3.6	3.0	6.0	12.6	13.4	9.9	4.1	3.0	1.9	1.4	4.9	7.4	12.1	.3	100.
19	8.8	6.3	3.8	6.0	3.3	5.2	11.8	15.3	9.6	3.0	1.6	1.9	2.5	4.1	7.7	9.0	00.0	100.
20	7.9	7.7	3.0	5.8	4.7	6.0	10.7	15.6	11.5	1.9	1.9	1.9	3.0	3.0	7.9	7.4	00.0	100.
21	8.8	5.8	2.5	4.7	5.8	6.3	11.2	15.9	11.0	3.0	3.6	1.4	2.5	2.7	6.3	8.8	00.0	100.
22	8.8	5.2	3.6	4.1	5.8	6.6	8.5	16.2	14.2	3.6	1.9	1.4	3.8	1.6	6.6	8.2	00.0	100.
23	8.8	4.9	3.8	2.7	5.8	8.5	6.8	17.0	13.4	4.4	2.2	1.4	3.3	2.2	5.5	9.3	00.0	100.
24	8.5	4.1	2.7	3.8	4.9	6.8	9.3	15.9	11.5	7.4	2.7	3.3	1.9	3.6	5.5	7.7	.3	100.
ALL	8.4	4.3	2.9	3.7	4.4	6.1	9.2	13.6	12.4	6.1	3.4	2.6	2.6	4.3	6.8	9.0	.1	100.

NUMBER OF OBS = 8759

B66

Precipitation

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2021

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
21	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
21	1	2	.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
21	1	3	.00 .03	.00 .07	.00 .05	.00 .03	.00 .02	.00 .00	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.22
21	1	4	.00 .04	.00 .03	.00 .03	.00 .02	.00 .02	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.03 .00	.17
21	1	5	.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
21	1	6	.00 .01	.00 .01	.00 .01	.00 .02	.00 .01	.00 .01	.00 .00	.00 .02	.00 .01	.00 .03	.02 .02	.00 .02	.19
21	1	7	.04 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.05
21	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
21	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 .00	.00
21	1	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
21	1	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
21	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
21	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
21	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
21	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
21	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
21	1	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

B68

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2021

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
21	1	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
21	1	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
21	1	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
21	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
21	1	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
21	1	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
21	1	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
21	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
21	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
21	1	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
21	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
21	1	29	.00 .02	.00 .01	.00 .00	.00 .00	.00 .05	.00 .06	.00 .03	.00 .04	.00 .06	.00 .06	.00 .03	.00 .04	.43
21	1	30	.03 .00	.03 .01	.03 .07	.02 .01	.01 .00	.02 .00	.01 .00	.01 .00	.01 .00	.01 .00	.00 .00	.00 .00	.27
21	1	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

B69

MONTH OF JANUARY

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 55
TOTAL DAYS WITH PRECIPITATION - 8
TOTAL AMOUNT OF PRECIPITATION - 1.36 INCHES
MAXIMUM 1-HOUR PRECIPITATION - .07 INCHES
MAXIMUM DAILY PRECIPITATION - .43 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 30 HOUR 15 - .07 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 29 HOUR 17 - .30 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 29 HOUR 17 - .46 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 29 HOUR 12 - .54 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 29 HOUR 17 - .62 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 438
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 3
TOTAL DAYS WITH PRECIPITATION - 3
TOTAL AMOUNT OF PRECIPITATION - .03 INCHES
MAXIMUM 1-HOUR PRECIPITATION - .01 INCHES
MAXIMUM DAILY PRECIPITATION - .01 INCHES

B70

MONTH OF JANUARY

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	55	93	129	164	183
.02	34	79	109	139	160
.03	22	71	95	119	141
.04	11	66	92	117	139
.05	7	62	89	113	136
.07	2	55	85	109	131
.10	0	33	68	92	115
.15	0	17	52	77	104
.20	0	9	27	48	68
.25	0	2	14	23	30
.30	0	1	12	20	26
.35	0	0	10	18	24
.40	0	0	5	14	22
.45	0	0	1	11	19
.50	0	0	0	8	16
.60	0	0	0	0	5
.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 2021

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
21	2	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
21	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
21	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
21	2	4	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.02 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.02
21	2	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
21	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
21	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
21	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
21	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
21	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
21	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
21	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
21	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
21	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
21	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
21	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
21	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 2021

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
21	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
21	2	19	.00 .02	.00 .03	.00 .03	.00 .01	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.10
21	2	20	.00 .03	.00 .03	.00 .02	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.10
21	2	21	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.03 .00	.01 .00	.01 .00	.00 .00	.01 .00	.03 .00	.03 .00	.13
21	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
21	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
21	2	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
21	2	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
21	2	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
21	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
21	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 - 18
TOTAL DAYS WITH PRECIPITATION - 4
TOTAL AMOUNT OF PRECIPITATION - .35 INCHES
MAXIMUM 1-HOUR PRECIPITATION - .03 INCHES
MAXIMUM DAILY PRECIPITATION - .13 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 21 HOUR 12 - .03 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 20 HOUR 12 - .10 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 21 HOUR 6 - .13 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 21 HOUR 6 - .13 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 20 HOUR 13 - .21 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 482
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 6
TOTAL DAYS WITH PRECIPITATION - 2
TOTAL AMOUNT OF PRECIPITATION - .15 INCHES
MAXIMUM 1-HOUR PRECIPITATION - .03 INCHES
MAXIMUM DAILY PRECIPITATION - .08 INCHES

B74

MONTH OF FEBRUARY

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	18	39	63	83	96
.02	10	35	59	80	95
.03	7	27	45	60	70
.04	0	25	43	60	70
.05	0	22	40	58	69
.07	0	16	34	54	68
.10	0	4	23	43	62
.15	0	0	0	0	7
.20	0	0	0	0	1
.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

B75

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2021

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
21	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
21	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
21	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
21	3	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
21	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
21	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
21	3	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
21	3	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
21	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
21	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
21	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
21	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
21	3	13	.00 .00	.00 .05	.00 .14	.00 .09	.00 .13	.00 .06	.00 .00	.00 .01	.00 .08	.00 .04	.00 .07	.00 .19	.86
21	3	14	.33 .00	.18 .06	.43 .03	.14 .05	.01 .12	.02 .24	.10 .27	.02 .16	.04 .14	.00 .01	.00 .03	.00 .01	2.39
21	3	15	.00 .00	.00 .00	.00 .00	.00 .00	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01
21	3	16	.00 .00	.00 .00	.00 9.99	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00
21	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 2021

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
21	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
21	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
21	3	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
21	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
21	3	22	.00 .02	.00 .02	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .01	.00 .01	.00 .01	.00 .01	.08
21	3	23	.01 .03	.00 .08	.00 .10	.02 .02	.10 .01	.04 .00	.05 .00	.06 .00	.03 .00	.02 .00	.08 .00	.14 .00	.79
21	3	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
21	3	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
21	3	26	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .03	.00 .21	.00 .05	.00 .00	.29
21	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
21	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
21	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
21	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
21	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 - 1
TOTAL HOURS OF PRECIPITATION - 55
TOTAL DAYS WITH PRECIPITATION - 6
TOTAL AMOUNT OF PRECIPITATION - 4.42 INCHES
MAXIMUM 1-HOUR PRECIPITATION - .43 INCHES
MAXIMUM DAILY PRECIPITATION - 2.39 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 14 HOUR 3 - .43 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 13 HOUR 23 - 1.34 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 13 HOUR 17 - 1.66 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 13 HOUR 14 - 2.07 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 13 HOUR 22 - 2.64 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 24
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 MARCH

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	55	87	112	135	153
.02	44	78	98	117	135
.03	37	75	97	115	133
.04	32	72	95	113	131
.05	29	64	87	105	124
.07	22	57	80	100	118
.10	17	56	76	95	113
.15	8	52	75	93	111
.20	5	46	72	91	110
.25	3	42	68	87	105
.30	2	32	55	67	80
.35	1	28	52	66	79
.40	1	21	49	62	75
.45	0	19	45	61	73
.50	0	15	40	55	67
.60	0	14	35	51	64
.70	0	13	28	45	57
.80	0	10	26	38	51
.90	0	6	22	34	40
1.00	0	4	19	33	39
1.10	0	4	15	31	37
1.20	0	3	11	23	29
1.30	0	1	10	20	28
1.40	0	0	9	19	25
1.50	0	0	8	18	24
1.60	0	0	4	18	24
1.70	0	0	0	13	24
1.80	0	0	0	8	24
1.90	0	0	0	6	22
2.00	0	0	0	2	17

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 - 1
 TOTAL HOURS OF PRECIPITATION - 128
 TOTAL DAYS WITH PRECIPITATION - 18
 TOTAL AMOUNT OF PRECIPITATION - 6.13 INCHES
 MAXIMUM 1-HOUR PRECIPITATION - .43 INCHES
 MAXIMUM DAILY PRECIPITATION - 2.39 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 3 DAY 14 HOUR 3 - .43 INCHES
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 3 DAY 13 HOUR 23 - 1.34 INCHES
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 3 DAY 13 HOUR 17 - 1.66 INCHES
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 3 DAY 13 HOUR 14 - 2.07 INCHES
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 3 DAY 13 HOUR 22 - 2.64 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 944
 NUMBER OF MISSING HOURS - 0
 TOTAL HOURS OF PRECIPITATION - 9
 TOTAL DAYS WITH PRECIPITATION - 5
 TOTAL AMOUNT OF PRECIPITATION - .18 INCHES
 MAXIMUM 1-HOUR PRECIPITATION - .03 INCHES
 MAXIMUM DAILY PRECIPITATION - .08 INCHES

JAN-MAR INDEX

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	128	219	304	382	432
.02	88	192	266	336	390
.03	66	173	237	294	344
.04	43	163	230	290	340
.05	36	148	216	276	329
.07	24	128	199	263	317
.10	17	93	167	230	290
.15	8	69	127	170	222
.20	5	55	99	139	179
.25	3	44	82	110	135
.30	2	33	67	87	106
.35	1	28	62	84	103
.40	1	21	54	76	97
.45	0	19	46	72	92
.50	0	15	40	63	83
.60	0	14	35	51	69
.70	0	13	28	45	57
.80	0	10	26	38	51
.90	0	6	22	34	40
1.00	0	4	19	33	39
1.10	0	4	15	31	37
1.20	0	3	11	23	29
1.30	0	1	10	20	28
1.40	0	0	9	19	25
1.50	0	0	8	18	24
1.60	0	0	4	18	24
1.70	0	0	0	13	24
1.80	0	0	0	8	24
1.90	0	0	0	6	22
2.00	0	0	0	2	17

B81

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2021

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
21	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
21	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
21	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
21	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
21	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
21	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
21	4	7	.03 .00	.01 .00	.15 .00	.05 .01	.00 .00	.00 .00	.00 .00	.00 .31	.00 .13	.00 .23	.00 .10	.00 .00	1.02
21	4	8	.00 .02	.00 .05	.00 .05	.00 .04	.00 .06	.01 .01	.00 .00	.01 .00	.03 .00	.03 .00	.02 .01	.01 .00	.35
21	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
21	4	10	.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
21	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
21	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
21	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
21	4	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
21	4	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
21	4	16	.00 .01	.00 .12	.00 .04	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .01	.19
21	4	17	.01 .00	.01 .00	.00 .00	.00 .00	.00 .00	.01 .00	.01 .00	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.05

B82

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2021

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
21	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
21	4	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
21	4	20	.00 .00	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.13 .00	.02 .00	.00 .00	.17
21	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
21	4	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
21	4	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
21	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
21	4	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
21	4	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
21	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
21	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
21	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
21	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 - 37
TOTAL DAYS WITH PRECIPITATION - 6
TOTAL AMOUNT OF PRECIPITATION - 1.79 INCHES
MAXIMUM 1-HOUR PRECIPITATION - .31 INCHES
MAXIMUM DAILY PRECIPITATION - 1.02 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 7 HOUR 20 - .31 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 7 HOUR 20 - .77 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 7 HOUR 20 - .78 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 7 HOUR 20 - .90 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 7 HOUR 20 - 1.11 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 24
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 APRIL

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	37	89	122	146	170
.02	19	60	92	114	132
.03	16	54	88	110	128
.04	13	44	81	105	123
.05	11	43	77	103	121
.07	7	40	70	94	112
.10	7	38	68	92	110
.15	3	31	63	89	107
.20	2	16	36	59	71
.25	1	8	22	37	44
.30	1	8	18	32	38
.35	0	6	13	22	34
.40	0	6	12	20	27
.45	0	6	12	20	26
.50	0	4	10	20	26
.60	0	4	10	17	25
.70	0	3	9	15	23
.80	0	0	0	6	19
.90	0	0	0	1	12
1.00	0	0	0	0	7
1.10	0	0	0	0	3
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

B85

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2021

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
21	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
21	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
21	5	3	.00 .00	.00 .00	.15 .00	.10 .00	.01 .00	.02 .00	.00 .00	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.29
21	5	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
21	5	5	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .11	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.11
21	5	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
21	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
21	5	8	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .01	.00 .28	.00 .45	.00 .20	.94
21	5	9	.04 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.05
21	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
21	5	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
21	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
21	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
21	5	14	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .05	.00 .01	.01 .00	.00 .00	.07
21	5	15	.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
21	5	16	.00 .00	.00 .00	.00 .06	.00 .05	.00 .31	.00 .09	.00 .16	.21 .06	.21 .04	.02 .04	.00 .15	.00 .19	1.59
21	5	17	.00 .00	.00 .00	.01 .00	.01 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.03

B86

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2021

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
21	5	18	.02 .00	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.03
21	5	19	.00 .00	.00 .00	.00 .00	.00 .00	.02 .00	.00 .00	.00 .00	.00 .00	.00 .01	.00 .01	.00 .03	.00 .01	.08
21	5	20	.05 .00	.07 .01	.03 .02	.00 .00	.00 .03	.00 .01	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.23
21	5	21	.00 .02	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.00 .00	.03
21	5	22	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.02 .00	.00 .00	.00 .00	.01 .00	.04 .00	.00 .00	.08
21	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
21	5	24	.00 .00	.00 .00	.00 .00	.03 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.04
21	5	25	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .11	.00 .04	.00 .00	.00 .01	.00 .00	.00 .00	.00 .00	.16
21	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
21	5	27	.06 .00	.04 .00	.07 .00	.21 .00	.07 .00	.04 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.49
21	5	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
21	5	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
21	5	30	.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
21	5	31	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.01

B87

MONTH OF MAY

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 66
TOTAL DAYS WITH PRECIPITATION - 18
TOTAL AMOUNT OF PRECIPITATION - 4.25 INCHES
MAXIMUM 1-HOUR PRECIPITATION - .45 INCHES
MAXIMUM DAILY PRECIPITATION - 1.59 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 8 HOUR 23 - .45 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 8 HOUR 21 - .99 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 16 HOUR 15 - 1.15 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 16 HOUR 8 - 1.59 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 16 HOUR 8 - 1.62 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	66	168	267	349	405
.02	42	129	213	292	355
.03	35	115	193	269	331
.04	31	96	163	226	296
.05	24	87	147	204	266
.07	18	71	132	193	252
.10	14	64	107	150	196
.15	11	51	89	126	162
.20	7	40	72	105	136
.25	3	36	63	87	117
.30	2	29	50	68	86
.35	1	28	49	67	85
.40	1	24	46	64	82
.45	1	16	38	56	74
.50	0	13	29	41	53
.60	0	11	26	38	50
.70	0	9	25	37	49
.80	0	4	21	34	46
.90	0	4	19	33	45
1.00	0	0	6	16	22
1.10	0	0	5	15	21
1.20	0	0	0	6	13
1.30	0	0	0	4	10
1.40	0	0	0	3	10
1.50	0	0	0	2	8
1.60	0	0	0	0	5
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 2021

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
21	6	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
21	6	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
21	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
21	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
21	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
21	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
21	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
21	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
21	6	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
21	6	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
21	6	11	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.67 .00	.68
21	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
21	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
21	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
21	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
21	6	16	.00 .00	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01
21	6	17	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.06 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.07

B90

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2021

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
21	6	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
21	6	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
21	6	20	.01 .00	.01 .00	.00 .00	.00 .00	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.03
21	6	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
21	6	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
21	6	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
21	6	24	.00 .00	.00 .00	.04 .00	1.32 .00	.18 .00	.00 .26	.07 .91	.04 .13	.02 .20	.00 .01	.00 .17	.00 .02	3.37
21	6	25	.00 .00	.00 .00	.00 .00	.00 .00	.03 .00	.00 .09	.00 .87	.00 .62	.00 .02	.00 .00	.00 .00	.00 .00	1.63
21	6	26	.09 .00	.11 .00	.01 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.22
21	6	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
21	6	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
21	6	29	.00 .00	.00 .00	.00 .02	.00 .08	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.10
21	6	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

B91

MONTH OF JUNE

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 720
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 32
TOTAL DAYS WITH PRECIPITATION - 8
TOTAL AMOUNT OF PRECIPITATION - 6.11 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 1.32 INCHES
MAXIMUM DAILY PRECIPITATION - 3.37 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 24 HOUR 4 - 1.32 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 24 HOUR 18 - 1.68 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 25 HOUR 18 - 1.82 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 24 HOUR 4 - 3.13 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 24 HOUR 3 - 3.37 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	32	83	128	165	201
.02	23	69	108	139	169
.03	19	61	101	132	162
.04	18	55	89	119	143
.05	16	54	88	118	142
.07	15	51	86	116	141
.10	11	44	73	98	117
.15	9	36	60	79	93
.20	7	35	60	79	93
.25	6	29	53	72	88
.30	5	28	53	72	88
.35	5	27	52	72	88
.40	5	27	51	72	88
.45	5	26	50	71	88
.50	5	26	50	71	88
.60	5	25	49	70	88
.70	3	19	37	52	64
.80	3	18	37	52	64
.90	2	18	36	51	63
1.00	1	17	35	50	63
1.10	1	17	35	50	63
1.20	1	16	35	50	63
1.30	1	16	34	50	63
1.40	0	14	32	49	62
1.50	0	13	31	48	62
1.60	0	7	26	46	58
1.70	0	0	11	29	45
1.80	0	0	4	17	32
1.90	0	0	0	4	12
2.00	0	0	0	3	11

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 - 0
 TOTAL HOURS OF PRECIPITATION - 135
 TOTAL DAYS WITH PRECIPITATION - 32
 TOTAL AMOUNT OF PRECIPITATION - 12.15 INCHES
 MAXIMUM 1-HOUR PRECIPITATION - 1.32 INCHES
 MAXIMUM DAILY PRECIPITATION - 3.37 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 6 DAY 24 HOUR 4 - 1.32 INCHES
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 6 DAY 24 HOUR 18 - 1.68 INCHES
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 6 DAY 25 HOUR 18 - 1.82 INCHES
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 6 DAY 24 HOUR 4 - 3.13 INCHES
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 6 DAY 24 HOUR 3 - 3.37 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 24
 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

B94

APR-JUN INDEX

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	135	340	517	662	784
.02	84	258	413	545	656
.03	70	230	382	511	621
.04	62	195	333	450	562
.05	51	184	312	425	529
.07	40	162	288	403	505
.10	32	146	248	340	423
.15	23	118	212	294	362
.20	16	91	168	243	300
.25	10	73	138	196	249
.30	8	65	121	172	212
.35	6	61	114	161	207
.40	6	57	109	156	197
.45	6	48	100	147	188
.50	5	43	89	132	167
.60	5	40	85	125	163
.70	3	31	71	104	136
.80	3	22	58	92	129
.90	2	22	55	85	120
1.00	1	17	41	66	92
1.10	1	17	40	65	87
1.20	1	16	35	56	76
1.30	1	16	34	54	73
1.40	0	14	32	52	72
1.50	0	13	31	50	70
1.60	0	7	26	46	63
1.70	0	0	11	29	45
1.80	0	0	4	17	32
1.90	0	0	0	4	12
2.00	0	0	0	3	11

B95

JAN-JUN INDEX

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 4344
NUMBER OF MISSING HOURS - 1
TOTAL HOURS OF PRECIPITATION - 263
TOTAL DAYS WITH PRECIPITATION - 50
TOTAL AMOUNT OF PRECIPITATION - 18.28 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 1.32 INCHES
MAXIMUM DAILY PRECIPITATION - 3.37 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	6 DAY 24 HOUR 4	-	1.32 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	6 DAY 24 HOUR 18	-	1.68 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	6 DAY 25 HOUR 18	-	1.82 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	6 DAY 24 HOUR 4	-	3.13 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	6 DAY 24 HOUR 3	-	3.37 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 968
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 10
TOTAL DAYS WITH PRECIPITATION - 6
TOTAL AMOUNT OF PRECIPITATION - .19 INCHES
MAXIMUM 1-HOUR PRECIPITATION - .03 INCHES
MAXIMUM DAILY PRECIPITATION - .08 INCHES

JAN-JUN INDEX

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	263	559	821	1044	1216
.02	172	450	679	881	1046
.03	136	403	619	805	965
.04	105	358	563	740	902
.05	87	332	528	701	858
.07	64	290	487	666	822
.10	49	239	415	570	713
.15	31	187	339	464	584
.20	21	146	267	382	479
.25	13	117	220	306	384
.30	10	98	188	259	318
.35	7	89	176	245	310
.40	7	78	163	232	294
.45	6	67	146	219	280
.50	5	58	129	195	250
.60	5	54	120	176	232
.70	3	44	99	149	193
.80	3	32	84	130	180
.90	2	28	77	119	160
1.00	1	21	60	99	131
1.10	1	21	55	96	124
1.20	1	19	46	79	105
1.30	1	17	44	74	101
1.40	0	14	41	71	97
1.50	0	13	39	68	94
1.60	0	7	30	64	87
1.70	0	0	11	42	69
1.80	0	0	4	25	56
1.90	0	0	0	10	34
2.00	0	0	0	5	28

B97

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2021

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
21	7	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
21	7	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
21	7	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
21	7	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
21	7	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
21	7	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
21	7	7	.00 .00	.00 .00	.01 .00	.03 .00	.31 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.35
21	7	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
21	7	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
21	7	10	.08 .00	.34 .00	.13 .00	.00 .35	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.91
21	7	11	.00 .00	.00 .00	.08 .00	.12 .00	.01 .00	.02 .00	.02 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.25
21	7	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
21	7	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
21	7	14	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01
21	7	15	.00 .00	.00 .00	.00 .00	.01 .00	.03 .00	.02 .00	.02 .00	.02 .00	.00 .00	.00 .00	.00 .00	.00 .00	.10
21	7	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
21	7	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

B98

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2021

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
21	7	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
21	7	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
21	7	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
21	7	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
21	7	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
21	7	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
21	7	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
21	7	25	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.02 .00	.03
21	7	26	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01
21	7	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
21	7	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
21	7	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
21	7	30	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .26	.00 .00	.26
21	7	31	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.39 .00	.48 .00	.11 .00	.00 .00	.00 .00	.00 .00	.00 .00	.98

B99

MONTH OF JULY

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 26
TOTAL DAYS WITH PRECIPITATION - 9
TOTAL AMOUNT OF PRECIPITATION - 2.90 INCHES
MAXIMUM 1-HOUR PRECIPITATION - .48 INCHES
MAXIMUM DAILY PRECIPITATION - .98 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 31 HOUR 7 - .48 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 31 HOUR 6 - .98 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 30 HOUR 23 - 1.24 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 30 HOUR 23 - 1.24 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 30 HOUR 23 - 1.24 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

B100

MONTH OF JULY

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	26	76	127	163	188
.02	19	60	103	133	157
.03	13	57	99	129	154
.04	11	52	88	112	134
.05	11	48	85	109	127
.07	11	45	81	106	124
.10	9	41	78	102	120
.15	6	37	68	88	100
.20	6	36	67	87	99
.25	6	33	64	87	99
.30	5	25	49	69	81
.35	3	23	47	67	79
.40	1	12	26	45	57
.45	1	11	24	43	55
.50	0	10	23	42	54
.60	0	5	12	25	38
.70	0	5	11	21	28
.80	0	5	11	21	28
.90	0	4	11	20	27
1.00	0	0	4	10	16
1.10	0	0	4	10	16
1.20	0	0	3	9	15
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 2021

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
21	8	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
21	8	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
21	8	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
21	8	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
21	8	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
21	8	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
21	8	7	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .67	.08 .75
21	8	8	.04 .00	.04 .00	.05 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.00 .00	.00 .00	.14
21	8	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
21	8	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
21	8	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
21	8	12	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .11	.15 .26
21	8	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
21	8	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
21	8	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
21	8	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
21	8	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

B102

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2021

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
21	8	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
21	8	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
21	8	20	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .03	.00 .00	.00 .00	.00 .00	.00 .00	.03
21	8	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
21	8	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
21	8	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
21	8	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
21	8	25	.00 .00	.00 .00	.00 .00	.37 .00	.03 .00	.00 .00	.04 .00	.10 .00	.00 .00	.00 .00	.00 .00	.00 .00	.54
21	8	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
21	8	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
21	8	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
21	8	29	.00 .00	.00 .00	.00 .00	.00 .00	.04 .00	.05 .00	.10 .00	.01 .00	.01 .00	.00 .00	.00 .00	.00 .00	.21
21	8	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
21	8	31	.00 .00	.00 .00	.21 .00	.25 .00	.30 .00	.00 .00	.74 .00	.10 .00	.01 .00	.00 .00	.01 .00	.00 .00	1.62

B103

MONTH OF AUGUST

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 25
TOTAL DAYS WITH PRECIPITATION - 7
TOTAL AMOUNT OF PRECIPITATION - 3.55 INCHES
MAXIMUM 1-HOUR PRECIPITATION - .74 INCHES
MAXIMUM DAILY PRECIPITATION - 1.62 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 31 HOUR 7 - .74 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 31 HOUR 3 - 1.60 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 31 HOUR 3 - 1.62 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 31 HOUR 3 - 1.62 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 31 HOUR 1 - 1.62 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	25	63	100	132	162
.02	20	54	90	124	154
.03	20	52	88	123	153
.04	18	46	76	105	129
.05	14	45	75	104	128
.07	12	44	74	103	127
.10	11	42	73	102	126
.15	7	35	65	95	119
.20	6	31	61	91	115
.25	5	26	50	74	92
.30	4	21	39	57	69
.35	3	21	39	57	69
.40	2	20	38	56	68
.45	2	17	35	53	65
.50	2	16	34	52	64
.60	2	14	26	38	44
.70	1	13	25	37	43
.80	0	9	21	33	39
.90	0	4	10	16	18
1.00	0	4	10	16	18
1.10	0	4	10	16	18
1.20	0	3	9	15	18
1.30	0	3	9	15	18
1.40	0	3	9	15	18
1.50	0	2	8	14	18
1.60	0	1	7	13	17
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 2021

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
21	9	1	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	9.99 .00	.00 .00	.00 .00	.00
21	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
21	9	3	.00 .00	.36 .00	.10 .00	.00 .00	.06 .00	.01 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.53
21	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
21	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
21	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
21	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
21	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
21	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
21	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
21	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
21	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
21	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
21	9	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
21	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
21	9	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
21	9	17	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.01

B106

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2021

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
21	9	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
21	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
21	9	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
21	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
21	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
21	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
21	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
21	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
21	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
21	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
21	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
21	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
21	9	30	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .01	.00 1.10	.00 .39	.00 .54	.00 .02	.00 .01	.00 .00	2.07

B107

MONTH OF SEPTEMBER

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 720
NUMBER OF MISSING HOURS - 1
TOTAL HOURS OF PRECIPITATION - 11
TOTAL DAYS WITH PRECIPITATION - 3
TOTAL AMOUNT OF PRECIPITATION - 2.61 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 1.10 INCHES
MAXIMUM DAILY PRECIPITATION - 2.07 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 30 HOUR 19 - 1.10 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 30 HOUR 18 - 2.07 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 30 HOUR 13 - 2.07 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 30 HOUR 7 - 2.07 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 30 HOUR 1 - 2.07 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	11	23	35	47	59
.02	7	15	21	27	33
.03	6	15	21	27	33
.04	6	15	21	27	33
.05	6	15	21	27	33
.07	5	15	21	27	33
.10	5	13	19	25	31
.15	4	13	19	25	31
.20	4	12	18	24	30
.25	4	12	18	24	30
.30	4	12	18	24	30
.35	4	12	18	24	30
.40	2	11	17	23	29
.45	2	11	17	23	29
.50	2	9	15	21	27
.60	1	6	6	6	6
.70	1	6	6	6	6
.80	1	6	6	6	6
.90	1	6	6	6	6
1.00	1	6	6	6	6
1.10	1	6	6	6	6
1.20	0	5	5	5	5
1.30	0	5	5	5	5
1.40	0	5	5	5	5
1.50	0	5	5	5	5
1.60	0	4	4	4	4
1.70	0	4	4	4	4
1.80	0	4	4	4	4
1.90	0	4	4	4	4
2.00	0	4	4	4	4

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 - 1
TOTAL HOURS OF PRECIPITATION - 62
TOTAL DAYS WITH PRECIPITATION - 19
TOTAL AMOUNT OF PRECIPITATION - 9.06 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 1.10 INCHES
MAXIMUM DAILY PRECIPITATION - 2.07 INCHES

1	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	9	DAY	30	HOUR	19	-	1.10	INCHES
6	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	9	DAY	30	HOUR	18	-	2.07	INCHES
12	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	9	DAY	30	HOUR	13	-	2.07	INCHES
18	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	9	DAY	30	HOUR	7	-	2.07	INCHES
24	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	9	DAY	30	HOUR	1	-	2.07	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	62	162	262	347	426	
.02	46	129	214	287	359	
.03	39	124	208	281	354	
.04	35	113	185	246	310	
.05	31	108	181	242	302	
.07	28	104	176	238	298	
.10	25	96	170	231	291	
.15	17	85	152	208	262	
.20	16	79	146	202	256	
.25	15	71	132	185	233	
.30	13	58	106	150	192	
.35	10	56	104	148	190	
.40	5	43	81	124	166	
.45	5	39	76	119	161	
.50	4	35	72	115	157	
.60	3	25	44	69	99	
.70	2	24	42	64	88	
.80	1	20	38	60	84	
.90	1	14	27	42	60	
1.00	1	10	20	32	44	
1.10	1	10	20	32	44	
1.20	0	8	17	29	41	
1.30	0	8	14	20	26	
1.40	0	8	14	20	26	
1.50	0	7	13	19	25	
1.60	0	5	11	17	23	
1.70	0	4	4	4	4	
1.80	0	4	4	4	4	
1.90	0	4	4	4	4	
2.00	0	4	4	4	4	

B111

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2021

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
21	10	1	.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
21	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
21	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
21	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
21	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
21	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
21	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
21	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
21	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
21	10	10	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .01	.00 .00	.00 .00	.00 .02	.00 .00	.03
21	10	11	.01 .00	.00 .00	.00 .00	.00 .00	.02 .00	.04 .00	.00 .00	.02 .00	.02 .00	.00 .00	.00 .00	.00 .00	.11
21	10	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
21	10	13	.00 .00	.00 .00	.00 .00	.05 .00	.04 .00	.04 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.13
21	10	14	.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
21	10	15	.02 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.02
21	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
21	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 2021

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
21	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
21	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
21	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
21	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
21	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
21	10	23	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .16	.00 .00	.16
21	10	24	.01 .00	.30 .01	.01 .00	.00 .04	.00 .03	.00 .00	.00 .00	.00 .00	.01 .00	.00 .00	.00 .00	.00 .00	.41
21	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
21	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
21	10	27	.00 .09	.00 .01	.00 .04	.01 .05	.12 .03	.01 .04	.05 .02	.01 .00	.06 .03	.01 .06	.01 .17	.03 .07	.92
21	10	28	.04 .01	.05 .02	.02 .01	.03 .01	.01 .01	.04 .01	.01 .00	.01 .00	.02 .00	.01 .00	.02 .00	.01 .00	.34
21	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
21	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
21	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 - 59
TOTAL DAYS WITH PRECIPITATION - 10
TOTAL AMOUNT OF PRECIPITATION - 2.14 INCHES
MAXIMUM 1-HOUR PRECIPITATION - .30 INCHES
MAXIMUM DAILY PRECIPITATION - .92 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 24 HOUR 2 - .30 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 23 HOUR 23 - .48 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 27 HOUR 13 - .61 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 27 HOUR 9 - .81 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 27 HOUR 5 - 1.05 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 2
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	59	109	145	175	205
.02	35	89	126	156	186
.03	25	84	121	152	182
.04	20	72	106	132	156
.05	12	67	98	124	148
.07	6	63	94	121	145
.10	4	46	78	103	127
.15	3	34	51	63	75
.20	1	21	44	57	69
.25	1	16	40	54	66
.30	1	12	36	50	62
.35	0	8	31	47	59
.40	0	5	29	47	59
.45	0	3	23	41	53
.50	0	0	11	28	40
.60	0	0	2	19	25
.70	0	0	0	11	19
.80	0	0	0	2	16
.90	0	0	0	0	10
1.00	0	0	0	0	3
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

B11S

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

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2021

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
21	11	1	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.04 .00	.03 .00	.02 .00	.02 .00	.02 .00	.14
21	11	2	.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
21	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
21	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
21	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
21	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
21	11	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
21	11	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
21	11	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
21	11	10	.00 .00	.00 .05	.00 .08	.00 .19	.00 .11	.00 .05	.00 .10	.00 .05	.00 .01	.00 .00	.00 .00	.00 .00	.64
21	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
21	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
21	11	13	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .06	.00 .02	.08
21	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
21	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
21	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
21	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 2021

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
21	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
21	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
21	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
21	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
21	11	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
21	11	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
21	11	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
21	11	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
21	11	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
21	11	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
21	11	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
21	11	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
21	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

B117

MONTH OF NOVEMBER

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 720
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 17
TOTAL DAYS WITH PRECIPITATION - 4
TOTAL AMOUNT OF PRECIPITATION - .87 INCHES
MAXIMUM 1-HOUR PRECIPITATION - .19 INCHES
MAXIMUM DAILY PRECIPITATION - .64 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 10 HOUR 16 - .19 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 10 HOUR 15 - .58 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 10 HOUR 14 - .64 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 10 HOUR 14 - .64 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 10 HOUR 14 - .64 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 80
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 NOVEMBER

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	17	37	57	69	81
.02	14	29	43	56	68
.03	10	28	42	54	66
.04	9	27	41	54	66
.05	8	26	41	53	65
.07	4	22	37	49	61
.10	3	14	25	31	37
.15	1	9	15	22	34
.20	0	8	14	20	26
.25	0	7	13	19	25
.30	0	7	13	19	25
.35	0	5	11	17	23
.40	0	5	11	17	23
.45	0	4	10	16	22
.50	0	3	9	15	21
.60	0	0	6	12	18
.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

B119

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR 2021

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
21	12	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
21	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 .00	.00
21	12	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
21	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
21	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
21	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
21	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
21	12	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
21	12	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
21	12	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
21	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
21	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
21	12	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
21	12	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
21	12	15	.00 .00	.00 .00	.00 .00	.00 .00	.00 .27	.00 .01	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.00 .00	.28
21	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
21	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 2021

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
21	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
21	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
21	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
21	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
21	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
21	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
21	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 .01	.01
21	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
21	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
21	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
21	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
21	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
21	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
21	12	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

B121

MONTH OF DECEMBER

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 3
TOTAL DAYS WITH PRECIPITATION - 2
TOTAL AMOUNT OF PRECIPITATION - .29 INCHES
MAXIMUM 1-HOUR PRECIPITATION - .27 INCHES
MAXIMUM DAILY PRECIPITATION - .28 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 15 HOUR 17 - .27 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 15 HOUR 17 - .28 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 15 HOUR 17 - .28 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 15 HOUR 17 - .28 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 15 HOUR 17 - .28 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 234
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 DECEMBER

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	3	13	25	37	49
.02	1	6	12	18	24
.03	1	6	12	18	24
.04	1	6	12	18	24
.05	1	6	12	18	24
.07	1	6	12	18	24
.10	1	6	12	18	24
.15	1	6	12	18	24
.20	1	6	12	18	24
.25	1	6	12	18	24
.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

B123

OCT-DEC INDEX

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 2208
 NUMBER OF MISSING HOURS - 0
 TOTAL HOURS OF PRECIPITATION - 79
 TOTAL DAYS WITH PRECIPITATION - 16
 TOTAL AMOUNT OF PRECIPITATION - 3.30 INCHES
 MAXIMUM 1-HOUR PRECIPITATION - .30 INCHES
 MAXIMUM DAILY PRECIPITATION - .92 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 10 DAY 24 HOUR 2 - .30 INCHES
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 11 DAY 10 HOUR 15 - .58 INCHES
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 11 DAY 10 HOUR 14 - .64 INCHES
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 10 DAY 27 HOUR 9 - .81 INCHES
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 10 DAY 27 HOUR 5 - 1.05 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 316
 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

OCT-DEC INDEX

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	79	159	231	291	351
.02	50	124	185	240	294
.03	36	118	179	234	288
.04	30	105	163	214	262
.05	21	99	154	204	252
.07	11	91	146	197	245
.10	8	66	116	159	201
.15	5	49	78	103	133
.20	2	35	70	95	119
.25	2	29	65	91	115
.30	1	19	49	69	87
.35	0	13	42	64	82
.40	0	10	40	64	82
.45	0	7	33	57	75
.50	0	3	20	43	61
.60	0	0	8	31	43
.70	0	0	0	11	19
.80	0	0	0	2	16
.90	0	0	0	0	10
1.00	0	0	0	0	3
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

B125

JUL-DEC INDEX

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 4416
 NUMBER OF MISSING HOURS - 1
 TOTAL HOURS OF PRECIPITATION - 141
 TOTAL DAYS WITH PRECIPITATION - 35
 TOTAL AMOUNT OF PRECIPITATION - 12.36 INCHES
 MAXIMUM 1-HOUR PRECIPITATION - 1.10 INCHES
 MAXIMUM DAILY PRECIPITATION - 2.07 INCHES

1	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	9	DAY	30	HOUR	19	-	1.10	INCHES
6	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	9	DAY	30	HOUR	18	-	2.07	INCHES
12	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	9	DAY	30	HOUR	18	-	2.07	INCHES
18	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	9	DAY	30	HOUR	19	-	2.07	INCHES
24	HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	9	DAY	30	HOUR	18	-	2.08	INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 316
 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-DEC INDEX

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	141	325	503	655	800
.02	96	256	408	543	675
.03	75	245	396	530	663
.04	65	220	356	475	593
.05	52	209	343	460	574
.07	39	197	330	449	563
.10	33	164	294	404	512
.15	22	136	238	325	415
.20	18	116	224	311	395
.25	17	102	205	290	368
.30	14	79	163	233	299
.35	10	71	154	226	292
.40	5	55	129	202	268
.45	5	48	117	190	256
.50	4	40	100	172	238
.60	3	26	59	113	161
.70	2	25	49	88	126
.80	1	21	45	75	119
.90	1	15	34	55	89
1.00	1	10	26	44	65
1.10	1	10	26	44	62
1.20	0	8	23	41	59
1.30	0	8	20	32	44
1.40	0	8	20	32	44
1.50	0	7	19	31	43
1.60	0	5	17	29	41
1.70	0	4	10	16	22
1.80	0	4	10	16	22
1.90	0	4	10	16	22
2.00	0	4	10	16	22

B127

JAN-DEC INDEX

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 8760
NUMBER OF MISSING HOURS - 2
TOTAL HOURS OF PRECIPITATION - 404
TOTAL DAYS WITH PRECIPITATION - 85
TOTAL AMOUNT OF PRECIPITATION - 30.64 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 1.32 INCHES
MAXIMUM DAILY PRECIPITATION - 3.37 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	6 DAY 24 HOUR 4	-	1.32 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	9 DAY 30 HOUR 18	-	2.07 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	9 DAY 30 HOUR 18	-	2.07 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	6 DAY 24 HOUR 4	-	3.13 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	6 DAY 24 HOUR 3	-	3.37 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES

TOTAL NUMBER OF HOURS - 1284
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 10
TOTAL DAYS WITH PRECIPITATION - 6
TOTAL AMOUNT OF PRECIPITATION - .19 INCHES
MAXIMUM 1-HOUR PRECIPITATION - .03 INCHES
MAXIMUM DAILY PRECIPITATION - .08 INCHES

JAN-DEC INDEX

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
.01	404	884	1324	1699	2016
.02	268	706	1087	1424	1721
.03	211	648	1015	1335	1628
.04	170	578	919	1215	1495
.05	139	541	871	1161	1432
.07	103	487	817	1115	1385
.10	82	403	709	974	1225
.15	53	323	577	789	999
.20	39	262	491	693	874
.25	30	219	425	596	752
.30	24	177	351	492	617
.35	17	160	330	471	602
.40	12	133	292	434	562
.45	11	115	263	409	536
.50	9	98	229	367	488
.60	8	80	179	289	393
.70	5	69	148	237	319
.80	4	53	129	205	299
.90	3	43	111	174	249
1.00	2	31	86	143	196
1.10	2	31	81	140	186
1.20	1	27	69	120	164
1.30	1	25	64	106	145
1.40	0	22	61	103	141
1.50	0	20	58	99	137
1.60	0	12	47	93	128
1.70	0	4	21	58	91
1.80	0	4	14	41	78
1.90	0	4	10	26	56
2.00	0	4	10	21	50

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 (ΔT) for the 100-meter JFDs and the 60-meter to 10-meter ΔT for the 10-meter JFDs.

JFDs of 10-Meter Wind vs. Delta T

January-March 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-MAR 2021
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 3/31/21

*** JAN-MAR 2021 ***

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	2	0	0	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	0	0	0	0	0	0	0	0	0	1	0	1
18.51-24.00	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
>24.00	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7
TOTAL	4	1	0	0	0	2	0	0	7	0	0	0	0	0	1	1	16

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	2	0	0	0	0	0	0	0	0	0	0	2
7.51-12.50	0	1	0	0	0	0	5	0	0	0	0	0	0	0	0	0	6
12.51-18.50	0	1	0	0	0	0	0	1	0	0	0	0	0	0	3	1	6
18.51-24.00	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	4	7
>24.00	0	0	0	0	0	0	0	0	5	5	0	0	0	0	0	0	10
TOTAL	1	2	0	0	0	2	5	2	6	5	0	0	0	0	3	5	31

B132

PROGRAM: JFD VERSION: PC-1.2
 NNPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-MAR 2021
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 3/31/21

*** JAN-MAR 2021 ***

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	1	0	0	0	0	0	0	0	0	1
3.51- 7.50	0	0	0	0	0	13	2	1	0	0	1	1	0	1	0	0	19
7.51-12.50	9	5	0	0	0	2	7	0	1	0	0	0	0	0	0	0	24
12.51-18.50	4	2	0	0	0	0	0	0	4	0	0	0	0	0	0	2	12
18.51-24.00	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	5
>24.00	0	0	0	0	0	0	0	0	3	4	0	0	0	0	0	0	7
TOTAL	14	7	0	0	0	15	9	4	8	4	1	1	0	1	0	4	68

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	5	6	5	7	9	4	3	3	4	4	1	4	3	2	6	70
3.51- 7.50	44	36	36	35	26	54	29	12	4	3	10	3	4	14	14	26	350
7.51-12.50	97	47	7	17	24	14	22	12	4	14	12	10	1	18	42	42	383
12.51-18.50	73	15	2	1	8	1	3	9	11	12	3	3	1	11	50	42	245
18.51-24.00	14	0	0	0	5	0	0	2	9	5	1	0	0	3	20	20	79
>24.00	1	0	0	0	0	0	0	0	14	8	2	0	1	0	6	5	37
TOTAL	233	103	51	58	70	78	58	38	45	46	32	17	11	49	134	141	1164

B133

PROGRAM: JFD VERSION: PC-1.2
 NNPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-MAR 2021
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 3/31/21

*** JAN-MAR 2021 ***

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																	3
1.01- 3.50	13	8	4	7	7	9	8	9	8	12	3	5	7	5	6	14	125
3.51- 7.50	37	19	8	7	12	20	18	22	8	13	11	9	7	8	16	10	225
7.51-12.50	20	3	1	0	4	1	27	10	12	14	15	4	7	8	6	8	140
12.51-18.50	0	0	1	0	0	0	2	33	10	1	3	4	1	0	2	1	58
18.51-24.00	1	0	0	0	0	0	0	2	3	0	0	0	0	0	1	0	7
>24.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL	71	30	14	14	23	30	55	76	42	40	32	22	22	21	31	33	559

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																	14
1.01- 3.50	4	4	4	1	3	3	5	20	16	9	5	5	4	5	4	6	98
3.51- 7.50	4	3	0	0	0	1	3	15	12	2	4	0	3	5	4	0	56
7.51-12.50	0	0	0	0	0	0	0	2	13	6	3	3	3	2	0	0	32
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	8	7	4	1	3	4	8	37	41	17	13	8	10	12	8	6	201

B134

PROGRAM: JFD VERSION: PC-1.2
 NNPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-MAR 2021
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 3/31/21

*** JAN-MAR 2021 ***

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																	6
1.01- 3.50	6	3	0	1	1	2	1	17	12	16	8	5	3	4	4	8	91
3.51- 7.50	1	0	0	0	0	0	0	3	6	2	1	1	3	1	1	0	19
7.51-12.50	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	3
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	7	3	0	1	1	2	1	20	19	18	9	6	8	5	5	8	119

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																	23
1.01- 3.50	27	20	14	14	18	23	18	50	39	41	20	16	18	17	16	34	385
3.51- 7.50	86	58	44	42	38	92	52	53	30	20	27	14	17	29	35	36	673
7.51-12.50	126	56	8	17	28	17	61	24	31	34	30	17	13	28	48	50	588
12.51-18.50	77	18	3	1	8	1	5	43	25	13	7	7	2	11	56	46	323
18.51-24.00	21	1	0	0	5	0	0	7	13	5	1	0	0	3	21	27	104
>24.00	1	0	0	0	0	0	0	0	30	17	2	0	1	0	6	5	62
TOTAL	338	153	69	74	97	133	136	177	168	130	87	54	51	88	182	198	2158

B135

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-MAR 2021
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 3/31/21

*** JAN-MAR 2021 ***

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: 2158

TOTAL NUMBER OF MISSING OBSERVATIONS: 2

PERCENT DATA RECOVERY FOR THIS PERIOD: 99.9 %

MEAN WIND SPEED FOR THIS PERIOD: 8.9 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
.74	1.44	3.15	53.94	25.90	9.31	5.51

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	4	1	0	0	0	2	0	0	7	0	0	0	0	0	1	1	0
B	1	2	0	0	0	2	5	2	6	5	0	0	0	0	3	5	0
C	14	7	0	0	0	15	9	4	8	4	1	1	0	1	0	4	0
D	233	103	51	58	70	78	58	38	45	46	32	17	11	49	134	141	0
E	71	30	14	14	23	30	55	76	42	40	32	22	22	21	31	33	3
F	8	7	4	1	3	4	8	37	41	17	13	8	10	12	8	6	14
G	7	3	0	1	1	2	1	20	19	18	9	6	8	5	5	8	6
TOTAL	338	153	69	74	97	133	136	177	168	130	87	54	51	88	182	198	23

B136

JFDs of 10-Meter Wind vs. Delta T

April-June 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - APR-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 4/ 1/21 - 6/30/21

*** APR-JUN 2021 ***

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	1	3	2	2	1	8	10	0	1	0	0	0	0	0	0	28
7.51-12.50	0	4	3	1	0	1	12	16	2	1	0	0	0	0	0	0	40
12.51-18.50	8	0	0	0	0	3	0	2	6	4	0	0	0	0	0	10	33
18.51-24.00	2	0	0	0	0	0	0	0	13	6	1	0	0	0	0	0	22
>24.00	0	0	0	0	0	0	0	2	11	7	0	0	0	0	0	0	20
TOTAL	10	5	6	3	2	5	20	30	32	19	1	0	0	0	0	10	143

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	1	0	0	0	0	0	0	0	0	0	0	0	0	1
3.51- 7.50	0	1	0	1	2	1	7	9	3	1	1	0	0	0	0	0	26
7.51-12.50	2	4	0	1	0	0	2	7	8	0	0	1	0	1	1	4	31
12.51-18.50	9	0	0	0	0	1	1	0	9	5	0	0	0	2	7	3	37
18.51-24.00	1	0	0	0	0	0	0	1	8	4	0	0	0	0	0	2	16
>24.00	0	0	0	0	0	0	0	2	3	3	1	0	0	0	0	0	9
TOTAL	12	5	0	3	2	2	10	19	31	13	2	1	0	3	8	9	120

B138

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - APR-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 4/ 1/21 - 6/30/21

*** APR-JUN 2021 ***

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	1	4	2	0	1	0	1	0	0	0	0	9
3.51- 7.50	1	2	1	1	0	0	5	3	5	1	1	0	0	1	1	1	23
7.51-12.50	7	4	1	1	0	0	6	10	7	8	0	0	1	2	5	7	59
12.51-18.50	4	0	0	0	1	1	1	1	7	4	0	0	0	0	6	9	34
18.51-24.00	0	0	0	0	0	0	0	2	6	3	1	0	0	0	0	1	13
>24.00	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	0	5
TOTAL	12	6	2	2	1	2	16	18	29	18	2	1	1	3	12	18	143

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	1	0	7	3	4	8	8	5	7	0	4	3	2	1	1	2	56
3.51- 7.50	13	20	21	19	18	20	42	36	16	12	7	5	8	6	21	14	278
7.51-12.50	26	15	8	3	3	6	24	54	34	23	3	8	5	21	38	26	297
12.51-18.50	31	3	1	5	3	0	2	31	37	12	4	1	0	5	22	48	205
18.51-24.00	1	2	0	0	0	0	1	8	13	5	0	0	0	0	0	7	37
>24.00	0	0	0	0	0	0	0	0	4	2	0	0	0	0	0	0	6
TOTAL	72	40	37	30	28	34	77	134	111	54	18	17	15	33	82	97	879

B139

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - APR-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 4/ 1/21 - 6/30/21

*** APR-JUN 2021 ***

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																	3
1.01- 3.50	8	10	8	5	2	5	10	10	14	9	7	0	3	3	4	6	104
3.51- 7.50	21	7	8	2	8	6	23	27	32	5	10	4	4	9	12	19	197
7.51-12.50	16	1	2	1	0	2	12	27	40	20	6	0	3	7	11	13	161
12.51-18.50	6	1	0	1	0	0	1	20	22	3	0	1	0	0	1	5	61
18.51-24.00	0	0	0	0	0	0	0	2	7	0	0	0	0	0	0	1	10
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	51	19	18	9	10	13	46	86	115	37	23	5	10	19	28	44	536

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																	3
1.01- 3.50	11	4	1	1	1	2	2	4	13	11	5	3	9	8	14	17	106
3.51- 7.50	6	1	1	1	0	0	0	3	9	5	1	4	3	4	8	6	52
7.51-12.50	0	0	0	0	0	0	0	0	14	0	2	0	0	2	0	0	18
12.51-18.50	0	0	0	0	0	0	0	0	3	0	0	0	1	0	1	0	5
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	17	5	2	2	1	2	2	7	39	16	8	7	13	14	23	23	184

B140

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - APR-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 4/ 1/21 - 6/30/21

*** APR-JUN 2021 ***

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																	14
1.01- 3.50	7	1	0	2	0	0	2	4	18	10	7	8	6	13	10	12	100
3.51- 7.50	1	0	0	0	0	0	0	0	3	1	2	0	1	3	4	3	18
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	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	1	0	2	0	0	2	4	21	11	9	8	7	17	14	15	133

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																	20
1.01- 3.50	27	15	16	12	7	16	26	25	52	31	23	15	20	25	29	37	376
3.51- 7.50	42	32	34	26	30	28	85	88	68	26	22	13	16	23	46	43	622
7.51-12.50	51	28	14	7	3	9	56	114	105	52	11	9	9	34	55	50	607
12.51-18.50	58	4	1	6	4	5	5	54	84	28	4	2	1	7	37	75	375
18.51-24.00	4	2	0	0	0	0	1	13	47	18	2	0	0	0	0	11	98
>24.00	0	0	0	0	0	0	0	4	22	13	1	0	0	0	0	0	40
TOTAL	182	81	65	51	44	58	173	298	378	168	63	39	46	89	167	216	2138

B141

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - APR-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 4/ 1/21 - 6/30/21

*** APR-JUN 2021 ***

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: 2138

TOTAL NUMBER OF MISSING OBSERVATIONS: 46

PERCENT DATA RECOVERY FOR THIS PERIOD: 97.9 %

MEAN WIND SPEED FOR THIS PERIOD: 8.9 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
6.69	5.61	6.69	41.11	25.07	8.61	6.22

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	10	5	6	3	2	5	20	30	32	19	1	0	0	0	0	10	0
B	12	5	0	3	2	2	10	19	31	13	2	1	0	3	8	9	0
C	12	6	2	2	1	2	16	18	29	18	2	1	1	3	12	18	0
D	72	40	37	30	28	34	77	134	111	54	18	17	15	33	82	97	0
E	51	19	18	9	10	13	46	86	115	37	23	5	10	19	28	44	3
F	17	5	2	2	1	2	2	7	39	16	8	7	13	14	23	23	3
G	8	1	0	2	0	0	2	4	21	11	9	8	7	17	14	15	14
TOTAL	182	81	65	51	44	58	173	298	378	168	63	39	46	89	167	216	20

B142

JFDs of 10-Meter Wind vs. Delta T

January-June 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21

*** JAN-JUN 2021 ***

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	1	3	2	2	3	8	10	0	1	0	0	0	0	0	0	30
7.51-12.50	0	4	3	1	0	1	12	16	2	1	0	0	0	0	0	0	40
12.51-18.50	8	0	0	0	0	3	0	2	6	4	0	0	0	0	1	10	34
18.51-24.00	6	1	0	0	0	0	0	0	13	6	1	0	0	0	0	1	28
>24.00	0	0	0	0	0	0	0	2	18	7	0	0	0	0	0	0	27
TOTAL	14	6	6	3	2	7	20	30	39	19	1	0	0	0	1	11	159

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	1	0	0	0	0	0	0	0	0	0	0	0	0	1
3.51- 7.50	0	1	0	1	2	3	7	9	3	1	1	0	0	0	0	0	28
7.51-12.50	2	5	0	1	0	0	7	7	8	0	0	1	0	1	1	4	37
12.51-18.50	9	1	0	0	0	1	1	1	9	5	0	0	0	2	10	4	43
18.51-24.00	2	0	0	0	0	0	0	2	9	4	0	0	0	0	0	6	23
>24.00	0	0	0	0	0	0	0	2	8	8	1	0	0	0	0	0	19
TOTAL	13	7	0	3	2	4	15	21	37	18	2	1	0	3	11	14	151

B144

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21

*** JAN-JUN 2021 ***

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	1	4	3	0	1	0	1	0	0	0	0	10
3.51- 7.50	1	2	1	1	0	13	7	4	5	1	2	1	0	2	1	1	42
7.51-12.50	16	9	1	1	0	2	13	10	8	8	0	0	1	2	5	7	83
12.51-18.50	8	2	0	0	1	1	1	1	11	4	0	0	0	0	6	11	46
18.51-24.00	1	0	0	0	0	0	0	4	6	3	1	0	0	0	0	3	18
>24.00	0	0	0	0	0	0	0	0	7	5	0	0	0	0	0	0	12
TOTAL	26	13	2	2	1	17	25	22	37	22	3	2	1	4	12	22	211

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	13	8	11	17	12	8	10	4	8	4	6	4	3	8	126
3.51- 7.50	57	56	57	54	44	74	71	48	20	15	17	8	12	20	35	40	628
7.51-12.50	123	62	15	20	27	20	46	66	38	37	15	18	6	39	80	68	680
12.51-18.50	104	18	3	6	11	1	5	40	48	24	7	4	1	16	72	90	450
18.51-24.00	15	2	0	0	5	0	1	10	22	10	1	0	0	3	20	27	116
>24.00	1	0	0	0	0	0	0	0	18	10	2	0	1	0	6	5	43
TOTAL	305	143	88	88	98	112	135	172	156	100	50	34	26	82	216	238	2043

B145

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21

*** JAN-JUN 2021 ***

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																	6
1.01- 3.50	21	18	12	12	9	14	18	19	22	21	10	5	10	8	10	20	229
3.51- 7.50	58	26	16	9	20	26	41	49	40	18	21	13	11	17	28	29	422
7.51-12.50	36	4	3	1	4	3	39	37	52	34	21	4	10	15	17	21	301
12.51-18.50	6	1	1	1	0	0	3	53	32	4	3	5	1	0	3	6	119
18.51-24.00	1	0	0	0	0	0	0	4	10	0	0	0	0	0	1	1	17
>24.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL	122	49	32	23	33	43	101	162	157	77	55	27	32	40	59	77	1095

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																	17
1.01- 3.50	15	8	5	2	4	5	7	24	29	20	10	8	13	13	18	23	204
3.51- 7.50	10	4	1	1	0	1	3	18	21	7	5	4	6	9	12	6	108
7.51-12.50	0	0	0	0	0	0	0	2	27	6	5	3	3	4	0	0	50
12.51-18.50	0	0	0	0	0	0	0	0	3	0	1	0	1	0	1	0	6
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	25	12	6	3	4	6	10	44	80	33	21	15	23	26	31	29	385

B146

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21

*** JAN-JUN 2021 ***

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																	20
1.01- 3.50	13	4	0	3	1	2	3	21	30	26	15	13	9	17	14	20	191
3.51- 7.50	2	0	0	0	0	0	0	3	9	3	3	1	4	4	5	3	37
7.51-12.50	0	0	0	0	0	0	0	0	1	0	0	0	2	1	0	0	4
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	15	4	0	3	1	2	3	24	40	29	18	14	15	22	19	23	252

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																	43
1.01- 3.50	54	35	30	26	25	39	44	75	91	72	43	31	38	42	45	71	761
3.51- 7.50	128	90	78	68	68	120	137	141	98	46	49	27	33	52	81	79	1295
7.51-12.50	177	84	22	24	31	26	117	138	136	86	41	26	22	62	103	100	1195
12.51-18.50	135	22	4	7	12	6	10	97	109	41	11	9	3	18	93	121	698
18.51-24.00	25	3	0	0	5	0	1	20	60	23	3	0	0	3	21	38	202
>24.00	1	0	0	0	0	0	0	4	52	30	3	0	1	0	6	5	102
TOTAL	520	234	134	125	141	191	309	475	546	298	150	93	97	177	349	414	4296

B147

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21

*** JAN-JUN 2021 ***

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: 4296

TOTAL NUMBER OF MISSING OBSERVATIONS: 48

PERCENT DATA RECOVERY FOR THIS PERIOD: 98.9 %

MEAN WIND SPEED FOR THIS PERIOD: 8.9 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
3.70	3.51	4.91	47.56	25.49	8.96	5.87

B148

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	6	6	3	2	7	20	30	39	19	1	0	0	0	1	11	0
B	13	7	0	3	2	4	15	21	37	18	2	1	0	3	11	14	0
C	26	13	2	2	1	17	25	22	37	22	3	2	1	4	12	22	0
D	305	143	88	88	98	112	135	172	156	100	50	34	26	82	216	238	0
E	122	49	32	23	33	43	101	162	157	77	55	27	32	40	59	77	6
F	25	12	6	3	4	6	10	44	80	33	21	15	23	26	31	29	17
G	15	4	0	3	1	2	3	24	40	29	18	14	15	22	19	23	20
TOTAL	520	234	134	125	141	191	309	475	546	298	150	93	97	177	349	414	43

Stability Classes by Hour of Day

10-Meter Wind vs. Delta T

January-June 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2021
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21
 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
21	1	1	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
21	1	2	E	E	E	E	E	E	E	F	F	D	D	E	D	D	D	D	E	E	F	F	F	F	G	G
21	1	3	G	G	G	G	G	G	F	F	F	F	F	F	E	E	E	E	E	E	E	E	E	F	E	E
21	1	4	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F	E	F	G	G
21	1	5	G	G	G	G	G	G	G	F	F	E	F	E	E	E	D	E	E	E	E	E	E	E	E	E
21	1	6	E	E	E	E	E	E	E	E	E	D	D	D	D	D	E	D	E	D	E	D	D	E	D	D
21	1	7	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
21	1	8	E	E	E	E	E	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	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
21	1	10	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
21	1	11	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	F
21	1	12	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	F	F	E	E	E
21	1	13	E	E	E	F	F	E	E	E	E	E	D	D	D	D	D	D	E	G	G	F	F	G	F	G
21	1	14	G	G	G	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	1	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
21	1	16	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E
21	1	17	E	E	E	E	E	F	E	E	E	D	D	D	D	D	D	D	D	E	E	F	F	F	G	F
21	1	18	E	F	G	G	F	F	F	E	E	D	D	D	D	D	D	D	D	D	E	F	F	G	G	G
21	1	19	E	F	E	D	D	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	F	F	F
21	1	20	G	G	F	F	F	E	E	E	E	D	D	D	D	D	D	D	D	E	E	F	G	G	G	G
21	1	21	F	G	G	G	G	G	G	G	G	F	E	D	D	D	D	D	D	E	E	E	E	E	F	G
21	1	22	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E
21	1	23	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	1	24	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	1	25	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	-	-	D	D	D	D
21	1	26	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	D	D
21	1	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
21	1	28	D	D	E	D	E	E	D	E	E	D	D	D	D	D	D	D	D	D	E	E	E	F	F	F
21	1	29	G	F	F	E	E	F	F	G	F	E	E	D	D	D	D	D	D	E	E	E	E	E	E	E
21	1	30	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D
21	1	31	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	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
21	2	2	D	D	D	D	D	D	D	D	D	D	D	D	D	D	A	A	D	E	F	G	F	E	E	E
21	2	3	E	E	E	E	E	E	E	E	E	E	D	D	D	E	D	D	E	E	F	F	F	F	F	F
21	2	4	F	F	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	F	E
21	2	5	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	F
21	2	6	F	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
21	2	7	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	2	8	D	D	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	2	9	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	2	10	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E
21	2	11	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	2	12	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	2	13	D	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	E	E	D	D
21	2	14	D	D	D	D	D	D	D	D	D	D	D	D	C	C	D	D	D	D	D	D	D	D	D	D

B150

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2021
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21
 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	
21	2	15	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	
21	2	16	E	E	E	E	F	G	G	G	G	F	E	D	D	D	D	D	D	D	D	E	E	E	D	D	
21	2	17	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	G	G	F	G	
21	2	18	F	F	E	E	F	F	E	E	D	D	D	D	D	D	D	D	D	E	F	G	G	G	G	G	
21	2	19	F	F	F	F	G	F	E	E	F	E	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	2	20	E	F	F	F	F	F	F	E	F	D	E	D	D	D	D	D	D	E	F	E	E	E	E	E	
21	2	21	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	F	E	E	
21	2	22	F	F	F	F	E	E	F	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	2	23	E	F	F	F	E	E	G	G	F	D	D	D	D	D	D	E	E	E	F	F	G	G	G	F	
21	2	24	E	E	E	D	D	D	D	D	D	D	D	D	D	D	C	C	D	D	E	F	F	G	G	F	
21	2	25	F	G	G	G	G	F	G	E	D	D	D	D	D	D	D	D	D	D	E	F	F	F	F	F	
21	2	26	F	F	F	F	F	F	E	E	E	D	D	D	D	D	D	D	D	D	E	F	G	G	G	F	
21	2	27	E	E	E	E	E	E	F	F	E	D	C	C	C	C	D	D	D	E	E	E	E	F	E	E	
21	2	28	E	E	D	E	E	E	D	D	D	D	D	B	C	D	D	D	D	D	E	G	F	E	F	F	
21	3	1	E	E	F	F	G	E	F	E	D	D	C	C	C	C	D	D	D	E	E	E	E	E	E	E	
21	3	2	E	E	E	F	F	F	F	F	E	D	D	D	D	D	D	D	D	E	E	F	F	F	F	E	
21	3	3	E	E	G	G	G	G	G	G	F	D	D	C	C	B	C	C	D	D	F	G	G	G	G	F	
21	3	4	F	F	E	F	F	F	F	F	E	D	C	C	B	B	C	C	D	E	E	E	E	E	E	E	
21	3	5	E	E	E	E	E	E	E	E	D	C	C	B	B	B	C	D	D	D	F	F	F	F	F	F	
21	3	6	F	F	G	G	G	G	G	F	E	D	D	D	C	C	D	D	D	E	F	F	F	G	F	F	
21	3	7	F	F	F	F	E	E	E	E	E	D	D	B	B	B	B	C	D	D	E	F	F	E	E	E	
21	3	8	E	E	F	G	F	G	G	E	D	D	C	C	B	D	D	D	D	E	E	E	E	E	E	E	
21	3	9	E	E	E	E	E	E	E	E	D	C	B	A	A	A	A	B	D	D	E	E	E	D	D	D	
21	3	10	D	D	D	D	D	D	D	D	D	D	C	B	B	C	D	D	D	D	D	D	D	D	D	D	
21	3	11	D	D	D	D	E	E	E	D	D	D	B	C	C	C	C	D	D	D	E	F	G	G	G	G	
21	3	12	G	G	G	G	G	F	F	E	E	D	D	D	D	D	D	D	D	D	D	E	F	F	E	E	
21	3	13	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	D	E	D	
21	3	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	
21	3	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	
21	3	16	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	D	D	
21	3	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	
21	3	18	D	D	D	D	D	D	D	D	C	A	A	A	A	A	B	C	D	E	E	E	E	E	E	E	
21	3	19	E	F	F	E	E	E	E	E	D	C	C	C	C	B	C	C	D	D	E	F	G	F	F	F	
21	3	20	F	F	G	F	E	F	F	E	D	D	C	C	B	B	C	C	D	D	E	E	E	E	E	E	
21	3	21	E	E	E	E	E	E	E	E	D	D	B	A	A	A	B	D	D	E	E	E	E	E	E	E	
21	3	22	E	E	F	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
21	3	23	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	D	
21	3	24	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	D	E	E	
21	3	25	E	E	E	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F
21	3	26	F	G	G	G	G	G	G	F	E	D	C	C	D	C	C	D	D	D	D	E	D	D	D	D	
21	3	27	D	D	D	D	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	D	D	
21	3	28	D	E	E	E	E	E	E	E	D	D	C	C	C	D	D	D	D	D	E	F	E	E	E	E	
21	3	29	E	E	E	E	E	E	E	E	D	D	D	D	C	C	C	D	D	D	E	E	E	E	E	E	
21	3	30	E	E	D	D	D	D	D	D	D	D	B	A	B	B	B	C	D	D	D	E	E	E	E	G	
21	3	31	G	F	E	E	E	E	E	D	D	C	B	B	B	A	B	C	D	D	E	E	E	E	F	E	

BISI

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2021
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21
 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
21	4	1	E	F	G	G	G	F	-	-	-	-	-	-	-	C	C	C	C	D	D	E	E	E	E	E
21	4	2	E	E	E	E	E	E	E	D	D	C	A	A	A	A	A	B	D	D	E	F	F	F	E	E
21	4	3	E	F	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	G	G	G	G	G
21	4	4	G	G	G	G	G	G	G	F	D	D	C	A	A	B	B	C	D	D	E	F	F	E	E	E
21	4	5	E	E	F	F	E	E	E	D	D	C	B	A	A	A	A	B	C	D	E	E	E	E	E	E
21	4	6	E	E	E	E	E	E	D	D	D	D	D	D	D	B	B	C	C	D	D	E	E	D	D	D
21	4	7	E	D	E	E	E	F	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	4	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
21	4	9	E	E	F	F	E	E	E	E	D	D	D	C	D	D	D	D	D	D	E	E	D	E	E	E
21	4	10	D	D	D	E	D	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	F	F	G	G
21	4	11	F	F	F	G	G	G	G	E	D	D	D	C	C	C	D	D	D	D	E	E	E	D	E	E
21	4	12	E	D	D	D	D	D	D	D	D	D	C	B	A	A	A	B	C	C	D	D	D	E	F	E
21	4	13	E	F	F	G	F	F	E	D	D	C	C	B	B	B	C	C	D	D	D	E	E	F	E	E
21	4	14	E	E	E	E	F	E	E	D	C	B	B	B	B	B	C	C	D	D	D	E	F	F	G	G
21	4	15	F	E	F	E	F	E	E	D	C	B	C	C	D	D	D	D	D	D	E	E	D	E	E	E
21	4	16	E	E	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	4	17	D	D	D	D	D	D	D	D	D	C	C	B	C	D	D	D	D	D	D	D	E	E	E	E
21	4	18	E	E	E	E	E	E	E	D	D	D	D	C	D	D	D	D	D	D	D	F	G	G	F	F
21	4	19	E	E	E	E	D	D	D	D	D	B	A	B	A	A	C	D	D	D	D	D	D	D	E	E
21	4	20	E	D	D	D	D	D	D	D	C	D	D	D	C	C	D	D	D	D	E	F	F	E	F	E
21	4	21	E	E	E	D	E	D	D	D	C	B	B	A	B	B	C	D	D	D	D	F	G	G	G	G
21	4	22	G	F	F	F	F	F	E	D	D	C	B	B	A	A	A	B	D	D	D	D	D	D	D	D
21	4	23	D	D	D	D	D	D	D	D	D	D	D	D	C	C	D	D	D	D	D	D	E	E	F	G
21	4	24	E	F	F	E	E	E	D	D	B	A	B	A	A	A	C	C	D	D	E	E	F	G	F	G
21	4	25	F	E	F	E	E	E	E	D	D	D	B	B	A	A	A	A	B	D	D	E	E	E	E	E
21	4	26	E	E	E	E	E	E	D	D	D	C	A	A	A	A	A	B	C	D	E	E	E	E	E	E
21	4	27	E	E	E	E	E	F	E	D	D	D	D	C	C	D	D	D	D	D	D	E	E	E	E	E
21	4	28	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	E	E
21	4	29	E	E	E	E	E	E	D	D	D	C	D	C	D	D	D	D	D	D	E	E	G	G	G	G
21	4	30	G	G	G	G	G	G	G	E	D	D	D	C	C	C	D	D	D	D	D	E	E	E	E	E
21	5	1	E	E	E	E	E	E	D	D	D	B	A	A	A	A	A	B	B	D	D	E	E	E	E	E
21	5	2	E	E	E	E	E	E	D	D	D	D	B	A	A	A	A	B	B	C	D	D	E	E	E	E
21	5	3	D	E	D	E	E	D	D	D	D	D	D	D	D	B	B	C	D	D	D	E	E	E	E	E
21	5	4	D	D	D	D	D	D	D	B	A	A	A	A	A	A	B	C	C	D	E	F	G	G	G	G
21	5	5	G	G	G	G	G	G	G	E	D	D	C	D	D	D	D	D	D	D	E	F	F	F	F	G
21	5	6	G	F	E	D	D	D	D	D	D	B	B	B	B	B	C	D	D	E	G	G	G	G	F	F
21	5	7	F	F	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
21	5	8	E	E	E	D	D	D	D	D	C	B	A	A	A	C	D	D	D	D	D	D	D	E	D	D
21	5	9	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	E	F	G	G	G	G
21	5	10	F	F	G	G	G	G	E	D	D	C	D	D	D	D	C	C	D	D	E	F	F	F	G	G
21	5	11	E	E	E	E	D	E	D	D	D	D	C	B	C	C	D	D	D	D	D	E	E	E	E	E
21	5	12	E	E	E	E	E	E	E	D	C	B	B	A	B	B	C	D	D	D	E	F	F	G	G	G
21	5	13	G	F	F	F	F	G	F	D	C	C	B	A	B	B	B	C	D	D	E	F	F	E	E	E
21	5	14	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E
21	5	15	E	E	E	E	E	E	D	D	D	D	D	D	D	D	C	C	D	D	D	E	E	F	E	E

B152

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2021
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21
 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
21 5 16	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	D	D	D
21 5 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
21 5 18	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	F
21 5 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
21 5 20	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
21 5 21	E	E	D	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21 5 22	E	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
21 5 23	E	D	D	D	D	D	D	D	D	B	D	C	D	D	C	D	D	D	D	D	E	D	E	E
21 5 24	E	E	E	E	E	E	D	D	D	D	D	B	A	C	B	C	D	D	D	D	D	D	D	E
21 5 25	E	D	E	D	E	E	D	D	D	D	D	D	C	C	D	D	F	F	E	E	E	E	E	E
21 5 26	F	E	E	E	F	F	E	D	D	D	D	D	C	D	D	D	D	E	E	E	E	E	E	E
21 5 27	E	E	E	D	E	E	E	D	D	D	D	C	D	D	C	D	D	D	D	D	D	D	D	D
21 5 28	D	D	D	D	D	D	D	C	C	B	B	C	D	D	D	D	D	D	D	D	D	D	D	D
21 5 29	D	D	D	D	D	D	D	D	D	B	A	B	A	A	A	B	C	D	D	E	F	F	F	F
21 5 30	F	F	F	E	E	E	E	D	C	D	D	D	D	D	D	D	E	D	E	F	F	F	F	F
21 5 31	F	E	E	E	E	E	E	D	D	D	D	B	B	C	B	C	D	D	D	D	E	E	E	E
21 6 1	E	F	F	F	E	E	E	E	D	D	D	B	A	A	B	C	D	D	E	G	G	G	G	G
21 6 2	G	G	G	G	G	G	E	D	D	D	C	C	C	D	C	D	C	D	D	E	F	G	G	G
21 6 3	G	G	G	G	G	G	F	D	D	D	C	C	B	B	C	C	D	D	D	F	G	F	F	F
21 6 4	E	E	F	F	F	G	E	D	C	B	B	B	B	B	C	D	C	C	D	E	F	F	F	E
21 6 5	E	E	E	E	E	E	D	D	C	A	A	A	A	A	A	A	A	B	D	E	E	E	E	E
21 6 6	E	E	E	E	E	E	D	D	D	B	A	B	C	B	B	B	D	D	D	E	F	F	E	E
21 6 7	E	E	E	F	F	E	E	D	B	A	A	A	A	A	A	A	B	D	D	E	E	F	F	F
21 6 8	E	E	F	F	F	E	D	C	C	B	A	A	A	A	A	B	D	D	D	E	F	F	F	F
21 6 9	F	F	F	F	F	E	D	D	C	B	B	A	A	A	A	A	B	D	D	E	F	F	F	F
21 6 10	G	G	G	G	G	G	F	D	B	A	A	A	A	A	A	A	A	C	D	E	E	E	F	F
21 6 11	E	E	E	E	E	E	D	C	C	D	D	D	E	E	E	D	C	D	D	E	F	F	E	E
21 6 12	F	E	E	F	F	E	E	D	B	A	B	B	A	A	A	B	C	D	E	G	G	G	G	G
21 6 13	G	G	G	G	G	G	D	D	B	A	A	B	B	B	B	C	C	F	G	G	G	G	G	G
21 6 14	F	F	F	G	G	G	F	E	D	D	C	A	A	A	A	A	B	D	E	G	G	G	F	E
21 6 15	E	E	E	E	F	F	E	D	D	A	A	A	A	A	A	A	B	C	D	F	G	F	E	E
21 6 16	F	E	E	F	F	E	E	D	C	A	A	A	A	A	A	A	B	C	D	D	E	E	E	E
21 6 17	E	E	E	E	E	E	E	D	D	D	C	B	B	C	C	D	D	E	F	F	F	F	F	F
21 6 18	E	E	F	G	G	G	G	F	D	B	A	A	A	A	C	D	D	E	E	E	D	E	E	F
21 6 19	F	F	F	F	F	E	D	D	B	A	A	A	A	A	A	A	C	D	E	E	E	E	E	D
21 6 20	D	E	E	D	D	D	D	D	D	C	B	A	A	B	D	B	C	D	D	D	D	E	E	E
21 6 21	E	E	E	E	E	E	D	D	B	A	A	A	A	A	A	A	C	C	D	F	F	F	F	G
21 6 22	F	G	F	F	F	E	D	D	C	B	B	A	B	B	B	C	D	D	E	E	E	E	E	E
21 6 23	E	E	E	E	E	E	D	D	C	B	A	A	A	A	A	A	C	D	D	D	E	E	-	D
21 6 24	E	D	D	E	D	D	E	D	D	D	D	D	D	D	D	D	D	D	E	D	D	D	D	E
21 6 25	E	D	E	E	E	E	D	D	D	D	D	D	C	D	D	D	D	D	E	E	D	D	D	D
21 6 26	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F	F
21 6 27	F	E	E	F	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E
21 6 28	E	E	E	F	F	F	E	D	D	D	D	D	D	C	C	C	D	D	D	D	D	E	E	E
21 6 29	E	E	E	E	E	E	D	D	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-

B153

PROGRAM: JFD VERSION: PC-1.2
NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-JUN 2021
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21
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
21	6	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

B154

JFDs of 10-Meter Wind vs. Delta T

July-September 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-SEP 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 9/30/21

*** JUL-SEP 2021 ***

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	1	2	2	0	0	0	0	0	0	0	0	5
7.51-12.50	0	0	0	0	0	2	0	2	2	0	1	0	0	0	0	0	7
12.51-18.50	0	0	0	0	0	0	0	3	7	4	0	0	0	0	0	0	14
18.51-24.00	0	0	0	0	0	0	0	1	4	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	0	0	0	0	0	3	2	8	13	4	1	0	0	0	0	0	31

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	3	4	3	0	2	0	0	0	0	0	0	0	12
7.51-12.50	0	3	0	0	0	2	7	8	6	2	1	2	0	0	0	1	32
12.51-18.50	4	0	0	0	0	0	2	4	6	0	1	0	0	0	0	0	17
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	3	0	0	3	6	12	12	14	2	2	2	0	0	0	1	61

B156

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-SEP 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 9/30/21

*** JUL-SEP 2021 ***

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	2	0	1	0	1	0	1	0	0	1	1	0	0	8
3.51- 7.50	9	6	8	5	10	10	18	5	5	3	0	1	0	1	1	1	83
7.51-12.50	3	3	1	0	0	3	19	16	18	8	1	2	1	1	2	1	79
12.51-18.50	9	1	0	0	0	0	0	5	6	0	1	0	0	0	0	5	27
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	21	10	10	7	10	14	37	27	30	12	2	3	2	3	3	7	198

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	3	9	9	10	5	2	7	7	4	1	1	0	0	2	2	69
3.51- 7.50	17	21	11	16	21	29	35	27	21	14	8	6	5	5	10	19	265
7.51-12.50	29	9	2	1	4	4	54	45	42	25	17	6	1	3	10	28	280
12.51-18.50	14	1	0	0	0	0	4	14	45	2	0	0	0	1	0	13	94
18.51-24.00	1	0	0	0	0	0	0	3	4	1	0	0	1	0	0	0	10
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	68	34	22	26	35	38	95	96	119	46	26	13	7	9	22	62	718

B157

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-SEP 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 9/30/21

*** JUL-SEP 2021 ***

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																	7
1.01- 3.50	14	15	7	6	16	16	7	24	14	8	4	3	3	3	9	13	162
3.51- 7.50	20	17	7	5	6	20	23	59	99	13	11	3	6	2	10	11	312
7.51-12.50	4	5	1	1	1	1	11	43	50	17	7	1	0	2	2	18	164
12.51-18.50	2	1	1	0	0	0	1	8	6	1	0	0	0	0	0	2	22
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	1	0	1
TOTAL	40	38	16	12	23	37	42	134	169	39	22	7	9	7	22	44	668

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																	14
1.01- 3.50	15	5	4	3	1	4	3	10	38	17	10	5	10	13	24	32	194
3.51- 7.50	11	1	0	0	1	0	0	24	42	12	1	0	0	2	1	6	101
7.51-12.50	0	0	0	0	0	0	0	0	14	4	2	1	4	0	0	0	25
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	1	0	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	26	6	4	3	2	4	3	35	94	33	13	6	14	15	25	38	335

B158

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-SEP 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 9/30/21

*** JUL-SEP 2021 ***

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																	31
1.01- 3.50	9	2	0	0	0	0	0	4	12	8	2	8	11	21	28	21	126
3.51- 7.50	1	0	0	0	0	0	0	1	0	1	0	1	2	0	1	0	7
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	10	2	0	0	0	0	0	5	12	9	2	9	13	21	30	21	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																	52
1.01- 3.50	45	25	21	20	27	26	12	46	71	38	17	17	25	38	63	68	559
3.51- 7.50	58	45	26	26	41	64	81	118	169	43	20	11	13	10	23	37	785
7.51-12.50	36	20	4	2	5	12	91	114	132	56	29	12	6	6	15	48	588
12.51-18.50	29	3	1	0	0	0	7	34	70	7	2	0	0	1	0	20	174
18.51-24.00	1	0	0	0	0	0	0	5	9	1	0	0	1	0	0	0	17
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL	169	93	52	48	73	102	191	317	451	145	68	40	45	55	102	173	2176

B159

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-SEP 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 9/30/21

*** JUL-SEP 2021 ***

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: 2176

TOTAL NUMBER OF MISSING OBSERVATIONS: 32

PERCENT DATA RECOVERY FOR THIS PERIOD: 98.6 %

MEAN WIND SPEED FOR THIS PERIOD: 6.5 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
1.42	2.80	9.10	33.00	30.70	15.40	7.58

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	0	0	0	0	0	3	2	8	13	4	1	0	0	0	0	0	0
B	4	3	0	0	3	6	12	12	14	2	2	2	0	0	0	1	0
C	21	10	10	7	10	14	37	27	30	12	2	3	2	3	3	7	0
D	68	34	22	26	35	38	95	96	119	46	26	13	7	9	22	62	0
E	40	38	16	12	23	37	42	134	169	39	22	7	9	7	22	44	7
F	26	6	4	3	2	4	3	35	94	33	13	6	14	15	25	38	14
G	10	2	0	0	0	0	0	5	12	9	2	9	13	21	30	21	31
TOTAL	169	93	52	48	73	102	191	317	451	145	68	40	45	55	102	173	52

B160

JFDs of 10-Meter Wind vs. Delta T

October-December 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - OCT-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 10/ 1/21 - 12/31/21

*** OCT-DEC 2021 ***

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	1	0	0	0	0	0	0	0	0	0	1
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
12.51-18.50	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2
18.51-24.00	0	0	0	0	0	0	0	3	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	0	0	0	0	0	0	1	3	4	0	0	0	0	0	0	3	11

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	1	2	1	0	0	0	0	0	0	0	0	0	4
7.51-12.50	0	0	0	0	2	0	2	0	0	0	0	0	0	2	1	3	10
12.51-18.50	2	1	0	0	1	0	0	0	0	0	0	0	0	0	1	3	8
18.51-24.00	0	0	0	0	0	0	0	2	0	0	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	2	1	0	0	4	2	3	2	0	0	0	0	0	2	2	6	24

B162

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - OCT-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 10/ 1/21 - 12/31/21

*** OCT-DEC 2021 ***

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	1	0	0	0	0	0	0	0	0	0	1
3.51- 7.50	4	0	2	0	3	5	7	2	0	1	0	0	0	0	0	1	25
7.51-12.50	6	0	0	4	4	1	1	1	5	5	0	0	1	3	3	7	41
12.51-18.50	6	0	0	0	0	0	0	1	4	3	0	0	0	1	3	13	31
18.51-24.00	1	0	0	0	0	0	0	1	4	1	0	0	0	0	0	1	8
>24.00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
TOTAL	17	0	2	4	7	6	9	5	16	10	0	0	1	4	6	22	109

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	1	6	4	2	6	8	5	8	2	2	3	3	4	3	2	1	60
3.51- 7.50	11	15	17	11	10	13	33	10	10	6	12	11	10	26	14	14	223
7.51-12.50	25	6	13	6	18	8	33	15	18	14	9	12	12	20	36	40	285
12.51-18.50	14	1	0	0	0	0	21	11	32	12	4	6	12	22	50	48	233
18.51-24.00	7	1	0	0	0	0	1	4	11	4	0	0	1	1	13	31	74
>24.00	0	0	0	0	0	0	0	0	12	1	1	1	1	0	0	3	19
TOTAL	58	29	34	19	34	29	93	48	85	39	29	33	40	72	115	137	894

B163

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - OCT-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 10/ 1/21 - 12/31/21

*** OCT-DEC 2021 ***

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																	4
1.01- 3.50	9	9	7	3	11	8	11	20	8	1	7	3	2	6	8	10	123
3.51- 7.50	21	7	7	7	9	11	25	26	34	7	5	4	10	13	20	16	222
7.51-12.50	36	9	0	2	0	1	21	53	38	14	6	8	2	17	12	19	238
12.51-18.50	6	0	0	0	0	0	0	15	15	2	1	0	1	0	4	16	60
18.51-24.00	1	0	0	0	0	0	0	1	8	0	0	0	0	0	0	3	13
>24.00	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	3
TOTAL	73	25	14	12	20	20	57	115	104	26	19	15	15	36	44	64	663

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																	15
1.01- 3.50	12	10	1	2	6	4	8	13	21	11	9	8	5	6	5	16	137
3.51- 7.50	3	1	1	0	0	0	7	23	30	1	0	0	3	5	6	8	88
7.51-12.50	0	0	0	0	0	0	0	2	11	0	2	3	2	4	3	0	27
12.51-18.50	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2
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	1	0	0	0	0	0	0	0	0	1
TOTAL	15	11	2	2	6	4	15	39	63	12	11	12	10	15	14	24	270

B164

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - OCT-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 10/ 1/21 - 12/31/21

*** OCT-DEC 2021 ***

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																	43
1.01- 3.50	15	8	7	2	3	4	7	20	37	15	9	8	6	7	11	15	174
3.51- 7.50	1	0	0	0	0	1	1	6	3	1	1	0	1	0	1	2	18
7.51-12.50	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	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	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	16	8	7	2	3	5	8	26	41	16	10	8	7	8	12	17	237

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																	62
1.01- 3.50	37	33	19	9	26	24	32	61	68	29	28	22	17	22	26	42	495
3.51- 7.50	40	23	27	18	23	32	75	67	77	16	18	15	24	44	41	41	581
7.51-12.50	67	15	13	12	24	10	57	71	73	33	17	23	17	47	55	71	605
12.51-18.50	28	2	0	0	1	0	21	27	53	17	5	7	13	23	58	81	336
18.51-24.00	9	1	0	0	0	0	1	11	26	5	0	0	1	1	13	35	103
>24.00	0	0	0	0	0	0	0	1	16	3	1	1	1	0	0	3	26
TOTAL	181	74	59	39	74	66	186	238	313	103	69	68	73	137	193	273	2208

B165

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - OCT-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 10/ 1/21 - 12/31/21

*** OCT-DEC 2021 ***

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: 8.3 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
.50	1.09	4.94	40.49	30.03	12.23	10.73

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	1	3	4	0	0	0	0	0	0	3	0
B	2	1	0	0	4	2	3	2	0	0	0	0	0	2	2	6	0
C	17	0	2	4	7	6	9	5	16	10	0	0	1	4	6	22	0
D	58	29	34	19	34	29	93	48	85	39	29	33	40	72	115	137	0
E	73	25	14	12	20	20	57	115	104	26	19	15	15	36	44	64	4
F	15	11	2	2	6	4	15	39	63	12	11	12	10	15	14	24	15
G	16	8	7	2	3	5	8	26	41	16	10	8	7	8	12	17	43
TOTAL	181	74	59	39	74	66	186	238	313	103	69	68	73	137	193	273	62

B166

JFDs of 10-Meter Wind vs. Delta T

July-December 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21

*** JUL-DEC 2021 ***

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	1	3	2	0	0	0	0	0	0	0	0	6
7.51-12.50	0	0	0	0	0	2	0	2	2	0	1	0	0	0	0	2	9
12.51-18.50	0	0	0	0	0	0	0	3	8	4	0	0	0	0	0	1	16
18.51-24.00	0	0	0	0	0	0	0	4	7	0	0	0	0	0	0	0	11
>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	3	3	11	17	4	1	0	0	0	0	3	42

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	4	6	4	0	2	0	0	0	0	0	0	0	16
7.51-12.50	0	3	0	0	2	2	9	8	6	2	1	2	0	2	1	4	42
12.51-18.50	6	1	0	0	1	0	2	4	6	0	1	0	0	0	1	3	25
18.51-24.00	0	0	0	0	0	0	0	2	0	0	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	6	4	0	0	7	8	15	14	14	2	2	2	0	2	2	7	85

B168

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21

*** JUL-DEC 2021 ***

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	2	0	1	1	1	0	1	0	0	1	1	0	0	9
3.51- 7.50	13	6	10	5	13	15	25	7	5	4	0	1	0	1	2	108	
7.51-12.50	9	3	1	4	4	4	20	17	23	13	1	2	2	4	5	8	120
12.51-18.50	15	1	0	0	0	0	0	6	10	3	1	0	0	1	3	18	58
18.51-24.00	1	0	0	0	0	0	0	1	5	1	0	0	0	0	0	1	9
>24.00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
TOTAL	38	10	12	11	17	20	46	32	46	22	2	3	3	7	9	29	307

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	8	9	13	11	16	13	7	15	9	6	4	4	4	3	4	3	129
3.51- 7.50	28	36	28	27	31	42	68	37	31	20	20	17	15	31	24	33	488
7.51-12.50	54	15	15	7	22	12	87	60	60	39	26	18	13	23	46	68	565
12.51-18.50	28	2	0	0	0	0	25	25	77	14	4	6	12	23	50	61	327
18.51-24.00	8	1	0	0	0	0	1	7	15	5	0	0	2	1	13	31	84
>24.00	0	0	0	0	0	0	0	0	12	1	1	1	1	0	0	3	19
TOTAL	126	63	56	45	69	67	188	144	204	85	55	46	47	81	137	199	1612

B169

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21

*** JUL-DEC 2021 ***

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																	11
1.01- 3.50	23	24	14	9	27	24	18	44	22	9	11	6	5	9	17	23	285
3.51- 7.50	41	24	14	12	15	31	48	85	133	20	16	7	16	15	30	27	534
7.51-12.50	40	14	1	3	1	2	32	96	88	31	13	9	2	19	14	37	402
12.51-18.50	8	1	1	0	0	0	1	23	21	3	1	0	1	0	4	18	82
18.51-24.00	1	0	0	0	0	0	0	1	8	0	0	0	0	0	0	3	13
>24.00	0	0	0	0	0	0	0	0	1	2	0	0	0	0	1	0	4
TOTAL	113	63	30	24	43	57	99	249	273	65	41	22	24	43	66	108	1331

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																	29
1.01- 3.50	27	15	5	5	7	8	11	23	59	28	19	13	15	19	29	48	331
3.51- 7.50	14	2	1	0	1	0	7	47	72	13	1	0	3	7	7	14	189
7.51-12.50	0	0	0	0	0	0	0	2	25	4	4	4	6	4	3	0	52
12.51-18.50	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2
18.51-24.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
>24.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
TOTAL	41	17	6	5	8	8	18	74	157	45	24	18	24	30	39	62	605

B170

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21

*** JUL-DEC 2021 ***

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																	74
1.01- 3.50	24	10	7	2	3	4	7	24	49	23	11	16	17	28	39	36	300
3.51- 7.50	2	0	0	0	0	1	1	7	3	2	1	1	3	0	2	2	25
7.51-12.50	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	3
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	26	10	7	2	3	5	8	31	53	25	12	17	20	29	42	38	402

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																	114
1.01- 3.50	82	58	40	29	53	50	44	107	139	67	45	39	42	60	89	110	1054
3.51- 7.50	98	68	53	44	64	96	156	185	246	59	38	26	37	54	64	78	1366
7.51-12.50	103	35	17	14	29	22	148	185	205	89	46	35	23	53	70	119	1193
12.51-18.50	57	5	1	0	1	0	28	61	123	24	7	7	13	24	58	101	510
18.51-24.00	10	1	0	0	0	0	1	16	35	6	0	0	2	1	13	35	120
>24.00	0	0	0	0	0	0	0	1	16	3	1	1	1	0	1	3	27
TOTAL	350	167	111	87	147	168	377	555	764	248	137	108	118	192	295	446	4384

B171

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21

*** JUL-DEC 2021 ***

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: 4384

TOTAL NUMBER OF MISSING OBSERVATIONS: 32

PERCENT DATA RECOVERY FOR THIS PERIOD: 99.3 %

MEAN WIND SPEED FOR THIS PERIOD: 7.4 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
.96	1.94	7.00	36.77	30.36	13.80	9.17

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	3	3	11	17	4	1	0	0	0	0	3	0
B	6	4	0	0	7	8	15	14	14	2	2	2	0	2	2	7	0
C	38	10	12	11	17	20	46	32	46	22	2	3	3	7	9	29	0
D	126	63	56	45	69	67	188	144	204	85	55	46	47	81	137	199	0
E	113	63	30	24	43	57	99	249	273	65	41	22	24	43	66	108	11
F	41	17	6	5	8	8	18	74	157	45	24	18	24	30	39	62	29
G	26	10	7	2	3	5	8	31	53	25	12	17	20	29	42	38	74
TOTAL	350	167	111	87	147	168	377	555	764	248	137	108	118	192	295	446	114

B172

Stability Classes by Hour of Day

10-Meter Wind vs. Delta T

July-December 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21
 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	
21	7	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
21	7	2	-	-	-	-	-	-	-	F	D	D	C	C	C	C	D	C	D	E	G	G	G	G	G	G	G
21	7	3	G	G	G	G	G	G	F	D	D	D	C	C	A	C	B	C	C	D	D	E	F	F	F	F	F
21	7	4	E	E	E	F	E	E	D	D	D	D	D	C	D	D	D	D	D	E	E	F	F	F	F	F	F
21	7	5	F	F	F	F	F	G	E	D	D	D	C	C	C	C	C	D	D	D	E	F	F	F	F	F	F
21	7	6	F	F	F	F	F	F	E	D	D	D	C	B	B	B	C	D	D	E	E	E	F	F	F	E	E
21	7	7	E	E	E	E	E	E	E	D	D	D	C	C	C	D	D	C	D	D	D	E	E	E	F	E	E
21	7	8	F	F	E	F	F	F	E	D	D	C	C	B	B	A	A	C	D	D	D	E	F	E	F	E	F
21	7	9	E	E	E	E	E	D	D	D	D	D	B	B	A	B	A	B	B	D	D	E	E	E	E	E	E
21	7	10	E	E	E	E	E	D	D	D	D	D	C	D	D	D	D	D	D	D	D	E	E	E	E	E	E
21	7	11	D	D	D	D	D	D	D	D	D	D	C	B	C	C	D	D	D	D	D	E	F	F	F	G	G
21	7	12	G	G	F	F	F	G	E	D	D	D	C	C	C	D	C	D	D	D	E	G	G	G	G	G	G
21	7	13	G	G	G	F	F	F	F	D	D	D	D	C	D	D	D	D	D	D	D	E	E	E	E	E	E
21	7	14	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	E	E	E	E	F	E	F	F	G	F
21	7	15	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	C	D	D	D	E	E	E	E	E	E
21	7	16	E	E	D	D	D	D	D	D	D	D	D	D	C	D	C	D	C	D	D	D	E	E	E	E	E
21	7	17	E	E	E	E	E	E	D	D	D	D	B	B	A	D	D	D	D	D	D	D	E	E	D	E	E
21	7	18	E	E	E	E	E	E	E	D	C	B	C	A	B	C	C	B	C	D	D	F	F	G	F	F	F
21	7	19	F	G	F	G	F	F	F	E	D	D	C	B	B	B	C	C	D	D	D	D	F	G	G	G	G
21	7	20	G	G	F	F	F	F	E	D	D	D	C	C	C	C	D	C	D	D	E	G	G	G	G	G	G
21	7	21	G	G	G	G	G	G	G	F	E	C	C	C	C	B	C	D	C	D	D	E	F	F	F	E	E
21	7	22	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
21	7	23	E	E	F	F	F	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
21	7	24	E	E	E	E	E	E	E	D	D	D	D	D	C	C	C	D	D	D	E	E	E	F	F	F	F
21	7	25	F	F	F	G	G	G	F	E	E	E	E	D	D	C	D	D	C	D	E	F	F	F	F	F	F
21	7	26	F	F	E	F	E	E	E	D	D	C	B	B	B	C	C	D	E	F	G	F	F	F	F	F	F
21	7	27	F	F	F	F	F	F	F	E	D	D	D	C	B	C	B	C	C	D	D	E	E	E	F	F	F
21	7	28	F	F	F	F	F	F	F	E	D	D	C	B	C	C	D	D	D	E	E	E	E	F	F	F	F
21	7	29	E	E	E	E	E	E	E	D	D	D	D	D	C	C	C	D	D	D	D	E	E	E	E	E	E
21	7	30	E	E	E	E	D	D	D	C	C	B	C	D	D	A	B	D	D	D	D	E	E	E	E	D	D
21	7	31	E	E	D	D	E	E	D	D	D	D	D	D	C	C	D	D	D	D	E	E	G	G	G	G	G
21	8	1	F	F	E	F	F	F	F	E	D	D	D	B	C	B	C	C	D	D	D	E	E	F	F	F	F
21	8	2	G	G	F	F	F	F	E	D	D	D	D	C	C	C	C	D	C	D	E	G	G	G	G	G	G
21	8	3	G	G	F	G	G	G	F	E	E	D	C	C	C	C	C	C	D	D	E	F	F	F	F	E	E
21	8	4	F	F	F	F	E	F	F	E	D	D	C	C	C	C	C	D	D	D	E	E	E	E	E	E	E
21	8	5	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	F	E	E
21	8	6	E	E	E	E	E	E	E	E	D	D	D	C	C	D	D	D	D	D	E	E	E	E	E	E	E
21	8	7	E	E	E	E	E	E	E	E	D	D	D	D	D	C	C	D	D	E	E	E	E	E	D	E	E
21	8	8	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	F	F	F	F	F
21	8	9	F	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	E	E	E	F	E	E	E	E
21	8	10	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	F	F	E	E	E
21	8	11	F	F	F	E	F	F	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	F	E	F	F
21	8	12	E	E	F	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
21	8	13	D	D	D	E	E	D	D	D	D	D	D	D	C	C	D	C	D	E	F	F	G	G	G	G	G

B174

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21
 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
21	8	14	G	G	F	F	E	E	E	D	D	D	C	D	C	D	C	D	D	D	E	G	G	G	E	F
21	8	15	E	E	E	E	E	F	E	D	D	D	C	C	C	D	C	D	D	D	E	F	F	F	F	F
21	8	16	E	F	F	F	E	E	E	D	D	D	C	C	B	B	B	C	D	D	D	E	E	F	E	E
21	8	17	E	E	E	E	F	F	F	D	D	C	C	B	C	C	C	D	D	D	D	E	E	E	E	E
21	8	18	E	F	E	E	E	E	E	D	D	D	C	C	C	D	D	D	D	D	D	E	E	F	E	E
21	8	19	E	E	E	E	D	E	E	D	D	C	C	D	C	C	D	D	D	D	D	D	E	E	E	D
21	8	20	D	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	E	E
21	8	21	E	E	E	E	E	E	E	D	D	D	C	B	C	B	B	C	D	D	D	E	F	F	F	G
21	8	22	G	G	F	G	F	F	F	D	D	C	B	C	B	B	B	C	D	D	D	E	E	E	E	E
21	8	23	E	E	E	E	F	F	F	E	D	D	C	C	C	D	D	D	D	D	D	E	F	E	E	E
21	8	24	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	F	E	F	F
21	8	25	F	E	E	E	E	D	E	E	D	D	C	C	D	D	D	D	D	D	D	E	F	F	F	E
21	8	26	E	E	E	E	E	E	E	E	D	D	D	D	C	D	D	D	D	D	D	E	E	E	E	E
21	8	27	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	F	E	E	E
21	8	28	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
21	8	29	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	F	G	G
21	8	30	F	F	G	F	F	F	F	E	E	E	D	C	C	D	D	D	D	D	D	E	E	E	E	E
21	8	31	E	E	E	D	D	D	D	E	D	D	C	D	C	C	D	D	D	D	D	F	G	F	E	E
21	9	1	E	E	E	E	D	D	D	D	D	D	C	B	C	D	D	D	D	D	D	E	E	E	E	E
21	9	2	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	D	E	E
21	9	3	E	E	D	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	D	D
21	9	4	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F	G	G
21	9	5	G	G	G	G	G	F	F	F	D	D	D	C	C	B	D	D	D	D	E	E	G	F	G	F
21	9	6	F	E	E	E	F	F	F	D	D	D	C	C	C	C	D	D	D	E	E	F	E	F	E	F
21	9	7	F	F	F	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	F	G	G	F	F
21	9	8	E	E	E	F	F	E	E	E	D	D	D	D	D	D	D	D	D	D	E	F	G	G	G	G
21	9	9	G	G	G	G	G	G	G	E	D	D	D	C	C	C	D	D	D	D	E	F	F	F	E	E
21	9	10	E	E	E	E	E	E	D	D	D	D	C	C	D	D	D	D	D	D	E	G	G	G	G	F
21	9	11	G	G	F	F	F	F	F	E	D	D	B	A	B	A	B	C	D	E	E	F	F	F	E	E
21	9	12	E	E	E	E	F	F	F	E	D	D	D	C	D	D	D	D	D	D	E	E	E	E	E	F
21	9	13	F	F	F	F	E	E	E	E	D	D	A	A	A	A	A	C	D	E	F	F	E	E	E	E
21	9	14	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	F	F	F	F
21	9	15	F	F	G	G	F	F	F	E	D	D	C	C	C	C	D	D	D	D	E	F	F	F	F	F
21	9	16	F	F	E	E	F	E	E	D	D	C	A	A	A	A	A	B	D	D	E	E	E	E	E	E
21	9	17	E	E	E	E	E	F	E	E	D	D	D	C	C	C	D	D	D	D	E	E	E	E	E	E
21	9	18	E	E	E	F	F	E	E	D	D	D	D	D	C	C	D	D	D	D	E	F	F	F	E	E
21	9	19	F	F	F	F	G	F	F	E	D	C	A	A	A	A	B	C	D	D	E	E	E	E	E	E
21	9	20	E	E	E	E	E	E	E	D	D	C	B	D	D	D	D	D	D	D	E	E	E	E	E	E
21	9	21	E	E	E	D	E	E	E	D	D	D	C	C	C	D	D	D	D	D	E	E	F	F	F	G
21	9	22	G	G	G	G	G	G	G	E	D	D	D	C	C	C	D	D	D	D	E	G	G	G	G	G
21	9	23	G	G	G	G	G	G	G	D	D	C	B	B	A	A	B	C	D	F	F	F	F	F	F	F
21	9	24	F	E	F	F	F	F	F	G	D	D	D	D	D	D	D	D	D	E	E	E	F	F	F	F
21	9	25	F	F	F	G	F	G	G	E	D	D	B	B	B	A	B	D	D	F	F	F	F	F	F	F
21	9	26	F	F	F	F	F	F	F	E	D	B	A	A	A	A	B	C	D	E	F	F	F	F	E	E
21	9	27	E	E	E	E	F	F	F	E	D	C	C	C	D	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 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21
 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
21	9	28	G	G	G	G	G	F	E	D	D	D	C	C	C	B	B	D	E	F	F	G	F	G	F	
21	9	29	G	G	G	F	F	F	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	
21	9	30	E	E	E	E	E	E	F	E	D	D	C	B	C	C	C	D	D	D	F	E	E	E	E	
21	10	1	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	F	F	
21	10	2	E	F	G	F	E	E	E	D	D	D	D	D	D	D	D	D	D	E	D	D	D	D	D	
21	10	3	D	E	E	E	E	E	E	D	D	C	C	C	C	C	D	D	E	F	G	G	G	G	G	
21	10	4	G	G	G	G	G	G	G	E	D	D	D	D	D	D	D	D	F	G	G	G	G	G	G	
21	10	5	G	G	G	G	G	G	F	D	D	C	D	D	D	D	D	D	E	E	F	F	F	E	E	
21	10	6	F	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	E	F	F	E	E	E	E	
21	10	7	E	E	E	E	E	E	E	D	D	D	D	C	C	B	C	D	E	F	F	F	G	F	F	
21	10	8	F	F	F	F	E	E	E	D	D	C	B	A	C	C	D	D	E	F	F	F	F	F	F	
21	10	9	F	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	F	G	G	G	G	G	
21	10	10	G	G	G	F	F	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	10	11	E	E	E	E	E	E	E	D	D	D	D	C	B	D	D	D	G	G	G	G	G	G	G	
21	10	12	G	G	G	G	G	G	E	D	D	C	B	B	B	D	D	D	E	E	E	E	E	E	D	
21	10	13	D	D	D	D	E	E	E	D	D	D	D	D	D	D	D	D	E	E	F	G	E	E	E	
21	10	14	E	E	F	F	E	F	G	F	D	C	C	C	C	C	D	D	E	E	E	E	E	E	E	
21	10	15	E	E	E	E	E	F	E	E	D	C	B	A	B	B	C	D	E	E	E	F	F	F	F	
21	10	16	F	F	E	E	E	E	E	D	D	C	B	B	C	C	D	D	F	G	G	G	G	G	G	
21	10	17	G	G	G	G	G	G	G	E	D	C	C	C	C	C	D	F	F	F	F	G	G	G	G	
21	10	18	G	G	G	G	F	F	F	E	D	C	A	A	A	A	C	D	E	E	E	E	E	E	E	
21	10	19	E	F	F	F	E	E	E	D	C	B	A	A	A	B	C	D	E	E	E	E	E	E	E	
21	10	20	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
21	10	21	D	D	D	D	D	D	D	D	D	C	B	A	A	B	B	C	D	E	E	F	F	F	G	
21	10	22	G	G	G	G	G	G	F	E	D	E	D	C	C	C	D	D	E	E	E	E	E	E	E	
21	10	23	E	E	E	E	E	E	E	D	D	C	B	B	B	C	D	D	D	D	D	D	D	D	D	
21	10	24	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
21	10	25	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	E	E	E	E	E	E	E	
21	10	26	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
21	10	27	D	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
21	10	28	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
21	10	29	D	D	D	D	D	D	D	D	D	C	C	C	C	D	D	E	F	F	F	F	F	F	G	
21	10	30	G	G	G	G	G	G	G	E	D	D	D	D	D	D	D	D	E	G	F	E	E	E	D	D
21	10	31	D	D	E	E	E	E	E	D	D	D	D	D	B	D	D	D	D	E	E	E	E	E	E	
21	11	1	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	F	F	F	F	F	F	
21	11	2	E	E	F	F	F	G	G	G	E	D	C	D	D	D	D	D	D	F	F	F	F	F	E	F
21	11	3	F	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	11	4	E	E	E	F	E	E	E	E	D	D	C	C	C	D	D	D	E	E	E	E	E	F	E	
21	11	5	E	E	E	E	E	E	E	D	D	C	C	C	D	D	D	D	E	E	E	E	E	E	E	
21	11	6	F	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	E	F	F	E	E	E	F	
21	11	7	E	E	E	E	E	E	E	D	D	D	C	C	D	D	D	D	E	E	F	E	E	F	F	
21	11	8	G	F	F	G	G	G	G	F	E	D	D	D	D	D	D	D	D	E	E	E	D	D	D	
21	11	9	D	E	E	D	E	E	E	D	D	C	C	B	D	D	D	D	E	F	E	F	E	E	E	
21	11	10	E	E	E	E	D	D	D	D	D	D	D	D	E	E	D	D	E	E	D	D	D	D	D	
21	11	11	D	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	D	D	D	D	

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21
 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
21 11 12	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21 11 13	D	D	D	D	D	D	E	E	D	D	D	C	D	D	D	D	D	E	E	E	F	G	E	E
21 11 14	E	E	E	E	D	D	E	E	D	D	D	D	D	D	D	D	D	E	F	E	E	E	F	F
21 11 15	F	F	E	E	F	F	F	F	F	D	D	D	D	D	D	D	D	E	F	G	F	G	F	F
21 11 16	E	E	F	F	E	E	E	E	E	D	D	D	D	D	D	D	E	E	F	E	E	F	G	F
21 11 17	E	E	E	E	E	E	E	E	E	D	D	D	C	D	D	D	D	D	E	E	E	F	E	E
21 11 18	E	E	E	E	E	E	E	E	D	D	D	C	C	C	D	D	D	F	G	G	G	G	G	F
21 11 19	G	G	G	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
21 11 20	E	E	F	E	E	G	G	G	F	E	D	D	D	D	D	D	D	E	E	F	F	F	F	E
21 11 21	E	E	E	F	F	F	F	F	E	D	D	C	C	C	C	D	D	D	E	E	E	E	E	F
21 11 22	F	F	F	F	F	F	F	F	E	D	D	C	C	C	D	D	D	E	F	F	G	G	G	G
21 11 23	G	G	G	F	F	F	F	F	F	E	D	D	C	D	D	D	D	E	E	E	E	E	E	E
21 11 24	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21 11 25	D	D	D	D	D	D	D	D	D	D	C	B	C	C	D	D	D	F	G	G	G	G	G	F
21 11 26	E	E	E	E	E	E	E	E	D	D	D	C	D	D	D	D	D	E	F	F	G	G	G	G
21 11 27	G	G	G	G	G	G	G	G	G	D	D	D	D	D	D	D	D	D	E	D	E	E	E	E
21 11 28	E	E	F	F	F	F	F	G	G	D	D	D	D	D	D	D	D	E	F	F	E	F	F	G
21 11 29	G	G	F	G	F	F	G	G	F	D	D	D	D	D	D	D	D	D	E	F	F	G	F	G
21 11 30	G	G	G	G	G	G	F	G	G	E	E	D	D	D	D	D	D	F	F	G	F	F	F	E
21 12 1	E	E	E	E	E	F	F	F	F	E	D	D	D	D	D	D	D	E	E	E	E	E	F	F
21 12 2	F	E	F	F	E	F	G	G	G	E	D	D	D	D	D	D	D	F	G	G	G	G	G	G
21 12 3	F	F	G	G	G	G	F	E	D	C	C	C	C	C	C	D	D	E	E	E	E	E	E	F
21 12 4	E	E	E	E	E	E	E	D	D	D	C	C	C	C	C	D	D	E	E	E	E	E	D	D
21 12 5	D	D	D	D	D	D	E	E	E	D	D	C	D	D	D	D	D	E	E	D	D	D	D	D
21 12 6	D	D	D	D	D	D	E	D	D	D	C	C	D	D	D	D	D	D	E	E	E	E	E	D
21 12 7	D	D	D	D	D	D	D	D	D	D	C	C	C	D	D	D	D	E	E	E	E	E	E	E
21 12 8	E	E	E	E	E	E	E	F	E	D	C	C	C	B	C	D	D	E	E	E	E	E	E	E
21 12 9	E	E	E	E	E	F	E	F	F	D	D	D	C	D	D	D	D	E	E	E	E	E	F	E
21 12 10	E	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21 12 11	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	E	E	E
21 12 12	E	E	E	E	E	E	E	E	E	D	D	D	C	C	D	D	D	E	E	E	E	E	E	E
21 12 13	E	F	F	F	F	G	G	F	D	D	C	D	C	C	D	D	D	E	F	F	F	E	F	F
21 12 14	G	F	G	G	G	G	F	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
21 12 15	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	D	D	D	D
21 12 16	D	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	F	G	G	G	G	G
21 12 17	G	G	F	F	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	F	F	F
21 12 18	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	F	F
21 12 19	F	F	F	F	F	F	E	F	E	D	D	D	D	D	D	D	D	D	E	E	E	F	F	F
21 12 20	F	E	F	F	F	F	E	F	F	D	D	D	C	B	C	D	D	D	E	E	E	E	E	E
21 12 21	E	F	F	G	F	F	F	F	E	D	D	D	D	D	D	D	D	D	E	E	E	F	F	G
21 12 22	G	G	G	G	G	G	G	F	E	D	D	D	D	D	D	D	D	D	E	G	G	G	G	G
21 12 23	G	G	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	F	F	G	F	E
21 12 24	E	F	F	F	E	E	G	F	E	E	E	D	D	D	D	D	D	E	F	E	E	E	E	E
21 12 25	E	E	E	E	E	E	E	E	E	D	D	C	D	D	D	D	D	E	F	G	G	G	G	G
21 12 26	G	G	G	F	G	G	G	F	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	F

B177

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21
 STABILITY BASED ON: DELTA T BETWEEN 60.0 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
21 12 27	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	F	E	F	E	E	E
21 12 28	E	E	D	D	D	D	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21 12 29	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	D	D	D
21 12 30	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F	G	G	G	G	F
21 12 31	F	F	F	F	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D

JFDs of 10-Meter Wind vs. Delta T

January-December 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 12/31/21

*** JAN-DEC 2021 ***

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	1	3	2	2	4	11	12	0	1	0	0	0	0	0	0	36
7.51-12.50	0	4	3	1	0	3	12	18	4	1	1	0	0	0	0	2	49
12.51-18.50	8	0	0	0	0	3	0	5	14	8	0	0	0	0	1	11	50
18.51-24.00	6	1	0	0	0	0	0	4	20	6	1	0	0	0	0	1	39
>24.00	0	0	0	0	0	0	0	2	18	7	0	0	0	0	0	0	27
TOTAL	14	6	6	3	2	10	23	41	56	23	2	0	0	0	1	14	201

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	1	0	0	0	0	0	0	0	0	0	0	0	0	1
3.51- 7.50	0	1	0	1	6	9	11	9	5	1	1	0	0	0	0	0	44
7.51-12.50	2	8	0	1	2	2	16	15	14	2	1	3	0	3	2	8	79
12.51-18.50	15	2	0	0	1	1	3	5	15	5	1	0	0	2	11	7	68
18.51-24.00	2	0	0	0	0	0	0	4	9	4	0	0	0	0	0	6	25
>24.00	0	0	0	0	0	0	0	2	8	8	1	0	0	0	0	0	19
TOTAL	19	11	0	3	9	12	30	35	51	20	4	3	0	5	13	21	236

B180

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 12/31/21

*** JAN-DEC 2021 ***

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	2	0	2	5	4	0	2	0	1	1	1	0	0	19
3.51- 7.50	14	8	11	6	13	28	32	11	10	5	2	2	0	3	2	3	150
7.51-12.50	25	12	2	5	4	6	33	27	31	21	1	2	3	6	10	15	203
12.51-18.50	23	3	0	0	1	1	1	7	21	7	1	0	0	1	9	29	104
18.51-24.00	2	0	0	0	0	0	0	5	11	4	1	0	0	0	0	4	27
>24.00	0	0	0	0	0	0	0	0	10	5	0	0	0	0	0	0	15
TOTAL	64	23	14	13	18	37	71	54	83	44	5	5	4	11	21	51	518

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	13	14	26	19	27	30	19	23	19	10	12	8	10	7	7	11	255
3.51- 7.50	85	92	85	81	75	116	139	85	51	35	37	25	27	51	59	73	1116
7.51-12.50	177	77	30	27	49	32	133	126	98	76	41	36	19	62	126	136	1245
12.51-18.50	132	20	3	6	11	1	30	65	125	38	11	10	13	39	122	151	777
18.51-24.00	23	3	0	0	5	0	2	17	37	15	1	0	2	4	33	58	200
>24.00	1	0	0	0	0	0	0	0	30	11	3	1	2	0	6	8	62
TOTAL	431	206	144	133	167	179	323	316	360	185	105	80	73	163	353	437	3655

B181

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 12/31/21

*** JAN-DEC 2021 ***

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																	17
1.01- 3.50	44	42	26	21	36	38	36	63	44	30	21	11	15	17	27	43	514
3.51- 7.50	99	50	30	21	35	57	89	134	173	38	37	20	27	32	58	56	956
7.51-12.50	76	18	4	4	5	5	71	133	140	65	34	13	12	34	31	58	703
12.51-18.50	14	2	2	1	0	0	4	76	53	7	4	5	2	0	7	24	201
18.51-24.00	2	0	0	0	0	0	0	5	18	0	0	0	0	0	1	4	30
>24.00	0	0	0	0	0	0	0	0	2	2	0	0	0	0	1	0	5
TOTAL	235	112	62	47	76	100	200	411	430	142	96	49	56	83	125	185	2426

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																	46
1.01- 3.50	42	23	10	7	11	13	18	47	88	48	29	21	28	32	47	71	535
3.51- 7.50	24	6	2	1	1	1	10	65	93	20	6	4	9	16	19	20	297
7.51-12.50	0	0	0	0	0	0	0	4	52	10	9	7	9	8	3	0	102
12.51-18.50	0	0	0	0	0	0	0	0	4	0	1	1	1	0	1	0	8
18.51-24.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
>24.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
TOTAL	66	29	12	8	12	14	28	118	237	78	45	33	47	56	70	91	990

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 12/31/21

*** JAN-DEC 2021 ***

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																	94
1.01- 3.50	37	14	7	5	4	6	10	45	79	49	26	29	26	45	53	56	491
3.51- 7.50	4	0	0	0	0	1	1	10	12	5	4	2	7	4	7	5	62
7.51-12.50	0	0	0	0	0	0	0	0	2	0	0	0	2	2	1	0	7
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	41	14	7	5	4	7	11	55	93	54	30	31	35	51	61	61	654

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																	157
1.01- 3.50	136	93	70	55	78	89	88	182	230	139	88	70	80	102	134	181	1815
3.51- 7.50	226	158	131	112	132	216	293	326	344	105	87	53	70	106	145	157	2661
7.51-12.50	280	119	39	38	60	48	265	323	341	175	87	61	45	115	173	219	2388
12.51-18.50	192	27	5	7	13	6	38	158	232	65	18	16	16	42	151	222	1208
18.51-24.00	35	4	0	0	5	0	2	36	95	29	3	0	2	4	34	73	322
>24.00	1	0	0	0	0	0	0	5	68	33	4	1	2	0	7	8	129
TOTAL	870	401	245	212	288	359	686	1030	1310	546	287	201	215	369	644	860	8680

B183

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:10M WIND VS 10M DELTA T - JAN-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 12/31/21

*** JAN-DEC 2021 ***

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: 8680

TOTAL NUMBER OF MISSING OBSERVATIONS: 80

PERCENT DATA RECOVERY FOR THIS PERIOD: 99.1 %

MEAN WIND SPEED FOR THIS PERIOD: 8.2 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
2.32	2.72	5.97	42.11	27.95	11.41	7.53

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	6	6	3	2	10	23	41	56	23	2	0	0	0	1	14	0
B	19	11	0	3	9	12	30	35	51	20	4	3	0	5	13	21	0
C	64	23	14	13	18	37	71	54	83	44	5	5	4	11	21	51	0
D	431	206	144	133	167	179	323	316	360	185	105	80	73	163	353	437	0
E	235	112	62	47	76	100	200	411	430	142	96	49	56	83	125	185	17
F	66	29	12	8	12	14	28	118	237	78	45	33	47	56	70	91	46
G	41	14	7	5	4	7	11	55	93	54	30	31	35	51	61	61	94
TOTAL	870	401	245	212	288	359	686	1030	1310	546	287	201	215	369	644	860	157

B184

JFDs of 100-Meter Wind vs. Delta T

January-March 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-MAR 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 3/31/21

*** JAN-MAR 2021 ***

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	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	2	0	0	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	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	2	0	0	0	0	0	0	0	0	0	0	2

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	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	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	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	4
TOTAL	2	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	5

B186

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-MAR 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 3/31/21

*** JAN-MAR 2021 ***

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 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	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	2	0	2
18.51-24.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	2	7
>24.00	4	0	0	0	0	0	0	3	6	2	0	0	0	0	1	0	16
TOTAL	4	0	0	0	0	0	0	3	7	2	0	0	0	0	7	2	25

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 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	2	4	0	1	3	3	6	0	0	4	0	4	1	1	1	4	34
3.51- 7.50	18	9	15	10	17	53	24	11	3	3	8	3	6	10	13	23	226
7.51-12.50	59	31	24	32	26	43	23	6	5	14	14	1	2	14	26	40	360
12.51-18.50	110	23	4	15	13	2	4	17	9	9	3	5	2	20	39	18	293
18.51-24.00	45	7	2	4	8	0	1	12	7	7	3	6	0	18	49	21	190
>24.00	19	0	0	0	13	0	0	5	33	10	3	1	1	10	28	23	146
TOTAL	253	74	45	62	80	101	58	51	57	47	31	20	12	73	156	129	1249

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-MAR 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 3/31/21

*** JAN-MAR 2021 ***

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	0	1	0	1	2	5	2	2	0	0	0	0	0	2	1	2	18
3.51- 7.50	10	5	3	4	7	26	7	0	3	0	3	1	4	3	0	6	82
7.51-12.50	14	28	10	9	7	17	11	16	8	5	5	6	8	6	9	13	172
12.51-18.50	11	13	1	10	10	2	33	21	17	12	14	5	10	10	11	10	190
18.51-24.00	2	1	0	0	4	0	7	24	13	9	10	7	4	7	4	2	94
>24.00	1	0	0	0	2	0	0	11	5	0	2	4	4	1	2	0	32
TOTAL	38	48	14	24	32	50	60	74	46	26	34	23	30	29	27	33	588

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	1	1	2	1	0	0	1	1	1	0	0	0	0	0	1	9
3.51- 7.50	2	1	2	0	2	8	3	3	1	3	0	5	1	1	0	1	33
7.51-12.50	6	1	3	4	1	2	3	20	6	3	7	3	6	4	2	5	76
12.51-18.50	0	1	0	0	0	0	6	22	7	6	2	9	10	1	2	0	66
18.51-24.00	0	0	0	0	0	0	0	3	3	6	9	2	2	2	1	0	28
>24.00	0	0	0	0	0	0	0	0	0	3	0	0	1	0	0	0	4
TOTAL	8	4	6	6	4	10	12	49	18	22	18	19	20	8	5	7	216

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-MAR 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 3/31/21

*** JAN-MAR 2021 ***

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	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	3
3.51- 7.50	0	0	1	1	1	0	0	0	3	1	2	1	3	0	0	0	13
7.51-12.50	0	0	4	1	1	0	0	6	9	6	2	4	1	10	2	0	46
12.51-18.50	0	0	0	0	0	0	0	0	2	2	0	5	2	2	0	0	13
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	5	2	2	0	0	6	15	9	4	10	7	12	3	0	75

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	2	6	1	4	6	8	8	3	2	5	0	4	2	3	3	7	64
3.51- 7.50	30	15	21	15	27	90	34	14	10	7	13	10	14	14	13	30	357
7.51-12.50	79	60	41	46	35	62	37	48	28	28	28	14	17	34	39	58	654
12.51-18.50	121	37	5	25	23	4	43	60	35	29	19	24	24	33	54	28	564
18.51-24.00	47	8	2	4	12	0	8	39	24	22	22	15	6	27	58	25	319
>24.00	26	0	0	0	15	0	0	19	46	15	5	5	6	11	31	23	202
TOTAL	305	126	70	94	118	164	130	183	145	106	87	72	69	122	198	171	2160

B189

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-MAR 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 3/31/21

*** JAN-MAR 2021 ***

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: 14.0 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 0

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 0

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
.09	.23	1.16	57.82	27.22	10.00	3.47

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	0	0	0	0	0	0	0	0	0	0	0
B	2	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0
C	4	0	0	0	0	0	0	3	7	2	0	0	0	0	7	2	0
D	253	74	45	62	80	101	58	51	57	47	31	20	12	73	156	129	0
E	38	48	14	24	32	50	60	74	46	26	34	23	30	29	27	33	0
F	8	4	6	6	4	10	12	49	18	22	18	19	20	8	5	7	0
G	0	0	5	2	2	0	0	6	15	9	4	10	7	12	3	0	0
TOTAL	305	126	70	94	118	164	130	183	145	106	87	72	69	122	198	171	0

B190

JFDs of 100-Meter Wind vs. Delta T

April-June 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T APR-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 4/ 1/21 - 6/30/21

*** APR-JUN 2021 ***

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	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	1	1	0	0	0	0	0	0	0	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	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	1	1	0	0	0	0	0	0	0	0	2

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	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	3
7.51-12.50	0	2	3	0	1	0	12	2	1	0	0	0	0	0	0	0	21
12.51-18.50	0	0	0	0	0	0	2	2	2	2	0	0	0	0	0	3	11
18.51-24.00	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	2	7
>24.00	1	0	0	0	0	0	0	4	8	4	0	0	0	0	0	0	17
TOTAL	1	3	3	1	1	0	15	8	16	6	0	0	0	0	0	5	59

B192

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T APR-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 4/ 1/21 - 6/30/21

*** APR-JUN 2021 ***

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 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	1	1	0	0	1	1	0	0	0	0	0	0	0	0	4
3.51- 7.50	0	1	0	0	2	2	5	4	0	2	1	0	0	0	0	0	17
7.51-12.50	1	3	0	1	0	2	9	10	4	1	0	1	0	0	0	1	33
12.51-18.50	4	3	2	0	0	1	2	0	4	5	0	0	0	1	1	9	32
18.51-24.00	2	0	0	0	1	0	0	2	15	2	0	0	0	0	0	3	25
>24.00	1	0	0	0	0	0	0	3	17	7	2	0	0	0	0	1	31
TOTAL	8	7	3	2	3	5	17	20	40	17	3	1	0	1	1	14	142

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 AT 100.00 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	2	4	0	0	5	9	1	2	1	2	3	2	0	1	0	34
3.51- 7.50	6	7	6	10	12	24	46	28	9	6	5	4	6	3	10	5	187
7.51-12.50	27	18	16	19	14	17	40	54	25	24	3	6	12	13	20	25	333
12.51-18.50	19	11	7	4	5	3	18	68	36	22	9	2	2	25	62	53	346
18.51-24.00	21	2	1	1	1	0	0	30	34	9	1	2	0	3	19	34	158
>24.00	10	1	1	5	3	0	0	15	24	5	0	0	0	0	0	7	71
TOTAL	85	41	35	39	35	49	113	196	130	67	20	17	22	44	112	124	1130

B193

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T APR-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 4/ 1/21 - 6/30/21

*** APR-JUN 2021 ***

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																	1
1.01- 3.50	0	0	1	0	1	4	3	1	0	1	2	2	1	0	0	0	16
3.51- 7.50	3	5	6	4	10	19	9	4	6	3	3	3	1	3	1	0	80
7.51-12.50	19	6	3	2	11	6	23	34	16	5	1	6	4	6	3	18	163
12.51-18.50	21	2	2	5	9	1	15	30	20	16	6	6	5	8	13	22	181
18.51-24.00	7	0	0	0	0	0	7	26	41	12	4	2	1	2	2	3	107
>24.00	0	1	0	1	0	0	0	5	18	0	0	0	0	0	1	0	26
TOTAL	50	14	12	12	31	30	57	100	101	37	16	19	12	19	20	43	574

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	1	0	1	0	0	1	2	2	2	1	1	0	2	0	0	2	15
3.51- 7.50	3	2	1	3	1	9	7	3	0	0	1	3	3	1	1	0	38
7.51-12.50	5	1	2	5	0	1	10	11	4	4	7	1	1	3	6	9	70
12.51-18.50	0	0	0	0	0	0	0	5	1	6	1	1	1	1	2	5	23
18.51-24.00	0	0	0	0	0	0	0	0	5	2	1	0	0	3	3	1	15
>24.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
TOTAL	9	3	4	8	1	11	19	21	12	14	11	5	7	8	12	17	162

B194

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T APR-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 4/ 1/21 - 6/30/21

*** APR-JUN 2021 ***

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	0	0	1	1	1	2	0	0	0	0	0	0	0	0	1	6
3.51- 7.50	4	2	1	3	2	0	0	2	3	2	1	2	1	0	1	6	30
7.51-12.50	1	0	1	1	0	0	1	1	2	5	6	4	3	2	1	0	28
12.51-18.50	0	0	0	0	0	0	0	0	0	3	3	1	0	0	1	2	10
18.51-24.00	0	0	0	0	0	0	1	0	0	1	1	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	5	2	2	5	3	1	4	3	5	11	11	7	4	2	3	9	77

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																	2
1.01- 3.50	3	2	7	2	2	11	17	5	4	3	5	5	5	0	1	3	75
3.51- 7.50	16	18	14	21	27	54	68	41	18	13	11	12	11	7	13	11	355
7.51-12.50	53	30	25	28	26	26	96	113	52	39	17	18	20	24	30	53	650
12.51-18.50	44	16	11	9	14	5	37	105	63	54	19	10	8	35	79	94	603
18.51-24.00	30	2	1	1	2	0	8	58	100	26	7	4	1	8	24	43	315
>24.00	12	2	1	6	3	0	0	27	67	17	2	0	0	0	1	8	146
TOTAL	158	70	59	67	74	96	226	349	304	152	61	49	45	74	148	212	2146

B195

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T APR-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 4/ 1/21 - 6/30/21

*** APR-JUN 2021 ***

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: 2146

TOTAL NUMBER OF MISSING OBSERVATIONS: 38

PERCENT DATA RECOVERY FOR THIS PERIOD: 98.3 %

MEAN WIND SPEED FOR THIS PERIOD: 13.3 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 0

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 0

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
.09	2.75	6.62	52.66	26.75	7.55	3.59

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	1	1	0	0	0	0	0	0	0	0	0
B	1	3	3	1	1	0	15	8	16	6	0	0	0	0	0	5	0
C	8	7	3	2	3	5	17	20	40	17	3	1	0	1	1	14	0
D	85	41	35	39	35	49	113	196	130	67	20	17	22	44	112	124	1
E	50	14	12	12	31	30	57	100	101	37	16	19	12	19	20	43	1
F	9	3	4	8	1	11	19	21	12	14	11	5	7	8	12	17	0
G	5	2	2	5	3	1	4	3	5	11	11	7	4	2	3	9	0
TOTAL	158	70	59	67	74	96	226	349	304	152	61	49	45	74	148	212	2

B196

JFDs of 100-Meter Wind vs. Delta T

January-June 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21

*** JAN-JUN 2021 ***

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	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	2	0	0	0	0	0	0	0	0	0	0	2
7.51-12.50	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	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	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	2	1	1	0	0	0	0	0	0	0	0	4

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	0	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	4
7.51-12.50	0	2	3	0	1	0	12	2	1	0	0	0	0	0	0	0	21
12.51-18.50	0	0	0	0	0	0	2	2	2	2	0	0	0	0	0	3	11
18.51-24.00	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	2	7
>24.00	3	0	0	0	0	0	0	4	10	4	0	0	0	0	0	0	21
TOTAL	3	3	3	1	1	1	15	8	18	6	0	0	0	0	0	5	64

B198

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21

*** JAN-JUN 2021 ***

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 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	1	1	0	0	1	1	0	0	0	0	0	0	0	0	4
3.51- 7.50	0	1	0	0	2	2	5	4	0	2	1	0	0	0	0	0	17
7.51-12.50	1	3	0	1	0	2	9	10	4	1	0	1	0	0	0	1	33
12.51-18.50	4	3	2	0	0	1	2	0	4	5	0	0	0	1	3	9	34
18.51-24.00	2	0	0	0	1	0	0	2	16	2	0	0	0	0	4	5	32
>24.00	5	0	0	0	0	0	0	6	23	9	2	0	0	0	1	1	47
TOTAL	12	7	3	2	3	5	17	23	47	19	3	1	0	1	8	16	167

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 AT 100.00 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	6	4	1	3	8	15	1	2	5	2	7	3	1	2	4	68
3.51- 7.50	24	16	21	20	29	77	70	39	12	9	13	7	12	13	23	28	413
7.51-12.50	86	49	40	51	40	60	63	60	30	38	17	7	14	27	46	65	693
12.51-18.50	129	34	11	19	18	5	22	85	45	31	12	7	4	45	101	71	639
18.51-24.00	66	9	3	5	9	0	1	42	41	16	4	8	0	21	68	55	348
>24.00	29	1	1	5	16	0	0	20	57	15	3	1	1	10	28	30	217
TOTAL	338	115	80	101	115	150	171	247	187	114	51	37	34	117	268	253	2379

B199

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21

*** JAN-JUN 2021 ***

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																	1
1.01- 3.50	0	1	1	1	3	9	5	3	0	1	2	2	1	2	1	2	34
3.51- 7.50	13	10	9	8	17	45	16	4	9	3	6	4	5	6	1	6	162
7.51-12.50	33	34	13	11	18	23	34	50	24	10	6	12	12	12	12	31	335
12.51-18.50	32	15	3	15	19	3	48	51	37	28	20	11	15	18	24	32	371
18.51-24.00	9	1	0	0	4	0	14	50	54	21	14	9	5	9	6	5	201
>24.00	1	1	0	1	2	0	0	16	23	0	2	4	4	1	3	0	58
TOTAL	88	62	26	36	63	80	117	174	147	63	50	42	42	48	47	76	1162

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	1	1	2	2	1	1	2	3	3	2	1	0	2	0	0	3	24
3.51- 7.50	5	3	3	3	3	17	10	6	1	3	1	8	4	2	1	1	71
7.51-12.50	11	2	5	9	1	3	13	31	10	7	14	4	7	7	8	14	146
12.51-18.50	0	1	0	0	0	0	6	27	8	12	3	10	11	2	4	5	89
18.51-24.00	0	0	0	0	0	0	0	3	8	8	10	2	2	5	4	1	43
>24.00	0	0	0	0	0	0	0	0	0	4	0	0	1	0	0	0	5
TOTAL	17	7	10	14	5	21	31	70	30	36	29	24	27	16	17	24	378

B200

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21

*** JAN-JUN 2021 ***

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	0	0	1	1	1	2	0	1	0	0	0	1	0	1	1	9
3.51- 7.50	4	2	2	4	3	0	0	2	6	3	3	3	4	0	1	6	43
7.51-12.50	1	0	5	2	1	0	1	7	11	11	8	8	4	12	3	0	74
12.51-18.50	0	0	0	0	0	0	0	0	2	5	3	6	2	2	1	2	23
18.51-24.00	0	0	0	0	0	0	1	0	0	1	1	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	5	2	7	7	5	1	4	9	20	20	15	17	11	14	6	9	152

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																	2
1.01- 3.50	5	8	8	6	8	19	25	8	6	8	5	9	7	3	4	10	139
3.51- 7.50	46	33	35	36	54	144	102	55	28	20	24	22	25	21	26	41	712
7.51-12.50	132	90	66	74	61	88	133	161	80	67	45	32	37	58	69	111	1304
12.51-18.50	165	53	16	34	37	9	80	165	98	83	38	34	32	68	133	122	1167
18.51-24.00	77	10	3	5	14	0	16	97	124	48	29	19	7	35	82	68	634
>24.00	38	2	1	6	18	0	0	46	113	32	7	5	6	11	32	31	348
TOTAL	463	196	129	161	192	260	356	532	449	258	148	121	114	196	346	383	4306

B201

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21

*** JAN-JUN 2021 ***

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: 4306

TOTAL NUMBER OF MISSING OBSERVATIONS: 38

PERCENT DATA RECOVERY FOR THIS PERIOD: 99.1 %

MEAN WIND SPEED FOR THIS PERIOD: 13.7 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 0

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 0

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
.09	1.49	3.88	55.25	26.99	8.78	3.53

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	1	0	0	0	0	0	0	0	0	0
B	3	3	3	1	1	1	15	8	18	6	0	0	0	0	0	5	0
C	12	7	3	2	3	5	17	23	47	19	3	1	0	1	8	16	0
D	338	115	80	101	115	150	171	247	187	114	51	37	34	117	268	253	1
E	88	62	26	36	63	80	117	174	147	63	50	42	42	48	47	76	1
F	17	7	10	14	5	21	31	70	30	36	29	24	27	16	17	24	0
G	5	2	7	7	5	1	4	9	20	20	15	17	11	14	6	9	0
TOTAL	463	196	129	161	192	260	356	532	449	258	148	121	114	196	346	383	2

B202

Stability Classes by Hour of Day

100-Meter Wind vs. Delta T

January-June 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21
 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
21	1	1	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
21	1	2	E	E	E	E	E	E	E	E	F	E	D	E	D	D	D	D	E	E	E	E	F	F	F	G
21	1	3	G	G	G	G	G	G	G	G	F	F	E	E	E	E	D	E	E	E	E	E	E	E	E	E
21	1	4	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	F	F	F	F	G
21	1	5	G	G	G	G	G	G	G	G	G	F	F	D	D	D	E	E	E	E	E	E	E	E	E	E
21	1	6	E	E	E	E	E	E	E	E	E	D	D	E	D	D	E	E	E	E	E	D	D	E	E	D
21	1	7	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
21	1	8	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	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
21	1	10	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
21	1	11	E	E	E	E	F	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	F
21	1	12	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	E	E	E	F	F	F	F	F
21	1	13	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	E	F	F	F	F	G	F	F
21	1	14	G	G	F	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	1	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
21	1	16	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E
21	1	17	E	E	F	F	F	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	F	F	G	F
21	1	18	F	F	G	G	F	F	F	F	F	E	D	D	D	D	D	D	D	D	E	E	F	F	F	F
21	1	19	E	E	E	E	D	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	F
21	1	20	F	F	F	F	F	E	E	E	E	D	D	D	D	D	D	D	D	E	F	F	G	G	G	G
21	1	21	F	G	G	G	G	G	G	G	G	F	E	D	D	D	D	D	D	E	E	E	E	E	F	F
21	1	22	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
21	1	23	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	1	24	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	1	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
21	1	26	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	D
21	1	27	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	D
21	1	28	D	D	E	E	E	E	D	E	E	D	D	D	D	D	D	D	D	D	E	E	E	F	F	F
21	1	29	F	F	F	E	F	F	F	F	F	E	E	D	D	D	D	D	E	E	E	E	E	E	E	E
21	1	30	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D
21	1	31	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	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
21	2	2	D	D	D	D	D	D	D	D	D	D	D	D	D	D	B	A	A	D	E	F	F	E	E	E
21	2	3	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	E	E	E	F	F	F	F	E
21	2	4	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	F	E	E
21	2	5	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	F
21	2	6	F	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
21	2	7	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	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
21	2	9	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	2	10	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E
21	2	11	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	2	12	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21	2	13	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	D	D	D
21	2	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

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PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21
 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		
21	2	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	E	
21	2	16	E	E	E	E	F	F	F	F	F	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	D	
21	2	17	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	F	F	F	
21	2	18	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	F	F	G	G	
21	2	19	F	F	F	F	G	F	F	E	F	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	2	20	E	F	F	F	F	F	E	E	E	D	D	D	D	D	D	D	D	D	E	E	F	F	E	E	E	
21	2	21	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	
21	2	22	E	F	F	F	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	2	23	E	F	F	F	F	E	F	F	F	E	D	D	D	D	D	D	D	E	E	F	F	F	F	F	F	
21	2	24	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	F	F	F	F	
21	2	25	F	G	F	G	G	G	G	G	E	D	D	D	D	D	D	D	D	D	E	F	F	F	F	F	F	
21	2	26	F	F	F	G	F	F	E	E	E	D	D	D	D	D	D	D	D	D	E	F	G	G	G	F	F	
21	2	27	F	F	F	F	E	E	F	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	2	28	E	E	D	E	E	E	D	D	D	D	D	C	D	D	D	D	D	D	E	F	E	E	E	E	F	
21	3	1	F	F	G	F	G	F	F	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	3	2	E	E	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	E	E	F	F	F	F	E	
21	3	3	E	E	F	G	G	G	G	G	E	D	D	D	D	D	D	D	D	D	F	G	F	G	F	F	F	
21	3	4	F	E	E	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	3	5	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	F	F	F	F	F	F	
21	3	6	F	F	G	F	G	F	F	F	E	D	D	D	D	D	D	D	D	D	E	F	F	F	F	F	F	
21	3	7	F	E	F	F	E	E	E	E	E	D	D	D	C	D	D	D	D	D	E	E	E	E	E	E	E	
21	3	8	E	E	E	F	F	G	F	E	D	D	D	D	D	C	D	D	D	D	E	E	E	E	E	E	E	
21	3	9	E	E	E	E	E	E	E	E	D	D	D	D	C	C	B	C	C	D	D	E	E	D	D	D	D	
21	3	10	D	D	D	D	D	D	D	D	D	D	D	C	C	D	D	D	D	D	D	D	D	D	D	D	D	
21	3	11	D	D	D	D	D	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	F	F	G	G	G	
21	3	12	G	G	G	G	F	F	F	F	E	D	D	D	D	D	D	D	D	D	D	E	E	E	F	E	E	
21	3	13	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	D	
21	3	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	D	
21	3	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	
21	3	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	D	
21	3	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	D	
21	3	18	D	D	D	D	D	D	D	D	D	D	D	C	B	B	C	C	D	D	E	E	E	E	E	E	E	
21	3	19	E	E	E	E	F	F	E	E	D	D	D	D	D	D	D	D	D	D	E	F	F	F	F	F	F	
21	3	20	F	F	F	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
21	3	21	E	E	E	E	E	E	E	D	D	D	C	C	B	D	D	D	D	D	E	E	E	E	E	E	E	
21	3	22	E	E	E	E	E	E	E	E	D	D	D	D	C	D	D	D	D	D	D	E	E	E	E	E	E	
21	3	23	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	D	
21	3	24	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	D	E	E	
21	3	25	E	E	E	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F
21	3	26	F	F	G	G	G	G	G	F	E	D	D	D	D	D	D	D	D	D	D	D	E	D	D	D	D	
21	3	27	D	D	E	D	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	D	D	D	
21	3	28	D	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
21	3	29	E	E	E	E	E	E	E	E	D	D	D	D	D	C	D	D	D	D	D	E	E	E	E	E	E	
21	3	30	E	E	D	D	D	D	D	D	D	C	C	C	C	C	D	D	D	D	D	E	E	E	E	E	F	
21	3	31	F	F	E	E	E	E	E	D	D	D	C	C	D	C	D	D	D	D	D	E	E	E	E	E	E	

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PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21
 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	
21	4	1	E	E	F	F	F	F	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	
21	4	2	E	E	E	E	E	E	E	D	D	D	C	C	C	B	C	C	D	D	E	E	E	E	E	E	
21	4	3	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	F	F	G	G	G	
21	4	4	G	G	G	G	G	G	G	F	E	D	D	C	C	C	C	D	D	D	E	E	E	E	E	E	
21	4	5	E	E	E	F	E	E	D	D	D	D	C	B	B	C	D	D	D	D	E	E	E	E	E	E	
21	4	6	E	E	E	E	E	E	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	
21	4	7	E	D	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
21	4	8	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	
21	4	9	E	E	E	F	F	E	F	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	D	E	
21	4	10	D	D	E	E	D	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	F	F	G	
21	4	11	F	F	F	G	G	G	G	F	E	D	D	D	D	D	D	D	D	D	E	E	E	D	D	D	
21	4	12	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	
21	4	13	E	E	F	F	F	F	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	
21	4	14	E	E	E	E	F	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	F	
21	4	15	F	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	D	E	E	
21	4	16	E	D	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
21	4	17	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	
21	4	18	F	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F	F	F	
21	4	19	F	E	E	D	D	D	D	D	D	C	C	C	C	D	D	D	D	D	D	D	D	E	E	E	
21	4	20	E	D	D	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
21	4	21	E	E	E	E	E	E	D	D	D	D	D	C	D	D	D	D	D	D	D	E	F	F	F	G	
21	4	22	G	F	F	F	F	F	E	D	D	D	D	C	C	C	C	D	D	D	D	D	D	D	D	D	
21	4	23	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F	
21	4	24	E	F	E	E	E	E	D	D	D	C	D	C	C	C	D	D	D	D	D	E	F	F	F	F	
21	4	25	F	F	E	E	E	E	E	D	D	D	D	C	B	B	C	C	D	D	D	E	E	E	E	E	
21	4	26	E	E	E	E	E	E	D	D	D	D	C	B	C	B	C	D	D	D	D	E	E	E	E	E	
21	4	27	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	D	E	E	E	
21	4	28	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	
21	4	29	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	G	G	F	
21	4	30	G	G	G	G	G	G	G	F	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
21	5	1	E	E	E	E	E	E	D	D	D	C	C	B	B	B	C	C	D	D	D	E	D	E	D	E	
21	5	2	E	E	E	E	E	E	D	D	D	D	C	C	B	B	C	C	D	D	D	D	D	E	E	E	
21	5	3	D	E	D	E	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	E	E	E	D	
21	5	4	D	D	D	D	D	D	D	D	D	C	C	B	C	C	C	D	D	D	D	E	F	G	G	G	
21	5	5	G	G	G	G	G	G	G	E	D	D	D	D	D	D	D	D	D	D	D	E	F	F	F	F	
21	5	6	F	F	E	D	D	D	D	D	D	D	D	C	D	C	D	D	D	D	D	F	F	F	G	G	
21	5	7	G	F	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	
21	5	8	E	E	E	D	D	D	D	D	D	D	C	D	C	D	D	D	D	D	D	D	D	E	D	D	
21	5	9	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	G	G	G	
21	5	10	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	F	
21	5	11	E	D	D	D	D	E	D	D	D	D	D	C	D	D	D	D	D	D	D	E	E	E	E	E	
21	5	12	E	E	E	E	E	E	E	D	D	D	D	C	D	D	D	D	D	D	D	E	F	F	F	G	
21	5	13	G	F	F	F	F	F	F	D	D	D	D	D	C	C	D	D	D	D	D	E	E	E	E	E	
21	5	14	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	
21	5	15	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	

B206

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21
 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
21 5 16	E	E	E	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	D	D	D	D
21 5 17	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21 5 18	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
21 5 19	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21 5 20	D	D	D	E	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
21 5 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
21 5 22	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21 5 23	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21 5 24	D	E	E	E	E	E	D	D	D	D	D	D	C	C	D	C	D	D	D	D	D	D	D	D
21 5 25	D	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D	E	F	F	F	E	E	E	E
21 5 26	E	E	E	F	F	F	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
21 5 27	E	E	E	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21 5 28	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D	D
21 5 29	D	D	D	D	D	D	D	D	D	D	D	C	C	C	D	D	D	D	E	F	E	E	E	E
21 5 30	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	E	E	E
21 5 31	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
21 6 1	E	E	F	F	E	E	E	D	D	D	D	D	C	C	D	D	D	D	E	F	F	G	G	G
21 6 2	G	F	F	G	G	F	E	D	D	D	D	D	D	D	D	D	D	D	E	F	F	F	F	F
21 6 3	G	F	F	F	F	G	F	E	D	D	D	D	C	C	D	D	D	D	E	F	F	F	F	E
21 6 4	E	F	F	F	F	F	E	D	D	D	D	D	C	C	D	D	D	D	E	E	E	F	E	E
21 6 5	E	E	E	E	E	E	D	D	D	C	C	B	C	B	B	C	B	C	D	E	E	E	E	E
21 6 6	E	E	E	E	E	E	D	D	C	C	D	C	C	C	D	D	D	E	E	E	E	E	E	E
21 6 7	E	E	E	E	E	E	D	D	C	C	C	B	B	B	B	B	C	D	D	E	E	E	E	F
21 6 8	E	E	E	F	E	E	D	D	D	C	C	C	C	B	C	C	D	D	D	E	F	F	F	E
21 6 9	E	F	F	F	F	E	E	D	D	C	C	C	C	B	B	C	D	D	D	E	E	E	E	F
21 6 10	F	F	F	F	F	F	E	D	C	C	C	C	C	B	B	B	B	C	D	D	E	E	E	E
21 6 11	E	E	E	E	E	E	D	D	D	D	D	D	E	E	E	D	D	D	D	E	F	E	E	E
21 6 12	E	E	E	E	E	E	D	C	C	C	C	C	C	B	C	D	D	E	F	G	G	G	G	G
21 6 13	G	G	G	G	G	G	E	D	C	D	C	C	C	C	C	C	D	E	F	G	G	G	G	G
21 6 14	F	G	G	G	G	G	F	E	D	D	D	C	C	B	B	C	D	D	D	F	F	G	E	E
21 6 15	E	E	E	E	E	F	E	D	D	C	C	B	B	B	B	B	C	D	D	E	F	F	E	E
21 6 16	E	E	E	F	F	E	E	D	D	C	B	B	B	A	B	B	C	D	D	D	E	E	E	E
21 6 17	E	E	E	E	E	E	E	D	D	D	D	D	C	C	C	D	D	D	E	E	E	E	E	E
21 6 18	E	E	F	G	G	G	G	F	D	D	C	B	B	A	D	D	D	E	E	D	D	E	E	E
21 6 19	F	F	F	F	F	E	D	D	C	C	B	B	B	C	B	C	D	D	E	E	E	E	E	D
21 6 20	D	E	E	D	D	D	D	D	D	C	B	C	B	C	D	C	C	D	D	D	D	D	D	E
21 6 21	D	E	E	E	E	E	D	D	D	C	B	B	B	B	B	C	D	D	D	E	F	F	F	F
21 6 22	F	F	F	F	E	E	D	D	D	D	C	C	B	C	C	C	D	D	D	E	E	E	E	D
21 6 23	E	E	E	E	E	E	D	D	C	C	C	B	B	B	B	B	C	D	D	D	E	D	D	D
21 6 24	D	D	D	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	E	D	D	D	D	E
21 6 25	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	D	D	D	D
21 6 26	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F
21 6 27	E	E	E	F	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
21 6 28	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E
21 6 29	E	E	E	E	E	D	D	D	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-

B207

PROGRAM: JFD VERSION: PC-1.2
NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-JUN 2021
SITE IDENTIFIER:NPPD
DATA PERIOD EXAMINED: 1/ 1/21 - 6/30/21
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
21	6	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

B208

JFDs of 100-Meter Wind vs. Delta T

July-September 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-SEP 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 9/30/21

*** JUL-SEP 2021 ***

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	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	1	0	0	0	0	0	0	0	1
TOTAL	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1

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	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	1	0	1	0	0	0	0	0	0	0	0	2
12.51-18.50	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
18.51-24.00	0	0	0	0	0	0	0	1	3	2	0	0	0	0	0	0	6
>24.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL	0	0	0	0	0	2	0	2	4	3	0	0	0	0	0	0	11

B210

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-SEP 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 9/30/21

*** JUL-SEP 2021 ***

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 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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3.51- 7.50	0	1	2	3	7	3	3	1	3	1	0	0	0	0	0	0	24
7.51-12.50	1	2	0	2	3	4	10	4	3	0	1	0	0	0	3	1	34
12.51-18.50	0	0	0	0	0	0	6	13	6	2	2	0	0	0	0	3	32
18.51-24.00	2	0	0	0	0	0	0	4	4	0	0	0	0	0	0	0	10
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	4	3	2	5	10	7	19	22	16	3	3	0	0	0	3	4	101

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 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	4	5	8	5	5	2	5	2	1	1	1	1	1	0	3	2	46
3.51- 7.50	13	15	17	12	27	30	36	21	14	8	5	9	1	9	5	16	238
7.51-12.50	17	13	4	11	16	21	63	38	38	30	23	8	2	5	13	32	334
12.51-18.50	34	6	1	2	2	2	43	44	46	8	10	0	0	1	4	31	234
18.51-24.00	12	1	0	0	0	0	0	17	16	1	0	0	0	1	2	8	58
>24.00	2	0	0	1	0	0	0	5	9	0	0	0	1	0	1	0	19
TOTAL	82	40	30	31	50	55	147	127	124	48	39	18	5	16	28	89	929

B211

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-SEP 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 9/30/21

*** JUL-SEP 2021 ***

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	0	0	0	2	1	2	3	2	1	0	0	0	2	0	1	1	15
3.51- 7.50	6	6	9	7	4	42	17	7	5	3	1	1	1	1	4	2	116
7.51-12.50	9	16	10	8	12	13	45	48	23	8	5	6	4	4	4	7	222
12.51-18.50	8	10	2	1	4	0	23	98	58	27	15	4	1	3	6	16	276
18.51-24.00	0	1	0	1	0	0	2	29	46	6	2	1	0	0	1	4	93
>24.00	1	0	0	0	0	0	0	4	4	0	0	0	0	0	0	0	9
TOTAL	24	33	21	19	21	57	90	188	137	44	23	12	8	8	16	30	731

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																	1
1.01- 3.50	1	1	0	1	4	1	0	0	2	1	0	0	0	2	0	0	13
3.51- 7.50	3	9	11	17	12	19	2	2	4	0	1	1	0	2	5	2	90
7.51-12.50	7	6	6	2	3	2	13	16	28	8	2	1	0	3	1	5	103
12.51-18.50	4	2	0	0	0	0	1	10	19	18	1	1	0	3	1	6	66
18.51-24.00	0	0	0	0	0	0	0	1	8	9	1	0	0	3	0	1	23
>24.00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
TOTAL	15	18	17	20	19	22	16	29	62	37	5	3	0	13	7	14	298

B212

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-SEP 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 9/30/21

*** JUL-SEP 2021 ***

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																	2
1.01- 3.50	0	0	1	1	3	5	1	1	0	5	1	0	0	0	0	1	19
3.51- 7.50	0	2	2	5	7	4	2	6	3	0	0	1	4	3	3	2	44
7.51-12.50	2	2	0	2	0	0	1	5	7	1	0	3	2	1	0	5	31
12.51-18.50	1	0	0	0	0	0	0	3	0	1	0	0	0	0	0	2	7
18.51-24.00	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	4	3	8	10	9	4	15	10	8	1	4	6	5	3	10	105

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																	3
1.01- 3.50	6	6	9	9	13	10	9	5	4	7	2	1	3	2	4	4	94
3.51- 7.50	22	33	41	44	57	99	60	37	29	12	7	12	6	15	17	22	513
7.51-12.50	36	39	20	25	34	41	132	112	99	47	31	18	8	13	21	50	726
12.51-18.50	47	18	3	3	6	2	73	168	129	57	28	5	1	7	11	58	616
18.51-24.00	14	2	0	1	0	0	2	52	77	19	3	1	0	5	3	13	192
>24.00	3	0	0	1	0	0	0	9	16	1	0	0	1	0	1	0	32
TOTAL	128	98	73	83	110	152	276	383	354	143	71	37	19	42	57	147	2176

B213

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-SEP 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 9/30/21

*** JUL-SEP 2021 ***

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: 2176

TOTAL NUMBER OF MISSING OBSERVATIONS: 32

PERCENT DATA RECOVERY FOR THIS PERIOD: 98.6 %

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

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
.05	.51	4.64	42.69	33.59	13.69	4.83

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	1	0	0	0	0	0	0	0	0
B	0	0	0	0	0	2	0	2	4	3	0	0	0	0	0	0	0
C	4	3	2	5	10	7	19	22	16	3	3	0	0	0	3	4	0
D	82	40	30	31	50	55	147	127	124	48	39	18	5	16	28	89	0
E	24	33	21	19	21	57	90	188	137	44	23	12	8	8	16	30	0
F	15	18	17	20	19	22	16	29	62	37	5	3	0	13	7	14	1
G	3	4	3	8	10	9	4	15	10	8	1	4	6	5	3	10	2
TOTAL	128	98	73	83	110	152	276	383	354	143	71	37	19	42	57	147	3

B214

JFDs of 100-Meter Wind vs. Delta T

October-December 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T OCT-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 10/ 1/21 - 12/31/21

*** OCT-DEC 2021 ***

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	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 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	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	1	0	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	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1

B216

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T OCT-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 10/ 1/21 - 12/31/21

*** OCT-DEC 2021 ***

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 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	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	0	0	1	0	0	0	0	0	0	0	1	1	3
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
18.51-24.00	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	4
>24.00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
TOTAL	0	0	0	0	0	0	2	3	4	0	0	0	0	0	2	1	12

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 AT 100.00 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	1	4	2	0	7	1	3	2	2	1	2	5	1	1	2	35
3.51- 7.50	8	14	10	6	11	18	20	9	7	9	6	5	6	9	5	7	150
7.51-12.50	9	11	8	8	6	12	25	7	20	13	8	9	14	23	28	26	227
12.51-18.50	15	1	8	8	23	12	27	17	27	11	9	11	6	28	45	55	303
18.51-24.00	14	0	0	2	2	0	9	16	21	12	3	2	10	16	39	35	181
>24.00	7	0	0	0	0	0	1	4	16	1	2	1	4	8	14	33	91
TOTAL	54	27	30	26	42	49	83	56	93	48	29	30	45	85	132	158	988

B217

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T OCT-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 10/ 1/21 - 12/31/21

*** OCT-DEC 2021 ***

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	0	0	0	0	4	1	3	1	2	0	1	1	0	1	0	1	15
3.51- 7.50	6	5	2	5	5	26	14	4	5	7	3	2	6	1	6	4	101
7.51-12.50	8	11	2	5	8	16	16	10	23	9	0	1	6	6	6	18	145
12.51-18.50	20	17	3	13	9	1	20	67	40	12	8	3	7	6	17	27	270
18.51-24.00	11	3	0	1	1	0	5	31	28	9	6	3	7	14	15	19	153
>24.00	7	0	0	0	0	0	0	4	16	1	1	4	3	0	3	5	44
TOTAL	52	36	7	24	27	44	58	117	114	38	19	14	29	28	47	74	728

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	1	0	0	0	2	1	0	0	0	0	1	1	0	0	1	7
3.51- 7.50	1	4	2	2	6	12	0	3	4	3	0	4	3	3	2	4	53
7.51-12.50	4	4	2	5	2	9	16	29	25	9	5	4	3	1	4	7	129
12.51-18.50	1	1	0	1	2	0	1	25	14	16	2	0	2	6	1	5	77
18.51-24.00	0	0	0	0	0	0	0	1	2	1	2	4	6	8	2	2	28
>24.00	0	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0	4
TOTAL	6	10	4	8	10	23	18	58	45	29	9	16	15	19	9	19	298

B218

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T OCT-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 10/ 1/21 - 12/31/21

*** OCT-DEC 2021 ***

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	2	1	0	0	1	0	2	3	1	1	2	0	1	0	0	0	14
3.51- 7.50	5	4	3	4	1	2	2	4	4	10	3	5	3	5	3	6	64
7.51-12.50	8	1	0	3	3	0	5	11	5	6	13	2	3	4	1	2	67
12.51-18.50	2	0	0	0	0	0	2	14	8	2	6	0	0	0	0	0	34
18.51-24.00	1	0	0	0	0	0	0	0	0	1	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	18	6	3	7	5	2	11	32	18	20	24	7	7	9	4	8	181

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																	1
1.01- 3.50	3	3	4	2	5	10	7	7	5	3	4	4	7	2	1	4	71
3.51- 7.50	20	27	17	17	23	58	37	20	20	29	12	16	18	18	16	21	369
7.51-12.50	29	27	12	21	19	37	63	57	73	37	26	16	26	34	40	54	571
12.51-18.50	38	19	11	22	34	13	50	123	89	41	25	14	15	40	64	87	685
18.51-24.00	26	3	0	3	3	0	14	52	52	23	11	9	23	38	56	56	369
>24.00	14	0	0	0	0	0	1	8	35	2	3	8	7	9	17	38	142
TOTAL	130	79	44	65	84	118	172	267	274	135	81	67	96	141	194	260	2208

B219

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T OCT-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 10/ 1/21 - 12/31/21

*** OCT-DEC 2021 ***

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: 13.8 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 1

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 1

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 1

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
.00	.05	.54	44.75	32.97	13.50	8.20

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	1	0	0	0	0	0	0	0	0	0
C	0	0	0	0	0	0	2	3	4	0	0	0	0	0	2	1	0
D	54	27	30	26	42	49	83	56	93	48	29	30	45	85	132	158	1
E	52	36	7	24	27	44	58	117	114	38	19	14	29	28	47	74	0
F	6	10	4	8	10	23	18	58	45	29	9	16	15	19	9	19	0
G	18	6	3	7	5	2	11	32	18	20	24	7	7	9	4	8	0
TOTAL	130	79	44	65	84	118	172	267	274	135	81	67	96	141	194	260	1

B220

JFDs of 100-Meter Wind vs. Delta T

July-December 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21

*** JUL-DEC 2021 ***

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	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	1	0	0	0	0	0	0	0	1
TOTAL	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1

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	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	1	0	1	0	0	0	0	0	0	0	0	2
12.51-18.50	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
18.51-24.00	0	0	0	0	0	0	0	2	3	2	0	0	0	0	0	0	7
>24.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL	0	0	0	0	0	2	0	3	4	3	0	0	0	0	0	0	12

B222

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21

*** JUL-DEC 2021 ***

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 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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3.51- 7.50	0	1	2	3	7	3	4	1	3	1	0	0	0	0	0	0	25
7.51-12.50	1	2	0	2	3	4	11	4	3	0	1	0	0	0	4	2	37
12.51-18.50	0	0	0	0	0	0	6	13	6	2	2	0	0	0	1	3	33
18.51-24.00	2	0	0	0	0	0	0	7	5	0	0	0	0	0	0	0	14
>24.00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
TOTAL	4	3	2	5	10	7	21	25	20	3	3	0	0	0	5	5	113

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 AT 100.00 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	12	7	5	9	6	5	3	3	2	3	6	1	4	4	81
3.51- 7.50	21	29	27	18	38	48	56	30	21	17	11	14	7	18	10	23	388
7.51-12.50	26	24	12	19	22	33	88	45	58	43	31	17	16	28	41	58	561
12.51-18.50	49	7	9	10	25	14	70	61	73	19	19	11	6	29	49	86	537
18.51-24.00	26	1	0	2	2	0	9	33	37	13	3	2	10	17	41	43	239
>24.00	9	0	0	1	0	0	1	9	25	1	2	1	5	8	15	33	110
TOTAL	136	67	60	57	92	104	230	183	217	96	68	48	50	101	160	247	1917

B223

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21

*** JUL-DEC 2021 ***

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	0	0	0	2	5	3	6	3	3	0	1	1	2	1	1	2	30
3.51- 7.50	12	11	11	12	9	68	31	11	10	10	4	3	7	2	10	6	217
7.51-12.50	17	27	12	13	20	29	61	58	46	17	5	7	10	10	10	25	367
12.51-18.50	28	27	5	14	13	1	43	165	98	39	23	7	8	9	23	43	546
18.51-24.00	11	4	0	2	1	0	7	60	74	15	8	4	7	14	16	23	246
>24.00	8	0	0	0	0	0	0	8	20	1	1	4	3	0	3	5	53
TOTAL	76	69	28	43	48	101	148	305	251	82	42	26	37	36	63	104	1459

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																	1
1.01- 3.50	1	2	0	1	4	3	1	0	2	1	0	1	1	2	0	1	20
3.51- 7.50	4	13	13	19	18	31	2	5	8	3	1	5	3	5	7	6	143
7.51-12.50	11	10	8	7	5	11	29	45	53	17	7	5	3	4	5	12	232
12.51-18.50	5	3	0	1	2	0	2	35	33	34	3	1	2	9	2	11	143
18.51-24.00	0	0	0	0	0	0	0	2	10	10	3	4	6	11	2	3	51
>24.00	0	0	0	0	0	0	0	0	1	1	0	3	0	1	0	0	6
TOTAL	21	28	21	28	29	45	34	87	107	66	14	19	15	32	16	33	596

B224

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21

*** JUL-DEC 2021 ***

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																	2
1.01- 3.50	2	1	1	1	4	5	3	4	1	6	3	0	1	0	0	1	33
3.51- 7.50	5	6	5	9	8	6	4	10	7	10	3	6	7	8	6	8	108
7.51-12.50	10	3	0	5	3	0	6	16	12	7	13	5	5	5	1	7	98
12.51-18.50	3	0	0	0	0	0	2	17	8	3	6	0	0	0	0	2	41
18.51-24.00	1	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	4
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	21	10	6	15	15	11	15	47	28	28	25	11	13	14	7	18	286

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																	4
1.01- 3.50	9	9	13	11	18	20	16	12	9	10	6	5	10	4	5	8	165
3.51- 7.50	42	60	58	61	80	157	97	57	49	41	19	28	24	33	33	43	882
7.51-12.50	65	66	32	46	53	78	195	169	172	84	57	34	34	47	61	104	1297
12.51-18.50	85	37	14	25	40	15	123	291	218	98	53	19	16	47	75	145	1301
18.51-24.00	40	5	0	4	3	0	16	104	129	42	14	10	23	43	59	69	561
>24.00	17	0	0	1	0	0	1	17	51	3	3	8	8	9	18	38	174
TOTAL	258	177	117	148	194	270	448	650	628	278	152	104	115	183	251	407	4384

B225

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21

*** JUL-DEC 2021 ***

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: 4384

TOTAL NUMBER OF MISSING OBSERVATIONS: 32

PERCENT DATA RECOVERY FOR THIS PERIOD: 99.3 %

MEAN WIND SPEED FOR THIS PERIOD: 12.6 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 1

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 1

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 1

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
.02	.27	2.58	43.73	33.28	13.59	6.52

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	1	0	0	0	0	0	0	0	0
B	0	0	0	0	0	2	0	3	4	3	0	0	0	0	0	0	0
C	4	3	2	5	10	7	21	25	20	3	3	0	0	0	5	5	0
D	136	67	60	57	92	104	230	183	217	96	68	48	50	101	160	247	1
E	76	69	28	43	48	101	148	305	251	82	42	26	37	36	63	104	0
F	21	28	21	28	29	45	34	87	107	66	14	19	15	32	16	33	1
G	21	10	6	15	15	11	15	47	28	28	25	11	13	14	7	18	2
TOTAL	258	177	117	148	194	270	448	650	628	278	152	104	115	183	251	407	4

B226

Stability Classes by Hour of Day

100-Meter Wind vs. Delta T

July-December 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21
 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	
21	7	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
21	7	2	-	-	-	-	-	-	-	-	E	D	D	D	C	D	D	D	D	D	D	E	F	F	G	G	G
21	7	3	G	G	G	G	G	G	F	E	D	D	D	D	C	D	C	D	D	D	D	E	F	F	E	E	
21	7	4	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	F	F	
21	7	5	F	F	F	G	F	F	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	F	
21	7	6	F	F	F	F	F	F	E	E	D	D	D	D	C	C	C	D	D	D	D	E	E	E	E	E	
21	7	7	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	
21	7	8	E	E	E	E	F	E	E	D	D	D	D	D	C	C	C	C	D	D	D	D	E	E	E	E	
21	7	9	E	E	E	E	E	D	D	D	D	D	D	C	D	B	C	C	C	C	D	D	E	E	E	E	
21	7	10	D	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	D	
21	7	11	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	E	F	F	F	F	
21	7	12	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F	G	G	
21	7	13	G	G	G	F	F	F	F	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	
21	7	14	E	E	E	E	E	E	E	E	D	D	D	D	D	D	E	E	E	E	F	E	F	F	F	F	
21	7	15	E	D	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	
21	7	16	E	E	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	E	E	E	E	E	
21	7	17	E	E	E	E	E	E	D	D	D	D	D	C	C	D	D	D	D	D	D	D	E	E	D	E	
21	7	18	E	E	E	E	E	E	E	D	D	D	D	C	C	D	C	C	C	D	D	E	F	F	F	F	
21	7	19	F	F	F	F	F	F	E	E	D	C	C	C	D	D	C	D	D	D	D	E	F	F	F	G	
21	7	20	G	G	F	F	F	F	F	E	D	D	D	D	C	C	D	D	D	D	E	F	F	G	G	G	
21	7	21	G	G	G	G	G	G	G	F	E	D	D	D	C	C	D	D	D	D	D	E	E	F	E	E	
21	7	22	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	
21	7	23	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	
21	7	24	E	E	E	E	E	E	D	D	D	D	D	D	D	C	D	D	D	D	D	E	E	E	F	E	F
21	7	25	F	F	F	F	F	F	F	E	E	E	E	D	D	D	D	D	D	D	D	E	F	F	F	F	
21	7	26	F	F	F	E	E	E	E	E	D	D	D	D	C	C	D	D	D	D	D	E	E	F	F	F	
21	7	27	F	F	E	F	F	F	E	E	D	D	D	D	C	C	C	D	D	D	D	E	E	E	E	E	
21	7	28	F	F	F	E	F	F	F	E	D	D	D	D	C	D	D	D	D	D	E	E	E	E	F	F	
21	7	29	E	E	E	E	E	E	E	D	D	D	D	D	C	C	C	D	D	D	D	D	D	E	E	E	
21	7	30	E	E	D	D	D	D	D	D	D	D	C	C	D	D	B	C	D	D	D	D	D	D	E	D	
21	7	31	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F	F	
21	8	1	F	E	E	F	F	F	E	D	D	D	C	D	C	D	D	D	D	D	D	E	E	F	F	F	
21	8	2	F	F	F	F	F	F	E	E	D	D	D	D	C	D	D	D	D	D	D	E	F	F	G	G	
21	8	3	G	G	F	G	G	F	F	F	E	D	D	D	D	D	D	D	D	D	D	D	E	F	F	F	
21	8	4	E	F	F	F	F	F	F	E	D	D	D	D	C	C	D	D	D	D	D	E	E	E	E	E	
21	8	5	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	
21	8	6	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	
21	8	7	E	E	E	E	E	E	D	D	D	D	D	D	C	C	D	D	D	D	D	E	E	E	E	D	
21	8	8	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	F	F	
21	8	9	F	E	F	F	E	F	F	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
21	8	10	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	F	F	E	
21	8	11	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	
21	8	12	E	E	E	F	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	D	E	E	
21	8	13	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	F	G	G	

B228

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21
 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
21	8	14	G	G	F	F	F	F	E	D	D	D	D	D	D	C	D	D	D	E	F	G	F	E	E	
21	8	15	E	E	E	E	E	F	E	D	D	D	D	D	D	C	D	D	D	D	E	E	F	E	F	
21	8	16	E	F	F	F	E	E	E	D	D	D	D	C	C	C	D	D	D	D	E	E	E	E	E	
21	8	17	E	E	E	E	E	F	E	D	D	D	D	C	C	D	D	D	D	D	E	E	E	E	E	
21	8	18	E	E	E	E	E	E	E	D	D	D	D	C	D	D	D	D	D	D	E	E	E	E	E	
21	8	19	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	D	
21	8	20	D	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	F	E	E	
21	8	21	E	E	E	E	E	E	E	D	D	D	D	D	C	C	C	D	D	D	E	E	F	F	F	
21	8	22	F	F	F	F	F	F	E	D	D	D	C	C	C	C	C	D	D	D	E	E	E	E	D	
21	8	23	D	E	E	E	E	F	F	E	D	D	D	C	D	D	D	D	D	D	E	E	E	E	E	
21	8	24	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	
21	8	25	E	E	E	E	E	D	D	E	D	D	C	C	D	D	D	D	D	D	E	E	F	E	E	
21	8	26	E	E	E	E	E	E	E	D	D	D	D	C	D	D	D	D	D	D	E	E	E	E	E	
21	8	27	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
21	8	28	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	
21	8	29	E	E	E	D	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	F	F	F	
21	8	30	F	F	F	F	F	F	F	E	D	D	D	C	D	D	D	D	D	D	E	E	E	E	E	
21	8	31	E	E	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D	D	E	F	F	E	E	
21	9	1	D	D	D	E	D	D	D	D	D	D	D	C	D	D	D	D	D	D	E	E	E	E	E	
21	9	2	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	
21	9	3	E	D	D	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	D	D	D	
21	9	4	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F	G	
21	9	5	G	G	G	G	G	G	G	G	E	D	D	D	D	D	D	D	D	D	E	E	F	F	G	
21	9	6	F	F	F	E	F	F	F	E	D	D	D	D	D	D	D	D	D	E	E	E	F	F	E	
21	9	7	F	F	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	F	F	F	F	
21	9	8	F	E	E	F	F	E	E	E	D	D	D	D	D	D	D	D	D	E	F	G	G	G	G	
21	9	9	G	G	G	G	G	G	G	F	E	D	D	D	D	D	D	D	D	D	E	E	F	E	E	
21	9	10	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	F	F	F	F	
21	9	11	F	F	G	F	F	F	F	E	D	D	D	C	C	C	D	D	D	D	E	E	E	E	E	
21	9	12	E	E	E	E	F	F	F	F	D	D	D	D	D	D	D	D	D	D	E	E	E	E	F	
21	9	13	F	F	E	E	E	E	E	E	D	D	C	C	B	B	C	D	D	D	E	E	E	E	E	
21	9	14	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	F	
21	9	15	F	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	D	E	E	F	F	E	
21	9	16	E	E	E	E	E	E	E	D	D	D	C	C	B	A	B	C	D	D	E	E	E	E	E	
21	9	17	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	
21	9	18	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	F	E	E	
21	9	19	F	F	F	F	F	F	F	E	D	D	C	B	C	C	C	D	D	D	E	E	E	E	E	
21	9	20	D	D	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	
21	9	21	E	E	E	D	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	F	F	F	
21	9	22	F	G	G	G	G	G	G	F	D	D	D	D	D	D	D	D	D	D	E	F	G	G	G	
21	9	23	G	G	G	G	G	G	G	E	D	D	D	C	C	C	C	D	D	D	E	F	E	E	E	
21	9	24	E	E	E	F	F	F	F	F	D	D	D	D	D	D	D	D	D	D	E	E	F	F	F	
21	9	25	F	F	F	G	G	G	G	F	D	D	D	D	D	C	C	C	D	D	F	F	F	F	F	
21	9	26	E	E	F	F	F	E	F	E	D	D	C	B	B	B	C	D	D	D	E	F	F	F	E	
21	9	27	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	F	G	G	G	G	

B229

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21
 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	
21	9	28	G	G	G	G	G	F	F	F	D	D	D	D	D	C	C	D	E	F	F	F	F	F	F	G	
21	9	29	G	G	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
21	9	30	E	E	E	E	E	E	E	E	D	D	D	C	D	D	D	D	D	E	E	E	E	E	E	E	
21	10	1	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	F	F	
21	10	2	F	F	F	F	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
21	10	3	D	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	F	G	G	G	G	G	
21	10	4	G	G	G	G	G	G	G	G	E	D	D	D	D	D	D	D	D	F	F	G	G	G	G	G	
21	10	5	G	G	G	G	G	G	G	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	10	6	E	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	E	F	E	E	E	E	E	
21	10	7	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	F	F	F	F	F	F	
21	10	8	F	F	F	F	F	F	E	E	D	D	D	C	D	D	D	D	E	E	F	F	F	F	F	F	
21	10	9	F	F	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	F	F	G	G	G	
21	10	10	G	G	F	F	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	10	11	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	F	G	G	G	G	G	G	
21	10	12	G	G	G	G	G	G	G	F	E	D	D	D	C	D	D	D	E	E	E	E	E	E	E	D	
21	10	13	D	D	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	F	F	F	E	E	
21	10	14	E	E	E	F	E	F	F	F	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	10	15	E	E	E	E	E	F	E	E	D	D	D	C	D	D	D	D	D	E	E	E	F	F	F	F	
21	10	16	F	F	F	E	F	E	E	E	D	D	D	D	D	D	D	D	D	F	G	G	G	G	G	G	
21	10	17	G	G	G	G	G	G	G	G	F	D	D	D	D	D	D	D	D	E	F	F	F	G	G	G	
21	10	18	G	G	F	F	F	F	F	F	E	D	D	C	C	C	C	D	D	E	E	E	E	E	E	E	
21	10	19	E	E	E	E	E	E	E	E	D	D	C	B	C	C	D	D	E	E	E	E	E	E	E	E	
21	10	20	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
21	10	21	D	D	D	D	D	D	D	D	D	D	D	C	C	D	D	D	D	E	E	F	F	F	F	F	
21	10	22	G	G	G	G	G	G	G	G	F	E	E	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	10	23	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
21	10	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	
21	10	25	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	10	26	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
21	10	27	D	D	D	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
21	10	28	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	D	D	
21	10	29	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	F	F	F	G	
21	10	30	G	G	G	G	G	G	G	G	F	E	D	D	D	D	D	D	D	E	F	E	E	E	E	D	D
21	10	31	D	D	D	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
21	11	1	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
21	11	2	E	E	E	F	F	G	G	E	D	D	D	D	D	D	D	D	D	E	F	F	F	F	E	F	
21	11	3	F	F	F	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	11	4	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	11	5	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	11	6	F	F	F	E	F	F	F	F	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	11	7	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	F	F	E	F	F	
21	11	8	F	F	F	G	G	G	G	F	E	D	D	D	D	D	D	D	D	E	E	E	D	D	D	D	
21	11	9	D	E	E	D	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
21	11	10	E	E	E	E	D	D	D	D	D	D	D	D	E	E	D	E	E	D	D	D	D	D	D	D	
21	11	11	D	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	D	D	D	D	

B230

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21
 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
21 11 12	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21 11 13	D	D	D	D	D	D	E	E	D	D	D	D	D	D	D	D	E	E	E	E	F	F	E	E
21 11 14	E	E	E	E	D	D	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	F	F
21 11 15	F	E	E	E	F	E	F	F	E	D	D	D	D	D	D	D	E	F	F	F	F	F	F	E
21 11 16	E	F	F	F	E	E	F	F	F	E	E	D	D	D	D	D	E	E	E	E	E	F	G	F
21 11 17	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	F	E	E	F
21 11 18	F	E	E	F	F	E	E	E	D	D	D	D	D	D	D	D	D	F	F	G	G	G	G	G
21 11 19	G	G	G	G	F	F	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
21 11 20	E	E	E	E	E	F	F	F	F	E	D	D	D	D	D	D	D	E	F	F	F	F	F	E
21 11 21	F	E	E	E	E	F	F	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
21 11 22	E	E	E	E	F	F	E	E	E	D	D	D	D	D	D	D	D	E	F	F	F	G	G	G
21 11 23	G	F	F	F	F	F	F	F	F	E	D	D	D	D	D	D	D	E	E	E	E	E	E	E
21 11 24	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21 11 25	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F	G	G	F
21 11 26	F	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	F	F	G	G	G	G
21 11 27	G	G	G	G	G	G	G	G	G	E	D	D	D	D	D	D	D	D	E	D	E	E	E	E
21 11 28	E	E	E	F	F	F	F	F	F	E	D	D	D	D	D	D	D	E	E	F	E	F	F	F
21 11 29	F	F	F	F	F	F	F	F	F	E	D	D	D	D	D	D	D	E	F	F	F	F	F	F
21 11 30	G	G	G	G	G	G	G	G	F	F	E	D	D	D	D	D	D	D	F	F	F	F	F	E
21 12 1	E	E	E	E	E	F	F	F	E	E	D	D	D	D	D	D	D	E	E	E	E	E	F	F
21 12 2	F	F	F	F	E	F	G	G	E	E	D	D	D	D	D	D	D	E	F	G	G	G	F	G
21 12 3	G	F	F	G	G	F	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
21 12 4	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	D
21 12 5	D	D	D	D	D	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	D	D	D	D
21 12 6	D	D	D	D	E	E	D	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
21 12 7	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
21 12 8	E	E	E	E	E	E	E	F	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
21 12 9	E	E	E	E	E	E	E	F	F	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E
21 12 10	E	D	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
21 12 11	D	D	D	D	D	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	F	F	E	E
21 12 12	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
21 12 13	E	F	F	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	E	F	F	F	F	F
21 12 14	G	G	F	F	G	F	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E
21 12 15	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	D	D	D
21 12 16	D	D	D	D	E	E	E	E	E	D	D	D	D	D	D	D	D	D	F	F	G	F	G	G
21 12 17	G	G	F	F	F	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	F	F	F
21 12 18	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	F
21 12 19	F	F	F	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E
21 12 20	E	E	F	F	F	E	E	F	F	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
21 12 21	E	E	F	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	E	E	E	F	F	G
21 12 22	G	G	G	G	G	G	G	F	E	D	D	D	D	D	D	D	D	D	E	F	G	G	G	G
21 12 23	G	F	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	F	F	F	E	E
21 12 24	E	E	F	E	E	E	F	F	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E
21 12 25	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	F	G	G	G	G
21 12 26	G	G	G	G	G	G	G	F	F	E	D	D	D	D	D	D	D	D	E	E	E	E	F	G

B231

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JUL-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 7/ 1/21 - 12/31/21
 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
21 12 27	F	E	E	E	E	F	F	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
21 12 28	E	E	D	D	D	D	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E
21 12 29	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	D	D	D
21 12 30	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	G	G	G	F	F
21 12 31	F	F	F	F	F	E	E	E	E	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 2021

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 12/31/21

*** JAN-DEC 2021 ***

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	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	2	0	0	0	0	0	0	0	0	0	0	2
7.51-12.50	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL	0	0	0	0	0	2	1	1	1	0	0	0	0	0	0	0	5

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	0	1	0	1	0	2	1	0	0	0	0	0	0	0	0	0	5
7.51-12.50	0	2	3	0	1	1	12	3	1	0	0	0	0	0	0	0	23
12.51-18.50	0	0	0	0	0	0	2	2	2	3	0	0	0	0	0	3	12
18.51-24.00	0	0	0	0	0	0	0	2	8	2	0	0	0	0	0	2	14
>24.00	3	0	0	0	0	0	0	4	11	4	0	0	0	0	0	0	22
TOTAL	3	3	3	1	1	3	15	11	22	9	0	0	0	0	0	5	76

B234

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 12/31/21

*** JAN-DEC 2021 ***

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 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	1	1	0	0	0	0	0	0	0	0	5
3.51- 7.50	0	2	2	3	9	5	9	5	3	3	1	0	0	0	0	0	42
7.51-12.50	2	5	0	3	3	6	20	14	7	1	1	1	0	0	4	3	70
12.51-18.50	4	3	2	0	0	1	8	13	10	7	2	0	0	1	4	12	67
18.51-24.00	4	0	0	0	1	0	0	9	21	2	0	0	0	0	4	5	46
>24.00	5	0	0	0	0	0	0	6	26	9	2	0	0	0	1	1	50
TOTAL	16	10	5	7	13	12	38	48	67	22	6	1	0	1	13	21	280

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 AT 100.00 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	9	12	16	8	8	17	21	6	5	8	4	10	9	2	6	8	149
3.51- 7.50	45	45	48	38	67	125	126	69	33	26	24	21	19	31	33	51	801
7.51-12.50	112	73	52	70	62	93	151	105	88	81	48	24	30	55	87	123	1254
12.51-18.50	178	41	20	29	43	19	92	146	118	50	31	18	10	74	150	157	1176
18.51-24.00	92	10	3	7	11	0	10	75	78	29	7	10	10	38	109	98	587
>24.00	38	1	1	6	16	0	1	29	82	16	5	2	6	18	43	63	327
TOTAL	474	182	140	158	207	254	401	430	404	210	119	85	84	218	428	500	4296

B235

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 12/31/21

*** JAN-DEC 2021 ***

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																	1
1.01- 3.50	0	1	1	3	8	12	11	6	3	1	3	3	3	3	2	4	64
3.51- 7.50	25	21	20	20	26	113	47	15	19	13	10	7	12	8	11	12	379
7.51-12.50	50	61	25	24	38	52	95	108	70	27	11	19	22	22	22	56	702
12.51-18.50	60	42	8	29	32	4	91	216	135	67	43	18	23	27	47	75	917
18.51-24.00	20	5	0	2	5	0	21	110	128	36	22	13	12	23	22	28	447
>24.00	9	1	0	1	2	0	0	24	43	1	3	8	7	1	6	5	111
TOTAL	164	131	54	79	111	181	265	479	398	145	92	68	79	84	110	180	2621

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																	1
1.01- 3.50	2	3	2	3	5	4	3	3	5	3	1	1	3	2	0	4	44
3.51- 7.50	9	16	16	22	21	48	12	11	9	6	2	13	7	7	8	7	214
7.51-12.50	22	12	13	16	6	14	42	76	63	24	21	9	10	11	13	26	378
12.51-18.50	5	4	0	1	2	0	8	62	41	46	6	11	13	11	6	16	232
18.51-24.00	0	0	0	0	0	0	0	5	18	18	13	6	8	16	6	4	94
>24.00	0	0	0	0	0	0	0	0	1	5	0	3	1	1	0	0	11
TOTAL	38	35	31	42	34	66	65	157	137	102	43	43	42	48	33	57	974

B236

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 12/31/21

*** JAN-DEC 2021 ***

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																	2
1.01- 3.50	2	1	1	2	5	6	5	4	2	6	3	0	2	0	1	2	42
3.51- 7.50	9	8	7	13	11	6	4	12	13	13	6	9	11	8	7	14	151
7.51-12.50	11	3	5	7	4	0	7	23	23	18	21	13	9	17	4	7	172
12.51-18.50	3	0	0	0	0	0	2	17	10	8	9	6	2	2	1	4	64
18.51-24.00	1	0	0	0	0	0	1	0	0	3	1	0	0	1	0	0	7
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	26	12	13	22	20	12	19	56	48	48	40	28	24	28	13	27	438

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																	6
1.01- 3.50	14	17	21	17	26	39	41	20	15	18	11	14	17	7	9	18	304
3.51- 7.50	88	93	93	97	134	301	199	112	77	61	43	50	49	54	59	84	1594
7.51-12.50	197	156	98	120	114	166	328	330	252	151	102	66	71	105	130	215	2601
12.51-18.50	250	90	30	59	77	24	203	456	316	181	91	53	48	115	208	267	2468
18.51-24.00	117	15	3	9	17	0	32	201	253	90	43	29	30	78	141	137	1195
>24.00	55	2	1	7	18	0	1	63	164	35	10	13	14	20	50	69	522
TOTAL	721	373	246	309	386	530	804	1182	1077	536	300	225	229	379	597	790	8690

B237

PROGRAM: JFD VERSION: PC-1.2
 NPPD-COOPER NUCLEAR STATION JFD:100M WIND VS 10M DELTA T JAN-DEC 2021
 SITE IDENTIFIER:NPPD
 DATA PERIOD EXAMINED: 1/ 1/21 - 12/31/21

*** JAN-DEC 2021 ***

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: 8690

TOTAL NUMBER OF MISSING OBSERVATIONS: 70

PERCENT DATA RECOVERY FOR THIS PERIOD: 99.2 %

MEAN WIND SPEED FOR THIS PERIOD: 13.1 MPH

NUMBER OF OBSERVATIONS WITH BACKUP WIND SPEED: 1

NUMBER OF OBSERVATIONS WITH BACKUP WIND DIRECTION: 1

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 1

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
.06	.87	3.22	49.44	30.16	11.21	5.04

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	1	1	0	0	0	0	0	0	0	0
B	3	3	3	1	1	3	15	11	22	9	0	0	0	0	0	5	0
C	16	10	5	7	13	12	38	48	67	22	6	1	0	1	13	21	0
D	474	182	140	158	207	254	401	430	404	210	119	85	84	218	428	500	2
E	164	131	54	79	111	181	265	479	398	145	92	68	79	84	110	180	1
F	38	35	31	42	34	66	65	157	137	102	43	43	42	48	33	57	1
G	26	12	13	22	20	12	19	56	48	48	40	28	24	28	13	27	2
TOTAL	721	373	246	309	386	530	804	1182	1077	536	300	225	229	379	597	790	6

B238

ATMOSPHERIC DIFFUSION ESTIMATES

The tables of atmospheric diffusion estimates in this section were generated using the latest version of the computer code XOQDOQ included as part of NRC Dose 2.3.20 (ORNL 2015). Data are given for 22 distances and 16 compass points (directions from site) centered on the Cooper Nuclear Station (CNS). Tables are presented for the ground-level (vent) and elevated (stack) release options separately, and for the following time periods in 2021: January-March, April-June, January-June, July-September, October-December, July-December, and January-December.

The most recent 5-year average X/Q, depleted X/Q, and D/Q values for CNS have been calculated and compared to the 2021 annual values provided herein. The differences in both peak directions and magnitudes were small and were likely the result of minor year-to-year climatological fluctuations. The most recent 5-year average X/Q, depleted X/Q, and D/Q values are representative of conditions around CNS and are available for use in dose calculations as necessary.

Atmospheric Diffusion Estimates

Ground Level Releases

January-March 2021

VENTS GROUND LEVEL RELEASES - JAN-MAR 2021
 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	5.598E-05	1.931E-05	1.035E-05	5.166E-06	2.051E-06	1.101E-06	6.935E-07	4.814E-07	3.569E-07	2.772E-07	2.231E-07	1.791E-05	6.228E-06	3.408E-06	1.720E-06	6.773E-07	3.612E-07	2.261E-07	1.562E-07	1.153E-07	8.922E-08	7.154E-08
SSW	3.255E-05	1.114E-05	5.994E-06	3.004E-06	1.194E-06	6.413E-07	4.039E-07	2.805E-07	2.079E-07	1.616E-07	1.300E-07	1.791E-05	6.228E-06	3.408E-06	1.720E-06	6.773E-07	3.612E-07	2.261E-07	1.562E-07	1.153E-07	8.922E-08	7.154E-08
SW	1.791E-05	6.228E-06	3.408E-06	1.720E-06	6.773E-07	3.612E-07	2.261E-07	1.562E-07	1.153E-07	8.922E-08	7.154E-08	1.720E-05	6.127E-06	3.307E-06	1.650E-06	6.466E-07	3.438E-07	2.148E-07	1.482E-07	1.092E-07	8.443E-08	6.763E-08
WSW	1.720E-05	6.127E-06	3.307E-06	1.650E-06	6.466E-07	3.438E-07	2.148E-07	1.482E-07	1.092E-07	8.443E-08	6.763E-08	1.720E-05	7.617E-06	4.140E-06	2.079E-06	8.205E-07	4.384E-07	2.750E-07	1.903E-07	1.406E-07	1.090E-07	8.745E-08
W	2.176E-05	7.617E-06	4.140E-06	2.079E-06	8.205E-07	4.384E-07	2.750E-07	1.903E-07	1.406E-07	1.090E-07	8.745E-08	1.720E-05	1.100E-05	5.908E-06	2.946E-06	1.156E-06	6.157E-07	3.853E-07	2.661E-07	1.964E-07	1.520E-07	1.219E-07
WNW	3.175E-05	1.100E-05	5.908E-06	2.946E-06	1.156E-06	6.157E-07	3.853E-07	2.661E-07	1.964E-07	1.520E-07	1.219E-07	1.720E-05	1.004E-05	5.496E-06	2.774E-06	1.101E-06	5.906E-07	3.717E-07	2.579E-07	1.911E-07	1.484E-07	1.194E-07
NW	2.923E-05	1.004E-05	5.496E-06	2.774E-06	1.101E-06	5.906E-07	3.717E-07	2.579E-07	1.911E-07	1.484E-07	1.194E-07	1.720E-05	2.389E-05	1.268E-05	6.422E-06	2.677E-06	1.485E-06	9.588E-07	6.790E-07	5.118E-07	4.033E-07	3.285E-07
NNW	7.738E-05	2.389E-05	1.268E-05	6.422E-06	2.677E-06	1.485E-06	9.588E-07	6.790E-07	5.118E-07	4.033E-07	3.285E-07	1.720E-05	1.874E-05	9.946E-06	5.044E-06	2.107E-06	1.171E-06	7.565E-07	5.362E-07	4.044E-07	3.188E-07	2.598E-07
N	6.125E-05	1.874E-05	9.946E-06	5.044E-06	2.107E-06	1.171E-06	7.565E-07	5.362E-07	4.044E-07	3.188E-07	2.598E-07	1.720E-05	5.509E-05	1.717E-05	8.956E-06	4.483E-06	1.872E-06	1.040E-06	6.723E-07	4.767E-07	3.596E-07	2.836E-07
NNE	5.509E-05	1.717E-05	8.956E-06	4.483E-06	1.872E-06	1.040E-06	6.723E-07	4.767E-07	3.596E-07	2.836E-07	2.312E-07	1.720E-05	1.006E-05	5.284E-06	2.649E-06	1.097E-06	6.062E-07	3.901E-07	2.757E-07	2.074E-07	1.632E-07	1.328E-07
NE	3.189E-05	1.006E-05	5.284E-06	2.649E-06	1.097E-06	6.062E-07	3.901E-07	2.757E-07	2.074E-07	1.632E-07	1.328E-07	1.720E-05	2.267E-05	7.153E-06	3.794E-06	1.912E-06	7.920E-07	4.378E-07	2.818E-07	1.992E-07	1.498E-07	9.593E-08
ENE	2.267E-05	7.153E-06	3.794E-06	1.912E-06	7.920E-07	4.378E-07	2.818E-07	1.992E-07	1.498E-07	1.179E-07	9.593E-08	1.720E-05	2.186E-05	7.020E-06	3.757E-06	1.897E-06	7.804E-07	4.293E-07	2.754E-07	1.941E-07	1.457E-07	1.144E-07
E	2.186E-05	7.020E-06	3.757E-06	1.897E-06	7.804E-07	4.293E-07	2.754E-07	1.941E-07	1.457E-07	1.144E-07	9.289E-08	1.720E-05	2.628E-05	8.507E-06	4.553E-06	2.297E-06	9.380E-07	5.119E-07	3.268E-07	2.294E-07	1.716E-07	1.344E-07
ESE	2.628E-05	8.507E-06	4.553E-06	2.297E-06	9.380E-07	5.119E-07	3.268E-07	2.294E-07	1.716E-07	1.344E-07	1.089E-07	1.720E-05	3.130E-05	1.050E-05	5.620E-06	2.817E-06	1.132E-06	6.124E-07	3.880E-07	2.706E-07	2.014E-07	1.571E-07
SE	3.130E-05	1.050E-05	5.620E-06	2.817E-06	1.132E-06	6.124E-07	3.880E-07	2.706E-07	2.014E-07	1.571E-07	1.268E-07	1.720E-05	4.488E-05	1.493E-05	7.927E-06	3.962E-06	1.600E-06	8.690E-07	5.521E-07	3.861E-07	2.880E-07	2.249E-07
SSE	4.488E-05	1.493E-05	7.927E-06	3.962E-06	1.600E-06	8.690E-07	5.521E-07	3.861E-07	2.880E-07	2.249E-07	1.818E-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	20.000	25.000	30.000	35.000	40.000	45.000	50.000				
S	1.844E-07	9.430E-08	6.091E-08	3.478E-08	2.347E-08	1.734E-08	1.356E-08	1.103E-08	9.222E-09	7.882E-09	6.852E-09	1.075E-07	5.498E-08	3.552E-08	2.028E-08	1.369E-08	1.011E-08	7.907E-09	6.428E-09	5.376E-09	4.594E-09	3.939E-09
SSW	1.075E-07	5.498E-08	3.552E-08	2.028E-08	1.369E-08	1.011E-08	7.907E-09	6.428E-09	5.376E-09	4.594E-09	3.939E-09	1.075E-07	2.976E-08	1.903E-08	1.070E-08	7.140E-09	5.225E-09	4.053E-09	3.272E-09	2.720E-09	2.312E-09	2.000E-09
SW	5.895E-08	2.976E-08	1.903E-08	1.070E-08	7.140E-09	5.225E-09	4.053E-09	3.272E-09	2.720E-09	2.312E-09	2.000E-09	1.075E-07	5.569E-08	2.803E-08	1.789E-08	1.004E-08	6.687E-09	4.889E-09	3.790E-09	3.058E-09	2.541E-09	2.159E-09
WSW	5.569E-08	2.803E-08	1.789E-08	1.004E-08	6.687E-09	4.889E-09	3.790E-09	3.058E-09	2.541E-09	2.159E-09	1.867E-09	1.075E-07	7.214E-08	3.657E-08	2.347E-08	1.326E-08	8.880E-09	6.518E-09	5.069E-09	4.101E-09	3.416E-09	2.909E-09
W	7.214E-08	3.657E-08	2.347E-08	1.326E-08	8.880E-09	6.518E-09	5.069E-09	4.101E-09	3.416E-09	2.909E-09	2.520E-09	1.075E-07	1.005E-07	5.087E-08	3.261E-08	1.844E-08	1.238E-08	9.113E-09	7.102E-09	5.758E-09	4.804E-09	4.097E-09
WNW	1.005E-07	5.087E-08	3.261E-08	1.844E-08	1.238E-08	9.113E-09	7.102E-09	5.758E-09	4.804E-09	4.097E-09	3.555E-09	1.075E-07	9.868E-08	5.043E-08	3.255E-08	1.856E-08	1.251E-08	9.235E-09	7.214E-09	5.859E-09	4.896E-09	4.180E-09
NW	9.868E-08	5.043E-08	3.255E-08	1.856E-08	1.251E-08	9.235E-09	7.214E-09	5.859E-09	4.896E-09	4.180E-09	3.631E-09	1.075E-07	2.746E-07	1.464E-07	9.734E-08	5.782E-08	4.009E-08	3.023E-08	2.403E-08	1.981E-08	1.677E-08	1.448E-08
NNW	2.746E-07	1.464E-07	9.734E-08	5.782E-08	4.009E-08	3.023E-08	2.403E-08	1.981E-08	1.677E-08	1.448E-08	1.270E-08	1.075E-07	2.172E-07	1.160E-07	7.719E-08	4.590E-08	3.186E-08	2.404E-08	1.912E-08	1.576E-08	1.334E-08	1.153E-08
N	2.172E-07	1.160E-07	7.719E-08	4.590E-08	3.186E-08	2.404E-08	1.912E-08	1.576E-08	1.334E-08	1.153E-08	1.011E-08	1.075E-07	1.934E-07	1.034E-07	6.889E-08	4.104E-08	2.852E-08	1.715E-08	1.415E-08	1.199E-08	1.036E-08	9.100E-09
NE	1.934E-07	1.034E-07	6.889E-08	4.104E-08	2.852E-08	1.715E-08	1.415E-08	1.199E-08	1.036E-08	9.100E-09	8.009E-09	1.075E-07	1.108E-07	5.885E-08	3.902E-08	2.310E-08	1.599E-08	1.204E-08	9.559E-09	7.873E-09	6.658E-09	5.746E-09
ENE	1.108E-07	5.885E-08	3.902E-08	2.310E-08	1.599E-08	1.204E-08	9.559E-09	7.873E-09	6.658E-09	5.746E-09	5.038E-09	1.075E-07	8.009E-08	4.253E-08	2.820E-08	1.669E-08	1.154E-08	8.690E-09	6.899E-09	5.680E-09	4.802E-09	4.143E-09
E	8.009E-08	4.253E-08	2.820E-08	1.669E-08	1.154E-08	8.690E-09	6.899E-09	5.680E-09	4.802E-09	4.143E-09	3.632E-09	1.075E-07	7.744E-08	4.088E-08	2.699E-08	1.588E-08	1.094E-08	8.207E-09	6.498E-09	5.338E-09	4.505E-09	3.880E-09
ESE	7.744E-08	4.088E-08	2.699E-08	1.588E-08	1.094E-08	8.207E-09	6.498E-09	5.338E-09	4.505E-09	3.880E-09	3.396E-09	1.075E-07	9.060E-08	4.744E-08	3.116E-08	1.820E-08	1.248E-08	9.329E-09	7.365E-09	6.037E-09	5.084E-09	4.372E-09
SE	9.060E-08	4.744E-08	3.116E-08	1.820E-08	1.248E-08	9.329E-09	7.365E-09	6.037E-09	5.084E-09	4.372E-09	3.821E-09	1.075E-07	1.051E-07	5.432E-08	3.535E-08	2.039E-08	1.386E-08	1.029E-08	8.083E-09	6.596E-09	5.534E-09	4.743E-09
SSE	1.051E-07	5.432E-08	3.535E-08	2.039E-08	1.386E-08	1.029E-08	8.083E-09	6.596E-09	5.534E-09	4.743E-09	4.133E-09	1.075E-07	1.510E-07	7.848E-08	5.128E-08	2.976E-08	2.031E-08	1.514E-08	1.192E-08	9.750E-09	8.198E-09	7.039E-09
SSE	1.510E-07	7.848E-08	5.128E-08	2.976E-08	2.031E-08	1.514E-08	1.192E-08	9.750E-09	8.198E-09	7.039E-09	6.144E-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	1.004E-05	2.321E-06	7.174E-07	3.621E-07	2.248E-07	9.948E-08	3.556E-08	1.746E-08	1.106E-08	7.897E-09
SSW	5.807E-06	1.350E-06	4.178E-07	2.110E-07	1.310E-07	5.800E-08	2.074E-08	1.018E-08	6.449E-09	4.603E-09
SW	3.284E-06	7.686E-07	2.342E-07	1.171E-07	7.212E-08	3.148E-08	1.097E-08	5.267E-09	3.285E-09	2.318E-09
WSW	3.197E-06	7.349E-07	2.225E-07	1.109E-07	6.818E-08	2.967E-08	1.029E-08	4.929E-09	3.070E-09	2.164E-09
W	3.997E-06	9.303E-07	2.847E-07	1.427E-07	8.815E-08	3.865E-08	1.358E-08	6.568E-09	4.117E-09	2.915E-09
WNW	5.723E-06	1.314E-06	3.990E-07	1.994E-07	1.229E-07	5.379E-08	1.890E-08	9.181E-09	5.779E-09	4.106E-09
NW	5.297E-06	1.246E-06	3.846E-07	1.939E-07	1.203E-07	5.320E-08	1.898E-08	9.301E-09	5.879E-09	4.189E-09
NNW	1.239E-05	2.979E-06	9.873E-07	5.182E-07	3.307E-07	1.531E-07	5.872E-08	3.038E-08	1.986E-08	1.450E-08
N	9.721E-06	2.344E-06	7.789E-07	4.094E-07	2.615E-07	1.212E-07	4.661E-08	2.415E-08	1.580E-08	1.154E-08
NNE	8.794E-06	2.082E-06	6.921E-07	3.641E-07	2.327E-07	1.081E-07	4.166			

VENTS GROUND LEVEL RELEASES - JAN-MAR 2021
 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	5.591E-05	1.926E-05	1.031E-05	5.142E-06	2.036E-06	1.090E-06	6.847E-07	4.741E-07	3.504E-07	2.715E-07	2.178E-07
SSW	3.251E-05	1.110E-05	5.969E-06	2.987E-06	1.184E-06	6.338E-07	3.979E-07	2.754E-07	2.036E-07	1.577E-07	1.264E-07
SW	1.788E-05	6.209E-06	3.392E-06	1.710E-06	6.708E-07	3.565E-07	2.224E-07	1.531E-07	1.126E-07	8.685E-08	6.939E-08
WSW	1.718E-05	6.112E-06	3.294E-06	1.641E-06	6.415E-07	3.402E-07	2.119E-07	1.458E-07	1.071E-07	8.259E-08	6.597E-08
W	2.172E-05	7.595E-06	4.122E-06	2.067E-06	8.132E-07	4.332E-07	2.708E-07	1.868E-07	1.376E-07	1.063E-07	8.504E-08
WNW	3.170E-05	1.097E-05	5.884E-06	2.930E-06	1.147E-06	6.088E-07	3.798E-07	2.615E-07	1.925E-07	1.485E-07	1.188E-07
NW	2.918E-05	1.002E-05	5.473E-06	2.758E-06	1.091E-06	5.837E-07	3.662E-07	2.533E-07	1.871E-07	1.449E-07	1.162E-07
NNW	7.721E-05	2.379E-05	1.260E-05	6.366E-06	2.641E-06	1.459E-06	9.376E-07	6.611E-07	4.960E-07	3.891E-07	3.155E-07
N	6.111E-05	1.866E-05	9.882E-06	5.001E-06	2.080E-06	1.151E-06	7.402E-07	5.223E-07	3.922E-07	3.078E-07	2.498E-07
NNE	5.496E-05	1.710E-05	8.899E-06	4.445E-06	1.847E-06	1.022E-06	6.577E-07	4.643E-07	3.487E-07	2.738E-07	2.222E-07
NE	3.183E-05	1.002E-05	5.254E-06	2.630E-06	1.084E-06	5.969E-07	3.826E-07	2.692E-07	2.017E-07	1.581E-07	1.281E-07
ENE	2.262E-05	7.123E-06	3.770E-06	1.896E-06	7.819E-07	4.303E-07	2.758E-07	1.940E-07	1.453E-07	1.139E-07	9.222E-08
E	2.181E-05	6.994E-06	3.736E-06	1.883E-06	7.716E-07	4.229E-07	2.702E-07	1.897E-07	1.418E-07	1.109E-07	8.976E-08
ESE	2.623E-05	8.477E-06	4.529E-06	2.280E-06	9.262E-07	5.045E-07	3.208E-07	2.243E-07	1.672E-07	1.304E-07	1.053E-07
SE	3.125E-05	1.047E-05	5.596E-06	2.801E-06	1.122E-06	6.053E-07	3.822E-07	2.658E-07	1.972E-07	1.532E-07	1.233E-07
SSE	4.479E-05	1.488E-05	7.886E-06	3.935E-06	1.582E-06	8.566E-07	5.422E-07	3.777E-07	2.806E-07	2.183E-07	1.758E-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	1.796E-07	9.055E-08	5.766E-08	3.201E-08	2.101E-08	1.511E-08	1.150E-08	9.109E-09	7.427E-09	6.191E-09	5.252E-09
SSW	1.042E-07	5.245E-08	3.334E-08	1.843E-08	1.205E-08	8.632E-09	6.548E-09	5.168E-09	4.199E-09	3.489E-09	2.950E-09
SW	5.698E-08	2.825E-08	1.775E-08	9.638E-09	6.210E-09	4.393E-09	3.297E-09	2.578E-09	2.077E-09	1.712E-09	1.437E-09
WSW	5.416E-08	2.687E-08	1.690E-08	9.210E-09	5.959E-09	4.234E-09	3.191E-09	2.504E-09	2.025E-09	1.676E-09	1.411E-09
W	6.992E-08	3.488E-08	2.202E-08	1.205E-08	7.813E-09	5.558E-09	4.192E-09	3.293E-09	2.664E-09	2.204E-09	1.857E-09
WNW	9.760E-08	4.863E-08	3.070E-08	1.683E-08	1.097E-08	7.834E-09	5.931E-09	4.674E-09	3.793E-09	3.148E-09	2.660E-09
NW	9.570E-08	4.814E-08	3.059E-08	1.691E-08	1.106E-08	7.929E-09	6.019E-09	4.755E-09	3.868E-09	3.218E-09	2.724E-09
NNW	2.626E-07	1.369E-07	8.904E-08	5.067E-08	3.371E-08	2.442E-08	1.868E-08	1.483E-08	1.211E-08	1.009E-08	8.556E-09
N	2.080E-07	1.087E-07	7.080E-08	4.041E-08	2.695E-08	1.957E-08	1.500E-08	1.194E-08	9.766E-09	8.159E-09	6.932E-09
NNE	1.850E-07	9.677E-08	6.308E-08	3.601E-08	2.401E-08	1.742E-08	1.334E-08	1.060E-08	8.656E-09	7.219E-09	6.122E-09
NE	1.065E-07	5.542E-08	3.602E-08	2.051E-08	1.366E-08	9.911E-09	7.593E-09	6.040E-09	4.938E-09	4.124E-09	3.502E-09
ENE	7.666E-08	3.982E-08	2.584E-08	1.466E-08	9.732E-09	7.041E-09	5.378E-09	4.266E-09	3.479E-09	2.898E-09	2.455E-09
E	7.454E-08	3.861E-08	2.502E-08	1.420E-08	9.443E-09	6.849E-09	5.248E-09	4.177E-09	3.418E-09	2.858E-09	2.430E-09
ESE	8.724E-08	4.481E-08	2.887E-08	1.624E-08	1.073E-08	7.746E-09	5.908E-09	4.683E-09	3.818E-09	3.181E-09	2.696E-09
SE	1.019E-07	5.180E-08	3.317E-08	1.852E-08	1.219E-08	8.780E-09	6.690E-09	5.300E-09	4.321E-09	3.601E-09	3.054E-09
SSE	1.454E-07	7.412E-08	4.750E-08	2.652E-08	1.743E-08	1.252E-08	9.509E-09	7.508E-09	6.100E-09	5.065E-09	4.279E-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	1.000E-05	2.306E-06	7.087E-07	3.557E-07	2.196E-07	9.572E-08	3.282E-08	1.524E-08	9.151E-09	6.209E-09	
SSW	5.785E-06	1.340E-06	4.118E-07	2.066E-07	1.275E-07	5.546E-08	1.891E-08	8.711E-09	5.193E-09	3.500E-09	
SW	3.270E-06	7.620E-07	2.305E-07	1.144E-07	6.996E-08	2.997E-08	9.917E-09	4.439E-09	2.592E-09	1.718E-09	
WSW	3.186E-06	7.297E-07	2.197E-07	1.088E-07	6.652E-08	2.850E-08	9.474E-09	4.277E-09	2.518E-09	1.681E-09	
W	3.981E-06	9.230E-07	2.805E-07	1.397E-07	8.574E-08	3.695E-08	1.238E-08	5.613E-09	3.310E-09	2.212E-09	
WNW	5.701E-06	1.304E-06	3.936E-07	1.955E-07	1.197E-07	5.154E-08	1.731E-08	7.908E-09	4.698E-09	3.158E-09	
NW	5.276E-06	1.236E-06	3.790E-07	1.899E-07	1.171E-07	5.091E-08	1.735E-08	8.001E-09	4.779E-09	3.228E-09	
NNW	1.232E-05	2.944E-06	9.661E-07	5.024E-07	3.177E-07	1.436E-07	5.166E-08	2.460E-08	1.489E-08	1.012E-08	
N	9.663E-06	2.316E-06	7.625E-07	3.972E-07	2.515E-07	1.139E-07	4.118E-08	1.971E-08	1.199E-08	8.181E-09	
NNE	8.741E-06	2.058E-06	6.775E-07	3.532E-07	2.237E-07	1.014E-07	3.669E-08	1.754E-08	1.064E-08	7.239E-09	
NE	5.147E-06	1.211E-06	3.944E-07	2.044E-07	1.290E-07	5.815E-08	2.091E-08	9.983E-09	6.064E-09	4.135E-09	
ENE	3.682E-06	8.733E-07	2.843E-07	1.473E-07	9.287E-08	4.179E-08	1.495E-08	7.094E-09	4.284E-09	2.906E-09	
E	3.636E-06	8.636E-07	2.787E-07	1.437E-07	9.040E-08	4.055E-08	1.449E-08	6.900E-09	4.194E-09	2.865E-09	
ESE	4.407E-06	1.040E-06	3.312E-07	1.695E-07	1.060E-07	4.715E-08	1.660E-08	7.808E-09	4.704E-09	3.190E-09	
SE	5.438E-06	1.265E-06	3.951E-07	2.000E-07	1.242E-07	5.464E-08	1.896E-08	8.855E-09	5.324E-09	3.612E-09	
SSE	7.684E-06	1.783E-06	5.602E-07	2.846E-07	1.771E-07	7.813E-08	2.714E-08	1.262E-08	7.543E-09	5.081E-09	

B242

VENTS GROUND LEVEL RELEASES - JAN-MAR 2021
 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	1.500	2.000	2.500	3.000	3.500	4.000	4.500		
S	5.296E-05	1.762E-05	9.213E-06	4.516E-06	1.739E-06	9.094E-07	5.597E-07	3.807E-07	2.770E-07	2.115E-07	1.675E-07	1.739E-06	9.094E-07	5.597E-07	3.807E-07	2.770E-07	2.115E-07	1.675E-07		
SSW	3.080E-05	1.016E-05	5.335E-06	2.625E-06	1.011E-06	5.293E-07	3.258E-07	2.216E-07	1.613E-07	1.232E-07	9.751E-08	1.011E-06	5.293E-07	3.258E-07	2.216E-07	1.613E-07	1.232E-07	9.751E-08		
SW	1.695E-05	5.682E-06	3.033E-06	1.503E-06	5.737E-07	2.980E-07	1.823E-07	1.234E-07	8.937E-08	6.797E-08	5.362E-08	5.737E-07	2.980E-07	1.823E-07	1.234E-07	8.937E-08	6.797E-08	5.362E-08		
WSW	1.628E-05	5.591E-06	2.943E-06	1.442E-06	5.479E-07	2.838E-07	1.733E-07	1.171E-07	8.476E-08	6.441E-08	5.077E-08	5.479E-07	2.838E-07	1.733E-07	1.171E-07	8.476E-08	6.441E-08	5.077E-08		
W	2.058E-05	6.950E-06	3.685E-06	1.817E-06	6.951E-07	3.618E-07	2.218E-07	1.503E-07	1.091E-07	8.305E-08	6.560E-08	6.951E-07	3.618E-07	2.218E-07	1.503E-07	1.091E-07	8.305E-08	6.560E-08		
WNW	3.003E-05	1.004E-05	5.259E-06	2.574E-06	9.795E-07	5.082E-07	3.108E-07	2.103E-07	1.524E-07	1.159E-07	9.150E-08	9.795E-07	5.082E-07	3.108E-07	2.103E-07	1.524E-07	1.159E-07	9.150E-08		
NW	2.765E-05	9.165E-06	4.892E-06	2.424E-06	9.325E-07	4.874E-07	2.998E-07	2.038E-07	1.482E-07	1.132E-07	8.956E-08	9.325E-07	4.874E-07	2.998E-07	2.038E-07	1.482E-07	1.132E-07	8.956E-08		
NNW	7.319E-05	2.179E-05	1.128E-05	5.608E-06	2.265E-06	1.224E-06	7.717E-07	5.352E-07	3.958E-07	3.064E-07	2.455E-07	2.265E-06	1.224E-06	7.717E-07	5.352E-07	3.958E-07	3.064E-07	2.455E-07		
N	5.793E-05	1.709E-05	8.847E-06	4.405E-06	1.783E-06	9.647E-07	6.090E-07	4.227E-07	3.128E-07	2.423E-07	1.942E-07	1.783E-06	9.647E-07	6.090E-07	4.227E-07	3.128E-07	2.423E-07	1.942E-07		
NNE	5.210E-05	1.566E-05	7.966E-06	3.915E-06	1.584E-06	8.571E-07	5.412E-07	3.758E-07	2.781E-07	2.155E-07	1.728E-07	1.584E-06	8.571E-07	5.412E-07	3.758E-07	2.781E-07	2.155E-07	1.728E-07		
NE	3.017E-05	9.178E-06	4.701E-06	2.314E-06	9.286E-07	4.998E-07	3.143E-07	2.175E-07	1.606E-07	1.241E-07	9.935E-08	4.998E-07	3.143E-07	2.175E-07	1.606E-07	1.241E-07	9.935E-08	9.935E-08		
ENE	2.144E-05	6.525E-06	3.375E-06	1.670E-06	6.702E-07	3.608E-07	2.269E-07	1.570E-07	1.159E-07	8.961E-08	7.172E-08	6.702E-07	3.608E-07	2.269E-07	1.570E-07	1.159E-07	8.961E-08	7.172E-08		
E	2.067E-05	6.404E-06	3.343E-06	1.657E-06	6.607E-07	3.540E-07	2.219E-07	1.531E-07	1.128E-07	8.704E-08	6.955E-08	3.540E-07	2.219E-07	1.531E-07	1.128E-07	8.704E-08	6.955E-08	6.955E-08		
ESE	2.486E-05	7.761E-06	4.051E-06	2.006E-06	7.927E-07	4.221E-07	2.633E-07	1.811E-07	1.329E-07	1.023E-07	8.155E-08	7.927E-07	4.221E-07	2.633E-07	1.811E-07	1.329E-07	1.023E-07	8.155E-08		
SE	2.961E-05	9.583E-06	5.002E-06	2.462E-06	9.587E-07	5.054E-07	3.129E-07	2.139E-07	1.562E-07	1.197E-07	9.507E-08	9.587E-07	5.054E-07	3.129E-07	2.139E-07	1.562E-07	1.197E-07	9.507E-08		
SSE	4.245E-05	1.362E-05	7.054E-06	3.461E-06	1.354E-06	7.166E-07	4.449E-07	3.048E-07	2.231E-07	1.712E-07	1.362E-07	1.354E-06	7.166E-07	4.449E-07	3.048E-07	2.231E-07	1.712E-07	1.362E-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	20.000	25.000	30.000	35.000	40.000	45.000	50.000		
S	1.364E-07	6.570E-08	4.027E-08	2.110E-08	1.326E-08	9.203E-09	6.800E-09	5.246E-09	4.178E-09	3.409E-09	2.835E-09	1.326E-08	9.203E-09	6.800E-09	5.246E-09	4.178E-09	3.409E-09	2.835E-09		
SSW	7.941E-08	3.824E-08	2.343E-08	1.226E-08	7.696E-09	5.334E-09	3.936E-09	3.033E-09	2.412E-09	1.966E-09	1.633E-09	7.696E-09	5.334E-09	3.936E-09	3.033E-09	2.412E-09	1.966E-09	1.633E-09		
SW	4.351E-08	2.067E-08	1.253E-08	6.453E-09	3.999E-09	2.743E-09	2.006E-09	1.534E-09	1.212E-09	9.812E-10	8.103E-10	3.999E-09	2.743E-09	2.006E-09	1.534E-09	1.212E-09	9.812E-10	8.103E-10		
WSW	4.118E-08	1.952E-08	1.182E-08	6.087E-09	3.774E-09	2.591E-09	1.898E-09	1.453E-09	1.149E-09	9.320E-10	7.709E-10	3.774E-09	2.591E-09	1.898E-09	1.453E-09	1.149E-09	9.320E-10	7.709E-10		
W	5.330E-08	2.543E-08	1.548E-08	8.018E-09	4.992E-09	3.437E-09	2.523E-09	1.935E-09	1.533E-09	1.244E-09	1.030E-09	4.992E-09	3.437E-09	2.523E-09	1.935E-09	1.533E-09	1.244E-09	1.030E-09		
WNW	7.430E-08	3.540E-08	2.153E-08	1.117E-08	6.976E-09	4.819E-09	3.546E-09	2.727E-09	2.165E-09	1.762E-09	1.461E-09	6.976E-09	4.819E-09	3.546E-09	2.727E-09	2.165E-09	1.762E-09	1.461E-09		
NW	7.291E-08	3.508E-08	2.147E-08	1.123E-08	7.043E-09	4.879E-09	3.598E-09	2.772E-09	2.204E-09	1.796E-09	1.491E-09	7.043E-09	4.879E-09	3.598E-09	2.772E-09	2.204E-09	1.796E-09	1.491E-09		
NNW	2.021E-07	1.012E-07	6.372E-08	3.458E-08	2.223E-08	1.568E-08	1.173E-08	9.142E-09	7.339E-09	6.027E-09	5.040E-09	2.223E-08	1.568E-08	1.173E-08	9.142E-09	7.339E-09	6.027E-09	5.040E-09		
N	1.599E-07	8.025E-08	5.057E-08	2.749E-08	1.770E-08	1.250E-08	9.358E-09	7.299E-09	5.864E-09	4.820E-09	4.034E-09	1.770E-08	1.250E-08	9.358E-09	7.299E-09	5.864E-09	4.820E-09	4.034E-09		
NNE	1.424E-07	7.152E-08	4.511E-08	2.456E-08	1.582E-08	1.118E-08	8.377E-09	6.536E-09	5.253E-09	4.318E-09	3.614E-09	1.582E-08	1.118E-08	8.377E-09	6.536E-09	5.253E-09	4.318E-09	3.614E-09		
NE	8.168E-08	4.078E-08	2.561E-08	1.387E-08	8.907E-09	6.280E-09	4.698E-09	3.661E-09	2.940E-09	2.415E-09	2.020E-09	8.907E-09	6.280E-09	4.698E-09	3.661E-09	2.940E-09	2.415E-09	2.020E-09		
ENE	5.896E-08	2.942E-08	1.847E-08	9.988E-09	6.407E-09	4.512E-09	3.371E-09	2.624E-09	2.105E-09	1.727E-09	1.444E-09	6.407E-09	4.512E-09	3.371E-09	2.624E-09	2.105E-09	1.727E-09	1.444E-09		
E	5.710E-08	2.835E-08	1.774E-08	9.554E-09	6.114E-09	4.299E-09	3.210E-09	2.498E-09	2.003E-09	1.644E-09	1.375E-09	6.114E-09	4.299E-09	3.210E-09	2.498E-09	2.003E-09	1.644E-09	1.375E-09		
ESE	6.680E-08	3.290E-08	2.047E-08	1.094E-08	6.966E-09	4.879E-09	3.630E-09	2.816E-09	2.253E-09	1.845E-09	1.539E-09	4.879E-09	3.630E-09	2.816E-09	2.253E-09	1.845E-09	1.539E-09	1.539E-09		
SE	7.763E-08	3.777E-08	2.331E-08	1.233E-08	7.789E-09	5.427E-09	4.022E-09	3.110E-09	2.482E-09	2.028E-09	1.689E-09	7.789E-09	5.427E-09	4.022E-09	3.110E-09	2.482E-09	2.028E-09	1.689E-09		
SSE	1.113E-07	5.442E-08	3.370E-08	1.789E-08	1.133E-08	7.909E-09	5.867E-09	4.541E-09	3.624E-09	2.962E-09	2.467E-09	1.133E-08	7.909E-09	5.867E-09	4.541E-09	3.624E-09	2.962E-09	2.467E-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	8.994E-06	1.987E-06	5.814E-07	2.817E-07	1.690E-07	7.011E-08	2.188E-08	9.324E-09	5.283E-09	3.425E-09
SSW	5.203E-06	1.156E-06	3.384E-07	1.640E-07	9.840E-08	4.080E-08	1.271E-08	5.405E-09	3.055E-09	1.975E-09
SW	2.942E-06	6.577E-07	1.896E-07	9.093E-08	5.413E-08	2.213E-08	6.713E-09	2.783E-09	1.546E-09	9.862E-10
WSW	2.865E-06	6.292E-07	1.803E-07	8.626E-08	5.126E-08	2.091E-08	6.334E-09	2.629E-09	1.464E-09	9.367E-10
W	3.580E-06	7.962E-07	2.305E-07	1.109E-07	6.621E-08	2.720E-08	8.330E-09	3.486E-09	1.950E-09	1.251E-09
WNW	5.128E-06	1.124E-06	3.233E-07	1.551E-07	9.237E-08	3.788E-08	1.161E-08	4.885E-09	2.747E-09	1.770E-09
NW	4.745E-06	1.066E-06	3.114E-07	1.508E-07	9.038E-08	3.744E-08	1.164E-08	4.944E-09	2.792E-09	1.804E-09
NNW	1.110E-05	2.545E-06	7.977E-07	4.016E-07	2.475E-07	1.070E-07	3.557E-08	1.585E-08	9.195E-09	6.050E-09
N	8.704E-06	2.002E-06	6.293E-07	3.173E-07	1.958E-07	8.476E-08	2.827E-08	1.263E-08	7.341E-09	4.838E-09
NNE	7.876E-06	1.779E-06	5.593E-07	2.822E-07	1.742E-07	7.552E-08	2.524E-08	1.130E-08	6.573E-09	4.334E-09
NE	4.635E-06	1.046E-06	3.250E-07	1.630E-07	1.001E-07	4.313E-08	1.427E-08	6.348E-09	3.682E-09	2.424E-09
ENE	3.317E-06	7.548E-07	2.346E-07	1.176E-07	7.229E-08	3.112E-08	1.028E-08	4.561E-09	2.640E-09	1.734E-09
E	3.274E-06	7.458E-07	2.296E-07	1.145E-07	7.012E-08	3.002E-08	9.843E-09	4.347E-09	2.513E-09	1.651E-09
ESE	3.967E-06	8.977E-07	2.728E-07	1.350E-07	8.224E-08	3.491E-08	1.129E-08	4.936E-09	2.834E-09	1.853E-09
SE	4.891E-06	1.091E-06	3.246E-07	1.588E-07	9.591E-08	4.020E-08	1.275E-08	5.495E-09	3.131E-09	2.037E-09
SSE	6.916E-06	1.539E-06	4.613E-07	2.266E-07	1.373E-07	5.785E-08	1.849E-08	8.006E-09	4.571E-09	2.975E-09

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VENTS GROUND LEVEL RELEASES - JAN-MAR 2021
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	3.641E-07	1.231E-07	6.322E-08	3.006E-08	1.080E-08	5.354E-09	3.153E-09	2.064E-09	1.453E-09	1.076E-09	8.295E-10
SSW	1.652E-07	5.588E-08	2.869E-08	1.364E-08	4.899E-09	2.430E-09	1.431E-09	9.368E-10	6.591E-10	4.885E-10	3.764E-10
SW	7.477E-08	2.528E-08	1.298E-08	6.172E-09	2.217E-09	1.099E-09	6.474E-10	4.239E-10	2.983E-10	2.210E-10	1.703E-10
WSW	7.982E-08	2.699E-08	1.386E-08	6.589E-09	2.367E-09	1.174E-09	6.911E-10	4.525E-10	3.184E-10	2.360E-10	1.819E-10
W	1.048E-07	3.544E-08	1.820E-08	8.652E-09	3.108E-09	1.541E-09	9.075E-10	5.942E-10	4.181E-10	3.099E-10	2.388E-10
WNW	1.436E-07	4.855E-08	2.493E-08	1.185E-08	4.257E-09	2.111E-09	1.243E-09	8.139E-10	5.727E-10	4.244E-10	3.271E-10
NW	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
NNW	1.945E-07	6.576E-08	3.376E-08	1.605E-08	5.766E-09	2.859E-09	1.684E-09	1.102E-09	7.757E-10	5.749E-10	4.430E-10
N	1.838E-07	6.216E-08	3.191E-08	1.517E-08	5.450E-09	2.703E-09	1.591E-09	1.042E-09	7.332E-10	5.434E-10	4.188E-10
NNE	1.423E-07	4.813E-08	2.471E-08	1.175E-08	4.220E-09	2.093E-09	1.232E-09	8.070E-10	5.678E-10	4.208E-10	3.243E-10
NE	9.478E-08	3.205E-08	1.646E-08	7.824E-09	2.810E-09	1.394E-09	8.206E-10	5.373E-10	3.781E-10	2.802E-10	2.159E-10
ENE	5.920E-08	2.002E-08	1.028E-08	4.887E-09	1.755E-09	8.705E-10	5.126E-10	3.356E-10	2.362E-10	1.750E-10	1.349E-10
E	5.574E-08	1.885E-08	9.678E-09	4.601E-09	1.653E-09	8.196E-10	4.826E-10	3.160E-10	2.224E-10	1.648E-10	1.270E-10
ESE	9.562E-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	2.178E-10
SE	1.964E-07	6.641E-08	3.410E-08	1.621E-08	5.823E-09	2.888E-09	1.700E-09	1.113E-09	7.834E-10	5.806E-10	4.474E-10
SSE	2.143E-07	7.248E-08	3.722E-08	1.769E-08	6.355E-09	3.152E-09	1.856E-09	1.215E-09	8.551E-10	6.337E-10	4.883E-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	6.590E-10	2.928E-10	1.773E-10	8.964E-11	5.425E-11	3.638E-11	2.606E-11	1.957E-11	1.522E-11	1.216E-11	9.922E-12
SSW	2.991E-10	1.329E-10	8.048E-11	4.068E-11	2.462E-11	1.651E-11	1.183E-11	8.882E-12	6.906E-12	5.516E-12	4.503E-12
SW	1.353E-10	6.012E-11	3.642E-11	1.841E-11	1.114E-11	7.469E-12	5.352E-12	4.019E-12	3.125E-12	2.496E-12	2.037E-12
WSW	1.445E-10	6.418E-11	3.888E-11	1.965E-11	1.189E-11	7.974E-12	5.714E-12	4.291E-12	3.336E-12	2.665E-12	2.175E-12
W	1.897E-10	8.427E-11	5.105E-11	2.580E-11	1.562E-11	1.047E-11	7.503E-12	5.634E-12	4.380E-12	3.499E-12	2.856E-12
WNW	2.599E-10	1.154E-10	6.993E-11	3.534E-11	2.139E-11	1.434E-11	1.028E-11	7.717E-12	6.000E-12	4.793E-12	3.912E-12
NW	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
NNW	3.520E-10	1.564E-10	9.471E-11	4.787E-11	2.897E-11	1.943E-11	1.392E-11	1.045E-11	8.127E-12	6.492E-12	5.299E-12
N	3.327E-10	1.478E-10	8.952E-11	4.525E-11	2.739E-11	1.836E-11	1.316E-11	9.880E-12	7.682E-12	6.136E-12	5.009E-12
NNE	2.576E-10	1.144E-10	6.933E-11	3.504E-11	2.121E-11	1.422E-11	1.019E-11	7.651E-12	5.949E-12	4.752E-12	3.879E-12
NE	1.715E-10	7.621E-11	4.616E-11	2.333E-11	1.412E-11	9.469E-12	6.785E-12	5.095E-12	3.961E-12	3.164E-12	2.583E-12
ENE	1.072E-10	4.760E-11	2.883E-11	1.457E-11	8.821E-12	5.914E-12	4.338E-12	3.182E-12	2.474E-12	1.976E-12	1.613E-12
E	1.009E-10	4.482E-11	2.715E-11	1.372E-11	8.305E-12	5.568E-12	4.290E-12	2.996E-12	2.330E-12	1.861E-12	1.519E-12
ESE	1.731E-10	7.688E-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
SE	3.554E-10	1.579E-10	9.564E-11	4.834E-11	2.926E-11	1.962E-11	1.406E-11	1.056E-11	8.207E-12	6.556E-12	5.351E-12
SSE	3.879E-10	1.723E-10	1.044E-10	5.277E-11	3.194E-11	2.141E-11	1.534E-11	1.152E-11	8.958E-12	7.156E-12	5.841E-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	6.179E-08	1.266E-08	3.304E-09	1.484E-09	8.396E-10	3.229E-10	9.340E-11	3.702E-11	1.977E-11	1.224E-11
SSW	2.804E-08	5.744E-09	1.499E-09	6.735E-10	3.810E-10	1.465E-10	4.238E-11	1.680E-11	8.971E-12	5.552E-12
SW	1.269E-08	2.599E-09	6.785E-10	3.047E-10	1.724E-10	6.630E-11	1.918E-11	7.601E-12	4.059E-12	2.512E-12
WSW	1.355E-08	2.775E-09	7.244E-10	3.253E-10	1.840E-10	7.078E-11	2.048E-11	8.115E-12	4.334E-12	2.682E-12
W	1.779E-08	3.644E-09	9.512E-10	4.272E-10	2.417E-10	9.294E-11	2.689E-11	1.066E-11	5.690E-12	3.522E-12
WNW	2.437E-08	4.991E-09	1.303E-09	5.852E-10	3.310E-10	1.273E-10	3.683E-11	1.460E-11	7.795E-12	4.825E-12
NW	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
NNW	3.300E-08	6.760E-09	1.765E-09	7.926E-10	4.484E-10	1.724E-10	4.988E-11	1.977E-11	1.056E-11	6.535E-12
N	3.119E-08	6.390E-09	1.668E-09	7.492E-10	4.238E-10	1.630E-10	4.715E-11	1.869E-11	9.979E-12	6.177E-12
NNE	2.416E-08	4.948E-09	1.292E-09	5.801E-10	3.282E-10	1.262E-10	3.651E-11	1.447E-11	7.728E-12	4.783E-12
NE	1.609E-08	3.295E-09	8.601E-10	3.863E-10	2.185E-10	8.404E-11	2.431E-11	9.636E-12	5.146E-12	3.185E-12
ENE	1.005E-08	2.058E-09	5.373E-10	2.413E-10	1.365E-10	5.249E-11	1.519E-11	6.019E-12	3.214E-12	1.989E-12
E	9.460E-09	1.938E-09	5.058E-10	2.272E-10	1.285E-10	4.942E-11	1.430E-11	5.667E-12	3.026E-12	1.873E-12
ESE	1.623E-08	3.324E-09	8.678E-10	3.897E-10	2.205E-10	8.479E-11	2.453E-11	9.721E-12	5.191E-12	3.213E-12
SE	3.333E-08	6.826E-09	1.782E-09	8.004E-10	4.528E-10	1.741E-10	5.037E-11	1.996E-11	1.066E-11	6.599E-12
SSE	3.638E-08	7.451E-09	1.945E-09	8.736E-10	4.942E-10	1.901E-10	5.498E-11	2.179E-11	1.164E-11	7.203E-12

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VENTS GROUND LEVEL RELEASES - JAN-MAR 2021
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION FROM SITE (MI)	DIST. (MI)	X/Q (SEC/M3)	X/Q (SEC/M3)	X/Q (SEC/M3)	D/Q (PER SQ. METER)
				NO	2.26 DAY	8.0 DAY	
				DECAY	DECAY	DECAY	
				UNDEPLETED	UNDEPLETED	DEPLETED	
A	Site Boundary	S	.80	8.9E-06	8.9E-06	7.9E-06	5.4E-08
A	Site Boundary	SSW	.82	4.8E-06	4.8E-06	4.2E-06	2.3E-08
A	Site Boundary	SW	.97	1.8E-06	1.8E-06	1.6E-06	6.6E-09
A	Site Boundary	WSW	.93	2.0E-06	2.0E-06	1.7E-06	8.1E-09
A	Site Boundary	W	.91	2.6E-06	2.6E-06	2.3E-06	1.1E-08
A	Site Boundary	WNW	.94	3.4E-06	3.4E-06	3.0E-06	1.4E-08
A	Site Boundary	NW	.81	4.6E-06	4.5E-06	4.0E-06	2.1E-08
A	Site Boundary	NNW	.69	1.4E-05	1.4E-05	1.3E-05	3.9E-08
A	Site Boundary	N	.67	1.2E-05	1.2E-05	1.0E-05	3.8E-08
A	Site Boundary	NNE	.60	1.3E-05	1.3E-05	1.2E-05	3.6E-08
A	Site Boundary	NE	.62	7.0E-06	7.0E-06	6.3E-06	2.2E-08
A	Site Boundary	ENE	.59	5.5E-06	5.5E-06	5.0E-06	1.5E-08
A	Site Boundary	E	.53	6.5E-06	6.5E-06	5.9E-06	1.7E-08
A	Site Boundary	ESE	.54	7.6E-06	7.5E-06	6.9E-06	2.9E-08
A	Site Boundary	SE	.65	7.0E-06	7.0E-06	6.3E-06	4.3E-08
A	Site Boundary	SSE	.81	6.6E-06	6.5E-06	5.8E-06	3.0E-08
A	Nearest Res	SW	1.30	9.4E-07	9.3E-07	8.0E-07	3.2E-09
A	Nearest Res	WSW	1.80	4.3E-07	4.3E-07	3.6E-07	1.5E-09
A	Nearest Res	WNW	2.40	4.2E-07	4.1E-07	3.4E-07	1.4E-09
A	Nearest Res	NW	.90	3.6E-06	3.5E-06	3.1E-06	1.6E-08
A	Nearest Res	NNW	1.90	1.6E-06	1.6E-06	1.4E-06	3.2E-09
A	Nearest Res	NE	1.60	9.6E-07	9.5E-07	8.1E-07	2.4E-09
A	Nearest Res	E	2.00	4.3E-07	4.2E-07	3.5E-07	8.2E-10
A	Nearest Cow	NNW	3.50	5.1E-07	5.0E-07	4.0E-07	7.8E-10
A	Nearest Garde	SW	2.20	3.0E-07	2.9E-07	2.4E-07	8.8E-10
A	Nearest Garde	WSW	1.80	4.3E-07	4.3E-07	3.6E-07	1.5E-09
A	Nearest Garde	NNW	2.80	7.7E-07	7.5E-07	6.1E-07	1.3E-09
A	Nearest Garde	ESE	2.30	3.9E-07	3.8E-07	3.1E-07	1.0E-09

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Atmospheric Diffusion Estimates

Ground Level Releases

April-June 2021

VENTS GROUND LEVEL RELEASES - APR-JUN 2021
 NO DECAY, UNDEPLETED
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

ANNUAL AVERAGE SECTOR	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	4.517E-05	1.448E-05	7.678E-06	3.854E-06	1.578E-06	8.652E-07	5.537E-07	3.896E-07	2.921E-07	2.291E-07	1.859E-07
SSW	1.880E-05	6.394E-06	3.468E-06	1.743E-06	6.933E-07	3.728E-07	2.350E-07	1.633E-07	1.212E-07	9.423E-08	7.587E-08
SW	1.484E-05	5.333E-06	2.911E-06	1.457E-06	5.683E-07	3.012E-07	1.877E-07	1.292E-07	9.504E-08	7.335E-08	5.868E-08
WSW	1.410E-05	4.707E-06	2.475E-06	1.227E-06	4.908E-07	2.651E-07	1.678E-07	1.169E-07	8.701E-08	6.781E-08	5.472E-08
W	8.858E-06	3.162E-06	1.714E-06	8.557E-07	3.323E-07	1.755E-07	1.091E-07	7.493E-08	5.503E-08	4.241E-08	3.387E-08
WNW	1.350E-05	4.790E-06	2.601E-06	1.301E-06	5.063E-07	2.679E-07	1.667E-07	1.146E-07	8.428E-08	6.500E-08	5.196E-08
NW	3.329E-05	1.146E-05	6.103E-06	3.024E-06	1.184E-06	6.296E-07	3.937E-07	2.718E-07	2.006E-07	1.553E-07	1.245E-07
NNW	4.666E-05	1.579E-05	8.404E-06	4.179E-06	1.655E-06	8.874E-07	5.584E-07	3.876E-07	2.873E-07	2.232E-07	1.796E-07
N	9.023E-05	2.860E-05	1.494E-05	7.451E-06	3.068E-06	1.690E-06	1.086E-06	7.661E-07	5.757E-07	4.526E-07	3.679E-07
NNE	4.740E-05	1.477E-05	7.693E-06	3.842E-06	1.591E-06	8.797E-07	5.665E-07	4.005E-07	3.015E-07	2.374E-07	1.932E-07
NE	3.037E-05	9.570E-06	4.968E-06	2.474E-06	1.029E-06	5.703E-07	3.680E-07	2.606E-07	1.964E-07	1.547E-07	1.261E-07
ENE	2.415E-05	7.269E-06	3.651E-06	1.801E-06	7.634E-07	4.286E-07	2.791E-07	1.991E-07	1.509E-07	1.195E-07	9.781E-08
E	2.711E-05	8.291E-06	4.327E-06	2.175E-06	9.119E-07	5.081E-07	3.289E-07	2.335E-07	1.763E-07	1.392E-07	1.135E-07
ESE	4.503E-05	1.364E-05	6.935E-06	3.441E-06	1.456E-06	8.165E-07	5.312E-07	3.786E-07	2.869E-07	2.271E-07	1.857E-07
SE	5.272E-05	1.643E-05	8.580E-06	4.297E-06	1.779E-06	9.836E-07	6.332E-07	4.475E-07	3.367E-07	2.650E-07	2.156E-07
SSE	6.174E-05	1.927E-05	1.008E-05	5.046E-06	2.089E-06	1.155E-06	7.432E-07	5.253E-07	3.953E-07	3.110E-07	2.531E-07

ANNUAL AVERAGE SECTOR	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	1.549E-07	8.160E-08	5.382E-08	3.164E-08	2.180E-08	1.636E-08	1.296E-08	1.065E-08	8.987E-09	7.743E-09	6.779E-09
SSW	6.278E-08	3.223E-08	2.088E-08	1.197E-08	8.102E-09	5.999E-09	4.699E-09	3.826E-09	3.203E-09	2.740E-09	2.384E-09
SW	4.825E-08	2.416E-08	1.537E-08	8.575E-09	5.690E-09	4.146E-09	3.205E-09	2.580E-09	2.139E-09	1.814E-09	1.566E-09
WSW	4.537E-08	2.350E-08	1.532E-08	8.863E-09	6.041E-09	4.498E-09	3.540E-09	2.894E-09	2.432E-09	2.088E-09	1.839E-09
W	2.783E-08	1.389E-08	8.810E-09	4.898E-09	3.240E-09	2.356E-09	1.818E-09	1.461E-09	1.210E-09	1.025E-09	8.839E-10
WNW	4.271E-08	2.136E-08	1.357E-08	7.566E-09	5.021E-09	3.659E-09	2.829E-09	2.278E-09	1.889E-09	1.602E-09	1.383E-09
NW	1.027E-07	5.206E-08	3.344E-08	1.897E-08	1.278E-08	9.427E-09	7.363E-09	5.981E-09	4.999E-09	4.270E-09	3.710E-09
NNW	1.486E-07	7.622E-08	4.935E-08	2.831E-08	1.919E-08	1.422E-08	1.115E-08	9.090E-09	7.619E-09	6.525E-09	5.682E-09
N	3.071E-07	1.629E-07	1.079E-07	6.389E-08	4.423E-08	3.332E-08	2.647E-08	2.180E-08	1.845E-08	1.592E-08	1.396E-08
NNE	1.614E-07	8.595E-08	5.711E-08	3.393E-08	2.355E-08	1.778E-08	1.414E-08	1.167E-08	9.882E-09	8.539E-09	7.495E-09
NE	1.054E-07	5.624E-08	3.742E-08	2.226E-08	1.546E-08	1.167E-08	9.286E-09	7.661E-09	6.489E-09	5.608E-09	4.923E-09
ENE	8.208E-08	4.443E-08	2.985E-08	1.800E-08	1.261E-08	9.592E-09	7.677E-09	6.365E-09	5.413E-09	4.695E-09	4.135E-09
E	9.503E-08	5.091E-08	3.396E-08	2.027E-08	1.410E-08	1.066E-08	8.490E-09	7.011E-09	5.942E-09	5.138E-09	4.513E-09
ESE	1.558E-07	8.419E-08	5.649E-08	3.399E-08	2.379E-08	1.806E-08	1.444E-08	1.196E-08	1.017E-08	8.811E-09	7.755E-09
SE	1.801E-07	9.571E-08	6.352E-08	3.766E-08	2.609E-08	1.967E-08	1.563E-08	1.288E-08	1.090E-08	9.417E-09	8.261E-09
SSE	2.114E-07	1.124E-07	7.458E-08	4.423E-08	3.065E-08	2.311E-08	1.837E-08	1.514E-08	1.281E-08	1.107E-08	9.708E-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	7.491E-06	1.767E-06	5.711E-07	2.959E-07	1.872E-07	8.554E-08	3.220E-08	1.645E-08	1.068E-08	7.755E-09
SSW	3.351E-06	7.841E-07	2.431E-07	1.230E-07	7.646E-08	3.398E-08	1.223E-08	6.040E-09	3.838E-09	2.746E-09
SW	2.803E-06	6.471E-07	1.945E-07	9.653E-08	5.916E-08	2.561E-08	8.802E-09	4.182E-09	2.591E-09	1.818E-09
WSW	2.416E-06	5.540E-07	1.734E-07	8.825E-08	5.514E-08	2.472E-08	9.043E-09	4.526E-09	2.902E-09	2.091E-09
W	1.654E-06	3.789E-07	1.131E-07	5.591E-08	3.416E-08	1.473E-08	5.030E-09	2.377E-09	1.468E-09	1.028E-09
WNW	2.510E-06	5.769E-07	1.729E-07	8.561E-08	5.240E-08	2.264E-08	7.769E-09	3.690E-09	2.287E-09	1.606E-09
NW	5.925E-06	1.346E-06	4.078E-07	2.037E-07	1.255E-07	5.503E-08	1.943E-08	9.495E-09	6.002E-09	4.278E-09
NNW	8.168E-06	1.875E-06	5.778E-07	2.915E-07	1.810E-07	8.036E-08	2.893E-08	1.432E-08	9.119E-09	6.537E-09
N	1.465E-05	3.430E-06	1.119E-06	5.832E-07	3.705E-07	1.705E-07	6.494E-08	3.349E-08	2.186E-08	1.594E-08
NNE	7.554E-06	1.775E-06	5.836E-07	3.054E-07	1.945E-07	8.990E-08	3.447E-08	1.786E-08	1.169E-08	8.550E-09
NE	4.882E-06	1.146E-06	3.790E-07	1.989E-07	1.269E-07	5.880E-08	2.260E-08	1.173E-08	7.679E-09	5.615E-09
ENE	3.633E-06	8.452E-07	2.870E-07	1.527E-07	9.843E-08	4.632E-08	1.824E-08	9.632E-09	6.377E-09	4.700E-09
E	4.251E-06	1.013E-06	3.385E-07	1.785E-07	1.143E-07	5.318E-08	2.057E-08	1.071E-08	7.026E-09	5.145E-09
ESE	6.873E-06	1.613E-06	5.463E-07	2.903E-07	1.869E-07	8.779E-08	3.446E-08	1.814E-08	1.199E-08	8.821E-09
SE	8.421E-06	1.985E-06	6.524E-07	3.410E-07	2.171E-07	1.001E-07	3.826E-08	1.977E-08	1.292E-08	9.430E-09
SSE	9.883E-06	2.331E-06	7.658E-07	4.003E-07	2.548E-07	1.176E-07	4.494E-08	2.322E-08	1.518E-08	1.108E-08

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VENTS GROUND LEVEL RELEASES - APR-JUN 2021
 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	4.509E-05	1.443E-05	7.639E-06	3.829E-06	1.561E-06	8.530E-07	5.439E-07	3.812E-07	2.847E-07	2.225E-07	1.798E-07
SSW	1.877E-05	6.375E-06	3.452E-06	1.733E-06	6.870E-07	3.682E-07	2.314E-07	1.603E-07	1.185E-07	9.187E-08	7.373E-08
SW	1.482E-05	5.320E-06	2.900E-06	1.450E-06	5.641E-07	2.982E-07	1.853E-07	1.272E-07	9.337E-08	7.188E-08	5.735E-08
WSW	1.407E-05	4.691E-06	2.462E-06	1.218E-06	4.858E-07	2.614E-07	1.648E-07	1.144E-07	8.481E-08	6.584E-08	5.292E-08
W	8.849E-06	3.155E-06	1.709E-06	8.521E-07	3.302E-07	1.741E-07	1.080E-07	7.398E-08	5.422E-08	4.169E-08	3.323E-08
WNW	1.348E-05	4.778E-06	2.591E-06	1.294E-06	5.024E-07	2.652E-07	1.646E-07	1.129E-07	8.277E-08	6.367E-08	5.077E-08
NW	3.325E-05	1.143E-05	6.080E-06	3.010E-06	1.175E-06	6.231E-07	3.885E-07	2.675E-07	1.969E-07	1.519E-07	1.215E-07
NNW	4.660E-05	1.575E-05	8.374E-06	4.159E-06	1.643E-06	8.785E-07	5.513E-07	3.816E-07	2.821E-07	2.185E-07	1.753E-07
N	9.005E-05	2.850E-05	1.486E-05	7.398E-06	3.035E-06	1.665E-06	1.065E-06	7.487E-07	5.603E-07	4.387E-07	3.552E-07
NNE	4.730E-05	1.471E-05	7.647E-06	3.811E-06	1.571E-06	8.651E-07	5.547E-07	3.904E-07	2.926E-07	2.293E-07	1.858E-07
NE	3.030E-05	9.529E-06	4.936E-06	2.453E-06	1.016E-06	5.604E-07	3.600E-07	2.537E-07	1.903E-07	1.493E-07	1.211E-07
ENE	2.409E-05	7.232E-06	3.624E-06	1.784E-06	7.521E-07	4.200E-07	2.721E-07	1.930E-07	1.456E-07	1.147E-07	9.334E-08
E	2.705E-05	8.254E-06	4.298E-06	2.156E-06	8.999E-07	4.990E-07	3.216E-07	2.272E-07	1.708E-07	1.342E-07	1.090E-07
ESE	4.492E-05	1.358E-05	6.888E-06	3.409E-06	1.436E-06	8.012E-07	5.188E-07	3.679E-07	2.774E-07	2.185E-07	1.778E-07
SE	5.261E-05	1.637E-05	8.533E-06	4.265E-06	1.759E-06	9.686E-07	6.210E-07	4.371E-07	3.275E-07	2.567E-07	2.080E-07
SSE	6.161E-05	1.920E-05	1.002E-05	5.008E-06	2.065E-06	1.137E-06	7.286E-07	5.127E-07	3.842E-07	3.011E-07	2.439E-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	1.492E-07	7.712E-08	4.990E-08	2.824E-08	1.875E-08	1.357E-08	1.038E-08	8.241E-09	6.729E-09	5.613E-09	4.762E-09
SSW	6.081E-08	3.071E-08	1.957E-08	1.086E-08	7.117E-09	5.107E-09	3.879E-09	3.064E-09	2.491E-09	2.070E-09	1.750E-09
SW	4.704E-08	2.326E-08	1.461E-08	7.947E-09	5.144E-09	3.658E-09	2.761E-09	2.170E-09	1.758E-09	1.457E-09	1.229E-09
WSW	4.371E-08	2.219E-08	1.418E-08	7.891E-09	5.174E-09	3.710E-09	2.814E-09	2.219E-09	1.800E-09	1.493E-09	1.260E-09
W	2.724E-08	1.345E-08	8.438E-09	4.591E-09	2.973E-09	2.117E-09	1.600E-09	1.259E-09	1.022E-09	8.482E-10	7.169E-10
WNW	4.162E-08	2.054E-08	1.288E-08	6.998E-09	4.526E-09	3.216E-09	2.425E-09	1.904E-09	1.541E-09	1.276E-09	1.076E-09
NW	9.992E-08	4.995E-08	3.162E-08	1.744E-08	1.142E-08	8.195E-09	6.231E-09	4.929E-09	4.014E-09	3.343E-09	2.833E-09
NNW	1.446E-07	7.313E-08	4.667E-08	2.601E-08	1.714E-08	1.236E-08	9.433E-09	7.488E-09	6.117E-09	5.108E-09	4.341E-09
N	2.952E-07	1.534E-07	9.965E-08	5.668E-08	3.774E-08	2.738E-08	2.097E-08	1.668E-08	1.363E-08	1.139E-08	9.669E-09
NNE	1.546E-07	8.047E-08	5.229E-08	2.974E-08	1.978E-08	1.433E-08	1.096E-08	8.693E-09	7.091E-09	5.907E-09	5.004E-09
NE	1.007E-07	5.254E-08	3.417E-08	1.944E-08	1.292E-08	9.351E-09	7.142E-09	5.663E-09	4.615E-09	3.841E-09	3.252E-09
ENE	7.792E-08	4.107E-08	2.688E-08	1.539E-08	1.027E-08	7.439E-09	5.682E-09	4.502E-09	3.665E-09	3.047E-09	2.575E-09
E	9.077E-08	4.751E-08	3.097E-08	1.766E-08	1.176E-08	8.516E-09	6.508E-09	5.161E-09	4.206E-09	3.501E-09	2.963E-09
ESE	1.484E-07	7.827E-08	5.126E-08	2.942E-08	1.966E-08	1.428E-08	1.093E-08	8.686E-09	7.090E-09	5.909E-09	5.008E-09
SE	1.730E-07	9.006E-08	5.854E-08	3.333E-08	2.219E-08	1.610E-08	1.233E-08	9.798E-09	8.005E-09	6.680E-09	5.669E-09
SSE	2.029E-07	1.056E-07	6.860E-08	3.902E-08	2.596E-08	1.882E-08	1.440E-08	1.143E-08	9.333E-09	7.782E-09	6.598E-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	7.455E-06	1.750E-06	5.613E-07	2.886E-07	1.811E-07	8.105E-08	2.884E-08	1.367E-08	8.275E-09	5.628E-09
SSW	3.338E-06	7.777E-07	2.394E-07	1.203E-07	7.432E-08	3.245E-08	1.113E-08	5.152E-09	3.078E-09	2.076E-09
SW	2.793E-06	6.427E-07	1.922E-07	9.486E-08	5.784E-08	2.470E-08	8.181E-09	3.696E-09	2.182E-09	1.462E-09
WSW	2.405E-06	5.489E-07	1.704E-07	8.604E-08	5.334E-08	2.341E-08	8.082E-09	3.742E-09	2.229E-09	1.498E-09
W	1.649E-06	3.768E-07	1.120E-07	5.509E-08	3.352E-08	1.429E-08	4.727E-09	2.138E-09	1.266E-09	8.510E-10
WNW	2.501E-06	5.729E-07	1.707E-07	8.410E-08	5.120E-08	2.182E-08	7.207E-09	3.249E-09	1.915E-09	1.280E-09
NW	5.904E-06	1.337E-06	4.027E-07	1.999E-07	1.225E-07	5.291E-08	1.791E-08	8.269E-09	4.952E-09	3.353E-09
NNW	8.140E-06	1.862E-06	5.707E-07	2.863E-07	1.767E-07	7.725E-08	2.666E-08	1.246E-08	7.521E-09	5.123E-09
N	1.457E-05	3.396E-06	1.099E-06	5.678E-07	3.577E-07	1.610E-07	5.781E-08	2.758E-08	1.674E-08	1.142E-08
NNE	7.512E-06	1.755E-06	5.717E-07	2.964E-07	1.871E-07	8.441E-08	3.033E-08	1.443E-08	8.729E-09	5.923E-09
NE	4.853E-06	1.133E-06	3.709E-07	1.928E-07	1.219E-07	5.509E-08	1.982E-08	9.419E-09	5.686E-09	3.852E-09
ENE	3.608E-06	8.337E-07	2.799E-07	1.474E-07	9.395E-08	4.295E-08	1.567E-08	7.490E-09	4.521E-09	3.056E-09
E	4.225E-06	1.001E-06	3.312E-07	1.730E-07	1.097E-07	4.977E-08	1.799E-08	8.577E-09	5.182E-09	3.510E-09
ESE	6.829E-06	1.592E-06	5.338E-07	2.808E-07	1.790E-07	8.186E-08	2.993E-08	1.438E-08	8.720E-09	5.925E-09
SE	8.377E-06	1.965E-06	6.401E-07	3.318E-07	2.095E-07	9.448E-08	3.398E-08	1.622E-08	9.837E-09	6.698E-09
SSE	9.831E-06	2.306E-06	7.510E-07	3.892E-07	2.456E-07	1.108E-07	3.979E-08	1.896E-08	1.148E-08	7.803E-09

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VENTS GROUND LEVEL RELEASES - APR-JUN 2021
 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	4.273E-05	1.321E-05	6.832E-06	3.367E-06	1.336E-06	7.135E-07	4.463E-07	3.075E-07	2.262E-07	1.744E-07	1.392E-07
SSW	1.778E-05	5.834E-06	3.086E-06	1.523E-06	5.873E-07	3.076E-07	1.895E-07	1.290E-07	9.397E-08	7.181E-08	5.690E-08
SW	1.404E-05	4.867E-06	2.591E-06	1.274E-06	4.816E-07	2.487E-07	1.515E-07	1.022E-07	7.379E-08	5.599E-08	4.408E-08
WSW	1.334E-05	4.295E-06	2.202E-06	1.072E-06	4.156E-07	2.187E-07	1.352E-07	9.232E-08	6.740E-08	5.162E-08	4.098E-08
W	8.381E-06	2.885E-06	1.526E-06	7.481E-07	2.817E-07	1.450E-07	8.811E-08	5.930E-08	4.276E-08	3.240E-08	2.547E-08
WNW	1.277E-05	4.371E-06	2.315E-06	1.137E-06	4.290E-07	2.212E-07	1.346E-07	9.066E-08	6.543E-08	4.960E-08	3.903E-08
NW	3.150E-05	1.046E-05	5.433E-06	2.644E-06	1.003E-06	5.198E-07	3.177E-07	2.149E-07	1.557E-07	1.184E-07	9.349E-08
NNW	4.414E-05	1.441E-05	7.481E-06	3.653E-06	1.402E-06	7.327E-07	4.507E-07	3.065E-07	2.230E-07	1.703E-07	1.349E-07
N	8.535E-05	2.609E-05	1.329E-05	6.509E-06	2.598E-06	1.394E-06	8.748E-07	6.045E-07	4.458E-07	3.443E-07	2.754E-07
NNE	4.483E-05	1.347E-05	6.844E-06	3.355E-06	1.346E-06	7.250E-07	4.561E-07	3.158E-07	2.333E-07	1.804E-07	1.445E-07
NE	2.872E-05	8.729E-06	4.419E-06	2.161E-06	8.705E-07	4.699E-07	2.962E-07	2.054E-07	1.519E-07	1.176E-07	9.422E-08
ENE	2.284E-05	6.629E-06	3.247E-06	1.572E-06	6.456E-07	3.529E-07	2.245E-07	1.567E-07	1.166E-07	9.068E-08	7.297E-08
E	2.564E-05	7.562E-06	3.848E-06	1.899E-06	7.716E-07	4.186E-07	2.647E-07	1.840E-07	1.363E-07	1.057E-07	8.484E-08
ESE	4.259E-05	1.244E-05	6.168E-06	3.004E-06	1.232E-06	6.725E-07	4.274E-07	2.983E-07	2.217E-07	1.724E-07	1.387E-07
SE	4.987E-05	1.499E-05	7.634E-06	3.753E-06	1.506E-06	8.109E-07	5.101E-07	3.531E-07	2.607E-07	2.016E-07	1.614E-07
SSE	5.840E-05	1.758E-05	8.964E-06	4.407E-06	1.768E-06	9.518E-07	5.986E-07	4.144E-07	3.059E-07	2.366E-07	1.894E-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	1.142E-07	5.660E-08	3.537E-08	1.903E-08	1.217E-08	8.555E-09	6.383E-09	4.964E-09	3.979E-09	3.264E-09	2.727E-09
SSW	4.637E-08	2.241E-08	1.377E-08	7.232E-09	4.554E-09	3.163E-09	2.339E-09	1.805E-09	1.438E-09	1.173E-09	9.752E-10
SW	3.571E-08	1.685E-08	1.017E-08	5.216E-09	3.227E-09	2.212E-09	1.618E-09	1.237E-09	9.783E-10	7.931E-10	6.559E-10
WSW	3.346E-08	1.629E-08	1.006E-08	5.326E-09	3.369E-09	2.348E-09	1.740E-09	1.346E-09	1.073E-09	8.767E-10	7.296E-10
W	2.062E-08	9.701E-09	5.846E-09	2.989E-09	1.846E-09	1.264E-09	9.235E-10	7.061E-10	5.581E-10	4.524E-10	3.741E-10
WNW	3.160E-08	1.489E-08	8.982E-09	4.600E-09	2.845E-09	1.950E-09	1.426E-09	1.091E-09	8.622E-10	6.989E-10	5.779E-10
NW	7.594E-08	3.627E-08	2.210E-08	1.151E-08	7.218E-09	5.002E-09	3.691E-09	2.845E-09	2.264E-09	1.847E-09	1.535E-09
NNW	1.099E-07	5.309E-08	3.262E-08	1.717E-08	1.083E-08	7.542E-09	5.587E-09	4.320E-09	3.447E-09	2.818E-09	2.347E-09
N	2.263E-07	1.129E-07	7.085E-08	3.835E-08	2.463E-08	1.737E-08	1.299E-08	1.012E-08	8.127E-09	6.676E-09	5.584E-09
NNE	1.188E-07	5.945E-08	3.740E-08	2.029E-08	1.306E-08	9.215E-09	6.897E-09	5.376E-09	4.317E-09	3.546E-09	2.966E-09
NE	7.755E-08	3.887E-08	2.448E-08	1.330E-08	8.556E-09	6.038E-09	4.519E-09	3.522E-09	2.827E-09	2.322E-09	1.942E-09
ENE	6.028E-08	3.062E-08	1.945E-08	1.069E-08	6.927E-09	4.915E-09	3.692E-09	2.886E-09	2.322E-09	1.911E-09	1.600E-09
E	6.991E-08	3.518E-08	2.221E-08	1.210E-08	7.800E-09	5.512E-09	4.129E-09	3.220E-09	2.587E-09	2.126E-09	1.778E-09
ESE	1.145E-07	5.811E-08	3.690E-08	2.025E-08	1.312E-08	9.307E-09	6.993E-09	5.467E-09	4.400E-09	3.622E-09	3.034E-09
SE	1.327E-07	6.630E-08	4.167E-08	2.259E-08	1.452E-08	1.024E-08	7.665E-09	5.974E-09	4.797E-09	3.941E-09	3.297E-09
SSE	1.557E-07	7.780E-08	4.890E-08	2.650E-08	1.703E-08	1.201E-08	8.989E-09	7.005E-09	5.624E-09	4.619E-09	3.863E-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	6.710E-06	1.511E-06	4.621E-07	2.297E-07	1.404E-07	5.997E-08	1.961E-08	8.650E-09	4.994E-09	3.277E-09
SSW	3.002E-06	6.710E-07	1.968E-07	9.555E-08	5.742E-08	2.389E-08	7.494E-09	3.204E-09	1.818E-09	1.178E-09
SW	2.511E-06	5.541E-07	1.577E-07	7.511E-08	4.451E-08	1.807E-08	5.434E-09	2.245E-09	1.247E-09	7.971E-10
WSW	2.165E-06	4.739E-07	1.403E-07	6.851E-08	4.135E-08	1.734E-08	5.509E-09	2.377E-09	1.355E-09	8.805E-10
W	1.482E-06	3.246E-07	9.175E-08	4.354E-08	2.572E-08	1.041E-08	3.116E-09	1.283E-09	7.118E-10	4.547E-10
WNW	2.248E-06	4.940E-07	1.401E-07	6.661E-08	3.941E-08	1.598E-08	4.794E-09	1.979E-09	1.099E-09	7.024E-10
NW	5.310E-06	1.153E-06	3.305E-07	1.584E-07	9.439E-08	3.879E-08	1.196E-08	5.068E-09	2.866E-09	1.855E-09
NNW	7.320E-06	1.605E-06	4.682E-07	2.268E-07	1.361E-07	5.662E-08	1.779E-08	7.637E-09	4.350E-09	2.830E-09
N	1.312E-05	2.932E-06	9.051E-07	4.525E-07	2.776E-07	1.194E-07	3.947E-08	1.755E-08	1.018E-08	6.701E-09
NNE	6.767E-06	1.517E-06	4.717E-07	2.367E-07	1.456E-07	6.285E-08	2.088E-08	9.312E-09	5.407E-09	3.560E-09
NE	4.373E-06	9.791E-07	3.062E-07	1.541E-07	9.497E-08	4.107E-08	1.368E-08	6.102E-09	3.542E-09	2.331E-09
ENE	3.254E-06	7.214E-07	2.316E-07	1.182E-07	7.352E-08	3.225E-08	1.096E-08	4.962E-09	2.902E-09	1.918E-09
E	3.807E-06	8.653E-07	2.735E-07	1.383E-07	8.550E-08	3.714E-08	1.244E-08	5.569E-09	3.238E-09	2.133E-09
ESE	6.156E-06	1.377E-06	4.411E-07	2.248E-07	1.397E-07	6.122E-08	2.078E-08	9.399E-09	5.497E-09	3.635E-09
SE	7.544E-06	1.697E-06	5.275E-07	2.646E-07	1.627E-07	7.010E-08	2.324E-08	1.035E-08	6.009E-09	3.956E-09
SSE	8.853E-06	1.992E-06	6.191E-07	3.105E-07	1.909E-07	8.227E-08	2.727E-08	1.214E-08	7.046E-09	4.637E-09

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VENTS GROUND LEVEL RELEASES - APR-JUN 2021
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	1.988E-07	6.723E-08	3.452E-08	1.641E-08	5.895E-09	2.923E-09	1.721E-09	1.127E-09	7.931E-10	5.877E-10	4.529E-10
SSW	8.833E-08	2.987E-08	1.534E-08	7.291E-09	2.619E-09	1.299E-09	7.648E-10	5.008E-10	3.524E-10	2.611E-10	2.012E-10
SW	7.069E-08	2.391E-08	1.227E-08	5.835E-09	2.096E-09	1.039E-09	6.121E-10	4.008E-10	2.820E-10	2.090E-10	1.611E-10
WSW	5.574E-08	1.885E-08	9.677E-09	4.601E-09	1.653E-09	8.196E-10	4.826E-10	3.160E-10	2.223E-10	1.648E-10	1.270E-10
W	4.776E-08	1.615E-08	8.292E-09	3.942E-09	1.416E-09	7.022E-10	4.135E-10	2.707E-10	1.905E-10	1.412E-10	1.088E-10
WNW	6.305E-08	2.132E-08	1.095E-08	5.204E-09	1.869E-09	9.271E-10	5.459E-10	3.574E-10	2.515E-10	1.864E-10	1.436E-10
NW	1.881E-07	6.360E-08	3.266E-08	1.553E-08	5.577E-09	2.766E-09	1.628E-09	1.066E-09	7.503E-10	5.560E-10	4.285E-10
NNW	3.239E-07	1.095E-07	5.623E-08	2.673E-08	9.602E-09	4.762E-09	2.804E-09	1.836E-09	1.292E-09	9.574E-10	7.378E-10
N	4.130E-07	1.397E-07	7.171E-08	3.409E-08	1.225E-08	6.073E-09	3.576E-09	2.342E-09	1.648E-09	1.221E-09	9.410E-10
NNE	1.841E-07	6.226E-08	3.197E-08	1.520E-08	5.459E-09	2.707E-09	1.594E-09	1.044E-09	7.345E-10	5.443E-10	4.195E-10
NE	6.968E-08	2.356E-08	1.210E-08	5.752E-09	2.066E-09	1.025E-09	6.033E-10	3.950E-10	2.780E-10	2.060E-10	1.587E-10
ENE	4.355E-08	1.473E-08	7.562E-09	3.595E-09	1.291E-09	6.404E-10	3.771E-10	2.469E-10	1.737E-10	1.288E-10	9.922E-11
E	5.111E-08	1.728E-08	8.874E-09	4.219E-09	1.515E-09	7.515E-10	4.425E-10	2.898E-10	2.039E-10	1.511E-10	1.164E-10
ESE	9.872E-08	3.338E-08	1.714E-08	8.149E-09	2.927E-09	1.452E-09	8.547E-10	5.597E-10	3.938E-10	2.919E-10	2.249E-10
SE	1.830E-07	6.188E-08	3.177E-08	1.510E-08	5.425E-09	2.691E-09	1.584E-09	1.037E-09	7.299E-10	5.409E-10	4.169E-10
SSE	2.365E-07	7.998E-08	4.107E-08	1.952E-08	7.013E-09	3.478E-09	2.048E-09	1.341E-09	9.435E-10	6.992E-10	5.388E-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	3.598E-10	1.598E-10	9.683E-11	4.894E-11	2.962E-11	1.986E-11	1.423E-11	1.069E-11	8.309E-12	6.637E-12	5.417E-12
SSW	1.599E-10	7.102E-11	4.302E-11	2.174E-11	1.316E-11	8.824E-12	6.323E-12	4.748E-12	3.692E-12	2.949E-12	2.407E-12
SW	1.279E-10	5.684E-11	3.443E-11	1.740E-11	1.053E-11	7.062E-12	5.063E-12	3.800E-12	2.954E-12	2.360E-12	1.926E-12
WSW	1.009E-10	4.481E-11	2.715E-11	1.372E-11	8.305E-12	5.568E-12	3.990E-12	2.996E-12	2.329E-12	1.861E-12	1.519E-12
W	8.644E-11	3.840E-11	2.326E-11	1.176E-11	7.116E-12	4.771E-12	3.419E-12	2.567E-12	1.996E-12	1.594E-12	1.301E-12
WNW	1.141E-10	5.069E-11	3.071E-11	1.552E-11	9.394E-12	6.298E-12	4.513E-12	3.389E-12	2.635E-12	2.105E-12	1.718E-12
NW	3.404E-10	1.512E-10	9.160E-11	4.630E-11	2.802E-11	1.879E-11	1.346E-11	1.011E-11	7.860E-12	6.279E-12	5.125E-12
NNW	5.861E-10	2.604E-10	1.577E-10	7.972E-11	4.825E-11	3.235E-11	2.318E-11	1.741E-11	1.353E-11	1.081E-11	8.825E-12
N	7.476E-10	3.321E-10	2.012E-10	1.017E-10	6.154E-11	4.126E-11	2.957E-11	2.220E-11	1.726E-11	1.379E-11	1.125E-11
NNE	3.332E-10	1.480E-10	8.968E-11	4.533E-11	2.743E-11	1.839E-11	1.318E-11	9.897E-12	7.695E-12	6.147E-12	5.017E-12
NE	1.261E-10	5.602E-11	3.394E-11	1.715E-11	1.038E-11	6.918E-12	4.988E-12	3.745E-12	2.912E-12	2.326E-12	1.899E-12
ENE	7.883E-11	3.502E-11	2.121E-11	1.072E-11	6.489E-12	4.351E-12	3.118E-12	2.341E-12	1.820E-12	1.454E-12	1.187E-12
E	9.250E-11	4.109E-11	2.489E-11	1.258E-11	7.615E-12	5.106E-12	3.659E-12	2.747E-12	2.136E-12	1.706E-12	1.393E-12
ESE	1.787E-10	7.937E-11	4.808E-11	2.430E-11	1.471E-11	9.862E-12	7.067E-12	5.306E-12	4.126E-12	3.296E-12	2.690E-12
SE	3.312E-10	1.471E-10	8.912E-11	4.504E-11	2.726E-11	1.828E-11	1.310E-11	9.835E-12	7.647E-12	6.109E-12	4.986E-12
SSE	4.281E-10	1.902E-10	1.152E-10	5.822E-11	3.524E-11	2.363E-11	1.693E-11	1.271E-11	9.885E-12	7.896E-12	6.445E-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	3.374E-08	6.911E-09	1.804E-09	8.103E-10	4.584E-10	1.763E-10	5.100E-11	2.021E-11	1.079E-11	6.680E-12
SSW	1.499E-08	3.071E-09	8.016E-10	3.600E-10	2.037E-10	7.832E-11	2.266E-11	8.980E-12	4.796E-12	2.968E-12
SW	1.200E-08	2.457E-09	6.415E-10	2.881E-10	1.630E-10	6.268E-11	1.813E-11	7.187E-12	3.838E-12	2.376E-12
WSW	9.459E-09	1.938E-09	5.058E-10	2.272E-10	1.285E-10	4.942E-11	1.430E-11	5.667E-12	3.026E-12	1.873E-12
W	8.105E-09	1.660E-09	4.334E-10	1.946E-10	1.101E-10	4.234E-11	1.225E-11	4.855E-12	2.593E-12	1.605E-12
WNW	1.070E-08	2.192E-09	5.721E-10	2.570E-10	1.454E-10	5.590E-11	1.617E-11	6.410E-12	3.423E-12	2.119E-12
NW	3.192E-08	6.538E-09	1.707E-09	7.666E-10	4.337E-10	1.668E-10	4.825E-11	1.912E-11	1.021E-11	6.320E-12
NNW	5.496E-08	1.126E-08	2.939E-09	1.320E-09	7.467E-10	2.872E-10	8.307E-11	3.292E-11	1.758E-11	1.088E-11
N	7.010E-08	1.436E-08	3.748E-09	1.683E-09	9.523E-10	3.662E-10	1.059E-10	4.199E-11	2.242E-11	1.388E-11
NNE	3.125E-08	6.400E-09	1.671E-09	7.504E-10	4.245E-10	1.633E-10	4.723E-11	1.872E-11	9.996E-12	6.187E-12
NE	1.183E-08	2.422E-09	6.323E-10	2.840E-10	1.607E-10	6.178E-11	1.787E-11	7.084E-12	3.783E-12	2.341E-12
ENE	7.391E-09	1.514E-09	3.952E-10	1.775E-10	1.004E-10	3.862E-11	1.117E-11	4.428E-12	2.364E-12	1.464E-12
E	8.674E-09	1.777E-09	4.638E-10	2.083E-10	1.178E-10	4.532E-11	1.311E-11	5.196E-12	2.775E-12	1.717E-12
ESE	1.675E-08	3.432E-09	8.959E-10	4.024E-10	2.276E-10	8.753E-11	2.532E-11	1.004E-11	5.360E-12	3.317E-12
SE	3.105E-08	6.361E-09	1.660E-09	7.458E-10	4.219E-10	1.622E-10	4.694E-11	1.860E-11	9.934E-12	6.149E-12
SSE	4.014E-08	8.222E-09	2.146E-09	9.640E-10	5.453E-10	2.097E-10	6.067E-11	2.405E-11	1.284E-11	7.948E-12

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VENTS GROUND LEVEL RELEASES - APR-JUN 2021
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION FROM SITE (MI)	DIST.	X/Q (SEC/M3) NO DECAY	X/Q (SEC/M3) 2.26 DAY DECAY	X/Q (SEC/M3) 8.0 DAY DECAY	D/Q (PER SQ.METER)
A	Site Boundary	S	.80	6.6E-06	6.6E-06	5.9E-06	2.9E-08
A	Site Boundary	SSW	.82	2.8E-06	2.8E-06	2.5E-06	1.2E-08
A	Site Boundary	SW	.97	1.5E-06	1.5E-06	1.4E-06	6.2E-09
A	Site Boundary	WSW	.93	1.5E-06	1.5E-06	1.3E-06	5.6E-09
A	Site Boundary	W	.91	1.1E-06	1.1E-06	9.4E-07	5.0E-09
A	Site Boundary	WNW	.94	1.5E-06	1.5E-06	1.3E-06	6.1E-09
A	Site Boundary	NW	.81	5.0E-06	5.0E-06	4.5E-06	2.7E-08
A	Site Boundary	NNW	.69	9.6E-06	9.6E-06	8.6E-06	6.5E-08
A	Site Boundary	N	.67	1.8E-05	1.8E-05	1.6E-05	8.6E-08
A	Site Boundary	NNE	.60	1.1E-05	1.1E-05	9.9E-06	4.6E-08
A	Site Boundary	NE	.62	6.6E-06	6.6E-06	6.0E-06	1.6E-08
A	Site Boundary	ENE	.59	5.5E-06	5.5E-06	5.0E-06	1.1E-08
A	Site Boundary	E	.53	7.6E-06	7.6E-06	6.9E-06	1.6E-08
A	Site Boundary	ESE	.54	1.2E-05	1.2E-05	1.1E-05	3.0E-08
A	Site Boundary	SE	.65	1.1E-05	1.1E-05	9.6E-06	4.0E-08
A	Site Boundary	SSE	.81	8.3E-06	8.3E-06	7.4E-06	3.4E-08
A	Nearest Res	SW	1.30	7.9E-07	7.8E-07	6.8E-07	3.0E-09
A	Nearest Res	WSW	1.80	3.3E-07	3.3E-07	2.8E-07	1.1E-09
A	Nearest Res	WNW	2.40	1.8E-07	1.8E-07	1.5E-07	6.0E-10
A	Nearest Res	NW	.90	3.9E-06	3.9E-06	3.4E-06	2.0E-08
A	Nearest Res	NNW	1.90	9.9E-07	9.8E-07	8.2E-07	5.4E-09
A	Nearest Res	NE	1.60	9.0E-07	8.9E-07	7.6E-07	1.8E-09
A	Nearest Res	E	2.00	5.1E-07	5.0E-07	4.2E-07	7.5E-10
A	Nearest Cow	NNW	3.50	2.9E-07	2.8E-07	2.2E-07	1.3E-09
A	Nearest Garde	SW	2.20	2.5E-07	2.4E-07	2.0E-07	8.3E-10
A	Nearest Garde	WSW	1.80	3.3E-07	3.3E-07	2.8E-07	1.1E-09
A	Nearest Garde	NNW	2.80	4.4E-07	4.4E-07	3.5E-07	2.2E-09
A	Nearest Garde	ESE	2.30	6.2E-07	6.1E-07	5.1E-07	1.0E-09

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Atmospheric Diffusion Estimates

Ground Level Releases

January-June 2021

VENTS GROUND LEVEL RELEASES - JAN-JUN 2021
 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	5.121E-05	1.709E-05	9.123E-06	4.568E-06	1.838E-06	9.964E-07	6.320E-07	4.414E-07	3.289E-07	2.566E-07	2.073E-07	
SSW	2.589E-05	8.828E-06	4.760E-06	2.387E-06	9.497E-07	5.106E-07	3.218E-07	2.236E-07	1.659E-07	1.289E-07	1.038E-07	
SW	1.605E-05	5.683E-06	3.104E-06	1.560E-06	6.108E-07	3.245E-07	2.026E-07	1.397E-07	1.029E-07	7.949E-08	6.365E-08	
WSW	1.556E-05	5.394E-06	2.880E-06	1.433E-06	5.663E-07	3.030E-07	1.903E-07	1.319E-07	9.758E-08	7.569E-08	6.082E-08	
W	1.524E-05	5.371E-06	2.914E-06	1.460E-06	5.732E-07	3.053E-07	1.910E-07	1.318E-07	9.727E-08	7.525E-08	6.032E-08	
WNW	2.277E-05	7.939E-06	4.274E-06	2.132E-06	8.349E-07	4.440E-07	2.774E-07	1.914E-07	1.412E-07	1.092E-07	8.749E-08	
NW	3.082E-05	1.062E-05	5.730E-06	2.863E-06	1.127E-06	6.016E-07	3.772E-07	2.610E-07	1.929E-07	1.495E-07	1.201E-07	
NNW	6.183E-05	1.977E-05	1.047E-05	5.252E-06	2.148E-06	1.177E-06	7.534E-07	5.299E-07	3.971E-07	3.115E-07	2.527E-07	
N	7.476E-05	2.338E-05	1.229E-05	6.172E-06	2.556E-06	1.413E-06	9.094E-07	6.427E-07	4.837E-07	3.806E-07	3.097E-07	
NNE	5.213E-05	1.623E-05	8.451E-06	4.224E-06	1.758E-06	9.754E-07	6.296E-07	4.460E-07	3.362E-07	2.650E-07	2.159E-07	
NE	3.126E-05	9.852E-06	5.141E-06	2.569E-06	1.066E-06	5.902E-07	3.804E-07	2.691E-07	2.026E-07	1.596E-07	1.299E-07	
ENE	2.294E-05	7.076E-06	3.653E-06	1.822E-06	7.626E-07	4.246E-07	2.749E-07	1.951E-07	1.473E-07	1.163E-07	9.488E-08	
E	2.467E-05	7.712E-06	4.080E-06	2.058E-06	8.549E-07	4.734E-07	3.051E-07	2.158E-07	1.625E-07	1.279E-07	1.041E-07	
ESE	3.502E-05	1.089E-05	5.665E-06	2.832E-06	1.179E-06	6.544E-07	4.224E-07	2.992E-07	2.255E-07	1.777E-07	1.448E-07	
SE	4.234E-05	1.357E-05	7.172E-06	3.599E-06	1.472E-06	8.068E-07	5.161E-07	3.629E-07	2.719E-07	2.132E-07	1.729E-07	
SSE	5.398E-05	1.730E-05	9.124E-06	4.571E-06	1.872E-06	1.027E-06	6.572E-07	4.623E-07	3.466E-07	2.719E-07	2.206E-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	1.720E-07	8.919E-08	5.818E-08	3.369E-08	2.296E-08	1.710E-08	1.345E-08	1.099E-08	9.237E-09	7.927E-09	6.915E-09	
SSW	8.586E-08	4.401E-08	2.847E-08	1.630E-08	1.102E-08	8.149E-09	6.378E-09	5.189E-09	4.343E-09	3.714E-09	3.230E-09	
SW	5.238E-08	2.631E-08	1.677E-08	9.388E-09	6.241E-09	4.555E-09	3.526E-09	2.842E-09	2.358E-09	2.002E-09	1.729E-09	
WSW	5.023E-08	2.559E-08	1.649E-08	9.379E-09	6.312E-09	4.653E-09	3.632E-09	2.949E-09	2.463E-09	2.103E-09	1.729E-09	
W	4.970E-08	2.508E-08	1.604E-08	9.028E-09	6.025E-09	4.412E-09	3.424E-09	2.766E-09	2.300E-09	1.956E-09	1.693E-09	
WNW	7.208E-08	3.637E-08	2.327E-08	1.312E-08	8.783E-09	6.448E-09	5.016E-09	4.060E-09	3.383E-09	2.882E-09	2.497E-09	
NW	9.910E-08	5.040E-08	3.243E-08	1.843E-08	1.242E-08	9.157E-09	7.150E-09	5.806E-09	4.851E-09	4.142E-09	3.597E-09	
NNW	2.105E-07	1.109E-07	7.312E-08	4.298E-08	2.961E-08	2.222E-08	1.760E-08	1.446E-08	1.221E-08	1.052E-08	9.207E-09	
N	2.587E-07	1.376E-07	9.131E-08	5.414E-08	3.751E-08	2.828E-08	2.247E-08	1.852E-08	1.567E-08	1.353E-08	1.187E-08	
NNE	1.805E-07	9.639E-08	6.416E-08	3.820E-08	2.654E-08	2.005E-08	1.596E-08	1.317E-08	1.116E-08	9.643E-09	8.467E-09	
NE	1.085E-07	5.779E-08	3.839E-08	2.279E-08	1.580E-08	1.191E-08	9.469E-09	7.806E-09	6.608E-09	5.707E-09	5.007E-09	
ENE	7.942E-08	4.257E-08	2.841E-08	1.697E-08	1.182E-08	8.942E-09	7.129E-09	5.890E-09	4.996E-09	4.322E-09	3.798E-09	
E	8.698E-08	4.626E-08	3.071E-08	1.820E-08	1.260E-08	9.493E-09	7.540E-09	6.211E-09	5.253E-09	4.534E-09	3.976E-09	
ESE	1.211E-07	6.461E-08	4.299E-08	2.557E-08	1.776E-08	1.341E-08	1.067E-08	8.801E-09	7.455E-09	6.442E-09	5.656E-09	
SE	1.440E-07	7.571E-08	4.987E-08	2.926E-08	2.013E-08	1.509E-08	1.194E-08	9.805E-09	8.272E-09	7.124E-09	6.234E-09	
SSE	1.838E-07	9.677E-08	6.381E-08	3.750E-08	2.582E-08	1.938E-08	1.534E-08	1.261E-08	1.064E-08	9.166E-09	8.025E-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	8.868E-06	2.071E-06	6.529E-07	3.335E-07	2.088E-07	9.381E-08	3.436E-08	1.720E-08	1.103E-08	7.940E-09
SSW	4.610E-06	1.074E-06	3.329E-07	1.683E-07	1.046E-07	4.641E-08	1.666E-08	8.205E-09	5.206E-09	3.721E-09
SW	2.991E-06	6.945E-07	2.099E-07	1.045E-07	6.417E-08	2.787E-08	9.630E-09	4.593E-09	2.853E-09	2.007E-09
WSW	2.795E-06	6.419E-07	1.970E-07	9.903E-08	6.130E-08	2.702E-08	9.595E-09	4.687E-09	2.959E-09	2.107E-09
W	2.814E-06	6.511E-07	1.978E-07	9.876E-08	6.081E-08	2.654E-08	9.253E-09	4.447E-09	2.776E-09	1.961E-09
WNW	4.136E-06	9.493E-07	2.874E-07	1.433E-07	8.821E-08	3.848E-08	1.345E-08	6.498E-09	4.075E-09	2.888E-09
NW	5.543E-06	1.279E-06	3.906E-07	1.958E-07	1.210E-07	5.324E-08	1.887E-08	9.224E-09	5.826E-09	4.150E-09
NNW	1.022E-05	2.406E-06	7.770E-07	4.024E-07	2.545E-07	1.162E-07	4.373E-08	2.234E-08	1.450E-08	1.053E-08
N	1.204E-05	2.851E-06	9.369E-07	4.899E-07	3.118E-07	1.439E-07	5.501E-08	2.842E-08	1.856E-08	1.355E-08
NNE	8.301E-06	1.958E-06	6.484E-07	3.404E-07	2.173E-07	1.008E-07	3.879E-08	2.014E-08	1.320E-08	9.656E-09
NE	5.045E-06	1.189E-06	3.918E-07	2.052E-07	1.308E-07	6.044E-08	2.315E-08	1.197E-08	7.825E-09	5.715E-09
ENE	3.600E-06	8.477E-07	2.829E-07	1.492E-07	9.550E-08	4.446E-08	1.722E-08	8.984E-09	5.903E-09	4.327E-09
E	3.989E-06	9.527E-07	3.142E-07	1.645E-07	1.048E-07	4.840E-08	1.849E-08	9.541E-09	6.226E-09	4.540E-09
ESE	5.568E-06	1.313E-06	4.350E-07	2.284E-07	1.458E-07	6.755E-08	2.597E-08	1.347E-08	8.822E-09	6.451E-09
SE	7.006E-06	1.649E-06	5.323E-07	2.755E-07	1.741E-07	7.939E-08	2.978E-08	1.517E-08	9.831E-09	7.135E-09
SSE	8.918E-06	2.096E-06	6.778E-07	3.512E-07	2.221E-07	1.015E-07	3.816E-08	1.948E-08	1.264E-08	9.180E-09

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VENTS GROUND LEVEL RELEASES - JAN-JUN 2021
 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	5.113E-05	1.704E-05	9.083E-06	4.541E-06	1.822E-06	9.842E-07	6.222E-07	4.331E-07	3.216E-07	2.501E-07	2.014E-07
SSW	2.585E-05	8.802E-06	4.740E-06	2.374E-06	9.413E-07	5.044E-07	3.169E-07	2.195E-07	1.623E-07	1.257E-07	1.009E-07
SW	1.603E-05	5.668E-06	3.092E-06	1.552E-06	6.059E-07	3.210E-07	1.999E-07	1.374E-07	1.009E-07	7.775E-08	6.207E-08
WSW	1.554E-05	5.378E-06	2.867E-06	1.425E-06	5.613E-07	2.995E-07	1.875E-07	1.295E-07	9.549E-08	7.383E-08	5.913E-08
W	1.522E-05	5.358E-06	2.903E-06	1.452E-06	5.687E-07	3.020E-07	1.884E-07	1.297E-07	9.542E-08	7.361E-08	5.883E-08
WNW	2.274E-05	7.918E-06	4.257E-06	2.120E-06	8.281E-07	4.391E-07	2.736E-07	1.882E-07	1.384E-07	1.067E-07	8.526E-08
NW	3.078E-05	1.060E-05	5.708E-06	2.849E-06	1.118E-06	5.954E-07	3.722E-07	2.568E-07	1.893E-07	1.463E-07	1.172E-07
NNW	6.171E-05	1.970E-05	1.041E-05	5.215E-06	2.125E-06	1.160E-06	7.396E-07	5.181E-07	3.868E-07	3.022E-07	2.442E-07
N	7.461E-05	2.329E-05	1.222E-05	6.126E-06	2.526E-06	1.391E-06	8.917E-07	6.277E-07	4.704E-07	3.687E-07	2.988E-07
NNE	5.201E-05	1.616E-05	8.396E-06	4.188E-06	1.735E-06	9.583E-07	6.158E-07	4.342E-07	3.258E-07	2.556E-07	2.073E-07
NE	3.119E-05	9.811E-06	5.110E-06	2.549E-06	1.053E-06	5.805E-07	3.725E-07	2.624E-07	1.967E-07	1.542E-07	1.250E-07
ENE	2.288E-05	7.045E-06	3.629E-06	1.806E-06	7.525E-07	4.170E-07	2.687E-07	1.898E-07	1.427E-07	1.121E-07	9.101E-08
E	2.461E-05	7.679E-06	4.055E-06	2.041E-06	8.441E-07	4.654E-07	2.986E-07	2.103E-07	1.577E-07	1.236E-07	1.002E-07
ESE	3.494E-05	1.085E-05	5.630E-06	2.809E-06	1.165E-06	6.435E-07	4.136E-07	2.916E-07	2.189E-07	1.717E-07	1.393E-07
SE	4.227E-05	1.352E-05	7.136E-06	3.574E-06	1.457E-06	7.953E-07	5.067E-07	3.549E-07	2.649E-07	2.069E-07	1.671E-07
SSE	5.387E-05	1.724E-05	9.073E-06	4.537E-06	1.850E-06	1.011E-06	6.443E-07	4.514E-07	3.369E-07	2.632E-07	2.127E-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	1.665E-07	8.486E-08	5.442E-08	3.045E-08	2.008E-08	1.447E-08	1.103E-08	8.741E-09	7.127E-09	5.939E-09	5.035E-09
SSW	8.316E-08	4.192E-08	2.667E-08	1.476E-08	9.661E-09	6.922E-09	5.251E-09	4.144E-09	3.367E-09	2.796E-09	2.364E-09
SW	5.094E-08	2.522E-08	1.585E-08	8.622E-09	5.574E-09	3.957E-09	2.981E-09	2.340E-09	1.892E-09	1.565E-09	1.318E-09
WSW	4.867E-08	2.439E-08	1.545E-08	8.502E-09	5.536E-09	3.951E-09	2.988E-09	2.351E-09	1.905E-09	1.578E-09	1.331E-09
W	4.834E-08	2.405E-08	1.516E-08	8.287E-09	5.375E-09	3.827E-09	2.889E-09	2.272E-09	1.840E-09	1.525E-09	1.286E-09
WNW	7.002E-08	3.481E-08	2.193E-08	1.200E-08	7.799E-09	5.562E-09	4.205E-09	3.310E-09	2.683E-09	2.225E-09	1.878E-09
NW	9.642E-08	4.835E-08	3.067E-08	1.695E-08	1.110E-08	7.970E-09	6.061E-09	4.795E-09	3.906E-09	3.254E-09	2.758E-09
NNW	2.027E-07	1.047E-07	6.769E-08	3.829E-08	2.541E-08	1.839E-08	1.406E-08	1.117E-08	9.122E-09	7.611E-09	6.458E-09
N	2.485E-07	1.295E-07	8.424E-08	4.802E-08	3.202E-08	2.326E-08	1.783E-08	1.419E-08	1.161E-08	9.706E-09	8.249E-09
NNE	1.725E-07	9.004E-08	5.859E-08	3.336E-08	2.202E-08	1.608E-08	1.229E-08	9.754E-09	7.955E-09	6.626E-09	5.612E-09
NE	1.040E-07	5.418E-08	3.523E-08	2.004E-08	1.334E-08	9.662E-09	7.390E-09	5.868E-09	4.789E-09	3.992E-09	3.385E-09
ENE	7.582E-08	3.970E-08	2.588E-08	1.477E-08	9.843E-09	7.135E-09	5.456E-09	4.330E-09	3.532E-09	2.942E-09	2.491E-09
E	8.331E-08	4.336E-08	2.818E-08	1.602E-08	1.065E-08	7.713E-09	5.898E-09	4.683E-09	3.822E-09	3.186E-09	2.702E-09
ESE	1.160E-07	6.054E-08	3.941E-08	2.247E-08	1.497E-08	1.085E-08	8.307E-09	6.600E-09	5.390E-09	4.495E-09	3.812E-09
SE	1.386E-07	7.149E-08	4.618E-08	2.608E-08	1.728E-08	1.249E-08	9.542E-09	7.571E-09	6.178E-09	5.151E-09	4.368E-09
SSE	1.764E-07	9.095E-08	5.872E-08	3.311E-08	2.190E-08	1.580E-08	1.204E-08	9.532E-09	7.761E-09	6.456E-09	5.463E-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	8.832E-06	2.054E-06	6.431E-07	3.263E-07	2.029E-07	8.947E-08	3.117E-08	1.459E-08	8.780E-09	5.956E-09	
SSW	4.591E-06	1.065E-06	3.279E-07	1.647E-07	1.017E-07	4.431E-08	1.514E-08	6.984E-09	4.164E-09	2.805E-09	
SW	2.980E-06	6.894E-07	2.072E-07	1.025E-07	6.259E-08	2.677E-08	8.873E-09	3.998E-09	2.352E-09	1.571E-09	
WSW	2.784E-06	6.368E-07	1.941E-07	9.695E-08	5.961E-08	2.581E-08	8.729E-09	3.988E-09	2.363E-09	1.583E-09	
W	2.803E-06	6.465E-07	1.952E-07	9.691E-08	5.932E-08	2.549E-08	8.520E-09	3.865E-09	2.284E-09	1.530E-09	
WNW	4.121E-06	9.424E-07	2.836E-07	1.406E-07	8.597E-08	3.691E-08	1.234E-08	5.616E-09	3.327E-09	2.232E-09	
NW	5.523E-06	1.270E-06	3.856E-07	1.922E-07	1.181E-07	5.118E-08	1.740E-08	8.042E-09	4.818E-09	3.264E-09	
NNW	1.017E-05	2.383E-06	7.632E-07	3.921E-07	2.460E-07	1.100E-07	3.910E-08	1.853E-08	1.122E-08	7.632E-09	
N	1.197E-05	2.822E-06	9.192E-07	4.766E-07	3.009E-07	1.358E-07	4.896E-08	2.342E-08	1.425E-08	9.731E-09	
NNE	8.251E-06	1.935E-06	6.345E-07	3.300E-07	2.087E-07	9.440E-08	3.401E-08	1.620E-08	9.794E-09	6.644E-09	
NE	5.016E-06	1.175E-06	3.839E-07	1.993E-07	1.259E-07	5.683E-08	2.044E-08	9.733E-09	5.892E-09	4.003E-09	
ENE	3.578E-06	8.374E-07	2.767E-07	1.445E-07	9.163E-08	4.158E-08	1.505E-08	7.186E-09	4.348E-09	2.950E-09	
E	3.965E-06	9.418E-07	3.078E-07	1.597E-07	1.009E-07	4.549E-08	1.633E-08	7.770E-09	4.702E-09	3.195E-09	
ESE	5.536E-06	1.299E-06	4.261E-07	2.217E-07	1.403E-07	6.346E-08	2.290E-08	1.093E-08	6.627E-09	4.507E-09	
SE	6.972E-06	1.633E-06	5.230E-07	2.685E-07	1.684E-07	7.517E-08	2.664E-08	1.259E-08	7.604E-09	5.165E-09	
SSE	8.871E-06	2.074E-06	6.648E-07	3.415E-07	2.142E-07	9.561E-08	3.382E-08	1.592E-08	9.574E-09	6.475E-09	

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VENTS GROUND LEVEL RELEASES - JAN-JUN 2021
 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	4.845E-05	1.559E-05	8.120E-06	3.992E-06	1.557E-06	8.222E-07	5.097E-07	3.487E-07	2.550E-07	1.956E-07	1.554E-07
SSW	2.449E-05	8.055E-06	4.237E-06	2.086E-06	8.045E-07	4.213E-07	2.595E-07	1.767E-07	1.286E-07	9.827E-08	7.784E-08
SW	1.518E-05	5.186E-06	2.763E-06	1.363E-06	5.175E-07	2.679E-07	1.635E-07	1.104E-07	7.984E-08	6.064E-08	4.778E-08
WSW	1.472E-05	4.922E-06	2.563E-06	1.252E-06	4.797E-07	2.501E-07	1.535E-07	1.042E-07	7.567E-08	5.769E-08	4.561E-08
W	1.442E-05	4.901E-06	2.594E-06	1.276E-06	4.857E-07	2.520E-07	1.541E-07	1.042E-07	7.549E-08	5.740E-08	4.528E-08
WNW	2.154E-05	7.244E-06	3.804E-06	1.863E-06	7.074E-07	3.665E-07	2.238E-07	1.513E-07	1.095E-07	8.326E-08	6.566E-08
NW	2.916E-05	9.693E-06	5.100E-06	2.503E-06	9.550E-07	4.967E-07	3.044E-07	2.064E-07	1.497E-07	1.141E-07	9.015E-08
NNW	5.848E-05	1.804E-05	9.315E-06	4.588E-06	1.819E-06	9.709E-07	6.070E-07	4.182E-07	3.076E-07	2.370E-07	1.892E-07
N	7.071E-05	2.133E-05	1.094E-05	5.391E-06	2.163E-06	1.165E-06	7.325E-07	5.071E-07	3.744E-07	2.895E-07	2.318E-07
NNE	4.931E-05	1.480E-05	7.517E-06	3.689E-06	1.488E-06	8.036E-07	5.068E-07	3.515E-07	2.600E-07	2.013E-07	1.614E-07
NE	2.956E-05	8.986E-06	4.574E-06	2.244E-06	9.023E-07	4.864E-07	3.063E-07	2.122E-07	1.568E-07	1.213E-07	9.715E-08
ENE	2.169E-05	6.454E-06	3.249E-06	1.591E-06	6.452E-07	3.498E-07	2.212E-07	1.538E-07	1.139E-07	8.834E-08	7.089E-08
E	2.333E-05	7.034E-06	3.630E-06	1.797E-06	7.234E-07	3.901E-07	2.456E-07	1.701E-07	1.257E-07	9.723E-08	7.786E-08
ESE	3.312E-05	9.937E-06	5.039E-06	2.473E-06	9.982E-07	5.393E-07	3.401E-07	2.359E-07	1.745E-07	1.351E-07	1.083E-07
SE	4.005E-05	1.238E-05	6.382E-06	3.144E-06	1.246E-06	6.654E-07	4.159E-07	2.864E-07	2.106E-07	1.622E-07	1.295E-07
SSE	5.106E-05	1.578E-05	8.118E-06	3.992E-06	1.584E-06	8.464E-07	5.293E-07	3.647E-07	2.683E-07	2.068E-07	1.650E-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	1.270E-07	6.198E-08	3.833E-08	2.033E-08	1.288E-08	8.992E-09	6.674E-09	5.167E-09	4.127E-09	3.375E-09	2.812E-09
SSW	6.342E-08	3.059E-08	1.877E-08	9.843E-09	6.187E-09	4.292E-09	3.170E-09	2.444E-09	1.945E-09	1.586E-09	1.317E-09
SW	3.874E-08	1.833E-08	1.109E-08	5.694E-09	3.525E-09	2.417E-09	1.768E-09	1.353E-09	1.069E-09	8.665E-10	7.162E-10
WSW	3.710E-08	1.779E-08	1.087E-08	5.666E-09	3.545E-09	2.451E-09	1.805E-09	1.389E-09	1.103E-09	8.976E-10	7.447E-10
W	3.675E-08	1.747E-08	1.060E-08	5.475E-09	3.402E-09	2.339E-09	1.715E-09	1.315E-09	1.041E-09	8.451E-10	6.996E-10
WNW	5.328E-08	2.532E-08	1.537E-08	7.946E-09	4.952E-09	3.414E-09	2.508E-09	1.926E-09	1.527E-09	1.242E-09	1.029E-09
NW	7.330E-08	3.511E-08	2.144E-08	1.118E-08	7.014E-09	4.860E-09	3.586E-09	2.764E-09	2.199E-09	1.793E-09	1.490E-09
NNW	1.552E-07	7.687E-08	4.803E-08	2.583E-08	1.652E-08	1.161E-08	8.662E-09	6.736E-09	5.399E-09	4.429E-09	3.700E-09
N	1.906E-07	9.530E-08	5.992E-08	3.249E-08	2.089E-08	1.474E-08	1.104E-08	8.605E-09	6.912E-09	5.681E-09	4.754E-09
NNE	1.328E-07	6.663E-08	4.198E-08	2.282E-08	1.469E-08	1.038E-08	7.770E-09	6.058E-09	4.865E-09	3.997E-09	3.344E-09
NE	7.992E-08	3.999E-08	2.515E-08	1.364E-08	8.769E-09	6.186E-09	4.629E-09	3.607E-09	2.896E-09	2.379E-09	1.989E-09
ENE	5.842E-08	2.941E-08	1.858E-08	1.013E-08	6.535E-09	4.622E-09	3.464E-09	2.703E-09	2.173E-09	1.786E-09	1.495E-09
E	6.404E-08	3.201E-08	2.012E-08	1.090E-08	6.999E-09	4.933E-09	3.689E-09	2.873E-09	2.306E-09	1.893E-09	1.583E-09
ESE	8.914E-08	4.470E-08	2.816E-08	1.531E-08	9.853E-09	6.958E-09	5.210E-09	4.063E-09	3.264E-09	2.683E-09	2.245E-09
SE	1.062E-07	5.250E-08	3.276E-08	1.759E-08	1.123E-08	7.884E-09	5.877E-09	4.567E-09	3.658E-09	2.999E-09	2.504E-09
SSE	1.354E-07	6.701E-08	4.184E-08	2.248E-08	1.435E-08	1.008E-08	7.511E-09	5.835E-09	4.672E-09	3.829E-09	3.196E-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	7.945E-06	1.772E-06	5.286E-07	2.591E-07	1.568E-07	6.592E-08	2.102E-08	9.102E-09	5.201E-09	3.390E-09
SSW	4.130E-06	9.191E-07	2.695E-07	1.308E-07	7.855E-08	3.263E-08	1.020E-08	4.348E-09	2.461E-09	1.593E-09
SW	2.679E-06	5.945E-07	1.701E-07	8.126E-08	4.824E-08	1.964E-08	5.928E-09	2.453E-09	1.363E-09	8.709E-10
WSW	2.505E-06	5.493E-07	1.595E-07	7.697E-08	4.604E-08	1.901E-08	5.880E-09	2.485E-09	1.399E-09	9.018E-10
W	2.521E-06	5.574E-07	1.603E-07	7.681E-08	4.571E-08	1.870E-08	5.693E-09	2.373E-09	1.325E-09	8.493E-10
WNW	3.706E-06	8.127E-07	2.329E-07	1.115E-07	6.629E-08	2.711E-08	8.265E-09	3.462E-09	1.940E-09	1.248E-09
NW	4.966E-06	1.095E-06	3.165E-07	1.523E-07	9.100E-08	3.752E-08	1.161E-08	4.925E-09	2.784E-09	1.801E-09
NNW	9.153E-06	2.057E-06	6.285E-07	3.123E-07	1.908E-07	8.146E-08	2.662E-08	1.174E-08	6.777E-09	4.446E-09
N	1.078E-05	2.437E-06	7.575E-07	3.800E-07	2.337E-07	1.008E-07	3.343E-08	1.490E-08	8.655E-09	5.703E-09
NNE	7.434E-06	1.673E-06	5.238E-07	2.638E-07	1.626E-07	7.039E-08	2.347E-08	1.049E-08	6.093E-09	4.012E-09
NE	4.519E-06	1.016E-06	3.167E-07	1.591E-07	9.793E-08	4.227E-08	1.403E-08	6.252E-09	3.628E-09	2.388E-09
ENE	3.224E-06	7.240E-07	2.285E-07	1.156E-07	7.144E-08	3.752E-08	1.041E-08	4.669E-09	2.719E-09	1.793E-09
E	3.572E-06	8.139E-07	2.540E-07	1.276E-07	7.848E-08	3.384E-08	1.122E-08	4.986E-09	2.890E-09	1.900E-09
ESE	4.987E-06	1.122E-06	3.516E-07	1.770E-07	1.091E-07	4.722E-08	1.574E-08	7.031E-09	4.087E-09	2.693E-09
SE	6.276E-06	1.410E-06	4.306E-07	2.138E-07	1.305E-07	5.565E-08	1.813E-08	7.973E-09	4.595E-09	3.011E-09
SSE	7.988E-06	1.791E-06	5.480E-07	2.724E-07	1.664E-07	7.102E-08	2.317E-08	1.019E-08	5.871E-09	3.844E-09

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VENTS GROUND LEVEL RELEASES - JAN-JUN 2021
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	2.820E-07	9.538E-08	4.897E-08	2.328E-08	8.363E-09	4.147E-09	2.442E-09	1.599E-09	1.125E-09	8.338E-10	6.426E-10
SSW	1.270E-07	4.294E-08	2.205E-08	1.048E-08	3.765E-09	1.867E-09	1.100E-09	7.199E-10	5.066E-10	3.754E-10	2.893E-10
SW	7.264E-08	2.456E-08	1.261E-08	5.996E-09	2.154E-09	1.068E-09	6.289E-10	4.118E-10	2.898E-10	2.147E-10	1.655E-10
WSW	6.782E-08	2.293E-08	1.177E-08	5.598E-09	2.011E-09	9.972E-10	5.872E-10	3.845E-10	2.705E-10	2.005E-10	1.545E-10
W	7.638E-08	2.583E-08	1.326E-08	6.305E-09	2.265E-09	1.123E-09	6.613E-10	4.330E-10	3.047E-10	2.258E-10	1.740E-10
WNW	1.035E-07	3.500E-08	1.797E-08	8.544E-09	3.069E-09	1.522E-09	8.962E-10	5.868E-10	4.129E-10	3.060E-10	2.358E-10
NW	1.673E-07	5.658E-08	2.905E-08	1.381E-08	4.961E-09	2.460E-09	1.449E-09	9.486E-10	6.675E-10	4.947E-10	3.812E-10
NNW	2.586E-07	8.745E-08	4.490E-08	2.135E-08	7.668E-09	3.803E-09	2.239E-09	1.466E-09	1.032E-09	7.645E-10	5.892E-10
N	2.977E-07	1.007E-07	5.168E-08	2.457E-08	8.826E-09	4.377E-09	2.577E-09	1.688E-09	1.187E-09	8.800E-10	6.781E-10
NNE	1.633E-07	5.523E-08	2.836E-08	1.348E-08	4.842E-09	2.401E-09	1.414E-09	9.259E-10	6.515E-10	4.828E-10	3.721E-10
NE	8.230E-08	2.783E-08	1.429E-08	6.794E-09	2.440E-09	1.210E-09	7.126E-10	4.666E-10	3.283E-10	2.433E-10	1.875E-10
ENE	5.130E-08	1.735E-08	8.907E-09	4.235E-09	1.521E-09	7.543E-10	4.442E-10	2.908E-10	2.046E-10	1.517E-10	1.169E-10
E	5.353E-08	1.810E-08	9.294E-09	4.418E-09	1.587E-09	7.871E-10	4.634E-10	3.035E-10	2.135E-10	1.582E-10	1.219E-10
ESE	9.708E-08	3.283E-08	1.686E-08	8.013E-09	2.878E-09	1.427E-09	8.405E-10	5.504E-10	3.873E-10	2.870E-10	2.212E-10
SE	1.899E-07	6.421E-08	3.297E-08	1.567E-08	5.630E-09	2.792E-09	1.644E-09	1.077E-09	7.575E-10	5.614E-10	4.326E-10
SSE	2.256E-07	7.630E-08	3.918E-08	1.863E-08	6.690E-09	3.318E-09	1.954E-09	1.279E-09	9.001E-10	6.671E-10	5.140E-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	5.105E-10	2.268E-10	1.374E-10	6.943E-11	4.202E-11	2.818E-11	2.019E-11	1.516E-11	1.179E-11	9.416E-12	7.685E-12
SSW	2.298E-10	1.021E-10	6.185E-11	3.126E-11	1.892E-11	1.269E-11	9.090E-12	6.826E-12	5.307E-12	4.240E-12	3.460E-12
SW	1.315E-10	5.840E-11	3.538E-11	1.788E-11	1.082E-11	7.256E-12	5.199E-12	3.904E-12	3.036E-12	2.425E-12	1.979E-12
WSW	1.227E-10	5.453E-11	3.303E-11	1.669E-11	1.010E-11	6.775E-12	4.855E-12	3.645E-12	2.834E-12	2.264E-12	1.848E-12
W	1.382E-10	6.141E-11	3.720E-11	1.880E-11	1.138E-11	7.630E-12	5.467E-12	4.105E-12	3.192E-12	2.550E-12	2.081E-12
WNW	1.873E-10	8.322E-11	5.041E-11	2.548E-11	1.542E-11	1.034E-11	7.409E-12	5.564E-12	4.326E-12	3.455E-12	2.820E-12
NW	3.028E-10	1.345E-10	8.149E-11	4.119E-11	2.493E-11	1.672E-11	1.198E-11	8.994E-12	6.993E-12	5.586E-12	4.559E-12
NNW	4.681E-10	2.079E-10	1.260E-10	6.366E-11	3.853E-11	2.583E-11	1.851E-11	1.390E-11	1.081E-11	8.634E-12	7.047E-12
N	5.387E-10	2.393E-10	1.450E-10	7.328E-11	4.435E-11	2.974E-11	2.131E-11	1.600E-11	1.244E-11	9.937E-12	8.111E-12
NNE	2.956E-10	1.313E-10	7.954E-11	4.020E-11	2.433E-11	1.632E-11	1.169E-11	8.779E-12	6.826E-12	5.452E-12	4.450E-12
NE	1.490E-10	6.617E-11	4.009E-11	2.026E-11	1.226E-11	8.222E-12	5.892E-12	4.424E-12	3.440E-12	2.748E-12	2.243E-12
ENE	9.285E-11	4.125E-11	2.499E-11	1.263E-11	7.644E-12	5.125E-12	3.672E-12	2.757E-12	2.144E-12	1.713E-12	1.398E-12
E	9.688E-11	4.304E-11	2.607E-11	1.318E-11	7.975E-12	5.347E-12	3.832E-12	2.877E-12	2.237E-12	1.787E-12	1.459E-12
ESE	1.757E-10	7.805E-11	4.728E-11	2.390E-11	1.446E-11	9.698E-12	6.949E-12	5.218E-12	4.057E-12	3.241E-12	2.645E-12
SE	3.437E-10	1.527E-10	9.248E-11	4.675E-11	2.829E-11	1.897E-11	1.359E-11	1.021E-11	7.936E-12	6.339E-12	5.174E-12
SSE	4.084E-10	1.814E-10	1.099E-10	5.555E-11	3.362E-11	2.254E-11	1.615E-11	1.213E-11	9.430E-12	7.533E-12	6.148E-12

***** RELATIVE DEPOSITION PER UNIT AREA (M**2) BY DOWNWIND SECTORS *****											
SEGMENT BOUNDARIES IN MILES											
DIRECTIONS	5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	
FROM SITE											
S	4.786E-08	9.804E-09	2.559E-09	1.150E-09	6.503E-10	2.501E-10	7.235E-11	2.867E-11	1.531E-11	9.478E-12	
SSW	2.155E-08	4.414E-09	1.152E-09	5.176E-10	2.928E-10	1.126E-10	3.257E-11	1.291E-11	6.894E-12	4.267E-12	
SW	1.233E-08	2.525E-09	6.592E-10	2.960E-10	1.675E-10	6.440E-11	1.863E-11	7.384E-12	3.943E-12	2.441E-12	
WSW	1.151E-08	2.357E-09	6.154E-10	2.764E-10	1.564E-10	6.013E-11	1.740E-11	6.895E-12	3.682E-12	2.279E-12	
W	1.296E-08	2.655E-09	6.931E-10	3.113E-10	1.761E-10	6.772E-11	1.959E-11	7.765E-12	4.147E-12	2.567E-12	
WNW	1.757E-08	3.598E-09	9.393E-10	4.219E-10	2.387E-10	9.178E-11	2.655E-11	1.052E-11	5.619E-12	3.478E-12	
NW	2.840E-08	5.816E-09	1.518E-09	6.820E-10	3.858E-10	1.484E-10	4.292E-11	1.701E-11	9.084E-12	5.623E-12	
NNW	4.389E-08	8.990E-09	2.347E-09	1.054E-09	5.963E-10	2.293E-10	6.634E-11	2.629E-11	1.404E-11	8.690E-12	
N	5.052E-08	1.035E-08	2.701E-09	1.213E-09	6.863E-10	2.639E-10	7.635E-11	3.026E-11	1.616E-11	1.000E-11	
NNE	2.772E-08	5.677E-09	1.482E-09	6.656E-10	3.766E-10	1.448E-10	4.189E-11	1.660E-11	8.867E-12	5.488E-12	
NE	1.397E-08	2.861E-09	7.469E-10	3.354E-10	1.898E-10	7.298E-11	2.111E-11	8.367E-12	4.468E-12	2.766E-12	
ENE	8.706E-09	1.783E-09	4.656E-10	2.091E-10	1.183E-10	4.549E-11	1.316E-11	5.216E-12	2.785E-12	1.724E-12	
E	9.084E-09	1.861E-09	4.858E-10	2.182E-10	1.234E-10	4.746E-11	1.373E-11	5.442E-12	2.906E-12	1.799E-12	
ESE	1.648E-08	3.375E-09	8.810E-10	3.957E-10	2.238E-10	8.608E-11	2.490E-11	9.870E-12	5.270E-12	3.262E-12	
SE	3.223E-08	6.601E-09	1.723E-09	7.739E-10	4.378E-10	1.684E-10	4.871E-11	1.931E-11	1.031E-11	6.381E-12	
SSE	3.829E-08	7.844E-09	2.048E-09	9.196E-10	5.202E-10	2.001E-10	5.788E-11	2.294E-11	1.225E-11	7.582E-12	

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VENTS GROUND LEVEL RELEASES - JAN-JUN 2021
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION FROM SITE (MI)	DIST.	X/Q (SEC/M3)	X/Q (SEC/M3)	X/Q (SEC/M3)	D/Q (PER SQ. METER)
				NO	2.26 DAY	8.0 DAY	
				DECAY	DECAY	DECAY	
				UNDEPLETED	UNDEPLETED	DEPLETED	
A	Site Boundary	S	.80	7.8E-06	7.8E-06	7.0E-06	4.2E-08
A	Site Boundary	SSW	.82	3.8E-06	3.8E-06	3.4E-06	1.7E-08
A	Site Boundary	SW	.97	1.7E-06	1.6E-06	1.5E-06	6.4E-09
A	Site Boundary	WSW	.93	1.7E-06	1.7E-06	1.5E-06	6.8E-09
A	Site Boundary	W	.91	1.8E-06	1.8E-06	1.6E-06	8.0E-09
A	Site Boundary	WNW	.94	2.5E-06	2.5E-06	2.2E-06	1.0E-08
A	Site Boundary	NW	.81	4.7E-06	4.7E-06	4.2E-06	2.4E-08
A	Site Boundary	NNW	.69	1.2E-05	1.2E-05	1.1E-05	5.2E-08
A	Site Boundary	N	.67	1.4E-05	1.4E-05	1.3E-05	6.2E-08
A	Site Boundary	NNE	.60	1.2E-05	1.2E-05	1.1E-05	4.1E-08
A	Site Boundary	NE	.62	6.9E-06	6.8E-06	6.2E-06	1.9E-08
A	Site Boundary	ENE	.59	5.4E-06	5.4E-06	4.9E-06	1.3E-08
A	Site Boundary	E	.53	7.1E-06	7.1E-06	6.5E-06	1.7E-08
A	Site Boundary	ESE	.54	9.6E-06	9.6E-06	8.8E-06	2.9E-08
A	Site Boundary	SE	.65	8.9E-06	8.9E-06	8.0E-06	4.2E-08
A	Site Boundary	SSE	.81	7.6E-06	7.5E-06	6.7E-06	3.2E-08
A	Nearest Res	SW	1.30	8.5E-07	8.4E-07	7.2E-07	3.1E-09
A	Nearest Res	WSW	1.80	3.8E-07	3.8E-07	3.2E-07	1.3E-09
A	Nearest Res	WNW	2.40	3.0E-07	3.0E-07	2.4E-07	9.9E-10
A	Nearest Res	NW	.90	3.7E-06	3.7E-06	3.2E-06	1.8E-08
A	Nearest Res	NNW	1.90	1.3E-06	1.3E-06	1.1E-06	4.3E-09
A	Nearest Res	NE	1.60	9.3E-07	9.2E-07	7.8E-07	2.1E-09
A	Nearest Res	E	2.00	4.7E-07	4.7E-07	3.9E-07	7.9E-10
A	Nearest Cow	NNW	3.50	4.0E-07	3.9E-07	3.1E-07	1.0E-09
A	Nearest Garde	SW	2.20	2.6E-07	2.6E-07	2.2E-07	8.5E-10
A	Nearest Garde	WSW	1.80	3.8E-07	3.8E-07	3.2E-07	1.3E-09
A	Nearest Garde	NNW	2.80	6.0E-07	5.9E-07	4.8E-07	1.7E-09
A	Nearest Garde	ESE	2.30	5.0E-07	4.9E-07	4.0E-07	1.0E-09

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Atmospheric Diffusion Estimates

Ground Level Releases

July-September 2021

VENTS GROUND LEVEL RELEASES - JUL-SEP 2021
 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	6.563E-05	2.077E-05	1.097E-05	5.507E-06	2.266E-06	1.247E-06	8.004E-07	5.643E-07	4.238E-07	3.329E-07	2.705E-07
SSW	2.966E-05	1.006E-05	5.445E-06	2.737E-06	1.097E-06	5.930E-07	3.754E-07	2.618E-07	1.949E-07	1.519E-07	1.226E-07
SW	1.642E-05	5.670E-06	3.098E-06	1.559E-06	6.115E-07	3.255E-07	2.036E-07	1.406E-07	1.038E-07	8.030E-08	6.439E-08
WSW	1.493E-05	5.206E-06	2.831E-06	1.419E-06	5.539E-07	2.937E-07	1.831E-07	1.261E-07	9.288E-08	7.173E-08	5.742E-08
W	2.090E-05	7.520E-06	4.108E-06	2.053E-06	7.983E-07	4.224E-07	2.630E-07	1.809E-07	1.330E-07	1.027E-07	8.211E-08
WNW	2.650E-05	9.309E-06	5.101E-06	2.562E-06	1.003E-06	5.337E-07	3.337E-07	2.304E-07	1.700E-07	1.315E-07	1.055E-07
NW	2.831E-05	9.911E-06	5.339E-06	2.652E-06	1.023E-06	5.385E-07	3.339E-07	2.290E-07	1.680E-07	1.293E-07	1.032E-07
NNW	7.413E-05	2.494E-05	1.356E-05	6.842E-06	2.747E-06	1.487E-06	9.419E-07	6.573E-07	4.894E-07	3.817E-07	3.081E-07
N	1.342E-04	4.270E-05	2.307E-05	1.172E-05	4.805E-06	2.637E-06	1.689E-06	1.189E-06	8.911E-07	6.991E-07	5.673E-07
NNE	5.948E-05	1.850E-05	9.792E-06	4.942E-06	2.046E-06	1.131E-06	7.279E-07	5.143E-07	3.869E-07	3.044E-07	2.477E-07
NE	2.462E-05	7.833E-06	4.244E-06	2.161E-06	8.860E-07	4.861E-07	3.112E-07	2.189E-07	1.641E-07	1.287E-07	1.044E-07
ENE	3.103E-05	9.313E-06	4.690E-06	2.319E-06	9.868E-07	5.555E-07	3.625E-07	2.589E-07	1.965E-07	1.558E-07	1.276E-07
E	4.443E-05	1.317E-05	6.670E-06	3.317E-06	1.419E-06	8.009E-07	5.236E-07	3.746E-07	2.847E-07	2.259E-07	1.851E-07
ESE	7.193E-05	2.106E-05	1.050E-05	5.186E-06	2.237E-06	1.270E-06	8.339E-07	5.984E-07	4.560E-07	3.626E-07	2.977E-07
SE	1.086E-04	3.228E-05	1.633E-05	8.115E-06	3.471E-06	1.960E-06	1.282E-06	9.168E-07	6.968E-07	5.529E-07	4.532E-07
SSE	1.078E-04	3.278E-05	1.703E-05	8.552E-06	3.600E-06	2.011E-06	1.305E-06	9.278E-07	7.016E-07	5.544E-07	4.527E-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	2.256E-07	1.193E-07	7.889E-08	4.656E-08	3.217E-08	2.419E-08	1.919E-08	1.580E-08	1.335E-08	1.151E-08	1.009E-08
SSW	1.016E-07	5.254E-08	3.420E-08	1.974E-08	1.344E-08	9.988E-09	7.848E-09	6.406E-09	5.377E-09	4.609E-09	4.017E-09
SW	5.307E-08	2.682E-08	1.718E-08	9.701E-09	6.512E-09	4.789E-09	3.730E-09	3.023E-09	2.520E-09	2.148E-09	1.863E-09
WSW	4.725E-08	2.373E-08	1.513E-08	8.490E-09	5.673E-09	4.158E-09	3.230E-09	2.611E-09	2.172E-09	1.848E-09	1.600E-09
W	6.752E-08	3.385E-08	2.154E-08	1.205E-08	8.027E-09	5.866E-09	4.546E-09	3.666E-09	3.045E-09	2.586E-09	2.235E-09
WNW	8.694E-08	4.399E-08	2.819E-08	1.593E-08	1.069E-08	7.857E-09	6.117E-09	4.954E-09	4.130E-09	3.519E-09	3.050E-09
NW	8.478E-08	4.229E-08	2.684E-08	1.499E-08	1.000E-08	7.323E-09	5.684E-09	4.592E-09	3.820E-09	3.249E-09	2.812E-09
NNW	2.555E-07	1.323E-07	8.618E-08	4.980E-08	3.390E-08	2.521E-08	1.982E-08	1.618E-08	1.358E-08	1.164E-08	1.015E-08
N	4.726E-07	2.489E-07	1.640E-07	9.632E-08	6.627E-08	4.968E-08	3.931E-08	3.227E-08	2.721E-08	2.343E-08	2.050E-08
NNE	2.068E-07	1.098E-07	7.281E-08	4.312E-08	2.985E-08	2.248E-08	1.786E-08	1.471E-08	1.244E-08	1.074E-08	9.416E-09
NE	8.692E-08	4.571E-08	3.010E-08	1.764E-08	1.212E-08	9.075E-09	7.172E-09	5.883E-09	4.958E-09	4.266E-09	3.730E-09
ENE	1.072E-07	5.815E-08	3.913E-08	2.364E-08	1.659E-08	1.262E-08	1.011E-08	8.384E-09	7.134E-09	6.189E-09	5.452E-09
E	1.556E-07	8.460E-08	5.701E-08	3.449E-08	2.422E-08	1.844E-08	1.478E-08	1.226E-08	1.043E-08	9.052E-09	7.975E-09
ESE	2.506E-07	1.371E-07	9.275E-08	5.642E-08	3.976E-08	3.036E-08	2.437E-08	2.025E-08	1.726E-08	1.500E-08	1.323E-08
SE	3.808E-07	2.071E-07	1.396E-07	8.444E-08	5.929E-08	4.514E-08	3.616E-08	2.999E-08	2.552E-08	2.215E-08	1.951E-08
SSE	3.792E-07	2.038E-07	1.363E-07	8.156E-08	5.686E-08	4.305E-08	3.434E-08	2.838E-08	2.408E-08	2.083E-08	1.831E-08

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	1.072E-05	2.533E-06	8.251E-07	4.293E-07	2.723E-07	1.250E-07	4.735E-08	2.432E-08	1.584E-08	1.153E-08	
SSW	5.267E-06	1.237E-06	3.880E-07	1.976E-07	1.235E-07	5.530E-08	2.015E-08	1.005E-08	6.426E-09	4.617E-09	
SW	2.985E-06	6.948E-07	2.109E-07	1.054E-07	6.491E-08	2.837E-08	9.945E-09	4.825E-09	3.033E-09	2.153E-09	
WSW	2.732E-06	6.306E-07	1.898E-07	9.433E-08	5.789E-08	2.513E-08	8.713E-09	4.191E-09	2.621E-09	1.852E-09	
W	3.953E-06	9.101E-07	2.726E-07	1.351E-07	8.280E-08	3.586E-08	1.237E-08	5.914E-09	3.681E-09	2.592E-09	
WNW	4.907E-06	1.141E-06	3.457E-07	1.726E-07	1.063E-07	4.651E-08	1.632E-08	7.916E-09	4.972E-09	3.526E-09	
NW	5.164E-06	1.170E-06	3.465E-07	1.707E-07	1.041E-07	4.486E-08	1.540E-08	7.382E-09	4.610E-09	3.256E-09	
NNW	1.310E-05	3.097E-06	9.733E-07	4.963E-07	3.104E-07	1.392E-07	5.082E-08	2.537E-08	1.623E-08	1.166E-08	
N	2.238E-05	5.378E-06	1.742E-06	9.029E-07	5.713E-07	2.609E-07	9.801E-08	4.996E-08	3.235E-08	2.346E-08	
NNE	9.571E-06	2.283E-06	7.500E-07	3.919E-07	2.493E-07	1.149E-07	4.382E-08	2.260E-08	1.475E-08	1.075E-08	
NE	4.116E-06	9.916E-07	3.209E-07	1.662E-07	1.051E-07	4.793E-08	1.795E-08	9.126E-09	5.899E-09	4.273E-09	
ENE	4.664E-06	1.091E-06	3.725E-07	1.988E-07	1.284E-07	6.059E-08	2.395E-08	1.268E-08	8.401E-09	6.196E-09	
E	6.624E-06	1.566E-06	5.379E-07	2.880E-07	1.863E-07	8.811E-08	3.493E-08	1.852E-08	1.228E-08	9.062E-09	
ESE	1.049E-05	2.463E-06	8.561E-07	4.611E-07	2.995E-07	1.426E-07	5.709E-08	3.047E-08	2.029E-08	1.501E-08	
SE	1.623E-05	3.832E-06	1.317E-06	7.048E-07	4.559E-07	2.157E-07	8.551E-08	4.532E-08	3.005E-08	2.217E-08	
SSE	1.676E-05	3.995E-06	1.342E-06	7.102E-07	4.556E-07	2.128E-07	8.274E-08	4.325E-08	2.844E-08	2.086E-08	

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VENTS GROUND LEVEL RELEASES - JUL-SEP 2021
 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	6.547E-05	2.067E-05	1.089E-05	5.456E-06	2.234E-06	1.223E-06	7.812E-07	5.479E-07	4.094E-07	3.199E-07	2.586E-07
SSW	2.960E-05	1.002E-05	5.414E-06	2.716E-06	1.084E-06	5.837E-07	3.680E-07	2.556E-07	1.894E-07	1.470E-07	1.181E-07
SW	1.639E-05	5.652E-06	3.082E-06	1.548E-06	6.052E-07	3.211E-07	2.001E-07	1.377E-07	1.013E-07	7.808E-08	6.238E-08
WSW	1.491E-05	5.190E-06	2.818E-06	1.410E-06	5.485E-07	2.899E-07	1.801E-07	1.236E-07	9.073E-08	6.983E-08	5.570E-08
W	2.087E-05	7.497E-06	4.088E-06	2.040E-06	7.906E-07	4.169E-07	2.587E-07	1.774E-07	1.300E-07	1.000E-07	7.971E-08
WNW	2.646E-05	9.281E-06	5.077E-06	2.546E-06	9.939E-07	5.270E-07	3.285E-07	2.260E-07	1.662E-07	1.282E-07	1.024E-07
NW	2.829E-05	9.892E-06	5.323E-06	2.642E-06	1.017E-06	5.340E-07	3.304E-07	2.260E-07	1.655E-07	1.271E-07	1.012E-07
NNW	7.401E-05	2.486E-05	1.350E-05	6.800E-06	2.721E-06	1.468E-06	9.269E-07	6.447E-07	4.784E-07	3.718E-07	2.992E-07
N	1.339E-04	4.253E-05	2.294E-05	1.163E-05	4.750E-06	2.597E-06	1.656E-06	1.161E-06	8.665E-07	6.769E-07	5.471E-07
NNE	5.933E-05	1.841E-05	9.724E-06	4.896E-06	2.018E-06	1.109E-06	7.104E-07	4.994E-07	3.738E-07	2.926E-07	2.369E-07
NE	2.457E-05	7.799E-06	4.217E-06	2.143E-06	8.745E-07	4.776E-07	3.043E-07	2.131E-07	1.590E-07	1.241E-07	1.002E-07
ENE	3.093E-05	9.253E-06	4.646E-06	2.290E-06	9.682E-07	5.414E-07	3.509E-07	2.490E-07	1.878E-07	1.479E-07	1.203E-07
E	4.428E-05	1.308E-05	6.607E-06	3.276E-06	1.392E-06	7.806E-07	5.070E-07	3.603E-07	2.720E-07	2.144E-07	1.746E-07
ESE	7.167E-05	2.092E-05	1.039E-05	5.114E-06	2.191E-06	1.235E-06	8.050E-07	5.736E-07	4.340E-07	3.427E-07	2.794E-07
SE	1.083E-04	3.207E-05	1.617E-05	8.010E-06	3.404E-06	1.909E-06	1.240E-06	8.809E-07	6.649E-07	5.241E-07	4.267E-07
SSE	1.075E-04	3.258E-05	1.689E-05	8.456E-06	3.538E-06	1.965E-06	1.267E-06	8.955E-07	6.730E-07	5.286E-07	4.291E-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	2.146E-07	1.106E-07	7.129E-08	4.001E-08	2.633E-08	1.889E-08	1.431E-08	1.127E-08	9.127E-09	7.553E-09	6.360E-09
SSW	9.752E-08	4.935E-08	3.145E-08	1.741E-08	1.137E-08	8.125E-09	6.142E-09	4.829E-09	3.908E-09	3.234E-09	2.729E-09
SW	5.123E-08	2.543E-08	1.599E-08	8.721E-09	5.657E-09	4.023E-09	3.033E-09	2.380E-09	1.923E-09	1.590E-09	1.338E-09
WSW	4.568E-08	2.255E-08	1.413E-08	7.665E-09	4.955E-09	3.515E-09	2.645E-09	2.072E-09	1.672E-09	1.381E-09	1.161E-09
W	6.533E-08	3.221E-08	2.017E-08	1.092E-08	7.046E-09	4.993E-09	3.753E-09	2.939E-09	2.371E-09	1.957E-09	1.645E-09
WNW	8.417E-08	4.189E-08	2.642E-08	1.446E-08	9.403E-09	6.707E-09	5.070E-09	3.989E-09	3.233E-09	2.680E-09	2.261E-09
NW	8.295E-08	4.091E-08	2.567E-08	1.402E-08	9.153E-09	6.561E-09	4.988E-09	3.949E-09	3.220E-09	2.686E-09	2.281E-09
NNW	2.472E-07	1.258E-07	8.060E-08	4.505E-08	2.970E-08	2.140E-08	1.631E-08	1.293E-08	1.055E-08	8.797E-09	7.465E-09
N	4.538E-07	2.341E-07	1.511E-07	8.521E-08	5.637E-08	4.068E-08	3.102E-08	2.458E-08	2.003E-08	1.668E-08	1.413E-08
NNE	1.968E-07	1.019E-07	6.586E-08	3.712E-08	2.450E-08	1.762E-08	1.338E-08	1.056E-08	8.563E-09	7.098E-09	5.986E-09
NE	8.304E-08	4.266E-08	2.745E-08	1.537E-08	1.010E-08	7.248E-09	5.495E-09	4.330E-09	3.509E-09	2.907E-09	2.450E-09
ENE	1.004E-07	5.271E-08	3.434E-08	1.946E-08	1.284E-08	9.208E-09	6.962E-09	5.462E-09	4.405E-09	3.628E-09	3.041E-09
E	1.458E-07	7.675E-08	5.009E-08	2.847E-08	1.882E-08	1.352E-08	1.024E-08	8.044E-09	6.496E-09	5.359E-09	4.496E-09
ESE	2.335E-07	1.234E-07	8.062E-08	4.583E-08	3.026E-08	2.168E-08	1.638E-08	1.283E-08	1.033E-08	8.494E-09	7.105E-09
SE	3.562E-07	1.873E-07	1.221E-07	6.927E-08	4.569E-08	3.274E-08	2.474E-08	1.940E-08	1.563E-08	1.286E-08	1.077E-08
SSE	3.572E-07	1.863E-07	1.209E-07	6.823E-08	4.493E-08	3.219E-08	2.434E-08	1.911E-08	1.543E-08	1.272E-08	1.067E-08

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	1.065E-05	2.501E-06	8.058E-07	4.149E-07	2.605E-07	1.162E-07	4.088E-08	1.904E-08	1.132E-08	7.577E-09	
SSW	5.239E-06	1.224E-06	3.805E-07	1.921E-07	1.191E-07	5.210E-08	1.785E-08	8.198E-09	4.854E-09	3.244E-09	
SW	2.971E-06	6.885E-07	2.074E-07	1.028E-07	6.290E-08	2.697E-08	8.975E-09	4.062E-09	2.392E-09	1.595E-09	
WSW	2.719E-06	6.250E-07	1.868E-07	9.217E-08	5.618E-08	2.395E-08	7.897E-09	3.551E-09	2.083E-09	1.386E-09	
W	3.935E-06	9.022E-07	2.684E-07	1.321E-07	8.040E-08	3.422E-08	1.125E-08	5.045E-09	2.955E-09	1.964E-09	
WNW	4.886E-06	1.131E-06	3.404E-07	1.688E-07	1.033E-07	4.441E-08	1.487E-08	6.771E-09	4.010E-09	2.689E-09	
NW	5.147E-06	1.163E-06	3.430E-07	1.682E-07	1.021E-07	4.348E-08	1.445E-08	6.623E-09	3.968E-09	2.694E-09	
NNW	1.305E-05	3.070E-06	9.582E-07	4.853E-07	3.015E-07	1.327E-07	4.613E-08	2.158E-08	1.299E-08	8.823E-09	
N	2.227E-05	5.322E-06	1.709E-06	8.783E-07	5.510E-07	2.460E-07	8.704E-08	4.100E-08	2.469E-08	1.673E-08	
NNE	9.508E-06	2.254E-06	7.324E-07	3.788E-07	2.385E-07	1.069E-07	3.790E-08	1.776E-08	1.060E-08	7.120E-09	
NE	4.091E-06	9.799E-07	3.140E-07	1.611E-07	1.009E-07	4.487E-08	1.571E-08	7.309E-09	4.350E-09	2.916E-09	
ENE	4.623E-06	1.072E-06	3.610E-07	1.901E-07	1.211E-07	5.513E-08	1.983E-08	9.279E-09	5.488E-09	3.641E-09	
E	6.565E-06	1.539E-06	5.213E-07	2.753E-07	1.757E-07	8.024E-08	2.899E-08	1.362E-08	8.081E-09	5.376E-09	
ESE	1.038E-05	2.416E-06	8.271E-07	4.391E-07	2.812E-07	1.288E-07	4.664E-08	2.185E-08	1.289E-08	8.523E-09	
SE	1.608E-05	3.763E-06	1.275E-06	6.730E-07	4.294E-07	1.959E-07	7.054E-08	3.300E-08	1.949E-08	1.291E-08	
SSE	1.663E-05	3.932E-06	1.304E-06	6.816E-07	4.320E-07	1.952E-07	6.957E-08	3.245E-08	1.920E-08	1.276E-08	

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VENTS GROUND LEVEL RELEASES - JUL-SEP 2021
 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	6.207E-05	1.894E-05	9.753E-06	4.808E-06	1.917E-06	1.027E-06	6.439E-07	4.445E-07	3.274E-07	2.527E-07	2.019E-07
SSW	2.805E-05	9.175E-06	4.845E-06	2.391E-06	9.285E-07	4.888E-07	3.024E-07	2.065E-07	1.508E-07	1.155E-07	9.171E-08
SW	1.553E-05	5.173E-06	2.757E-06	1.362E-06	5.178E-07	2.685E-07	1.641E-07	1.110E-07	8.041E-08	6.115E-08	4.824E-08
WSW	1.412E-05	4.750E-06	2.520E-06	1.240E-06	4.691E-07	2.423E-07	1.477E-07	9.963E-08	7.199E-08	5.465E-08	4.304E-08
W	1.977E-05	6.862E-06	3.656E-06	1.794E-06	6.761E-07	3.485E-07	2.120E-07	1.429E-07	1.031E-07	7.822E-08	6.156E-08
WNW	2.507E-05	8.494E-06	4.540E-06	2.238E-06	8.498E-07	4.404E-07	2.691E-07	1.820E-07	1.318E-07	1.002E-07	7.908E-08
NW	2.679E-05	9.046E-06	4.754E-06	2.319E-06	8.675E-07	4.448E-07	2.697E-07	1.812E-07	1.305E-07	9.879E-08	7.762E-08
NNW	7.013E-05	2.275E-05	1.207E-05	5.978E-06	2.326E-06	1.226E-06	7.595E-07	5.192E-07	3.794E-07	2.908E-07	2.310E-07
N	1.269E-04	3.895E-05	2.052E-05	1.023E-05	4.067E-06	2.174E-06	1.360E-06	9.376E-07	6.898E-07	5.317E-07	4.245E-07
NNE	5.625E-05	1.687E-05	8.709E-06	4.314E-06	1.731E-06	9.314E-07	5.856E-07	4.051E-07	2.990E-07	2.311E-07	1.849E-07
NE	2.329E-05	7.145E-06	3.775E-06	1.887E-06	7.496E-07	4.005E-07	2.505E-07	1.725E-07	1.269E-07	9.774E-08	7.799E-08
ENE	2.934E-05	8.489E-06	4.169E-06	2.023E-06	8.336E-07	4.566E-07	2.909E-07	2.034E-07	1.514E-07	1.178E-07	9.486E-08
E	4.201E-05	1.200E-05	5.928E-06	2.893E-06	1.198E-06	6.584E-07	4.203E-07	2.942E-07	2.193E-07	1.708E-07	1.376E-07
ESE	6.800E-05	1.920E-05	9.327E-06	4.522E-06	1.889E-06	1.043E-06	6.687E-07	4.696E-07	3.508E-07	2.739E-07	2.211E-07
SE	1.027E-04	2.943E-05	1.451E-05	7.078E-06	2.932E-06	1.611E-06	1.028E-06	7.200E-07	5.365E-07	4.180E-07	3.368E-07
SSE	1.020E-04	2.988E-05	1.514E-05	7.462E-06	3.043E-06	1.654E-06	1.048E-06	7.295E-07	5.410E-07	4.198E-07	3.371E-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	1.658E-07	8.228E-08	5.146E-08	2.768E-08	1.769E-08	1.242E-08	9.248E-09	7.176E-09	5.739E-09	4.696E-09	3.913E-09
SSW	7.486E-08	3.638E-08	2.242E-08	1.183E-08	7.465E-09	5.191E-09	3.839E-09	2.962E-09	2.358E-09	1.922E-09	1.597E-09
SW	3.916E-08	1.862E-08	1.130E-08	5.847E-09	3.648E-09	2.516E-09	1.849E-09	1.419E-09	1.125E-09	9.139E-10	7.570E-10
WSW	3.488E-08	1.649E-08	9.965E-09	5.124E-09	3.184E-09	2.189E-09	1.604E-09	1.229E-09	9.725E-10	7.889E-10	6.526E-10
W	4.986E-08	2.352E-08	1.420E-08	7.282E-09	4.511E-09	3.094E-09	2.264E-09	1.732E-09	1.369E-09	1.109E-09	9.164E-10
WNW	6.421E-08	3.058E-08	1.859E-08	9.628E-09	6.010E-09	4.147E-09	3.048E-09	2.342E-09	1.857E-09	1.510E-09	1.252E-09
NW	6.280E-08	2.953E-08	1.780E-08	9.138E-09	5.689E-09	3.921E-09	2.882E-09	2.214E-09	1.757E-09	1.430E-09	1.186E-09
NNW	1.887E-07	9.192E-08	5.678E-08	3.006E-08	1.903E-08	1.327E-08	9.841E-09	7.614E-09	6.077E-09	4.967E-09	4.137E-09
N	3.482E-07	1.723E-07	1.076E-07	5.775E-08	3.686E-08	2.586E-08	1.926E-08	1.495E-08	1.197E-08	9.800E-09	8.175E-09
NNE	1.520E-07	7.575E-08	4.751E-08	2.565E-08	1.643E-08	1.155E-08	8.615E-09	6.693E-09	5.358E-09	4.389E-09	3.661E-09
NE	6.395E-08	3.159E-08	1.968E-08	1.053E-08	6.702E-09	4.690E-09	3.485E-09	2.699E-09	2.156E-09	1.762E-09	1.467E-09
ENE	7.839E-08	3.985E-08	2.531E-08	1.388E-08	8.977E-09	6.351E-09	4.757E-09	3.707E-09	2.973E-09	2.439E-09	2.036E-09
E	1.138E-07	5.799E-08	3.689E-08	2.027E-08	1.312E-08	9.292E-09	6.965E-09	5.431E-09	4.359E-09	3.577E-09	2.988E-09
ESE	1.831E-07	9.376E-08	5.983E-08	3.301E-08	2.141E-08	1.518E-08	1.139E-08	8.884E-09	7.132E-09	5.852E-09	4.887E-09
SE	2.785E-07	1.418E-07	9.021E-08	4.954E-08	3.204E-08	2.267E-08	1.698E-08	1.324E-08	1.062E-08	8.706E-09	7.267E-09
SSE	2.779E-07	1.400E-07	8.842E-08	4.812E-08	3.095E-08	2.182E-08	1.630E-08	1.267E-08	1.015E-08	8.313E-09	6.932E-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	9.597E-06	2.164E-06	6.663E-07	3.324E-07	2.036E-07	8.713E-08	2.853E-08	1.256E-08	7.220E-09	4.715E-09
SSW	4.716E-06	1.058E-06	3.138E-07	1.533E-07	9.252E-08	3.873E-08	1.224E-08	5.257E-09	2.983E-09	1.931E-09
SW	2.674E-06	5.945E-07	1.707E-07	8.182E-08	4.870E-08	1.993E-08	6.083E-09	2.551E-09	1.430E-09	9.183E-10
WSW	2.447E-06	5.396E-07	1.537E-07	7.328E-08	4.346E-08	1.768E-08	5.337E-09	2.220E-09	1.238E-09	7.928E-10
W	3.541E-06	7.789E-07	2.208E-07	1.050E-07	6.216E-08	2.523E-08	7.588E-09	3.140E-09	1.745E-09	1.115E-09
WNW	4.396E-06	9.764E-07	2.799E-07	1.341E-07	7.984E-08	3.272E-08	1.001E-08	4.204E-09	2.359E-09	1.517E-09
NW	4.625E-06	1.002E-06	2.810E-07	1.329E-07	7.840E-08	3.171E-08	9.530E-09	3.977E-09	2.231E-09	1.437E-09
NNW	1.174E-05	2.649E-06	7.879E-07	3.856E-07	2.331E-07	9.780E-08	3.109E-08	1.343E-08	7.665E-09	4.989E-09
N	2.004E-05	4.597E-06	1.408E-06	7.004E-07	4.280E-07	1.827E-07	5.954E-08	2.615E-08	1.505E-08	9.840E-09
NNE	8.569E-06	1.950E-06	6.056E-07	3.034E-07	1.864E-07	8.013E-08	2.641E-08	1.168E-08	6.734E-09	4.406E-09
NE	3.685E-06	8.473E-07	2.593E-07	1.288E-07	7.864E-08	3.349E-08	1.086E-08	4.745E-09	2.717E-09	1.769E-09
ENE	4.175E-06	9.303E-07	3.001E-07	1.535E-07	9.557E-08	4.195E-08	1.424E-08	6.413E-09	3.727E-09	2.448E-09
E	5.929E-06	1.335E-06	4.333E-07	2.222E-07	1.387E-07	6.102E-08	2.079E-08	9.382E-09	5.461E-09	3.591E-09
ESE	9.385E-06	2.098E-06	6.890E-07	3.555E-07	2.226E-07	9.853E-08	3.382E-08	1.533E-08	8.932E-09	5.874E-09
SE	1.452E-05	3.266E-06	1.060E-06	5.438E-07	3.393E-07	1.493E-07	5.080E-08	2.290E-08	1.331E-08	8.739E-09
SSE	1.500E-05	3.408E-06	1.082E-06	5.487E-07	3.397E-07	1.477E-07	4.944E-08	2.204E-08	1.275E-08	8.346E-09

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VENTS GROUND LEVEL RELEASES - JUL-SEP 2021
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	1.840E-07	6.223E-08	3.195E-08	1.519E-08	5.456E-09	2.706E-09	1.593E-09	1.043E-09	7.341E-10	5.440E-10	4.193E-10
SSW	1.006E-07	3.401E-08	1.746E-08	8.303E-09	2.982E-09	1.479E-09	8.708E-10	5.702E-10	4.012E-10	2.974E-10	2.291E-10
SW	5.598E-08	1.893E-08	9.719E-09	4.620E-09	1.660E-09	8.231E-10	4.846E-10	3.173E-10	2.233E-10	1.655E-10	1.275E-10
WSW	5.160E-08	1.745E-08	8.958E-09	4.259E-09	1.530E-09	7.587E-10	4.467E-10	2.925E-10	2.058E-10	1.525E-10	1.175E-10
W	7.851E-08	2.655E-08	1.363E-08	6.481E-09	2.328E-09	1.154E-09	6.797E-10	4.451E-10	3.132E-10	2.321E-10	1.789E-10
WNW	1.096E-07	3.706E-08	1.903E-08	9.047E-09	3.250E-09	1.612E-09	9.490E-10	6.214E-10	4.372E-10	3.240E-10	2.497E-10
NW	2.038E-07	6.893E-08	3.539E-08	1.683E-08	6.044E-09	2.997E-09	1.765E-09	1.156E-09	8.132E-10	6.026E-10	4.644E-10
NNW	3.403E-07	1.151E-07	5.909E-08	2.809E-08	1.009E-08	5.004E-09	2.946E-09	1.929E-09	1.358E-09	1.006E-09	7.753E-10
N	4.867E-07	1.646E-07	8.451E-08	4.018E-08	1.443E-08	7.157E-09	4.214E-09	2.759E-09	1.942E-09	1.439E-09	1.109E-09
NNE	1.581E-07	5.346E-08	2.745E-08	1.305E-08	4.688E-09	2.325E-09	1.369E-09	8.963E-10	6.307E-10	4.674E-10	3.602E-10
NE	7.385E-08	2.497E-08	1.282E-08	6.096E-09	2.190E-09	1.086E-09	6.394E-10	4.187E-10	2.946E-10	2.183E-10	1.682E-10
ENE	4.519E-08	1.528E-08	7.846E-09	3.730E-09	1.340E-09	6.645E-10	3.913E-10	2.562E-10	1.803E-10	1.336E-10	1.030E-10
E	5.168E-08	1.748E-08	8.973E-09	4.266E-09	1.532E-09	7.599E-10	4.475E-10	2.930E-10	2.062E-10	1.528E-10	1.177E-10
ESE	6.518E-08	2.204E-08	1.132E-08	5.380E-09	1.932E-09	9.583E-10	5.643E-10	3.695E-10	2.600E-10	1.927E-10	1.485E-10
SE	1.182E-07	3.995E-08	2.051E-08	9.753E-09	3.503E-09	1.737E-09	1.023E-09	6.698E-10	4.713E-10	3.493E-10	2.692E-10
SSE	1.927E-07	6.516E-08	3.346E-08	1.591E-08	5.713E-09	2.833E-09	1.668E-09	1.092E-09	7.687E-10	5.696E-10	4.390E-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	3.331E-10	1.480E-10	8.963E-11	4.530E-11	2.742E-11	1.838E-11	1.317E-11	9.892E-12	7.691E-12	6.144E-12	5.015E-12
SSW	1.820E-10	8.087E-11	4.899E-11	2.476E-11	1.499E-11	1.005E-11	7.200E-12	5.406E-12	4.204E-12	3.358E-12	2.741E-12
SW	1.013E-10	4.501E-11	2.726E-11	1.378E-11	8.340E-12	5.592E-12	4.007E-12	3.009E-12	2.339E-12	1.869E-12	1.525E-12
WSW	9.338E-11	4.148E-11	2.513E-11	1.270E-11	7.688E-12	5.154E-12	3.693E-12	2.773E-12	2.156E-12	1.722E-12	1.406E-12
W	1.421E-10	6.312E-11	3.824E-11	1.933E-11	1.170E-11	7.843E-12	5.620E-12	4.220E-12	3.281E-12	2.621E-12	2.139E-12
WNW	1.984E-10	8.813E-11	5.338E-11	2.698E-11	1.633E-11	1.095E-11	7.846E-12	5.891E-12	4.581E-12	3.659E-12	2.987E-12
NW	3.689E-10	1.639E-10	9.928E-11	5.018E-11	3.037E-11	2.036E-11	1.459E-11	1.096E-11	8.519E-12	6.805E-12	5.555E-12
NNW	6.159E-10	2.736E-10	1.657E-10	8.378E-11	5.071E-11	3.400E-11	2.436E-11	1.829E-11	1.422E-11	1.136E-11	9.273E-12
N	8.809E-10	3.913E-10	2.371E-10	1.198E-10	7.252E-11	4.862E-11	3.484E-11	2.616E-11	2.034E-11	1.625E-11	1.326E-11
NNE	2.861E-10	1.271E-10	7.700E-11	3.892E-11	2.356E-11	1.579E-11	1.132E-11	8.498E-12	6.607E-12	5.278E-12	4.308E-12
NE	1.337E-10	5.938E-11	3.597E-11	1.818E-11	1.100E-11	7.378E-12	5.286E-12	3.970E-12	3.086E-12	2.465E-12	2.012E-12
ENE	8.179E-11	3.633E-11	2.201E-11	1.112E-11	6.733E-12	4.515E-12	3.235E-12	2.429E-12	1.889E-12	1.509E-12	1.231E-12
E	9.354E-11	4.155E-11	2.517E-11	1.272E-11	7.701E-12	5.163E-12	3.700E-12	2.778E-12	2.160E-12	1.725E-12	1.408E-12
ESE	1.180E-10	5.240E-11	3.174E-11	1.604E-11	9.711E-12	6.511E-12	4.665E-12	3.503E-12	2.724E-12	2.176E-12	1.776E-12
SE	2.138E-10	9.500E-11	5.755E-11	2.909E-11	1.760E-11	1.180E-11	8.458E-12	6.351E-12	4.938E-12	3.944E-12	3.220E-12
SSE	3.487E-10	1.549E-10	9.385E-11	4.743E-11	2.871E-11	1.925E-11	1.379E-11	1.036E-11	8.053E-12	6.433E-12	5.251E-12

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***** 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	3.123E-08	6.397E-09	1.670E-09	7.500E-10	4.243E-10	1.632E-10	4.721E-11	1.871E-11	9.991E-12	6.184E-12	
SSW	1.707E-08	3.496E-09	9.128E-10	4.099E-10	2.319E-10	8.918E-11	2.580E-11	1.023E-11	5.461E-12	3.380E-12	
SW	9.499E-09	1.946E-09	5.080E-10	2.281E-10	1.291E-10	4.963E-11	1.436E-11	5.691E-12	3.039E-12	1.881E-12	
WSW	8.756E-09	1.794E-09	4.682E-10	2.103E-10	1.190E-10	4.575E-11	1.323E-11	5.245E-12	2.801E-12	1.734E-12	
W	1.332E-08	2.729E-09	7.125E-10	3.200E-10	1.810E-10	6.961E-11	2.014E-11	7.982E-12	4.262E-12	2.638E-12	
WNW	1.860E-08	3.810E-09	9.947E-10	4.467E-10	2.527E-10	9.718E-11	2.812E-11	1.114E-11	5.951E-12	3.683E-12	
NW	3.459E-08	7.086E-09	1.850E-09	8.308E-10	4.700E-10	1.807E-10	5.229E-11	2.072E-11	1.107E-11	6.850E-12	
NNW	5.775E-08	1.183E-08	3.088E-09	1.387E-09	7.847E-10	3.017E-10	8.730E-11	3.460E-11	1.848E-11	1.144E-11	
N	8.260E-08	1.692E-08	4.417E-09	1.984E-09	1.122E-09	4.316E-10	1.249E-10	4.948E-11	2.642E-11	1.636E-11	
NNE	2.683E-08	5.496E-09	1.435E-09	6.444E-10	3.645E-10	1.402E-10	4.055E-11	1.607E-11	8.583E-12	5.313E-12	
NE	1.253E-08	2.567E-09	6.702E-10	3.010E-10	1.703E-10	6.548E-11	1.894E-11	7.508E-12	4.009E-12	2.482E-12	
ENE	7.669E-09	1.571E-09	4.101E-10	1.842E-10	1.042E-10	4.007E-11	1.159E-11	4.594E-12	2.453E-12	1.519E-12	
E	8.771E-09	1.797E-09	4.690E-10	2.106E-10	1.192E-10	4.583E-11	1.326E-11	5.254E-12	2.806E-12	1.737E-12	
ESE	1.106E-08	2.266E-09	5.915E-10	2.656E-10	1.503E-10	5.779E-11	1.672E-11	6.626E-12	3.538E-12	2.190E-12	
SE	2.005E-08	4.107E-09	1.072E-09	4.816E-10	2.724E-10	1.048E-10	3.031E-11	1.201E-11	6.415E-12	3.970E-12	
SSE	3.270E-08	6.698E-09	1.749E-09	7.853E-10	4.443E-10	1.709E-10	4.943E-11	1.959E-11	1.046E-11	6.475E-12	

VENTS GROUND LEVEL RELEASES - JUL-SEP 2021
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION FROM SITE (MI)	DIST.	X/Q (SEC/M3) NO DEPLETION	X/Q (SEC/M3) 2.26 DAY DEPLETION	X/Q (SEC/M3) 8.0 DAY DEPLETION	D/Q (PER SQ.METER)
A	Site Boundary	S	.80	9.4E-06	9.4E-06	8.4E-06	2.7E-08
A	Site Boundary	SSW	.82	4.3E-06	4.3E-06	3.8E-06	1.4E-08
A	Site Boundary	SW	.97	1.7E-06	1.6E-06	1.4E-06	4.9E-09
A	Site Boundary	WSW	.93	1.7E-06	1.7E-06	1.5E-06	5.2E-09
A	Site Boundary	W	.91	2.6E-06	2.5E-06	2.2E-06	8.2E-09
A	Site Boundary	WNW	.94	3.0E-06	3.0E-06	2.6E-06	1.1E-08
A	Site Boundary	NW	.81	4.4E-06	4.4E-06	3.9E-06	2.9E-08
A	Site Boundary	NNW	.69	1.5E-05	1.5E-05	1.4E-05	6.8E-08
A	Site Boundary	N	.67	2.7E-05	2.7E-05	2.4E-05	1.0E-07
A	Site Boundary	NNE	.60	1.4E-05	1.4E-05	1.2E-05	4.0E-08
A	Site Boundary	NE	.62	5.6E-06	5.5E-06	5.0E-06	1.7E-08
A	Site Boundary	ENE	.59	7.1E-06	7.0E-06	6.4E-06	1.2E-08
A	Site Boundary	E	.53	1.2E-05	1.2E-05	1.1E-05	1.6E-08
A	Site Boundary	ESE	.54	1.9E-05	1.8E-05	1.7E-05	2.0E-08
A	Site Boundary	SE	.65	2.1E-05	2.0E-05	1.8E-05	2.6E-08
A	Site Boundary	SSE	.81	1.4E-05	1.4E-05	1.2E-05	2.7E-08
A	Nearest Res	SW	1.30	8.5E-07	8.4E-07	7.2E-07	2.4E-09
A	Nearest Res	WSW	1.80	3.7E-07	3.7E-07	3.1E-07	9.8E-10
A	Nearest Res	WNW	2.40	3.6E-07	3.6E-07	2.9E-07	1.0E-09
A	Nearest Res	NW	.90	3.4E-06	3.4E-06	3.0E-06	2.2E-08
A	Nearest Res	NNW	1.90	1.7E-06	1.6E-06	1.4E-06	5.7E-09
A	Nearest Res	NE	1.60	7.7E-07	7.6E-07	6.5E-07	1.9E-09
A	Nearest Res	E	2.00	8.0E-07	7.8E-07	6.6E-07	7.6E-10
A	Nearest Cow	NNW	3.50	4.9E-07	4.8E-07	3.8E-07	1.4E-09
A	Nearest Garde	SW	2.20	2.7E-07	2.6E-07	2.2E-07	6.6E-10
A	Nearest Garde	WSW	1.80	3.7E-07	3.7E-07	3.1E-07	9.8E-10
A	Nearest Garde	NNW	2.80	7.5E-07	7.4E-07	6.0E-07	2.3E-09
A	Nearest Garde	ESE	2.30	9.7E-07	9.4E-07	7.9E-07	6.9E-10

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Atmospheric Diffusion Estimates

Ground Level Releases

October-December 2021

VENTS GROUND LEVEL RELEASES - OCT-DEC 2021
 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	7.305E-05	2.266E-05	1.171E-05	5.833E-06	2.440E-06	1.358E-06	8.785E-07	6.235E-07	4.708E-07	3.715E-07	3.031E-07
SSW	4.455E-05	1.391E-05	7.271E-06	3.644E-06	1.517E-06	8.416E-07	5.432E-07	3.847E-07	2.899E-07	2.285E-07	1.861E-07
SW	3.001E-05	9.509E-06	4.845E-06	2.386E-06	9.916E-07	5.497E-07	3.547E-07	2.512E-07	1.893E-07	1.492E-07	1.216E-07
WSW	1.384E-05	4.511E-06	2.373E-06	1.184E-06	4.825E-07	2.639E-07	1.686E-07	1.184E-07	8.866E-08	6.947E-08	5.632E-08
W	2.843E-05	9.306E-06	4.968E-06	2.494E-06	1.012E-06	5.515E-07	3.513E-07	2.462E-07	1.840E-07	1.440E-07	1.165E-07
WNW	2.844E-05	9.233E-06	4.846E-06	2.414E-06	9.843E-07	5.385E-07	3.441E-07	2.417E-07	1.810E-07	1.419E-07	1.150E-07
NW	5.522E-05	1.795E-05	9.492E-06	4.747E-06	1.933E-06	1.057E-06	6.747E-07	4.737E-07	3.545E-07	2.777E-07	2.251E-07
NNW	1.061E-04	3.308E-05	1.721E-05	8.598E-06	3.595E-06	2.000E-06	1.294E-06	9.181E-07	6.931E-07	5.469E-07	4.460E-07
N	1.548E-04	4.665E-05	2.380E-05	1.185E-05	5.031E-06	2.827E-06	1.842E-06	1.315E-06	9.969E-07	7.897E-07	6.463E-07
NNE	5.944E-05	1.779E-05	9.004E-06	4.467E-06	1.900E-06	1.069E-06	6.971E-07	4.978E-07	3.777E-07	2.994E-07	2.451E-07
NE	4.352E-05	1.337E-05	6.903E-06	3.448E-06	1.448E-06	8.083E-07	5.240E-07	3.724E-07	2.815E-07	2.223E-07	1.815E-07
ENE	3.760E-05	1.149E-05	5.921E-06	2.956E-06	1.243E-06	6.939E-07	4.499E-07	3.198E-07	2.418E-07	1.910E-07	1.560E-07
E	3.097E-05	9.624E-06	4.973E-06	2.479E-06	1.034E-06	5.742E-07	3.709E-07	2.629E-07	1.982E-07	1.563E-07	1.274E-07
ESE	4.331E-05	1.381E-05	7.229E-06	3.610E-06	1.487E-06	8.187E-07	5.255E-07	3.706E-07	2.783E-07	2.187E-07	1.777E-07
SE	5.615E-05	1.778E-05	9.188E-06	4.562E-06	1.891E-06	1.046E-06	6.738E-07	4.764E-07	3.587E-07	2.824E-07	2.299E-07
SSE	8.314E-05	2.584E-05	1.343E-05	6.710E-06	2.792E-06	1.548E-06	9.991E-07	7.075E-07	5.332E-07	4.202E-07	3.423E-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	2.537E-07	1.359E-07	9.072E-08	5.419E-08	3.775E-08	2.856E-08	2.277E-08	1.882E-08	1.596E-08	1.381E-08	1.213E-08
SSW	1.556E-07	8.297E-08	5.518E-08	3.280E-08	2.275E-08	1.717E-08	1.365E-08	1.126E-08	9.533E-09	8.235E-09	7.227E-09
SW	1.017E-07	5.427E-08	3.613E-08	2.152E-08	1.496E-08	1.131E-08	9.006E-09	7.437E-09	6.305E-09	5.452E-09	4.790E-09
WSW	4.688E-08	2.461E-08	1.619E-08	9.490E-09	6.526E-09	4.891E-09	3.870E-09	3.178E-09	2.681E-09	2.308E-09	2.020E-09
W	9.690E-08	5.065E-08	3.322E-08	1.939E-08	1.329E-08	9.934E-09	7.843E-09	6.428E-09	5.413E-09	4.655E-09	4.068E-09
WNW	9.577E-08	5.033E-08	3.315E-08	1.946E-08	1.339E-08	1.005E-08	7.954E-09	6.535E-09	5.515E-09	4.751E-09	4.160E-09
NW	1.873E-07	9.823E-08	6.459E-08	3.783E-08	2.600E-08	1.948E-08	1.540E-08	1.264E-08	1.066E-08	9.178E-09	8.030E-09
NNW	3.732E-07	1.998E-07	1.333E-07	7.951E-08	5.530E-08	4.181E-08	3.330E-08	2.750E-08	2.331E-08	2.015E-08	1.770E-08
N	5.424E-07	2.936E-07	1.972E-07	1.188E-07	8.319E-08	6.320E-08	5.055E-08	4.188E-08	3.560E-08	3.085E-08	2.716E-08
NNE	2.058E-07	1.115E-07	7.501E-08	4.526E-08	3.174E-08	2.414E-08	1.932E-08	1.602E-08	1.363E-08	1.182E-08	1.041E-08
NE	1.520E-07	8.163E-08	5.455E-08	3.263E-08	2.274E-08	1.721E-08	1.372E-08	1.134E-08	9.622E-09	8.325E-09	7.317E-09
ENE	1.306E-07	7.017E-08	4.689E-08	2.806E-08	1.956E-08	1.481E-08	1.181E-08	9.763E-09	8.283E-09	7.168E-09	6.301E-09
E	1.065E-07	5.691E-08	3.789E-08	2.257E-08	1.568E-08	1.184E-08	9.429E-09	7.783E-09	6.595E-09	5.701E-09	5.006E-09
ESE	1.482E-07	7.842E-08	5.188E-08	3.062E-08	2.115E-08	1.590E-08	1.261E-08	1.038E-08	8.773E-09	7.566E-09	6.631E-09
SE	1.920E-07	1.022E-07	6.788E-08	4.030E-08	2.794E-08	2.108E-08	1.676E-08	1.382E-08	1.170E-08	1.011E-08	8.872E-09
SSE	2.862E-07	1.527E-07	1.016E-07	6.045E-08	4.199E-08	3.171E-08	2.524E-08	2.083E-08	1.764E-08	1.525E-08	1.339E-08

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	1.153E-05	2.713E-06	9.043E-07	4.766E-07	3.051E-07	1.420E-07	5.500E-08	2.870E-08	1.886E-08	1.383E-08
SSW	7.135E-06	1.689E-06	5.594E-07	2.936E-07	1.873E-07	8.675E-08	3.331E-08	1.725E-08	1.129E-08	8.246E-09
SW	4.789E-06	1.105E-06	3.653E-07	1.917E-07	1.224E-07	5.674E-08	2.185E-08	1.136E-08	7.454E-09	5.459E-09
WSW	2.320E-06	5.411E-07	1.740E-07	8.986E-08	5.672E-08	2.582E-08	9.662E-09	4.919E-09	3.186E-09	2.312E-09
W	4.832E-06	1.137E-06	3.627E-07	1.865E-07	1.174E-07	5.318E-08	1.975E-08	9.992E-09	6.446E-09	4.662E-09
WNW	4.740E-06	1.104E-06	3.550E-07	1.835E-07	1.159E-07	5.279E-08	1.980E-08	1.010E-08	6.552E-09	4.759E-09
NW	9.263E-06	2.169E-06	6.962E-07	3.593E-07	2.267E-07	1.031E-07	3.852E-08	1.959E-08	1.268E-08	9.193E-09
NNW	1.691E-05	3.998E-06	1.332E-06	7.017E-07	4.490E-07	2.088E-07	8.070E-08	4.200E-08	2.756E-08	2.018E-08
N	2.357E-05	5.566E-06	1.894E-06	1.009E-06	6.503E-07	3.060E-07	1.204E-07	6.347E-08	4.196E-08	3.089E-08
NNE	8.940E-06	2.101E-06	7.165E-07	3.822E-07	2.466E-07	1.162E-07	4.586E-08	2.424E-08	1.605E-08	1.183E-08
NE	6.804E-06	1.608E-06	5.392E-07	2.849E-07	1.827E-07	8.524E-08	3.310E-08	1.729E-08	1.137E-08	8.336E-09
ENE	5.841E-06	1.380E-06	4.629E-07	2.447E-07	1.570E-07	7.326E-08	2.847E-08	1.488E-08	9.785E-09	7.177E-09
E	4.898E-06	1.151E-06	3.819E-07	2.007E-07	1.282E-07	5.949E-08	2.291E-08	1.190E-08	7.800E-09	5.708E-09
ESE	7.084E-06	1.662E-06	5.417E-07	2.820E-07	1.789E-07	8.214E-08	3.113E-08	1.599E-08	1.041E-08	7.577E-09
SE	9.041E-06	2.109E-06	6.941E-07	3.633E-07	2.314E-07	1.069E-07	4.094E-08	2.118E-08	1.385E-08	1.012E-08
SSE	1.320E-05	3.110E-06	1.029E-06	5.399E-07	3.446E-07	1.596E-07	6.139E-08	3.186E-08	2.087E-08	1.527E-08

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VENTS GROUND LEVEL RELEASES - OCT-DEC 2021
 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	7.284E-05	2.253E-05	1.161E-05	5.771E-06	2.400E-06	1.328E-06	8.542E-07	6.026E-07	4.523E-07	3.549E-07	2.878E-07
SSW	4.442E-05	1.383E-05	7.210E-06	3.603E-06	1.492E-06	8.225E-07	5.277E-07	3.715E-07	2.783E-07	2.180E-07	1.765E-07
SW	2.993E-05	9.456E-06	4.806E-06	2.361E-06	9.754E-07	5.375E-07	3.448E-07	2.427E-07	1.818E-07	1.424E-07	1.153E-07
WSW	1.381E-05	4.490E-06	2.357E-06	1.173E-06	4.759E-07	2.590E-07	1.646E-07	1.151E-07	8.569E-08	6.680E-08	5.388E-08
W	2.837E-05	9.263E-06	4.934E-06	2.471E-06	9.975E-07	5.410E-07	3.429E-07	2.391E-07	1.778E-07	1.384E-07	1.114E-07
WNW	2.837E-05	9.189E-06	4.813E-06	2.392E-06	9.703E-07	5.281E-07	3.357E-07	2.346E-07	1.748E-07	1.363E-07	1.099E-07
NW	5.510E-05	1.788E-05	9.434E-06	4.709E-06	1.909E-06	1.039E-06	6.601E-07	4.613E-07	3.436E-07	2.679E-07	2.161E-07
NNW	1.058E-04	3.291E-05	1.708E-05	8.513E-06	3.541E-06	1.959E-06	1.261E-06	8.896E-07	6.679E-07	5.242E-07	4.252E-07
N	1.543E-04	4.637E-05	2.360E-05	1.171E-05	4.944E-06	2.761E-06	1.788E-06	1.268E-06	9.560E-07	7.527E-07	6.122E-07
NNE	5.925E-05	1.768E-05	8.919E-06	4.411E-06	1.864E-06	1.042E-06	6.749E-07	4.787E-07	3.608E-07	2.841E-07	2.310E-07
NE	4.338E-05	1.329E-05	6.843E-06	3.408E-06	1.423E-06	7.891E-07	5.084E-07	3.590E-07	2.697E-07	2.117E-07	1.718E-07
ENE	3.749E-05	1.142E-05	5.869E-06	2.922E-06	1.221E-06	6.774E-07	4.365E-07	3.084E-07	2.316E-07	1.819E-07	1.476E-07
E	3.089E-05	9.572E-06	4.934E-06	2.454E-06	1.018E-06	5.621E-07	3.610E-07	2.544E-07	1.908E-07	1.495E-07	1.212E-07
ESE	4.320E-05	1.375E-05	7.180E-06	3.578E-06	1.466E-06	8.034E-07	5.131E-07	3.600E-07	2.690E-07	2.103E-07	1.700E-07
SE	5.600E-05	1.769E-05	9.123E-06	4.520E-06	1.863E-06	1.025E-06	6.570E-07	4.621E-07	3.460E-07	2.709E-07	2.193E-07
SSE	8.291E-05	2.570E-05	1.333E-05	6.643E-06	2.749E-06	1.516E-06	9.727E-07	6.849E-07	5.133E-07	4.022E-07	3.258E-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	2.395E-07	1.246E-07	8.075E-08	4.554E-08	3.000E-08	2.152E-08	1.629E-08	1.280E-08	1.035E-08	8.543E-09	7.178E-09
SSW	1.467E-07	7.590E-08	4.899E-08	2.746E-08	1.800E-08	1.285E-08	9.684E-09	7.583E-09	6.106E-09	5.025E-09	4.208E-09
SW	9.584E-08	4.962E-08	3.205E-08	1.798E-08	1.179E-08	8.415E-09	6.344E-09	4.967E-09	3.999E-09	3.290E-09	2.755E-09
WSW	4.461E-08	2.281E-08	1.463E-08	8.143E-09	5.326E-09	3.802E-09	2.869E-09	2.251E-09	1.816E-09	1.498E-09	1.258E-09
W	9.217E-08	4.695E-08	3.001E-08	1.664E-08	1.086E-08	7.736E-09	5.828E-09	4.565E-09	3.679E-09	3.031E-09	2.542E-09
WNW	9.101E-08	4.658E-08	2.988E-08	1.665E-08	1.089E-08	7.778E-09	5.871E-09	4.606E-09	3.717E-09	3.066E-09	2.574E-09
NW	1.789E-07	9.164E-08	5.884E-08	3.288E-08	2.159E-08	1.547E-08	1.172E-08	9.230E-09	7.478E-09	6.193E-09	5.219E-09
NNW	3.539E-07	1.844E-07	1.197E-07	6.776E-08	4.479E-08	3.223E-08	2.449E-08	1.932E-08	1.567E-08	1.299E-08	1.095E-08
N	5.107E-07	2.681E-07	1.748E-07	9.928E-08	6.568E-08	4.724E-08	3.584E-08	2.822E-08	2.284E-08	1.889E-08	1.589E-08
NNE	1.927E-07	1.010E-07	6.576E-08	3.722E-08	2.453E-08	1.757E-08	1.327E-08	1.041E-08	8.389E-09	6.908E-09	5.786E-09
NE	1.429E-07	7.441E-08	4.821E-08	2.714E-08	1.783E-08	1.275E-08	9.627E-09	7.544E-09	6.080E-09	5.006E-09	4.194E-09
ENE	1.228E-07	6.393E-08	4.142E-08	2.332E-08	1.532E-08	1.095E-08	8.266E-09	6.477E-09	5.218E-09	4.296E-09	3.599E-09
E	1.008E-07	5.231E-08	3.385E-08	1.906E-08	1.254E-08	8.992E-09	6.804E-09	5.348E-09	4.323E-09	3.570E-09	3.000E-09
ESE	1.411E-07	7.272E-08	4.688E-08	2.630E-08	1.729E-08	1.239E-08	9.388E-09	7.388E-09	5.981E-09	4.949E-09	4.167E-09
SE	1.822E-07	9.437E-08	6.100E-08	3.432E-08	2.259E-08	1.620E-08	1.227E-08	9.654E-09	7.812E-09	6.460E-09	5.435E-09
SSE	2.708E-07	1.405E-07	9.086E-08	5.115E-08	3.368E-08	2.415E-08	1.828E-08	1.438E-08	1.163E-08	9.608E-09	8.079E-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	1.144E-05	2.673E-06	8.799E-07	4.582E-07	2.898E-07	1.306E-07	4.646E-08	2.169E-08	1.286E-08	8.571E-09
SSW	7.079E-06	1.664E-06	5.438E-07	2.819E-07	1.777E-07	7.967E-08	2.804E-08	1.295E-08	7.621E-09	5.043E-09
SW	4.753E-06	1.089E-06	3.553E-07	1.842E-07	1.161E-07	5.208E-08	1.835E-08	8.486E-09	4.992E-09	3.302E-09
WSW	2.305E-06	5.344E-07	1.700E-07	8.688E-08	5.427E-08	2.402E-08	8.332E-09	3.835E-09	2.262E-09	1.504E-09
W	4.801E-06	1.122E-06	3.542E-07	1.803E-07	1.123E-07	4.947E-08	1.704E-08	7.805E-09	4.588E-09	3.042E-09
WNW	4.709E-06	1.090E-06	3.466E-07	1.772E-07	1.107E-07	4.903E-08	1.703E-08	7.846E-09	4.629E-09	3.077E-09
NW	9.210E-06	2.144E-06	6.815E-07	3.484E-07	2.177E-07	9.646E-08	3.363E-08	1.560E-08	9.275E-09	6.213E-09
NNW	1.679E-05	3.943E-06	1.299E-06	6.765E-07	4.281E-07	1.933E-07	6.910E-08	3.248E-08	1.940E-08	1.303E-08
N	2.338E-05	5.478E-06	1.840E-06	9.678E-07	6.162E-07	2.805E-07	1.011E-07	4.760E-08	2.835E-08	1.895E-08
NNE	8.862E-06	2.065E-06	6.942E-07	3.653E-07	2.325E-07	1.057E-07	3.792E-08	1.771E-08	1.046E-08	6.931E-09
NE	6.748E-06	1.582E-06	5.235E-07	2.731E-07	1.729E-07	7.800E-08	2.769E-08	1.286E-08	7.581E-09	5.023E-09
ENE	5.794E-06	1.357E-06	4.495E-07	2.346E-07	1.486E-07	6.701E-08	2.379E-08	1.104E-08	6.509E-09	4.311E-09
E	4.863E-06	1.134E-06	3.720E-07	1.932E-07	1.220E-07	5.487E-08	1.945E-08	9.064E-09	5.373E-09	3.582E-09
ESE	7.039E-06	1.641E-06	5.293E-07	2.726E-07	1.712E-07	7.643E-08	2.687E-08	1.250E-08	7.423E-09	4.965E-09
SE	8.981E-06	2.081E-06	6.773E-07	3.506E-07	2.209E-07	9.907E-08	3.504E-08	1.633E-08	9.700E-09	6.481E-09
SSE	1.311E-05	3.066E-06	1.002E-06	5.200E-07	3.281E-07	1.474E-07	5.221E-08	2.434E-08	1.445E-08	9.640E-09

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VENTS GROUND LEVEL RELEASES - OCT-DEC 2021
 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		
S	6.908E-05	2.066E-05	1.041E-05	5.091E-06	2.062E-06	1.117E-06	7.060E-07	4.904E-07	3.632E-07	2.815E-07	2.258E-07		
SSW	4.213E-05	1.268E-05	6.464E-06	3.179E-06	1.282E-06	6.924E-07	4.364E-07	3.025E-07	2.236E-07	1.730E-07	1.386E-07		
SW	2.838E-05	8.670E-06	4.308E-06	2.082E-06	8.382E-07	4.523E-07	2.850E-07	1.976E-07	1.460E-07	1.130E-07	9.055E-08		
WSW	1.309E-05	4.114E-06	2.111E-06	1.033E-06	4.082E-07	2.174E-07	1.356E-07	9.329E-08	6.851E-08	5.274E-08	4.205E-08		
W	2.689E-05	8.487E-06	4.418E-06	2.178E-06	8.558E-07	4.542E-07	2.826E-07	1.940E-07	1.422E-07	1.093E-07	8.700E-08		
WNW	2.690E-05	8.420E-06	4.310E-06	2.108E-06	8.325E-07	4.435E-07	2.768E-07	1.904E-07	1.398E-07	1.077E-07	8.585E-08		
NW	5.223E-05	1.637E-05	8.444E-06	4.146E-06	1.636E-06	8.708E-07	5.431E-07	3.734E-07	2.742E-07	2.110E-07	1.682E-07		
NNW	1.003E-04	3.016E-05	1.530E-05	7.505E-06	3.040E-06	1.647E-06	1.040E-06	7.227E-07	5.351E-07	4.147E-07	3.327E-07		
N	1.464E-04	4.253E-05	2.116E-05	1.034E-05	4.252E-06	2.325E-06	1.480E-06	1.034E-06	7.686E-07	5.979E-07	4.811E-07		
NNE	5.621E-05	1.622E-05	8.002E-06	3.896E-06	1.605E-06	8.786E-07	5.595E-07	3.910E-07	2.909E-07	2.264E-07	1.822E-07		
NE	4.115E-05	1.219E-05	6.137E-06	3.008E-06	1.224E-06	6.648E-07	4.208E-07	2.927E-07	2.170E-07	1.683E-07	1.351E-07		
ENE	3.556E-05	1.048E-05	5.263E-06	2.579E-06	1.050E-06	5.707E-07	3.614E-07	2.514E-07	1.864E-07	1.446E-07	1.161E-07		
E	2.929E-05	8.775E-06	4.422E-06	2.164E-06	8.742E-07	4.726E-07	2.982E-07	2.069E-07	1.530E-07	1.185E-07	9.495E-08		
ESE	4.096E-05	1.260E-05	6.429E-06	3.152E-06	1.258E-06	6.743E-07	4.228E-07	2.919E-07	2.151E-07	1.660E-07	1.327E-07		
SE	5.310E-05	1.621E-05	8.171E-06	3.983E-06	1.599E-06	8.612E-07	5.419E-07	3.752E-07	2.770E-07	2.142E-07	1.715E-07		
SSE	7.862E-05	2.356E-05	1.194E-05	5.857E-06	2.361E-06	1.274E-06	8.031E-07	5.568E-07	4.116E-07	3.185E-07	2.552E-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		
S	1.860E-07	9.345E-08	5.892E-08	3.201E-08	2.058E-08	1.450E-08	1.083E-08	8.420E-09	6.743E-09	5.524E-09	4.606E-09		
SSW	1.140E-07	5.701E-08	3.581E-08	1.936E-08	1.239E-08	8.702E-09	6.481E-09	5.028E-09	4.018E-09	3.285E-09	2.735E-09		
SW	7.450E-08	3.728E-08	2.344E-08	1.269E-08	8.135E-09	5.721E-09	4.265E-09	3.311E-09	2.648E-09	2.166E-09	1.804E-09		
WSW	3.445E-08	1.697E-08	1.056E-08	5.640E-09	3.586E-09	2.507E-09	1.861E-09	1.440E-09	1.149E-09	9.378E-10	7.795E-10		
W	7.120E-08	3.493E-08	2.167E-08	1.152E-08	7.306E-09	5.096E-09	3.776E-09	2.918E-09	2.324E-09	1.896E-09	1.575E-09		
WNW	7.036E-08	3.470E-08	2.161E-08	1.155E-08	7.352E-09	5.144E-09	3.821E-09	2.958E-09	2.361E-09	1.928E-09	1.604E-09		
NW	1.378E-07	6.787E-08	4.223E-08	2.256E-08	1.436E-08	1.004E-08	7.463E-09	5.780E-09	4.615E-09	3.772E-09	3.140E-09		
NNW	2.740E-07	1.376E-07	8.678E-08	4.715E-08	3.031E-08	2.137E-08	1.597E-08	1.242E-08	9.957E-09	8.163E-09	6.813E-09		
N	3.974E-07	2.016E-07	1.279E-07	7.006E-08	4.526E-08	3.201E-08	2.397E-08	1.868E-08	1.499E-08	1.230E-08	1.027E-08		
NNE	1.505E-07	7.642E-08	4.850E-08	2.657E-08	1.716E-08	1.213E-08	9.084E-09	7.074E-09	5.672E-09	4.650E-09	3.880E-09		
NE	1.113E-07	5.603E-08	3.535E-08	1.922E-08	1.235E-08	8.698E-09	6.492E-09	5.045E-09	4.038E-09	3.305E-09	2.755E-09		
ENE	9.566E-08	4.815E-08	3.039E-08	1.652E-08	1.062E-08	7.479E-09	5.583E-09	4.338E-09	3.472E-09	2.842E-09	2.368E-09		
E	7.815E-08	3.915E-08	2.464E-08	1.335E-08	8.564E-09	6.026E-09	4.496E-09	3.493E-09	2.796E-09	2.289E-09	1.908E-09		
ESE	1.089E-07	5.409E-08	3.384E-08	1.820E-08	1.162E-08	8.153E-09	6.069E-09	4.707E-09	3.763E-09	3.078E-09	2.564E-09		
SE	1.410E-07	7.040E-08	4.420E-08	2.389E-08	1.531E-08	1.076E-08	8.024E-09	6.232E-09	4.986E-09	4.082E-09	3.402E-09		
SSE	2.100E-07	1.051E-07	6.607E-08	3.578E-08	2.295E-08	1.615E-08	1.205E-08	9.360E-09	7.491E-09	6.134E-09	5.113E-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	1.032E-05	2.315E-06	7.294E-07	3.684E-07	2.276E-07	9.867E-08	3.291E-08	1.465E-08	8.470E-09	5.545E-09
SSW	6.386E-06	1.442E-06	4.511E-07	2.269E-07	1.397E-07	6.026E-08	1.992E-08	8.797E-09	5.058E-09	3.299E-09
SW	4.288E-06	9.431E-07	2.946E-07	1.482E-07	9.127E-08	3.940E-08	1.305E-08	5.782E-09	3.331E-09	2.175E-09
WSW	2.077E-06	4.623E-07	1.405E-07	6.958E-08	4.240E-08	1.801E-08	5.820E-09	2.536E-09	1.449E-09	9.418E-10
W	4.327E-06	9.710E-07	2.929E-07	1.444E-07	8.775E-08	3.710E-08	1.190E-08	5.157E-09	2.937E-09	1.904E-09
WNW	4.245E-06	9.430E-07	2.867E-07	1.420E-07	8.657E-08	3.680E-08	1.192E-08	5.204E-09	2.977E-09	1.937E-09
NW	8.296E-06	1.854E-06	5.626E-07	2.784E-07	1.696E-07	7.201E-08	2.329E-08	1.016E-08	5.817E-09	3.788E-09
NNW	1.514E-05	3.413E-06	1.075E-06	5.429E-07	3.353E-07	1.453E-07	4.847E-08	2.159E-08	1.250E-08	8.194E-09
N	2.110E-05	4.748E-06	1.527E-06	7.793E-07	4.847E-07	2.123E-07	7.189E-08	3.233E-08	1.879E-08	1.235E-08
NNE	8.003E-06	1.791E-06	5.772E-07	2.949E-07	1.836E-07	8.048E-08	2.726E-08	1.226E-08	7.114E-09	4.668E-09
NE	6.090E-06	1.372E-06	4.346E-07	2.201E-07	1.361E-07	5.913E-08	1.975E-08	8.789E-09	5.075E-09	3.318E-09
ENE	5.229E-06	1.177E-06	3.732E-07	1.890E-07	1.170E-07	5.081E-08	1.698E-08	7.558E-09	4.364E-09	2.853E-09
E	4.385E-06	9.823E-07	3.082E-07	1.552E-07	9.570E-08	4.137E-08	1.373E-08	6.091E-09	3.514E-09	2.298E-09
ESE	6.343E-06	1.419E-06	4.375E-07	2.184E-07	1.338E-07	5.728E-08	1.875E-08	8.245E-09	4.737E-09	3.091E-09
SE	8.097E-06	1.801E-06	5.603E-07	2.811E-07	1.729E-07	7.445E-08	2.459E-08	1.088E-08	6.269E-09	4.098E-09
SSE	1.182E-05	2.655E-06	8.302E-07	4.176E-07	2.572E-07	1.110E-07	3.681E-08	1.632E-08	9.416E-09	6.158E-09

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VENTS GROUND LEVEL RELEASES - OCT-DEC 2021
 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	1.954E-07	6.609E-08	3.393E-08	1.613E-08	5.794E-09	2.874E-09	1.692E-09	1.108E-09	7.796E-10	5.778E-10	4.452E-10
SSW	8.115E-08	2.744E-08	1.409E-08	6.698E-09	2.406E-09	1.193E-09	7.026E-10	4.601E-10	3.237E-10	2.399E-10	1.849E-10
SW	6.406E-08	2.166E-08	1.112E-08	5.287E-09	1.899E-09	9.419E-10	5.546E-10	3.631E-10	2.555E-10	1.894E-10	1.459E-10
WSW	4.176E-08	1.412E-08	7.250E-09	3.447E-09	1.238E-09	6.140E-10	3.615E-10	2.367E-10	1.666E-10	1.235E-10	9.513E-11
W	7.946E-08	2.687E-08	1.380E-08	6.559E-09	2.356E-09	1.168E-09	6.880E-10	4.505E-10	3.170E-10	2.349E-10	1.810E-10
WNW	7.100E-08	2.401E-08	1.233E-08	5.861E-09	2.105E-09	1.044E-09	6.147E-10	4.025E-10	2.832E-10	2.099E-10	1.617E-10
NW	1.982E-07	6.703E-08	3.441E-08	1.636E-08	5.877E-09	2.914E-09	1.716E-09	1.124E-09	7.907E-10	5.860E-10	4.516E-10
NNW	2.570E-07	8.691E-08	4.462E-08	2.121E-08	7.620E-09	3.779E-09	2.225E-09	1.457E-09	1.025E-09	7.598E-10	5.855E-10
N	3.406E-07	1.152E-07	5.914E-08	2.811E-08	1.010E-08	5.008E-09	2.949E-09	1.931E-09	1.359E-09	1.007E-09	7.759E-10
NNE	1.132E-07	3.829E-08	1.966E-08	9.346E-09	3.357E-09	1.665E-09	9.803E-10	6.419E-10	4.517E-10	3.347E-10	2.579E-10
NE	7.598E-08	2.569E-08	1.319E-08	6.272E-09	2.253E-09	1.117E-09	6.578E-10	4.308E-10	3.031E-10	2.246E-10	1.731E-10
ENE	7.442E-08	2.517E-08	1.292E-08	6.143E-09	2.207E-09	1.094E-09	6.443E-10	4.219E-10	2.969E-10	2.200E-10	1.695E-10
E	7.877E-08	2.664E-08	1.368E-08	6.502E-09	2.336E-09	1.158E-09	6.820E-10	4.466E-10	3.142E-10	2.329E-10	1.795E-10
ESE	1.464E-07	4.951E-08	2.542E-08	1.209E-08	4.341E-09	2.153E-09	1.268E-09	8.300E-10	5.841E-10	4.328E-10	3.336E-10
SE	2.061E-07	6.971E-08	3.579E-08	1.702E-08	6.112E-09	3.031E-09	1.785E-09	1.169E-09	8.223E-10	6.094E-10	4.696E-10
SSE	2.924E-07	9.889E-08	5.077E-08	2.414E-08	8.670E-09	4.300E-09	2.532E-09	1.658E-09	1.167E-09	8.645E-10	6.662E-10

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) AT FIXED POINTS BY DOWNWIND SECTORS *****											
DIRECTIONS											
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	3.537E-10	1.571E-10	9.518E-11	4.811E-11	2.912E-11	1.952E-11	1.399E-11	1.050E-11	8.167E-12	6.524E-12	5.325E-12
SSW	1.469E-10	6.525E-11	3.952E-11	1.998E-11	1.209E-11	8.107E-12	5.809E-12	4.362E-12	3.391E-12	2.709E-12	2.211E-12
SW	1.159E-10	5.150E-11	3.120E-11	1.577E-11	9.544E-12	6.399E-12	4.585E-12	3.443E-12	2.677E-12	2.138E-12	1.749E-12
WSW	7.558E-11	3.357E-11	2.034E-11	1.028E-11	6.222E-12	4.172E-12	2.989E-12	2.245E-12	1.745E-12	1.394E-12	1.138E-12
W	1.438E-10	6.389E-11	3.870E-11	1.956E-11	1.184E-11	7.938E-12	5.688E-12	4.271E-12	3.321E-12	2.653E-12	2.165E-12
WNW	1.285E-10	5.708E-11	3.458E-11	1.748E-11	1.058E-11	7.093E-12	5.082E-12	3.816E-12	2.967E-12	2.370E-12	1.935E-12
NW	3.587E-10	1.594E-10	9.654E-11	4.879E-11	2.953E-11	1.980E-11	1.419E-11	1.065E-11	8.284E-12	6.617E-12	5.401E-12
NNW	4.652E-10	2.066E-10	1.252E-10	6.327E-11	3.829E-11	2.567E-11	1.840E-11	1.381E-11	1.074E-11	8.580E-12	7.003E-12
N	6.164E-10	2.738E-10	1.659E-10	8.384E-11	5.075E-11	3.402E-11	2.438E-11	1.831E-11	1.423E-11	1.137E-11	9.281E-12
NNE	2.049E-10	9.104E-11	5.515E-11	2.787E-11	1.687E-11	1.131E-11	8.105E-12	6.086E-12	4.732E-12	3.780E-12	3.085E-12
NE	1.375E-10	6.109E-11	3.701E-11	1.870E-11	1.132E-11	7.590E-12	5.439E-12	4.084E-12	3.175E-12	2.537E-12	2.070E-12
ENE	1.347E-10	5.984E-11	3.625E-11	1.832E-11	1.109E-11	7.435E-12	5.327E-12	4.000E-12	3.110E-12	2.485E-12	2.028E-12
E	1.426E-10	6.333E-11	3.836E-11	1.939E-11	1.174E-11	7.869E-12	5.639E-12	4.234E-12	3.292E-12	2.630E-12	2.146E-12
ESE	2.650E-10	1.177E-10	7.131E-11	3.604E-11	2.181E-11	1.463E-11	1.048E-11	7.870E-12	6.119E-12	4.888E-12	3.990E-12
SE	3.731E-10	1.657E-10	1.004E-10	5.075E-11	3.071E-11	2.059E-11	1.476E-11	1.108E-11	8.615E-12	6.882E-12	5.617E-12
SSE	5.293E-10	2.351E-10	1.424E-10	7.199E-11	4.357E-11	2.921E-11	2.093E-11	1.572E-11	1.222E-11	9.762E-12	7.968E-12

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***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) BY DOWNWIND SECTORS *****											
DIRECTIONS											
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	3.317E-08	6.793E-09	1.773E-09	7.965E-10	4.506E-10	1.733E-10	5.013E-11	1.987E-11	1.061E-11	6.567E-12	
SSW	1.377E-08	2.821E-09	7.364E-10	3.307E-10	1.871E-10	7.195E-11	2.082E-11	8.250E-12	4.406E-12	2.727E-12	
SW	1.087E-08	2.227E-09	5.813E-10	2.611E-10	1.477E-10	5.680E-11	1.643E-11	6.512E-12	3.478E-12	2.152E-12	
WSW	7.087E-09	1.452E-09	3.790E-10	1.702E-10	9.628E-11	3.703E-11	1.071E-11	4.245E-12	2.267E-12	1.403E-12	
W	1.349E-08	2.762E-09	7.211E-10	3.239E-10	1.832E-10	7.046E-11	2.038E-11	8.079E-12	4.314E-12	2.670E-12	
WNW	1.205E-08	2.468E-09	6.443E-10	2.894E-10	1.637E-10	6.295E-11	1.821E-11	7.218E-12	3.855E-12	2.386E-12	
NW	3.364E-08	6.890E-09	1.799E-09	8.078E-10	4.570E-10	1.757E-10	5.084E-11	2.015E-11	1.076E-11	6.660E-12	
NNW	4.362E-08	8.934E-09	2.332E-09	1.047E-09	5.926E-10	2.279E-10	6.592E-11	2.613E-11	1.395E-11	8.636E-12	
N	5.780E-08	1.184E-08	3.091E-09	1.388E-09	7.853E-10	3.020E-10	8.736E-11	3.463E-11	1.849E-11	1.144E-11	
NNE	1.922E-08	3.936E-09	1.027E-09	4.615E-10	2.611E-10	1.004E-10	2.904E-11	1.151E-11	6.147E-12	3.805E-12	
NE	1.289E-08	2.641E-09	6.895E-10	3.097E-10	1.752E-10	6.737E-11	1.949E-11	7.725E-12	4.125E-12	2.553E-12	
ENE	1.263E-08	2.587E-09	6.754E-10	3.033E-10	1.716E-10	6.599E-11	1.909E-11	7.566E-12	4.040E-12	2.501E-12	
E	1.337E-08	2.738E-09	7.148E-10	3.210E-10	1.816E-10	6.984E-11	2.021E-11	8.008E-12	4.276E-12	2.647E-12	
ESE	2.485E-08	5.090E-09	1.329E-09	5.967E-10	3.376E-10	1.298E-10	3.756E-11	1.488E-11	7.949E-12	4.920E-12	
SE	3.498E-08	7.166E-09	1.871E-09	8.402E-10	4.753E-10	1.828E-10	5.288E-11	2.096E-11	1.119E-11	6.927E-12	
SSE	4.963E-08	1.017E-08	2.654E-09	1.192E-09	6.742E-10	2.593E-10	7.501E-11	2.973E-11	1.588E-11	9.826E-12	

VENTS GROUND LEVEL RELEASES - OCT-DEC 2021
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SPECIFIC POINTS OF INTEREST

RELEASE TYPE	DIRECTION	DIST.	X/Q	X/Q	X/Q	D/Q	
ID	LOCATION	FROM SITE (MI)	(SEC/M3)	(SEC/M3)	(SEC/M3)	(PER SQ.METER)	
			NO	2.26 DAY	8.0 DAY		
			DECAY	DECAY	DECAY		
			UNDELETED	UNDELETED	DELETED		
A	Site Boundary	S	.80	1.0E-05	1.0E-05	8.9E-06	2.9E-08
A	Site Boundary	SSW	.82	5.8E-06	5.7E-06	5.1E-06	1.1E-08
A	Site Boundary	SW	.97	2.5E-06	2.5E-06	2.2E-06	5.6E-09
A	Site Boundary	WSW	.93	1.4E-06	1.4E-06	1.3E-06	4.2E-09
A	Site Boundary	W	.91	3.1E-06	3.1E-06	2.7E-06	8.3E-09
A	Site Boundary	WNW	.94	2.8E-06	2.8E-06	2.5E-06	6.9E-09
A	Site Boundary	NW	.81	7.9E-06	7.8E-06	7.0E-06	2.8E-08
A	Site Boundary	NNW	.69	2.0E-05	2.0E-05	1.8E-05	5.2E-08
A	Site Boundary	N	.67	2.8E-05	2.8E-05	2.5E-05	7.1E-08
A	Site Boundary	NNE	.60	1.3E-05	1.3E-05	1.2E-05	2.8E-08
A	Site Boundary	NE	.62	9.2E-06	9.2E-06	8.3E-06	1.8E-08
A	Site Boundary	ENE	.59	8.8E-06	8.7E-06	7.9E-06	1.9E-08
A	Site Boundary	E	.53	8.9E-06	8.8E-06	8.1E-06	2.5E-08
A	Site Boundary	ESE	.54	1.2E-05	1.2E-05	1.1E-05	4.4E-08
A	Site Boundary	SE	.65	1.2E-05	1.1E-05	1.0E-05	4.6E-08
A	Site Boundary	SSE	.81	1.1E-05	1.1E-05	9.8E-06	4.1E-08
A	Nearest Res	SW	1.30	1.3E-06	1.3E-06	1.1E-06	2.7E-09
A	Nearest Res	WSW	1.80	3.3E-07	3.2E-07	2.7E-07	7.9E-10
A	Nearest Res	WNW	2.40	3.7E-07	3.6E-07	3.0E-07	6.8E-10
A	Nearest Res	NW	.90	6.1E-06	6.1E-06	5.4E-06	2.2E-08
A	Nearest Res	NNW	1.90	2.2E-06	2.2E-06	1.8E-06	4.3E-09
A	Nearest Res	NE	1.60	1.3E-06	1.2E-06	1.1E-06	1.9E-09
A	Nearest Res	E	2.00	5.7E-07	5.6E-07	4.7E-07	1.2E-09
A	Nearest Cow	NNW	3.50	6.9E-07	6.7E-07	5.4E-07	1.0E-09
A	Nearest Garde	SW	2.20	4.6E-07	4.4E-07	3.7E-07	7.5E-10
A	Nearest Garde	WSW	1.80	3.3E-07	3.2E-07	2.7E-07	7.9E-10
A	Nearest Garde	NNW	2.80	1.0E-06	1.0E-06	8.3E-07	1.7E-09
A	Nearest Garde	ESE	2.30	6.2E-07	6.1E-07	5.0E-07	1.5E-09

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Atmospheric Diffusion Estimates

Ground Level Releases

July-December 2021

VENTS GROUND LEVEL RELEASES - JUL-DEC 2021
 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	6.930E-05	2.170E-05	1.133E-05	5.665E-06	2.351E-06	1.302E-06	8.389E-07	5.935E-07	4.470E-07	3.520E-07	2.866E-07
SSW	3.689E-05	1.192E-05	6.320E-06	3.170E-06	1.299E-06	7.128E-07	4.565E-07	3.212E-07	2.409E-07	1.890E-07	1.534E-07
SW	2.334E-05	7.626E-06	3.990E-06	1.982E-06	8.056E-07	4.399E-07	2.807E-07	1.970E-07	1.474E-07	1.154E-07	9.351E-08
WSW	1.438E-05	4.853E-06	2.599E-06	1.300E-06	5.176E-07	2.785E-07	1.757E-07	1.222E-07	9.070E-08	7.055E-08	5.683E-08
W	2.449E-05	8.358E-06	4.506E-06	2.257E-06	8.981E-07	4.831E-07	3.047E-07	2.119E-07	1.573E-07	1.223E-07	9.852E-08
WNW	2.740E-05	9.246E-06	4.959E-06	2.480E-06	9.908E-07	5.346E-07	3.379E-07	2.354E-07	1.750E-07	1.363E-07	1.099E-07
NW	4.167E-05	1.391E-05	7.400E-06	3.691E-06	1.475E-06	7.957E-07	5.031E-07	3.505E-07	2.606E-07	2.030E-07	1.637E-07
NNW	8.999E-05	2.897E-05	1.536E-05	7.707E-06	3.166E-06	1.741E-06	1.116E-06	7.866E-07	5.904E-07	4.636E-07	3.766E-07
N	1.448E-04	4.474E-05	2.347E-05	1.180E-05	4.925E-06	2.737E-06	1.768E-06	1.254E-06	9.456E-07	7.457E-07	6.079E-07
NNE	5.946E-05	1.814E-05	9.394E-06	4.702E-06	1.972E-06	1.100E-06	7.124E-07	5.060E-07	3.823E-07	3.019E-07	2.464E-07
NE	3.408E-05	1.061E-05	5.576E-06	2.805E-06	1.167E-06	6.474E-07	4.177E-07	2.957E-07	2.228E-07	1.756E-07	1.430E-07
ENE	3.418E-05	1.036E-05	5.284E-06	2.626E-06	1.110E-06	6.220E-07	4.044E-07	2.881E-07	2.182E-07	1.727E-07	1.412E-07
E	3.774E-05	1.141E-05	5.829E-06	2.902E-06	1.228E-06	6.885E-07	4.478E-07	3.191E-07	2.417E-07	1.913E-07	1.564E-07
ESE	5.769E-05	1.746E-05	8.880E-06	4.407E-06	1.865E-06	1.046E-06	6.808E-07	4.852E-07	3.677E-07	2.911E-07	2.380E-07
SE	8.270E-05	2.512E-05	1.282E-05	6.368E-06	2.693E-06	1.510E-06	9.818E-07	6.995E-07	5.299E-07	4.193E-07	3.429E-07
SSE	9.567E-05	2.936E-05	1.526E-05	7.648E-06	3.203E-06	1.783E-06	1.154E-06	8.193E-07	6.186E-07	4.883E-07	3.983E-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	2.395E-07	1.276E-07	8.476E-08	5.035E-08	3.494E-08	2.637E-08	2.098E-08	1.730E-08	1.465E-08	1.266E-08	1.111E-08
SSW	1.278E-07	6.735E-08	4.442E-08	2.612E-08	1.799E-08	1.350E-08	1.069E-08	8.782E-09	7.412E-09	6.386E-09	5.596E-09
SW	7.780E-08	4.078E-08	2.681E-08	1.571E-08	1.080E-08	8.099E-09	6.409E-09	5.263E-09	4.441E-09	3.825E-09	3.348E-09
WSW	4.703E-08	2.416E-08	1.565E-08	8.988E-09	6.099E-09	4.525E-09	3.550E-09	2.894E-09	2.427E-09	2.079E-09	1.810E-09
W	8.154E-08	4.189E-08	2.715E-08	1.558E-08	1.057E-08	7.831E-09	6.140E-09	5.003E-09	4.192E-09	3.589E-09	3.124E-09
WNW	9.111E-08	4.703E-08	3.059E-08	1.765E-08	1.201E-08	8.931E-09	7.019E-09	5.731E-09	4.812E-09	4.126E-09	3.597E-09
NW	1.357E-07	7.008E-08	4.560E-08	2.634E-08	1.795E-08	1.337E-08	1.052E-08	8.595E-09	7.222E-09	6.198E-09	5.407E-09
NNW	3.140E-07	1.659E-07	1.096E-07	6.458E-08	4.456E-08	3.348E-08	2.653E-08	2.182E-08	1.843E-08	1.588E-08	1.391E-08
N	5.084E-07	2.717E-07	1.810E-07	1.078E-07	7.489E-08	5.656E-08	4.502E-08	3.715E-08	3.147E-08	2.720E-08	2.388E-08
NNE	2.063E-07	1.107E-07	7.392E-08	4.420E-08	3.080E-08	2.322E-08	1.860E-08	1.537E-08	1.304E-08	1.128E-08	9.916E-09
NE	1.195E-07	6.369E-08	4.234E-08	2.515E-08	1.744E-08	1.315E-08	1.045E-08	8.617E-09	7.294E-09	6.299E-09	5.527E-09
ENE	1.184E-07	6.389E-08	4.283E-08	2.574E-08	1.800E-08	1.366E-08	1.092E-08	9.038E-09	7.678E-09	6.652E-09	5.853E-09
E	1.312E-07	7.083E-08	4.750E-08	2.855E-08	1.997E-08	1.515E-08	1.211E-08	1.003E-08	8.519E-09	7.381E-09	6.494E-09
ESE	1.997E-07	1.079E-07	7.239E-08	4.356E-08	3.048E-08	2.314E-08	1.850E-08	1.533E-08	1.302E-08	1.129E-08	9.934E-09
SE	2.876E-07	1.552E-07	1.041E-07	6.258E-08	4.376E-08	3.322E-08	2.654E-08	2.198E-08	1.867E-08	1.618E-08	1.423E-08
SSE	3.334E-07	1.786E-07	1.192E-07	7.113E-08	4.951E-08	3.744E-08	2.984E-08	2.465E-08	2.089E-08	1.807E-08	1.588E-08

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	1.112E-05	2.621E-06	8.641E-07	4.526E-07	2.885E-07	1.334E-07	5.115E-08	2.650E-08	1.734E-08	1.267E-08
SSW	6.165E-06	1.454E-06	4.707E-07	2.441E-07	1.545E-07	7.059E-08	2.657E-08	1.357E-08	8.805E-09	6.395E-09
SW	3.905E-06	9.045E-07	2.897E-07	1.494E-07	9.418E-08	4.280E-08	1.600E-08	8.144E-09	5.277E-09	3.831E-09
WSW	2.522E-06	5.851E-07	1.817E-07	9.202E-07	5.727E-08	2.546E-08	9.185E-09	4.555E-09	2.904E-09	2.083E-09
W	4.362E-06	1.016E-06	3.152E-07	1.595E-07	9.928E-08	4.415E-08	1.592E-08	7.884E-09	5.019E-09	3.595E-09
WNW	4.810E-06	1.119E-06	3.493E-07	1.775E-07	1.108E-07	4.952E-08	1.802E-08	8.987E-09	5.749E-09	4.133E-09
NW	7.198E-06	1.666E-06	5.201E-07	2.643E-07	1.650E-07	7.378E-08	2.689E-08	1.345E-08	8.621E-09	6.208E-09
NNW	1.498E-05	3.542E-06	1.151E-06	5.982E-07	3.792E-07	1.738E-07	6.569E-08	3.365E-08	2.187E-08	1.591E-08
N	2.301E-05	5.480E-06	1.821E-06	9.575E-07	6.119E-07	2.840E-07	1.094E-07	5.683E-08	3.724E-08	2.724E-08
NNE	9.252E-06	2.191E-06	7.331E-07	3.870E-07	2.480E-07	1.156E-07	4.485E-08	2.343E-08	1.540E-08	1.130E-08
NE	5.462E-06	1.300E-06	4.302E-07	2.256E-07	1.439E-07	6.660E-08	2.554E-08	1.321E-08	8.638E-09	6.308E-09
ENE	5.231E-06	1.230E-06	4.159E-07	2.208E-07	1.421E-07	6.664E-08	2.610E-08	1.372E-08	9.056E-09	6.660E-09
E	5.768E-06	1.360E-06	4.605E-07	2.446E-07	1.574E-07	7.387E-08	2.895E-08	1.522E-08	1.005E-08	7.390E-09
ESE	8.800E-06	2.066E-06	7.000E-07	3.721E-07	2.395E-07	1.125E-07	4.415E-08	2.324E-08	1.536E-08	1.130E-08
SE	1.269E-05	2.984E-06	1.010E-06	5.362E-07	3.450E-07	1.619E-07	6.345E-08	3.336E-08	2.202E-08	1.620E-08
SSE	1.501E-05	3.560E-06	1.188E-06	6.263E-07	4.009E-07	1.866E-07	7.219E-08	3.762E-08	2.470E-08	1.809E-08

B271

VENTS GROUND LEVEL RELEASES - JUL-DEC 2021
 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	6.912E-05	2.159E-05	1.124E-05	5.609E-06	2.315E-06	1.275E-06	8.171E-07	5.749E-07	4.306E-07	3.372E-07	2.731E-07
SSW	3.680E-05	1.186E-05	6.275E-06	3.140E-06	1.280E-06	6.989E-07	4.452E-07	3.117E-07	2.325E-07	1.814E-07	1.465E-07
SW	2.328E-05	7.589E-06	3.963E-06	1.964E-06	7.943E-07	4.315E-07	2.739E-07	1.912E-07	1.423E-07	1.108E-07	8.933E-08
WSW	1.435E-05	4.834E-06	2.584E-06	1.290E-06	5.116E-07	2.742E-07	1.722E-07	1.192E-07	8.814E-08	6.826E-08	5.475E-08
W	2.444E-05	8.325E-06	4.480E-06	2.239E-06	8.874E-07	4.754E-07	2.985E-07	2.067E-07	1.527E-07	1.183E-07	9.486E-08
WNW	2.735E-05	9.211E-06	4.931E-06	2.461E-06	9.792E-07	5.261E-07	3.311E-07	2.297E-07	1.700E-07	1.319E-07	1.059E-07
NW	4.160E-05	1.386E-05	7.364E-06	3.667E-06	1.460E-06	7.846E-07	4.941E-07	3.429E-07	2.540E-07	1.971E-07	1.583E-07
NNW	8.978E-05	2.885E-05	1.526E-05	7.644E-06	3.126E-06	1.711E-06	1.092E-06	7.661E-07	5.724E-07	4.474E-07	3.617E-07
N	1.444E-04	4.451E-05	2.330E-05	1.169E-05	4.854E-06	2.683E-06	1.725E-06	1.216E-06	9.127E-07	7.160E-07	5.806E-07
NNE	5.929E-05	1.804E-05	9.317E-06	4.651E-06	1.940E-06	1.075E-06	6.925E-07	4.890E-07	3.673E-07	2.883E-07	2.339E-07
NE	3.399E-05	1.055E-05	5.532E-06	2.776E-06	1.149E-06	6.336E-07	4.065E-07	2.861E-07	2.144E-07	1.680E-07	1.360E-07
ENE	3.407E-05	1.030E-05	5.236E-06	2.595E-06	1.090E-06	6.069E-07	3.921E-07	2.775E-07	2.089E-07	1.642E-07	1.334E-07
E	3.762E-05	1.134E-05	5.778E-06	2.869E-06	1.206E-06	6.721E-07	4.345E-07	3.077E-07	2.316E-07	1.822E-07	1.480E-07
ESE	5.750E-05	1.736E-05	8.801E-06	4.355E-06	1.832E-06	1.021E-06	6.601E-07	4.675E-07	3.520E-07	2.768E-07	2.250E-07
SE	8.244E-05	2.497E-05	1.270E-05	6.294E-06	2.645E-06	1.473E-06	9.521E-07	6.741E-07	5.074E-07	3.990E-07	3.242E-07
SSE	9.539E-05	2.920E-05	1.514E-05	7.565E-06	3.150E-06	1.744E-06	1.122E-06	7.917E-07	5.943E-07	4.662E-07	3.781E-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	2.269E-07	1.175E-07	7.598E-08	4.276E-08	2.816E-08	2.020E-08	1.530E-08	1.203E-08	9.735E-09	8.048E-09	6.769E-09
SSW	1.214E-07	6.229E-08	4.002E-08	2.233E-08	1.462E-08	1.045E-08	7.888E-09	6.188E-09	4.994E-09	4.120E-09	3.459E-09
SW	7.393E-08	3.773E-08	2.415E-08	1.342E-08	8.765E-09	6.250E-09	4.710E-09	3.690E-09	2.974E-09	2.450E-09	2.054E-09
WSW	4.511E-08	2.267E-08	1.437E-08	7.902E-09	5.139E-09	3.658E-09	2.757E-09	2.161E-09	1.744E-09	1.440E-09	1.209E-09
W	7.816E-08	3.929E-08	2.491E-08	1.369E-08	8.899E-09	6.330E-09	4.768E-09	3.736E-09	3.013E-09	2.486E-09	2.087E-09
WNW	8.737E-08	4.413E-08	2.808E-08	1.552E-08	1.013E-08	7.231E-09	5.463E-09	4.292E-09	3.471E-09	2.870E-09	2.415E-09
NW	1.307E-07	6.615E-08	4.218E-08	2.341E-08	1.535E-08	1.101E-08	8.350E-09	6.588E-09	5.349E-09	4.440E-09	3.751E-09
NNW	3.002E-07	1.550E-07	1.001E-07	5.637E-08	3.722E-08	2.681E-08	2.040E-08	1.612E-08	1.311E-08	1.089E-08	9.209E-09
N	4.830E-07	2.515E-07	1.632E-07	9.239E-08	6.112E-08	4.402E-08	3.348E-08	2.643E-08	2.146E-08	1.780E-08	1.503E-08
NNE	1.947E-07	1.014E-07	6.581E-08	3.717E-08	2.451E-08	1.759E-08	1.333E-08	1.048E-08	8.476E-09	7.003E-09	5.886E-09
NE	1.130E-07	5.856E-08	3.785E-08	2.127E-08	1.398E-08	1.001E-08	7.567E-09	5.942E-09	4.799E-09	3.961E-09	3.326E-09
ENE	1.111E-07	5.810E-08	3.774E-08	2.132E-08	1.404E-08	1.005E-08	7.595E-09	5.956E-09	4.802E-09	3.955E-09	3.314E-09
E	1.234E-07	6.458E-08	4.200E-08	2.378E-08	1.569E-08	1.126E-08	8.522E-09	6.696E-09	5.408E-09	4.463E-09	3.747E-09
ESE	1.875E-07	9.813E-08	6.380E-08	3.609E-08	2.378E-08	1.704E-08	1.288E-08	1.011E-08	8.153E-09	6.719E-09	5.633E-09
SE	2.702E-07	1.413E-07	9.184E-08	5.193E-08	3.421E-08	2.452E-08	1.853E-08	1.454E-08	1.173E-08	9.668E-09	8.106E-09
SSE	3.146E-07	1.636E-07	1.060E-07	5.977E-08	3.935E-08	2.820E-08	2.133E-08	1.676E-08	1.353E-08	1.117E-08	9.378E-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	1.104E-05	2.585E-06	8.423E-07	4.363E-07	2.750E-07	1.234E-07	4.365E-08	2.036E-08	1.209E-08	8.074E-09	
SSW	6.123E-06	1.435E-06	4.594E-07	2.357E-07	1.476E-07	6.553E-08	2.284E-08	1.054E-08	6.219E-09	4.134E-09	
SW	3.880E-06	8.929E-07	2.828E-07	1.443E-07	9.000E-08	3.974E-08	1.374E-08	6.305E-09	3.709E-09	2.459E-09	
WSW	2.509E-06	5.790E-07	1.782E-07	8.945E-08	5.519E-08	2.397E-08	8.112E-09	3.693E-09	2.172E-09	1.445E-09	
W	4.338E-06	1.005E-06	3.090E-07	1.550E-07	9.562E-08	4.154E-08	1.406E-08	6.390E-09	3.755E-09	2.495E-09	
WNW	4.784E-06	1.107E-06	3.425E-07	1.725E-07	1.067E-07	4.661E-08	1.592E-08	7.297E-09	4.314E-09	2.880E-09	
NW	7.165E-06	1.650E-06	5.111E-07	2.577E-07	1.596E-07	6.983E-08	2.400E-08	1.110E-08	6.619E-09	4.454E-09	
NNW	1.490E-05	3.501E-06	1.127E-06	5.801E-07	3.643E-07	1.628E-07	5.757E-08	2.702E-08	1.620E-08	1.093E-08	
N	2.285E-05	5.408E-06	1.777E-06	9.245E-07	5.846E-07	2.637E-07	9.423E-08	4.436E-08	2.655E-08	1.786E-08	
NNE	9.181E-06	2.158E-06	7.132E-07	3.720E-07	2.355E-07	1.063E-07	3.791E-08	1.773E-08	1.053E-08	7.025E-09	
NE	5.422E-06	1.281E-06	4.189E-07	2.172E-07	1.370E-07	6.146E-08	2.171E-08	1.009E-08	5.971E-09	3.974E-09	
ENE	5.188E-06	1.210E-06	4.035E-07	2.115E-07	1.343E-07	6.084E-08	2.174E-08	1.013E-08	5.985E-09	3.969E-09	
E	5.721E-06	1.338E-06	4.472E-07	2.345E-07	1.490E-07	6.761E-08	2.423E-08	1.134E-08	6.727E-09	4.478E-09	
ESE	8.726E-06	2.032E-06	6.793E-07	3.564E-07	2.265E-07	1.027E-07	3.678E-08	1.717E-08	1.016E-08	6.742E-09	
SE	1.258E-05	2.935E-06	9.799E-07	5.137E-07	3.263E-07	1.480E-07	5.293E-08	2.471E-08	1.461E-08	9.701E-09	
SSE	1.490E-05	3.506E-06	1.156E-06	6.019E-07	3.807E-07	1.716E-07	6.097E-08	2.842E-08	1.684E-08	1.121E-08	

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VENTS GROUND LEVEL RELEASES - JUL-DEC 2021
 8.000 DAY DECAY, DELETED
 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	6.554E-05	1.979E-05	1.007E-05	4.945E-06	1.988E-06	1.071E-06	6.745E-07	4.672E-07	3.451E-07	2.669E-07	2.137E-07
SSW	3.489E-05	1.087E-05	5.621E-06	2.768E-06	1.099E-06	5.870E-07	3.671E-07	2.530E-07	1.861E-07	1.434E-07	1.145E-07
SW	2.207E-05	6.954E-06	3.549E-06	1.730E-06	6.815E-07	3.623E-07	2.258E-07	1.551E-07	1.138E-07	8.757E-08	6.978E-08
WSW	1.360E-05	4.427E-06	2.312E-06	1.135E-06	4.381E-07	2.296E-07	1.415E-07	9.638E-08	7.020E-08	5.365E-08	4.251E-08
W	2.316E-05	7.624E-06	4.009E-06	1.971E-06	7.602E-07	3.982E-07	2.454E-07	1.671E-07	1.217E-07	9.300E-08	7.369E-08
WNW	2.592E-05	8.434E-06	4.412E-06	2.166E-06	8.387E-07	4.406E-07	2.722E-07	1.857E-07	1.354E-07	1.037E-07	8.224E-08
NW	3.942E-05	1.269E-05	6.585E-06	3.225E-06	1.249E-06	6.563E-07	4.054E-07	2.766E-07	2.018E-07	1.545E-07	1.226E-07
NNW	8.511E-05	2.643E-05	1.366E-05	6.730E-06	2.679E-06	1.434E-06	8.986E-07	6.201E-07	4.566E-07	3.523E-07	2.815E-07
N	1.369E-04	4.080E-05	2.087E-05	1.030E-05	4.166E-06	2.253E-06	1.422E-06	9.872E-07	7.304E-07	5.658E-07	4.536E-07
NNE	5.623E-05	1.654E-05	8.352E-06	4.103E-06	1.667E-06	9.048E-07	5.724E-07	3.980E-07	2.949E-07	2.287E-07	1.835E-07
NE	3.223E-05	9.671E-06	4.958E-06	2.448E-06	9.874E-07	5.328E-07	3.357E-07	2.327E-07	1.720E-07	1.331E-07	1.066E-07
ENE	3.232E-05	9.448E-06	4.697E-06	2.291E-06	9.378E-07	5.114E-07	3.247E-07	2.264E-07	1.682E-07	1.307E-07	1.050E-07
E	3.569E-05	1.040E-05	5.182E-06	2.532E-06	1.038E-06	5.662E-07	3.597E-07	2.509E-07	1.863E-07	1.448E-07	1.164E-07
ESE	5.455E-05	1.592E-05	7.893E-06	3.845E-06	1.576E-06	8.603E-07	5.466E-07	3.814E-07	2.834E-07	2.203E-07	1.771E-07
SE	7.820E-05	2.290E-05	1.139E-05	5.556E-06	2.276E-06	1.241E-06	7.884E-07	5.498E-07	4.084E-07	3.174E-07	2.551E-07
SSE	9.047E-05	2.677E-05	1.357E-05	6.674E-06	2.707E-06	1.467E-06	9.275E-07	6.444E-07	4.772E-07	3.699E-07	2.967E-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	1.758E-07	8.782E-08	5.516E-08	2.983E-08	1.913E-08	1.345E-08	1.004E-08	7.796E-09	6.239E-09	5.109E-09	4.259E-09
SSW	9.388E-08	4.642E-08	2.895E-08	1.551E-08	9.874E-09	6.911E-09	5.134E-09	3.976E-09	3.173E-09	2.592E-09	2.156E-09
SW	5.715E-08	2.811E-08	1.747E-08	9.324E-09	5.927E-09	4.143E-09	3.075E-09	2.379E-09	1.897E-09	1.549E-09	1.288E-09
WSW	3.464E-08	1.672E-08	1.026E-08	5.381E-09	3.384E-09	2.347E-09	1.732E-09	1.334E-09	1.061E-09	8.635E-10	7.164E-10
W	6.005E-08	2.899E-08	1.779E-08	9.329E-09	5.862E-09	4.064E-09	2.997E-09	2.308E-09	1.833E-09	1.492E-09	1.237E-09
WNW	6.710E-08	3.255E-08	2.005E-08	1.057E-08	6.666E-09	4.635E-09	3.428E-09	2.645E-09	2.105E-09	1.716E-09	1.425E-09
NW	1.001E-07	4.859E-08	2.995E-08	1.582E-08	1.000E-08	6.968E-09	5.162E-09	3.990E-09	3.181E-09	2.597E-09	2.160E-09
NNW	2.310E-07	1.146E-07	7.170E-08	3.857E-08	2.465E-08	1.731E-08	1.290E-08	1.001E-08	8.013E-09	6.562E-09	5.473E-09
N	3.734E-07	1.873E-07	1.180E-07	6.403E-08	4.114E-08	2.899E-08	2.166E-08	1.685E-08	1.350E-08	1.107E-08	9.240E-09
NNE	1.512E-07	7.609E-08	4.801E-08	2.611E-08	1.680E-08	1.185E-08	8.852E-09	6.886E-09	5.517E-09	4.521E-09	3.771E-09
NE	8.767E-08	4.383E-08	2.753E-08	1.488E-08	9.531E-09	6.697E-09	4.992E-09	3.875E-09	3.099E-09	2.535E-09	2.112E-09
ENE	8.666E-08	4.382E-08	2.774E-08	1.514E-08	9.761E-09	6.889E-09	5.151E-09	4.009E-09	3.212E-09	2.632E-09	2.195E-09
E	9.609E-08	4.862E-08	3.079E-08	1.682E-08	1.085E-08	7.663E-09	5.734E-09	4.464E-09	3.579E-09	2.934E-09	2.449E-09
ESE	1.462E-07	7.400E-08	4.688E-08	2.562E-08	1.653E-08	1.167E-08	8.732E-09	6.798E-09	5.449E-09	4.466E-09	3.726E-09
SE	2.106E-07	1.065E-07	6.744E-08	3.683E-08	2.375E-08	1.676E-08	1.254E-08	9.758E-09	7.820E-09	6.409E-09	5.346E-09
SSE	2.444E-07	1.228E-07	7.738E-08	4.202E-08	2.699E-08	1.901E-08	1.419E-08	1.103E-08	8.832E-09	7.233E-09	6.030E-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	9.953E-06	2.238E-06	6.974E-07	3.502E-07	2.154E-07	9.285E-08	3.070E-08	1.360E-08	7.843E-09	5.129E-09
SSW	5.519E-06	1.242E-06	3.801E-07	1.889E-07	1.154E-07	4.920E-08	1.599E-08	6.990E-09	4.001E-09	2.603E-09
SW	3.497E-06	7.727E-07	2.339E-07	1.156E-07	7.038E-08	2.984E-08	9.625E-09	4.191E-09	2.394E-09	1.556E-09
WSW	2.259E-06	5.004E-07	1.469E-07	7.137E-08	4.290E-08	1.783E-08	5.577E-09	2.378E-09	1.344E-09	8.674E-10
W	3.906E-06	8.684E-07	2.548E-07	1.237E-07	7.436E-08	3.092E-08	9.669E-09	4.117E-09	2.324E-09	1.499E-09
WNW	4.308E-06	9.568E-07	2.825E-07	1.377E-07	8.298E-08	3.467E-08	1.094E-08	4.694E-09	2.663E-09	1.724E-09
NW	6.448E-06	1.425E-06	4.208E-07	2.052E-07	1.237E-07	5.174E-08	1.637E-08	7.055E-09	4.017E-09	2.608E-09
NNW	1.342E-05	3.026E-06	9.301E-07	4.636E-07	2.838E-07	1.214E-07	3.974E-08	1.750E-08	1.007E-08	6.588E-09
N	2.060E-05	4.679E-06	1.470E-06	7.411E-07	4.571E-07	1.979E-07	6.584E-08	2.930E-08	1.695E-08	1.111E-08
NNE	8.283E-06	1.870E-06	5.913E-07	2.991E-07	1.850E-07	8.031E-08	2.684E-08	1.197E-08	6.926E-09	4.538E-09
NE	4.890E-06	1.110E-06	3.471E-07	1.745E-07	1.074E-07	4.633E-08	1.531E-08	6.771E-09	3.898E-09	2.546E-09
ENE	4.683E-06	1.049E-06	3.352E-07	1.705E-07	1.058E-07	4.619E-08	1.555E-08	6.960E-09	4.032E-09	2.642E-09
E	5.164E-06	1.160E-06	3.712E-07	1.890E-07	1.173E-07	5.124E-08	1.727E-08	7.741E-09	4.490E-09	2.945E-09
ESE	1.878E-06	1.762E-06	5.642E-07	2.873E-07	1.784E-07	7.799E-08	2.630E-08	1.179E-08	6.837E-09	4.483E-09
SE	1.136E-05	2.545E-06	8.137E-07	4.141E-07	2.571E-07	1.123E-07	3.782E-08	1.694E-08	9.814E-09	6.433E-09
SSE	1.344E-05	3.038E-06	9.582E-07	4.841E-07	2.990E-07	1.296E-07	4.320E-08	1.921E-08	1.110E-08	7.261E-09

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VENTS GROUND LEVEL RELEASES - JUL-DEC 2021
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		1.897E-07	6.416E-08	3.295E-08	1.566E-08	5.626E-09	2.790E-09	1.643E-09	1.076E-09	7.569E-10	5.610E-10	4.323E-10		
SSW		9.071E-08	3.067E-08	1.575E-08	7.488E-09	2.690E-09	1.334E-09	7.854E-10	5.143E-10	3.619E-10	2.682E-10	2.067E-10		
SW		6.007E-08	2.031E-08	1.043E-08	4.958E-09	1.781E-09	8.833E-10	5.201E-10	3.405E-10	2.396E-10	1.776E-10	1.369E-10		
WSW		4.664E-08	1.577E-08	8.097E-09	3.850E-09	1.383E-09	6.858E-10	4.038E-10	2.644E-10	1.860E-10	1.379E-10	1.062E-10		
W		7.892E-08	2.669E-08	1.370E-08	6.515E-09	2.340E-09	1.161E-09	6.833E-10	4.474E-10	3.148E-10	2.333E-10	1.798E-10		
WNW		9.013E-08	3.048E-08	1.565E-08	7.440E-09	2.672E-09	1.325E-09	7.804E-10	5.110E-10	3.596E-10	2.665E-10	2.053E-10		
NW		2.010E-07	6.795E-08	3.489E-08	1.659E-08	5.958E-09	2.955E-09	1.740E-09	1.139E-09	8.016E-10	5.941E-10	4.578E-10		
NNW		2.983E-07	1.009E-07	5.179E-08	2.462E-08	8.844E-09	4.386E-09	2.583E-09	1.691E-09	1.190E-09	8.818E-10	6.796E-10		
N		4.132E-07	1.397E-07	7.174E-08	3.411E-08	1.225E-08	6.075E-09	3.577E-09	2.342E-09	1.648E-09	1.221E-09	9.413E-10		
NNE		1.355E-07	4.582E-08	2.353E-08	1.118E-08	4.017E-09	1.992E-09	1.173E-09	7.681E-10	5.405E-10	4.006E-10	3.087E-10		
NE		7.491E-08	2.533E-08	1.301E-08	6.184E-09	2.221E-09	1.102E-09	6.486E-10	4.247E-10	2.988E-10	2.215E-10	1.707E-10		
ENE		5.986E-08	2.024E-08	1.039E-08	4.941E-09	1.775E-09	8.803E-10	5.183E-10	3.394E-10	2.388E-10	1.770E-10	1.364E-10		
E		6.535E-08	2.210E-08	1.135E-08	5.394E-09	1.938E-09	9.609E-10	5.658E-10	3.705E-10	2.607E-10	1.932E-10	1.489E-10		
ESE		1.061E-07	3.589E-08	1.843E-08	8.762E-09	3.147E-09	1.561E-09	9.190E-10	6.018E-10	4.234E-10	3.138E-10	2.418E-10		
SE		1.626E-07	5.499E-08	2.823E-08	1.342E-08	4.822E-09	2.391E-09	1.408E-09	9.219E-10	6.487E-10	4.807E-10	3.705E-10		
SSE		2.430E-07	8.217E-08	4.219E-08	2.006E-08	7.205E-09	3.573E-09	2.104E-09	1.378E-09	9.694E-10	7.184E-10	5.536E-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		3.434E-10	1.526E-10	9.241E-11	4.671E-11	2.827E-11	1.896E-11	1.358E-11	1.020E-11	7.930E-12	6.335E-12	5.170E-12		
SSW		1.642E-10	7.293E-11	4.418E-11	2.233E-11	1.352E-11	9.062E-12	6.493E-12	4.876E-12	3.791E-12	3.028E-12	2.472E-12		
SW		1.087E-10	4.830E-11	2.926E-11	1.479E-11	8.950E-12	6.001E-12	4.300E-12	3.229E-12	2.510E-12	2.005E-12	1.637E-12		
WSW		8.441E-11	3.750E-11	2.271E-11	1.148E-11	6.949E-12	4.659E-12	3.338E-12	2.507E-12	1.949E-12	1.557E-12	1.271E-12		
W		1.428E-10	6.346E-11	3.844E-11	1.943E-11	1.176E-11	7.884E-12	5.650E-12	4.242E-12	3.298E-12	2.635E-12	2.151E-12		
WNW		1.631E-10	7.247E-11	4.390E-11	2.219E-11	1.343E-11	9.004E-12	6.452E-12	4.845E-12	3.767E-12	3.009E-12	2.456E-12		
NW		3.637E-10	1.616E-10	9.787E-11	4.947E-11	2.994E-11	2.008E-11	1.438E-11	1.080E-11	8.398E-12	6.709E-12	5.476E-12		
NNW		5.399E-10	2.398E-10	1.453E-10	7.343E-11	4.444E-11	2.980E-11	2.135E-11	1.603E-11	1.247E-11	9.958E-12	8.128E-12		
N		7.478E-10	3.322E-10	2.012E-10	1.017E-10	6.156E-11	4.128E-11	2.958E-11	2.221E-11	1.727E-11	1.379E-11	1.126E-11		
NNE		2.452E-10	1.089E-10	6.599E-11	3.335E-11	2.019E-11	1.354E-11	9.699E-12	7.283E-12	5.663E-12	4.523E-12	3.692E-12		
NE		1.356E-10	6.023E-11	3.649E-11	1.844E-11	1.116E-11	7.484E-12	5.362E-12	4.027E-12	3.131E-12	2.501E-12	2.041E-12		
ENE		1.083E-10	4.813E-11	2.916E-11	1.474E-11	8.920E-12	5.980E-12	4.285E-12	3.218E-12	2.502E-12	1.999E-12	1.631E-12		
E		1.183E-10	5.254E-11	3.183E-11	1.609E-11	9.737E-12	6.528E-12	4.678E-12	3.513E-12	2.731E-12	2.182E-12	1.781E-12		
ESE		1.921E-10	8.534E-11	5.170E-11	2.613E-11	1.582E-11	1.060E-11	7.598E-12	5.705E-12	4.436E-12	3.544E-12	2.892E-12		
SE		2.943E-10	1.307E-10	7.920E-11	4.003E-11	2.423E-11	1.625E-11	1.164E-11	8.741E-12	6.796E-12	5.429E-12	4.431E-12		
SSE		4.398E-10	1.954E-10	1.184E-10	5.982E-11	3.621E-11	2.428E-11	1.739E-11	1.306E-11	1.016E-11	8.112E-12	6.622E-12		

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*****		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		3.220E-08	6.596E-09	1.722E-09	7.734E-10	4.375E-10	1.682E-10	4.867E-11	1.929E-11	1.030E-11	6.376E-12		
SSW		1.539E-08	3.153E-09	8.232E-10	3.697E-10	2.092E-10	8.043E-11	2.327E-11	9.222E-12	4.925E-12	3.048E-12		
SW		1.019E-08	2.088E-09	5.451E-10	2.448E-10	1.385E-10	5.326E-11	1.541E-11	6.107E-12	3.261E-12	2.019E-12		
WSW		7.915E-09	1.621E-09	4.232E-10	1.901E-10	1.075E-10	4.135E-11	1.196E-11	4.741E-12	2.532E-12	1.567E-12		
W		1.339E-08	2.744E-09	7.162E-10	3.217E-10	1.820E-10	6.998E-11	2.024E-11	8.024E-12	4.285E-12	2.652E-12		
WNW		1.530E-08	3.133E-09	8.179E-10	3.674E-10	2.078E-10	7.992E-11	2.312E-11	9.163E-12	4.893E-12	3.029E-12		
NW		3.410E-08	6.986E-09	1.824E-09	8.190E-10	4.633E-10	1.782E-10	5.155E-11	2.043E-11	1.091E-11	6.753E-12		
NNW		5.062E-08	1.037E-08	2.707E-09	1.216E-09	6.878E-10	2.645E-10	7.651E-11	3.033E-11	1.619E-11	1.002E-11		
N		7.012E-08	1.436E-08	3.750E-09	1.684E-09	9.527E-10	3.664E-10	1.060E-10	4.201E-11	2.243E-11	1.388E-11		
NNE		2.299E-08	4.710E-09	1.230E-09	5.522E-10	3.124E-10	1.201E-10	3.476E-11	1.377E-11	7.356E-12	4.553E-12		
NE		1.271E-08	2.604E-09	6.798E-10	3.053E-10	1.727E-10	6.642E-11	1.922E-11	7.616E-12	4.067E-12	2.517E-12		
ENE		1.016E-08	2.081E-09	5.433E-10	2.440E-10	1.380E-10	5.308E-11	1.536E-11	6.086E-12	3.250E-12	2.012E-12		
E		1.109E-08	2.272E-09	5.930E-10	2.663E-10	1.507E-10	5.794E-11	1.676E-11	6.644E-12	3.548E-12	2.196E-12		
ESE		1.801E-08	3.690E-09	9.632E-10	4.326E-10	2.447E-10	9.411E-11	2.723E-11	1.079E-11	5.763E-12	3.567E-12		
SE		2.760E-08	5.653E-09	1.476E-09	6.628E-10	3.749E-10	1.442E-10	4.171E-11	1.653E-11	8.829E-12	5.464E-12		
SSE		4.124E-08	8.447E-09	2.205E-09	9.904E-10	5.603E-10	2.155E-10	6.233E-11	2.470E-11	1.319E-11	8.166E-12		

VENTS GROUND LEVEL RELEASES - JUL-DEC 2021
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION FROM SITE (MI)	DIST.	X/Q (SEC/M3) NO DECAy	X/Q (SEC/M3) 2.26 DAY DECAy	X/Q (SEC/M3) 8.0 DAY DECAy	D/Q (PER SQ.METER)
A	Site Boundary	S	.80	9.7E-06	9.7E-06	8.6E-06	2.8E-08
A	Site Boundary	SSW	.82	5.0E-06	5.0E-06	4.5E-06	1.2E-08
A	Site Boundary	SW	.97	2.1E-06	2.1E-06	1.8E-06	5.3E-09
A	Site Boundary	WSW	.93	1.6E-06	1.6E-06	1.4E-06	4.7E-09
A	Site Boundary	W	.91	2.8E-06	2.8E-06	2.5E-06	8.2E-09
A	Site Boundary	WNW	.94	2.9E-06	2.9E-06	2.5E-06	8.8E-09
A	Site Boundary	NW	.81	6.1E-06	6.1E-06	5.4E-06	2.9E-08
A	Site Boundary	NNW	.69	1.8E-05	1.7E-05	1.6E-05	6.0E-08
A	Site Boundary	N	.67	2.8E-05	2.7E-05	2.5E-05	8.6E-08
A	Site Boundary	NNE	.60	1.3E-05	1.3E-05	1.2E-05	3.4E-08
A	Site Boundary	NE	.62	7.4E-06	7.3E-06	6.6E-06	1.8E-08
A	Site Boundary	ENE	.59	7.9E-06	7.9E-06	7.1E-06	1.6E-08
A	Site Boundary	E	.53	1.0E-05	1.0E-05	9.5E-06	2.0E-08
A	Site Boundary	ESE	.54	1.5E-05	1.5E-05	1.4E-05	3.2E-08
A	Site Boundary	SE	.65	1.6E-05	1.6E-05	1.4E-05	3.6E-08
A	Site Boundary	SSE	.81	1.3E-05	1.3E-05	1.1E-05	3.4E-08
A	Nearest Res	SW	1.30	1.1E-06	1.1E-06	9.4E-07	2.5E-09
A	Nearest Res	WSW	1.80	3.5E-07	3.4E-07	2.9E-07	8.9E-10
A	Nearest Res	WNW	2.40	3.7E-07	3.6E-07	3.0E-07	8.6E-10
A	Nearest Res	NW	.90	4.8E-06	4.7E-06	4.2E-06	2.2E-08
A	Nearest Res	NNW	1.90	1.9E-06	1.9E-06	1.6E-06	5.0E-09
A	Nearest Res	NE	1.60	1.0E-06	1.0E-06	8.6E-07	1.9E-09
A	Nearest Res	E	2.00	6.9E-07	6.7E-07	5.7E-07	9.6E-10
A	Nearest Cow	NNW	3.50	5.9E-07	5.7E-07	4.6E-07	1.2E-09
A	Nearest Garde	SW	2.20	3.6E-07	3.5E-07	3.0E-07	7.0E-10
A	Nearest Garde	WSW	1.80	3.5E-07	3.4E-07	2.9E-07	8.9E-10
A	Nearest Garde	NNW	2.80	9.0E-07	8.8E-07	7.1E-07	2.0E-09
A	Nearest Garde	ESE	2.30	8.0E-07	7.8E-07	6.5E-07	1.1E-09

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Atmospheric Diffusion Estimates

Ground Level Releases

January-December 2021

VENTS GROUND LEVEL RELEASES - JAN-DEC 2021
 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	6.008E-05	1.934E-05	1.020E-05	5.105E-06	2.089E-06	1.146E-06	7.335E-07	5.161E-07	3.869E-07	3.035E-07	2.463E-07
SSW	3.116E-05	1.031E-05	5.508E-06	2.763E-06	1.117E-06	6.078E-07	3.866E-07	2.706E-07	2.020E-07	1.578E-07	1.277E-07
SW	1.920E-05	6.513E-06	3.480E-06	1.738E-06	6.939E-07	3.740E-07	2.362E-07	1.644E-07	1.221E-07	9.503E-08	7.659E-08
WSW	1.519E-05	5.186E-06	2.769E-06	1.381E-06	5.484E-07	2.945E-07	1.855E-07	1.288E-07	9.549E-08	7.420E-08	5.972E-08
W	1.975E-05	6.830E-06	3.693E-06	1.850E-06	7.321E-07	3.922E-07	2.465E-07	1.709E-07	1.265E-07	9.821E-08	7.895E-08
WNW	2.502E-05	8.573E-06	4.607E-06	2.301E-06	9.109E-07	4.882E-07	3.070E-07	2.129E-07	1.577E-07	1.225E-07	9.848E-08
NW	3.614E-05	1.224E-05	6.552E-06	3.271E-06	1.298E-06	6.970E-07	4.390E-07	3.049E-07	2.261E-07	1.758E-07	1.415E-07
NNW	7.670E-05	2.460E-05	1.302E-05	6.532E-06	2.680E-06	1.473E-06	9.437E-07	6.646E-07	4.987E-07	3.915E-07	3.179E-07
N	1.100E-04	3.413E-05	1.792E-05	9.005E-06	3.748E-06	2.079E-06	1.342E-06	9.501E-07	7.161E-07	5.643E-07	4.597E-07
NNE	5.725E-05	1.761E-05	9.125E-06	4.562E-06	1.909E-06	1.062E-06	6.874E-07	4.878E-07	3.683E-07	2.907E-07	2.371E-07
NE	3.364E-05	1.051E-05	5.492E-06	2.752E-06	1.145E-06	6.352E-07	4.099E-07	2.903E-07	2.188E-07	1.724E-07	1.404E-07
ENE	2.895E-05	8.834E-06	4.523E-06	2.250E-06	9.479E-07	5.300E-07	3.441E-07	2.448E-07	1.852E-07	1.464E-07	1.196E-07
E	3.108E-05	9.527E-06	4.940E-06	2.473E-06	1.038E-06	5.790E-07	3.752E-07	2.665E-07	2.014E-07	1.590E-07	1.298E-07
ESE	4.637E-05	1.419E-05	7.276E-06	3.622E-06	1.523E-06	8.508E-07	5.519E-07	3.924E-07	2.968E-07	2.345E-07	1.915E-07
SE	6.142E-05	1.903E-05	9.842E-06	4.910E-06	2.050E-06	1.140E-06	7.366E-07	5.223E-07	3.941E-07	3.108E-07	2.534E-07
SSE	7.468E-05	2.329E-05	1.217E-05	6.101E-06	2.533E-06	1.403E-06	9.042E-07	6.397E-07	4.818E-07	3.794E-07	3.089E-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	2.052E-07	1.081E-07	7.126E-08	4.189E-08	2.886E-08	2.166E-08	1.716E-08	1.410E-08	1.190E-08	1.026E-08	8.981E-09
SSW	1.060E-07	5.524E-08	3.615E-08	2.102E-08	1.437E-08	1.072E-08	8.453E-09	6.918E-09	5.820E-09	5.000E-09	4.366E-09
SW	6.341E-08	3.262E-08	2.116E-08	1.216E-08	8.244E-09	6.114E-09	4.796E-09	3.909E-09	3.277E-09	2.807E-09	2.444E-09
WSW	4.938E-08	2.529E-08	1.635E-08	9.358E-09	6.329E-09	4.684E-09	3.668E-09	2.986E-09	2.500E-09	2.139E-09	1.861E-09
W	6.522E-08	3.327E-08	2.145E-08	1.222E-08	8.233E-09	6.074E-09	4.744E-09	3.853E-09	3.219E-09	2.749E-09	2.388E-09
WNW	8.139E-08	4.160E-08	2.686E-08	1.534E-08	1.037E-08	7.667E-09	5.999E-09	4.881E-09	4.085E-09	3.493E-09	3.037E-09
NW	1.170E-07	6.004E-08	3.887E-08	2.230E-08	1.512E-08	1.121E-08	8.793E-09	7.166E-09	6.007E-09	5.144E-09	4.479E-09
NNW	2.650E-07	1.399E-07	9.239E-08	5.442E-08	3.753E-08	2.819E-08	2.234E-08	1.837E-08	1.551E-08	1.337E-08	1.171E-08
N	3.843E-07	2.050E-07	1.364E-07	8.111E-08	5.631E-08	4.250E-08	3.381E-08	2.789E-08	2.361E-08	2.040E-08	1.791E-08
NNE	1.984E-07	1.063E-07	7.094E-08	4.236E-08	2.950E-08	2.232E-08	1.779E-08	1.470E-08	1.246E-08	1.078E-08	9.472E-09
NE	1.174E-07	6.260E-08	4.163E-08	2.475E-08	1.717E-08	1.296E-08	1.030E-08	8.498E-09	7.196E-09	6.216E-09	5.456E-09
ENE	1.003E-07	5.398E-08	3.614E-08	2.167E-08	1.513E-08	1.147E-08	9.161E-09	7.579E-09	6.435E-09	5.573E-09	4.901E-09
E	1.087E-07	5.831E-08	3.894E-08	2.328E-08	1.621E-08	1.227E-08	9.780E-09	8.081E-09	6.853E-09	5.929E-09	5.210E-09
ESE	1.605E-07	8.629E-08	5.772E-08	3.458E-08	2.413E-08	1.828E-08	1.459E-08	1.207E-08	1.024E-08	8.869E-09	7.798E-09
SE	2.120E-07	1.134E-07	7.555E-08	4.504E-08	3.132E-08	2.367E-08	1.885E-08	1.557E-08	1.319E-08	1.141E-08	1.002E-08
SSE	2.581E-07	1.374E-07	9.129E-08	5.420E-08	3.758E-08	2.834E-08	2.254E-08	1.858E-08	1.573E-08	1.359E-08	1.192E-08

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	9.967E-06	2.340E-06	7.566E-07	3.920E-07	2.480E-07	1.133E-07	4.262E-08	2.178E-08	1.414E-08	1.027E-08
SSW	5.354E-06	1.257E-06	3.992E-07	2.047E-07	1.286E-07	5.805E-08	2.143E-08	1.079E-08	6.938E-09	5.008E-09
SW	3.380E-06	7.838E-07	2.442E-07	1.239E-07	7.717E-08	3.437E-08	1.242E-08	6.155E-09	3.922E-09	2.812E-09
WSW	2.689E-06	6.206E-07	1.919E-07	9.690E-08	6.018E-08	2.667E-08	9.567E-09	4.716E-09	2.995E-09	2.143E-09
W	3.571E-06	8.294E-07	2.551E-07	1.284E-07	7.957E-08	3.512E-08	1.250E-08	6.118E-09	3.866E-09	2.755E-09
WNW	4.463E-06	1.032E-06	3.177E-07	1.601E-07	9.925E-08	4.389E-08	1.569E-08	7.720E-09	4.897E-09	3.499E-09
NW	6.357E-06	1.469E-06	4.542E-07	2.294E-07	1.426E-07	6.330E-08	2.279E-08	1.129E-08	7.189E-09	5.153E-09
NNW	1.271E-05	3.000E-06	9.731E-07	5.053E-07	3.201E-07	1.466E-07	5.535E-08	2.834E-08	1.842E-08	1.339E-08
N	1.756E-05	4.174E-06	1.382E-06	7.251E-07	4.628E-07	2.144E-07	8.237E-08	4.270E-08	2.795E-08	2.043E-08
NNE	8.981E-06	2.122E-06	7.075E-07	3.729E-07	2.386E-07	1.111E-07	4.299E-08	2.242E-08	1.473E-08	1.079E-08
NE	5.389E-06	1.276E-06	4.221E-07	2.215E-07	1.414E-07	6.545E-08	2.513E-08	1.302E-08	8.518E-09	6.225E-09
ENE	4.471E-06	1.052E-06	3.539E-07	1.875E-07	1.204E-07	5.633E-08	2.198E-08	1.152E-08	7.596E-09	5.580E-09
E	4.863E-06	1.153E-06	3.861E-07	2.039E-07	1.306E-07	6.089E-08	2.362E-08	1.232E-08	8.099E-09	5.936E-09
ESE	7.187E-06	1.691E-06	5.678E-07	3.004E-07	1.926E-07	9.007E-08	3.508E-08	1.837E-08	1.209E-08	8.880E-09
SE	9.691E-06	2.281E-06	7.584E-07	3.990E-07	2.551E-07	1.185E-07	4.572E-08	2.378E-08	1.560E-08	1.142E-08
SSE	1.195E-05	2.824E-06	9.314E-07	4.879E-07	3.110E-07	1.437E-07	5.506E-08	2.848E-08	1.862E-08	1.360E-08

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VENTS GROUND LEVEL RELEASES - JAN-DEC 2021
 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	5.995E-05	1.926E-05	1.014E-05	5.064E-06	2.064E-06	1.127E-06	7.179E-07	5.028E-07	3.752E-07	2.929E-07	2.366E-07
SSW	3.109E-05	1.026E-05	5.476E-06	2.742E-06	1.104E-06	5.979E-07	3.786E-07	2.638E-07	1.961E-07	1.526E-07	1.228E-07
SW	1.917E-05	6.490E-06	3.461E-06	1.726E-06	6.863E-07	3.684E-07	2.317E-07	1.606E-07	1.188E-07	9.211E-08	7.393E-08
WSW	1.516E-05	5.168E-06	2.755E-06	1.372E-06	5.426E-07	2.903E-07	1.821E-07	1.260E-07	9.305E-08	7.202E-08	5.773E-08
W	1.972E-05	6.808E-06	3.675E-06	1.838E-06	7.247E-07	3.868E-07	2.423E-07	1.673E-07	1.234E-07	9.544E-08	7.644E-08
WNW	2.498E-05	8.545E-06	4.584E-06	2.286E-06	9.018E-07	4.816E-07	3.017E-07	2.085E-07	1.539E-07	1.190E-07	9.536E-08
NW	3.609E-05	1.220E-05	6.524E-06	3.252E-06	1.286E-06	6.884E-07	4.322E-07	2.991E-07	2.211E-07	1.712E-07	1.374E-07
NNW	7.653E-05	2.450E-05	1.295E-05	6.481E-06	2.648E-06	1.449E-06	9.243E-07	6.481E-07	4.842E-07	3.784E-07	3.059E-07
N	1.097E-04	3.397E-05	1.780E-05	8.926E-06	3.698E-06	2.041E-06	1.311E-06	9.239E-07	6.930E-07	5.434E-07	4.406E-07
NNE	5.710E-05	1.751E-05	9.056E-06	4.516E-06	1.879E-06	1.040E-06	6.695E-07	4.725E-07	3.548E-07	2.785E-07	2.259E-07
NE	3.355E-05	1.046E-05	5.452E-06	2.725E-06	1.128E-06	6.226E-07	3.997E-07	2.815E-07	2.111E-07	1.654E-07	1.341E-07
ENE	2.887E-05	8.785E-06	4.486E-06	2.226E-06	9.324E-07	5.183E-07	3.345E-07	2.366E-07	1.780E-07	1.399E-07	1.136E-07
E	3.100E-05	9.477E-06	4.902E-06	2.448E-06	1.022E-06	5.670E-07	3.654E-07	2.581E-07	1.940E-07	1.524E-07	1.237E-07
ESE	4.624E-05	1.411E-05	7.219E-06	3.584E-06	1.499E-06	8.327E-07	5.371E-07	3.798E-07	2.856E-07	2.244E-07	1.822E-07
SE	6.125E-05	1.893E-05	9.770E-06	4.863E-06	2.020E-06	1.117E-06	7.180E-07	5.063E-07	3.800E-07	2.981E-07	2.417E-07
SSE	7.449E-05	2.317E-05	1.209E-05	6.043E-06	2.496E-06	1.375E-06	8.818E-07	6.205E-07	4.649E-07	3.641E-07	2.949E-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	1.962E-07	1.009E-07	6.504E-08	3.652E-08	2.407E-08	1.730E-08	1.314E-08	1.037E-08	8.420E-09	6.985E-09	5.896E-09
SSW	1.016E-07	5.175E-08	3.312E-08	1.843E-08	1.207E-08	8.635E-09	6.535E-09	5.142E-09	4.162E-09	3.445E-09	2.901E-09
SW	6.096E-08	3.071E-08	1.951E-08	1.076E-08	7.005E-09	4.993E-09	3.768E-09	2.958E-09	2.391E-09	1.975E-09	1.662E-09
WSW	4.755E-08	2.387E-08	1.513E-08	8.319E-09	5.411E-09	3.854E-09	2.907E-09	2.281E-09	1.843E-09	1.523E-09	1.281E-09
W	6.291E-08	3.150E-08	1.993E-08	1.093E-08	7.104E-09	5.057E-09	3.814E-09	2.994E-09	2.420E-09	2.000E-09	1.683E-09
WNW	7.852E-08	3.938E-08	2.496E-08	1.373E-08	8.948E-09	6.386E-09	4.827E-09	3.796E-09	3.074E-09	2.545E-09	2.145E-09
NW	1.132E-07	5.709E-08	3.632E-08	2.012E-08	1.319E-08	9.466E-09	7.190E-09	5.681E-09	4.620E-09	3.842E-09	3.251E-09
NNW	2.539E-07	1.311E-07	8.470E-08	4.778E-08	3.160E-08	2.280E-08	1.737E-08	1.375E-08	1.120E-08	9.315E-09	7.884E-09
N	3.665E-07	1.909E-07	1.240E-07	7.035E-08	4.667E-08	3.371E-08	2.571E-08	2.036E-08	1.657E-08	1.379E-08	1.166E-08
NNE	1.880E-07	9.804E-08	6.367E-08	3.656E-08	2.385E-08	1.717E-08	1.305E-08	1.029E-08	8.345E-09	6.914E-09	5.826E-09
NE	1.115E-07	5.791E-08	3.752E-08	2.119E-08	1.399E-08	1.006E-08	7.637E-09	6.021E-09	4.881E-09	4.043E-09	3.407E-09
ENE	9.468E-08	4.952E-08	3.222E-08	1.827E-08	1.208E-08	8.687E-09	6.592E-09	5.192E-09	4.204E-09	3.477E-09	2.925E-09
E	1.030E-07	5.378E-08	3.497E-08	1.983E-08	1.313E-08	9.459E-09	7.191E-09	5.676E-09	4.606E-09	3.818E-09	3.219E-09
ESE	1.518E-07	7.938E-08	5.164E-08	2.929E-08	1.939E-08	1.396E-08	1.060E-08	8.360E-09	6.777E-09	5.612E-09	4.727E-09
SE	2.011E-07	1.047E-07	6.792E-08	3.842E-08	2.539E-08	1.826E-08	1.387E-08	1.093E-08	8.864E-09	7.342E-09	6.185E-09
SSE	2.451E-07	1.271E-07	8.225E-08	4.638E-08	3.059E-08	2.198E-08	1.667E-08	1.314E-08	1.064E-08	8.811E-09	7.421E-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	9.910E-06	2.314E-06	7.409E-07	3.803E-07	2.383E-07	1.062E-07	3.732E-08	1.744E-08	1.042E-08	7.007E-09
SSW	5.325E-06	1.243E-06	3.912E-07	1.989E-07	1.238E-07	5.455E-08	1.887E-08	8.711E-09	5.167E-09	3.456E-09
SW	3.363E-06	7.761E-07	2.397E-07	1.206E-07	7.451E-08	3.245E-08	1.103E-08	5.040E-09	2.973E-09	1.982E-09
WSW	2.677E-06	6.147E-07	1.885E-07	9.445E-08	5.820E-08	2.525E-08	8.540E-09	3.890E-09	2.293E-09	1.529E-09
W	3.554E-06	8.219E-07	2.508E-07	1.253E-07	7.706E-08	3.334E-08	1.123E-08	5.106E-09	3.009E-09	2.007E-09
WNW	4.443E-06	1.023E-06	3.124E-07	1.562E-07	9.614E-08	4.167E-08	1.410E-08	6.446E-09	3.816E-09	2.554E-09
NW	6.331E-06	1.457E-06	4.473E-07	2.244E-07	1.385E-07	6.033E-08	2.064E-08	9.550E-09	5.708E-09	3.853E-09
NNW	1.264E-05	2.967E-06	9.536E-07	4.907E-07	3.081E-07	1.378E-07	4.879E-08	2.297E-08	1.381E-08	9.342E-09
N	1.745E-05	4.123E-06	1.351E-06	7.020E-07	4.436E-07	2.002E-07	7.174E-08	3.397E-08	2.045E-08	1.383E-08
NNE	8.918E-06	2.092E-06	6.896E-07	3.594E-07	2.275E-07	1.028E-07	3.677E-08	1.730E-08	1.034E-08	6.935E-09
NE	5.352E-06	1.258E-06	4.119E-07	2.138E-07	1.350E-07	6.075E-08	2.162E-08	1.014E-08	6.048E-09	4.056E-09
ENE	4.437E-06	1.036E-06	3.444E-07	1.802E-07	1.144E-07	5.187E-08	1.862E-08	8.753E-09	5.216E-09	3.488E-09
E	4.828E-06	1.137E-06	3.762E-07	1.965E-07	1.245E-07	5.636E-08	2.022E-08	9.531E-09	5.701E-09	3.829E-09
ESE	7.135E-06	1.666E-06	5.530E-07	2.892E-07	1.835E-07	8.314E-08	2.985E-08	1.406E-08	8.398E-09	5.629E-09
SE	9.625E-06	2.250E-06	7.396E-07	3.849E-07	2.434E-07	1.098E-07	3.918E-08	1.840E-08	1.098E-08	7.364E-09
SSE	1.186E-05	2.786E-06	9.089E-07	4.710E-07	2.970E-07	1.334E-07	4.733E-08	2.215E-08	1.320E-08	8.839E-09

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VENTS GROUND LEVEL RELEASES - JAN-DEC 2021
 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	5.683E-05	1.764E-05	9.075E-06	4.458E-06	1.768E-06	9.444E-07	5.905E-07	4.069E-07	2.992E-07	2.306E-07	1.841E-07
SSW	2.947E-05	9.401E-06	4.900E-06	2.414E-06	9.458E-07	5.010E-07	3.113E-07	2.134E-07	1.563E-07	1.200E-07	9.547E-08
SW	1.816E-05	5.942E-06	3.096E-06	1.519E-06	5.875E-07	3.084E-07	1.903E-07	1.297E-07	9.454E-08	7.230E-08	5.732E-08
WSW	1.436E-05	4.731E-06	2.464E-06	1.206E-06	4.643E-07	2.429E-07	1.495E-07	1.017E-07	7.396E-08	5.648E-08	4.472E-08
W	1.868E-05	6.232E-06	3.286E-06	1.616E-06	6.200E-07	3.235E-07	1.987E-07	1.349E-07	9.804E-08	7.478E-08	5.914E-08
WNW	2.367E-05	7.822E-06	4.099E-06	2.011E-06	7.714E-07	4.027E-07	2.474E-07	1.681E-07	1.222E-07	9.324E-08	7.378E-08
NW	3.419E-05	1.116E-05	5.832E-06	2.859E-06	1.100E-06	5.752E-07	3.540E-07	2.409E-07	1.753E-07	1.339E-07	1.061E-07
NNW	7.254E-05	2.244E-05	1.159E-05	5.706E-06	2.268E-06	1.214E-06	7.599E-07	5.242E-07	3.859E-07	2.976E-07	2.377E-07
N	1.040E-04	3.112E-05	1.594E-05	7.863E-06	3.171E-06	1.713E-06	1.080E-06	7.487E-07	5.536E-07	4.285E-07	3.434E-07
NNE	5.414E-05	1.605E-05	8.114E-06	3.982E-06	1.614E-06	8.744E-07	5.526E-07	3.840E-07	2.843E-07	2.204E-07	1.768E-07
NE	3.182E-05	9.583E-06	4.884E-06	2.402E-06	9.686E-07	5.230E-07	3.297E-07	2.286E-07	1.690E-07	1.308E-07	1.048E-07
ENE	2.738E-05	8.054E-06	4.021E-06	1.964E-06	8.013E-07	4.361E-07	2.765E-07	1.926E-07	1.429E-07	1.110E-07	8.913E-08
E	2.939E-05	8.687E-06	4.393E-06	2.159E-06	8.778E-07	4.766E-07	3.016E-07	2.098E-07	1.555E-07	1.206E-07	9.679E-08
ESE	4.385E-05	1.293E-05	6.470E-06	3.161E-06	1.288E-06	7.002E-07	4.436E-07	3.088E-07	2.290E-07	1.778E-07	1.428E-07
SE	5.808E-05	1.735E-05	8.752E-06	4.286E-06	1.734E-06	9.382E-07	5.924E-07	4.112E-07	3.043E-07	2.357E-07	1.890E-07
SSE	7.062E-05	2.124E-05	1.083E-05	5.326E-06	2.143E-06	1.155E-06	7.272E-07	5.037E-07	3.721E-07	2.878E-07	2.305E-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	1.510E-07	7.469E-08	4.661E-08	2.501E-08	1.596E-08	1.119E-08	8.331E-09	6.464E-09	5.169E-09	4.231E-09	3.527E-09
SSW	7.808E-08	3.822E-08	2.367E-08	1.257E-08	7.966E-09	5.556E-09	4.119E-09	3.184E-09	2.539E-09	2.072E-09	1.724E-09
SW	4.673E-08	2.260E-08	1.388E-08	7.291E-09	4.586E-09	3.182E-09	2.349E-09	1.810E-09	1.439E-09	1.172E-09	9.728E-10
WSW	3.641E-08	1.753E-08	1.074E-08	5.621E-09	3.527E-09	2.443E-09	1.801E-09	1.386E-09	1.101E-09	8.965E-10	7.436E-10
W	4.812E-08	2.309E-08	1.411E-08	7.354E-09	4.602E-09	3.180E-09	2.341E-09	1.800E-09	1.428E-09	1.161E-09	9.625E-10
WNW	6.005E-08	2.886E-08	1.766E-08	9.232E-09	5.794E-09	4.014E-09	2.961E-09	2.280E-09	1.812E-09	1.475E-09	1.224E-09
NW	8.642E-08	4.171E-08	2.560E-08	1.345E-08	8.476E-09	5.892E-09	4.358E-09	3.364E-09	2.680E-09	2.187E-09	1.818E-09
NNW	1.951E-07	9.678E-08	6.051E-08	3.256E-08	2.081E-08	1.462E-08	1.090E-08	8.467E-09	6.780E-09	5.555E-09	4.636E-09
N	2.826E-07	1.416E-07	8.912E-08	4.835E-08	3.108E-08	2.191E-08	1.638E-08	1.275E-08	1.023E-08	8.392E-09	7.011E-09
NNE	1.457E-07	7.322E-08	4.618E-08	2.512E-08	1.616E-08	1.140E-08	8.527E-09	6.638E-09	5.323E-09	4.366E-09	3.655E-09
NE	8.621E-08	4.315E-08	2.714E-08	1.470E-08	9.430E-09	6.638E-09	4.956E-09	3.853E-09	3.086E-09	2.529E-09	2.110E-09
ENE	7.352E-08	3.712E-08	2.348E-08	1.281E-08	8.262E-09	5.835E-09	4.367E-09	3.402E-09	2.728E-09	2.238E-09	1.869E-09
E	7.977E-08	4.016E-08	2.536E-08	1.381E-08	8.888E-09	6.273E-09	4.692E-09	3.654E-09	2.931E-09	2.405E-09	2.008E-09
ESE	1.177E-07	5.938E-08	3.754E-08	2.048E-08	1.320E-08	9.320E-09	6.975E-09	5.433E-09	4.359E-09	3.576E-09	2.987E-09
SE	1.556E-07	7.810E-08	4.921E-08	2.672E-08	1.717E-08	1.210E-08	9.045E-09	7.038E-09	5.640E-09	4.624E-09	3.860E-09
SSE	1.895E-07	9.471E-08	5.950E-08	3.218E-08	2.063E-08	1.452E-08	1.083E-08	8.418E-09	6.740E-09	5.521E-09	4.605E-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	8.927E-06	2.000E-06	6.114E-07	3.039E-07	1.856E-07	7.916E-08	2.579E-08	1.132E-08	6.504E-09	4.248E-09	
SSW	4.795E-06	1.074E-06	3.227E-07	1.588E-07	9.629E-08	4.061E-08	1.299E-08	5.624E-09	3.205E-09	2.081E-09	
SW	3.027E-06	6.703E-07	1.975E-07	9.612E-08	5.784E-08	2.409E-08	7.554E-09	3.223E-09	1.823E-09	1.177E-09	
WSW	2.409E-06	5.308E-07	1.552E-07	7.522E-08	4.513E-08	1.871E-08	5.828E-09	2.475E-09	1.396E-09	9.006E-10	
W	3.199E-06	7.096E-07	2.065E-07	9.972E-08	5.969E-08	2.466E-08	7.631E-09	3.224E-09	1.813E-09	1.167E-09	
WNW	3.998E-06	8.829E-07	2.571E-07	1.243E-07	7.446E-08	3.082E-08	9.578E-09	4.067E-09	2.296E-09	1.482E-09	
NW	5.696E-06	1.257E-06	3.677E-07	1.783E-07	1.070E-07	4.449E-08	1.394E-08	5.967E-09	3.387E-09	2.196E-09	
NNW	1.138E-05	2.563E-06	7.866E-07	3.918E-07	2.397E-07	1.025E-07	3.355E-08	1.478E-08	8.519E-09	5.577E-09	
N	1.572E-05	3.565E-06	1.116E-06	5.617E-07	3.461E-07	1.496E-07	4.973E-08	2.214E-08	1.283E-08	8.425E-09	
NNE	8.042E-06	1.811E-06	5.710E-07	2.884E-07	1.782E-07	7.730E-08	2.582E-08	1.152E-08	6.677E-09	4.382E-09	
NE	4.825E-06	1.089E-06	3.408E-07	1.714E-07	1.056E-07	4.560E-08	1.512E-08	6.710E-09	3.876E-09	2.539E-09	
ENE	4.003E-06	8.973E-07	2.855E-07	1.449E-07	8.982E-08	3.915E-08	1.316E-08	5.895E-09	3.421E-09	2.247E-09	
E	4.354E-06	9.841E-07	3.115E-07	1.577E-07	9.754E-08	4.238E-08	1.419E-08	6.338E-09	3.675E-09	2.414E-09	
ESE	6.436E-06	1.443E-06	4.581E-07	2.323E-07	1.439E-07	6.264E-08	2.103E-08	9.416E-09	5.465E-09	3.590E-09	
SE	8.678E-06	1.947E-06	6.121E-07	3.087E-07	1.905E-07	8.249E-08	2.748E-08	1.223E-08	7.079E-09	4.642E-09	
SSE	1.070E-05	2.411E-06	7.519E-07	3.776E-07	2.323E-07	1.001E-07	3.312E-08	1.467E-08	8.469E-09	5.543E-09	

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VENTS GROUND LEVEL RELEASES - JAN-DEC 2021
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		2.354E-07	7.960E-08	4.087E-08	1.943E-08	6.979E-09	3.461E-09	2.038E-09	1.334E-09	9.390E-10	6.959E-10	5.362E-10		
SSW		1.086E-07	3.673E-08	1.886E-08	8.965E-09	3.220E-09	1.597E-09	9.403E-10	6.157E-10	4.333E-10	3.211E-10	2.474E-10		
SW		6.619E-08	2.238E-08	1.149E-08	5.463E-09	1.962E-09	9.732E-10	5.731E-10	3.752E-10	2.640E-10	1.957E-10	1.508E-10		
WSW		5.717E-08	1.933E-08	9.926E-09	4.719E-09	1.695E-09	8.406E-10	4.950E-10	3.241E-10	2.281E-10	1.690E-10	1.302E-10		
W		7.762E-08	2.625E-08	1.348E-08	6.407E-09	2.301E-09	1.141E-09	6.720E-10	4.400E-10	3.096E-10	2.295E-10	1.768E-10		
WNW		9.673E-08	3.271E-08	1.679E-08	7.985E-09	2.868E-09	1.422E-09	8.375E-10	5.484E-10	3.859E-10	2.860E-10	2.204E-10		
NW		1.843E-07	6.232E-08	3.200E-08	1.521E-08	5.464E-09	2.710E-09	1.596E-09	1.045E-09	7.351E-10	5.448E-10	4.198E-10		
NNW		2.788E-07	9.427E-08	4.840E-08	2.301E-08	8.265E-09	4.099E-09	2.414E-09	1.580E-09	1.112E-09	8.241E-10	6.351E-10		
N		3.560E-07	1.204E-07	6.181E-08	2.938E-08	1.055E-08	5.234E-09	3.082E-09	2.018E-09	1.420E-09	1.052E-09	8.110E-10		
NNE		1.496E-07	5.057E-08	2.597E-08	1.234E-08	4.434E-09	2.199E-09	1.295E-09	8.479E-10	5.966E-10	4.421E-10	3.407E-10		
NE		7.876E-08	2.663E-08	1.367E-08	6.501E-09	2.335E-09	1.158E-09	6.819E-10	4.465E-10	3.142E-10	2.328E-10	1.794E-10		
ENE		5.569E-08	1.883E-08	9.670E-09	4.597E-09	1.651E-09	8.189E-10	4.822E-10	3.157E-10	2.222E-10	1.646E-10	1.269E-10		
E		5.947E-08	2.011E-08	1.033E-08	4.909E-09	1.763E-09	8.745E-10	5.149E-10	3.371E-10	2.372E-10	1.758E-10	1.355E-10		
ESE		1.016E-07	3.437E-08	1.765E-08	8.390E-09	3.014E-09	1.495E-09	8.800E-10	5.762E-10	4.055E-10	3.005E-10	2.316E-10		
SE		1.759E-07	5.947E-08	3.053E-08	1.452E-08	5.214E-09	2.586E-09	1.523E-09	9.970E-10	7.015E-10	5.199E-10	4.006E-10		
SSE		2.343E-07	7.924E-08	4.069E-08	1.934E-08	6.948E-09	3.446E-09	2.029E-09	1.329E-09	9.348E-10	6.928E-10	5.339E-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		4.260E-10	1.892E-10	1.146E-10	5.794E-11	3.507E-11	2.351E-11	1.685E-11	1.265E-11	9.837E-12	7.858E-12	6.414E-12		
SSW		1.966E-10	8.732E-11	5.290E-11	2.674E-11	1.618E-11	1.085E-11	7.775E-12	5.838E-12	4.539E-12	3.626E-12	2.960E-12		
SW		1.198E-10	5.322E-11	3.224E-11	1.629E-11	9.862E-12	6.612E-12	4.738E-12	3.558E-12	2.766E-12	2.210E-12	1.804E-12		
WSW		1.035E-10	4.596E-11	2.784E-11	1.407E-11	8.518E-12	5.711E-12	4.092E-12	3.073E-12	2.389E-12	1.909E-12	1.558E-12		
W		1.405E-10	6.241E-11	3.780E-11	1.911E-11	1.157E-11	7.754E-12	5.556E-12	4.172E-12	3.244E-12	2.591E-12	2.115E-12		
WNW		1.751E-10	7.777E-11	4.711E-11	2.381E-11	1.441E-11	9.663E-12	6.924E-12	5.199E-12	4.043E-12	3.229E-12	2.636E-12		
NW		3.335E-10	1.482E-10	8.975E-11	4.537E-11	2.746E-11	1.841E-11	1.319E-11	9.905E-12	7.702E-12	6.152E-12	5.022E-12		
NNW		5.045E-10	2.241E-10	1.358E-10	6.862E-11	4.153E-11	2.785E-11	1.995E-11	1.498E-11	1.165E-11	9.306E-12	7.596E-12		
N		6.443E-10	2.862E-10	1.734E-10	8.763E-11	5.304E-11	3.556E-11	2.548E-11	1.913E-11	1.488E-11	1.188E-11	9.700E-12		
NNE		2.707E-10	1.202E-10	7.284E-11	3.682E-11	2.228E-11	1.494E-11	1.071E-11	8.039E-12	6.250E-12	4.993E-12	4.075E-12		
NE		1.425E-10	6.332E-11	3.836E-11	1.939E-11	1.173E-11	7.868E-12	5.638E-12	4.233E-12	3.291E-12	2.629E-12	2.146E-12		
ENE		1.008E-10	4.478E-11	2.712E-11	1.371E-11	8.298E-12	5.564E-12	3.987E-12	2.993E-12	2.328E-12	1.859E-12	1.518E-12		
E		1.076E-10	4.782E-11	2.896E-11	1.464E-11	8.861E-12	5.941E-12	4.257E-12	3.197E-12	2.485E-12	1.985E-12	1.620E-12		
ESE		1.840E-10	8.172E-11	4.950E-11	2.502E-11	1.514E-11	1.015E-11	7.276E-12	5.463E-12	4.248E-12	3.393E-12	2.770E-12		
SE		3.183E-10	1.414E-10	8.565E-11	4.329E-11	2.620E-11	1.757E-11	1.259E-11	9.453E-12	7.350E-12	5.871E-12	4.792E-12		
SSE		4.241E-10	1.884E-10	1.141E-10	5.769E-11	3.492E-11	2.341E-11	1.677E-11	1.260E-11	9.794E-12	7.823E-12	6.385E-12		

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*****		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		3.995E-08	8.182E-09	2.136E-09	9.593E-10	5.427E-10	2.087E-10	6.038E-11	2.393E-11	1.278E-11	7.909E-12		
SSW		1.843E-08	3.775E-09	9.856E-10	4.427E-10	2.504E-10	9.630E-11	2.786E-11	1.104E-11	5.896E-12	3.650E-12		
SW		1.123E-08	2.301E-09	6.006E-10	2.698E-10	1.526E-10	5.869E-11	1.698E-11	6.729E-12	3.593E-12	2.224E-12		
WSW		9.702E-09	1.987E-09	5.188E-10	2.330E-10	1.318E-10	5.069E-11	1.466E-11	5.812E-12	3.104E-12	1.921E-12		
W		1.317E-08	2.698E-09	7.044E-10	3.164E-10	1.790E-10	6.882E-11	1.991E-11	7.891E-12	4.214E-12	2.608E-12		
WNW		1.642E-08	3.362E-09	8.778E-10	3.942E-10	2.230E-10	8.577E-11	2.481E-11	9.834E-12	5.251E-12	3.250E-12		
NW		3.127E-08	6.406E-09	1.672E-09	7.511E-10	4.249E-10	1.634E-10	4.727E-11	1.874E-11	1.000E-11	6.193E-12		
NNW		4.731E-08	9.690E-09	2.530E-09	1.136E-09	6.427E-10	2.472E-10	7.151E-11	2.834E-11	1.513E-11	9.367E-12		
N		6.041E-08	1.237E-08	3.230E-09	1.451E-09	8.208E-10	3.156E-10	9.131E-11	3.619E-11	1.933E-11	1.196E-11		
NNE		2.538E-08	5.199E-09	1.357E-09	6.095E-10	3.448E-10	1.326E-10	3.836E-11	1.520E-11	8.119E-12	5.026E-12		
NE		1.337E-08	2.738E-09	7.147E-10	3.210E-10	1.816E-10	6.983E-11	2.020E-11	8.007E-12	4.276E-12	2.647E-12		
ENE		9.451E-09	1.936E-09	5.054E-10	2.270E-10	1.284E-10	4.938E-11	1.429E-11	5.662E-12	3.024E-12	1.871E-12		
E		1.009E-08	2.067E-09	5.397E-10	2.424E-10	1.371E-10	5.273E-11	1.525E-11	6.046E-12	3.229E-12	1.998E-12		
ESE		1.725E-08	3.533E-09	9.224E-10	4.143E-10	2.344E-10	9.012E-11	2.607E-11	1.033E-11	5.518E-12	3.415E-12		
SE		2.984E-08	6.113E-09	1.596E-09	7.167E-10	4.055E-10	1.559E-10	4.511E-11	1.788E-11	9.547E-12	5.909E-12		
SSE		3.977E-08	8.146E-09	2.127E-09	9.551E-10	5.403E-10	2.078E-10	6.011E-11	2.382E-11	1.272E-11	7.875E-12		

VENTS GROUND LEVEL RELEASES - JAN-DEC 2021
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SPECIFIC POINTS OF INTEREST

RELEASE TYPE OF	DIRECTION	DIST.	X/Q	X/Q	X/Q	D/Q	
ID	LOCATION	FROM SITE (MI)	(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	8.8E-06	8.7E-06	7.8E-06	3.5E-08
A	Site Boundary	SSW	.82	4.4E-06	4.4E-06	3.9E-06	1.5E-08
A	Site Boundary	SW	.97	1.8E-06	1.8E-06	1.6E-06	5.8E-09
A	Site Boundary	WSW	.93	1.7E-06	1.7E-06	1.5E-06	5.8E-09
A	Site Boundary	W	.91	2.3E-06	2.3E-06	2.0E-06	8.1E-09
A	Site Boundary	WNW	.94	2.7E-06	2.7E-06	2.4E-06	9.4E-09
A	Site Boundary	NNW	.81	5.4E-06	5.4E-06	4.8E-06	2.6E-08
A	Site Boundary	NNW	.69	1.5E-05	1.5E-05	1.3E-05	5.6E-08
A	Site Boundary	N	.67	2.1E-05	2.1E-05	1.9E-05	7.4E-08
A	Site Boundary	NNE	.60	1.3E-05	1.3E-05	1.2E-05	3.8E-08
A	Site Boundary	NE	.62	7.3E-06	7.3E-06	6.6E-06	1.9E-08
A	Site Boundary	ENE	.59	6.8E-06	6.7E-06	6.1E-06	1.4E-08
A	Site Boundary	E	.53	8.8E-06	8.7E-06	8.0E-06	1.9E-08
A	Site Boundary	ESE	.54	1.3E-05	1.2E-05	1.1E-05	3.1E-08
A	Site Boundary	SE	.65	1.2E-05	1.2E-05	1.1E-05	3.9E-08
A	Site Boundary	SSE	.81	1.0E-05	1.0E-05	8.9E-06	3.3E-08
A	Nearest Res	SW	1.30	9.5E-07	9.4E-07	8.2E-07	2.8E-09
A	Nearest Res	WSW	1.80	3.7E-07	3.6E-07	3.1E-07	1.1E-09
A	Nearest Res	WNW	2.40	3.3E-07	3.3E-07	2.7E-07	9.2E-10
A	Nearest Res	NW	.90	4.2E-06	4.2E-06	3.7E-06	2.0E-08
A	Nearest Res	NNW	1.90	1.6E-06	1.6E-06	1.4E-06	4.6E-09
A	Nearest Res	NE	1.60	1.0E-06	9.9E-07	8.4E-07	2.0E-09
A	Nearest Res	E	2.00	5.8E-07	5.7E-07	4.8E-07	8.7E-10
A	Nearest Cow	NNW	3.50	5.0E-07	4.8E-07	3.9E-07	1.1E-09
A	Nearest Garde	SW	2.20	3.1E-07	3.0E-07	2.5E-07	7.8E-10
A	Nearest Garde	WSW	1.80	3.7E-07	3.6E-07	3.1E-07	1.1E-09
A	Nearest Garde	NNW	2.80	7.6E-07	7.4E-07	6.0E-07	1.9E-09
A	Nearest Garde	ESE	2.30	6.5E-07	6.3E-07	5.3E-07	1.1E-09

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Atmospheric Diffusion Estimates

Elevated Releases

January-March 2021

ERP ELEVATED STACK RELEASES - JAN-MAR 2021
 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				
S	1.890E-09	1.255E-08	6.574E-08	1.127E-07	1.325E-07	1.150E-07	9.437E-08	7.736E-08	6.422E-08	6.969E-08	7.058E-08				
SSW	1.142E-15	1.133E-09	1.913E-08	3.873E-08	5.257E-08	4.956E-08	4.305E-08	4.872E-08	5.055E-08	4.401E-08	3.868E-08				
SW	5.361E-16	7.620E-10	3.081E-08	7.981E-08	1.210E-07	7.993E-08	5.674E-08	4.262E-08	3.343E-08	2.709E-08	2.254E-08				
WSW	9.173E-16	1.022E-09	4.811E-08	1.313E-07	2.103E-07	1.312E-07	9.012E-08	6.620E-08	5.106E-08	4.086E-08	3.363E-08				
W	5.122E-13	5.393E-08	2.628E-07	3.291E-07	2.877E-07	1.762E-07	1.194E-07	8.677E-08	6.637E-08	5.273E-08	4.315E-08				
WNW	4.737E-08	3.632E-08	2.317E-07	4.526E-07	5.856E-07	3.563E-07	2.402E-07	1.803E-07	1.410E-07	1.110E-07	9.015E-08				
NW	5.311E-16	9.153E-10	6.657E-08	2.284E-07	4.339E-07	2.563E-07	1.698E-07	1.236E-07	9.462E-08	7.428E-08	6.020E-08				
NNW	6.469E-11	3.865E-09	2.714E-08	6.135E-08	1.109E-07	1.232E-07	1.263E-07	1.202E-07	1.113E-07	8.824E-08	7.215E-08				
N	1.957E-09	1.284E-08	2.337E-08	2.773E-08	2.902E-08	2.650E-08	2.308E-08	1.957E-08	1.677E-08	1.456E-08	1.279E-08				
NNE	4.313E-11	2.708E-09	1.334E-08	2.329E-08	2.979E-08	2.746E-08	2.354E-08	1.996E-08	1.703E-08	1.470E-08	1.285E-08				
NE	4.374E-16	4.897E-10	8.458E-09	1.711E-08	2.314E-08	2.183E-08	1.903E-08	1.634E-08	1.409E-08	1.226E-08	1.079E-08				
ENE	2.972E-16	2.422E-10	4.597E-09	1.041E-08	1.599E-08	1.598E-08	1.436E-08	1.257E-08	1.100E-08	9.675E-09	8.591E-09				
E	1.174E-16	1.776E-10	3.600E-09	8.181E-09	1.295E-08	1.339E-08	1.238E-08	1.109E-08	9.877E-09	8.818E-09	7.924E-09				
ESE	1.326E-15	1.042E-09	1.650E-08	3.198E-08	4.090E-08	3.726E-08	3.167E-08	2.667E-08	2.263E-08	1.941E-08	1.686E-08				
SE	1.794E-10	1.144E-08	4.536E-08	6.976E-08	7.799E-08	6.677E-08	5.448E-08	4.451E-08	3.685E-08	3.099E-08	2.645E-08				
SSE	4.938E-11	4.353E-09	3.451E-08	6.381E-08	8.030E-08	7.233E-08	6.085E-08	5.078E-08	4.273E-08	3.640E-08	3.142E-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				
S	6.107E-08	3.500E-08	2.213E-08	1.220E-08	8.098E-09	5.879E-09	4.502E-09	3.595E-09	2.965E-09	2.501E-09	2.147E-09				
SSW	3.512E-08	2.279E-08	1.455E-08	8.139E-09	5.490E-09	4.012E-09	3.093E-09	2.485E-09	2.057E-09	1.741E-09	1.501E-09				
SW	2.047E-08	1.509E-08	9.879E-09	5.721E-09	4.073E-09	3.109E-09	2.485E-09	2.015E-09	1.682E-09	1.435E-09	1.245E-09				
WSW	2.933E-08	1.791E-08	1.225E-08	7.262E-09	4.844E-09	3.545E-09	2.751E-09	2.222E-09	1.848E-09	1.571E-09	1.360E-09				
W	3.613E-08	1.914E-08	1.307E-08	7.940E-09	5.562E-09	4.065E-09	3.143E-09	2.530E-09	2.099E-09	1.780E-09	1.537E-09				
WNW	7.557E-08	4.012E-08	2.623E-08	1.504E-08	1.003E-08	7.326E-09	5.677E-09	4.572E-09	3.788E-09	3.208E-09	2.766E-09				
NW	5.037E-08	2.658E-08	1.737E-08	9.931E-09	6.583E-09	4.793E-09	3.720E-09	2.996E-09	2.481E-09	2.102E-09	1.813E-09				
NNW	6.175E-08	3.517E-08	2.297E-08	1.329E-08	9.047E-09	6.723E-09	5.319E-09	4.363E-09	3.698E-09	3.174E-09	2.762E-09				
N	1.139E-08	7.406E-09	6.451E-09	6.129E-09	6.232E-09	5.741E-09	4.594E-09	3.783E-09	3.187E-09	2.741E-09	2.396E-09				
NNE	1.403E-08	2.198E-08	1.430E-08	8.245E-09	5.602E-09	4.161E-09	3.267E-09	2.666E-09	2.237E-09	1.917E-09	1.671E-09				
NE	1.201E-08	1.678E-08	1.088E-08	6.248E-09	4.231E-09	3.134E-09	2.478E-09	2.030E-09	1.709E-09	1.462E-09	1.271E-09				
ENE	9.521E-09	1.647E-08	1.096E-08	6.496E-09	4.485E-09	3.368E-09	2.794E-09	2.357E-09	1.982E-09	1.701E-09	1.485E-09				
E	9.089E-09	1.688E-08	1.133E-08	6.786E-09	4.720E-09	3.564E-09	2.834E-09	2.336E-09	2.062E-09	1.833E-09	1.604E-09				
ESE	1.703E-08	1.860E-08	1.232E-08	7.237E-09	4.965E-09	3.709E-09	2.924E-09	2.393E-09	2.012E-09	1.728E-09	1.508E-09				
SE	2.289E-08	1.327E-08	9.546E-09	6.138E-09	4.289E-09	3.272E-09	2.641E-09	2.215E-09	1.844E-09	1.569E-09	1.358E-09				
SSE	3.229E-08	2.812E-08	1.777E-08	9.818E-09	6.466E-09	4.684E-09	3.603E-09	2.888E-09	2.386E-09	2.017E-09	1.736E-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	7.479E-08	1.203E-07	9.306E-08	7.006E-08	6.680E-08	3.507E-08	1.258E-08	5.920E-09	3.614E-09	2.508E-09
SSW	2.384E-08	4.816E-08	4.705E-08	4.754E-08	3.894E-08	2.187E-08	8.386E-09	4.039E-09	2.496E-09	1.746E-09
SW	4.591E-08	9.359E-08	5.728E-08	3.364E-08	2.312E-08	1.397E-08	5.913E-09	3.116E-09	2.022E-09	1.438E-09
WSW	7.463E-08	1.576E-07	9.152E-08	5.150E-08	3.418E-08	1.793E-08	7.296E-09	3.574E-09	2.231E-09	1.575E-09
W	2.459E-07	2.474E-07	1.215E-07	6.700E-08	4.339E-08	2.022E-08	8.023E-09	4.095E-09	2.541E-09	1.785E-09
WNW	2.865E-07	4.542E-07	2.472E-07	1.408E-07	9.093E-08	4.183E-08	1.530E-08	7.386E-09	4.589E-09	3.216E-09
NW	1.239E-07	3.093E-07	1.744E-07	9.515E-08	6.073E-08	2.777E-08	1.010E-08	4.841E-09	3.007E-09	2.108E-09
NNW	3.717E-08	1.053E-07	1.230E-07	1.051E-07	7.306E-08	3.565E-08	1.356E-08	6.781E-09	4.383E-09	3.177E-09
N	2.297E-08	2.761E-08	2.259E-08	1.673E-08	1.279E-08	7.867E-09	6.246E-09	5.413E-09	3.788E-09	2.745E-09
NNE	1.540E-08	2.731E-08	2.315E-08	1.698E-08	1.384E-08	1.680E-08	8.415E-09	4.188E-09	2.674E-09	1.921E-09
NE	1.053E-08	2.122E-08	1.870E-08	1.404E-08	1.168E-08	1.310E-08	6.382E-09	3.164E-09	2.036E-09	1.464E-09
ENE	6.211E-09	1.474E-08	1.408E-08	1.094E-08	9.257E-09	1.248E-08	6.595E-09	3.436E-09	2.339E-09	1.704E-09
E	4.875E-09	1.208E-08	1.213E-08	9.821E-09	8.620E-09	1.268E-08	6.878E-09	3.580E-09	2.374E-09	1.816E-09
ESE	1.994E-08	3.730E-08	3.116E-08	2.256E-08	1.768E-08	1.546E-08	7.356E-09	3.730E-09	2.400E-09	1.731E-09
SE	4.867E-08	7.118E-08	5.377E-08	3.680E-08	2.648E-08	1.375E-08	6.073E-09	3.291E-09	2.195E-09	1.572E-09
SSE	4.083E-08	7.309E-08	5.988E-08	4.262E-08	3.322E-08	2.445E-08	1.009E-08	4.727E-09	2.901E-09	2.022E-09

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ERP ELEVATED STACK RELEASES - JAN-MAR 2021
 2.260 DAY DECAY, UNDELETED
 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	1.889E-09	1.255E-08	6.569E-08	1.126E-07	1.323E-07	1.147E-07	9.406E-08	7.705E-08	6.391E-08	6.931E-08	7.013E-08	
SSW	1.141E-15	1.133E-09	1.911E-08	3.866E-08	5.242E-08	4.937E-08	4.284E-08	4.843E-08	5.019E-08	4.365E-08	3.832E-08	
SW	5.359E-16	7.614E-10	3.077E-08	7.967E-08	1.207E-07	7.965E-08	5.649E-08	4.239E-08	3.321E-08	2.689E-08	2.235E-08	
WSW	9.170E-16	1.022E-09	4.805E-08	1.311E-07	2.097E-07	1.307E-07	8.966E-08	6.579E-08	5.069E-08	4.051E-08	3.331E-08	
W	5.121E-13	5.389E-08	2.624E-07	3.285E-07	2.868E-07	1.754E-07	1.187E-07	8.617E-08	6.582E-08	5.223E-08	4.269E-08	
WNW	4.735E-08	3.628E-08	2.314E-07	4.516E-07	5.835E-07	3.546E-07	2.387E-07	1.790E-07	1.398E-07	1.099E-07	8.913E-08	
NW	5.309E-16	9.145E-10	6.647E-08	2.279E-07	4.324E-07	2.551E-07	1.688E-07	1.227E-07	9.384E-08	7.359E-08	5.957E-08	
NNW	6.469E-11	3.864E-09	2.712E-08	6.127E-08	1.106E-07	1.228E-07	1.258E-07	1.197E-07	1.107E-07	8.768E-08	7.164E-08	
N	1.957E-09	1.284E-08	2.335E-08	2.771E-08	2.898E-08	2.645E-08	2.303E-08	1.952E-08	1.671E-08	1.450E-08	1.273E-08	
NNE	4.312E-11	2.707E-09	1.333E-08	2.325E-08	2.970E-08	2.735E-08	2.341E-08	1.982E-08	1.690E-08	1.457E-08	1.272E-08	
NE	4.373E-16	4.893E-10	8.449E-09	1.708E-08	2.309E-08	2.176E-08	1.896E-08	1.627E-08	1.402E-08	1.219E-08	1.072E-08	
ENE	2.972E-16	2.420E-10	4.589E-09	1.038E-08	1.592E-08	1.588E-08	1.425E-08	1.247E-08	1.089E-08	9.566E-09	8.484E-09	
E	1.173E-16	1.774E-10	3.595E-09	8.163E-09	1.290E-08	1.333E-08	1.232E-08	1.102E-08	9.807E-09	8.748E-09	7.854E-09	
ESE	1.326E-15	1.041E-09	1.649E-08	3.193E-08	4.081E-08	3.714E-08	3.154E-08	2.654E-08	2.249E-08	1.927E-08	1.673E-08	
SE	1.794E-10	1.144E-08	4.533E-08	6.969E-08	7.785E-08	6.660E-08	5.431E-08	4.433E-08	3.668E-08	3.082E-08	2.629E-08	
SSE	4.937E-11	4.351E-09	3.447E-08	6.371E-08	8.008E-08	7.206E-08	6.056E-08	5.048E-08	4.243E-08	3.611E-08	3.114E-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	6.064E-08	3.462E-08	2.181E-08	1.194E-08	7.863E-09	5.666E-09	4.308E-09	3.415E-09	2.796E-09	2.341E-09	1.995E-09	
SSW	3.475E-08	2.241E-08	1.423E-08	7.872E-09	5.249E-09	3.793E-09	2.892E-09	2.298E-09	1.881E-09	1.575E-09	1.343E-09	
SW	2.027E-08	1.486E-08	9.679E-09	5.547E-09	3.908E-09	2.952E-09	2.334E-09	1.874E-09	1.548E-09	1.307E-09	1.123E-09	
WSW	2.901E-08	1.760E-08	1.195E-08	6.995E-09	4.606E-09	3.328E-09	2.550E-09	2.033E-09	1.670E-09	1.402E-09	1.198E-09	
W	3.570E-08	1.879E-08	1.275E-08	7.647E-09	5.288E-09	3.817E-09	2.914E-09	2.317E-09	1.898E-09	1.590E-09	1.356E-09	
WNW	7.462E-08	3.937E-08	2.557E-08	1.447E-08	9.526E-09	6.872E-09	5.258E-09	4.181E-09	3.421E-09	2.861E-09	2.436E-09	
NW	4.979E-08	2.612E-08	1.697E-08	9.599E-09	6.293E-09	4.533E-09	3.481E-09	2.773E-09	2.273E-09	1.906E-09	1.627E-09	
NNW	6.126E-08	3.476E-08	2.260E-08	1.298E-08	8.764E-09	6.462E-09	5.073E-09	4.129E-09	3.473E-09	2.958E-09	2.555E-09	
N	1.133E-08	7.342E-09	6.370E-09	5.987E-09	6.010E-09	5.468E-09	4.332E-09	3.531E-09	2.945E-09	2.508E-09	2.171E-09	
NNE	1.388E-08	2.166E-08	1.402E-08	8.010E-09	5.392E-09	3.968E-09	3.088E-09	2.497E-09	2.077E-09	1.764E-09	1.524E-09	
NE	1.193E-08	1.661E-08	1.073E-08	6.119E-09	4.115E-09	3.027E-09	2.377E-09	1.934E-09	1.616E-09	1.372E-09	1.185E-09	
ENE	9.398E-09	1.623E-08	1.076E-08	6.319E-09	4.326E-09	3.221E-09	2.651E-09	2.219E-09	1.851E-09	1.576E-09	1.365E-09	
E	9.005E-09	1.663E-08	1.111E-08	6.583E-09	4.531E-09	3.385E-09	2.664E-09	2.173E-09	1.895E-09	1.665E-09	1.441E-09	
ESE	1.688E-08	1.835E-08	1.210E-08	7.046E-09	4.792E-09	3.550E-09	2.775E-09	2.252E-09	1.879E-09	1.600E-09	1.385E-09	
SE	2.274E-08	1.313E-08	9.411E-09	6.002E-09	4.158E-09	3.141E-09	2.509E-09	2.081E-09	1.715E-09	1.446E-09	1.239E-09	
SSE	3.196E-08	2.764E-08	1.736E-08	9.481E-09	6.171E-09	4.419E-09	3.360E-09	2.662E-09	2.174E-09	1.816E-09	1.545E-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	7.471E-08	1.201E-07	9.275E-08	6.972E-08	6.637E-08	3.471E-08	1.232E-08	5.709E-09	3.434E-09	2.348E-09
SSW	2.381E-08	4.801E-08	4.681E-08	4.720E-08	3.858E-08	2.152E-08	8.118E-09	3.821E-09	2.309E-09	1.580E-09
SW	4.584E-08	9.333E-08	5.703E-08	3.343E-08	2.293E-08	1.376E-08	5.737E-09	2.960E-09	1.881E-09	1.310E-09
WSW	7.451E-08	1.571E-07	9.106E-08	5.112E-08	3.385E-08	1.762E-08	7.035E-09	3.358E-09	2.042E-09	1.406E-09
W	2.455E-07	2.466E-07	1.208E-07	6.646E-08	4.293E-08	1.987E-08	7.733E-09	3.848E-09	2.328E-09	1.595E-09
WNW	2.859E-07	4.524E-07	2.457E-07	1.396E-07	8.990E-08	4.107E-08	1.474E-08	6.934E-09	4.199E-09	2.869E-09
NW	1.236E-07	3.081E-07	1.734E-07	9.438E-08	6.010E-08	2.731E-08	9.768E-09	4.581E-09	2.785E-09	1.911E-09
NNW	3.713E-08	1.051E-07	1.226E-07	1.045E-07	7.255E-08	3.524E-08	1.324E-08	6.520E-09	4.149E-09	2.961E-09
N	2.295E-08	2.757E-08	2.253E-08	1.667E-08	1.273E-08	7.796E-09	6.082E-09	5.158E-09	3.536E-09	2.513E-09
NNE	1.538E-08	2.722E-08	2.303E-08	1.685E-08	1.370E-08	1.654E-08	8.182E-09	3.996E-09	2.506E-09	1.768E-09
NE	1.052E-08	2.116E-08	1.863E-08	1.397E-08	1.160E-08	1.296E-08	6.254E-09	3.057E-09	1.939E-09	1.375E-09
ENE	6.197E-09	1.467E-08	1.397E-08	1.083E-08	9.143E-09	1.228E-08	6.420E-09	3.288E-09	2.202E-09	1.579E-09
E	4.866E-09	1.204E-08	1.207E-08	9.752E-09	8.545E-09	1.248E-08	6.676E-09	3.402E-09	2.207E-09	1.651E-09
ESE	1.992E-08	3.720E-08	3.103E-08	2.242E-08	1.754E-08	1.524E-08	7.167E-09	3.571E-09	2.259E-09	1.603E-09
SE	4.862E-08	7.104E-08	5.359E-08	3.663E-08	2.632E-08	1.361E-08	5.940E-09	3.160E-09	2.064E-09	1.449E-09
SSE	4.077E-08	7.288E-08	5.960E-08	4.232E-08	3.291E-08	2.403E-08	9.761E-09	4.462E-09	2.675E-09	1.822E-09

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ERP ELEVATED STACK RELEASES - JAN-MAR 2021
 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	1.890E-09	1.247E-08	6.552E-08	1.125E-07	1.311E-07	1.127E-07	9.171E-08	7.455E-08	6.141E-08	6.636E-08	6.697E-08	
SSW	1.141E-15	1.133E-09	1.913E-08	3.871E-08	5.209E-08	4.871E-08	4.201E-08	4.735E-08	4.898E-08	4.247E-08	3.719E-08	
SW	5.360E-16	7.618E-10	3.080E-08	7.977E-08	1.194E-07	7.804E-08	5.491E-08	4.095E-08	3.192E-08	2.573E-08	2.131E-08	
WSW	9.172E-16	1.022E-09	4.809E-08	1.311E-07	2.075E-07	1.283E-07	8.743E-08	6.383E-08	4.897E-08	3.900E-08	3.197E-08	
W	5.122E-13	5.392E-08	2.612E-07	3.249E-07	2.812E-07	1.706E-07	1.147E-07	8.285E-08	6.302E-08	4.982E-08	4.057E-08	
WNW	4.737E-08	3.609E-08	2.313E-07	4.492E-07	5.759E-07	3.473E-07	2.325E-07	1.736E-07	1.351E-07	1.057E-07	8.533E-08	
NW	5.310E-16	9.151E-10	6.654E-08	2.277E-07	4.287E-07	2.510E-07	1.651E-07	1.195E-07	9.100E-08	7.103E-08	5.721E-08	
NNW	6.469E-11	3.837E-09	2.702E-08	6.120E-08	1.100E-07	1.217E-07	1.246E-07	1.186E-07	1.098E-07	8.668E-08	7.055E-08	
N	1.957E-09	1.273E-08	2.304E-08	2.743E-08	2.861E-08	2.600E-08	2.254E-08	1.904E-08	1.625E-08	1.406E-08	1.231E-08	
NNE	4.313E-11	2.689E-09	1.327E-08	2.321E-08	2.947E-08	2.694E-08	2.291E-08	1.928E-08	1.635E-08	1.403E-08	1.220E-08	
NE	4.374E-16	4.896E-10	8.455E-09	1.710E-08	2.294E-08	2.148E-08	1.860E-08	1.589E-08	1.363E-08	1.182E-08	1.036E-08	
ENE	2.972E-16	2.422E-10	4.595E-09	1.040E-08	1.584E-08	1.570E-08	1.401E-08	1.219E-08	1.060E-08	9.284E-09	8.209E-09	
E	1.173E-16	1.776E-10	3.599E-09	8.176E-09	1.284E-08	1.320E-08	1.215E-08	1.084E-08	9.620E-09	8.564E-09	7.676E-09	
ESE	1.326E-15	1.042E-09	1.650E-08	3.196E-08	4.052E-08	3.660E-08	3.087E-08	2.582E-08	2.177E-08	1.857E-08	1.605E-08	
SE	1.794E-10	1.136E-08	4.504E-08	6.943E-08	7.706E-08	6.540E-08	5.290E-08	4.286E-08	3.522E-08	2.941E-08	2.494E-08	
SSE	4.938E-11	4.330E-09	3.441E-08	6.370E-08	7.947E-08	7.094E-08	5.918E-08	4.901E-08	4.094E-08	3.465E-08	2.973E-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	5.765E-08	3.214E-08	1.969E-08	1.025E-08	6.419E-09	4.437E-09	3.263E-09	2.512E-09	2.006E-09	1.644E-09	1.373E-09	
SSW	3.368E-08	2.138E-08	1.319E-08	6.910E-09	4.357E-09	3.053E-09	2.269E-09	1.763E-09	1.415E-09	1.164E-09	9.761E-10	
SW	1.931E-08	1.407E-08	8.921E-09	4.839E-09	3.204E-09	2.300E-09	1.767E-09	1.384E-09	1.119E-09	9.267E-10	7.822E-10	
WSW	2.781E-08	1.659E-08	1.100E-08	6.167E-09	3.924E-09	2.759E-09	2.065E-09	1.614E-09	1.303E-09	1.077E-09	9.076E-10	
W	3.384E-08	1.760E-08	1.183E-08	6.791E-09	4.485E-09	3.148E-09	2.348E-09	1.830E-09	1.473E-09	1.215E-09	1.022E-09	
WNW	7.110E-08	3.650E-08	2.306E-08	1.236E-08	7.652E-09	5.260E-09	3.899E-09	3.028E-09	2.426E-09	1.991E-09	1.667E-09	
NW	4.756E-08	2.426E-08	1.532E-08	8.228E-09	5.150E-09	3.572E-09	2.666E-09	2.076E-09	1.666E-09	1.371E-09	1.150E-09	
NNW	6.006E-08	3.314E-08	2.087E-08	1.220E-08	6.985E-09	4.822E-09	3.588E-09	2.814E-09	2.302E-09	1.915E-09	1.619E-09	
N	1.094E-08	7.053E-09	6.145E-09	5.874E-09	5.854E-09	5.123E-09	3.974E-09	3.182E-09	2.611E-09	2.192E-09	1.874E-09	
NNE	1.333E-08	2.103E-08	1.321E-08	7.182E-09	4.623E-09	3.280E-09	2.474E-09	1.947E-09	1.580E-09	1.314E-09	1.112E-09	
NE	1.154E-08	1.613E-08	1.011E-08	5.472E-09	3.514E-09	2.488E-09	1.897E-09	1.506E-09	1.231E-09	1.025E-09	8.699E-10	
ENE	9.109E-09	1.590E-08	1.023E-08	5.648E-09	3.592E-09	2.517E-09	1.965E-09	1.586E-09	1.292E-09	1.077E-09	9.140E-10	
E	8.823E-09	1.644E-08	1.066E-08	5.927E-09	3.781E-09	2.655E-09	1.981E-09	1.543E-09	1.291E-09	1.097E-09	9.243E-10	
ESE	1.618E-08	1.770E-08	1.136E-08	6.250E-09	3.983E-09	2.795E-09	2.085E-09	1.623E-09	1.304E-09	1.073E-09	8.995E-10	
SE	2.144E-08	1.212E-08	8.568E-09	5.383E-09	3.694E-09	2.783E-09	2.226E-09	1.850E-09	1.503E-09	1.251E-09	1.061E-09	
SSE	3.047E-08	2.615E-08	1.596E-08	8.298E-09	5.164E-09	3.566E-09	2.629E-09	2.028E-09	1.618E-09	1.323E-09	1.105E-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	7.460E-08	1.188E-07	9.045E-08	6.705E-08	6.333E-08	3.227E-08	1.064E-08	4.496E-09	2.533E-09	1.651E-09
SSW	2.383E-08	4.761E-08	4.593E-08	4.604E-08	3.746E-08	2.047E-08	7.171E-09	3.087E-09	1.775E-09	1.169E-09
SW	4.589E-08	9.221E-08	5.549E-08	3.214E-08	2.188E-08	1.295E-08	5.020E-09	2.328E-09	1.393E-09	9.302E-10
WSW	7.451E-08	1.553E-07	8.888E-08	4.942E-08	3.251E-08	1.660E-08	6.244E-09	2.792E-09	1.624E-09	1.081E-09
W	2.434E-07	2.417E-07	1.169E-07	6.366E-08	4.082E-08	1.864E-08	6.886E-09	3.185E-09	1.842E-09	1.220E-09
WNW	2.848E-07	4.462E-07	2.396E-07	1.349E-07	8.610E-08	3.821E-08	1.264E-08	5.353E-09	3.048E-09	2.000E-09
NW	1.236E-07	3.051E-07	1.697E-07	9.153E-08	5.773E-08	2.547E-08	8.437E-09	3.630E-09	2.088E-09	1.377E-09
NNW	3.706E-08	1.044E-07	1.214E-07	1.035E-07	7.144E-08	3.367E-08	1.148E-08	4.905E-09	2.840E-09	1.920E-09
N	2.270E-08	2.719E-08	2.206E-08	1.621E-08	1.232E-08	7.514E-09	5.925E-09	4.858E-09	3.191E-09	2.198E-09
NNE	1.533E-08	2.695E-08	2.253E-08	1.631E-08	1.316E-08	1.584E-08	7.385E-09	3.316E-09	1.958E-09	1.318E-09
NE	1.053E-08	2.099E-08	1.828E-08	1.359E-08	1.123E-08	1.243E-08	5.632E-09	2.525E-09	1.513E-09	1.029E-09
ENE	6.207E-09	1.457E-08	1.373E-08	1.055E-08	8.861E-09	1.187E-08	5.754E-09	2.583E-09	1.582E-09	1.080E-09
E	4.873E-09	1.196E-08	1.190E-08	9.566E-09	8.364E-09	1.218E-08	6.024E-09	2.686E-09	1.572E-09	1.090E-09
ESE	1.994E-08	3.687E-08	3.038E-08	2.171E-08	1.685E-08	1.454E-08	6.377E-09	2.828E-09	1.633E-09	1.077E-09
SE	4.840E-08	7.018E-08	5.222E-08	3.519E-08	2.497E-08	1.261E-08	5.340E-09	2.803E-09	1.825E-09	1.255E-09
SSE	4.074E-08	7.218E-08	5.825E-08	4.085E-08	3.146E-08	2.258E-08	8.607E-09	3.617E-09	2.043E-09	1.330E-09

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ERP ELEVATED STACK RELEASES - JAN-MAR 2021
 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	1.897E-09	3.148E-09	5.051E-09	4.853E-09	2.928E-09	1.942E-09	1.365E-09	1.000E-09	7.568E-10	6.222E-10	5.659E-10	
SSW	9.909E-11	5.945E-10	1.266E-09	1.311E-09	8.190E-10	5.491E-10	3.879E-10	2.849E-10	2.703E-10	2.045E-10	1.601E-10	
SW	6.026E-11	3.615E-10	7.698E-10	7.973E-10	9.906E-10	5.389E-10	3.333E-10	2.260E-10	1.632E-10	1.233E-10	9.647E-11	
WSW	8.302E-11	4.981E-10	1.061E-09	2.576E-09	1.360E-09	7.396E-10	4.575E-10	3.102E-10	2.240E-10	1.693E-10	1.324E-10	
W	1.071E-10	5.721E-09	5.555E-09	3.686E-09	1.918E-09	1.013E-09	6.156E-10	4.123E-10	2.953E-10	2.222E-10	1.738E-10	
WNW	9.144E-10	1.369E-09	4.554E-09	4.787E-09	2.676E-09	1.387E-09	8.356E-10	5.597E-10	4.364E-10	3.312E-10	2.649E-10	
NW	7.766E-11	4.659E-10	9.921E-10	2.531E-09	1.745E-09	8.762E-10	5.232E-10	3.531E-10	2.614E-10	2.081E-10	1.755E-10	
NNW	8.474E-10	9.675E-10	1.234E-09	1.089E-09	1.195E-09	6.477E-10	4.001E-10	3.554E-10	2.761E-10	2.321E-10	2.072E-10	
N	2.414E-09	2.131E-09	2.060E-09	1.565E-09	8.228E-10	5.205E-10	3.575E-10	2.589E-10	1.947E-10	1.507E-10	1.193E-10	
NNE	5.824E-10	7.494E-10	1.045E-09	9.561E-10	5.628E-10	3.704E-10	2.594E-10	1.897E-10	1.434E-10	1.112E-10	8.806E-11	
NE	4.151E-11	2.490E-10	5.303E-10	5.493E-10	3.431E-10	2.300E-10	1.625E-10	1.194E-10	9.040E-11	7.017E-11	5.557E-11	
ENE	2.678E-11	1.607E-10	3.421E-10	3.544E-10	2.213E-10	1.484E-10	1.048E-10	7.701E-11	5.832E-11	4.527E-11	3.585E-11	
E	1.607E-11	9.640E-11	2.053E-10	2.126E-10	1.328E-10	8.905E-11	6.290E-11	4.621E-11	3.499E-11	2.716E-11	2.151E-11	
ESE	9.775E-11	5.865E-10	1.249E-09	1.293E-09	8.079E-10	5.417E-10	3.826E-10	2.811E-10	2.129E-10	1.652E-10	1.309E-10	
SE	2.027E-09	2.555E-09	3.512E-09	3.196E-09	1.876E-09	1.233E-09	8.634E-10	6.313E-10	4.771E-10	3.700E-10	2.930E-10	
SSE	6.922E-10	1.408E-09	2.448E-09	2.409E-09	1.470E-09	9.789E-10	6.892E-10	5.055E-10	3.825E-10	2.968E-10	2.350E-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	4.549E-10	2.417E-10	1.507E-10	7.999E-11	4.936E-11	4.380E-11	3.134E-11	2.350E-11	1.846E-11	1.474E-11	1.203E-11	
SSW	1.300E-10	1.007E-10	7.018E-11	4.130E-11	2.629E-11	1.798E-11	1.289E-11	9.681E-12	7.626E-12	6.092E-12	4.972E-12	
SW	7.755E-11	5.521E-11	3.771E-11	2.180E-11	1.372E-11	9.635E-12	7.183E-12	5.394E-12	4.194E-12	3.350E-12	2.734E-12	
WSW	1.067E-10	7.360E-11	4.990E-11	3.236E-11	1.958E-11	1.313E-11	9.448E-12	7.095E-12	5.516E-12	4.406E-12	3.597E-12	
W	1.405E-10	6.507E-11	6.011E-11	3.580E-11	2.469E-11	1.672E-11	1.198E-11	8.994E-12	6.993E-12	5.586E-12	4.559E-12	
WNW	2.263E-10	1.264E-10	8.669E-11	5.038E-11	3.177E-11	2.225E-11	1.629E-11	1.224E-11	9.588E-12	7.659E-12	6.252E-12	
NW	1.554E-10	1.012E-10	7.467E-11	4.322E-11	2.640E-11	1.766E-11	1.307E-11	9.815E-12	7.777E-12	6.213E-12	5.071E-12	
NNW	1.933E-10	1.443E-10	1.124E-10	7.206E-11	4.650E-11	3.073E-11	1.954E-11	1.353E-11	1.066E-11	8.516E-12	6.951E-12	
N	9.626E-11	4.578E-11	2.804E-11	1.491E-11	3.909E-11	2.331E-11	1.671E-11	1.254E-11	9.753E-12	7.791E-12	6.359E-12	
NNE	7.096E-11	1.179E-10	7.230E-11	3.711E-11	2.257E-11	1.511E-11	1.081E-11	8.101E-12	6.289E-12	5.017E-12	4.091E-12	
NE	4.475E-11	9.688E-11	5.956E-11	3.066E-11	1.867E-11	1.250E-11	9.061E-12	6.804E-12	5.290E-12	4.226E-12	3.449E-12	
ENE	2.887E-11	5.863E-11	4.591E-11	2.951E-11	1.904E-11	1.256E-11	8.772E-12	5.336E-12	4.153E-12	3.321E-12	2.714E-12	
E	1.732E-11	5.644E-11	4.580E-11	3.016E-11	1.955E-11	1.288E-11	8.961E-12	6.494E-12	4.897E-12	3.212E-12	2.612E-12	
ESE	1.054E-10	9.829E-11	6.828E-11	4.005E-11	2.530E-11	1.680E-11	1.185E-11	8.737E-12	6.698E-12	5.292E-12	4.282E-12	
SE	2.361E-10	1.119E-10	6.832E-11	3.603E-11	2.199E-11	1.505E-11	1.111E-11	1.372E-11	1.066E-11	8.532E-12	6.988E-12	
SSE	1.893E-10	1.789E-10	1.099E-10	5.656E-11	3.444E-11	2.306E-11	1.649E-11	1.236E-11	9.599E-12	7.662E-12	6.252E-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	4.540E-09	2.918E-09	1.373E-09	7.752E-10	5.415E-10	2.486E-10	8.210E-11	4.030E-11	2.382E-11	1.484E-11		
SSW	1.137E-09	8.084E-10	3.897E-10	2.494E-10	1.621E-10	9.363E-11	4.105E-11	1.816E-11	9.815E-12	6.132E-12		
SW	6.913E-10	7.469E-10	3.452E-10	1.659E-10	9.742E-11	5.240E-11	2.174E-11	9.744E-12	5.448E-12	3.372E-12		
WSW	1.609E-09	1.354E-09	4.738E-10	2.278E-10	1.338E-10	7.041E-11	3.058E-11	1.338E-11	7.166E-12	4.435E-12		
W	4.761E-09	1.909E-09	6.401E-10	3.009E-10	1.758E-10	7.962E-11	3.626E-11	1.695E-11	9.084E-12	5.623E-12		
WNW	3.950E-09	2.572E-09	8.723E-10	4.315E-10	2.703E-10	1.309E-10	5.018E-11	2.241E-11	1.239E-11	7.710E-12		
NW	1.559E-09	1.533E-09	5.493E-10	2.673E-10	1.777E-10	1.014E-10	4.273E-11	1.815E-11	9.968E-12	6.253E-12		
NNW	1.110E-09	9.280E-10	4.482E-10	2.820E-10	2.094E-10	1.410E-10	6.967E-11	3.046E-11	1.416E-11	8.571E-12		
N	1.856E-09	8.534E-10	3.615E-10	1.963E-10	1.201E-10	4.911E-11	2.858E-11	2.488E-11	1.267E-11	7.842E-12		
NNE	9.398E-10	5.647E-10	2.611E-10	1.444E-10	8.858E-11	8.719E-11	3.847E-11	1.538E-11	8.185E-12	5.051E-12		
NE	4.762E-10	3.387E-10	1.633E-10	9.097E-11	5.589E-11	6.871E-11	3.175E-11	1.277E-11	6.872E-12	4.253E-12		
ENE	3.072E-10	2.185E-10	1.053E-10	5.869E-11	3.606E-11	4.637E-11	2.850E-11	1.277E-11	5.867E-12	3.343E-12		
E	1.843E-10	1.311E-10	6.320E-11	3.521E-11	2.163E-11	4.302E-11	2.892E-11	1.309E-11	6.590E-12	3.489E-12		
ESE	1.121E-09	7.975E-10	3.844E-10	2.142E-10	1.316E-10	8.653E-11	3.977E-11	1.709E-11	8.849E-12	5.335E-12		
SE	3.159E-09	1.884E-09	8.692E-10	4.803E-10	2.947E-10	1.201E-10	3.697E-11	1.533E-11	1.181E-11	8.590E-12		
SSE	2.199E-09	1.461E-09	6.930E-10	3.850E-10	2.364E-10	1.505E-10	5.857E-11	2.347E-11	1.249E-11	7.713E-12		

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ERP ELEVATED STACK RELEASES - JAN-MAR 2021
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION FROM SITE (MI)	X/Q (SEC/M3)			D/Q (PER SQ.METER)	
			NO DEPLETION	2.26 DAY DEPLETION	8.0 DAY DEPLETION		
A	Site Boundary	S	.80	7.7E-08	7.7E-08	7.7E-08	5.2E-09
A	Site Boundary	SSW	.82	2.6E-08	2.6E-08	2.6E-08	1.3E-09
A	Site Boundary	SW	.97	7.5E-08	7.5E-08	7.5E-08	8.2E-10
A	Site Boundary	WSW	.93	1.1E-07	1.1E-07	1.1E-07	1.8E-09
A	Site Boundary	W	.91	3.2E-07	3.2E-07	3.1E-07	4.2E-09
A	Site Boundary	WNW	.94	4.1E-07	4.1E-07	4.0E-07	5.3E-09
A	Site Boundary	NW	.81	1.0E-07	1.0E-07	1.0E-07	1.0E-09
A	Site Boundary	NNW	.69	1.8E-08	1.8E-08	1.8E-08	1.2E-09
A	Site Boundary	N	.67	2.0E-08	2.0E-08	2.0E-08	2.1E-09
A	Site Boundary	NNE	.60	5.6E-09	5.6E-09	5.6E-09	8.6E-10
A	Site Boundary	NE	.62	3.2E-09	3.2E-09	3.2E-09	3.9E-10
A	Site Boundary	ENE	.59	1.0E-09	1.0E-09	1.0E-09	2.2E-10
A	Site Boundary	E	.53	2.9E-10	2.9E-10	2.9E-10	1.1E-10
A	Site Boundary	ESE	.54	2.0E-09	2.0E-09	2.0E-09	6.8E-10
A	Site Boundary	SE	.65	2.9E-08	2.9E-08	2.8E-08	3.1E-09
A	Site Boundary	SSE	.81	4.3E-08	4.3E-08	4.3E-08	2.5E-09
A	Nearest Res	SW	1.30	1.1E-07	1.1E-07	1.1E-07	1.3E-09
A	Nearest Res	WSW	1.80	1.6E-07	1.6E-07	1.5E-07	9.2E-10
A	Nearest Res	WNW	2.40	2.6E-07	2.6E-07	2.5E-07	9.2E-10
A	Nearest Res	NW	.90	1.6E-07	1.6E-07	1.6E-07	2.1E-09
A	Nearest Res	NNW	1.90	1.2E-07	1.2E-07	1.2E-07	7.2E-10
A	Nearest Res	NE	1.60	2.3E-08	2.3E-08	2.3E-08	3.2E-10
A	Nearest Res	E	2.00	1.3E-08	1.3E-08	1.3E-08	8.9E-11
A	Nearest Cow	NNW	3.50	1.1E-07	1.1E-07	1.1E-07	2.8E-10
A	Nearest Garde	SW	2.20	6.9E-08	6.9E-08	6.7E-08	4.4E-10
A	Nearest Garde	WSW	1.80	1.6E-07	1.6E-07	1.5E-07	9.2E-10
A	Nearest Garde	NNW	2.80	1.2E-07	1.2E-07	1.2E-07	3.9E-10
A	Nearest Garde	ESE	2.30	3.4E-08	3.4E-08	3.3E-08	4.4E-10
A	MAXIMUM CHI/Q	S	1.50	1.3E-07	1.3E-07	1.3E-07	2.9E-09
A	MAXIMUM CHI/Q	SSW	1.50	5.3E-08	5.2E-08	5.2E-08	8.2E-10
A	MAXIMUM CHI/Q	SW	1.50	1.2E-07	1.2E-07	1.2E-07	9.9E-10
A	MAXIMUM CHI/Q	WSW	1.50	2.1E-07	2.1E-07	2.1E-07	1.4E-09
A	MAXIMUM CHI/Q	W	1.00	3.3E-07	3.3E-07	3.2E-07	3.7E-09
A	MAXIMUM CHI/Q	WNW	1.50	5.9E-07	5.8E-07	5.8E-07	2.7E-09
A	MAXIMUM CHI/Q	NW	1.50	4.3E-07	4.3E-07	4.3E-07	1.7E-09
A	MAXIMUM CHI/Q	NNW	2.50	1.3E-07	1.3E-07	1.2E-07	4.0E-10
A	MAXIMUM CHI/Q	N	1.50	2.9E-08	2.9E-08	2.9E-08	8.2E-10
A	MAXIMUM CHI/Q	NNE	1.50	3.0E-08	3.0E-08	2.9E-08	5.6E-10
A	MAXIMUM CHI/Q	NE	1.50	2.3E-08	2.3E-08	2.3E-08	3.4E-10
A	MAXIMUM CHI/Q	ENE	7.50	1.6E-08	1.6E-08	1.6E-08	5.9E-11
A	MAXIMUM CHI/Q	E	7.50	1.7E-08	1.7E-08	1.6E-08	5.6E-11
A	MAXIMUM CHI/Q	ESE	1.50	4.1E-08	4.1E-08	4.1E-08	8.1E-10
A	MAXIMUM CHI/Q	SE	1.50	7.8E-08	7.8E-08	7.7E-08	1.9E-09
A	MAXIMUM CHI/Q	SSE	1.50	8.0E-08	8.0E-08	7.9E-08	1.5E-09

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Atmospheric Diffusion Estimates

Elevated Releases

April-June 2021

ERP ELEVATED STACK RELEASES - APR-JUN 2021
 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	1.133E-09	1.609E-08	3.830E-08	5.034E-08	5.489E-08	4.845E-08	4.080E-08	3.426E-08	2.906E-08	3.462E-08	3.909E-08
SSW	6.703E-09	3.791E-08	4.823E-08	4.482E-08	3.864E-08	3.157E-08	2.559E-08	2.657E-08	2.621E-08	2.248E-08	1.958E-08
SW	5.833E-09	2.596E-08	5.287E-08	8.242E-08	1.157E-07	7.761E-08	5.560E-08	4.200E-08	3.304E-08	2.683E-08	2.234E-08
WSW	2.676E-09	1.757E-08	5.636E-08	1.013E-07	1.385E-07	8.595E-08	5.917E-08	4.372E-08	3.396E-08	2.739E-08	2.272E-08
W	5.377E-09	6.064E-08	1.702E-07	2.094E-07	1.917E-07	1.184E-07	8.074E-08	5.907E-08	4.546E-08	3.634E-08	2.990E-08
WNW	4.554E-10	2.924E-08	1.407E-07	2.593E-07	3.690E-07	2.319E-07	1.599E-07	1.234E-07	9.884E-08	7.865E-08	6.446E-08
NW	4.057E-08	1.405E-07	2.917E-07	5.026E-07	7.470E-07	4.410E-07	2.932E-07	2.151E-07	1.660E-07	1.309E-07	1.066E-07
NNW	2.240E-08	8.340E-08	1.939E-07	2.790E-07	3.451E-07	3.051E-07	2.586E-07	2.149E-07	1.803E-07	1.407E-07	1.135E-07
N	1.837E-08	1.011E-07	1.300E-07	1.169E-07	9.695E-08	8.065E-08	6.668E-08	5.470E-08	4.569E-08	3.881E-08	3.348E-08
NNE	6.874E-09	4.570E-08	6.662E-08	6.373E-08	5.464E-08	4.447E-08	3.607E-08	2.966E-08	2.483E-08	2.113E-08	1.827E-08
NE	7.600E-11	5.931E-09	1.374E-08	1.713E-08	1.911E-08	1.766E-08	1.548E-08	1.343E-08	1.170E-08	1.028E-08	9.129E-09
ENE	3.485E-11	2.600E-09	8.110E-09	1.294E-08	1.758E-08	1.743E-08	1.577E-08	1.391E-08	1.223E-08	1.080E-08	9.599E-09
E	2.407E-16	3.473E-10	6.519E-09	1.374E-08	1.907E-08	1.807E-08	1.575E-08	1.352E-08	1.165E-08	1.014E-08	8.923E-09
ESE	2.975E-11	2.339E-09	1.295E-08	2.180E-08	2.602E-08	2.314E-08	1.944E-08	1.626E-08	1.374E-08	1.176E-08	1.020E-08
SE	2.975E-11	3.336E-09	2.828E-08	5.059E-08	6.019E-08	5.224E-08	4.284E-08	3.510E-08	2.912E-08	2.454E-08	2.099E-08
SSE	6.748E-09	4.116E-08	6.869E-08	7.640E-08	7.272E-08	6.032E-08	4.895E-08	4.011E-08	3.341E-08	2.831E-08	2.438E-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	3.519E-08	2.463E-08	1.611E-08	9.321E-09	6.612E-09	5.038E-09	3.935E-09	3.196E-09	2.695E-09	2.315E-09	2.010E-09
SSW	1.773E-08	1.263E-08	8.141E-09	4.627E-09	3.254E-09	2.427E-09	1.887E-09	1.526E-09	1.272E-09	1.083E-09	9.384E-10
SW	2.018E-08	1.394E-08	9.057E-09	5.191E-09	3.624E-09	2.730E-09	2.163E-09	1.750E-09	1.457E-09	1.240E-09	1.074E-09
WSW	2.030E-08	1.439E-08	1.072E-08	6.965E-09	4.742E-09	3.527E-09	2.774E-09	2.265E-09	1.902E-09	1.632E-09	1.423E-09
W	2.517E-08	1.364E-08	9.701E-09	6.366E-09	4.787E-09	3.560E-09	2.781E-09	2.259E-09	1.889E-09	1.614E-09	1.402E-09
WNW	5.465E-08	3.029E-08	2.038E-08	1.217E-08	8.287E-09	6.151E-09	4.837E-09	3.938E-09	3.289E-09	2.801E-09	2.427E-09
NW	8.978E-08	4.890E-08	3.282E-08	1.954E-08	1.311E-08	9.638E-09	7.620E-09	6.206E-09	5.173E-09	4.407E-09	3.819E-09
NNW	9.521E-08	5.076E-08	3.243E-08	1.823E-08	1.218E-08	8.926E-09	6.963E-09	5.647E-09	4.732E-09	4.033E-09	3.489E-09
N	2.934E-08	1.793E-08	1.410E-08	1.037E-08	8.233E-09	6.614E-09	5.181E-09	4.206E-09	3.507E-09	2.989E-09	2.592E-09
NNE	1.931E-08	2.551E-08	1.651E-08	9.472E-09	6.424E-09	4.764E-09	3.737E-09	3.047E-09	2.555E-09	2.188E-09	1.906E-09
NE	1.042E-08	1.922E-08	1.259E-08	7.325E-09	5.009E-09	3.739E-09	2.983E-09	2.460E-09	2.082E-09	1.787E-09	1.559E-09
ENE	1.044E-08	1.469E-08	9.730E-09	5.721E-09	3.930E-09	2.940E-09	2.428E-09	2.045E-09	1.715E-09	1.470E-09	1.281E-09
E	9.586E-09	1.390E-08	9.188E-09	5.386E-09	3.690E-09	2.754E-09	2.170E-09	1.775E-09	1.536E-09	1.345E-09	1.171E-09
ESE	1.033E-08	1.030E-08	6.716E-09	3.862E-09	2.611E-09	1.929E-09	1.507E-09	1.223E-09	1.022E-09	8.721E-10	7.570E-10
SE	1.820E-08	1.065E-08	7.815E-09	5.227E-09	3.708E-09	2.851E-09	2.308E-09	1.933E-09	1.610E-09	1.370E-09	1.187E-09
SSE	2.550E-08	3.455E-08	2.244E-08	1.291E-08	8.772E-09	6.514E-09	5.115E-09	4.173E-09	3.502E-09	3.001E-09	2.616E-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	3.872E-08	5.102E-08	4.023E-08	3.266E-08	3.632E-08	2.319E-08	9.626E-09	5.016E-09	3.216E-09	2.314E-09
SSW	4.442E-08	3.687E-08	2.758E-08	2.489E-08	1.975E-08	1.177E-08	4.798E-09	2.431E-09	1.532E-09	1.085E-09
SW	6.002E-08	9.139E-08	5.603E-08	3.324E-08	2.287E-08	1.315E-08	5.354E-09	2.742E-09	1.757E-09	1.243E-09
WSW	6.771E-08	1.069E-07	6.013E-08	3.425E-08	2.321E-08	1.408E-08	6.812E-09	3.550E-09	2.272E-09	1.635E-09
W	1.633E-07	1.630E-07	8.211E-08	4.587E-08	3.005E-08	1.445E-08	6.405E-09	3.576E-09	2.267E-09	1.617E-09
WNW	1.686E-07	2.837E-07	1.645E-07	9.816E-08	6.503E-08	3.130E-08	1.227E-08	6.195E-09	3.947E-09	2.807E-09
NW	3.519E-07	5.567E-07	3.014E-07	1.667E-07	1.076E-07	5.084E-08	1.963E-08	9.756E-09	6.217E-09	4.416E-09
NNW	2.072E-07	3.126E-07	2.535E-07	1.751E-07	1.148E-07	5.249E-08	1.870E-08	9.009E-09	5.674E-09	4.039E-09
N	1.177E-07	9.413E-08	6.561E-08	4.564E-08	3.353E-08	1.876E-08	1.025E-08	6.473E-09	4.218E-09	2.995E-09
NNE	6.069E-08	5.214E-08	3.575E-08	2.480E-08	1.950E-08	2.013E-08	9.682E-09	4.796E-09	3.057E-09	2.192E-09
NE	1.351E-08	1.803E-08	1.524E-08	1.166E-08	9.948E-09	1.432E-08	7.465E-09	3.775E-09	2.466E-09	1.790E-09
ENE	9.033E-09	1.648E-08	1.547E-08	1.217E-08	1.027E-08	1.154E-08	5.816E-09	2.999E-09	2.029E-09	1.473E-09
E	8.355E-09	1.744E-08	1.548E-08	1.161E-08	9.529E-09	1.085E-08	5.477E-09	2.770E-09	1.796E-09	1.337E-09
ESE	1.453E-08	2.380E-08	1.916E-08	1.371E-08	1.071E-08	8.713E-09	3.940E-09	1.942E-09	1.228E-09	8.739E-10
SE	3.265E-08	5.452E-08	4.225E-08	2.908E-08	2.101E-08	1.107E-08	5.127E-09	2.862E-09	1.917E-09	1.373E-09
SSE	6.600E-08	6.803E-08	4.845E-08	3.338E-08	2.596E-08	2.716E-08	1.319E-08	6.556E-09	4.186E-09	3.007E-09

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ERP ELEVATED STACK RELEASES - APR-JUN 2021
 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	1.133E-09	1.609E-08	3.828E-08	5.027E-08	5.478E-08	4.831E-08	4.065E-08	3.411E-08	2.890E-08	3.439E-08	3.879E-08
SSW	6.701E-09	3.788E-08	4.817E-08	4.475E-08	3.853E-08	3.145E-08	2.546E-08	2.640E-08	2.602E-08	2.228E-08	1.939E-08
SW	5.831E-09	2.593E-08	5.277E-08	8.220E-08	1.152E-07	7.713E-08	5.515E-08	4.158E-08	3.265E-08	2.646E-08	2.199E-08
WSW	2.674E-09	1.754E-08	5.625E-08	1.011E-07	1.381E-07	8.564E-08	5.890E-08	4.348E-08	3.375E-08	2.718E-08	2.253E-08
W	5.375E-09	6.059E-08	1.700E-07	2.090E-07	1.911E-07	1.179E-07	8.029E-08	5.867E-08	4.509E-08	3.599E-08	2.958E-08
WNW	4.552E-10	2.922E-08	1.405E-07	2.586E-07	3.671E-07	2.303E-07	1.585E-07	1.220E-07	9.754E-08	7.746E-08	6.336E-08
NW	4.055E-08	1.404E-07	2.913E-07	5.015E-07	7.439E-07	4.385E-07	2.911E-07	2.131E-07	1.643E-07	1.293E-07	1.051E-07
NNW	2.240E-08	8.334E-08	1.936E-07	2.786E-07	3.443E-07	3.041E-07	2.576E-07	2.138E-07	1.792E-07	1.397E-07	1.126E-07
N	1.837E-08	1.010E-07	1.299E-07	1.168E-07	9.679E-08	8.045E-08	6.647E-08	5.449E-08	4.548E-08	3.861E-08	3.327E-08
NNE	6.873E-09	4.568E-08	6.656E-08	6.366E-08	5.452E-08	4.434E-08	3.593E-08	2.952E-08	2.468E-08	2.098E-08	1.812E-08
NE	7.598E-11	5.926E-09	1.372E-08	1.710E-08	1.904E-08	1.756E-08	1.536E-08	1.330E-08	1.156E-08	1.014E-08	8.981E-09
ENE	3.484E-11	2.599E-09	8.099E-09	1.291E-08	1.750E-08	1.731E-08	1.564E-08	1.377E-08	1.207E-08	1.063E-08	9.432E-09
E	2.406E-16	3.470E-10	6.509E-09	1.371E-08	1.900E-08	1.798E-08	1.564E-08	1.340E-08	1.153E-08	1.001E-08	8.797E-09
ESE	2.974E-11	2.338E-09	1.294E-08	2.178E-08	2.597E-08	2.309E-08	1.938E-08	1.620E-08	1.368E-08	1.170E-08	1.014E-08
SE	2.974E-11	3.334E-09	2.826E-08	5.053E-08	6.007E-08	5.210E-08	4.270E-08	3.495E-08	2.898E-08	2.440E-08	2.086E-08
SSE	6.747E-09	4.114E-08	6.864E-08	7.633E-08	7.262E-08	6.019E-08	4.883E-08	3.998E-08	3.329E-08	2.819E-08	2.426E-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	3.489E-08	2.428E-08	1.580E-08	9.055E-09	6.358E-09	4.796E-09	3.709E-09	2.983E-09	2.491E-09	2.119E-09	1.822E-09
SSW	1.753E-08	1.242E-08	7.958E-09	4.472E-09	3.110E-09	2.295E-09	1.764E-09	1.412E-09	1.164E-09	9.807E-10	8.409E-10
SW	1.982E-08	1.356E-08	8.733E-09	4.916E-09	3.375E-09	2.500E-09	1.949E-09	1.551E-09	1.271E-09	1.065E-09	9.088E-10
WSW	2.011E-08	1.416E-08	1.048E-08	6.712E-09	4.511E-09	3.313E-09	2.572E-09	2.073E-09	1.719E-09	1.455E-09	1.253E-09
W	2.487E-08	1.339E-08	9.453E-09	6.107E-09	4.517E-09	3.309E-09	2.548E-09	2.040E-09	1.681E-09	1.416E-09	1.213E-09
WNW	5.361E-08	2.941E-08	1.959E-08	1.147E-08	7.658E-09	5.576E-09	4.302E-09	3.438E-09	2.819E-09	2.358E-09	2.007E-09
NW	8.838E-08	4.772E-08	3.175E-08	1.857E-08	1.226E-08	8.868E-09	6.895E-09	5.525E-09	4.533E-09	3.802E-09	3.245E-09
NNW	9.435E-08	5.006E-08	3.183E-08	1.773E-08	1.173E-08	8.516E-09	6.581E-09	5.287E-09	4.389E-09	3.706E-09	3.177E-09
N	2.914E-08	1.774E-08	1.389E-08	1.011E-08	7.950E-09	6.323E-09	4.908E-09	3.949E-09	3.264E-09	2.758E-09	2.371E-09
NNE	1.913E-08	2.512E-08	1.618E-08	9.188E-09	6.171E-09	4.533E-09	3.523E-09	2.845E-09	2.364E-09	2.007E-09	1.732E-09
NE	1.022E-08	1.878E-08	1.221E-08	7.003E-09	4.724E-09	3.480E-09	2.742E-09	2.234E-09	1.868E-09	1.585E-09	1.367E-09
ENE	1.024E-08	1.431E-08	9.398E-09	5.439E-09	3.680E-09	2.713E-09	2.213E-09	1.841E-09	1.524E-09	1.290E-09	1.110E-09
E	9.429E-09	1.354E-08	8.871E-09	5.111E-09	3.444E-09	2.529E-09	1.961E-09	1.579E-09	1.346E-09	1.162E-09	9.965E-10
ESE	1.026E-08	1.020E-08	6.628E-09	3.786E-09	2.543E-09	1.866E-09	1.448E-09	1.168E-09	9.693E-10	8.218E-10	7.086E-10
SE	1.807E-08	1.054E-08	7.705E-09	5.118E-09	3.605E-09	2.753E-09	2.213E-09	1.841E-09	1.522E-09	1.287E-09	1.107E-09
SSE	2.536E-08	3.404E-08	2.199E-08	1.252E-08	8.414E-09	6.180E-09	4.800E-09	3.874E-09	3.215E-09	2.725E-09	2.349E-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	3.868E-08	5.090E-08	4.008E-08	3.248E-08	3.604E-08	2.287E-08	9.356E-09	4.778E-09	3.003E-09	2.119E-09
SSW	4.436E-08	3.677E-08	2.744E-08	2.471E-08	1.956E-08	1.157E-08	4.641E-09	2.300E-09	1.418E-09	9.832E-10
SW	5.989E-08	9.096E-08	5.558E-08	3.285E-08	2.251E-08	1.281E-08	5.079E-09	2.513E-09	1.558E-09	1.068E-09
WSW	6.757E-08	1.066E-07	5.986E-08	3.403E-08	2.301E-08	1.385E-08	6.571E-09	3.336E-09	2.081E-09	1.459E-09
W	1.630E-07	1.625E-07	8.166E-08	4.550E-08	2.973E-08	1.419E-08	6.144E-09	3.327E-09	2.048E-09	1.419E-09
WNW	1.682E-07	2.822E-07	1.630E-07	9.689E-08	6.393E-08	3.042E-08	1.158E-08	5.622E-09	3.449E-09	2.364E-09
NW	3.512E-07	5.543E-07	2.992E-07	1.649E-07	1.061E-07	4.965E-08	1.869E-08	8.983E-09	5.539E-09	3.812E-09
NNW	2.069E-07	3.119E-07	2.525E-07	1.740E-07	1.139E-07	5.180E-08	1.820E-08	8.600E-09	5.315E-09	3.713E-09
N	1.176E-07	9.396E-08	6.541E-08	4.543E-08	3.332E-08	1.856E-08	9.992E-09	6.191E-09	3.962E-09	2.764E-09
NNE	6.063E-08	5.203E-08	3.561E-08	2.465E-08	1.934E-08	1.982E-08	9.401E-09	4.566E-09	2.855E-09	2.011E-09
NE	1.349E-08	1.795E-08	1.512E-08	1.152E-08	9.784E-09	1.396E-08	7.146E-09	3.516E-09	2.240E-09	1.588E-09
ENE	9.015E-09	1.640E-08	1.534E-08	1.201E-08	1.009E-08	1.122E-08	5.537E-09	2.771E-09	1.826E-09	1.293E-09
E	8.338E-09	1.737E-08	1.537E-08	1.149E-08	9.392E-09	1.055E-08	5.206E-09	2.546E-09	1.599E-09	1.155E-09
ESE	1.451E-08	2.376E-08	1.910E-08	1.365E-08	8.626E-09	3.865E-09	1.879E-09	1.172E-09	8.236E-10	
SE	3.262E-08	5.441E-08	4.211E-08	2.894E-08	2.088E-08	1.095E-08	5.021E-09	2.764E-09	1.826E-09	1.290E-09
SSE	6.595E-08	6.792E-08	4.832E-08	3.326E-08	2.583E-08	2.676E-08	1.280E-08	6.224E-09	3.887E-09	2.731E-09

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ERP ELEVATED STACK RELEASES - APR-JUN 2021
 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	1.133E-09	1.596E-08	3.784E-08	4.986E-08	5.413E-08	4.746E-08	3.971E-08	3.315E-08	2.796E-08	3.332E-08	3.768E-08	
SSW	6.703E-09	3.756E-08	4.731E-08	4.397E-08	3.781E-08	3.072E-08	2.473E-08	2.558E-08	2.516E-08	2.146E-08	1.861E-08	
SW	5.833E-09	2.572E-08	5.210E-08	8.160E-08	1.140E-07	7.575E-08	5.386E-08	4.042E-08	2.516E-08	2.146E-08	2.117E-08	
WSW	2.675E-09	1.741E-08	5.571E-08	1.005E-07	1.362E-07	8.376E-08	5.726E-08	4.206E-08	3.252E-08	2.611E-08	2.159E-08	
W	5.377E-09	5.985E-08	1.684E-07	2.064E-07	1.879E-07	1.153E-07	7.827E-08	5.702E-08	4.373E-08	3.483E-08	2.858E-08	
WNW	4.554E-10	2.902E-08	1.398E-07	2.570E-07	3.635E-07	2.268E-07	1.555E-07	1.195E-07	9.540E-08	7.554E-08	6.159E-08	
NW	4.056E-08	1.392E-07	2.876E-07	4.974E-07	7.348E-07	4.295E-07	2.833E-07	2.065E-07	1.586E-07	1.243E-07	1.006E-07	
NNW	2.240E-08	8.266E-08	1.912E-07	2.763E-07	3.401E-07	2.984E-07	2.517E-07	2.083E-07	1.742E-07	1.351E-07	1.083E-07	
N	1.837E-08	1.001E-07	1.275E-07	1.145E-07	9.481E-08	7.855E-08	6.464E-08	5.277E-08	4.387E-08	3.711E-08	3.189E-08	
NNE	6.874E-09	4.529E-08	6.538E-08	6.253E-08	5.346E-08	4.329E-08	3.491E-08	2.855E-08	2.377E-08	2.013E-08	1.733E-08	
NE	7.600E-11	5.879E-09	1.353E-08	1.691E-08	1.881E-08	1.728E-08	1.506E-08	1.300E-08	1.127E-08	9.867E-09	8.727E-09	
ENE	3.485E-11	2.578E-09	8.024E-09	1.285E-08	1.737E-08	1.711E-08	1.539E-08	1.351E-08	1.182E-08	1.038E-08	9.196E-09	
E	2.406E-16	3.472E-10	6.516E-09	1.373E-08	1.889E-08	1.771E-08	1.539E-08	1.307E-08	1.120E-08	9.688E-09	8.483E-09	
ESE	2.974E-11	2.324E-09	1.289E-08	2.174E-08	2.575E-08	2.272E-08	1.894E-08	1.574E-08	1.322E-08	1.125E-08	9.715E-09	
SE	2.974E-11	3.321E-09	2.822E-08	5.015E-08	5.957E-08	5.122E-08	4.163E-08	3.381E-08	2.783E-08	2.328E-08	1.978E-08	
SSE	6.748E-09	4.080E-08	6.766E-08	7.542E-08	7.153E-08	5.893E-08	4.750E-08	3.866E-08	3.202E-08	2.698E-08	2.312E-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	3.386E-08	2.327E-08	1.473E-08	7.964E-09	5.235E-09	3.745E-09	2.788E-09	2.168E-09	1.763E-09	1.469E-09	1.239E-09
SSW	1.681E-08	1.178E-08	7.347E-09	3.914E-09	2.573E-09	1.841E-09	1.379E-09	1.079E-09	8.716E-10	7.210E-10	6.080E-10
SW	1.907E-08	1.297E-08	8.147E-09	4.365E-09	2.832E-09	2.003E-09	1.522E-09	1.186E-09	9.548E-10	7.873E-10	6.618E-10
WSW	1.927E-08	1.344E-08	9.721E-09	5.979E-09	3.884E-09	2.775E-09	2.106E-09	1.665E-09	1.357E-09	1.132E-09	9.614E-10
W	2.400E-08	1.287E-08	9.043E-09	5.589E-09	3.940E-09	2.813E-09	2.119E-09	1.666E-09	1.351E-09	1.122E-09	9.493E-10
WNW	5.193E-08	2.786E-08	1.811E-08	1.006E-08	6.307E-09	4.366E-09	3.267E-09	2.558E-09	2.061E-09	1.697E-09	1.424E-09
NW	8.421E-08	4.440E-08	2.882E-08	1.605E-08	1.008E-08	7.002E-09	5.292E-09	4.153E-09	3.346E-09	2.760E-09	2.321E-09
NNW	9.028E-08	4.659E-08	2.877E-08	1.512E-08	9.379E-09	6.453E-09	4.768E-09	3.700E-09	2.991E-09	2.469E-09	2.073E-09
N	2.784E-08	1.677E-08	1.312E-08	9.594E-09	7.445E-09	5.713E-09	4.337E-09	3.422E-09	2.779E-09	2.312E-09	1.960E-09
NNE	1.833E-08	2.432E-08	1.520E-08	8.206E-09	5.260E-09	3.720E-09	2.798E-09	2.197E-09	1.780E-09	1.476E-09	1.248E-09
NE	9.979E-09	1.852E-08	1.170E-08	6.390E-09	4.109E-09	2.912E-09	2.226E-09	1.773E-09	1.456E-09	1.215E-09	1.032E-09
ENE	1.000E-08	1.411E-08	9.025E-09	4.937E-09	3.121E-09	2.177E-09	1.690E-09	1.355E-09	1.096E-09	9.086E-10	7.672E-10
E	9.112E-09	1.329E-08	8.488E-09	4.634E-09	2.928E-09	2.040E-09	1.513E-09	1.171E-09	9.633E-10	8.055E-10	6.741E-10
ESE	9.822E-09	9.783E-09	6.178E-09	3.332E-09	2.097E-09	1.458E-09	1.080E-09	8.361E-10	6.684E-10	5.477E-10	4.576E-10
SE	1.704E-08	9.726E-09	7.023E-09	4.615E-09	3.227E-09	2.457E-09	1.975E-09	1.641E-09	1.334E-09	1.110E-09	9.415E-10
SSE	2.418E-08	3.292E-08	2.063E-08	1.114E-08	7.106E-09	5.000E-09	3.744E-09	2.927E-09	2.361E-09	1.950E-09	1.642E-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	3.832E-08	5.022E-08	3.915E-08	3.148E-08	3.497E-08	2.183E-08	8.254E-09	3.760E-09	2.191E-09	1.471E-09
SSW	4.366E-08	3.602E-08	2.667E-08	2.387E-08	1.879E-08	1.093E-08	4.081E-09	1.852E-09	1.086E-09	7.237E-10
SW	5.935E-08	8.979E-08	5.432E-08	3.182E-08	2.169E-08	1.218E-08	4.524E-09	2.032E-09	1.194E-09	7.904E-10
WSW	6.708E-08	1.050E-07	5.825E-08	3.280E-08	2.207E-08	1.308E-08	5.879E-09	2.803E-09	1.673E-09	1.135E-09
W	1.611E-07	1.597E-07	7.965E-08	4.414E-08	2.874E-08	1.364E-08	5.623E-09	2.836E-09	1.676E-09	1.126E-09
WNW	1.673E-07	2.791E-07	1.601E-07	9.472E-08	6.215E-08	2.888E-08	1.018E-08	4.444E-09	2.571E-09	1.704E-09
NW	3.478E-07	5.463E-07	2.916E-07	1.592E-07	1.016E-07	4.632E-08	1.624E-08	7.139E-09	4.171E-09	2.771E-09
NNW	2.049E-07	3.074E-07	2.468E-07	1.690E-07	1.096E-07	4.838E-08	1.560E-08	6.559E-09	3.735E-09	2.477E-09
N	1.156E-07	9.196E-08	6.360E-08	4.384E-08	3.194E-08	1.761E-08	9.423E-09	5.624E-09	3.438E-09	2.320E-09
NNE	5.965E-08	5.095E-08	3.460E-08	2.375E-08	1.853E-08	1.894E-08	8.452E-09	3.762E-09	2.210E-09	1.482E-09
NE	1.333E-08	1.771E-08	1.483E-08	1.123E-08	9.529E-09	1.359E-08	6.557E-09	2.957E-09	1.782E-09	1.218E-09
ENE	8.957E-09	1.625E-08	1.510E-08	1.175E-08	9.847E-09	1.094E-08	5.038E-09	2.234E-09	1.352E-09	9.118E-10
E	8.350E-09	1.723E-08	1.507E-08	1.116E-08	9.073E-09	1.023E-08	4.732E-09	2.066E-09	1.190E-09	8.036E-10
ESE	1.448E-08	2.351E-08	1.867E-08	1.319E-08	1.021E-08	8.189E-09	3.416E-09	1.478E-09	8.420E-10	5.501E-10
SE	3.259E-08	5.385E-08	4.106E-08	2.781E-08	1.980E-08	1.015E-08	4.533E-09	2.470E-09	1.620E-09	1.114E-09
SSE	6.514E-08	6.679E-08	4.701E-08	3.200E-08	2.465E-08	2.551E-08	1.146E-08	5.059E-09	2.945E-09	1.958E-09

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ERP ELEVATED STACK RELEASES - APR-JUN 2021
 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	2.467E-09	2.372E-09	2.556E-09	2.076E-09	1.141E-09	7.335E-10	5.078E-10	3.693E-10	2.783E-10	2.329E-10	2.056E-10	
SSW	2.669E-09	2.203E-09	1.920E-09	1.353E-09	6.720E-10	4.157E-10	2.823E-10	2.032E-10	1.852E-10	1.401E-10	1.097E-10	
SW	1.616E-09	1.407E-09	1.332E-09	9.987E-10	8.688E-10	4.738E-10	2.948E-10	2.008E-10	1.454E-10	1.102E-10	8.634E-11	
WSW	8.368E-10	8.767E-10	1.035E-09	1.728E-09	9.298E-10	5.035E-10	3.110E-10	2.107E-10	1.521E-10	1.149E-10	8.992E-11	
W	1.093E-09	3.641E-09	3.044E-09	1.870E-09	8.890E-10	4.742E-10	2.903E-10	1.954E-10	1.403E-10	1.056E-10	8.235E-11	
WNW	1.373E-09	1.333E-09	2.590E-09	2.461E-09	1.376E-09	7.144E-10	4.308E-10	2.903E-10	2.294E-10	1.771E-10	1.442E-10	
NW	8.779E-09	7.091E-09	5.953E-09	7.116E-09	4.230E-09	2.114E-09	1.252E-09	8.298E-10	5.969E-10	4.577E-10	3.695E-10	
NNW	7.845E-09	7.012E-09	6.893E-09	5.296E-09	5.010E-09	2.705E-09	1.672E-09	1.333E-09	9.540E-10	7.269E-10	5.836E-10	
N	1.481E-08	1.153E-08	9.032E-09	5.795E-09	2.651E-09	1.582E-09	1.054E-09	7.510E-10	5.601E-10	4.320E-10	3.420E-10	
NNE	6.103E-09	4.846E-09	3.944E-09	2.623E-09	1.240E-09	7.515E-10	5.047E-10	3.612E-10	2.700E-10	2.084E-10	1.650E-10	
NE	8.112E-10	7.236E-10	7.093E-10	5.439E-10	2.878E-10	1.825E-10	1.255E-10	9.097E-11	6.843E-11	5.297E-11	4.194E-11	
ENE	2.844E-10	3.253E-10	4.155E-10	3.668E-10	2.118E-10	1.385E-10	9.672E-11	7.064E-11	5.334E-11	4.135E-11	3.275E-11	
E	2.973E-11	1.784E-10	3.798E-10	3.934E-10	2.457E-10	1.648E-10	1.164E-10	8.549E-11	6.475E-11	5.026E-11	3.980E-11	
ESE	3.207E-10	5.429E-10	8.789E-10	8.468E-10	5.116E-10	3.395E-10	2.387E-10	1.749E-10	1.323E-10	1.027E-10	8.130E-11	
SE	4.124E-10	1.093E-09	2.050E-09	2.060E-09	1.269E-09	8.477E-10	5.976E-10	4.386E-10	3.320E-10	2.577E-10	2.040E-10	
SSE	5.134E-09	4.558E-09	4.440E-09	3.391E-09	1.789E-09	1.133E-09	7.790E-10	5.643E-10	4.245E-10	3.285E-10	2.601E-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	1.654E-10	1.269E-10	8.848E-11	5.221E-11	3.320E-11	2.312E-11	1.652E-11	1.236E-11	9.540E-12	7.606E-12	6.209E-12	
SSW	8.892E-11	5.580E-11	3.703E-11	2.102E-11	1.421E-11	9.924E-12	7.113E-12	5.342E-12	4.203E-12	3.358E-12	2.741E-12	
SW	7.083E-11	4.682E-11	3.147E-11	1.803E-11	1.144E-11	8.543E-12	6.071E-12	4.559E-12	3.544E-12	2.832E-12	2.311E-12	
WSW	7.342E-11	5.288E-11	3.644E-11	2.330E-11	1.413E-11	9.486E-12	6.794E-12	5.101E-12	3.966E-12	3.168E-12	2.586E-12	
W	6.614E-11	2.961E-11	4.145E-11	2.615E-11	1.608E-11	1.078E-11	7.722E-12	5.798E-12	4.508E-12	3.601E-12	2.939E-12	
WNW	1.263E-10	7.491E-11	5.316E-11	3.178E-11	2.040E-11	1.405E-11	9.498E-12	7.135E-12	5.664E-12	4.525E-12	3.693E-12	
NW	3.122E-10	1.752E-10	1.206E-10	7.317E-11	4.491E-11	3.014E-11	2.237E-11	1.681E-11	1.327E-11	1.060E-11	8.655E-12	
NNW	4.915E-10	2.730E-10	1.870E-10	1.088E-10	6.910E-11	4.633E-11	3.470E-11	2.615E-11	2.070E-11	1.654E-11	1.350E-11	
N	2.765E-10	1.322E-10	8.145E-11	4.393E-11	7.261E-11	4.722E-11	3.384E-11	2.541E-11	1.976E-11	1.578E-11	1.288E-11	
NNE	1.333E-10	1.672E-10	1.027E-10	5.277E-11	3.214E-11	2.155E-11	1.543E-11	1.158E-11	8.994E-12	7.182E-12	5.860E-12	
NE	3.383E-11	6.580E-11	4.143E-11	2.193E-11	1.348E-11	9.019E-12	6.424E-12	4.728E-12	3.674E-12	2.975E-12	2.429E-12	
ENE	2.639E-11	4.018E-11	3.051E-11	1.921E-11	1.235E-11	8.180E-12	5.737E-12	3.671E-12	2.852E-12	2.278E-12	1.860E-12	
E	3.205E-11	3.669E-11	2.659E-11	1.615E-11	1.029E-11	6.816E-12	4.787E-12	3.511E-12	2.680E-12	2.170E-12	1.763E-12	
ESE	6.550E-11	5.996E-11	4.152E-11	2.431E-11	1.537E-11	1.022E-11	7.220E-12	5.334E-12	4.095E-12	3.240E-12	2.625E-12	
SE	1.644E-10	7.784E-11	4.745E-11	2.494E-11	1.516E-11	1.035E-11	7.641E-12	1.086E-11	8.394E-12	6.683E-12	5.449E-12	
SSE	2.099E-10	2.343E-10	1.437E-10	7.373E-11	4.483E-11	3.002E-11	2.147E-11	1.609E-11	1.249E-11	9.959E-12	8.119E-12	

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***** 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	2.302E-09	1.167E-09	5.126E-10	2.870E-10	1.988E-10	1.184E-10	5.182E-11	2.317E-11	1.248E-11	7.662E-12		
SSW	1.731E-09	7.094E-10	2.862E-10	1.732E-10	1.110E-10	5.482E-11	2.155E-11	9.942E-12	5.414E-12	3.380E-12		
SW	1.201E-09	7.221E-10	3.049E-10	1.478E-10	8.766E-11	4.534E-11	1.809E-11	8.328E-12	4.604E-12	2.850E-12		
WSW	1.308E-09	9.178E-10	3.222E-10	1.547E-10	9.121E-11	5.014E-11	2.214E-11	9.647E-12	5.153E-12	3.189E-12		
W	2.655E-09	9.227E-10	3.014E-10	1.428E-10	8.323E-11	4.299E-11	2.507E-11	1.097E-11	5.856E-12	3.625E-12		
WNW	2.253E-09	1.323E-09	4.502E-10	2.269E-10	1.473E-10	7.665E-11	3.147E-11	1.392E-11	7.250E-12	4.555E-12		
NW	6.723E-09	3.931E-09	1.313E-09	6.104E-10	3.744E-10	1.814E-10	7.115E-11	3.097E-11	1.705E-11	1.067E-11		
NNW	6.210E-09	4.049E-09	1.812E-09	9.758E-10	5.919E-10	2.833E-10	1.085E-10	4.775E-11	2.652E-11	1.665E-11		
N	8.149E-09	2.875E-09	1.074E-09	5.658E-10	3.444E-10	1.417E-10	6.501E-11	4.864E-11	2.567E-11	1.589E-11		
NNE	3.557E-09	1.330E-09	5.131E-10	2.726E-10	1.662E-10	1.310E-10	5.469E-11	2.193E-11	1.170E-11	7.229E-12		
NE	6.390E-10	2.979E-10	1.269E-10	6.898E-11	4.221E-11	4.787E-11	2.250E-11	9.169E-12	4.811E-12	2.980E-12		
ENE	3.738E-10	2.137E-10	9.744E-11	5.372E-11	3.294E-11	3.282E-11	1.867E-11	8.316E-12	3.949E-12	2.293E-12		
E	3.411E-10	2.426E-10	1.169E-10	6.515E-11	4.003E-11	3.117E-11	1.587E-11	6.931E-12	3.559E-12	2.170E-12		
ESE	7.899E-10	5.096E-10	2.401E-10	1.332E-10	8.178E-11	5.299E-11	2.416E-11	1.039E-11	5.401E-12	3.266E-12		
SE	1.842E-09	1.258E-09	6.007E-10	3.341E-10	2.052E-10	8.356E-11	2.560E-11	1.055E-11	9.002E-12	6.733E-12		
SSE	4.000E-09	1.854E-09	7.876E-10	4.279E-10	2.618E-10	1.886E-10	7.644E-11	3.055E-11	1.625E-11	1.003E-11		

ERP ELEVATED STACK RELEASES - APR-JUN 2021
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION FROM SITE (MI)	DIST.	X/Q (SEC/M3) NO DECAY UNDEPLETED	X/Q (SEC/M3) 2.26 DAY DECAY UNDEPLETED	X/Q (SEC/M3) 8.0 DAY DECAY DEPLETED	D/Q (PER SQ.METER)
A	Site Boundary	S	.80	4.1E-08	4.1E-08	4.1E-08	2.5E-09
A	Site Boundary	SSW	.82	4.7E-08	4.7E-08	4.6E-08	1.7E-09
A	Site Boundary	SW	.97	8.0E-08	7.9E-08	7.9E-08	1.0E-09
A	Site Boundary	WSW	.93	8.9E-08	8.9E-08	8.8E-08	1.3E-09
A	Site Boundary	W	.91	2.0E-07	2.0E-07	2.0E-07	2.2E-09
A	Site Boundary	WNW	.94	2.3E-07	2.3E-07	2.3E-07	2.8E-09
A	Site Boundary	NW	.81	3.4E-07	3.4E-07	3.4E-07	5.4E-09
A	Site Boundary	NNW	.69	1.6E-07	1.6E-07	1.6E-07	6.8E-09
A	Site Boundary	N	.67	1.2E-07	1.2E-07	1.2E-07	9.6E-09
A	Site Boundary	NNE	.60	5.5E-08	5.5E-08	5.5E-08	4.4E-09
A	Site Boundary	NE	.62	9.7E-09	9.7E-09	9.6E-09	7.0E-10
A	Site Boundary	ENE	.59	4.1E-09	4.1E-09	4.0E-09	3.5E-10
A	Site Boundary	E	.53	5.7E-10	5.7E-10	5.7E-10	2.0E-10
A	Site Boundary	ESE	.54	3.2E-09	3.2E-09	3.2E-09	5.9E-10
A	Site Boundary	SE	.65	1.5E-08	1.5E-08	1.5E-08	1.7E-09
A	Site Boundary	SSE	.81	7.1E-08	7.1E-08	7.0E-08	4.2E-09
A	Nearest Res	SW	1.30	1.1E-07	1.1E-07	1.1E-07	1.2E-09
A	Nearest Res	WSW	1.80	1.0E-07	1.0E-07	1.0E-07	6.3E-10
A	Nearest Res	WNW	2.40	1.7E-07	1.7E-07	1.7E-07	4.7E-10
A	Nearest Res	NW	.90	4.1E-07	4.1E-07	4.1E-07	7.0E-09
A	Nearest Res	NNW	1.90	3.1E-07	3.1E-07	3.1E-07	3.0E-09
A	Nearest Res	NE	1.60	1.9E-08	1.9E-08	1.9E-08	2.6E-10
A	Nearest Res	E	2.00	1.8E-08	1.8E-08	1.8E-08	1.6E-10
A	Nearest Cow	NNW	3.50	1.8E-07	1.8E-07	1.7E-07	9.5E-10
A	Nearest Garde	SW	2.20	6.7E-08	6.7E-08	6.6E-08	3.9E-10
A	Nearest Garde	WSW	1.80	1.0E-07	1.0E-07	1.0E-07	6.3E-10
A	Nearest Garde	NNW	2.80	2.3E-07	2.3E-07	2.2E-07	1.5E-09
A	Nearest Garde	ESE	2.30	2.1E-08	2.1E-08	2.0E-08	2.7E-10
A	MAXIMUM CHI/Q	S	1.50	5.5E-08	5.5E-08	5.4E-08	1.1E-09
A	MAXIMUM CHI/Q	SSW	.75	4.8E-08	4.8E-08	4.7E-08	1.9E-09
A	MAXIMUM CHI/Q	SW	1.50	1.2E-07	1.2E-07	1.1E-07	8.7E-10
A	MAXIMUM CHI/Q	WSW	1.50	1.4E-07	1.4E-07	1.4E-07	9.3E-10
A	MAXIMUM CHI/Q	W	1.00	2.1E-07	2.1E-07	2.1E-07	1.9E-09
A	MAXIMUM CHI/Q	WNW	1.50	3.7E-07	3.7E-07	3.6E-07	1.4E-09
A	MAXIMUM CHI/Q	NW	1.50	7.5E-07	7.4E-07	7.3E-07	4.2E-09
A	MAXIMUM CHI/Q	NNW	1.50	3.5E-07	3.4E-07	3.4E-07	5.0E-09
A	MAXIMUM CHI/Q	N	.75	1.3E-07	1.3E-07	1.3E-07	9.0E-09
A	MAXIMUM CHI/Q	NNE	.75	6.7E-08	6.7E-08	6.5E-08	3.9E-09
A	MAXIMUM CHI/Q	NE	7.50	1.9E-08	1.9E-08	1.9E-08	6.6E-11
A	MAXIMUM CHI/Q	ENE	1.50	1.8E-08	1.8E-08	1.7E-08	2.1E-10
A	MAXIMUM CHI/Q	E	1.50	1.9E-08	1.9E-08	1.9E-08	2.5E-10
A	MAXIMUM CHI/Q	ESE	1.50	2.6E-08	2.6E-08	2.6E-08	5.1E-10
A	MAXIMUM CHI/Q	SE	1.50	6.0E-08	6.0E-08	6.0E-08	1.3E-09
A	MAXIMUM CHI/Q	SSE	1.00	7.6E-08	7.6E-08	7.5E-08	3.4E-09

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Atmospheric Diffusion Estimates

Elevated Releases

January-June 2021

ERP ELEVATED STACK RELEASES - JAN-JUN 2021
 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	1.512E-09	1.432E-08	5.207E-08	8.162E-08	9.383E-08	8.182E-08	6.767E-08	5.588E-08	4.669E-08	5.221E-08	5.488E-08	
SSW	3.341E-09	1.946E-08	3.363E-08	4.177E-08	4.564E-08	4.062E-08	3.439E-08	3.776E-08	3.853E-08	3.339E-08	2.926E-08	
SW	2.907E-09	1.332E-08	4.180E-08	8.109E-08	1.181E-07	7.852E-08	5.594E-08	4.210E-08	3.305E-08	2.680E-08	2.230E-08	
WSW	1.334E-09	9.269E-09	5.222E-08	1.164E-07	1.749E-07	1.090E-07	7.493E-08	5.518E-08	4.270E-08	3.427E-08	2.831E-08	
W	2.680E-09	5.728E-08	2.167E-07	2.696E-07	2.403E-07	1.477E-07	1.004E-07	7.319E-08	5.614E-08	4.472E-08	3.668E-08	
WNW	2.399E-08	3.280E-08	1.864E-07	3.563E-07	4.778E-07	2.944E-07	2.003E-07	1.520E-07	1.200E-07	9.490E-08	7.736E-08	
NW	2.022E-08	7.049E-08	1.788E-07	3.650E-07	5.891E-07	3.477E-07	2.308E-07	1.688E-07	1.299E-07	1.023E-07	8.309E-08	
NNW	1.120E-08	4.350E-08	1.102E-07	1.699E-07	2.277E-07	2.140E-07	1.924E-07	1.676E-07	1.458E-07	1.145E-07	9.284E-08	
N	1.014E-08	5.680E-08	7.651E-08	7.215E-08	6.288E-08	5.348E-08	4.480E-08	3.707E-08	3.117E-08	2.663E-08	2.308E-08	
NNE	3.448E-09	2.413E-08	3.989E-08	4.344E-08	4.216E-08	3.592E-08	2.976E-08	2.478E-08	2.090E-08	1.789E-08	1.554E-08	
NE	3.788E-11	3.202E-09	1.109E-08	1.712E-08	2.110E-08	1.970E-08	1.718E-08	1.481E-08	1.281E-08	1.119E-08	9.877E-09	
ENE	1.737E-11	1.417E-09	6.347E-09	1.167E-08	1.676E-08	1.665E-08	1.500E-08	1.318E-08	1.154E-08	1.017E-08	9.031E-09	
E	1.788E-16	2.622E-10	5.055E-09	1.095E-08	1.598E-08	1.569E-08	1.402E-08	1.226E-08	1.072E-08	9.432E-09	8.379E-09	
ESE	1.482E-11	1.689E-09	1.473E-08	2.691E-08	3.351E-08	3.027E-08	2.564E-08	2.156E-08	1.827E-08	1.567E-08	1.361E-08	
SE	1.048E-10	7.404E-09	3.685E-08	6.021E-08	6.913E-08	5.955E-08	4.871E-08	3.985E-08	3.303E-08	2.781E-08	2.376E-08	
SSE	3.388E-09	2.270E-08	5.154E-08	7.009E-08	7.655E-08	6.640E-08	5.500E-08	4.555E-08	3.818E-08	3.247E-08	2.801E-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	4.818E-08	2.983E-08	1.913E-08	1.077E-08	7.357E-09	5.460E-09	4.219E-09	3.396E-09	2.830E-09	2.408E-09	2.079E-09	
SSW	2.655E-08	1.781E-08	1.141E-08	6.421E-09	4.397E-09	3.239E-09	2.504E-09	2.017E-09	1.674E-09	1.420E-09	1.227E-09	
SW	2.018E-08	1.440E-08	9.396E-09	5.413E-09	3.819E-09	2.898E-09	2.307E-09	1.869E-09	1.558E-09	1.328E-09	1.152E-09	
WSW	2.493E-08	1.623E-08	1.154E-08	7.142E-09	4.812E-09	3.550E-09	2.773E-09	2.252E-09	1.882E-09	1.607E-09	1.397E-09	
W	3.079E-08	1.647E-08	1.145E-08	7.189E-09	5.200E-09	3.831E-09	2.976E-09	2.406E-09	2.003E-09	1.705E-09	1.477E-09	
WNW	6.515E-08	3.523E-08	2.332E-08	1.361E-08	9.160E-09	6.741E-09	5.259E-09	4.257E-09	3.540E-09	3.005E-09	2.597E-09	
NW	6.982E-08	3.759E-08	2.499E-08	1.467E-08	9.804E-09	7.185E-09	5.646E-09	4.581E-09	3.811E-09	3.241E-09	2.804E-09	
NNW	7.849E-08	4.298E-08	2.771E-08	1.577E-08	1.062E-08	7.828E-09	6.144E-09	5.007E-09	4.217E-09	3.606E-09	3.127E-09	
N	2.032E-08	1.264E-08	1.025E-08	8.232E-09	7.223E-09	6.171E-09	4.883E-09	3.991E-09	3.344E-09	2.862E-09	2.492E-09	
NNE	1.665E-08	2.371E-08	1.539E-08	8.847E-09	6.005E-09	4.456E-09	3.498E-09	2.853E-09	2.393E-09	2.050E-09	1.786E-09	
NE	1.110E-08	1.784E-08	1.163E-08	6.724E-09	4.578E-09	3.406E-09	2.706E-09	2.226E-09	1.879E-09	1.610E-09	1.403E-09	
ENE	9.900E-09	1.547E-08	1.027E-08	6.067E-09	4.179E-09	3.133E-09	2.594E-09	2.187E-09	1.837E-09	1.576E-09	1.374E-09	
E	9.282E-09	1.532E-08	1.021E-08	6.059E-09	4.187E-09	3.145E-09	2.492E-09	2.047E-09	1.792E-09	1.583E-09	1.382E-09	
ESE	1.378E-08	1.458E-08	9.605E-09	5.601E-09	3.823E-09	2.845E-09	2.236E-09	1.825E-09	1.531E-09	1.312E-09	1.143E-09	
SE	2.058E-08	1.199E-08	8.704E-09	5.700E-09	4.012E-09	3.072E-09	2.483E-09	2.081E-09	1.733E-09	1.474E-09	1.277E-09	
SSE	2.903E-08	3.150E-08	2.021E-08	1.143E-08	7.659E-09	5.628E-09	4.381E-09	3.549E-09	2.959E-09	2.522E-09	2.186E-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	5.681E-08	8.578E-08	6.673E-08	5.142E-08	5.161E-08	2.915E-08	1.111E-08	5.470E-09	3.416E-09	2.411E-09	
SSW	3.410E-08	4.255E-08	3.740E-08	3.635E-08	2.948E-08	1.691E-08	6.630E-09	3.254E-09	2.026E-09	1.424E-09	
SW	5.293E-08	9.229E-08	5.642E-08	3.325E-08	2.285E-08	1.346E-08	5.590E-09	2.907E-09	1.876E-09	1.331E-09	
WSW	7.119E-08	1.326E-07	7.611E-08	4.306E-08	2.883E-08	1.608E-08	7.083E-09	3.576E-09	2.260E-09	1.611E-09	
W	2.048E-07	2.057E-07	1.021E-07	5.666E-08	3.688E-08	1.742E-08	7.251E-09	3.854E-09	2.415E-09	1.709E-09	
WNW	2.278E-07	3.693E-07	2.061E-07	1.196E-07	7.804E-08	3.658E-08	1.379E-08	6.793E-09	4.270E-09	3.013E-09	
NW	2.375E-07	4.320E-07	2.372E-07	1.305E-07	8.385E-08	3.915E-08	1.480E-08	7.268E-09	4.592E-09	3.248E-09	
NNW	1.219E-07	2.087E-07	1.882E-07	1.401E-07	9.394E-08	4.409E-08	1.613E-08	7.899E-09	5.031E-09	3.610E-09	
N	7.019E-08	6.076E-08	4.402E-08	3.113E-08	2.311E-08	1.328E-08	8.233E-09	5.936E-09	3.999E-09	2.868E-09	
NNE	3.797E-08	3.967E-08	2.941E-08	2.086E-08	1.665E-08	1.844E-08	9.037E-09	4.486E-09	2.862E-09	2.054E-09	
NE	1.202E-08	1.959E-08	1.690E-08	1.276E-08	1.072E-08	1.358E-08	6.860E-09	3.439E-09	2.231E-09	1.613E-09	
ENE	7.616E-09	1.558E-08	1.471E-08	1.149E-08	9.690E-09	1.192E-08	6.163E-09	3.196E-09	2.170E-09	1.579E-09	
E	6.609E-09	1.474E-08	1.376E-08	1.067E-08	9.025E-09	1.171E-08	6.150E-09	3.162E-09	2.077E-09	1.571E-09	
ESE	1.725E-08	3.060E-08	2.524E-08	1.822E-08	1.428E-08	1.219E-08	5.701E-09	2.862E-09	1.831E-09	1.314E-09	
SE	4.069E-08	6.289E-08	4.806E-08	3.299E-08	2.378E-08	1.244E-08	5.617E-09	3.087E-09	2.063E-09	1.478E-09	
SSE	5.337E-08	7.060E-08	5.426E-08	3.811E-08	2.971E-08	2.593E-08	1.170E-08	5.671E-09	3.562E-09	2.527E-09	

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ERP ELEVATED STACK RELEASES - JAN-JUN 2021
 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	1.512E-09	1.431E-08	5.203E-08	8.152E-08	9.365E-08	8.160E-08	6.744E-08	5.565E-08	4.646E-08	5.191E-08	5.451E-08
SSW	3.339E-09	1.944E-08	3.359E-08	4.170E-08	4.551E-08	4.046E-08	3.422E-08	3.752E-08	3.824E-08	3.310E-08	2.898E-08
SW	2.906E-09	1.331E-08	4.173E-08	8.091E-08	1.177E-07	7.815E-08	5.560E-08	4.179E-08	3.276E-08	2.653E-08	2.204E-08
WSW	1.333E-09	9.256E-09	5.214E-08	1.162E-07	1.744E-07	1.085E-07	7.455E-08	5.484E-08	4.239E-08	3.399E-08	2.804E-08
W	2.679E-09	5.723E-08	2.164E-07	2.691E-07	2.395E-07	1.470E-07	9.980E-08	7.267E-08	5.567E-08	4.429E-08	3.628E-08
WNW	2.398E-08	3.276E-08	1.861E-07	3.555E-07	4.758E-07	2.927E-07	1.988E-07	1.506E-07	1.188E-07	9.375E-08	7.630E-08
NW	2.021E-08	7.043E-08	1.785E-07	3.642E-07	5.868E-07	3.459E-07	2.293E-07	1.674E-07	1.286E-07	1.011E-07	8.205E-08
NNW	1.119E-08	4.347E-08	1.101E-07	1.696E-07	2.272E-07	2.133E-07	1.916E-07	1.667E-07	1.450E-07	1.137E-07	9.212E-08
N	1.014E-08	5.678E-08	7.647E-08	7.209E-08	6.278E-08	5.336E-08	4.467E-08	3.693E-08	3.103E-08	2.650E-08	2.295E-08
NNE	3.447E-09	2.412E-08	3.986E-08	4.338E-08	4.206E-08	3.580E-08	2.963E-08	2.464E-08	2.076E-08	1.775E-08	1.540E-08
NE	3.787E-11	3.199E-09	1.108E-08	1.709E-08	2.104E-08	1.962E-08	1.709E-08	1.471E-08	1.271E-08	1.109E-08	9.777E-09
ENE	1.736E-11	1.416E-09	6.338E-09	1.164E-08	1.669E-08	1.655E-08	1.488E-08	1.305E-08	1.142E-08	1.004E-08	8.901E-09
E	1.787E-16	2.620E-10	5.047E-09	1.092E-08	1.593E-08	1.562E-08	1.394E-08	1.217E-08	1.062E-08	9.339E-09	8.286E-09
ESE	1.482E-11	1.688E-09	1.472E-08	2.687E-08	3.344E-08	3.018E-08	2.554E-08	2.145E-08	1.816E-08	1.557E-08	1.351E-08
SE	1.048E-10	7.401E-09	3.682E-08	6.014E-08	6.900E-08	5.940E-08	4.855E-08	3.969E-08	3.287E-08	2.765E-08	2.361E-08
SSE	3.387E-09	2.269E-08	5.150E-08	7.000E-08	7.639E-08	6.620E-08	5.479E-08	4.533E-08	3.796E-08	3.225E-08	2.780E-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	4.781E-08	2.947E-08	1.882E-08	1.050E-08	7.113E-09	5.232E-09	4.009E-09	3.200E-09	2.644E-09	2.231E-09	1.909E-09
SSW	2.626E-08	1.750E-08	1.114E-08	6.199E-09	4.196E-09	3.055E-09	2.336E-09	1.860E-09	1.527E-09	1.281E-09	1.094E-09
SW	1.992E-08	1.412E-08	9.150E-09	5.203E-09	3.624E-09	2.715E-09	2.134E-09	1.707E-09	1.406E-09	1.183E-09	1.014E-09
WSW	2.466E-08	1.594E-08	1.125E-08	6.873E-09	4.570E-09	3.328E-09	2.566E-09	2.057E-09	1.697E-09	1.431E-09	1.227E-09
W	3.041E-08	1.616E-08	1.115E-08	6.902E-09	4.918E-09	3.573E-09	2.738E-09	2.183E-09	1.793E-09	1.506E-09	1.287E-09
WNW	6.416E-08	3.441E-08	2.259E-08	1.298E-08	8.595E-09	6.227E-09	4.782E-09	3.811E-09	3.121E-09	2.610E-09	2.222E-09
NW	6.885E-08	3.679E-08	2.428E-08	1.404E-08	9.248E-09	6.681E-09	5.174E-09	4.139E-09	3.395E-09	2.848E-09	2.431E-09
NNW	7.781E-08	4.241E-08	2.722E-08	1.536E-08	1.025E-08	7.490E-09	5.827E-09	4.708E-09	3.931E-09	3.332E-09	2.865E-09
N	2.019E-08	1.251E-08	1.011E-08	8.037E-09	6.973E-09	5.892E-09	4.617E-09	3.738E-09	3.103E-09	2.632E-09	2.270E-09
NNE	1.648E-08	2.336E-08	1.508E-08	8.590E-09	5.776E-09	4.247E-09	3.303E-09	2.669E-09	2.219E-09	1.884E-09	1.627E-09
NE	1.098E-08	1.756E-08	1.139E-08	6.518E-09	4.394E-09	3.237E-09	2.548E-09	2.076E-09	1.736E-09	1.474E-09	1.273E-09
ENE	9.745E-09	1.518E-08	1.002E-08	5.851E-09	3.986E-09	2.956E-09	2.425E-09	2.025E-09	1.684E-09	1.430E-09	1.236E-09
E	9.169E-09	1.503E-08	9.954E-09	5.830E-09	3.977E-09	2.951E-09	2.308E-09	1.873E-09	1.619E-09	1.412E-09	1.218E-09
ESE	1.366E-08	1.438E-08	9.433E-09	5.453E-09	3.690E-09	2.723E-09	2.122E-09	1.718E-09	1.430E-09	1.215E-09	1.050E-09
SE	2.044E-08	1.186E-08	8.577E-09	5.572E-09	3.890E-09	2.953E-09	2.365E-09	1.964E-09	1.621E-09	1.368E-09	1.174E-09
SSE	2.878E-08	3.097E-08	1.975E-08	1.104E-08	7.315E-09	5.313E-09	4.089E-09	3.274E-09	2.699E-09	2.274E-09	1.949E-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	5.675E-08	8.560E-08	6.650E-08	5.116E-08	5.126E-08	2.881E-08	1.084E-08	5.245E-09	3.219E-09	2.234E-09
SSW	3.405E-08	4.242E-08	3.720E-08	3.608E-08	2.919E-08	1.662E-08	6.408E-09	3.072E-09	1.869E-09	1.285E-09
SW	5.283E-08	9.195E-08	5.609E-08	3.297E-08	2.259E-08	1.320E-08	5.378E-09	2.725E-09	1.714E-09	1.186E-09
WSW	7.107E-08	1.322E-07	7.573E-08	4.275E-08	2.855E-08	1.580E-08	6.823E-09	3.354E-09	2.065E-09	1.434E-09
W	2.044E-07	2.050E-07	1.015E-07	5.619E-08	3.648E-08	1.710E-08	6.964E-09	3.598E-09	2.193E-09	1.510E-09
WNW	2.273E-07	3.677E-07	2.046E-07	1.183E-07	7.697E-08	3.577E-08	1.317E-08	6.280E-09	3.825E-09	2.618E-09
NW	2.370E-07	4.303E-07	2.357E-07	1.292E-07	8.282E-08	3.835E-08	1.419E-08	6.763E-09	4.151E-09	2.855E-09
NNW	1.217E-07	2.082E-07	1.875E-07	1.393E-07	9.321E-08	4.353E-08	1.572E-08	7.560E-09	4.732E-09	3.337E-09
N	7.015E-08	6.066E-08	4.389E-08	3.099E-08	2.298E-08	1.315E-08	8.025E-09	5.670E-09	3.747E-09	2.637E-09
NNE	3.793E-08	3.957E-08	2.928E-08	2.072E-08	1.650E-08	1.815E-08	8.783E-09	4.277E-09	2.679E-09	1.888E-09
NE	1.200E-08	1.953E-08	1.681E-08	1.267E-08	1.061E-08	1.335E-08	6.656E-09	3.270E-09	2.081E-09	1.477E-09
ENE	7.600E-09	1.550E-08	1.460E-08	1.136E-08	9.551E-09	1.168E-08	5.950E-09	3.018E-09	2.009E-09	1.433E-09
E	6.596E-09	1.468E-08	1.368E-08	1.058E-08	8.925E-09	1.147E-08	5.923E-09	2.967E-09	1.900E-09	1.402E-09
ESE	1.723E-08	3.053E-08	2.514E-08	1.811E-08	1.417E-08	1.202E-08	5.554E-09	2.741E-09	1.724E-09	1.218E-09
SE	4.065E-08	6.276E-08	4.790E-08	3.283E-08	2.363E-08	1.231E-08	5.492E-09	2.968E-09	1.948E-09	1.371E-09
SSE	5.332E-08	7.044E-08	5.405E-08	3.789E-08	2.948E-08	2.550E-08	1.132E-08	5.357E-09	3.288E-09	2.280E-09

ERP ELEVATED STACK RELEASES - JAN-JUN 2021
 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	1.512E-09	1.421E-08	5.172E-08	8.127E-08	9.276E-08	8.020E-08	6.579E-08	5.392E-08	4.474E-08	4.989E-08	5.237E-08	
SSW	3.340E-09	1.929E-08	3.317E-08	4.133E-08	4.498E-08	3.977E-08	3.344E-08	3.657E-08	3.721E-08	3.210E-08	2.803E-08	
SW	2.907E-09	1.320E-08	4.141E-08	8.066E-08	1.165E-07	7.665E-08	5.416E-08	4.048E-08	3.159E-08	2.548E-08	2.110E-08	
WSW	1.333E-09	9.189E-09	5.189E-08	1.158E-07	1.723E-07	1.064E-07	7.262E-08	5.316E-08	4.092E-08	3.270E-08	2.690E-08	
W	2.680E-09	5.688E-08	2.150E-07	2.659E-07	2.351E-07	1.434E-07	9.681E-08	7.020E-08	5.359E-08	4.251E-08	3.473E-08	
WNW	2.399E-08	3.257E-08	1.857E-07	3.535E-07	4.702E-07	2.874E-07	1.942E-07	1.467E-07	1.153E-07	9.070E-08	7.352E-08	
NW	2.022E-08	6.985E-08	1.767E-07	3.620E-07	5.804E-07	3.393E-07	2.235E-07	1.625E-07	1.244E-07	9.735E-08	7.861E-08	
NNW	1.120E-08	4.312E-08	1.088E-07	1.684E-07	2.248E-07	2.099E-07	1.881E-07	1.635E-07	1.420E-07	1.109E-07	8.944E-08	
N	1.014E-08	5.630E-08	7.510E-08	7.083E-08	6.160E-08	5.218E-08	4.351E-08	3.583E-08	3.000E-08	2.553E-08	2.205E-08	
NNE	3.447E-09	2.392E-08	3.924E-08	4.280E-08	4.141E-08	3.507E-08	2.887E-08	2.388E-08	2.003E-08	1.706E-08	1.474E-08	
NE	3.787E-11	3.175E-09	1.098E-08	1.700E-08	2.085E-08	1.933E-08	1.676E-08	1.437E-08	1.237E-08	1.076E-08	9.462E-09	
ENE	1.737E-11	1.407E-09	6.303E-09	1.162E-08	1.658E-08	1.635E-08	1.464E-08	1.278E-08	1.114E-08	9.768E-09	8.640E-09	
E	1.788E-16	2.621E-10	5.053E-09	1.094E-08	1.584E-08	1.543E-08	1.370E-08	1.191E-08	1.036E-08	9.082E-09	8.037E-09	
ESE	1.482E-11	1.681E-09	1.470E-08	2.687E-08	3.318E-08	2.973E-08	2.499E-08	2.087E-08	1.758E-08	1.499E-08	1.296E-08	
SE	1.048E-10	7.353E-09	3.666E-08	6.000E-08	6.836E-08	5.835E-08	4.731E-08	3.838E-08	3.157E-08	2.639E-08	2.240E-08	
SSE	3.388E-09	2.251E-08	5.098E-08	6.954E-08	7.554E-08	6.501E-08	5.344E-08	4.394E-08	3.658E-08	3.092E-08	2.652E-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	4.579E-08	2.772E-08	1.721E-08	9.109E-09	5.829E-09	4.092E-09	3.026E-09	2.341E-09	1.885E-09	1.557E-09	1.306E-09	
SSW	2.537E-08	1.667E-08	1.033E-08	5.442E-09	3.483E-09	2.460E-09	1.833E-09	1.428E-09	1.149E-09	9.467E-10	7.955E-10	
SW	1.906E-08	1.342E-08	8.472E-09	4.569E-09	2.998E-09	2.138E-09	1.634E-09	1.278E-09	1.031E-09	8.523E-10	7.182E-10	
WSW	2.365E-08	1.508E-08	1.040E-08	6.095E-09	3.917E-09	2.776E-09	2.092E-09	1.644E-09	1.333E-09	1.107E-09	9.369E-10	
W	2.905E-08	1.531E-08	1.049E-08	6.220E-09	4.231E-09	2.993E-09	2.243E-09	1.755E-09	1.417E-09	1.173E-09	9.890E-10	
WNW	6.156E-08	3.220E-08	2.060E-08	1.122E-08	6.982E-09	4.815E-09	3.584E-09	2.794E-09	2.244E-09	1.845E-09	1.546E-09	
NW	6.565E-08	3.419E-08	2.198E-08	1.209E-08	7.585E-09	5.267E-09	3.964E-09	3.103E-09	2.497E-09	2.059E-09	1.730E-09	
NNW	7.519E-08	3.988E-08	2.483E-08	1.317E-08	8.185E-09	5.639E-09	4.179E-09	3.257E-09	2.647E-09	2.193E-09	1.846E-09	
N	1.935E-08	1.189E-08	9.613E-09	7.721E-09	6.642E-09	5.414E-09	4.153E-09	3.299E-09	2.694E-09	2.251E-09	1.916E-09	
NNE	1.581E-08	2.264E-08	1.419E-08	7.684E-09	4.936E-09	3.496E-09	2.633E-09	2.070E-09	1.679E-09	1.394E-09	1.179E-09	
NE	1.066E-08	1.717E-08	1.081E-08	5.882E-09	3.782E-09	2.681E-09	2.048E-09	1.629E-09	1.336E-09	1.114E-09	9.456E-10	
ENE	9.477E-09	1.490E-08	9.564E-09	5.258E-09	3.337E-09	2.334E-09	1.818E-09	1.463E-09	1.189E-09	9.884E-10	8.373E-10	
E	8.915E-09	1.480E-08	9.531E-09	5.259E-09	3.342E-09	2.339E-09	1.741E-09	1.353E-09	1.124E-09	9.485E-10	7.972E-10	
ESE	1.309E-08	1.387E-08	8.847E-09	4.837E-09	3.070E-09	2.148E-09	1.599E-09	1.242E-09	9.962E-10	8.185E-10	6.855E-10	
SE	1.928E-08	1.095E-08	7.817E-09	5.015E-09	3.472E-09	2.629E-09	2.107E-09	1.751E-09	1.423E-09	1.184E-09	1.004E-09	
SSE	2.745E-08	2.968E-08	1.838E-08	9.766E-09	6.162E-09	4.301E-09	3.199E-09	2.487E-09	1.996E-09	1.642E-09	1.378E-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	5.652E-08	8.462E-08	6.488E-08	4.932E-08	4.920E-08	2.707E-08	9.453E-09	4.129E-09	2.363E-09	1.561E-09
SSW	3.371E-08	4.185E-08	3.638E-08	3.508E-08	2.825E-08	1.578E-08	5.657E-09	2.482E-09	1.437E-09	9.505E-10
SW	5.259E-08	9.081E-08	5.469E-08	3.180E-08	2.164E-08	1.247E-08	4.738E-09	2.166E-09	1.286E-09	8.556E-10
WSW	7.082E-08	1.305E-07	7.384E-08	4.129E-08	2.742E-08	1.491E-08	6.084E-09	2.807E-09	1.654E-09	1.111E-09
W	2.025E-07	2.012E-07	9.859E-08	5.411E-08	3.493E-08	1.622E-08	6.284E-09	3.023E-09	1.766E-09	1.177E-09
WNW	2.262E-07	3.630E-07	2.000E-07	1.149E-07	7.418E-08	3.357E-08	1.142E-08	4.900E-09	2.810E-09	1.852E-09
NW	2.353E-07	4.247E-07	2.300E-07	1.250E-07	7.936E-08	3.576E-08	1.229E-08	5.364E-09	3.118E-09	2.067E-09
NNW	1.207E-07	2.056E-07	1.841E-07	1.363E-07	9.052E-08	4.104E-08	1.354E-08	5.734E-09	3.288E-09	2.199E-09
N	6.902E-08	5.947E-08	4.275E-08	2.997E-08	2.208E-08	1.253E-08	7.662E-09	5.237E-09	3.312E-09	2.258E-09
NNE	3.742E-08	3.890E-08	2.853E-08	2.000E-08	1.582E-08	1.736E-08	7.908E-09	5.535E-09	2.082E-09	1.399E-09
NE	1.192E-08	1.932E-08	1.649E-08	1.233E-08	1.029E-08	1.290E-08	6.044E-09	2.721E-09	1.637E-09	1.117E-09
ENE	7.576E-09	1.537E-08	1.435E-08	1.109E-08	9.284E-09	1.132E-08	5.361E-09	2.395E-09	1.460E-09	9.918E-10
E	6.605E-09	1.457E-08	1.345E-08	1.032E-08	8.672E-09	1.115E-08	5.356E-09	2.367E-09	1.376E-09	9.445E-10
ESE	1.722E-08	3.024E-08	2.460E-08	1.753E-08	1.361E-08	1.146E-08	4.943E-09	2.174E-09	1.250E-09	8.219E-10
SE	4.052E-08	6.206E-08	4.668E-08	3.154E-08	2.242E-08	1.141E-08	4.952E-09	2.645E-09	1.728E-09	1.188E-09
SSE	5.290E-08	6.953E-08	5.272E-08	3.653E-08	2.817E-08	2.416E-08	1.008E-08	4.357E-09	2.503E-09	1.649E-09

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ERP ELEVATED STACK RELEASES - JAN-JUN 2021
 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		2.181E-09	2.761E-09	3.808E-09	3.469E-09	2.037E-09	1.340E-09	9.380E-10	6.859E-10	5.183E-10	4.282E-10	3.863E-10		
SSW		1.380E-09	1.396E-09	1.592E-09	1.332E-09	7.459E-10	4.828E-10	3.353E-10	2.443E-10	2.279E-10	1.724E-10	1.350E-10		
SW		8.354E-10	8.822E-10	1.050E-09	8.972E-10	9.296E-10	5.063E-10	3.140E-10	2.133E-10	1.543E-10	1.167E-10	9.137E-11		
WSW		4.587E-10	6.869E-10	1.048E-09	2.154E-09	1.146E-09	6.220E-10	3.845E-10	2.606E-10	1.882E-10	1.422E-10	1.112E-10		
W		5.984E-10	4.684E-09	4.304E-09	2.781E-09	1.406E-09	7.444E-10	4.536E-10	3.043E-10	2.181E-10	1.641E-10	1.283E-10		
WNW		1.143E-09	1.351E-09	3.575E-09	3.628E-09	2.028E-09	1.052E-09	6.338E-10	4.254E-10	3.332E-10	2.544E-10	2.047E-10		
NW		4.414E-09	3.768E-09	3.464E-09	4.816E-09	2.983E-09	1.493E-09	8.861E-10	5.906E-10	4.286E-10	3.324E-10	2.722E-10		
NNW		4.335E-09	3.980E-09	4.054E-09	3.185E-09	3.096E-09	1.673E-09	1.034E-09	8.427E-10	6.139E-10	4.787E-10	3.948E-10		
N		8.594E-09	6.816E-09	5.534E-09	3.673E-09	1.734E-09	1.049E-09	7.045E-10	5.041E-10	3.768E-10	2.909E-10	2.303E-10		
NNE		3.334E-09	2.791E-09	2.490E-09	1.787E-09	9.008E-10	5.605E-10	3.817E-10	2.753E-10	2.066E-10	1.597E-10	1.265E-10		
NE		4.251E-10	4.854E-10	6.192E-10	5.463E-10	3.154E-10	2.063E-10	1.440E-10	1.052E-10	7.941E-11	6.156E-11	4.875E-11		
ENE		1.552E-10	2.428E-10	3.788E-10	3.607E-10	2.167E-10	1.435E-10	1.008E-10	7.386E-11	5.586E-11	4.334E-11	3.432E-11		
E		2.287E-11	1.372E-10	2.921E-10	3.026E-10	1.890E-10	1.267E-10	8.951E-11	6.576E-11	4.980E-11	3.865E-11	3.061E-11		
ESE		2.089E-10	5.648E-10	1.065E-09	1.071E-09	6.603E-10	4.410E-10	3.109E-10	2.282E-10	1.728E-10	1.341E-10	1.062E-10		
SE		1.222E-09	1.826E-09	2.783E-09	2.630E-09	1.574E-09	1.041E-09	7.309E-10	5.353E-10	4.048E-10	3.140E-10	2.486E-10		
SSE		2.906E-09	2.978E-09	3.441E-09	2.899E-09	1.630E-09	1.056E-09	7.341E-10	5.349E-10	4.035E-10	3.127E-10	2.476E-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		3.106E-10	1.845E-10	1.197E-10	6.615E-11	4.131E-11	3.349E-11	2.395E-11	1.795E-11	1.401E-11	1.119E-11	9.131E-12		
SSW		1.095E-10	7.833E-11	5.368E-11	3.120E-11	2.028E-11	1.397E-11	1.001E-11	7.521E-12	5.922E-12	4.731E-12	3.861E-12		
SW		7.416E-11	5.100E-11	3.458E-11	1.991E-11	1.258E-11	9.085E-12	6.625E-12	4.975E-12	3.868E-12	3.090E-12	2.522E-12		
WSW		9.011E-11	6.328E-11	4.320E-11	2.785E-11	1.687E-11	1.132E-11	8.127E-12	6.103E-12	4.745E-12	3.790E-12	3.094E-12		
W		1.035E-10	4.741E-11	5.082E-11	3.100E-11	2.041E-11	1.376E-11	9.859E-12	7.403E-12	5.756E-12	4.598E-12	3.753E-12		
WNW		1.764E-10	1.007E-10	6.998E-11	4.111E-11	2.610E-11	1.816E-11	1.291E-11	9.695E-12	7.633E-12	6.097E-12	4.977E-12		
NW		2.335E-10	1.380E-10	9.754E-11	5.813E-11	3.561E-11	2.388E-11	1.770E-11	1.330E-11	1.051E-11	8.399E-12	6.856E-12		
NNW		3.419E-10	2.084E-10	1.496E-10	9.038E-11	5.776E-11	3.851E-11	2.710E-11	1.982E-11	1.567E-11	1.252E-11	1.022E-11		
N		1.860E-10	8.884E-11	5.465E-11	2.937E-11	5.579E-11	3.523E-11	2.524E-11	1.896E-11	1.474E-11	1.177E-11	9.611E-12		
NNE		1.021E-10	1.425E-10	8.743E-11	4.491E-11	2.734E-11	1.832E-11	1.311E-11	9.833E-12	7.637E-12	6.096E-12	4.973E-12		
NE		3.929E-11	8.136E-11	5.050E-11	2.629E-11	1.607E-11	1.076E-11	7.741E-12	5.765E-12	4.482E-12	3.601E-12	2.939E-12		
ENE		2.765E-11	4.941E-11	3.822E-11	2.436E-11	1.570E-11	1.037E-11	7.255E-12	4.503E-12	3.503E-12	2.800E-12	2.287E-12		
E		2.465E-11	4.658E-11	3.622E-11	2.317E-11	1.493E-11	9.854E-12	6.878E-12	5.005E-12	3.790E-12	2.691E-12	2.188E-12		
ESE		8.552E-11	7.919E-11	5.495E-11	3.221E-11	2.035E-11	1.352E-11	9.542E-12	7.041E-12	5.401E-12	4.270E-12	3.457E-12		
SE		2.003E-10	9.494E-11	5.792E-11	3.051E-11	1.859E-11	1.271E-11	9.382E-12	1.230E-11	9.530E-12	7.611E-12	6.221E-12		
SSE		1.996E-10	2.066E-10	1.268E-10	6.514E-11	3.963E-11	2.654E-11	1.898E-11	1.422E-11	1.104E-11	8.810E-12	7.184E-12		

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*****		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		3.424E-09	2.045E-09	9.443E-10	5.319E-10	3.707E-10	1.837E-10	6.701E-11	3.176E-11	1.816E-11	1.126E-11		
SSW		1.433E-09	7.592E-10	3.382E-10	2.115E-10	1.367E-10	7.431E-11	3.134E-11	1.407E-11	7.624E-12	4.762E-12		
SW		9.447E-10	7.342E-10	3.250E-10	1.568E-10	9.250E-11	4.885E-11	1.991E-11	9.032E-12	5.025E-12	3.110E-12		
WSW		1.459E-09	1.137E-09	3.983E-10	1.914E-10	1.126E-10	6.032E-11	2.638E-11	1.152E-11	6.164E-12	3.815E-12		
W		3.712E-09	1.417E-09	4.714E-10	2.222E-10	1.297E-10	6.138E-11	3.070E-11	1.397E-11	7.478E-12	4.628E-12		
WNW		3.104E-09	1.950E-09	6.619E-10	3.295E-10	2.090E-10	1.039E-10	4.085E-11	1.818E-11	9.827E-12	6.137E-12		
NW		4.132E-09	2.728E-09	9.297E-10	4.383E-10	2.757E-10	1.413E-10	5.688E-11	2.453E-11	1.349E-11	8.454E-12		
NNW		3.651E-09	2.483E-09	1.128E-09	6.278E-10	4.001E-10	2.119E-10	8.904E-11	3.908E-11	2.032E-11	1.260E-11		
N		4.992E-09	1.861E-09	7.163E-10	3.804E-10	2.318E-10	9.525E-11	4.673E-11	3.672E-11	1.915E-11	1.185E-11		
NNE		2.245E-09	9.465E-10	3.868E-10	2.083E-10	1.273E-10	1.090E-10	4.655E-11	1.864E-11	9.934E-12	6.137E-12		
NE		5.571E-10	3.182E-10	1.451E-10	7.997E-11	4.904E-11	5.829E-11	2.713E-11	1.097E-11	5.841E-12	3.617E-12		
ENE		3.405E-10	2.162E-10	1.014E-10	5.623E-11	3.452E-11	3.960E-11	2.359E-11	1.055E-11	4.908E-12	2.818E-12		
E		2.623E-10	1.866E-10	8.993E-11	5.011E-11	3.079E-11	3.710E-11	2.240E-11	1.002E-11	5.077E-12	2.830E-12		
ESE		9.563E-10	6.541E-10	3.125E-10	1.739E-10	1.068E-10	6.982E-11	3.199E-11	1.375E-11	7.131E-12	4.304E-12		
SE		2.502E-09	1.572E-09	7.354E-10	4.075E-10	2.501E-10	1.019E-10	3.130E-11	1.295E-11	1.041E-11	7.665E-12		
SSE		3.097E-09	1.657E-09	7.403E-10	4.065E-10	2.491E-10	1.696E-10	6.750E-11	2.701E-11	1.437E-11	8.869E-12		

ERP ELEVATED STACK RELEASES - JAN-JUN 2021
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SPECIFIC POINTS OF INTEREST

RELEASE TYPE	DIRECTION	DIST.	X/Q (SEC/M3)	X/Q (SEC/M3)	X/Q (SEC/M3)	D/Q (PER SQ. METER)	
ID	LOCATION	FROM SITE (MI)	NO DECAY	2.26 DAY DECAY	8.0 DAY DECAY		
			UNDEPLETED	UNDEPLETED	DEPLETED		
A	Site Boundary	S	.80	5.9E-08	5.9E-08	5.9E-08	3.8E-09
A	Site Boundary	SSW	.82	3.6E-08	3.6E-08	3.6E-08	1.5E-09
A	Site Boundary	SW	.97	7.7E-08	7.7E-08	7.7E-08	9.3E-10
A	Site Boundary	WSW	.93	9.8E-08	9.8E-08	9.8E-08	1.6E-09
A	Site Boundary	W	.91	2.6E-07	2.6E-07	2.6E-07	3.2E-09
A	Site Boundary	WNW	.94	3.2E-07	3.2E-07	3.2E-07	4.0E-09
A	Site Boundary	NW	.81	2.2E-07	2.2E-07	2.2E-07	3.2E-09
A	Site Boundary	NNW	.69	8.8E-08	8.8E-08	8.7E-08	4.0E-09
A	Site Boundary	N	.67	7.1E-08	7.1E-08	7.0E-08	5.8E-09
A	Site Boundary	NNE	.60	3.0E-08	3.0E-08	3.0E-08	2.6E-09
A	Site Boundary	NE	.62	6.4E-09	6.4E-09	6.4E-09	5.5E-10
A	Site Boundary	ENE	.59	2.5E-09	2.5E-09	2.5E-09	2.9E-10
A	Site Boundary	E	.53	4.3E-10	4.3E-10	4.3E-10	1.5E-10
A	Site Boundary	ESE	.54	2.6E-09	2.6E-09	2.6E-09	6.4E-10
A	Site Boundary	SE	.65	2.2E-08	2.2E-08	2.2E-08	2.4E-09
A	Site Boundary	SSE	.81	5.7E-08	5.7E-08	5.7E-08	3.4E-09
A	Nearest Res	SW	1.30	1.1E-07	1.1E-07	1.1E-07	1.2E-09
A	Nearest Res	WSW	1.80	1.3E-07	1.3E-07	1.3E-07	7.8E-10
A	Nearest Res	WNW	2.40	2.1E-07	2.1E-07	2.1E-07	6.9E-10
A	Nearest Res	NW	.90	2.9E-07	2.9E-07	2.8E-07	4.6E-09
A	Nearest Res	NNW	1.90	2.2E-07	2.2E-07	2.1E-07	1.9E-09
A	Nearest Res	NE	1.60	2.1E-08	2.1E-08	2.1E-08	2.9E-10
A	Nearest Res	E	2.00	1.6E-08	1.6E-08	1.5E-08	1.3E-10
A	Nearest Cow	NNW	3.50	1.5E-07	1.5E-07	1.4E-07	6.1E-10
A	Nearest Garde	SW	2.20	6.8E-08	6.8E-08	6.6E-08	4.1E-10
A	Nearest Garde	WSW	1.80	1.3E-07	1.3E-07	1.3E-07	7.8E-10
A	Nearest Garde	NNW	2.80	1.8E-07	1.8E-07	1.7E-07	9.6E-10
A	Nearest Garde	ESE	2.30	2.7E-08	2.7E-08	2.7E-08	3.6E-10
A	MAXIMUM CHI/Q	S	1.50	9.4E-08	9.4E-08	9.3E-08	2.0E-09
A	MAXIMUM CHI/Q	SSW	1.50	4.6E-08	4.6E-08	4.5E-08	7.5E-10
A	MAXIMUM CHI/Q	SW	1.50	1.2E-07	1.2E-07	1.2E-07	9.3E-10
A	MAXIMUM CHI/Q	WSW	1.50	1.7E-07	1.7E-07	1.7E-07	1.1E-09
A	MAXIMUM CHI/Q	W	1.00	2.7E-07	2.7E-07	2.7E-07	2.8E-09
A	MAXIMUM CHI/Q	WNW	1.50	4.8E-07	4.8E-07	4.7E-07	2.0E-09
A	MAXIMUM CHI/Q	NW	1.50	5.9E-07	5.9E-07	5.8E-07	3.0E-09
A	MAXIMUM CHI/Q	NNW	1.50	2.3E-07	2.3E-07	2.2E-07	3.1E-09
A	MAXIMUM CHI/Q	N	.75	7.7E-08	7.6E-08	7.5E-08	5.5E-09
A	MAXIMUM CHI/Q	NNE	1.00	4.3E-08	4.3E-08	4.3E-08	1.8E-09
A	MAXIMUM CHI/Q	NE	1.50	2.1E-08	2.1E-08	2.1E-08	3.2E-10
A	MAXIMUM CHI/Q	ENE	1.50	1.7E-08	1.7E-08	1.7E-08	2.2E-10
A	MAXIMUM CHI/Q	E	1.50	1.6E-08	1.6E-08	1.6E-08	1.9E-10
A	MAXIMUM CHI/Q	ESE	1.50	3.4E-08	3.3E-08	3.3E-08	6.6E-10
A	MAXIMUM CHI/Q	SE	1.50	6.9E-08	6.9E-08	6.8E-08	1.6E-09
A	MAXIMUM CHI/Q	SSE	1.50	7.7E-08	7.6E-08	7.6E-08	1.6E-09

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Atmospheric Diffusion Estimates

Elevated Releases

July-September 2021

ERP ELEVATED STACK RELEASES - JUL-SEP 2021
 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	9.111E-11	1.044E-08	3.652E-08	5.202E-08	5.756E-08	5.019E-08	4.172E-08	3.465E-08	2.912E-08	3.367E-08	3.766E-08
SSW	1.009E-10	8.758E-09	2.400E-08	3.415E-08	4.110E-08	3.807E-08	3.298E-08	3.782E-08	4.123E-08	3.711E-08	3.379E-08
SW	6.429E-11	7.455E-09	3.647E-08	8.314E-08	1.490E-07	1.050E-07	7.764E-08	5.998E-08	4.802E-08	3.955E-08	3.333E-08
WSW	1.652E-10	1.575E-08	5.809E-08	1.116E-07	2.071E-07	1.396E-07	1.013E-07	7.767E-08	6.199E-08	5.102E-08	4.302E-08
W	2.760E-09	1.355E-07	3.124E-07	3.426E-07	3.095E-07	2.000E-07	1.420E-07	1.074E-07	8.504E-08	6.963E-08	5.850E-08
WNW	7.610E-09	6.023E-08	1.846E-07	3.228E-07	4.921E-07	3.156E-07	2.218E-07	1.770E-07	1.469E-07	1.187E-07	9.863E-08
NW	6.161E-10	4.634E-08	2.356E-07	5.213E-07	8.282E-07	4.837E-07	3.190E-07	2.320E-07	1.779E-07	1.398E-07	1.134E-07
NNW	3.609E-09	4.959E-08	1.283E-07	2.017E-07	3.089E-07	3.073E-07	2.791E-07	2.440E-07	2.158E-07	1.700E-07	1.384E-07
N	9.153E-09	4.613E-08	8.418E-08	9.482E-08	9.541E-08	8.596E-08	7.439E-08	6.286E-08	5.374E-08	4.656E-08	4.085E-08
NNE	3.598E-09	1.701E-08	2.965E-08	3.707E-08	4.057E-08	3.623E-08	3.083E-08	2.616E-08	2.240E-08	1.942E-08	1.706E-08
NE	9.304E-11	6.214E-09	1.849E-08	2.642E-08	2.985E-08	2.632E-08	2.201E-08	1.835E-08	1.544E-08	1.316E-08	1.138E-08
ENE	1.479E-16	2.884E-10	5.705E-09	1.212E-08	1.671E-08	1.562E-08	1.342E-08	1.136E-08	9.649E-09	8.282E-09	7.193E-09
E	5.565E-17	6.557E-11	1.325E-09	3.131E-09	5.368E-09	5.852E-09	5.579E-09	5.081E-09	4.560E-09	4.083E-09	3.668E-09
ESE	1.493E-16	2.597E-10	4.986E-09	1.032E-08	1.373E-08	1.263E-08	1.081E-08	9.183E-09	7.880E-09	6.854E-09	6.044E-09
SE	1.031E-10	7.401E-09	1.758E-08	2.270E-08	2.538E-08	2.293E-08	1.962E-08	1.665E-08	1.424E-08	1.230E-08	1.075E-08
SSE	1.224E-10	8.588E-09	3.317E-08	5.225E-08	6.113E-08	5.389E-08	4.488E-08	3.725E-08	3.124E-08	2.656E-08	2.290E-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	3.379E-08	2.261E-08	1.465E-08	8.366E-09	5.804E-09	4.348E-09	3.379E-09	2.732E-09	2.287E-09	1.953E-09	1.691E-09
SSW	3.223E-08	2.659E-08	1.737E-08	1.004E-08	7.149E-09	5.366E-09	4.190E-09	3.403E-09	2.845E-09	2.430E-09	2.111E-09
SW	3.101E-08	2.456E-08	1.626E-08	9.549E-09	6.913E-09	5.346E-09	4.343E-09	3.538E-09	2.961E-09	2.532E-09	2.203E-09
WSW	3.938E-08	2.936E-08	2.204E-08	1.438E-08	9.822E-09	7.323E-09	5.774E-09	4.721E-09	3.968E-09	3.406E-09	2.972E-09
W	5.016E-08	2.905E-08	2.266E-08	1.681E-08	1.376E-08	1.045E-08	8.238E-09	6.746E-09	5.678E-09	4.880E-09	4.264E-09
WNW	8.525E-08	5.133E-08	3.670E-08	2.395E-08	1.696E-08	1.298E-08	1.050E-08	8.731E-09	7.408E-09	6.361E-09	5.553E-09
NW	9.517E-08	5.106E-08	3.397E-08	2.002E-08	1.338E-08	9.814E-09	7.734E-09	6.285E-09	5.234E-09	4.452E-09	3.853E-09
NNW	1.178E-07	6.644E-08	4.317E-08	2.483E-08	1.685E-08	1.249E-08	9.885E-09	8.113E-09	6.902E-09	5.938E-09	5.162E-09
N	3.634E-08	2.355E-08	2.023E-08	1.698E-08	1.437E-08	1.181E-08	9.298E-09	7.578E-09	6.340E-09	5.421E-09	4.714E-09
NNE	1.913E-08	4.108E-08	2.727E-08	1.616E-08	1.118E-08	8.422E-09	6.687E-09	5.507E-09	4.657E-09	4.018E-09	3.523E-09
NE	1.183E-08	1.375E-08	8.894E-09	5.090E-09	3.441E-09	2.545E-09	2.021E-09	1.662E-09	1.413E-09	1.210E-09	1.051E-09
ENE	7.357E-09	8.567E-09	5.615E-09	3.259E-09	2.220E-09	1.651E-09	1.356E-09	1.137E-09	9.513E-10	8.134E-10	7.074E-10
E	4.064E-09	7.591E-09	5.150E-09	3.126E-09	2.193E-09	1.666E-09	1.332E-09	1.102E-09	9.901E-10	8.914E-10	7.814E-10
ESE	6.549E-09	1.174E-08	8.021E-09	4.894E-09	3.438E-09	2.612E-09	2.086E-09	1.725E-09	1.463E-09	1.265E-09	1.111E-09
SE	9.496E-09	5.946E-09	4.694E-09	3.518E-09	2.644E-09	2.133E-09	1.799E-09	1.562E-09	1.317E-09	1.132E-09	9.896E-10
SSE	2.367E-08	3.016E-08	1.955E-08	1.122E-08	7.600E-09	5.631E-09	4.414E-09	3.596E-09	3.014E-09	2.580E-09	2.247E-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	3.761E-08	5.306E-08	4.115E-08	3.243E-08	3.504E-08	2.156E-08	8.624E-09	4.349E-09	2.748E-09	1.955E-09
SSW	2.512E-08	3.821E-08	3.628E-08	3.868E-08	3.419E-08	2.374E-08	1.038E-08	5.371E-09	3.415E-09	2.435E-09
SW	5.076E-08	1.148E-07	7.788E-08	4.821E-08	3.431E-08	2.230E-08	9.869E-09	5.363E-09	3.548E-09	2.537E-09
WSW	7.246E-08	1.559E-07	1.021E-07	6.229E-08	4.404E-08	2.833E-08	1.406E-08	7.370E-09	4.735E-09	3.412E-09
W	2.865E-07	2.682E-07	1.436E-07	8.556E-08	5.871E-08	3.090E-08	1.675E-08	1.045E-08	6.766E-09	4.889E-09
WNW	2.184E-07	3.760E-07	2.289E-07	1.448E-07	9.962E-08	5.237E-08	2.368E-08	1.305E-08	8.733E-09	6.372E-09
NW	3.205E-07	6.069E-07	3.281E-07	1.788E-07	1.145E-07	5.327E-08	2.017E-08	9.934E-09	6.299E-09	4.462E-09
NNW	1.434E-07	2.844E-07	2.726E-07	2.064E-07	1.401E-07	6.750E-08	2.536E-08	1.261E-08	8.158E-09	5.936E-09
N	8.045E-08	9.108E-08	7.286E-08	5.361E-08	4.087E-08	2.492E-08	1.654E-08	1.149E-08	7.598E-09	5.431E-09
NNE	3.014E-08	3.786E-08	3.040E-08	2.234E-08	1.853E-08	3.006E-08	1.642E-08	8.465E-09	5.520E-09	4.024E-09
NE	1.929E-08	2.752E-08	2.169E-08	1.540E-08	1.208E-08	1.116E-08	5.202E-09	2.574E-09	1.670E-09	1.212E-09
ENE	7.352E-09	1.520E-08	1.318E-08	9.616E-09	7.576E-09	6.986E-09	3.321E-09	1.684E-09	1.129E-09	8.150E-10
E	1.848E-09	5.086E-09	5.452E-09	4.527E-09	3.938E-09	5.723E-09	3.161E-09	1.673E-09	1.125E-09	8.799E-10
ESE	6.305E-09	1.248E-08	1.064E-08	7.861E-09	6.471E-09	8.934E-09	4.942E-09	2.622E-09	1.728E-09	1.267E-09
SE	1.760E-08	2.370E-08	1.932E-08	1.419E-08	1.074E-08	6.179E-09	3.391E-09	2.136E-09	1.536E-09	1.134E-09
SSE	3.619E-08	5.594E-08	4.423E-08	3.117E-08	2.427E-08	2.400E-08	1.146E-08	5.669E-09	3.608E-09	2.585E-09

B301

ERP ELEVATED STACK RELEASES - JUL-SEP 2021
 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	9.108E-11	1.042E-08	3.645E-08	5.190E-08	5.738E-08	4.998E-08	4.150E-08	3.443E-08	2.890E-08	3.338E-08	3.728E-08
SSW	1.008E-10	8.750E-09	2.397E-08	3.407E-08	4.095E-08	3.788E-08	3.277E-08	3.753E-08	4.086E-08	3.673E-08	3.340E-08
SW	6.425E-11	7.446E-09	3.639E-08	8.288E-08	1.484E-07	1.044E-07	7.705E-08	5.944E-08	4.751E-08	3.907E-08	3.288E-08
WSW	1.651E-10	1.573E-08	5.799E-08	1.113E-07	2.061E-07	1.388E-07	1.006E-07	7.695E-08	6.131E-08	5.037E-08	4.241E-08
W	2.759E-09	1.353E-07	3.118E-07	3.418E-07	3.082E-07	1.988E-07	1.408E-07	1.063E-07	8.397E-08	6.860E-08	5.750E-08
WNW	7.607E-09	6.018E-08	1.844E-07	3.221E-07	4.903E-07	3.140E-07	2.203E-07	1.755E-07	1.454E-07	1.172E-07	9.721E-08
NW	6.159E-10	4.630E-08	2.353E-07	5.203E-07	8.258E-07	4.818E-07	3.174E-07	2.306E-07	1.766E-07	1.386E-07	1.123E-07
NNW	3.608E-09	4.957E-08	1.281E-07	2.014E-07	3.083E-07	3.064E-07	2.781E-07	2.429E-07	2.146E-07	1.689E-07	1.373E-07
N	9.152E-09	4.610E-08	8.410E-08	9.470E-08	9.522E-08	8.573E-08	7.414E-08	6.260E-08	5.348E-08	4.630E-08	4.059E-08
NNE	3.597E-09	1.700E-08	2.961E-08	3.701E-08	4.048E-08	3.611E-08	3.071E-08	2.604E-08	2.228E-08	1.930E-08	1.693E-08
NE	9.302E-11	6.211E-09	1.847E-08	2.638E-08	2.978E-08	2.624E-08	2.193E-08	1.826E-08	1.535E-08	1.308E-08	1.130E-08
ENE	1.479E-16	2.881E-10	5.696E-09	1.209E-08	1.665E-08	1.555E-08	1.335E-08	1.128E-08	9.575E-09	8.210E-09	7.123E-09
E	5.563E-17	6.552E-11	1.322E-09	3.122E-09	5.343E-09	5.812E-09	5.530E-09	5.027E-09	4.503E-09	4.024E-09	3.608E-09
ESE	1.493E-16	2.594E-10	4.979E-09	1.030E-08	1.369E-08	1.258E-08	1.075E-08	9.129E-09	7.825E-09	6.798E-09	5.987E-09
SE	1.031E-10	7.397E-09	1.756E-08	2.266E-08	2.530E-08	2.282E-08	1.950E-08	1.653E-08	1.411E-08	1.217E-08	1.062E-08
SSE	1.223E-10	8.584E-09	3.313E-08	5.217E-08	6.098E-08	5.371E-08	4.469E-08	3.705E-08	3.104E-08	2.637E-08	2.272E-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	3.340E-08	2.219E-08	1.429E-08	8.056E-09	5.518E-09	4.082E-09	3.134E-09	2.505E-09	2.072E-09	1.749E-09	1.498E-09
SSW	3.181E-08	2.605E-08	1.690E-08	9.642E-09	6.774E-09	5.018E-09	3.869E-09	3.103E-09	2.563E-09	2.162E-09	1.856E-09
SW	3.055E-08	2.397E-08	1.573E-08	9.080E-09	6.445E-09	4.885E-09	3.885E-09	3.108E-09	2.557E-09	2.150E-09	1.839E-09
WSW	3.875E-08	2.859E-08	2.124E-08	1.357E-08	9.093E-09	6.654E-09	5.150E-09	4.136E-09	3.416E-09	2.883E-09	2.474E-09
W	4.919E-08	2.814E-08	2.164E-08	1.556E-08	1.232E-08	9.085E-09	6.979E-09	5.573E-09	4.578E-09	3.842E-09	3.281E-09
WNW	8.384E-08	4.988E-08	3.520E-08	2.234E-08	1.541E-08	1.149E-08	9.051E-09	7.332E-09	6.062E-09	5.089E-09	4.345E-09
NW	9.413E-08	5.019E-08	3.316E-08	1.926E-08	1.271E-08	9.198E-09	7.144E-09	5.726E-09	4.705E-09	3.951E-09	3.378E-09
NNW	1.168E-07	6.551E-08	4.236E-08	2.412E-08	1.620E-08	1.190E-08	9.316E-09	7.568E-09	6.368E-09	5.421E-09	4.668E-09
N	3.609E-08	2.329E-08	1.992E-08	1.654E-08	1.384E-08	1.126E-08	8.786E-09	7.095E-09	5.885E-09	4.988E-09	4.300E-09
NNE	1.898E-08	3.947E-08	2.582E-08	1.486E-08	9.998E-09	7.323E-09	5.661E-09	4.542E-09	3.746E-09	3.155E-09	2.702E-09
NE	1.174E-08	1.338E-08	8.565E-09	4.799E-09	3.177E-09	2.302E-09	1.787E-09	1.437E-09	1.193E-09	1.000E-09	8.525E-10
ENE	7.278E-09	8.444E-09	5.509E-09	3.168E-09	2.139E-09	1.576E-09	1.283E-09	1.067E-09	8.847E-10	7.499E-10	6.465E-10
E	3.990E-09	7.421E-09	5.000E-09	2.993E-09	2.071E-09	1.552E-09	1.224E-09	1.000E-09	8.877E-10	7.898E-10	6.836E-10
ESE	6.472E-09	1.141E-08	7.720E-09	4.620E-09	3.185E-09	2.377E-09	1.865E-09	1.516E-09	1.265E-09	1.077E-09	9.310E-10
SE	9.372E-09	5.829E-09	4.572E-09	3.385E-09	2.514E-09	2.004E-09	1.671E-09	1.434E-09	1.194E-09	1.015E-09	8.766E-10
SSE	2.346E-08	2.957E-08	1.903E-08	1.076E-08	7.186E-09	5.250E-09	4.059E-09	3.263E-09	2.698E-09	2.280E-09	1.960E-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	3.753E-08	5.288E-08	4.093E-08	3.219E-08	3.468E-08	2.117E-08	8.313E-09	4.086E-09	2.520E-09	1.752E-09
SSW	2.508E-08	3.806E-08	3.604E-08	3.834E-08	3.380E-08	2.327E-08	9.981E-09	5.027E-09	3.116E-09	2.167E-09
SW	5.062E-08	1.143E-07	7.730E-08	4.770E-08	3.385E-08	2.177E-08	9.386E-09	4.901E-09	3.120E-09	2.155E-09
WSW	7.230E-08	1.551E-07	1.013E-07	6.161E-08	4.341E-08	2.758E-08	1.328E-08	6.702E-09	4.151E-09	2.890E-09
W	2.859E-07	2.670E-07	1.425E-07	8.449E-08	5.771E-08	2.993E-08	1.547E-08	9.104E-09	5.596E-09	3.852E-09
WNW	2.180E-07	3.745E-07	2.273E-07	1.432E-07	9.819E-08	5.090E-08	2.212E-08	1.156E-08	7.340E-09	5.102E-09
NW	3.200E-07	6.050E-07	3.265E-07	1.775E-07	1.134E-07	5.238E-08	1.944E-08	9.312E-09	5.742E-09	3.962E-09
NNW	1.433E-07	2.837E-07	2.716E-07	2.053E-07	1.391E-07	6.661E-08	2.465E-08	1.201E-08	7.611E-09	5.423E-09
N	8.037E-08	9.088E-08	7.261E-08	5.335E-08	4.062E-08	2.464E-08	1.609E-08	1.096E-08	7.117E-09	4.999E-09
NNE	3.010E-08	3.777E-08	3.028E-08	2.222E-08	1.839E-08	2.885E-08	1.514E-08	7.372E-09	4.559E-09	3.162E-09
NE	1.926E-08	2.745E-08	2.161E-08	1.532E-08	1.199E-08	1.087E-08	4.915E-09	2.329E-09	1.444E-09	1.002E-09
ENE	7.338E-09	1.515E-08	1.311E-08	9.542E-09	7.502E-09	6.881E-09	3.231E-09	1.609E-09	1.059E-09	7.515E-10
E	1.843E-09	5.058E-09	5.404E-09	4.470E-09	3.872E-09	5.582E-09	3.029E-09	1.559E-09	1.021E-09	7.795E-10
ESE	6.294E-09	1.244E-08	1.059E-08	7.806E-09	6.407E-09	4.672E-09	2.388E-09	1.520E-09	1.079E-09	7.079E-10
SE	1.757E-08	2.361E-08	1.920E-08	1.406E-08	1.062E-08	6.058E-09	3.262E-09	2.007E-09	1.410E-09	1.017E-09
SSE	3.614E-08	5.579E-08	4.404E-08	3.098E-08	2.407E-08	2.352E-08	1.101E-08	5.290E-09	3.275E-09	2.286E-09

B302

ERP ELEVATED STACK RELEASES - JUL-SEP 2021
 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	9.111E-11	1.035E-08	3.609E-08	5.152E-08	5.670E-08	4.906E-08	4.047E-08	3.336E-08	2.785E-08	3.216E-08	3.602E-08
SSW	1.009E-10	8.682E-09	2.369E-08	3.381E-08	4.052E-08	3.728E-08	3.208E-08	3.667E-08	3.993E-08	3.584E-08	3.256E-08
SW	6.427E-11	7.389E-09	3.611E-08	8.270E-08	1.473E-07	1.030E-07	7.564E-08	5.811E-08	4.630E-08	3.797E-08	3.188E-08
WSW	1.651E-10	1.560E-08	5.732E-08	1.107E-07	2.045E-07	1.370E-07	9.897E-08	7.557E-08	6.012E-08	4.935E-08	4.151E-08
W	2.760E-09	1.332E-07	3.078E-07	3.364E-07	3.020E-07	1.938E-07	1.369E-07	1.031E-07	8.138E-08	6.643E-08	5.567E-08
WNW	7.609E-09	5.973E-08	1.831E-07	3.197E-07	4.859E-07	3.100E-07	2.170E-07	1.728E-07	1.432E-07	1.153E-07	9.535E-08
NW	6.161E-10	4.593E-08	2.334E-07	5.172E-07	8.162E-07	4.722E-07	3.091E-07	2.235E-07	1.706E-07	1.333E-07	1.075E-07
NNW	3.609E-09	4.916E-08	1.265E-07	1.999E-07	3.056E-07	3.028E-07	2.743E-07	2.394E-07	2.114E-07	1.659E-07	1.343E-07
N	9.153E-09	4.572E-08	8.283E-08	9.347E-08	9.382E-08	8.415E-08	7.249E-08	6.099E-08	5.194E-08	4.485E-08	3.923E-08
NNE	3.597E-09	1.686E-08	2.924E-08	3.668E-08	4.001E-08	3.550E-08	3.003E-08	2.534E-08	2.159E-08	1.864E-08	1.631E-08
NE	9.303E-11	6.163E-09	1.829E-08	2.621E-08	2.945E-08	2.578E-08	2.140E-08	1.772E-08	1.482E-08	1.256E-08	1.080E-08
ENE	1.479E-16	2.883E-10	5.703E-09	1.211E-08	1.655E-08	1.534E-08	1.307E-08	1.098E-08	9.265E-09	7.905E-09	6.827E-09
E	5.564E-17	6.556E-11	1.324E-09	3.128E-09	5.324E-09	5.769E-09	5.474E-09	4.966E-09	4.441E-09	3.964E-09	3.551E-09
ESE	1.493E-16	2.596E-10	4.984E-09	1.031E-08	1.359E-08	1.239E-08	1.052E-08	8.880E-09	7.574E-09	6.553E-09	5.752E-09
SE	1.031E-10	7.337E-09	1.733E-08	2.244E-08	2.499E-08	2.243E-08	1.906E-08	1.608E-08	1.366E-08	1.174E-08	1.022E-08
SSE	1.224E-10	8.522E-09	3.291E-08	5.197E-08	6.039E-08	5.280E-08	4.362E-08	3.592E-08	2.991E-08	2.527E-08	2.166E-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	3.223E-08	2.115E-08	1.326E-08	7.091E-09	4.577E-09	3.229E-09	2.397E-09	1.860E-09	1.502E-09	1.243E-09	1.045E-09
SSW	3.103E-08	2.524E-08	1.593E-08	8.579E-09	5.668E-09	4.076E-09	3.067E-09	2.408E-09	1.950E-09	1.617E-09	1.366E-09
SW	2.963E-08	2.318E-08	1.483E-08	8.122E-09	5.428E-09	3.918E-09	3.047E-09	2.390E-09	1.932E-09	1.600E-09	1.350E-09
WSW	3.798E-08	2.781E-08	2.018E-08	1.240E-08	8.069E-09	5.769E-09	4.380E-09	3.460E-09	2.817E-09	2.347E-09	1.929E-09
W	4.762E-08	2.731E-08	2.116E-08	1.479E-08	1.127E-08	8.179E-09	6.194E-09	4.889E-09	3.976E-09	3.309E-09	2.804E-09
WNW	8.200E-08	4.787E-08	3.302E-08	1.992E-08	1.286E-08	9.103E-09	6.978E-09	5.555E-09	4.532E-09	3.754E-09	3.167E-09
NW	8.962E-08	4.655E-08	2.995E-08	1.652E-08	1.038E-08	7.218E-09	5.448E-09	4.271E-09	3.440E-09	2.838E-09	2.386E-09
NNW	1.137E-07	6.213E-08	3.896E-08	2.082E-08	1.298E-08	8.955E-09	6.668E-09	5.223E-09	4.282E-09	3.565E-09	3.007E-09
N	3.481E-08	2.234E-08	1.919E-08	1.613E-08	1.332E-08	1.041E-08	7.943E-09	6.292E-09	5.129E-09	4.281E-09	3.639E-09
NNE	1.833E-08	3.946E-08	2.522E-08	1.390E-08	8.936E-09	6.313E-09	4.737E-09	3.705E-09	2.988E-09	2.467E-09	2.075E-09
NE	1.122E-08	1.297E-08	8.093E-09	4.336E-09	2.747E-09	1.921E-09	1.450E-09	1.145E-09	9.372E-10	7.758E-10	6.534E-10
ENE	6.967E-09	8.127E-09	5.156E-09	2.803E-09	1.774E-09	1.238E-09	9.618E-10	7.721E-10	6.262E-10	5.200E-10	4.401E-10
E	3.937E-09	7.385E-09	4.836E-09	2.723E-09	1.751E-09	1.236E-09	9.260E-10	7.233E-10	6.160E-10	5.282E-10	4.438E-10
ESE	6.239E-09	1.133E-08	7.492E-09	4.268E-09	2.770E-09	1.968E-09	1.481E-09	1.160E-09	9.363E-10	7.729E-10	6.496E-10
SE	8.985E-09	5.535E-09	4.337E-09	3.234E-09	2.414E-09	1.939E-09	1.631E-09	1.411E-09	1.171E-09	9.930E-10	8.558E-10
SSE	2.234E-08	2.854E-08	1.786E-08	9.629E-09	6.144E-09	4.326E-09	3.241E-09	2.535E-09	2.046E-09	1.692E-09	1.426E-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	3.723E-08	5.216E-08	3.992E-08	3.107E-08	3.347E-08	2.011E-08	7.345E-09	3.256E-09	1.877E-09	1.247E-09
SSW	2.485E-08	3.759E-08	3.530E-08	3.744E-08	3.296E-08	2.239E-08	8.918E-09	4.097E-09	2.422E-09	1.623E-09
SW	5.043E-08	1.133E-07	7.592E-08	4.650E-08	3.285E-08	2.090E-08	8.416E-09	3.972E-09	2.403E-09	1.606E-09
WSW	7.176E-08	1.536E-07	9.975E-08	6.043E-08	4.253E-08	2.668E-08	1.221E-08	5.827E-09	3.478E-09	2.355E-09
W	2.817E-07	2.616E-07	1.386E-07	8.190E-08	5.588E-08	2.909E-08	1.464E-08	8.208E-09	4.914E-09	3.320E-09
WNW	2.164E-07	3.708E-07	2.242E-07	1.411E-07	9.632E-08	4.886E-08	1.969E-08	9.256E-09	5.572E-09	3.767E-09
NW	3.179E-07	5.969E-07	3.184E-07	1.715E-07	1.085E-07	4.874E-08	1.677E-08	7.353E-09	4.291E-09	2.849E-09
NNW	1.420E-07	2.809E-07	2.679E-07	2.021E-07	1.360E-07	6.329E-08	2.136E-08	9.113E-09	5.277E-09	3.571E-09
N	7.931E-08	8.944E-08	7.100E-08	5.182E-08	3.926E-08	2.371E-08	1.556E-08	1.020E-08	6.321E-09	4.294E-09
NNE	2.980E-08	3.726E-08	2.961E-08	2.154E-08	1.775E-08	2.844E-08	1.421E-08	6.382E-09	3.727E-09	2.476E-09
NE	1.912E-08	2.710E-08	2.110E-08	1.479E-08	1.148E-08	1.041E-08	4.465E-09	1.953E-09	1.153E-09	7.783E-10
ENE	7.348E-09	1.502E-08	1.284E-08	9.236E-09	7.198E-09	6.549E-09	2.868E-09	1.270E-09	7.707E-10	5.219E-10
E	1.846E-09	5.034E-09	5.349E-09	4.409E-09	3.817E-09	5.486E-09	2.761E-09	1.249E-09	7.403E-10	5.230E-10
ESE	6.302E-09	1.233E-08	1.037E-08	7.558E-09	6.169E-09	4.494E-09	4.319E-09	1.987E-09	1.167E-09	7.756E-10
SE	1.738E-08	2.329E-08	1.877E-08	1.362E-08	1.021E-08	5.769E-09	3.115E-09	1.943E-09	1.382E-09	9.949E-10
SSE	3.596E-08	5.515E-08	4.299E-08	2.986E-08	2.298E-08	2.242E-08	9.910E-09	4.377E-09	2.551E-09	1.698E-09

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ERP ELEVATED STACK RELEASES - JUL-SEP 2021
 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		1.140E-09	1.392E-09	1.871E-09	1.687E-09	9.855E-10	6.470E-10	4.526E-10	3.308E-10	2.499E-10	2.015E-10	1.862E-10
SSW		8.266E-10	8.726E-10	1.038E-09	8.872E-10	5.029E-10	3.269E-10	2.275E-10	1.659E-10	1.530E-10	1.159E-10	9.079E-11
SW		5.555E-10	6.083E-10	7.486E-10	6.501E-10	6.144E-10	3.438E-10	2.175E-10	1.497E-10	1.092E-10	8.296E-11	6.509E-11
WSW		1.330E-09	1.170E-09	1.125E-09	1.256E-09	7.895E-10	4.257E-10	2.625E-10	1.777E-10	1.282E-10	9.690E-11	7.584E-11
W		2.644E-09	5.895E-09	4.575E-09	2.901E-09	1.298E-09	6.988E-10	4.306E-10	2.914E-10	2.102E-10	1.589E-10	1.244E-10
WNW		2.393E-09	2.100E-09	3.319E-09	3.034E-09	1.604E-09	8.312E-10	5.016E-10	3.431E-10	2.859E-10	2.295E-10	1.954E-10
NW		5.094E-09	4.679E-09	4.769E-09	7.831E-09	4.918E-09	2.450E-09	1.447E-09	9.586E-10	6.902E-10	5.306E-10	4.304E-10
NNW		6.356E-09	5.442E-09	5.027E-09	3.703E-09	3.306E-09	1.783E-09	1.105E-09	9.256E-10	6.959E-10	5.640E-10	4.850E-10
N		5.579E-09	4.864E-09	4.618E-09	3.466E-09	1.807E-09	1.139E-09	7.812E-10	5.653E-10	4.249E-10	3.288E-10	2.603E-10
NNE		1.611E-09	1.490E-09	1.533E-09	1.211E-09	1.833E-10	4.181E-10	2.886E-10	2.096E-10	1.578E-10	1.222E-10	9.675E-11
NE		8.252E-10	8.647E-10	1.021E-09	8.696E-10	4.920E-10	3.195E-10	2.223E-10	1.621E-10	1.223E-10	9.480E-11	7.507E-11
ENE		2.393E-11	1.435E-10	3.056E-10	3.166E-10	1.977E-10	1.326E-10	9.366E-11	6.880E-11	5.211E-11	4.044E-11	3.203E-11
E		6.646E-12	3.987E-11	8.490E-11	8.794E-11	5.493E-11	3.683E-11	2.602E-11	1.911E-11	1.447E-11	1.123E-11	8.897E-12
ESE		2.127E-11	1.276E-10	2.717E-10	2.814E-10	1.758E-10	1.179E-10	8.325E-11	6.115E-11	4.632E-11	3.595E-11	2.847E-11
SE		8.106E-10	7.769E-10	8.343E-10	6.761E-10	3.711E-10	2.385E-10	1.651E-10	1.201E-10	9.048E-11	7.008E-11	5.549E-11
SSE		1.149E-09	1.448E-09	1.990E-09	1.810E-09	1.062E-09	6.986E-10	4.890E-10	3.576E-10	2.702E-10	2.095E-10	1.659E-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		1.497E-10	1.013E-10	6.832E-11	3.912E-11	2.466E-11	1.804E-11	1.290E-11	9.664E-12	7.643E-12	6.095E-12	4.979E-12
SSW		7.460E-11	7.814E-11	5.783E-11	3.574E-11	1.955E-11	1.385E-11	9.929E-12	7.459E-12	5.922E-12	4.730E-12	3.861E-12
SW		5.488E-11	5.805E-11	4.298E-11	2.657E-11	1.707E-11	1.049E-11	7.484E-12	5.620E-12	4.369E-12	3.490E-12	2.849E-12
WSW		6.182E-11	6.553E-11	4.878E-11	2.873E-11	1.739E-11	1.166E-11	8.553E-12	6.422E-12	4.993E-12	3.989E-12	3.256E-12
W		1.000E-10	4.506E-11	5.674E-11	3.833E-11	2.337E-11	1.590E-11	1.139E-11	8.553E-12	6.650E-12	5.312E-12	4.336E-12
WNW		1.759E-10	1.181E-10	8.832E-11	5.508E-11	3.559E-11	2.384E-11	1.505E-11	1.128E-11	8.820E-12	7.046E-12	5.751E-12
NW		3.664E-10	2.111E-10	1.473E-10	9.153E-11	5.598E-11	3.750E-11	2.716E-11	2.039E-11	1.598E-11	1.276E-11	1.042E-11
NNW		4.369E-10	2.985E-10	2.250E-10	1.412E-10	9.098E-11	6.048E-11	3.914E-11	2.831E-11	2.212E-11	1.767E-11	1.442E-11
N		2.101E-10	9.993E-11	6.123E-11	3.260E-11	9.846E-11	5.698E-11	4.077E-11	3.061E-11	2.380E-11	1.901E-11	1.552E-11
NNE		7.803E-11	1.586E-10	9.787E-11	5.061E-11	3.086E-11	2.067E-11	1.478E-11	1.107E-11	8.592E-12	6.853E-12	5.586E-12
NE		6.051E-11	7.708E-11	4.721E-11	2.420E-11	1.471E-11	9.853E-12	7.172E-12	5.354E-12	4.161E-12	3.344E-12	2.730E-12
ENE		2.579E-11	2.967E-11	2.153E-11	1.309E-11	8.337E-12	5.522E-12	3.879E-12	2.565E-12	2.000E-12	1.603E-12	1.313E-12
E		7.165E-12	1.539E-11	1.211E-11	7.812E-12	5.043E-12	3.328E-12	2.320E-12	1.687E-12	1.276E-12	9.527E-13	7.687E-13
ESE		2.293E-11	3.393E-11	2.562E-11	1.606E-11	1.030E-11	6.806E-12	4.762E-12	3.477E-12	2.640E-12	2.067E-12	1.658E-12
SE		4.475E-11	2.125E-11	1.300E-11	6.888E-12	4.260E-12	2.970E-12	2.259E-12	3.774E-12	2.950E-12	2.381E-12	1.975E-12
SSE		1.337E-10	1.566E-10	9.616E-11	4.946E-11	3.010E-11	2.016E-11	1.442E-11	1.080E-11	8.389E-12	6.695E-12	5.461E-12

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***** 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		1.683E-09	9.910E-10	4.557E-10	2.546E-10	1.772E-10	9.739E-11	3.918E-11	1.775E-11	9.819E-12	6.140E-12	
SSW		9.342E-10	5.101E-10	2.294E-10	1.426E-10	9.223E-11	6.833E-11	3.345E-11	1.380E-11	7.579E-12	4.762E-12	
SW		6.737E-10	5.021E-10	2.241E-10	1.108E-10	6.660E-11	5.065E-11	2.599E-11	1.104E-11	5.676E-12	3.513E-12	
WSW		1.193E-09	7.314E-10	2.721E-10	1.304E-10	7.689E-11	5.726E-11	2.814E-11	1.194E-11	6.487E-12	4.015E-12	
W		4.124E-09	1.388E-09	4.464E-10	2.139E-10	1.256E-10	6.247E-11	3.577E-11	1.609E-11	8.639E-12	5.347E-12	
WNW		2.921E-09	1.578E-09	5.261E-10	2.808E-10	1.983E-10	1.177E-10	5.380E-11	2.346E-11	1.142E-11	7.092E-12	
NW		6.110E-09	4.469E-09	1.519E-09	7.061E-10	4.364E-10	2.172E-10	8.812E-11	3.829E-11	2.064E-11	1.285E-11	
NNW		4.531E-09	2.717E-09	1.214E-09	7.113E-10	4.906E-10	2.966E-10	1.375E-10	6.008E-11	2.905E-11	1.779E-11	
N		4.161E-09	1.879E-09	7.903E-10	4.284E-10	2.620E-10	1.072E-10	6.823E-11	6.156E-11	3.092E-11	1.914E-11	
NNE		1.381E-09	6.732E-10	2.915E-10	1.590E-10	9.735E-11	1.137E-10	5.233E-11	2.103E-11	1.119E-11	6.899E-12	
NE		9.190E-10	4.992E-10	2.242E-10	1.232E-10	7.552E-11	6.012E-11	2.510E-11	1.008E-11	5.419E-12	3.359E-12	
ENE		2.745E-10	1.952E-10	9.410E-11	5.243E-11	3.221E-11	2.519E-11	1.285E-11	5.615E-12	2.725E-12	1.613E-12	
E		7.624E-11	5.422E-11	2.614E-11	1.456E-11	8.948E-12	1.210E-11	7.537E-12	3.382E-12	1.711E-12	9.804E-13	
ESE		2.440E-10	1.735E-10	8.364E-11	4.661E-11	2.863E-11	2.779E-11	1.562E-11	6.919E-12	3.525E-12	2.085E-12	
SE		7.512E-10	3.800E-10	1.667E-10	9.116E-11	5.584E-11	2.281E-11	7.078E-12	3.029E-12	3.027E-12	2.399E-12	
SSE		1.790E-09	1.067E-09	4.923E-10	2.720E-10	1.669E-10	1.246E-10	5.124E-11	2.051E-11	1.092E-11	6.740E-12	

ERP ELEVATED STACK RELEASES - JUL-SEP 2021
 CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SPECIFIC POINTS OF INTEREST

RELEASE TYPE OF INTEREST	DIRECTION	DIST.	X/Q (SEC/M3)	X/Q (SEC/M3)	X/Q (SEC/M3)	D/Q (PER SQ.METER)	
ID	LOCATION FROM SITE (MI)		NO DECAY	2.26 DAY DECAY	8.0 DAY DECAY		
			UNDEPLETED	UNDEPLETED	DEPLETED		
A	Site Boundary	S	.80	4.1E-08	4.0E-08	4.0E-08	1.9E-09
A	Site Boundary	SSW	.82	2.7E-08	2.7E-08	2.7E-08	1.0E-09
A	Site Boundary	SW	.97	7.8E-08	7.8E-08	7.8E-08	6.7E-10
A	Site Boundary	WSW	.93	9.5E-08	9.5E-08	9.4E-08	1.1E-09
A	Site Boundary	W	.91	3.4E-07	3.4E-07	3.3E-07	3.3E-09
A	Site Boundary	WNW	.94	2.9E-07	2.9E-07	2.9E-07	3.4E-09
A	Site Boundary	NW	.81	3.0E-07	3.0E-07	3.0E-07	4.5E-09
A	Site Boundary	NNW	.69	1.0E-07	1.0E-07	1.0E-07	5.1E-09
A	Site Boundary	N	.67	7.2E-08	7.2E-08	7.1E-08	4.6E-09
A	Site Boundary	NNE	.60	2.1E-08	2.1E-08	2.1E-08	1.5E-09
A	Site Boundary	NE	.62	1.1E-08	1.1E-08	1.1E-08	9.3E-10
A	Site Boundary	ENE	.59	1.3E-09	1.3E-09	1.3E-09	2.0E-10
A	Site Boundary	E	.53	1.1E-10	1.1E-10	1.1E-10	4.4E-11
A	Site Boundary	ESE	.54	5.3E-10	5.3E-10	5.3E-10	1.5E-10
A	Site Boundary	SE	.65	1.3E-08	1.3E-08	1.3E-08	8.0E-10
A	Site Boundary	SSE	.81	3.9E-08	3.9E-08	3.9E-08	2.0E-09
A	Nearest Res	SW	1.30	1.3E-07	1.3E-07	1.3E-07	8.1E-10
A	Nearest Res	WSW	1.80	1.6E-07	1.6E-07	1.6E-07	5.3E-10
A	Nearest Res	WNW	2.40	2.4E-07	2.4E-07	2.3E-07	5.5E-10
A	Nearest Res	NW	.90	4.0E-07	4.0E-07	4.0E-07	8.1E-09
A	Nearest Res	NNW	1.90	3.1E-07	3.1E-07	3.1E-07	2.0E-09
A	Nearest Res	NE	1.60	2.9E-08	2.9E-08	2.9E-08	4.5E-10
A	Nearest Res	E	2.00	5.9E-09	5.8E-09	5.8E-09	3.7E-11
A	Nearest Cow	NNW	3.50	2.2E-07	2.1E-07	2.1E-07	7.0E-10
A	Nearest Garde	SW	2.20	9.3E-08	9.2E-08	9.1E-08	2.8E-10
A	Nearest Garde	WSW	1.80	1.6E-07	1.6E-07	1.6E-07	5.3E-10
A	Nearest Garde	NNW	2.80	2.6E-07	2.6E-07	2.5E-07	1.0E-09
A	Nearest Garde	ESE	2.30	1.2E-08	1.1E-08	1.1E-08	9.5E-11
A	MAXIMUM CHI/Q	S	1.50	5.8E-08	5.7E-08	5.7E-08	9.9E-10
A	MAXIMUM CHI/Q	SSW	3.50	4.1E-08	4.1E-08	4.0E-08	1.5E-10
A	MAXIMUM CHI/Q	SW	1.50	1.5E-07	1.5E-07	1.5E-07	6.1E-10
A	MAXIMUM CHI/Q	WSW	1.50	2.1E-07	2.1E-07	2.0E-07	7.9E-10
A	MAXIMUM CHI/Q	W	1.00	3.4E-07	3.4E-07	3.4E-07	2.9E-09
A	MAXIMUM CHI/Q	WNW	1.50	4.9E-07	4.9E-07	4.9E-07	1.6E-09
A	MAXIMUM CHI/Q	NW	1.50	8.3E-07	8.3E-07	8.2E-07	4.9E-09
A	MAXIMUM CHI/Q	NNW	1.50	3.1E-07	3.1E-07	3.1E-07	3.3E-09
A	MAXIMUM CHI/Q	N	1.50	9.5E-08	9.5E-08	9.4E-08	1.8E-09
A	MAXIMUM CHI/Q	NNE	7.50	4.1E-08	3.9E-08	3.9E-08	1.6E-10
A	MAXIMUM CHI/Q	NE	1.50	3.0E-08	3.0E-08	2.9E-08	4.9E-10
A	MAXIMUM CHI/Q	ENE	1.50	1.7E-08	1.7E-08	1.7E-08	2.0E-10
A	MAXIMUM CHI/Q	E	7.50	7.6E-09	7.4E-09	7.4E-09	1.5E-11
A	MAXIMUM CHI/Q	ESE	1.50	1.4E-08	1.4E-08	1.4E-08	1.8E-10
A	MAXIMUM CHI/Q	SE	1.50	2.5E-08	2.5E-08	2.5E-08	3.7E-10
A	MAXIMUM CHI/Q	SSE	1.50	6.1E-08	6.1E-08	6.0E-08	1.1E-09

B305

Atmospheric Diffusion Estimates

Elevated Releases

October-December 2021

ERP ELEVATED STACK RELEASES - OCT-DEC 2021
 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	9.534E-16	7.487E-10	1.202E-08	2.392E-08	3.238E-08	3.073E-08	2.688E-08	2.312E-08	1.993E-08	2.469E-08	2.928E-08
SSW	2.273E-16	4.300E-10	8.472E-09	1.822E-08	2.618E-08	2.541E-08	2.251E-08	2.669E-08	2.944E-08	2.654E-08	2.420E-08
SW	3.176E-16	4.362E-10	1.956E-08	5.463E-08	8.702E-08	5.819E-08	4.147E-08	3.118E-08	2.443E-08	1.978E-08	1.643E-08
WSW	3.492E-16	3.901E-10	2.016E-08	6.274E-08	1.241E-07	8.054E-08	5.686E-08	4.269E-08	3.354E-08	2.726E-08	2.276E-08
W	2.787E-13	2.902E-08	1.439E-07	1.934E-07	1.954E-07	1.251E-07	8.750E-08	6.523E-08	5.094E-08	4.120E-08	3.423E-08
WNW	9.506E-15	5.069E-09	9.995E-08	2.328E-07	3.861E-07	2.485E-07	1.740E-07	1.367E-07	1.109E-07	8.873E-08	7.304E-08
NW	6.555E-11	7.102E-09	8.980E-08	2.518E-07	4.788E-07	2.890E-07	1.954E-07	1.461E-07	1.148E-07	9.140E-08	7.502E-08
NNW	1.122E-09	7.213E-09	3.142E-08	7.214E-08	1.432E-07	1.629E-07	1.695E-07	1.689E-07	1.686E-07	1.352E-07	1.116E-07
N	8.744E-11	5.531E-09	2.572E-08	4.361E-08	5.688E-08	5.621E-08	5.096E-08	4.420E-08	3.845E-08	3.373E-08	2.987E-08
NNE	7.465E-16	6.904E-10	1.169E-08	2.375E-08	3.246E-08	3.084E-08	2.702E-08	2.332E-08	2.019E-08	1.764E-08	1.557E-08
NE	4.389E-16	4.252E-10	7.226E-09	1.457E-08	1.955E-08	1.831E-08	1.586E-08	1.355E-08	1.163E-08	1.007E-08	8.825E-09
ENE	4.458E-16	4.364E-10	7.492E-09	1.521E-08	2.038E-08	1.899E-08	1.639E-08	1.398E-08	1.201E-08	1.043E-08	9.163E-09
E	6.675E-16	6.058E-10	1.066E-08	2.240E-08	3.151E-08	3.013E-08	2.731E-08	2.266E-08	1.952E-08	1.695E-08	1.488E-08
ESE	1.498E-15	1.228E-09	1.933E-08	3.706E-08	4.626E-08	4.128E-08	3.456E-08	2.878E-08	2.421E-08	2.065E-08	1.785E-08
SE	6.278E-11	5.739E-09	3.300E-08	5.527E-08	6.504E-08	5.719E-08	4.759E-08	3.948E-08	3.311E-08	2.815E-08	2.472E-08
SSE	3.388E-11	4.437E-09	3.530E-08	6.281E-08	7.721E-08	6.956E-08	5.886E-08	4.949E-08	4.196E-08	3.601E-08	3.131E-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	2.723E-08	2.446E-08	1.654E-08	9.999E-09	7.628E-09	6.104E-09	4.831E-09	3.969E-09	3.411E-09	2.973E-09	2.600E-09
SSW	2.323E-08	2.157E-08	1.429E-08	8.410E-09	6.235E-09	4.773E-09	3.749E-09	3.059E-09	2.569E-09	2.203E-09	1.920E-09
SW	1.479E-08	1.078E-08	7.058E-09	4.081E-09	2.917E-09	2.236E-09	1.796E-09	1.455E-09	1.214E-09	1.035E-09	8.976E-10
WSW	2.047E-08	1.455E-08	1.076E-08	6.890E-09	4.682E-09	3.477E-09	2.731E-09	2.228E-09	1.870E-09	1.603E-09	1.397E-09
W	2.905E-08	1.618E-08	1.184E-08	7.970E-09	6.030E-09	4.492E-09	3.518E-09	2.864E-09	2.398E-09	2.052E-09	1.785E-09
WNW	6.222E-08	3.503E-08	2.376E-08	1.429E-08	9.754E-09	7.253E-09	5.707E-09	4.649E-09	3.884E-09	3.311E-09	2.872E-09
NW	6.391E-08	3.637E-08	2.523E-08	1.568E-08	1.064E-08	7.890E-09	6.328E-09	5.193E-09	4.349E-09	3.721E-09	3.238E-09
NNW	9.740E-08	5.982E-08	3.966E-08	2.343E-08	1.617E-08	1.215E-08	9.764E-09	8.113E-09	7.002E-09	6.070E-09	5.305E-09
N	2.677E-08	1.767E-08	1.537E-08	1.336E-08	1.200E-08	1.028E-08	8.144E-09	6.661E-09	5.587E-09	4.787E-09	4.171E-09
NNE	1.759E-08	3.790E-08	2.501E-08	1.471E-08	1.013E-08	7.605E-09	6.023E-09	4.949E-09	4.178E-09	3.600E-09	3.152E-09
NE	9.631E-09	2.654E-08	1.767E-08	1.052E-08	7.311E-09	5.523E-09	4.490E-09	3.757E-09	3.226E-09	2.784E-09	2.441E-09
ENE	9.880E-09	1.678E-08	1.122E-08	6.681E-09	4.627E-09	3.482E-09	2.915E-09	2.477E-09	2.084E-09	1.790E-09	1.563E-09
E	1.575E-08	2.186E-08	1.449E-08	8.525E-09	5.858E-09	4.383E-09	3.461E-09	2.836E-09	2.478E-09	2.187E-09	1.907E-09
ESE	1.791E-08	2.024E-08	1.346E-08	7.947E-09	5.471E-09	4.099E-09	3.239E-09	2.655E-09	2.236E-09	1.923E-09	1.680E-09
SE	2.118E-08	1.268E-08	9.484E-09	6.465E-09	4.632E-09	3.594E-09	2.936E-09	2.481E-09	2.073E-09	1.770E-09	1.537E-09
SSE	3.332E-08	4.005E-08	2.583E-08	1.472E-08	9.911E-09	7.310E-09	5.708E-09	4.635E-09	3.873E-09	3.307E-09	2.872E-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	1.480E-08	2.977E-08	2.640E-08	2.265E-08	2.716E-08	2.155E-08	1.040E-08	6.001E-09	4.003E-09	2.965E-09	
SSW	1.102E-08	2.407E-08	2.495E-08	2.755E-08	2.453E-08	1.870E-08	8.749E-09	4.753E-09	3.070E-09	2.207E-09	
SW	3.090E-08	6.701E-08	4.181E-08	2.459E-08	1.681E-08	1.002E-08	4.225E-09	2.242E-09	1.461E-09	1.037E-09	
WSW	3.469E-08	9.111E-08	5.751E-08	3.377E-08	2.324E-08	1.418E-08	6.769E-09	3.500E-09	2.235E-09	1.606E-09	
W	1.404E-07	1.637E-07	8.861E-08	5.131E-08	3.438E-08	1.711E-08	7.968E-09	4.512E-09	2.873E-09	2.056E-09	
WNW	1.379E-07	2.909E-07	1.789E-07	1.098E-07	7.368E-08	3.606E-08	1.438E-08	7.302E-09	4.660E-09	3.318E-09	
NW	1.434E-07	3.440E-07	2.006E-07	1.148E-07	7.576E-08	3.754E-08	1.556E-08	7.998E-09	5.196E-09	3.728E-09	
NNW	4.414E-08	1.362E-07	1.675E-07	1.560E-07	1.133E-07	5.921E-08	2.381E-08	1.227E-08	8.162E-09	6.063E-09	
N	2.918E-08	5.363E-08	4.966E-08	3.830E-08	2.987E-08	1.867E-08	1.320E-08	9.886E-09	6.676E-09	4.796E-09	
NNE	1.461E-08	2.980E-08	2.656E-08	2.011E-08	1.693E-08	2.766E-08	1.497E-08	7.647E-09	4.962E-09	3.605E-09	
NE	8.979E-09	1.789E-08	1.559E-08	1.158E-08	9.493E-09	1.884E-08	1.069E-08	5.587E-09	3.764E-09	2.788E-09	
ENE	9.355E-09	1.861E-08	1.612E-08	1.197E-08	9.803E-09	1.278E-08	6.777E-09	3.560E-09	2.452E-09	1.793E-09	
E	1.364E-08	2.887E-08	2.589E-08	1.944E-08	1.582E-08	1.722E-08	8.664E-09	4.408E-09	2.878E-09	2.170E-09	
ESE	2.319E-08	4.201E-08	3.404E-08	2.416E-08	1.870E-08	1.671E-08	8.071E-09	4.121E-09	2.662E-09	1.926E-09	
SE	3.684E-08	5.938E-08	4.690E-08	3.304E-08	2.428E-08	1.315E-08	6.321E-09	3.607E-09	2.456E-09	1.773E-09	
SSE	4.067E-08	7.061E-08	5.796E-08	4.184E-08	3.344E-08	3.223E-08	1.505E-08	7.363E-09	4.651E-09	3.314E-09	

B307

ERP ELEVATED STACK RELEASES - OCT-DEC 2021
 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	9.532E-16	7.483E-10	1.201E-08	2.389E-08	3.231E-08	3.064E-08	2.678E-08	2.301E-08	1.982E-08	2.454E-08	2.907E-08
SSW	2.272E-16	4.296E-10	8.459E-09	1.818E-08	2.610E-08	2.530E-08	2.240E-08	2.653E-08	2.924E-08	2.632E-08	2.398E-08
SW	3.175E-16	4.358E-10	1.953E-08	5.450E-08	8.667E-08	5.786E-08	4.117E-08	3.090E-08	2.418E-08	1.954E-08	1.620E-08
WSW	3.491E-16	3.898E-10	2.014E-08	6.261E-08	1.237E-07	8.021E-08	5.657E-08	4.243E-08	3.329E-08	2.703E-08	2.254E-08
W	2.787E-13	2.900E-08	1.438E-07	1.930E-07	1.947E-07	1.245E-07	8.698E-08	6.476E-08	5.051E-08	4.079E-08	3.385E-08
WNW	9.503E-15	5.064E-09	9.977E-08	2.322E-07	3.846E-07	2.471E-07	1.728E-07	1.355E-07	1.098E-07	8.772E-08	7.210E-08
NW	6.552E-11	7.096E-09	8.970E-08	2.514E-07	4.774E-07	2.878E-07	1.943E-07	1.452E-07	1.139E-07	9.060E-08	7.427E-08
NNW	1.121E-09	7.211E-09	3.139E-08	7.203E-08	1.429E-07	1.624E-07	1.688E-07	1.681E-07	1.676E-07	1.342E-07	1.107E-07
N	8.743E-11	5.529E-09	2.570E-08	4.356E-08	5.677E-08	5.605E-08	5.077E-08	4.400E-08	3.825E-08	3.352E-08	2.966E-08
NNE	7.464E-16	6.899E-10	1.168E-08	2.371E-08	3.237E-08	3.072E-08	2.689E-08	2.318E-08	2.005E-08	1.750E-08	1.544E-08
NE	4.388E-16	4.249E-10	7.218E-09	1.455E-08	1.949E-08	1.824E-08	1.578E-08	1.347E-08	1.154E-08	9.988E-09	8.741E-09
ENE	4.457E-16	4.361E-10	7.483E-09	1.518E-08	2.032E-08	1.890E-08	1.629E-08	1.388E-08	1.190E-08	1.032E-08	9.058E-09
E	6.674E-16	6.054E-10	1.065E-08	2.235E-08	3.139E-08	2.998E-08	2.620E-08	2.248E-08	1.933E-08	1.677E-08	1.470E-08
ESE	1.498E-15	1.227E-09	1.931E-08	3.701E-08	4.617E-08	4.116E-08	3.443E-08	2.865E-08	2.408E-08	2.052E-08	1.773E-08
SE	6.277E-11	5.736E-09	3.298E-08	5.521E-08	6.493E-08	5.706E-08	4.744E-08	3.933E-08	3.297E-08	2.801E-08	2.413E-08
SSE	3.386E-11	4.435E-09	3.527E-08	6.274E-08	7.707E-08	6.938E-08	5.867E-08	4.929E-08	4.175E-08	3.581E-08	3.111E-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	2.701E-08	2.409E-08	1.620E-08	9.685E-09	7.298E-09	5.767E-09	4.512E-09	3.664E-09	3.111E-09	2.679E-09	2.316E-09
SSW	2.298E-08	2.118E-08	1.394E-08	8.099E-09	5.921E-09	4.471E-09	3.465E-09	2.791E-09	2.314E-09	1.958E-09	1.685E-09
SW	1.456E-08	1.054E-08	6.851E-09	3.906E-09	2.755E-09	2.085E-09	1.654E-09	1.323E-09	1.090E-09	9.174E-10	7.861E-10
WSW	2.025E-08	1.432E-08	1.054E-08	6.681E-09	4.495E-09	3.306E-09	2.571E-09	2.077E-09	1.727E-09	1.466E-09	1.266E-09
W	2.869E-08	1.588E-08	1.154E-08	7.654E-09	5.704E-09	4.190E-09	3.235E-09	2.597E-09	2.145E-09	1.810E-09	1.553E-09
WNW	6.133E-08	3.428E-08	2.308E-08	1.369E-08	9.214E-09	6.758E-09	5.246E-09	4.216E-09	3.475E-09	2.924E-09	2.503E-09
NW	6.319E-08	3.573E-08	2.463E-08	1.510E-08	1.011E-08	7.408E-09	5.862E-09	4.747E-09	3.926E-09	3.316E-09	2.849E-09
NNW	9.655E-08	5.899E-08	3.892E-08	2.277E-08	1.557E-08	1.158E-08	9.217E-09	7.583E-09	6.477E-09	5.559E-09	4.812E-09
N	2.656E-08	1.746E-08	1.512E-08	1.304E-08	1.161E-08	9.844E-09	7.728E-09	6.266E-09	5.211E-09	4.427E-09	3.824E-09
NNE	1.743E-08	3.732E-08	2.451E-08	1.427E-08	9.729E-09	7.227E-09	5.665E-09	4.609E-09	3.852E-09	3.285E-09	2.848E-09
NE	9.528E-09	2.607E-08	1.726E-08	1.015E-08	6.970E-09	5.203E-09	4.179E-09	3.455E-09	2.930E-09	2.499E-09	2.166E-09
ENE	9.752E-09	1.646E-08	1.094E-08	6.431E-09	4.399E-09	3.270E-09	2.705E-09	2.272E-09	1.889E-09	1.604E-09	1.385E-09
E	1.553E-08	2.140E-08	1.408E-08	8.174E-09	5.540E-09	4.089E-09	3.185E-09	2.576E-09	2.220E-09	1.933E-09	1.663E-09
ESE	1.777E-08	1.998E-08	1.323E-08	7.745E-09	5.286E-09	3.926E-09	3.075E-09	2.500E-09	2.088E-09	1.780E-09	1.542E-09
SE	2.105E-08	1.256E-08	9.360E-09	6.335E-09	4.505E-09	3.470E-09	2.812E-09	2.358E-09	1.956E-09	1.658E-09	1.429E-09
SSE	3.307E-08	3.952E-08	2.537E-08	1.432E-08	9.558E-09	6.985E-09	5.405E-09	4.349E-09	3.601E-09	3.047E-09	2.623E-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	1.479E-08	2.969E-08	2.630E-08	2.253E-08	2.696E-08	2.123E-08	1.007E-08	5.673E-09	3.695E-09	2.673E-09
SSW	1.100E-08	2.398E-08	2.483E-08	2.735E-08	2.431E-08	1.836E-08	8.428E-09	4.455E-09	2.802E-09	1.962E-09
SW	3.083E-08	6.672E-08	4.151E-08	2.433E-08	1.658E-08	9.796E-09	4.049E-09	2.091E-09	1.328E-09	9.198E-10
WSW	3.463E-08	9.081E-08	5.722E-08	3.352E-08	2.302E-08	1.396E-08	6.567E-09	3.329E-09	2.085E-09	1.469E-09
W	1.402E-07	1.631E-07	8.809E-08	5.088E-08	3.400E-08	1.680E-08	7.650E-09	4.212E-09	2.607E-09	1.814E-09
WNW	1.376E-07	2.896E-07	1.777E-07	1.087E-07	7.274E-08	3.531E-08	1.379E-08	6.808E-09	4.228E-09	2.931E-09
NW	1.432E-07	3.429E-07	1.996E-07	1.140E-07	7.500E-08	3.690E-08	1.500E-08	7.511E-09	4.753E-09	3.324E-09
NNW	4.408E-08	1.358E-07	1.668E-07	1.550E-07	1.124E-07	5.842E-08	2.316E-08	1.170E-08	7.629E-09	5.554E-09
N	2.915E-08	5.351E-08	4.947E-08	3.809E-08	2.966E-08	1.844E-08	1.287E-08	9.467E-09	6.282E-09	4.436E-09
NNE	1.459E-08	2.971E-08	2.643E-08	1.997E-08	1.679E-08	2.721E-08	1.453E-08	7.270E-09	4.622E-09	3.291E-09
NE	8.966E-09	1.784E-08	1.551E-08	1.150E-08	9.402E-09	1.848E-08	1.032E-08	5.265E-09	3.462E-09	2.503E-09
ENE	9.339E-09	1.855E-08	1.602E-08	1.187E-08	9.689E-09	1.252E-08	6.529E-09	3.345E-09	2.250E-09	1.607E-09
E	1.362E-08	2.875E-08	2.572E-08	1.926E-08	1.562E-08	1.685E-08	8.317E-09	4.114E-09	2.615E-09	1.918E-09
ESE	2.316E-08	4.191E-08	3.391E-08	2.403E-08	1.857E-08	1.649E-08	7.871E-09	3.948E-09	2.507E-09	1.783E-09
SE	3.680E-08	5.927E-08	4.676E-08	3.290E-08	2.414E-08	1.302E-08	6.194E-09	3.483E-09	2.335E-09	1.661E-09
SSE	4.063E-08	7.047E-08	5.777E-08	4.164E-08	3.323E-08	3.180E-08	1.466E-08	7.039E-09	4.366E-09	3.054E-09

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ERP ELEVATED STACK RELEASES - OCT-DEC 2021
 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	9.533E-16	7.486E-10	1.202E-08	2.391E-08	3.210E-08	3.025E-08	2.629E-08	2.248E-08	1.929E-08	2.392E-08	2.843E-08
SSW	2.273E-16	4.299E-10	8.468E-09	1.821E-08	2.594E-08	2.499E-08	2.200E-08	2.602E-08	2.867E-08	2.577E-08	2.346E-08
SW	3.176E-16	4.361E-10	1.955E-08	5.460E-08	8.591E-08	5.680E-08	4.009E-08	2.988E-08	2.324E-08	1.869E-08	1.543E-08
WSW	3.492E-16	3.900E-10	2.016E-08	6.263E-08	1.228E-07	7.915E-08	5.557E-08	4.154E-08	3.251E-08	2.635E-08	2.193E-08
W	2.787E-13	2.902E-08	1.431E-07	1.910E-07	1.919E-07	1.222E-07	8.516E-08	6.328E-08	4.928E-08	3.975E-08	3.295E-08
WNW	9.505E-15	5.068E-09	9.984E-08	2.315E-07	3.816E-07	2.441E-07	1.701E-07	1.332E-07	1.078E-07	8.586E-08	7.030E-08
NW	6.554E-11	7.048E-09	8.948E-08	2.505E-07	4.732E-07	2.835E-07	1.906E-07	1.420E-07	1.112E-07	8.814E-08	7.197E-08
NNW	1.122E-09	7.154E-09	3.122E-08	7.194E-08	1.422E-07	1.612E-07	1.675E-07	1.669E-07	1.666E-07	1.331E-07	1.094E-07
N	8.744E-11	5.492E-09	2.558E-08	4.345E-08	5.633E-08	5.534E-08	4.992E-08	4.311E-08	3.737E-08	3.268E-08	2.886E-08
NNE	7.465E-16	6.903E-10	1.169E-08	2.374E-08	3.217E-08	3.032E-08	2.639E-08	2.264E-08	1.950E-08	1.696E-08	1.492E-08
NE	4.389E-16	4.251E-10	7.224E-09	1.456E-08	1.937E-08	1.799E-08	1.547E-08	1.313E-08	1.120E-08	9.657E-09	8.422E-09
ENE	4.458E-16	4.363E-10	7.489E-09	1.520E-08	2.019E-08	1.864E-08	1.596E-08	1.352E-08	1.154E-08	9.960E-09	8.710E-09
E	6.675E-16	6.056E-10	1.066E-08	2.238E-08	3.121E-08	2.958E-08	2.599E-08	2.193E-08	1.877E-08	1.621E-08	1.416E-08
ESE	1.498E-15	1.228E-09	1.932E-08	3.705E-08	4.583E-08	4.053E-08	3.364E-08	2.781E-08	2.323E-08	1.969E-08	1.692E-08
SE	6.278E-11	5.703E-09	3.286E-08	5.511E-08	6.435E-08	5.612E-08	4.633E-08	3.816E-08	3.179E-08	2.687E-08	2.304E-08
SSE	3.387E-11	4.416E-09	3.521E-08	6.271E-08	7.646E-08	6.833E-08	5.740E-08	4.794E-08	4.041E-08	3.449E-08	2.985E-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	2.642E-08	2.341E-08	1.530E-08	8.607E-09	6.040E-09	4.513E-09	3.395E-09	2.664E-09	2.202E-09	1.860E-09	1.579E-09
SSW	2.250E-08	2.063E-08	1.319E-08	7.224E-09	4.952E-09	3.631E-09	2.746E-09	2.166E-09	1.763E-09	1.467E-09	1.244E-09
SW	1.384E-08	9.952E-09	6.309E-09	3.424E-09	2.287E-09	1.652E-09	1.276E-09	9.978E-10	8.054E-10	6.660E-10	5.613E-10
WSW	1.970E-08	1.372E-08	9.832E-09	5.950E-09	3.863E-09	2.759E-09	2.092E-09	1.654E-09	1.349E-09	1.125E-09	9.564E-10
W	2.791E-08	1.541E-08	1.116E-08	7.063E-09	4.998E-09	3.577E-09	2.702E-09	2.129E-09	1.730E-09	1.440E-09	1.220E-09
WNW	5.956E-08	3.245E-08	2.125E-08	1.189E-08	7.460E-09	5.184E-09	3.902E-09	3.065E-09	2.475E-09	2.044E-09	1.721E-09
NW	6.098E-08	3.364E-08	2.256E-08	1.308E-08	8.306E-09	5.823E-09	4.471E-09	3.541E-09	2.871E-09	2.383E-09	2.015E-09
NNW	9.504E-08	5.655E-08	3.614E-08	1.977E-08	1.247E-08	8.683E-09	6.547E-09	5.188E-09	4.316E-09	3.622E-09	3.072E-09
N	2.579E-08	1.689E-08	1.467E-08	1.279E-08	1.123E-08	9.146E-09	7.024E-09	5.588E-09	4.569E-09	3.823E-09	3.258E-09
NNE	1.688E-08	3.666E-08	2.336E-08	1.288E-08	8.302E-09	5.892E-09	4.443E-09	3.494E-09	2.833E-09	2.351E-09	1.988E-09
NE	9.194E-09	2.570E-08	1.653E-08	9.233E-09	6.028E-09	4.321E-09	3.362E-09	2.719E-09	2.263E-09	1.899E-09	1.621E-09
ENE	9.393E-09	1.614E-08	1.043E-08	5.786E-09	3.693E-09	2.593E-09	2.041E-09	1.651E-09	1.341E-09	1.114E-09	9.434E-10
E	1.497E-08	2.088E-08	1.338E-08	7.344E-09	4.663E-09	3.262E-09	2.427E-09	1.884E-09	1.566E-09	1.321E-09	1.108E-09
ESE	1.694E-08	1.922E-08	1.238E-08	6.856E-09	4.389E-09	3.090E-09	2.311E-09	1.803E-09	1.451E-09	1.195E-09	1.004E-09
SE	2.000E-08	1.174E-08	8.682E-09	5.844E-09	4.141E-09	3.190E-09	2.593E-09	2.177E-09	1.780E-09	1.491E-09	1.271E-09
SSE	3.175E-08	3.811E-08	2.373E-08	1.270E-08	8.049E-09	5.638E-09	4.207E-09	3.279E-09	2.638E-09	2.175E-09	1.829E-09

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

DIRECTION FROM SITE	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	1.480E-08	2.946E-08	2.582E-08	2.197E-08	2.635E-08	2.047E-08	8.953E-09	4.473E-09	2.697E-09	1.857E-09
SSW	1.101E-08	2.380E-08	2.441E-08	2.681E-08	2.379E-08	1.774E-08	7.541E-09	3.629E-09	2.178E-09	1.472E-09
SW	3.088E-08	6.601E-08	4.046E-08	2.341E-08	1.581E-08	9.197E-09	3.560E-09	1.671E-09	1.004E-09	6.686E-10
WSW	3.464E-08	9.004E-08	5.625E-08	3.274E-08	2.241E-08	1.332E-08	5.885E-09	2.787E-09	1.663E-09	1.129E-09
W	1.390E-07	1.607E-07	8.629E-08	4.965E-08	3.310E-08	1.630E-08	7.055E-09	3.606E-09	2.141E-09	1.445E-09
WNW	1.373E-07	2.871E-07	1.751E-07	1.067E-07	7.093E-08	3.350E-08	1.200E-08	5.278E-09	3.079E-09	2.052E-09
NW	1.427E-07	3.394E-07	1.959E-07	1.112E-07	7.269E-08	3.479E-08	1.307E-08	5.944E-09	3.551E-09	2.391E-09
NNW	4.397E-08	1.350E-07	1.656E-07	1.540E-07	1.111E-07	5.603E-08	2.016E-08	8.838E-09	5.244E-09	3.624E-09
N	2.906E-08	5.303E-08	4.864E-08	3.722E-08	2.885E-08	1.788E-08	1.252E-08	8.853E-09	5.610E-09	3.834E-09
NNE	1.460E-08	2.947E-08	2.594E-08	1.943E-08	1.625E-08	2.635E-08	1.317E-08	5.955E-09	3.513E-09	2.360E-09
NE	8.975E-09	1.769E-08	1.117E-08	1.117E-08	9.074E-09	1.796E-08	9.430E-09	4.393E-09	2.729E-09	1.904E-09
ENE	9.350E-09	1.839E-08	1.570E-08	1.150E-08	9.333E-09	1.211E-08	5.888E-09	2.666E-09	1.644E-09	1.118E-09
E	1.364E-08	2.852E-08	2.522E-08	1.870E-08	1.506E-08	1.623E-08	7.493E-09	3.301E-09	1.918E-09	1.315E-09
ESE	2.318E-08	4.152E-08	3.314E-08	2.319E-08	1.775E-08	1.567E-08	6.987E-09	3.125E-09	1.814E-09	1.200E-09
SE	3.672E-08	5.864E-08	4.567E-08	3.174E-08	2.305E-08	1.222E-08	5.718E-09	3.205E-09	2.144E-09	1.495E-09
SSE	4.059E-08	6.979E-08	5.653E-08	4.031E-08	3.193E-08	3.031E-08	1.308E-08	5.708E-09	3.300E-09	2.184E-09

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ERP ELEVATED STACK RELEASES - OCT-DEC 2021
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		7.077E-11	4.246E-10	9.041E-10	9.365E-10	5.849E-10	3.922E-10	2.770E-10	2.035E-10	1.541E-10	1.306E-10	1.157E-10
SSW		3.541E-11	2.124E-10	4.523E-10	4.685E-10	2.926E-10	1.962E-10	1.386E-10	1.018E-10	9.694E-11	7.332E-11	5.738E-11
SW		3.945E-11	2.367E-10	5.039E-10	5.220E-10	6.045E-10	3.345E-10	2.095E-10	1.433E-10	1.040E-10	7.882E-11	6.175E-11
WSW		3.413E-11	2.048E-10	4.360E-10	9.617E-10	5.587E-10	3.040E-10	1.881E-10	1.275E-10	9.210E-11	6.960E-11	5.445E-11
W		5.502E-11	3.040E-09	2.937E-09	1.892E-09	9.054E-10	4.896E-10	3.019E-10	2.043E-10	1.474E-10	1.114E-10	8.723E-11
WNW		6.445E-11	3.867E-10	2.108E-09	2.029E-09	1.260E-09	6.523E-10	3.943E-10	2.699E-10	2.192E-10	1.762E-10	1.501E-10
NW		6.169E-10	1.016E-09	1.625E-09	3.876E-09	2.551E-09	1.271E-09	7.531E-10	5.030E-10	3.674E-10	2.880E-10	2.391E-10
NNW		1.090E-09	1.168E-09	1.410E-09	1.213E-09	1.268E-09	6.908E-10	4.352E-10	4.043E-10	3.274E-10	2.875E-10	2.671E-10
N		1.138E-09	1.459E-09	2.029E-09	1.854E-09	1.091E-09	7.179E-10	5.027E-10	3.677E-10	2.779E-10	2.155E-10	1.706E-10
NNE		6.295E-11	3.777E-10	8.042E-10	8.330E-10	5.203E-10	3.489E-10	2.464E-10	1.810E-10	1.371E-10	1.064E-10	8.427E-11
NE		3.803E-11	2.281E-10	4.858E-10	5.032E-10	3.143E-10	2.107E-10	1.488E-10	1.093E-10	8.281E-11	6.428E-11	5.090E-11
ENE		3.937E-11	2.362E-10	5.030E-10	5.210E-10	3.254E-10	2.182E-10	1.541E-10	1.132E-10	8.575E-11	6.655E-11	5.271E-11
E		5.913E-11	3.548E-10	7.554E-10	7.825E-10	4.887E-10	3.277E-10	2.315E-10	1.700E-10	1.288E-10	9.996E-11	7.916E-11
ESE		1.114E-10	6.682E-10	1.423E-09	1.474E-09	9.206E-10	6.173E-10	4.360E-10	3.203E-10	2.426E-10	1.883E-10	1.491E-10
SE		6.811E-10	1.401E-09	2.445E-09	2.409E-09	1.471E-09	9.796E-10	6.898E-10	5.059E-10	3.828E-10	2.971E-10	2.352E-10
SSE		4.611E-10	1.424E-09	2.763E-09	2.800E-09	1.732E-09	1.158E-09	8.168E-10	5.996E-10	4.540E-10	3.523E-10	2.790E-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		9.299E-11	1.022E-10	7.615E-11	4.723E-11	3.022E-11	1.871E-11	1.335E-11	9.972E-12	7.645E-12	6.108E-12	4.986E-12
SSW		4.644E-11	6.229E-11	4.768E-11	3.016E-11	1.582E-11	1.122E-11	8.040E-12	6.038E-12	4.719E-12	3.769E-12	3.077E-12
SW		5.089E-11	3.401E-11	2.282E-11	1.299E-11	8.166E-12	5.859E-12	4.444E-12	3.337E-12	2.595E-12	2.073E-12	1.692E-12
WSW		4.463E-11	5.049E-11	3.789E-11	2.237E-11	1.354E-11	9.080E-12	6.585E-12	4.944E-12	3.844E-12	3.071E-12	2.507E-12
W		7.028E-11	3.184E-11	4.426E-11	2.923E-11	1.782E-11	1.195E-11	8.559E-12	6.427E-12	4.997E-12	3.992E-12	3.258E-12
WNW		1.348E-10	9.015E-11	6.724E-11	4.180E-11	2.754E-11	1.739E-11	1.131E-11	8.496E-12	6.773E-12	5.410E-12	4.416E-12
NW		2.087E-10	1.304E-10	9.456E-11	5.812E-11	3.566E-11	2.385E-11	1.689E-11	1.269E-11	9.888E-12	7.899E-12	6.447E-12
NNW		2.573E-10	2.065E-10	1.649E-10	1.075E-10	6.957E-11	4.593E-11	2.783E-11	1.953E-11	1.509E-11	1.205E-11	9.839E-12
N		1.375E-10	6.519E-11	3.979E-11	2.098E-11	7.816E-11	4.404E-11	3.145E-11	2.362E-11	1.837E-11	1.467E-11	1.198E-11
NNE		6.787E-11	1.426E-10	9.042E-11	4.817E-11	2.962E-11	1.978E-11	1.408E-11	1.049E-11	8.107E-12	6.441E-12	5.233E-12
NE		4.100E-11	8.677E-11	5.425E-11	2.846E-11	1.742E-11	1.165E-11	8.309E-12	6.147E-12	4.780E-12	3.838E-12	3.132E-12
ENE		4.245E-11	5.307E-11	3.907E-11	2.402E-11	1.534E-11	1.015E-11	7.123E-12	4.955E-12	3.851E-12	3.076E-12	2.511E-12
E		6.375E-11	7.600E-11	5.550E-11	3.390E-11	2.163E-11	1.432E-11	1.005E-11	7.365E-12	5.616E-12	4.550E-12	3.700E-12
ESE		1.201E-10	1.111E-10	7.704E-11	4.512E-11	2.849E-11	1.892E-11	1.335E-11	9.844E-12	7.549E-12	5.966E-12	4.828E-12
SE		1.895E-10	8.977E-11	5.473E-11	2.879E-11	1.753E-11	1.201E-11	8.923E-12	1.427E-11	1.101E-11	8.761E-12	7.144E-12
SSE		2.247E-10	2.797E-10	1.725E-10	8.907E-11	5.426E-11	3.632E-11	2.595E-11	1.943E-11	1.507E-11	1.201E-11	9.785E-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		8.119E-10	5.774E-10	2.783E-10	1.593E-10	1.117E-10	8.859E-11	4.610E-11	1.964E-11	1.005E-11	6.148E-12
SSW		4.062E-10	2.889E-10	1.392E-10	8.933E-11	5.805E-11	5.227E-11	2.768E-11	1.117E-11	6.107E-12	3.794E-12
SW		4.526E-10	4.662E-10	2.164E-10	1.056E-10	6.279E-11	3.279E-11	1.303E-11	5.908E-12	3.371E-12	2.086E-12
WSW		6.183E-10	5.351E-10	1.948E-10	9.365E-11	5.530E-11	4.359E-11	2.190E-11	9.271E-12	4.994E-12	3.091E-12
W		2.495E-09	9.398E-10	3.130E-10	1.500E-10	8.811E-11	4.590E-11	2.750E-11	1.216E-11	6.492E-12	4.018E-12
WNW		1.691E-09	1.161E-09	4.133E-10	2.173E-10	1.521E-10	8.989E-11	4.112E-11	1.766E-11	8.643E-12	5.446E-12
NW		2.490E-09	2.277E-09	7.912E-10	3.759E-10	2.423E-10	1.319E-10	5.624E-11	2.422E-11	1.282E-11	7.951E-12
NNW		1.269E-09	9.992E-10	4.910E-10	3.341E-10	2.695E-10	1.993E-10	1.034E-10	4.499E-11	2.021E-11	1.213E-11
N		1.825E-09	1.095E-09	5.061E-10	2.798E-10	1.716E-10	6.997E-11	5.057E-11	4.810E-11	2.386E-11	1.477E-11
NNE		7.222E-10	5.136E-10	2.476E-10	1.380E-10	8.476E-11	1.028E-10	4.931E-11	2.012E-11	1.061E-11	6.487E-12
NE		4.362E-10	3.102E-10	1.495E-10	8.333E-11	5.120E-11	6.214E-11	2.928E-11	1.185E-11	6.244E-12	3.856E-12
ENE		4.517E-10	3.212E-10	1.548E-10	8.628E-11	5.301E-11	4.449E-11	2.351E-11	1.032E-11	5.154E-12	3.097E-12
E		6.784E-10	4.824E-10	2.326E-10	1.296E-10	7.962E-11	6.417E-11	3.324E-11	1.456E-11	7.466E-12	4.551E-12
ESE		1.278E-09	9.087E-10	4.380E-10	2.441E-10	1.500E-10	9.796E-11	4.483E-11	1.924E-11	9.971E-12	6.014E-12
SE		2.197E-09	1.461E-09	6.935E-10	3.853E-10	2.366E-10	9.636E-11	2.955E-11	1.225E-11	1.150E-11	8.829E-12
SSE		2.482E-09	1.714E-09	8.209E-10	4.569E-10	2.806E-10	2.198E-10	9.214E-11	3.696E-11	1.963E-11	1.209E-11

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ERP ELEVATED STACK RELEASES - OCT-DEC 2021
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SPECIFIC POINTS OF INTEREST

RELEASE TYPE	DIRECTION	DIST.	X/Q	X/Q	X/Q	D/Q	
ID	LOCATION	FROM SITE (MI)	(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	1.5E-08	1.5E-08	1.5E-08	9.5E-10
A	Site Boundary	SSW	.82	1.2E-08	1.2E-08	1.2E-08	4.8E-10
A	Site Boundary	SW	.97	5.1E-08	5.1E-08	5.1E-08	5.4E-10
A	Site Boundary	WSW	.93	4.9E-08	4.9E-08	4.9E-08	8.2E-10
A	Site Boundary	W	.91	1.8E-07	1.8E-07	1.8E-07	2.2E-09
A	Site Boundary	WNW	.94	2.0E-07	2.0E-07	2.0E-07	2.3E-09
A	Site Boundary	NW	.81	1.3E-07	1.3E-07	1.3E-07	1.7E-09
A	Site Boundary	NNW	.69	2.2E-08	2.2E-08	2.2E-08	1.3E-09
A	Site Boundary	N	.67	1.8E-08	1.8E-08	1.8E-08	1.8E-09
A	Site Boundary	NNE	.60	3.3E-09	3.3E-09	3.3E-09	5.4E-10
A	Site Boundary	NE	.62	2.7E-09	2.7E-09	2.7E-09	3.5E-10
A	Site Boundary	ENE	.59	1.8E-09	1.8E-09	1.8E-09	3.3E-10
A	Site Boundary	E	.53	9.8E-10	9.8E-10	9.8E-10	3.9E-10
A	Site Boundary	ESE	.54	2.4E-09	2.4E-09	2.4E-09	7.8E-10
A	Site Boundary	SE	.65	1.9E-08	1.9E-08	1.9E-08	2.0E-09
A	Site Boundary	SSE	.81	4.4E-08	4.4E-08	4.4E-08	2.9E-09
A	Nearest Res	SW	1.30	8.1E-08	8.1E-08	8.1E-08	8.0E-10
A	Nearest Res	WSW	1.80	9.5E-08	9.4E-08	9.3E-08	3.8E-10
A	Nearest Res	WNW	2.40	1.9E-07	1.8E-07	1.8E-07	4.3E-10
A	Nearest Res	NW	.90	1.8E-07	1.8E-07	1.8E-07	3.9E-09
A	Nearest Res	NNW	1.90	1.6E-07	1.6E-07	1.6E-07	7.7E-10
A	Nearest Res	NE	1.60	2.0E-08	1.9E-08	1.9E-08	2.9E-10
A	Nearest Res	E	2.00	3.0E-08	3.0E-08	3.0E-08	3.3E-10
A	Nearest Cow	NNW	3.50	1.7E-07	1.7E-07	1.7E-07	3.3E-10
A	Nearest Garde	SW	2.20	5.0E-08	5.0E-08	4.9E-08	2.7E-10
A	Nearest Garde	WSW	1.80	9.5E-08	9.4E-08	9.3E-08	3.8E-10
A	Nearest Garde	NNW	2.80	1.7E-07	1.7E-07	1.7E-07	4.4E-10
A	Nearest Garde	ESE	2.30	3.7E-08	3.7E-08	3.6E-08	5.0E-10
A	MAXIMUM CHI/Q	S	1.50	3.2E-08	3.2E-08	3.2E-08	5.8E-10
A	MAXIMUM CHI/Q	SSW	3.50	2.9E-08	2.9E-08	2.9E-08	9.7E-11
A	MAXIMUM CHI/Q	SW	1.50	8.7E-08	8.7E-08	8.6E-08	6.0E-10
A	MAXIMUM CHI/Q	WSW	1.50	1.2E-07	1.2E-07	1.2E-07	5.6E-10
A	MAXIMUM CHI/Q	W	1.50	2.0E-07	1.9E-07	1.9E-07	9.1E-10
A	MAXIMUM CHI/Q	WNW	1.50	3.9E-07	3.8E-07	3.8E-07	1.3E-09
A	MAXIMUM CHI/Q	NW	1.50	4.8E-07	4.8E-07	4.7E-07	2.6E-09
A	MAXIMUM CHI/Q	NNW	2.50	1.7E-07	1.7E-07	1.7E-07	4.4E-10
A	MAXIMUM CHI/Q	N	1.50	5.7E-08	5.7E-08	5.6E-08	1.1E-09
A	MAXIMUM CHI/Q	NNE	7.50	3.8E-08	3.7E-08	3.7E-08	1.4E-10
A	MAXIMUM CHI/Q	NE	7.50	2.7E-08	2.6E-08	2.6E-08	8.7E-11
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	3.2E-08	3.1E-08	3.1E-08	4.9E-10
A	MAXIMUM CHI/Q	ESE	1.50	4.6E-08	4.6E-08	4.6E-08	9.2E-10
A	MAXIMUM CHI/Q	SE	1.50	6.5E-08	6.5E-08	6.4E-08	1.5E-09
A	MAXIMUM CHI/Q	SSE	1.50	7.7E-08	7.7E-08	7.6E-08	1.7E-09

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Atmospheric Diffusion Estimates

Elevated Releases

July-December 2021

ERP ELEVATED STACK RELEASES - JUL-DEC 2021
 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	4.522E-11	5.559E-09	2.418E-08	3.787E-08	4.488E-08	4.040E-08	3.426E-08	2.885E-08	2.450E-08	2.916E-08	3.345E-08
SSW	5.007E-11	4.563E-09	1.618E-08	2.613E-08	3.359E-08	3.170E-08	2.772E-08	3.225E-08	3.535E-08	3.186E-08	2.904E-08
SW	3.191E-11	3.920E-09	2.795E-08	6.878E-08	1.178E-07	8.148E-08	5.946E-08	4.551E-08	3.617E-08	2.962E-08	2.484E-08
WSW	8.198E-11	8.012E-09	3.899E-08	8.699E-08	1.652E-07	1.098E-07	7.887E-08	5.999E-08	4.760E-08	3.899E-08	3.276E-08
W	1.370E-09	8.186E-08	2.275E-07	2.674E-07	2.516E-07	1.619E-07	1.141E-07	8.581E-08	6.754E-08	5.500E-08	4.599E-08
WNW	3.777E-09	3.245E-08	1.420E-07	2.775E-07	4.390E-07	2.819E-07	1.977E-07	1.566E-07	1.286E-07	1.034E-07	8.551E-08
NW	3.388E-10	2.658E-08	1.622E-07	3.856E-07	6.528E-07	3.863E-07	2.573E-07	1.893E-07	1.467E-07	1.159E-07	9.452E-08
NNW	2.356E-09	2.825E-08	7.948E-08	1.365E-07	2.255E-07	2.346E-07	2.239E-07	2.064E-07	1.925E-07	1.529E-07	1.253E-07
N	4.587E-09	2.568E-08	5.474E-08	6.903E-08	7.600E-08	7.097E-08	6.258E-08	5.345E-08	4.602E-08	4.008E-08	3.530E-08
NNE	1.786E-09	8.791E-09	2.060E-08	3.036E-08	3.649E-08	3.351E-08	2.891E-08	2.472E-08	2.128E-08	1.851E-08	1.630E-08
NE	4.618E-11	3.299E-09	1.282E-08	2.045E-08	2.466E-08	2.229E-08	1.891E-08	1.593E-08	1.352E-08	1.161E-08	1.009E-08
ENE	2.980E-16	3.630E-10	6.605E-09	1.368E-08	1.856E-08	1.731E-08	1.491E-08	1.267E-08	1.083E-08	9.357E-09	8.181E-09
E	3.638E-16	3.376E-10	6.028E-09	1.283E-08	1.807E-08	1.807E-08	1.603E-08	1.391E-08	1.206E-08	1.053E-08	9.286E-09
ESE	8.285E-16	7.473E-10	1.221E-08	2.379E-08	3.011E-08	2.706E-08	2.276E-08	1.905E-08	1.609E-08	1.379E-08	1.198E-08
SE	8.280E-11	6.564E-09	2.535E-08	3.910E-08	4.536E-08	4.019E-08	3.371E-08	2.816E-08	2.375E-08	2.030E-08	1.757E-08
SSE	7.780E-11	6.497E-09	3.424E-08	5.757E-08	6.923E-08	6.178E-08	5.192E-08	4.341E-08	3.664E-08	3.132E-08	2.714E-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	3.052E-08	2.377E-08	1.578E-08	9.317E-09	6.848E-09	5.350E-09	4.206E-09	3.435E-09	2.926E-09	2.533E-09	2.208E-09
SSW	2.779E-08	2.434E-08	1.602E-08	9.351E-09	6.807E-09	5.168E-09	4.048E-09	3.297E-09	2.764E-09	2.366E-09	2.059E-09
SW	2.286E-08	1.755E-08	1.157E-08	6.752E-09	4.856E-09	3.737E-09	3.018E-09	2.453E-09	2.051E-09	1.752E-09	1.522E-09
WSW	2.978E-08	2.176E-08	1.622E-08	1.048E-08	7.142E-09	5.316E-09	4.183E-09	3.417E-09	2.870E-09	2.462E-09	2.148E-09
W	3.927E-08	2.237E-08	1.701E-08	1.216E-08	9.666E-09	7.287E-09	5.731E-09	4.683E-09	3.935E-09	3.377E-09	2.947E-09
WNW	7.339E-08	4.280E-08	2.986E-08	1.878E-08	1.308E-08	9.886E-09	7.903E-09	6.513E-09	5.486E-09	4.698E-09	4.090E-09
NW	7.984E-08	4.399E-08	2.985E-08	1.805E-08	1.216E-08	8.967E-09	7.133E-09	5.828E-09	4.869E-09	4.153E-09	3.604E-09
NNW	1.080E-07	6.357E-08	4.174E-08	2.435E-08	1.667E-08	1.245E-08	9.935E-09	8.211E-09	7.044E-09	6.089E-09	5.309E-09
N	3.150E-08	2.057E-08	1.775E-08	1.513E-08	1.318E-08	1.107E-08	8.745E-09	7.141E-09	5.983E-09	5.121E-09	4.457E-09
NNE	1.833E-08	3.869E-08	2.559E-08	1.508E-08	1.040E-08	7.816E-09	6.194E-09	5.093E-09	4.302E-09	3.708E-09	3.248E-09
NE	1.072E-08	2.050E-08	1.354E-08	7.971E-09	5.494E-09	4.126E-09	3.334E-09	2.778E-09	2.382E-09	2.052E-09	1.795E-09
ENE	8.632E-09	1.282E-08	8.519E-09	5.032E-09	3.468E-09	2.600E-09	2.164E-09	1.832E-09	1.539E-09	1.320E-09	1.151E-09
E	9.921E-09	1.501E-08	1.002E-08	5.960E-09	4.125E-09	3.103E-09	2.461E-09	2.024E-09	1.786E-09	1.588E-09	1.387E-09
ESE	1.224E-08	1.589E-08	1.066E-08	6.372E-09	4.419E-09	3.327E-09	2.640E-09	2.171E-09	1.834E-09	1.580E-09	1.383E-09
SE	1.539E-08	9.348E-09	7.115E-09	5.008E-09	3.650E-09	2.872E-09	2.374E-09	2.027E-09	1.699E-09	1.455E-09	1.266E-09
SSE	2.854E-08	3.511E-08	2.268E-08	1.296E-08	8.745E-09	6.461E-09	5.052E-09	4.108E-09	3.436E-09	2.937E-09	2.553E-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	2.613E-08	4.133E-08	3.373E-08	2.752E-08	3.109E-08	2.172E-08	9.656E-09	5.292E-09	3.461E-09	2.529E-09
SSW	1.802E-08	3.109E-08	3.059E-08	3.313E-08	2.941E-08	2.141E-08	9.702E-09	5.157E-09	3.309E-09	2.370E-09
SW	4.076E-08	9.077E-08	5.975E-08	3.635E-08	2.552E-08	1.607E-08	6.979E-09	3.748E-09	2.461E-09	1.755E-09
WSW	5.344E-08	1.232E-07	7.957E-08	4.786E-08	3.350E-08	2.108E-08	1.027E-08	5.350E-09	3.428E-09	2.467E-09
W	2.129E-07	2.152E-07	1.155E-07	6.798E-08	4.617E-08	2.374E-08	1.213E-08	7.299E-09	4.698E-09	3.383E-09
WNW	1.779E-07	3.333E-07	2.037E-07	1.270E-07	8.632E-08	4.385E-08	1.871E-08	9.945E-09	6.519E-09	4.706E-09
NW	2.313E-07	4.750E-07	2.645E-07	1.471E-07	9.542E-08	4.567E-08	1.806E-08	9.085E-09	5.835E-09	4.162E-09
NNW	9.342E-08	2.097E-07	2.197E-07	1.814E-07	1.271E-07	6.373E-08	2.480E-08	1.257E-08	8.259E-09	6.083E-09
N	5.463E-08	7.222E-08	6.116E-08	4.588E-08	3.531E-08	2.175E-08	1.485E-08	1.070E-08	7.158E-09	5.130E-09
NNE	2.232E-08	3.380E-08	2.846E-08	2.121E-08	1.771E-08	2.834E-08	1.534E-08	7.857E-09	5.106E-09	3.714E-09
NE	1.409E-08	2.267E-08	1.862E-08	1.348E-08	1.077E-08	1.524E-08	8.108E-09	4.174E-09	2.786E-09	2.055E-09
ENE	8.361E-09	1.692E-08	1.466E-08	1.080E-08	8.696E-09	9.978E-09	5.112E-09	2.657E-09	1.815E-09	1.322E-09
E	7.788E-09	1.706E-08	1.572E-08	1.201E-08	9.891E-09	1.166E-08	6.047E-09	3.119E-09	2.058E-09	1.573E-09
ESE	1.481E-08	2.735E-08	2.242E-08	1.606E-08	1.261E-08	1.276E-08	6.458E-09	3.343E-09	2.177E-09	1.582E-09
SE	2.729E-08	4.167E-08	3.322E-08	2.369E-08	1.757E-08	9.699E-09	4.873E-09	2.880E-09	2.001E-09	1.458E-09
SSE	3.844E-08	6.333E-08	5.115E-08	3.655E-08	2.890E-08	2.813E-08	1.325E-08	6.506E-09	4.122E-09	2.943E-09

ERP ELEVATED STACK RELEASES - JUL-DEC 2021
 2.260 DAY DECAY, UNDELETED
 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	2.500	3.000	3.500	4.000	4.500	5.000	5.500	6.000	6.500	7.000
S	4.521E-11	5.551E-09	2.414E-08	3.779E-08	4.475E-08	4.025E-08	3.410E-08	2.869E-08	2.434E-08	2.894E-08	3.315E-08										
SSW	5.005E-11	4.559E-09	1.616E-08	2.607E-08	3.347E-08	3.155E-08	2.756E-08	3.202E-08	3.506E-08	3.156E-08	2.873E-08										
SW	3.189E-11	3.915E-09	2.790E-08	6.859E-08	1.173E-07	8.099E-08	5.901E-08	4.510E-08	3.579E-08	2.926E-08	2.451E-08										
WSW	8.194E-11	8.004E-09	3.893E-08	8.678E-08	1.646E-07	1.092E-07	7.834E-08	5.950E-08	4.714E-08	3.857E-08	3.235E-08										
W	1.370E-09	8.178E-08	2.272E-07	2.668E-07	2.507E-07	1.610E-07	1.133E-07	8.504E-08	6.681E-08	5.432E-08	4.534E-08										
WNW	3.776E-09	3.242E-08	1.418E-07	2.768E-07	4.373E-07	2.804E-07	1.964E-07	1.553E-07	1.273E-07	1.022E-07	8.436E-08										
NW	3.387E-10	2.656E-08	1.620E-07	3.849E-07	6.509E-07	3.847E-07	2.559E-07	1.881E-07	1.455E-07	1.149E-07	9.355E-08										
NNW	2.356E-09	2.823E-08	7.941E-08	1.363E-07	2.250E-07	2.339E-07	2.230E-07	2.054E-07	1.914E-07	1.519E-07	1.243E-07										
N	4.587E-09	2.567E-08	5.469E-08	6.894E-08	7.585E-08	7.078E-08	6.236E-08	5.322E-08	4.579E-08	3.985E-08	3.507E-08										
NNE	1.785E-09	8.786E-09	2.058E-08	3.031E-08	3.639E-08	3.339E-08	2.878E-08	2.459E-08	2.115E-08	1.838E-08	1.617E-08										
NE	4.617E-11	3.297E-09	1.280E-08	2.042E-08	2.460E-08	2.221E-08	1.883E-08	1.584E-08	1.343E-08	1.152E-08	1.001E-08										
ENE	2.979E-16	3.627E-10	6.596E-09	1.365E-08	1.850E-08	1.724E-08	1.483E-08	1.259E-08	1.074E-08	9.269E-09	8.094E-09										
E	3.637E-16	3.374E-10	6.020E-09	1.281E-08	1.846E-08	1.797E-08	1.592E-08	1.379E-08	1.195E-08	1.042E-08	9.168E-09										
ESE	8.284E-16	7.468E-10	1.220E-08	2.375E-08	3.004E-08	2.697E-08	2.267E-08	1.895E-08	1.600E-08	1.370E-08	1.189E-08										
SE	8.278E-11	6.560E-09	2.533E-08	3.905E-08	4.526E-08	4.007E-08	3.588E-08	2.802E-08	2.361E-08	2.016E-08	1.744E-08										
SSE	7.778E-11	6.494E-09	3.421E-08	5.749E-08	6.908E-08	6.160E-08	5.173E-08	4.321E-08	3.644E-08	3.112E-08	2.695E-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	3.021E-08	2.333E-08	1.539E-08	8.964E-09	6.489E-09	4.992E-09	3.872E-09	3.121E-09	2.622E-09	2.239E-09	1.926E-09											
SSW	2.745E-08	2.383E-08	1.557E-08	8.954E-09	6.415E-09	4.796E-09	3.703E-09	2.974E-09	2.458E-09	2.075E-09	1.782E-09											
SW	2.252E-08	1.715E-08	1.121E-08	6.444E-09	4.560E-09	3.453E-09	2.742E-09	2.194E-09	1.807E-09	1.521E-09	1.302E-09											
WSW	2.937E-08	2.129E-08	1.574E-08	1.001E-08	6.722E-09	4.930E-09	3.824E-09	3.079E-09	2.550E-09	2.158E-09	1.857E-09											
W	3.864E-08	2.180E-08	1.640E-08	1.144E-08	8.865E-09	6.534E-09	5.033E-09	4.030E-09	3.320E-09	2.794E-09	2.391E-09											
WNW	7.228E-08	4.176E-08	2.885E-08	1.777E-08	1.214E-08	8.996E-09	7.049E-09	5.696E-09	4.706E-09	3.958E-09	3.386E-09											
NW	7.891E-08	4.318E-08	2.908E-08	1.732E-08	1.150E-08	8.361E-09	6.548E-09	5.271E-09	4.341E-09	3.653E-09	3.129E-09											
NNW	1.070E-07	6.261E-08	4.089E-08	2.359E-08	1.598E-08	1.181E-08	9.318E-09	7.616E-09	6.456E-09	5.517E-09	4.762E-09											
N	3.127E-08	2.034E-08	1.748E-08	1.476E-08	1.272E-08	1.056E-08	8.266E-09	6.688E-09	5.553E-09	4.711E-09	4.065E-09											
NNE	1.817E-08	3.774E-08	2.474E-08	1.433E-08	9.712E-09	7.172E-09	5.590E-09	4.522E-09	3.758E-09	3.189E-09	2.751E-09											
NE	1.062E-08	2.003E-08	1.312E-08	7.594E-09	5.150E-09	3.806E-09	3.024E-09	2.478E-09	2.088E-09	1.771E-09	1.526E-09											
ENE	8.528E-09	1.258E-08	8.305E-09	4.845E-09	3.298E-09	2.444E-09	2.010E-09	1.682E-09	1.397E-09	1.185E-09	1.022E-09											
E	9.780E-09	1.465E-08	9.707E-09	5.680E-09	3.870E-09	2.866E-09	2.238E-09	1.813E-09	1.576E-09	1.380E-09	1.188E-09											
ESE	1.214E-08	1.562E-08	1.042E-08	6.153E-09	4.217E-09	3.139E-09	2.462E-09	2.003E-09	1.673E-09	1.426E-09	1.235E-09											
SE	1.526E-08	9.226E-09	6.990E-09	4.875E-09	3.520E-09	2.744E-09	2.247E-09	1.900E-09	1.578E-09	1.339E-09	1.155E-09											
SSE	2.831E-08	3.455E-08	2.220E-08	1.254E-08	8.369E-09	6.116E-09	4.731E-09	3.805E-09	3.149E-09	2.664E-09	2.292E-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	2.608E-08	4.120E-08	3.357E-08	2.733E-08	3.081E-08	2.133E-08	9.292E-09	4.944E-09	3.146E-09	2.236E-09
SSW	1.799E-08	3.097E-08	3.041E-08	3.286E-08	2.909E-08	2.096E-08	9.295E-09	4.791E-09	2.986E-09	2.080E-09
SW	4.065E-08	9.034E-08	5.931E-08	3.596E-08	2.518E-08	1.570E-08	6.667E-09	3.464E-09	2.203E-09	1.525E-09
WSW	5.333E-08	1.227E-07	7.904E-08	4.741E-08	3.309E-08	2.062E-08	9.823E-09	4.965E-09	3.091E-09	2.163E-09
W	2.125E-07	2.144E-07	1.147E-07	6.726E-08	4.552E-08	2.314E-08	1.140E-08	6.555E-09	4.046E-09	2.801E-09
WNW	1.775E-07	3.319E-07	2.024E-07	1.257E-07	8.516E-08	4.280E-08	1.773E-08	9.056E-09	5.706E-09	3.968E-09
NW	2.309E-07	4.734E-07	2.631E-07	1.460E-07	9.444E-08	4.485E-08	1.734E-08	8.472E-09	5.282E-09	3.663E-09
NNW	9.331E-08	2.092E-07	2.189E-07	1.803E-07	1.261E-07	6.281E-08	2.405E-08	1.192E-08	7.660E-09	5.516E-09
N	5.457E-08	7.206E-08	6.095E-08	4.565E-08	3.508E-08	2.150E-08	1.446E-08	1.022E-08	6.706E-09	4.721E-09
NNE	2.229E-08	3.371E-08	2.833E-08	2.108E-08	1.757E-08	2.761E-08	1.459E-08	7.216E-09	4.536E-09	3.196E-09
NE	1.408E-08	2.261E-08	1.854E-08	1.339E-08	1.068E-08	1.487E-08	7.735E-09	3.852E-09	2.485E-09	1.774E-09
ENE	8.346E-09	1.686E-08	1.457E-08	1.071E-08	8.603E-09	9.779E-09	4.927E-09	2.498E-09	1.667E-09	1.187E-09
E	7.773E-09	1.699E-08	1.562E-08	1.189E-08	9.765E-09	1.137E-08	5.770E-09	2.883E-09	1.844E-09	1.367E-09
ESE	1.479E-08	2.728E-08	2.233E-08	1.597E-08	1.251E-08	1.254E-08	6.241E-09	3.156E-09	2.008E-09	1.428E-09
SE	2.726E-08	4.157E-08	3.309E-08	2.356E-08	1.744E-08	9.573E-09	4.742E-09	2.752E-09	1.877E-09	1.342E-09
SSE	3.840E-08	6.318E-08	5.096E-08	3.635E-08	2.869E-08	2.767E-08	1.283E-08	6.162E-09	3.820E-09	2.670E-09

B314

ERP ELEVATED STACK RELEASES - JUL-DEC 2021
 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	4.522E-11	5.515E-09	2.397E-08	3.762E-08	4.431E-08	3.959E-08	3.334E-08	2.789E-08	2.355E-08	2.802E-08	3.221E-08
SSW	5.007E-11	4.526E-09	1.602E-08	2.595E-08	3.318E-08	3.110E-08	2.702E-08	3.134E-08	3.432E-08	3.084E-08	2.805E-08
SW	3.190E-11	3.887E-09	2.777E-08	6.854E-08	1.164E-07	7.976E-08	5.777E-08	4.393E-08	3.472E-08	2.829E-08	2.362E-08
WSW	8.197E-11	7.942E-09	3.860E-08	8.647E-08	1.633E-07	1.078E-07	7.705E-08	5.837E-08	4.615E-08	3.770E-08	3.159E-08
W	1.370E-09	8.075E-08	2.248E-07	2.632E-07	2.462E-07	1.574E-07	1.104E-07	8.270E-08	6.488E-08	5.269E-08	4.395E-08
WNW	3.777E-09	3.220E-08	1.412E-07	2.753E-07	4.336E-07	2.770E-07	1.934E-07	1.528E-07	1.252E-07	1.003E-07	8.252E-08
NW	3.388E-10	2.635E-08	1.609E-07	3.829E-07	6.440E-07	3.778E-07	2.500E-07	1.830E-07	1.412E-07	1.110E-07	9.001E-08
NNW	2.356E-09	2.800E-08	7.853E-08	1.355E-07	2.233E-07	2.314E-07	2.205E-07	2.031E-07	1.894E-07	1.499E-07	1.222E-07
N	4.587E-09	2.546E-08	5.400E-08	6.828E-08	7.494E-08	6.963E-08	6.111E-08	5.197E-08	4.459E-08	3.870E-08	3.399E-08
NNE	1.786E-09	8.717E-09	2.040E-08	3.017E-08	3.606E-08	3.289E-08	2.819E-08	2.397E-08	2.053E-08	1.778E-08	1.559E-08
NE	4.618E-11	3.273E-09	1.272E-08	2.034E-08	2.437E-08	2.186E-08	1.842E-08	1.541E-08	1.300E-08	1.110E-08	9.600E-09
ENE	2.979E-16	3.629E-10	6.603E-09	1.367E-08	1.838E-08	1.700E-08	1.452E-08	1.225E-08	1.040E-08	8.935E-09	7.772E-09
E	3.638E-16	3.376E-10	6.026E-09	1.283E-08	1.836E-08	1.775E-08	1.564E-08	1.348E-08	1.163E-08	1.010E-08	8.866E-09
ESE	8.285E-16	7.471E-10	1.221E-08	2.378E-08	2.983E-08	2.656E-08	2.216E-08	1.840E-08	1.545E-08	1.315E-08	1.136E-08
SE	8.279E-11	6.514E-09	2.515E-08	3.889E-08	4.482E-08	3.940E-08	3.280E-08	2.721E-08	2.280E-08	1.937E-08	1.668E-08
SSE	7.780E-11	6.454E-09	3.407E-08	5.738E-08	6.849E-08	6.062E-08	5.056E-08	4.197E-08	3.520E-08	2.992E-08	2.579E-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	2.933E-08	2.250E-08	1.445E-08	7.957E-09	5.402E-09	3.950E-09	2.955E-09	2.307E-09	1.889E-09	1.583E-09	1.338E-09
SSW	2.683E-08	2.317E-08	1.473E-08	8.000E-09	5.390E-09	3.916E-09	2.953E-09	2.323E-09	1.886E-09	1.566E-09	1.325E-09
SW	2.169E-08	1.645E-08	1.049E-08	5.721E-09	3.815E-09	2.750E-09	2.131E-09	1.670E-09	1.349E-09	1.117E-09	9.422E-10
WSW	2.870E-08	2.058E-08	1.484E-08	9.048E-09	5.882E-09	4.204E-09	3.190E-09	2.521E-09	2.054E-09	1.713E-09	1.454E-09
W	3.744E-08	2.113E-08	1.593E-08	1.072E-08	7.955E-09	5.746E-09	4.349E-09	3.432E-09	2.792E-09	2.324E-09	1.970E-09
WNW	7.046E-08	3.981E-08	2.681E-08	1.563E-08	9.967E-09	6.997E-09	5.323E-09	4.215E-09	3.423E-09	2.834E-09	2.390E-09
NW	7.559E-08	4.035E-08	2.647E-08	1.496E-08	9.446E-09	6.592E-09	5.016E-09	3.951E-09	3.192E-09	2.640E-09	2.225E-09
NNW	1.047E-07	5.974E-08	3.783E-08	2.046E-08	1.283E-08	8.896E-09	6.667E-09	5.254E-09	4.340E-09	3.629E-09	3.069E-09
N	3.025E-08	1.957E-08	1.689E-08	1.443E-08	1.227E-08	9.799E-09	7.501E-09	5.955E-09	4.861E-09	4.062E-09	3.457E-09
NNE	1.758E-08	3.732E-08	2.380E-08	1.311E-08	8.440E-09	5.978E-09	4.499E-09	3.530E-09	2.856E-09	2.365E-09	1.996E-09
NE	1.020E-08	1.968E-08	1.254E-08	6.917E-09	4.473E-09	3.181E-09	2.453E-09	1.969E-09	1.632E-09	1.364E-09	1.159E-09
ENE	8.194E-09	1.227E-08	7.886E-09	4.345E-09	2.765E-09	1.938E-09	1.519E-09	1.225E-09	9.939E-10	8.256E-10	6.987E-10
E	9.469E-09	1.440E-08	9.293E-09	5.144E-09	3.279E-09	2.299E-09	1.714E-09	1.333E-09	1.116E-09	9.467E-10	7.940E-10
ESE	1.160E-08	1.518E-08	9.868E-09	5.518E-09	3.549E-09	2.506E-09	1.878E-09	1.467E-09	1.182E-09	9.742E-10	8.183E-10
SE	1.454E-08	8.669E-09	6.532E-09	4.553E-09	3.287E-09	2.572E-09	2.117E-09	1.798E-09	1.479E-09	1.244E-09	1.065E-09
SSE	2.710E-08	3.332E-08	2.079E-08	1.116E-08	7.090E-09	4.977E-09	3.720E-09	2.903E-09	2.339E-09	1.931E-09	1.625E-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	2.593E-08	4.073E-08	3.283E-08	2.649E-08	2.990E-08	2.044E-08	8.264E-09	3.939E-09	2.333E-09	1.583E-09
SSW	1.788E-08	3.065E-08	2.983E-08	3.214E-08	2.842E-08	2.023E-08	8.335E-09	3.924E-09	2.337E-09	1.572E-09
SW	4.058E-08	8.948E-08	5.810E-08	3.490E-08	2.429E-08	1.496E-08	5.933E-09	2.786E-09	1.679E-09	1.121E-09
WSW	5.306E-08	1.216E-07	7.778E-08	4.642E-08	3.233E-08	1.984E-08	8.929E-09	4.246E-09	2.535E-09	1.718E-09
W	2.099E-07	2.105E-07	1.119E-07	6.533E-08	4.413E-08	2.244E-08	1.065E-08	5.776E-09	3.450E-09	2.332E-09
WNW	1.766E-07	3.288E-07	1.995E-07	1.236E-07	8.331E-08	4.084E-08	1.560E-08	7.119E-09	4.230E-09	2.844E-09
NW	2.297E-07	4.676E-07	2.573E-07	1.416E-07	9.089E-08	4.201E-08	1.507E-08	6.722E-09	3.966E-09	2.650E-09
NNW	9.260E-08	2.074E-07	2.164E-07	1.782E-07	1.239E-07	6.000E-08	2.093E-08	9.054E-09	5.310E-09	3.632E-09
N	5.400E-08	7.110E-08	5.973E-08	4.446E-08	3.400E-08	2.075E-08	1.402E-08	9.539E-09	5.980E-09	4.074E-09
NNE	2.214E-08	3.334E-08	2.775E-08	2.046E-08	1.698E-08	2.692E-08	1.341E-08	6.043E-09	3.550E-09	2.374E-09
NE	1.401E-08	2.236E-08	1.813E-08	1.296E-08	1.026E-08	1.440E-08	7.080E-09	3.234E-09	1.979E-09	1.367E-09
ENE	8.357E-09	1.672E-08	1.427E-08	1.037E-08	8.273E-09	9.417E-09	4.430E-09	1.991E-09	1.221E-09	8.285E-10
E	7.784E-09	1.686E-08	1.534E-08	1.158E-08	9.456E-09	1.104E-08	5.237E-09	2.326E-09	1.359E-09	9.404E-10
ESE	1.480E-08	2.703E-08	2.183E-08	1.542E-08	1.198E-08	1.202E-08	5.610E-09	2.533E-09	1.476E-09	9.779E-10
SE	2.712E-08	4.109E-08	3.232E-08	2.276E-08	1.669E-08	9.025E-09	4.430E-09	2.580E-09	1.767E-09	1.248E-09
SSE	3.829E-08	6.252E-08	4.981E-08	3.512E-08	2.750E-08	2.637E-08	1.149E-08	5.037E-09	2.922E-09	1.939E-09

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ERP ELEVATED STACK RELEASES - JUL-DEC 2021
 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	6.016E-10	9.050E-10	1.384E-09	1.309E-09	7.839E-10	5.188E-10	3.642E-10	2.668E-10	2.017E-10	1.659E-10	1.507E-10
SSW	4.281E-10	5.403E-10	7.434E-10	6.767E-10	3.973E-10	2.613E-10	1.829E-10	1.337E-10	1.248E-10	9.450E-11	7.400E-11
SW	2.956E-10	4.213E-10	6.257E-10	5.858E-10	6.096E-10	3.393E-10	2.136E-10	1.465E-10	1.066E-10	8.091E-11	6.344E-11
WSW	6.775E-10	6.840E-10	7.780E-10	1.108E-09	6.734E-10	3.645E-10	2.251E-10	1.525E-10	1.101E-10	8.318E-11	6.509E-11
W	1.340E-09	4.457E-09	3.751E-09	2.393E-09	1.101E-09	5.937E-10	3.659E-10	2.477E-10	1.787E-10	1.350E-10	1.057E-10
WNW	1.220E-09	1.236E-09	2.708E-09	2.527E-09	1.430E-09	7.407E-10	4.473E-10	3.061E-10	2.522E-10	2.026E-10	1.725E-10
NW	2.839E-09	2.834E-09	3.186E-09	5.839E-09	3.726E-09	1.857E-09	1.098E-09	7.292E-10	5.277E-10	4.085E-10	3.341E-10
NNW	3.704E-09	3.289E-09	3.205E-09	2.449E-09	2.279E-09	1.233E-09	7.675E-10	6.630E-10	5.103E-10	4.248E-10	3.753E-10
N	3.342E-09	3.149E-09	3.314E-09	2.654E-09	1.446E-09	9.270E-10	6.409E-10	4.657E-10	3.508E-10	2.717E-10	2.151E-10
NNE	8.311E-10	9.297E-10	1.166E-09	1.021E-09	5.867E-10	3.832E-10	2.673E-10	1.951E-10	1.473E-10	1.142E-10	9.045E-11
NE	4.288E-10	5.441E-10	7.514E-10	6.850E-10	4.024E-10	2.647E-10	1.853E-10	1.355E-10	1.024E-10	7.942E-11	6.289E-11
ENE	3.169E-11	1.901E-10	4.049E-10	4.194E-10	2.619E-10	1.756E-10	1.241E-10	9.113E-11	6.902E-11	5.357E-11	4.243E-11
E	3.304E-11	1.982E-10	4.220E-10	4.371E-10	2.730E-10	1.831E-10	1.293E-10	9.500E-11	7.195E-11	5.584E-11	4.422E-11
ESE	6.664E-11	3.998E-10	8.513E-10	8.818E-10	5.508E-10	3.693E-10	2.609E-10	1.916E-10	1.451E-10	1.127E-10	8.921E-11
SE	7.454E-10	1.092E-09	1.646E-09	1.549E-09	9.253E-10	6.119E-10	4.294E-10	3.144E-10	2.378E-10	1.844E-10	1.460E-10
SSE	8.028E-10	1.436E-09	2.379E-09	2.309E-09	1.400E-09	9.300E-10	6.541E-10	4.795E-10	3.628E-10	2.814E-10	2.229E-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	1.212E-10	1.018E-10	7.230E-11	4.323E-11	2.748E-11	1.839E-11	1.314E-11	9.825E-12	7.649E-12	6.105E-12	4.985E-12
SSW	6.045E-11	7.020E-11	5.276E-11	3.296E-11	1.769E-11	1.253E-11	8.983E-12	6.747E-12	5.319E-12	4.249E-12	3.468E-12
SW	5.290E-11	4.594E-11	3.282E-11	1.972E-11	1.258E-11	8.155E-12	5.952E-12	4.469E-12	3.475E-12	2.776E-12	2.266E-12
WSW	5.318E-11	5.794E-11	4.327E-11	2.552E-11	1.544E-11	1.036E-11	7.559E-12	5.676E-12	4.413E-12	3.525E-12	2.877E-12
W	8.510E-11	3.842E-11	5.046E-11	3.371E-11	2.055E-11	1.389E-11	9.956E-12	7.476E-12	5.813E-12	4.643E-12	3.790E-12
WNW	1.551E-10	1.039E-10	7.763E-11	4.835E-11	3.151E-11	2.057E-11	1.315E-11	9.870E-12	7.783E-12	6.217E-12	5.074E-12
NW	2.870E-10	1.705E-10	1.208E-10	7.474E-11	4.577E-11	3.064E-11	2.200E-11	1.652E-11	1.291E-11	1.032E-11	8.420E-12
NNW	3.465E-10	2.522E-10	1.948E-10	1.242E-10	8.021E-11	5.316E-11	3.346E-11	2.390E-11	1.858E-11	1.484E-11	1.212E-11
N	1.735E-10	8.243E-11	5.043E-11	2.675E-11	8.823E-11	5.046E-11	3.608E-11	2.709E-11	2.106E-11	1.683E-11	1.373E-11
NNE	7.290E-11	1.504E-10	9.405E-11	4.933E-11	3.020E-11	2.020E-11	1.441E-11	1.077E-11	8.340E-12	6.639E-12	5.404E-12
NE	5.068E-11	8.199E-11	5.078E-11	2.636E-11	1.609E-11	1.076E-11	7.750E-12	5.757E-12	4.475E-12	3.594E-12	2.934E-12
ENE	3.417E-11	4.147E-11	3.038E-11	1.860E-11	1.187E-11	7.858E-12	5.516E-12	3.771E-12	2.934E-12	2.346E-12	1.917E-12
E	3.562E-11	4.594E-11	3.399E-11	2.097E-11	1.341E-11	8.872E-12	6.219E-12	4.550E-12	3.465E-12	2.767E-12	2.247E-12
ESE	7.185E-11	7.280E-11	5.152E-11	3.069E-11	1.946E-11	1.291E-11	9.085E-12	6.683E-12	5.112E-12	4.030E-12	3.254E-12
SE	1.177E-10	5.577E-11	3.402E-11	1.792E-11	1.094E-11	7.526E-12	5.616E-12	4.058E-12	7.011E-12	5.595E-12	4.579E-12
SSE	1.795E-10	2.186E-10	1.346E-10	6.941E-11	4.227E-11	2.830E-11	2.023E-11	1.515E-11	1.175E-11	9.372E-12	7.639E-12

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***** 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	1.244E-09	7.829E-10	3.665E-10	2.066E-10	1.442E-10	9.299E-11	4.269E-11	1.871E-11	9.942E-12	6.147E-12
SSW	6.686E-10	3.989E-10	1.841E-10	1.158E-10	7.506E-11	6.028E-11	3.057E-11	1.249E-11	6.842E-12	4.277E-12
SW	5.626E-10	4.842E-10	2.203E-10	1.082E-10	6.471E-11	4.165E-11	1.946E-11	8.454E-12	4.514E-12	2.794E-12
WSW	9.037E-10	6.327E-10	2.332E-10	1.120E-10	6.604E-11	5.036E-11	2.499E-11	1.059E-11	5.733E-12	3.548E-12
W	3.304E-09	1.163E-09	3.794E-10	1.818E-10	1.068E-10	5.415E-11	3.158E-11	1.409E-11	7.551E-12	4.674E-12
WNW	2.301E-09	1.368E-09	4.691E-10	2.487E-10	1.750E-10	1.036E-10	4.737E-11	2.052E-11	1.001E-11	6.258E-12
NW	4.287E-09	3.365E-09	1.153E-09	5.399E-10	3.387E-10	1.743E-10	7.210E-11	3.122E-11	1.671E-11	1.038E-11
NNW	2.888E-09	1.852E-09	8.498E-10	5.213E-10	3.793E-10	2.476E-10	1.203E-10	5.249E-11	2.460E-11	1.494E-11
N	2.984E-09	1.484E-09	6.471E-10	3.535E-10	2.165E-10	8.844E-11	5.934E-11	5.478E-11	2.736E-11	1.694E-11
NNE	1.049E-09	5.927E-10	2.693E-10	1.484E-10	9.099E-11	1.081E-10	5.077E-11	2.055E-11	1.089E-11	6.686E-12
NE	6.758E-10	4.040E-10	1.866E-10	1.031E-10	6.327E-11	6.116E-11	2.722E-11	1.098E-11	5.838E-12	3.611E-12
ENE	3.636E-10	2.586E-10	1.246E-10	6.945E-11	4.267E-11	3.492E-11	1.823E-11	7.991E-12	3.951E-12	2.362E-12
E	3.790E-10	2.695E-10	1.299E-10	7.240E-11	4.448E-11	3.833E-11	2.050E-11	9.020E-12	4.614E-12	2.781E-12
ESE	7.645E-10	5.437E-10	2.621E-10	1.460E-10	8.973E-11	6.313E-11	3.033E-11	1.313E-11	6.771E-12	4.063E-12
SE	1.480E-09	9.246E-10	4.321E-10	2.393E-10	1.469E-10	5.986E-11	1.840E-11	7.673E-12	7.295E-12	5.638E-12
SSE	2.138E-09	1.393E-09	6.578E-10	3.651E-10	2.242E-10	1.726E-10	7.184E-11	2.880E-11	1.531E-11	9.435E-12

ERP ELEVATED STACK RELEASES - JUL-DEC 2021
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION FROM SITE (MI)	DIST.	X/Q (SEC/M3) NO DECAY	X/Q (SEC/M3) 2.26 DAY DECAY	X/Q (SEC/M3) 8.0 DAY DECAY	D/Q (PER SQ.METER) DECAY
				UNDEPLETED	UNDEPLETED	DEPLETED	
A	Site Boundary	S	.80	2.8E-08	2.8E-08	2.7E-08	1.4E-09
A	Site Boundary	SSW	.82	2.0E-08	1.9E-08	1.9E-08	7.5E-10
A	Site Boundary	SW	.97	6.5E-08	6.5E-08	6.5E-08	6.0E-10
A	Site Boundary	WSW	.93	7.2E-08	7.2E-08	7.2E-08	9.4E-10
A	Site Boundary	W	.91	2.6E-07	2.6E-07	2.6E-07	2.7E-09
A	Site Boundary	WNW	.94	2.5E-07	2.4E-07	2.4E-07	2.8E-09
A	Site Boundary	NW	.81	2.1E-07	2.1E-07	2.1E-07	3.1E-09
A	Site Boundary	NNW	.69	6.2E-08	6.2E-08	6.2E-08	3.2E-09
A	Site Boundary	N	.67	4.5E-08	4.5E-08	4.4E-08	3.2E-09
A	Site Boundary	NNE	.60	1.2E-08	1.2E-08	1.2E-08	1.0E-09
A	Site Boundary	NE	.62	7.1E-09	7.0E-09	7.0E-09	6.4E-10
A	Site Boundary	ENE	.59	1.5E-09	1.5E-09	1.5E-09	2.6E-10
A	Site Boundary	E	.53	5.5E-10	5.4E-10	5.5E-10	2.2E-10
A	Site Boundary	ESE	.54	1.5E-09	1.5E-09	1.5E-09	4.6E-10
A	Site Boundary	SE	.65	1.6E-08	1.6E-08	1.6E-08	1.4E-09
A	Site Boundary	SSE	.81	4.1E-08	4.1E-08	4.1E-08	2.5E-09
A	Nearest Res	SW	1.30	1.1E-07	1.1E-07	1.0E-07	8.0E-10
A	Nearest Res	WSW	1.80	1.3E-07	1.3E-07	1.3E-07	4.6E-10
A	Nearest Res	WNW	2.40	2.1E-07	2.1E-07	2.1E-07	4.9E-10
A	Nearest Res	NW	.90	2.9E-07	2.9E-07	2.9E-07	6.0E-09
A	Nearest Res	NNW	1.90	2.4E-07	2.3E-07	2.3E-07	1.4E-09
A	Nearest Res	NE	1.60	2.4E-08	2.4E-08	2.4E-08	3.7E-10
A	Nearest Res	E	2.00	1.8E-08	1.8E-08	1.8E-08	1.8E-10
A	Nearest Cow	NNW	3.50	1.9E-07	1.9E-07	1.9E-07	5.1E-10
A	Nearest Garde	SW	2.20	7.1E-08	7.1E-08	7.0E-08	2.8E-10
A	Nearest Garde	WSW	1.80	1.3E-07	1.3E-07	1.3E-07	4.6E-10
A	Nearest Garde	NNW	2.80	2.1E-07	2.1E-07	2.1E-07	7.4E-10
A	Nearest Garde	ESE	2.30	2.4E-08	2.4E-08	2.4E-08	3.0E-10
A	MAXIMUM CHI/Q	S	1.50	4.5E-08	4.5E-08	4.4E-08	7.8E-10
A	MAXIMUM CHI/Q	SSW	3.50	3.5E-08	3.5E-08	3.4E-08	1.2E-10
A	MAXIMUM CHI/Q	SW	1.50	1.2E-07	1.2E-07	1.2E-07	6.1E-10
A	MAXIMUM CHI/Q	WSW	1.50	1.7E-07	1.6E-07	1.6E-07	6.7E-10
A	MAXIMUM CHI/Q	W	1.00	2.7E-07	2.7E-07	2.6E-07	2.4E-09
A	MAXIMUM CHI/Q	WNW	1.50	4.4E-07	4.4E-07	4.3E-07	1.4E-09
A	MAXIMUM CHI/Q	NW	1.50	6.5E-07	6.5E-07	6.4E-07	3.7E-09
A	MAXIMUM CHI/Q	NNW	2.00	2.3E-07	2.3E-07	2.3E-07	1.2E-09
A	MAXIMUM CHI/Q	N	1.50	7.6E-08	7.6E-08	7.5E-08	1.4E-09
A	MAXIMUM CHI/Q	NNE	7.50	3.9E-08	3.8E-08	3.7E-08	1.5E-10
A	MAXIMUM CHI/Q	NE	1.50	2.5E-08	2.5E-08	2.4E-08	4.0E-10
A	MAXIMUM CHI/Q	ENE	1.50	1.9E-08	1.8E-08	1.8E-08	2.6E-10
A	MAXIMUM CHI/Q	E	1.50	1.9E-08	1.8E-08	1.8E-08	2.7E-10
A	MAXIMUM CHI/Q	ESE	1.50	3.0E-08	3.0E-08	3.0E-08	5.5E-10
A	MAXIMUM CHI/Q	SE	1.50	4.5E-08	4.5E-08	4.5E-08	9.3E-10
A	MAXIMUM CHI/Q	SSE	1.50	6.9E-08	6.9E-08	6.8E-08	1.4E-09

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Atmospheric Diffusion Estimates

Elevated Releases

January-December 2021

ERP ELEVATED STACK RELEASES - JAN-DEC 2021
 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	7.723E-10	9.898E-09	3.800E-08	5.955E-08	6.913E-08	6.092E-08	5.082E-08	4.225E-08	3.550E-08	4.058E-08	4.406E-08	
SSW	1.681E-09	1.194E-08	2.483E-08	3.388E-08	3.956E-08	3.612E-08	3.102E-08	3.496E-08	3.689E-08	3.258E-08	2.911E-08	
SW	1.457E-09	8.577E-09	3.482E-08	7.488E-08	1.179E-07	8.000E-08	5.772E-08	4.383E-08	3.464E-08	2.824E-08	2.360E-08	
WSW	7.021E-10	8.635E-09	4.554E-08	1.016E-07	1.701E-07	1.095E-07	7.702E-08	5.770E-08	4.525E-08	3.673E-08	3.062E-08	
W	2.019E-09	6.968E-08	2.222E-07	2.686E-07	2.461E-07	1.548E-07	1.073E-07	7.950E-08	6.182E-08	4.985E-08	4.132E-08	
WNW	1.379E-08	3.262E-08	1.640E-07	3.164E-07	4.575E-07	2.875E-07	1.985E-07	1.539E-07	1.240E-07	9.886E-08	8.120E-08	
NW	1.019E-08	4.834E-08	1.704E-07	3.754E-07	6.216E-07	3.674E-07	2.444E-07	1.794E-07	1.385E-07	1.093E-07	8.899E-08	
NNW	6.737E-09	3.581E-08	9.472E-08	1.530E-07	2.266E-07	2.244E-07	2.084E-07	1.873E-07	1.695E-07	1.340E-07	1.093E-07	
N	7.338E-09	4.110E-08	6.553E-08	7.058E-08	6.951E-08	6.232E-08	5.380E-08	4.536E-08	3.869E-08	3.344E-08	2.927E-08	
NNE	2.609E-09	1.639E-08	3.016E-08	3.684E-08	3.930E-08	3.470E-08	2.933E-08	2.474E-08	2.108E-08	1.820E-08	1.591E-08	
NE	4.207E-11	3.251E-09	1.196E-08	1.880E-08	2.290E-08	2.100E-08	1.805E-08	1.537E-08	1.316E-08	1.139E-08	9.980E-09	
ENE	8.607E-12	8.854E-10	6.477E-09	1.268E-08	1.766E-08	1.698E-08	1.495E-08	1.291E-08	1.118E-08	9.749E-09	8.593E-09	
E	2.721E-16	3.002E-10	5.546E-09	1.190E-08	1.727E-08	1.690E-08	1.504E-08	1.310E-08	1.141E-08	9.999E-09	8.848E-09	
ESE	7.346E-12	1.214E-09	1.346E-08	2.533E-08	3.179E-08	2.864E-08	2.418E-08	2.028E-08	1.716E-08	1.471E-08	1.278E-08	
SE	9.372E-11	6.980E-09	3.105E-08	4.956E-08	5.714E-08	4.979E-08	4.114E-08	3.395E-08	2.835E-08	2.402E-08	2.064E-08	
SSE	1.718E-09	1.452E-08	4.281E-08	6.377E-08	7.286E-08	6.407E-08	5.345E-08	4.448E-08	3.740E-08	3.189E-08	2.757E-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	3.926E-08	2.674E-08	1.741E-08	1.002E-08	7.083E-09	5.389E-09	4.200E-09	3.405E-09	2.869E-09	2.463E-09	2.136E-09	
SSW	2.713E-08	2.103E-08	1.368E-08	7.865E-09	5.585E-09	4.190E-09	3.266E-09	2.648E-09	2.212E-09	1.886E-09	1.637E-09	
SW	2.156E-08	1.602E-08	1.051E-08	6.102E-09	4.351E-09	3.328E-09	2.670E-09	2.167E-09	1.809E-09	1.544E-09	1.341E-09	
WSW	2.745E-08	1.910E-08	1.397E-08	8.886E-09	6.030E-09	4.473E-09	3.511E-09	2.862E-09	2.399E-09	2.055E-09	1.790E-09	
W	3.501E-08	1.940E-08	1.421E-08	9.657E-09	7.419E-09	5.548E-09	4.345E-09	3.538E-09	2.963E-09	2.536E-09	2.207E-09	
WNW	6.907E-08	3.889E-08	2.650E-08	1.614E-08	1.108E-08	8.284E-09	6.557E-09	5.365E-09	4.496E-09	3.837E-09	3.331E-09	
NW	7.500E-08	4.092E-08	2.753E-08	1.645E-08	1.104E-08	8.124E-09	6.431E-09	5.241E-09	4.371E-09	3.724E-09	3.228E-09	
NNW	9.343E-08	5.338E-08	3.480E-08	2.010E-08	1.367E-08	1.016E-08	8.054E-09	6.620E-09	5.639E-09	4.854E-09	4.224E-09	
N	2.599E-08	1.666E-08	1.406E-08	1.174E-08	1.026E-08	8.676E-09	6.859E-09	5.604E-09	4.695E-09	4.019E-09	3.499E-09	
NNE	1.749E-08	3.112E-08	2.042E-08	1.192E-08	8.175E-09	6.112E-09	4.827E-09	3.957E-09	3.333E-09	2.867E-09	2.506E-09	
NE	1.091E-08	1.912E-08	1.255E-08	7.326E-09	5.021E-09	3.753E-09	3.009E-09	2.492E-09	2.122E-09	1.823E-09	1.592E-09	
ENE	9.246E-09	1.408E-08	9.355E-09	5.524E-09	3.805E-09	2.853E-09	2.368E-09	2.000E-09	1.680E-09	1.441E-09	1.257E-09	
E	9.620E-09	1.525E-08	1.018E-08	6.050E-09	4.185E-09	3.147E-09	2.495E-09	2.051E-09	1.804E-09	1.600E-09	1.397E-09	
ESE	1.299E-08	1.517E-08	1.009E-08	5.958E-09	4.101E-09	3.071E-09	2.426E-09	1.988E-09	1.674E-09	1.438E-09	1.256E-09	
SE	1.797E-08	1.066E-08	7.904E-09	5.355E-09	3.834E-09	2.978E-09	2.436E-09	2.063E-09	1.724E-09	1.472E-09	1.278E-09	
SSE	2.879E-08	3.346E-08	2.155E-08	1.226E-08	8.249E-09	6.081E-09	4.746E-09	3.853E-09	3.218E-09	2.748E-09	2.386E-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	4.133E-08	6.335E-08	5.008E-08	3.936E-08	4.125E-08	2.538E-08	1.036E-08	5.365E-09	3.428E-09	2.462E-09
SSW	2.599E-08	3.677E-08	3.395E-08	3.470E-08	2.941E-08	1.912E-08	8.144E-09	4.192E-09	2.658E-09	1.890E-09
SW	4.679E-08	9.151E-08	5.811E-08	3.483E-08	2.422E-08	1.480E-08	6.304E-09	3.338E-09	2.175E-09	1.547E-09
WSW	6.224E-08	1.280E-07	7.796E-08	4.556E-08	3.125E-08	1.867E-08	8.746E-09	4.503E-09	2.871E-09	2.059E-09
W	2.089E-07	2.105E-07	1.089E-07	6.231E-08	4.151E-08	2.056E-08	9.674E-09	5.566E-09	3.550E-09	2.541E-09
WNW	2.025E-07	3.506E-07	2.044E-07	1.230E-07	8.194E-08	4.009E-08	1.619E-08	8.339E-09	5.375E-09	3.845E-09
NW	2.344E-07	4.539E-07	2.512E-07	1.391E-07	8.983E-08	4.254E-08	1.651E-08	8.225E-09	5.250E-09	3.732E-09
NNW	1.075E-07	2.093E-07	2.043E-07	1.611E-07	1.107E-07	5.402E-08	2.051E-08	1.025E-08	6.656E-09	4.853E-09
N	6.234E-08	6.655E-08	5.270E-08	3.860E-08	2.929E-08	1.758E-08	1.160E-08	8.371E-09	5.616E-09	4.027E-09
NNE	3.007E-08	3.671E-08	2.892E-08	2.103E-08	1.717E-08	2.334E-08	1.215E-08	6.148E-09	3.968E-09	2.871E-09
NE	1.306E-08	2.114E-08	1.776E-08	1.312E-08	1.074E-08	1.438E-08	7.462E-09	3.794E-09	2.499E-09	1.826E-09
ENE	7.992E-09	1.625E-08	1.468E-08	1.113E-08	9.177E-09	1.091E-08	5.611E-09	2.913E-09	1.983E-09	1.444E-09
E	7.204E-09	1.591E-08	1.476E-08	1.135E-08	9.475E-09	1.174E-08	6.139E-09	3.163E-09	2.084E-09	1.585E-09
ESE	1.602E-08	2.896E-08	2.381E-08	1.712E-08	1.343E-08	1.243E-08	6.050E-09	3.087E-09	1.993E-09	1.441E-09
SE	3.393E-08	5.219E-08	4.057E-08	2.830E-08	2.065E-08	1.106E-08	5.245E-09	2.989E-09	2.040E-09	1.475E-09
SSE	4.584E-08	6.693E-08	5.269E-08	3.732E-08	2.931E-08	2.713E-08	1.254E-08	6.125E-09	3.866E-09	2.753E-09

B319

ERP ELEVATED STACK RELEASES - JAN-DEC 2021
 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	7.722E-10	9.891E-09	3.796E-08	5.946E-08	6.898E-08	6.074E-08	5.062E-08	4.205E-08	3.530E-08	4.032E-08	4.373E-08	
SSW	1.680E-09	1.194E-08	2.480E-08	3.381E-08	3.943E-08	3.596E-08	3.085E-08	3.473E-08	3.661E-08	3.229E-08	2.882E-08	
SW	1.456E-09	8.569E-09	3.475E-08	7.469E-08	1.175E-07	7.957E-08	5.733E-08	4.347E-08	3.430E-08	2.793E-08	2.330E-08	
WSW	7.017E-10	8.624E-09	4.547E-08	1.014E-07	1.696E-07	1.090E-07	7.656E-08	5.728E-08	4.486E-08	3.636E-08	3.027E-08	
W	2.018E-09	6.962E-08	2.219E-07	2.680E-07	2.452E-07	1.541E-07	1.066E-07	7.886E-08	6.123E-08	4.929E-08	4.079E-08	
WNW	1.379E-08	3.259E-08	1.637E-07	3.157E-07	4.557E-07	2.860E-07	1.971E-07	1.526E-07	1.227E-07	9.771E-08	8.012E-08	
NW	1.019E-08	4.830E-08	1.702E-07	3.746E-07	6.194E-07	3.657E-07	2.429E-07	1.780E-07	1.373E-07	1.082E-07	8.798E-08	
NNW	6.735E-09	3.578E-08	9.462E-08	1.528E-07	2.261E-07	2.238E-07	2.076E-07	1.864E-07	1.685E-07	1.331E-07	1.084E-07	
N	7.337E-09	4.109E-08	6.548E-08	7.050E-08	6.938E-08	6.216E-08	5.362E-08	4.518E-08	3.851E-08	3.326E-08	2.909E-08	
NNE	2.609E-09	1.638E-08	3.013E-08	3.679E-08	3.920E-08	3.458E-08	2.920E-08	2.461E-08	2.095E-08	1.806E-08	1.578E-08	
NE	4.205E-11	3.248E-09	1.195E-08	1.877E-08	2.283E-08	2.092E-08	1.796E-08	1.528E-08	1.307E-08	1.130E-08	9.889E-09	
ENE	8.604E-12	8.848E-10	6.468E-09	1.265E-08	1.760E-08	1.689E-08	1.485E-08	1.281E-08	1.107E-08	9.642E-09	8.485E-09	
E	2.721E-16	3.000E-10	5.538E-09	1.187E-08	1.721E-08	1.681E-08	1.495E-08	1.300E-08	1.130E-08	9.893E-09	8.741E-09	
ESE	7.345E-12	1.213E-09	1.345E-08	2.530E-08	3.172E-08	2.856E-08	2.409E-08	2.018E-08	1.707E-08	1.461E-08	1.268E-08	
SE	9.370E-11	6.977E-09	3.102E-08	4.950E-08	5.702E-08	4.965E-08	4.100E-08	3.380E-08	2.820E-08	2.387E-08	2.050E-08	
SSE	1.718E-09	1.452E-08	4.278E-08	6.369E-08	7.270E-08	6.388E-08	5.325E-08	4.427E-08	3.720E-08	3.169E-08	2.737E-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	3.892E-08	2.634E-08	1.707E-08	9.713E-09	6.788E-09	5.103E-09	3.934E-09	3.156E-09	2.629E-09	2.232E-09	1.915E-09	
SSW	2.682E-08	2.063E-08	1.333E-08	7.566E-09	5.299E-09	3.921E-09	3.017E-09	2.416E-09	1.992E-09	1.678E-09	1.439E-09	
SW	2.125E-08	1.568E-08	1.021E-08	5.838E-09	4.102E-09	3.091E-09	2.443E-09	1.954E-09	1.609E-09	1.354E-09	1.160E-09	
WSW	2.709E-08	1.871E-08	1.357E-08	8.497E-09	5.681E-09	4.153E-09	3.213E-09	2.582E-09	2.134E-09	1.803E-09	1.549E-09	
W	3.451E-08	1.897E-08	1.376E-08	9.167E-09	6.889E-09	5.053E-09	3.886E-09	3.108E-09	2.558E-09	2.152E-09	1.841E-09	
WNW	6.804E-08	3.798E-08	2.566E-08	1.534E-08	1.035E-08	7.601E-09	5.909E-09	4.750E-09	3.911E-09	3.283E-09	2.804E-09	
NW	7.404E-08	4.010E-08	2.677E-08	1.574E-08	1.041E-08	7.550E-09	5.884E-09	4.722E-09	3.882E-09	3.261E-09	2.788E-09	
NNW	9.259E-08	5.262E-08	3.412E-08	1.951E-08	1.314E-08	9.667E-09	7.587E-09	6.174E-09	5.203E-09	4.433E-09	3.821E-09	
N	2.580E-08	1.648E-08	1.385E-08	1.145E-08	9.890E-09	8.266E-09	6.471E-09	5.236E-09	4.346E-09	3.686E-09	3.180E-09	
NNE	1.733E-08	3.049E-08	1.987E-08	1.144E-08	7.732E-09	5.702E-09	4.442E-09	3.593E-09	2.987E-09	2.536E-09	2.189E-09	
NE	1.079E-08	1.876E-08	1.223E-08	7.042E-09	4.764E-09	3.516E-09	2.782E-09	2.274E-09	1.909E-09	1.621E-09	1.398E-09	
ENE	9.118E-09	1.383E-08	9.130E-09	5.330E-09	3.630E-09	2.692E-09	2.211E-09	1.849E-09	1.537E-09	1.305E-09	1.126E-09	
E	9.491E-09	1.491E-08	9.877E-09	5.782E-09	3.941E-09	2.920E-09	2.282E-09	1.849E-09	1.602E-09	1.400E-09	1.206E-09	
ESE	1.287E-08	1.495E-08	9.892E-09	5.784E-09	3.942E-09	2.924E-09	2.287E-09	1.857E-09	1.549E-09	1.319E-09	1.141E-09	
SE	1.783E-08	1.053E-08	7.777E-09	5.223E-09	3.706E-09	2.851E-09	2.309E-09	1.935E-09	1.602E-09	1.356E-09	1.166E-09	
SSE	2.855E-08	3.289E-08	2.106E-08	1.184E-08	7.872E-09	5.735E-09	4.425E-09	3.551E-09	2.933E-09	2.476E-09	2.126E-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	4.128E-08	6.320E-08	4.989E-08	3.914E-08	4.094E-08	2.502E-08	1.005E-08	5.085E-09	3.178E-09	2.232E-09
SSW	2.595E-08	3.664E-08	3.377E-08	3.443E-08	2.911E-08	1.876E-08	7.840E-09	3.927E-09	2.426E-09	1.683E-09
SW	4.668E-08	9.112E-08	5.772E-08	3.449E-08	2.391E-08	1.448E-08	6.038E-09	3.101E-09	1.962E-09	1.358E-09
WSW	6.212E-08	1.275E-07	7.750E-08	4.517E-08	3.090E-08	1.829E-08	8.374E-09	4.185E-09	2.592E-09	1.807E-09
W	2.086E-07	2.098E-07	1.082E-07	6.172E-08	4.098E-08	2.011E-08	9.176E-09	5.076E-09	3.121E-09	2.157E-09
WNW	2.021E-07	3.491E-07	2.030E-07	1.217E-07	8.086E-08	3.918E-08	1.541E-08	7.657E-09	4.762E-09	3.292E-09
NW	2.340E-07	4.523E-07	2.497E-07	1.379E-07	8.881E-08	4.172E-08	1.582E-08	7.647E-09	4.734E-09	3.270E-09
NNW	1.074E-07	2.088E-07	2.034E-07	1.601E-07	1.099E-07	5.328E-08	1.993E-08	9.761E-09	6.208E-09	4.434E-09
N	6.229E-08	6.642E-08	5.252E-08	3.841E-08	2.911E-08	1.738E-08	1.129E-08	7.981E-09	5.250E-09	3.694E-09
NNE	3.004E-08	3.661E-08	2.880E-08	2.090E-08	1.703E-08	2.285E-08	1.166E-08	5.739E-09	3.605E-09	2.541E-09
NE	1.305E-08	2.108E-08	1.768E-08	1.303E-08	1.064E-08	1.408E-08	7.182E-09	3.555E-09	2.280E-09	1.624E-09
ENE	7.976E-09	1.618E-08	1.458E-08	1.102E-08	9.062E-09	1.069E-08	5.419E-09	2.750E-09	1.833E-09	1.307E-09
E	7.190E-09	1.585E-08	1.467E-08	1.125E-08	9.360E-09	1.147E-08	5.874E-09	2.937E-09	1.879E-09	1.388E-09
ESE	1.600E-08	2.889E-08	2.372E-08	1.702E-08	1.333E-08	1.224E-08	5.878E-09	2.941E-09	1.862E-09	1.321E-09
SE	3.389E-08	5.207E-08	4.043E-08	2.815E-08	2.051E-08	1.093E-08	5.116E-09	2.862E-09	1.915E-09	1.359E-09
SSE	4.579E-08	6.678E-08	5.249E-08	3.712E-08	2.909E-08	2.667E-08	1.213E-08	5.781E-09	3.565E-09	2.482E-09

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ERP ELEVATED STACK RELEASES - JAN-DEC 2021
 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	7.722E-10	9.822E-09	3.772E-08	5.925E-08	6.832E-08	5.971E-08	4.942E-08	4.079E-08	3.405E-08	3.886E-08	4.219E-08
SSW	1.680E-09	1.184E-08	2.452E-08	3.357E-08	3.903E-08	3.539E-08	3.019E-08	3.392E-08	3.572E-08	3.143E-08	2.800E-08
SW	1.456E-09	8.502E-09	3.453E-08	7.455E-08	1.164E-07	7.821E-08	5.598E-08	4.223E-08	3.318E-08	2.691E-08	2.239E-08
WSW	7.020E-10	8.560E-09	4.519E-08	1.010E-07	1.679E-07	1.072E-07	7.496E-08	5.588E-08	4.364E-08	3.529E-08	2.933E-08
W	2.019E-09	6.892E-08	2.200E-07	2.646E-07	2.408E-07	1.504E-07	1.036E-07	7.645E-08	5.922E-08	4.758E-08	3.932E-08
WNW	1.379E-08	3.238E-08	1.632E-07	3.139E-07	4.510E-07	2.815E-07	1.934E-07	1.494E-07	1.200E-07	9.521E-08	7.780E-08
NW	1.019E-08	4.790E-08	1.687E-07	3.726E-07	6.128E-07	3.590E-07	2.371E-07	1.730E-07	1.330E-07	1.044E-07	8.449E-08
NNW	6.736E-09	3.549E-08	9.355E-08	1.518E-07	2.240E-07	2.208E-07	2.046E-07	1.836E-07	1.660E-07	1.307E-07	1.061E-07
N	7.338E-09	4.074E-08	6.445E-08	6.954E-08	6.834E-08	6.101E-08	5.242E-08	4.400E-08	3.739E-08	3.220E-08	2.810E-08
NNE	2.609E-09	1.625E-08	2.974E-08	3.643E-08	3.871E-08	3.396E-08	2.852E-08	2.392E-08	2.027E-08	1.742E-08	1.517E-08
NE	4.206E-11	3.225E-09	1.186E-08	1.869E-08	2.263E-08	2.060E-08	1.759E-08	1.488E-08	1.268E-08	1.092E-08	9.527E-09
ENE	8.606E-12	8.800E-10	6.454E-09	1.265E-08	1.748E-08	1.667E-08	1.457E-08	1.251E-08	1.076E-08	9.339E-09	8.193E-09
E	2.721E-16	3.002E-10	5.544E-09	1.189E-08	1.711E-08	1.661E-08	1.469E-08	1.271E-08	1.101E-08	9.608E-09	8.466E-09
ESE	7.346E-12	1.210E-09	1.344E-08	2.531E-08	3.149E-08	2.812E-08	2.356E-08	1.962E-08	1.649E-08	1.406E-08	1.215E-08
SE	9.371E-11	6.930E-09	3.085E-08	4.935E-08	5.648E-08	4.879E-08	3.999E-08	3.275E-08	2.715E-08	2.285E-08	1.952E-08
SSE	1.718E-09	1.441E-08	4.245E-08	6.341E-08	7.198E-08	6.280E-08	5.199E-08	4.295E-08	3.589E-08	3.042E-08	2.616E-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	3.748E-08	2.506E-08	1.579E-08	8.514E-09	5.602E-09	4.011E-09	2.983E-09	2.318E-09	1.883E-09	1.566E-09	1.319E-09
SSW	2.606E-08	1.988E-08	1.250E-08	6.706E-09	4.426E-09	3.180E-09	2.388E-09	1.871E-09	1.514E-09	1.254E-09	1.058E-09
SW	2.041E-08	1.498E-08	9.508E-09	5.161E-09	3.416E-09	2.451E-09	1.887E-09	1.477E-09	1.193E-09	9.870E-10	8.321E-10
WSW	2.626E-08	1.793E-08	1.271E-08	7.633E-09	4.940E-09	3.519E-09	2.663E-09	2.100E-09	1.707E-09	1.421E-09	1.205E-09
W	3.323E-08	1.820E-08	1.319E-08	8.459E-09	6.084E-09	4.363E-09	3.292E-09	2.590E-09	2.102E-09	1.747E-09	1.478E-09
WNW	6.581E-08	3.589E-08	2.363E-08	1.338E-08	8.447E-09	5.888E-09	4.441E-09	3.495E-09	2.826E-09	2.333E-09	1.963E-09
NW	7.079E-08	3.739E-08	2.433E-08	1.360E-08	8.560E-09	5.960E-09	4.514E-09	3.547E-09	2.861E-09	2.362E-09	1.988E-09
NNW	9.016E-08	4.991E-08	3.140E-08	1.685E-08	1.053E-08	7.281E-09	5.433E-09	4.263E-09	3.499E-09	2.915E-09	2.461E-09
N	2.487E-08	1.578E-08	1.330E-08	1.113E-08	9.508E-09	7.653E-09	5.862E-09	4.655E-09	3.800E-09	3.175E-09	2.702E-09
NNE	1.669E-08	2.990E-08	1.894E-08	1.037E-08	6.669E-09	4.724E-09	3.556E-09	2.793E-09	2.262E-09	1.875E-09	1.584E-09
NE	1.042E-08	1.838E-08	1.165E-08	6.382E-09	4.116E-09	2.923E-09	2.244E-09	1.794E-09	1.480E-09	1.235E-09	1.050E-09
ENE	8.816E-09	1.353E-08	8.687E-09	4.781E-09	3.038E-09	2.127E-09	1.662E-09	1.339E-09	1.087E-09	9.038E-10	7.654E-10
E	9.210E-09	1.468E-08	9.467E-09	5.234E-09	3.331E-09	2.334E-09	1.738E-09	1.351E-09	1.127E-09	9.538E-10	8.007E-10
ESE	1.233E-08	1.446E-08	9.315E-09	5.152E-09	3.292E-09	2.314E-09	1.728E-09	1.346E-09	1.082E-09	8.908E-10	7.472E-10
SE	1.689E-08	9.799E-09	7.170E-09	4.785E-09	3.383E-09	2.605E-09	2.118E-09	1.782E-09	1.457E-09	1.220E-09	1.039E-09
SSE	2.728E-08	3.165E-08	1.969E-08	1.052E-08	6.661E-09	4.663E-09	3.477E-09	2.708E-09	2.178E-09	1.795E-09	1.508E-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	4.109E-08	6.248E-08	4.871E-08	3.781E-08	3.946E-08	2.370E-08	8.837E-09	4.024E-09	2.342E-09	1.569E-09
SSW	2.573E-08	3.620E-08	3.307E-08	3.357E-08	2.830E-08	1.797E-08	6.980E-09	3.195E-09	1.883E-09	1.259E-09
SW	4.653E-08	9.013E-08	5.641E-08	3.338E-08	2.300E-08	1.375E-08	5.351E-09	2.483E-09	1.486E-09	9.907E-10
WSW	6.187E-08	1.261E-07	7.593E-08	4.396E-08	2.996E-08	1.746E-08	7.564E-09	3.556E-09	2.111E-09	1.426E-09
W	2.063E-07	2.059E-07	1.052E-07	5.971E-08	3.951E-08	1.931E-08	8.455E-09	4.393E-09	2.605E-09	1.753E-09
WNW	2.011E-07	3.452E-07	1.993E-07	1.189E-07	7.852E-08	3.709E-08	1.346E-08	5.991E-09	3.510E-09	2.342E-09
NW	2.325E-07	4.466E-07	2.440E-07	1.336E-07	8.531E-08	3.901E-08	1.374E-08	6.075E-09	3.562E-09	2.372E-09
NNW	1.065E-07	2.066E-07	2.005E-07	1.576E-07	1.075E-07	5.063E-08	1.727E-08	7.408E-09	4.306E-09	2.920E-09
N	6.145E-08	6.535E-08	5.134E-08	3.730E-08	2.812E-08	1.670E-08	1.089E-08	7.431E-09	4.674E-09	3.185E-09
NNE	2.971E-08	3.609E-08	2.813E-08	2.023E-08	1.640E-08	2.209E-08	1.063E-08	4.775E-09	2.809E-09	1.882E-09
NE	1.298E-08	2.085E-08	1.731E-08	1.264E-08	1.027E-08	1.362E-08	6.545E-09	2.970E-09	1.803E-09	1.239E-09
ENE	7.970E-09	1.605E-08	1.431E-08	1.072E-08	8.763E-09	1.033E-08	4.874E-09	2.184E-09	1.335E-09	9.069E-10
E	7.200E-09	1.573E-08	1.441E-08	1.096E-08	9.080E-09	1.115E-08	5.329E-09	2.362E-09	1.376E-09	9.485E-10
ESE	1.600E-08	2.862E-08	2.320E-08	1.646E-08	1.278E-08	1.170E-08	5.250E-09	2.340E-09	1.355E-09	8.943E-10
SE	3.376E-08	5.148E-08	3.944E-08	2.711E-08	1.953E-08	1.021E-08	4.692E-09	2.618E-09	1.754E-09	1.223E-09
SSE	4.553E-08	6.599E-08	5.125E-08	3.582E-08	2.784E-08	2.536E-08	1.084E-08	4.721E-09	2.726E-09	1.803E-09

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ERP ELEVATED STACK RELEASES - JAN-DEC 2021
 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	1.384E-09	1.825E-09	2.585E-09	2.379E-09	1.405E-09	9.257E-10	6.485E-10	4.745E-10	3.586E-10	2.958E-10	2.675E-10	
SSW	8.998E-10	9.645E-10	1.164E-09	1.002E-09	5.700E-10	3.710E-10	2.584E-10	1.885E-10	1.759E-10	1.331E-10	1.042E-10	
SW	5.631E-10	6.497E-10	8.358E-10	7.401E-10	7.682E-10	4.220E-10	2.633E-10	1.796E-10	1.302E-10	9.865E-11	7.728E-11	
WSW	5.691E-10	6.854E-10	9.119E-10	1.626E-09	9.074E-10	4.921E-10	3.041E-10	2.061E-10	1.488E-10	1.124E-10	8.796E-11	
W	9.727E-10	4.570E-09	4.025E-09	2.586E-09	1.252E-09	6.684E-10	4.094E-10	2.757E-10	1.982E-10	1.495E-10	1.169E-10	
WNW	1.182E-09	1.293E-09	3.138E-09	3.072E-09	1.726E-09	8.948E-10	5.397E-10	3.652E-10	2.923E-10	2.282E-10	1.885E-10	
NW	3.619E-09	3.297E-09	3.324E-09	5.332E-09	3.358E-09	1.676E-09	9.929E-10	6.605E-10	4.786E-10	3.708E-10	3.034E-10	
NNW	4.016E-09	3.632E-09	3.626E-09	2.814E-09	2.684E-09	1.451E-09	8.994E-10	7.520E-10	5.616E-10	4.515E-10	3.850E-10	
N	5.944E-09	4.966E-09	4.414E-09	3.159E-09	1.589E-09	9.877E-10	6.724E-10	4.847E-10	3.637E-10	2.812E-10	2.226E-10	
NNE	2.071E-09	1.852E-09	1.822E-09	1.400E-09	7.423E-10	4.710E-10	3.240E-10	2.348E-10	1.767E-10	1.368E-10	1.083E-10	
NE	4.269E-10	5.150E-10	6.859E-10	6.163E-10	3.593E-10	2.358E-10	1.648E-10	1.205E-10	9.102E-11	7.057E-11	5.588E-11	
ENE	9.289E-11	2.162E-10	3.919E-10	3.903E-10	2.395E-10	1.597E-10	1.125E-10	8.257E-11	6.250E-11	4.850E-11	3.840E-11	
E	2.800E-11	1.680E-10	3.577E-10	3.705E-10	2.314E-10	1.353E-10	1.096E-10	8.051E-11	6.098E-11	4.733E-11	3.748E-11	
ESE	1.371E-10	4.816E-10	9.570E-10	9.755E-10	6.051E-10	4.048E-10	2.857E-10	2.098E-10	1.588E-10	1.233E-10	9.762E-11	
SE	9.817E-10	1.456E-09	2.210E-09	2.085E-09	1.247E-09	8.246E-10	5.788E-10	4.239E-10	3.205E-10	2.486E-10	1.969E-10	
SSE	1.845E-09	2.200E-09	2.905E-09	2.601E-09	1.514E-09	9.925E-10	6.937E-10	5.070E-10	3.830E-10	2.969E-10	2.351E-10	

***** RELATIVE DEPOSITION PER UNIT AREA (M**-2) AT FIXED POINTS BY DOWNWIND SECTORS *****												
DIRECTIONS												
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	2.150E-10	1.428E-10	9.579E-11	5.458E-11	3.433E-11	2.587E-11	1.850E-11	1.385E-11	1.080E-11	8.622E-12	7.039E-12	
SSW	8.477E-11	7.422E-11	5.320E-11	3.208E-11	1.897E-11	1.324E-11	9.492E-12	7.129E-12	5.617E-12	4.487E-12	3.662E-12	
SW	6.343E-11	4.845E-11	3.369E-11	1.981E-11	1.258E-11	8.617E-12	6.286E-12	4.720E-12	3.670E-12	2.932E-12	2.393E-12	
WSW	7.148E-11	6.059E-11	4.325E-11	2.668E-11	1.615E-11	1.083E-11	7.842E-12	5.889E-12	4.579E-12	3.658E-12	2.985E-12	
W	9.420E-11	4.288E-11	5.064E-11	3.236E-11	2.047E-11	1.383E-11	9.907E-12	7.439E-12	5.784E-12	4.620E-12	3.771E-12	
WNW	1.657E-10	1.023E-10	7.381E-11	4.474E-11	2.882E-11	1.937E-11	1.302E-11	9.780E-12	7.706E-12	6.156E-12	5.024E-12	
NW	2.605E-10	1.544E-10	1.093E-10	6.652E-11	4.074E-11	2.729E-11	1.987E-11	1.492E-11	1.173E-11	9.367E-12	7.646E-12	
NNW	3.442E-10	2.305E-10	1.724E-10	1.075E-10	6.909E-11	4.590E-11	3.031E-11	2.188E-11	1.714E-11	1.369E-11	1.118E-11	
N	1.797E-10	8.560E-11	5.252E-11	2.805E-11	7.216E-11	4.292E-11	3.071E-11	2.306E-11	1.793E-11	1.432E-11	1.169E-11	
NNE	8.735E-11	1.465E-10	9.075E-11	4.713E-11	2.878E-11	1.927E-11	1.377E-11	1.030E-11	7.990E-12	6.369E-12	5.189E-12	
NE	4.504E-11	8.167E-11	5.063E-11	2.632E-11	1.607E-11	1.076E-11	7.744E-12	5.760E-12	4.478E-12	3.597E-12	2.936E-12	
ENE	3.094E-11	4.540E-11	3.425E-11	2.145E-11	1.376E-11	9.102E-12	6.376E-12	4.133E-12	3.215E-12	2.570E-12	2.100E-12	
E	3.019E-11	4.627E-11	3.510E-11	2.207E-11	1.417E-11	9.362E-12	6.548E-12	4.778E-12	3.627E-12	2.730E-12	2.218E-12	
ESE	7.862E-11	7.597E-11	5.322E-11	3.145E-11	1.990E-11	1.321E-11	9.312E-12	6.861E-12	5.255E-12	4.149E-12	3.354E-12	
SE	1.586E-10	7.518E-11	4.587E-11	2.416E-11	1.473E-11	1.010E-11	7.482E-12	1.066E-11	8.259E-12	6.594E-12	5.393E-12	
SSE	1.895E-10	2.126E-10	1.307E-10	6.730E-11	4.097E-11	2.743E-11	1.961E-11	1.469E-11	1.140E-11	9.094E-12	7.414E-12	

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***** 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		
S	2.325E-09	1.408E-09	6.528E-10	3.678E-10	2.564E-10	1.379E-10	5.474E-11	2.518E-11	1.402E-11	8.682E-12		
SSW	1.047E-09	5.775E-10	2.605E-10	1.632E-10	1.056E-10	6.722E-11	3.094E-11	1.327E-11	7.228E-12	4.516E-12		
SW	7.519E-10	6.081E-10	2.722E-10	1.323E-10	7.848E-11	4.522E-11	1.968E-11	8.741E-12	4.767E-12	2.951E-12		
WSW	1.179E-09	8.825E-10	3.150E-10	1.513E-10	8.911E-11	5.531E-11	2.569E-11	1.106E-11	5.948E-12	3.682E-12		
W	3.506E-09	1.289E-09	4.250E-10	2.018E-10	1.181E-10	5.773E-11	3.114E-11	1.403E-11	7.514E-12	4.651E-12		
WNW	2.699E-09	1.656E-09	5.646E-10	2.887E-10	1.918E-10	1.037E-10	4.412E-11	1.935E-11	9.917E-12	6.196E-12		
NW	4.210E-09	3.049E-09	1.042E-09	4.895E-10	3.075E-10	1.579E-10	6.457E-11	2.791E-11	1.512E-11	9.429E-12		
NNW	3.266E-09	2.165E-09	9.875E-10	5.741E-10	3.896E-10	2.300E-10	1.048E-10	4.585E-11	2.248E-11	1.378E-11		
N	3.979E-09	1.671E-09	6.814E-10	3.668E-10	2.241E-10	9.181E-11	5.309E-11	4.583E-11	2.329E-11	1.442E-11		
NNE	1.641E-09	7.680E-10	3.275E-10	1.781E-10	1.090E-10	1.086E-10	4.867E-11	1.960E-11	1.041E-11	6.412E-12		
NE	6.170E-10	3.615E-10	1.660E-10	9.165E-11	5.622E-11	5.974E-11	2.717E-11	1.097E-11	5.839E-12	3.613E-12		
ENE	3.521E-10	2.375E-10	1.131E-10	6.290E-11	3.863E-11	3.723E-11	2.088E-11	9.255E-12	4.424E-12	2.587E-12		
E	3.212E-10	2.284E-10	1.101E-10	6.136E-11	3.770E-11	3.773E-11	2.145E-11	9.518E-12	4.845E-12	2.807E-12		
ESE	8.596E-10	5.984E-10	2.871E-10	1.598E-10	9.818E-11	6.645E-11	3.115E-11	1.344E-11	6.949E-12	4.182E-12		
SE	1.986E-09	1.245E-09	5.824E-10	3.227E-10	1.980E-10	8.649E-11	2.479E-11	1.029E-11	8.839E-12	6.642E-12		
SSE	2.613E-09	1.524E-09	6.987E-10	3.856E-10	2.365E-10	1.711E-10	6.970E-11	2.791E-11	1.484E-11	9.156E-12		

ERP ELEVATED STACK RELEASES - JAN-DEC 2021
CORRECTED USING STANDARD OPEN TERRAIN FACTORS

SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION FROM SITE (MI)	DIST. (MI)	X/Q (SEC/M3) NO DEPLETION	X/Q (SEC/M3) 2.26 DAY DEPLETION	X/Q (SEC/M3) 8.0 DAY DEPLETION	D/Q (PER SQ. METER) DEPLETION
A	Site Boundary	S	.80	4.3E-08	4.3E-08	4.3E-08	2.6E-09
A	Site Boundary	SSW	.82	2.8E-08	2.8E-08	2.8E-08	1.1E-09
A	Site Boundary	SW	.97	7.1E-08	7.1E-08	7.1E-08	7.6E-10
A	Site Boundary	WSW	.93	8.5E-08	8.5E-08	8.5E-08	1.3E-09
A	Site Boundary	W	.91	2.6E-07	2.6E-07	2.6E-07	3.0E-09
A	Site Boundary	WNW	.94	2.8E-07	2.8E-07	2.8E-07	3.4E-09
A	Site Boundary	NW	.81	2.2E-07	2.2E-07	2.2E-07	3.2E-09
A	Site Boundary	NNW	.69	7.5E-08	7.5E-08	7.4E-08	3.6E-09
A	Site Boundary	N	.67	5.8E-08	5.8E-08	5.7E-08	4.5E-09
A	Site Boundary	NNE	.60	2.1E-08	2.1E-08	2.1E-08	1.8E-09
A	Site Boundary	NE	.62	6.7E-09	6.7E-09	6.7E-09	5.9E-10
A	Site Boundary	ENE	.59	2.0E-09	2.0E-09	2.0E-09	2.8E-10
A	Site Boundary	E	.53	4.9E-10	4.9E-10	4.9E-10	1.9E-10
A	Site Boundary	ESE	.54	2.0E-09	2.0E-09	2.0E-09	5.5E-10
A	Site Boundary	SE	.65	1.9E-08	1.9E-08	1.9E-08	1.9E-09
A	Site Boundary	SSE	.81	4.9E-08	4.9E-08	4.9E-08	2.9E-09
A	Nearest Res	SW	1.30	1.1E-07	1.1E-07	1.1E-07	1.0E-09
A	Nearest Res	WSW	1.80	1.3E-07	1.3E-07	1.3E-07	6.1E-10
A	Nearest Res	WNW	2.40	2.1E-07	2.1E-07	2.1E-07	5.9E-10
A	Nearest Res	NW	.90	2.9E-07	2.9E-07	2.9E-07	5.3E-09
A	Nearest Res	NNW	1.90	2.3E-07	2.3E-07	2.2E-07	1.6E-09
A	Nearest Res	NE	1.60	2.3E-08	2.3E-08	2.2E-08	3.3E-10
A	Nearest Res	E	2.00	1.7E-08	1.7E-08	1.7E-08	1.6E-10
A	Nearest Cow	NNW	3.50	1.7E-07	1.7E-07	1.7E-07	5.6E-10
A	Nearest Garde	SW	2.20	7.0E-08	6.9E-08	6.8E-08	3.4E-10
A	Nearest Garde	WSW	1.80	1.3E-07	1.3E-07	1.3E-07	6.1E-10
A	Nearest Garde	NNW	2.80	2.0E-07	1.9E-07	1.9E-07	8.5E-10
A	Nearest Garde	ESE	2.30	2.6E-08	2.6E-08	2.5E-08	3.3E-10
A	MAXIMUM CHI/Q	S	1.50	6.9E-08	6.9E-08	6.8E-08	1.4E-09
A	MAXIMUM CHI/Q	SSW	1.50	4.0E-08	3.9E-08	3.9E-08	5.7E-10
A	MAXIMUM CHI/Q	SW	1.50	1.2E-07	1.2E-07	1.2E-07	7.7E-10
A	MAXIMUM CHI/Q	WSW	1.50	1.7E-07	1.7E-07	1.7E-07	9.1E-10
A	MAXIMUM CHI/Q	W	1.00	2.7E-07	2.7E-07	2.6E-07	2.6E-09
A	MAXIMUM CHI/Q	WNW	1.50	4.6E-07	4.6E-07	4.5E-07	1.7E-09
A	MAXIMUM CHI/Q	NW	1.50	6.2E-07	6.2E-07	6.1E-07	3.4E-09
A	MAXIMUM CHI/Q	NNW	1.50	2.3E-07	2.3E-07	2.2E-07	2.7E-09
A	MAXIMUM CHI/Q	N	1.00	7.1E-08	7.0E-08	7.0E-08	3.2E-09
A	MAXIMUM CHI/Q	NNE	1.50	3.9E-08	3.9E-08	3.9E-08	7.4E-10
A	MAXIMUM CHI/Q	NE	1.50	2.3E-08	2.3E-08	2.3E-08	3.6E-10
A	MAXIMUM CHI/Q	ENE	1.50	1.8E-08	1.8E-08	1.7E-08	2.4E-10
A	MAXIMUM CHI/Q	E	1.50	1.7E-08	1.7E-08	1.7E-08	2.3E-10
A	MAXIMUM CHI/Q	ESE	1.50	3.2E-08	3.2E-08	3.1E-08	6.1E-10
A	MAXIMUM CHI/Q	SE	1.50	5.7E-08	5.7E-08	5.6E-08	1.2E-09
A	MAXIMUM CHI/Q	SSE	1.50	7.3E-08	7.3E-08	7.2E-08	1.5E-09

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ATMOSPHERIC DIFFUSION MODEL

Onsite meteorological data from January 1 through December 31, 2021 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

$$\Sigma_{zk} = \left(\sigma_{zk}^2 + 0.5 D_z^2 / \pi \right)^{1/2} \leq \sqrt{3} \sigma_{zk} \quad (\text{Eq. 2})$$

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;
Σ_z	=	vertical plume spread with volumetric building wake correction for a release within the building wake cavity;
σ_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 Σ_{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

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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 latest version of the LADTAP II computer program included as part of NRC Dose 2.3.20 (ORNL 2015). 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).

No Liquid Releases in 2021

TABLE 1. Doses to Maximum Individual at the Site Boundary, Resulting From Exposure to Radioactivity Discharged in Liquid Effluents, January-June 2021 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
Totals	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>								
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
Totals	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 1st & 2nd Quarters	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

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 2021, 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		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
Totals	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>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
Totals	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 3rd & 4th Quarters	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

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 2021, 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	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+001	0.00 E+00	0.00 E+00
3rd 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
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 2021	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

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TABLE 4. Doses to Population Within a 50-Mile Radius, Resulting From Exposure to Radioactivity Discharged in Liquid Effluents, January-June 2021, 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
Totals	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>								
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
Swimming	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
Totals	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 1st & 2nd Quarters	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

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 2021, 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		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
Swimming	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
Totals	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>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
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
Totals	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 3rd & 4th Quarters	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

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 2021 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>	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>3rd 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>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
Totals for 2021	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

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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 latest version of the GASPAR computer code included as part of NRC Dose 2.3.20 (ORNL 2015). Four sites were selected for individual dose calculations: the site boundary, the nearest residence, the nearest garden and the nearest cow. 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 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 GASPAR code are described in a separate section of this appendix (see page C66).

TABLE 1. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-MARCH 2021

SPECIAL LOCATION NO. 1A Site Boundary
 AT .69 MILES NNW

ANNUAL BETA AIR DOSE = 1.33E-06 MILLRADS
 ANNUAL GAMMA AIR DOSE = 2.69E-06 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.82E-06	3.25E-06
GROUND	1.75E-05	1.75E-05	1.75E-05	1.75E-05	1.75E-05	1.75E-05	1.75E-05	2.05E-05
VEGET								
ADULT	3.04E-06	4.86E-06	1.85E-05	3.98E-06	2.80E-06	3.44E-04	3.05E-07	0.00E+00
TEEN	3.44E-06	5.60E-06	3.06E-05	6.23E-06	4.28E-06	4.61E-04	5.72E-07	0.00E+00
CHILD	5.11E-06	4.12E-06	7.44E-05	1.06E-05	6.91E-06	8.82E-04	8.71E-07	0.00E+00
MEAT								
ADULT	2.17E-07	4.83E-07	3.34E-07	2.74E-07	1.23E-07	9.10E-06	2.50E-08	0.00E+00
TEEN	1.19E-07	2.62E-07	2.79E-07	2.21E-07	1.00E-07	6.59E-06	2.36E-08	0.00E+00
CHILD	1.23E-07	1.35E-07	5.21E-07	2.90E-07	1.27E-07	9.95E-06	2.77E-08	0.00E+00
COW MILK								
ADULT	1.73E-06	5.41E-07	2.69E-06	2.74E-06	2.11E-06	2.65E-04	2.11E-07	0.00E+00
TEEN	1.99E-06	7.22E-07	4.91E-06	4.84E-06	3.76E-06	4.20E-04	4.36E-07	0.00E+00
CHILD	2.44E-06	5.74E-07	1.19E-05	8.40E-06	6.25E-06	8.38E-04	6.71E-07	0.00E+00
INFANT	3.80E-06	5.65E-07	2.13E-05	1.77E-05	1.06E-05	2.04E-03	1.21E-06	0.00E+00
GOATMILK								
ADULT	4.28E-06	7.12E-07	6.36E-06	6.65E-06	3.68E-06	3.18E-04	6.34E-07	0.00E+00
TEEN	4.47E-06	9.68E-07	1.16E-05	1.17E-05	6.53E-06	5.04E-04	1.31E-06	0.00E+00
CHILD	4.49E-06	7.85E-07	2.81E-05	2.04E-05	1.09E-05	1.01E-03	2.01E-06	0.00E+00
INFANT	6.08E-06	7.86E-07	4.85E-05	4.13E-05	1.81E-05	2.44E-03	3.64E-06	0.00E+00
INHAL								
ADULT	1.84E-07	3.68E-07	3.79E-07	4.34E-07	6.59E-07	6.96E-05	1.76E-06	0.00E+00
TEEN	2.22E-07	4.00E-07	5.35E-07	5.99E-07	9.13E-07	9.07E-05	2.69E-06	0.00E+00
CHILD	2.36E-07	2.20E-07	7.31E-07	5.89E-07	8.57E-07	1.12E-04	2.25E-06	0.00E+00
INFANT	1.64E-07	9.97E-08	5.37E-07	5.35E-07	5.66E-07	1.03E-04	1.66E-06	0.00E+00

TABLE 1. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-MARCH 2021 (Continued)

SPECIAL LOCATION NO. 2A Site Boundary
 AT .60 MILES NNE

ANNUAL BETA AIR DOSE = 4.15E-07 MILLRADS
 ANNUAL GAMMA AIR DOSE = 8.37E-07 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	5.60E-07	5.60E-07	5.60E-07	5.60E-07	5.60E-07	5.60E-07	5.65E-07	1.01E-06
GROUND	1.61E-05	1.61E-05	1.61E-05	1.61E-05	1.61E-05	1.61E-05	1.61E-05	1.89E-05
VEGET								
ADULT	2.79E-06	4.48E-06	1.70E-05	3.64E-06	2.56E-06	3.15E-04	2.79E-07	0.00E+00
TEEN	3.15E-06	5.15E-06	2.81E-05	5.70E-06	3.92E-06	4.21E-04	5.23E-07	0.00E+00
CHILD	4.69E-06	3.80E-06	6.84E-05	9.67E-06	6.32E-06	8.07E-04	7.96E-07	0.00E+00
MEAT								
ADULT	1.99E-07	4.45E-07	3.06E-07	2.51E-07	1.13E-07	8.32E-06	2.28E-08	0.00E+00
TEEN	1.09E-07	2.42E-07	2.56E-07	2.02E-07	9.15E-08	6.03E-06	2.16E-08	0.00E+00
CHILD	1.13E-07	1.24E-07	4.78E-07	2.65E-07	1.16E-07	9.10E-06	2.54E-08	0.00E+00
COW MILK								
ADULT	1.58E-06	4.97E-07	2.47E-06	2.50E-06	1.93E-06	2.42E-04	1.93E-07	0.00E+00
TEEN	1.82E-06	6.63E-07	4.50E-06	4.43E-06	3.44E-06	3.84E-04	3.99E-07	0.00E+00
CHILD	2.23E-06	5.26E-07	1.09E-05	7.69E-06	5.71E-06	7.67E-04	6.13E-07	0.00E+00
INFANT	3.48E-06	5.19E-07	1.96E-05	1.62E-05	9.72E-06	1.86E-03	1.11E-06	0.00E+00
GOATMILK								
ADULT	3.92E-06	6.53E-07	5.82E-06	6.08E-06	3.36E-06	2.90E-04	5.79E-07	0.00E+00
TEEN	4.09E-06	8.88E-07	1.06E-05	1.07E-05	5.97E-06	4.61E-04	1.20E-06	0.00E+00
CHILD	4.11E-06	7.21E-07	2.57E-05	1.86E-05	9.93E-06	9.20E-04	1.84E-06	0.00E+00
INFANT	5.57E-06	7.21E-07	4.45E-05	3.78E-05	1.66E-05	2.24E-03	3.33E-06	0.00E+00
INHAL								
ADULT	1.70E-07	3.40E-07	3.50E-07	4.02E-07	6.10E-07	6.44E-05	1.62E-06	0.00E+00
TEEN	2.05E-07	3.68E-07	4.95E-07	5.54E-07	8.44E-07	8.39E-05	2.48E-06	0.00E+00
CHILD	2.18E-07	1.85E-07	6.75E-07	5.45E-07	7.93E-07	1.04E-04	2.07E-06	0.00E+00
INFANT	1.52E-07	7.54E-08	4.96E-07	4.94E-07	5.23E-07	9.54E-05	1.53E-06	0.00E+00

C10

TABLE 1. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-MARCH 2021 (Continued)

SPECIAL LOCATION NO. 3A Nearest Resident
 AT .90 MILES NW

ANNUAL BETA AIR DOSE = 1.19E-05 MILLRADS
 ANNUAL GAMMA AIR DOSE = 2.39E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.60E-05	1.60E-05	1.60E-05	1.60E-05	1.60E-05	1.60E-05	1.61E-05	2.89E-05
GROUND	7.52E-06	7.52E-06	7.52E-06	7.52E-06	7.52E-06	7.52E-06	7.52E-06	8.83E-06
VEGET								
ADULT	1.39E-06	2.06E-06	7.95E-06	1.84E-06	1.29E-06	1.59E-04	1.42E-07	0.00E+00
TEEN	1.55E-06	2.38E-06	1.31E-05	2.88E-06	1.98E-06	2.13E-04	2.66E-07	0.00E+00
CHILD	2.27E-06	1.75E-06	3.20E-05	4.89E-06	3.20E-06	4.09E-04	4.05E-07	0.00E+00
MEAT								
ADULT	9.85E-08	2.03E-07	1.49E-07	1.26E-07	5.72E-08	4.22E-06	1.16E-08	0.00E+00
TEEN	5.35E-08	1.11E-07	1.25E-07	1.02E-07	4.65E-08	3.06E-06	1.10E-08	0.00E+00
CHILD	5.41E-08	5.68E-08	2.32E-07	1.34E-07	5.90E-08	4.61E-06	1.29E-08	0.00E+00
COW MILK								
ADULT	7.99E-07	2.37E-07	1.22E-06	1.27E-06	9.71E-07	1.22E-04	9.83E-08	0.00E+00
TEEN	9.20E-07	3.16E-07	2.22E-06	2.24E-06	1.73E-06	1.94E-04	2.03E-07	0.00E+00
CHILD	1.12E-06	2.51E-07	5.40E-06	3.89E-06	2.87E-06	3.86E-04	3.12E-07	0.00E+00
INFANT	1.74E-06	2.47E-07	9.63E-06	8.20E-06	4.89E-06	9.38E-04	5.65E-07	0.00E+00
GOATMILK								
ADULT	1.99E-06	3.14E-07	2.89E-06	3.08E-06	1.70E-06	1.46E-04	2.95E-07	0.00E+00
TEEN	2.07E-06	4.27E-07	5.26E-06	5.45E-06	3.01E-06	2.32E-04	6.09E-07	0.00E+00
CHILD	2.07E-06	3.45E-07	1.28E-05	9.45E-06	5.01E-06	4.63E-04	9.36E-07	0.00E+00
INFANT	2.79E-06	3.45E-07	2.20E-05	1.92E-05	8.37E-06	1.13E-03	1.69E-06	0.00E+00
INHAL								
ADULT	4.61E-08	9.38E-08	9.36E-08	1.07E-07	1.62E-07	1.74E-05	4.45E-07	0.00E+00
TEEN	5.52E-08	1.27E-07	1.32E-07	1.48E-07	2.24E-07	2.26E-05	6.85E-07	0.00E+00
CHILD	5.83E-08	3.20E-07	1.80E-07	1.45E-07	2.10E-07	2.78E-05	5.74E-07	0.00E+00
INFANT	4.06E-08	2.60E-07	1.32E-07	1.32E-07	1.39E-07	2.56E-05	4.33E-07	0.00E+00

C11

TABLE 1. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-MARCH 2021 (Continued)

SPECIAL LOCATION NO. 4A Nearest Cow
AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 8.15E-06 MILLRADS
ANNUAL GAMMA AIR DOSE = 1.64E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.10E-05	1.10E-05	1.10E-05	1.10E-05	1.10E-05	1.10E-05	1.11E-05	1.99E-05
GROUND	4.07E-07	4.07E-07	4.07E-07	4.07E-07	4.07E-07	4.07E-07	4.07E-07	4.77E-07
VEGET								
ADULT	8.30E-08	1.09E-07	4.29E-07	1.13E-07	8.01E-08	9.91E-06	8.79E-09	0.00E+00
TEEN	9.17E-08	1.25E-07	7.09E-07	1.77E-07	1.23E-07	1.33E-05	1.65E-08	0.00E+00
CHILD	1.30E-07	9.25E-08	1.73E-06	3.01E-07	1.98E-07	2.55E-05	2.50E-08	0.00E+00
MEAT								
ADULT	5.85E-09	1.05E-08	8.62E-09	7.70E-09	3.55E-09	2.63E-07	7.18E-10	0.00E+00
TEEN	3.11E-09	5.72E-09	7.20E-09	6.21E-09	2.88E-09	1.91E-07	6.79E-10	0.00E+00
CHILD	3.04E-09	2.94E-09	1.34E-08	8.17E-09	3.66E-09	2.88E-07	7.98E-10	0.00E+00
COW MILK								
ADULT	4.93E-08	1.37E-08	7.25E-08	7.83E-08	6.01E-08	7.58E-06	6.07E-09	0.00E+00
TEEN	5.67E-08	1.82E-08	1.32E-07	1.38E-07	1.07E-07	1.20E-05	1.26E-08	0.00E+00
CHILD	6.89E-08	1.45E-08	3.20E-07	2.40E-07	1.78E-07	2.39E-05	1.93E-08	0.00E+00
INFANT	1.07E-07	1.43E-08	5.71E-07	5.07E-07	3.02E-07	5.82E-05	3.49E-08	0.00E+00
GOATMILK								
ADULT	1.23E-07	1.83E-08	1.73E-07	1.91E-07	1.05E-07	9.09E-06	1.82E-08	0.00E+00
TEEN	1.28E-07	2.48E-08	3.14E-07	3.37E-07	1.86E-07	1.44E-05	3.77E-08	0.00E+00
CHILD	1.27E-07	2.00E-08	7.61E-07	5.84E-07	3.10E-07	2.87E-05	5.79E-08	0.00E+00
INFANT	1.71E-07	2.00E-08	1.31E-06	1.19E-06	5.18E-07	6.98E-05	1.05E-07	0.00E+00
INHAL								
ADULT	7.50E-09	1.64E-08	1.46E-08	1.73E-08	2.61E-08	2.84E-06	7.04E-08	0.00E+00
TEEN	8.95E-09	3.57E-08	2.06E-08	2.38E-08	3.61E-08	3.69E-06	1.10E-07	0.00E+00
CHILD	9.39E-09	1.96E-07	2.81E-08	2.34E-08	3.39E-08	4.52E-06	9.34E-08	0.00E+00
INFANT	6.55E-09	1.69E-07	2.07E-08	2.12E-08	2.23E-08	4.16E-06	7.48E-08	0.00E+00

C12

TABLE 1. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-MARCH 2021 (Continued)

SPECIAL LOCATION NO. 5A Nearest Garden
 AT 2.80 MILES NNW

ANNUAL BETA AIR DOSE = 8.89E-06 MILLRADS
 ANNUAL GAMMA AIR DOSE = 1.79E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.20E-05	1.20E-05	1.20E-05	1.20E-05	1.20E-05	1.20E-05	1.21E-05	2.17E-05
GROUND	6.60E-07	6.60E-07	6.60E-07	6.60E-07	6.60E-07	6.60E-07	6.60E-07	7.75E-07
VEGET								
ADULT	1.32E-07	1.78E-07	6.97E-07	1.78E-07	1.26E-07	1.56E-05	1.38E-08	0.00E+00
TEEN	1.46E-07	2.05E-07	1.15E-06	2.79E-07	1.93E-07	2.09E-05	2.59E-08	0.00E+00
CHILD	2.09E-07	1.51E-07	2.80E-06	4.74E-07	3.12E-07	4.00E-05	3.95E-08	0.00E+00
MEAT								
ADULT	9.30E-09	1.73E-08	1.38E-08	1.22E-08	5.58E-09	4.13E-07	1.13E-09	0.00E+00
TEEN	4.97E-09	9.39E-09	1.15E-08	9.81E-09	4.53E-09	2.99E-07	1.07E-09	0.00E+00
CHILD	4.89E-09	4.83E-09	2.15E-08	1.29E-08	5.75E-09	4.52E-07	1.26E-09	0.00E+00
COW MILK								
ADULT	7.77E-08	2.18E-08	1.15E-07	1.23E-07	9.45E-08	1.19E-05	9.57E-09	0.00E+00
TEEN	8.93E-08	2.91E-08	2.10E-07	2.18E-07	1.68E-07	1.89E-05	1.98E-08	0.00E+00
CHILD	1.09E-07	2.31E-08	5.09E-07	3.79E-07	2.80E-07	3.76E-05	3.04E-08	0.00E+00
INFANT	1.69E-07	2.28E-08	9.07E-07	7.98E-07	4.75E-07	9.15E-05	5.50E-08	0.00E+00
GOATMILK								
ADULT	1.94E-07	2.91E-08	2.74E-07	3.00E-07	1.65E-07	1.43E-05	2.87E-08	0.00E+00
TEEN	2.01E-07	3.95E-08	4.98E-07	5.30E-07	2.93E-07	2.27E-05	5.93E-08	0.00E+00
CHILD	2.01E-07	3.19E-08	1.21E-06	9.20E-07	4.88E-07	4.52E-05	9.12E-08	0.00E+00
INFANT	2.70E-07	3.19E-08	2.08E-06	1.87E-06	8.15E-07	1.10E-04	1.65E-07	0.00E+00
INHAL								
ADULT	1.07E-08	2.28E-08	2.10E-08	2.46E-08	3.71E-08	4.03E-06	1.00E-07	0.00E+00
TEEN	1.27E-08	4.42E-08	2.96E-08	3.39E-08	5.14E-08	5.24E-06	1.57E-07	0.00E+00
CHILD	1.34E-08	2.16E-07	4.04E-08	3.34E-08	4.83E-08	6.43E-06	1.32E-07	0.00E+00
INFANT	9.33E-09	1.86E-07	2.97E-08	3.02E-08	3.18E-08	5.91E-06	1.04E-07	0.00E+00

C13

TABLE 2. DOSES TO MAXIMUM INDIVIDUAL (MREM), APRIL-JUNE 2021

SPECIAL LOCATION NO. 1A Site Boundary
 AT .67 MILES N

ANNUAL BETA AIR DOSE = 4.95E-05 MILLRADS
 ANNUAL GAMMA AIR DOSE = 8.01E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	5.38E-05	5.38E-05	5.38E-05	5.38E-05	5.38E-05	5.38E-05	5.43E-05	1.06E-04
GROUND	2.61E-04	2.61E-04	2.61E-04	2.61E-04	2.61E-04	2.61E-04	2.61E-04	3.06E-04
VEGET								
ADULT	1.90E-05	4.35E-05	3.52E-04	1.51E-05	1.07E-05	1.44E-03	1.00E-06	0.00E+00
TEEN	2.40E-05	4.82E-05	4.88E-04	2.35E-05	1.64E-05	1.93E-03	1.88E-06	0.00E+00
CHILD	4.18E-05	3.36E-05	1.02E-03	3.96E-05	2.64E-05	3.69E-03	2.86E-06	0.00E+00
MEAT								
ADULT	1.62E-06	8.64E-06	4.66E-06	1.29E-06	4.46E-07	3.81E-05	8.20E-08	0.00E+00
TEEN	1.10E-06	4.66E-06	3.33E-06	1.03E-06	3.63E-07	2.76E-05	7.76E-08	0.00E+00
CHILD	1.50E-06	2.37E-06	5.44E-06	1.32E-06	4.61E-07	4.17E-05	9.12E-08	0.00E+00
COW MILK								
ADULT	6.50E-06	3.60E-06	2.23E-05	9.80E-06	8.18E-06	1.10E-03	6.94E-07	0.00E+00
TEEN	7.88E-06	4.57E-06	3.60E-05	1.73E-05	1.46E-05	1.75E-03	1.43E-06	0.00E+00
CHILD	1.06E-05	3.41E-06	7.95E-05	3.01E-05	2.42E-05	3.48E-03	2.20E-06	0.00E+00
INFANT	1.65E-05	3.24E-06	1.11E-04	6.42E-05	4.14E-05	8.46E-03	3.99E-06	0.00E+00
GOATMILK								
ADULT	1.51E-05	2.97E-06	4.87E-05	2.27E-05	1.36E-05	1.32E-03	2.08E-06	0.00E+00
TEEN	1.63E-05	4.01E-06	7.90E-05	4.01E-05	2.41E-05	2.10E-03	4.30E-06	0.00E+00
CHILD	1.78E-05	3.23E-06	1.75E-04	6.96E-05	4.01E-05	4.18E-03	6.61E-06	0.00E+00
INFANT	2.42E-05	3.21E-06	2.40E-04	1.42E-04	6.73E-05	1.02E-02	1.20E-05	0.00E+00
INHAL								
ADULT	4.33E-07	2.19E-06	2.92E-06	8.61E-07	1.28E-06	1.39E-04	1.72E-05	0.00E+00
TEEN	5.22E-07	8.69E-06	3.51E-06	1.19E-06	1.77E-06	1.80E-04	2.65E-05	0.00E+00
CHILD	5.59E-07	6.78E-05	4.24E-06	1.17E-06	1.67E-06	2.21E-04	2.22E-05	0.00E+00
INFANT	3.67E-07	5.96E-05	2.11E-06	1.05E-06	1.10E-06	2.03E-04	1.71E-05	0.00E+00

TABLE 2. DOSES TO MAXIMUM INDIVIDUAL (MREM), APRIL-JUNE 2021 (Continued)

SPECIAL LOCATION NO. 2A Site Boundary
 AT .54 MILES ESE

ANNUAL BETA AIR DOSE = 1.32E-06 MILLRADS
 ANNUAL GAMMA AIR DOSE = 2.14E-06 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.43E-06	1.43E-06	1.43E-06	1.43E-06	1.43E-06	1.43E-06	1.45E-06	2.83E-06
GROUND	9.04E-05	9.04E-05	9.04E-05	9.04E-05	9.04E-05	9.04E-05	9.04E-05	1.06E-04
VEGET								
ADULT	6.51E-06	1.50E-05	1.21E-04	5.08E-06	3.45E-06	4.47E-04	3.50E-07	0.00E+00
TEEN	8.18E-06	1.66E-05	1.69E-04	7.94E-06	5.27E-06	6.00E-04	6.56E-07	0.00E+00
CHILD	1.42E-05	1.16E-05	3.50E-04	1.34E-05	8.53E-06	1.15E-03	9.98E-07	0.00E+00
MEAT								
ADULT	5.61E-07	3.00E-06	1.61E-06	4.46E-07	1.48E-07	1.19E-05	2.86E-08	0.00E+00
TEEN	3.81E-07	1.62E-06	1.15E-06	3.56E-07	1.20E-07	8.59E-06	2.71E-08	0.00E+00
CHILD	5.20E-07	8.21E-07	1.88E-06	4.55E-07	1.53E-07	1.30E-05	3.18E-08	0.00E+00
COW MILK								
ADULT	2.19E-06	1.20E-06	7.64E-06	3.28E-06	2.62E-06	3.43E-04	2.42E-07	0.00E+00
TEEN	2.62E-06	1.52E-06	1.23E-05	5.80E-06	4.67E-06	5.44E-04	5.00E-07	0.00E+00
CHILD	3.46E-06	1.13E-06	2.71E-05	1.01E-05	7.76E-06	1.08E-03	7.69E-07	0.00E+00
INFANT	5.32E-06	1.07E-06	3.74E-05	2.14E-05	1.32E-05	2.63E-03	1.39E-06	0.00E+00
GOATMILK								
ADULT	5.18E-06	9.73E-07	1.68E-05	7.76E-06	4.46E-06	4.11E-04	7.26E-07	0.00E+00
TEEN	5.53E-06	1.31E-06	2.72E-05	1.37E-05	7.92E-06	6.52E-04	1.50E-06	0.00E+00
CHILD	5.93E-06	1.05E-06	6.01E-05	2.38E-05	1.32E-05	1.30E-03	2.31E-06	0.00E+00
INFANT	7.91E-06	1.05E-06	8.21E-05	4.85E-05	2.21E-05	3.16E-03	4.17E-06	0.00E+00
INHAL								
ADULT	2.88E-07	1.49E-06	1.99E-06	5.69E-07	8.50E-07	9.27E-05	1.18E-05	0.00E+00
TEEN	3.46E-07	5.94E-06	2.39E-06	7.84E-07	1.18E-06	1.20E-04	1.82E-05	0.00E+00
CHILD	3.69E-07	4.64E-05	2.89E-06	7.71E-07	1.10E-06	1.48E-04	1.53E-05	0.00E+00
INFANT	2.41E-07	4.08E-05	1.43E-06	6.96E-07	7.29E-07	1.36E-04	1.17E-05	0.00E+00

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TABLE 2. DOSES TO MAXIMUM INDIVIDUAL (MREM), APRIL-JUNE 2021 (Continued)

SPECIAL LOCATION NO. 3A Nearest Resident
 AT .90 MILES NW

ANNUAL BETA AIR DOSE = 1.69E-04 MILLRADS
 ANNUAL GAMMA AIR DOSE = 2.74E-04 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.84E-04	1.84E-04	1.84E-04	1.84E-04	1.84E-04	1.84E-04	1.85E-04	3.62E-04
GROUND	6.15E-05	6.15E-05	6.15E-05	6.15E-05	6.15E-05	6.15E-05	6.15E-05	7.23E-05
VEGET								
ADULT	4.64E-06	1.05E-05	8.39E-05	3.80E-06	2.99E-06	4.28E-04	2.33E-07	0.00E+00
TEEN	5.89E-06	1.16E-05	1.17E-04	5.90E-06	4.55E-06	5.73E-04	4.37E-07	0.00E+00
CHILD	1.03E-05	8.12E-06	2.43E-04	9.95E-06	7.35E-06	1.10E-03	6.65E-07	0.00E+00
MEAT								
ADULT	3.84E-07	2.03E-06	1.11E-06	3.10E-07	1.17E-07	1.13E-05	1.91E-08	0.00E+00
TEEN	2.62E-07	1.10E-06	7.95E-07	2.47E-07	9.51E-08	8.21E-06	1.80E-08	0.00E+00
CHILD	3.58E-07	5.57E-07	1.30E-06	3.16E-07	1.21E-07	1.24E-05	2.12E-08	0.00E+00
COW MILK								
ADULT	1.64E-06	9.28E-07	5.43E-06	2.51E-06	2.30E-06	3.28E-04	1.61E-07	0.00E+00
TEEN	2.05E-06	1.19E-06	8.82E-06	4.44E-06	4.10E-06	5.20E-04	3.34E-07	0.00E+00
CHILD	2.87E-06	8.94E-07	1.95E-05	7.72E-06	6.82E-06	1.04E-03	5.13E-07	0.00E+00
INFANT	4.61E-06	8.61E-07	2.77E-05	1.67E-05	1.17E-05	2.52E-03	9.27E-07	0.00E+00
GOATMILK								
ADULT	3.67E-06	8.01E-07	1.17E-05	5.56E-06	3.64E-06	3.93E-04	4.84E-07	0.00E+00
TEEN	4.05E-06	1.08E-06	1.90E-05	9.83E-06	6.46E-06	6.24E-04	1.00E-06	0.00E+00
CHILD	4.63E-06	8.76E-07	4.22E-05	1.71E-05	1.07E-05	1.24E-03	1.54E-06	0.00E+00
INFANT	6.56E-06	8.74E-07	5.87E-05	3.53E-05	1.81E-05	3.02E-03	2.78E-06	0.00E+00
INHAL								
ADULT	1.25E-07	5.25E-07	6.63E-07	2.56E-07	3.61E-07	3.48E-05	3.73E-06	0.00E+00
TEEN	1.56E-07	2.00E-06	8.07E-07	3.53E-07	4.99E-07	4.53E-05	5.77E-06	0.00E+00
CHILD	1.74E-07	1.54E-05	9.84E-07	3.46E-07	4.68E-07	5.56E-05	4.85E-06	0.00E+00
INFANT	1.17E-07	1.35E-05	5.11E-07	3.15E-07	3.08E-07	5.11E-05	3.76E-06	0.00E+00

TABLE 2. DOSES TO MAXIMUM INDIVIDUAL (MREM) , APRIL-JUNE 2021 (Continued)

SPECIAL LOCATION NO. 4A Nearest Cow
 AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 7.42E-05 MILLRADS
 ANNUAL GAMMA AIR DOSE = 1.20E-04 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	8.06E-05	8.06E-05	8.06E-05	8.06E-05	8.06E-05	8.06E-05	8.14E-05	1.59E-04
GROUND	4.08E-06	4.08E-06	4.08E-06	4.08E-06	4.08E-06	4.08E-06	4.08E-06	4.80E-06
VEGET								
ADULT	3.24E-07	7.14E-07	5.67E-06	2.77E-07	2.45E-07	3.73E-05	1.52E-08	0.00E+00
TEEN	4.15E-07	7.94E-07	7.91E-06	4.28E-07	3.72E-07	4.99E-05	2.84E-08	0.00E+00
CHILD	7.32E-07	5.58E-07	1.66E-05	7.22E-07	6.00E-07	9.56E-05	4.32E-08	0.00E+00
MEAT								
ADULT	2.57E-08	1.34E-07	7.48E-08	2.11E-08	8.95E-09	9.88E-07	1.24E-09	0.00E+00
TEEN	1.76E-08	7.26E-08	5.37E-08	1.68E-08	7.28E-09	7.15E-07	1.17E-09	0.00E+00
CHILD	2.41E-08	3.68E-08	8.82E-08	2.15E-08	9.24E-09	1.08E-06	1.38E-09	0.00E+00
COW MILK								
ADULT	1.20E-07	6.93E-08	3.78E-07	1.87E-07	1.90E-07	2.85E-05	1.05E-08	0.00E+00
TEEN	1.55E-07	8.93E-08	6.17E-07	3.31E-07	3.38E-07	4.53E-05	2.17E-08	0.00E+00
CHILD	2.28E-07	6.81E-08	1.37E-06	5.74E-07	5.62E-07	9.03E-05	3.33E-08	0.00E+00
INFANT	3.77E-07	6.65E-08	2.00E-06	1.26E-06	9.67E-07	2.19E-04	6.03E-08	0.00E+00
GOATMILK								
ADULT	2.54E-07	6.30E-08	7.98E-07	3.90E-07	2.84E-07	3.43E-05	3.15E-08	0.00E+00
TEEN	2.90E-07	8.55E-08	1.30E-06	6.88E-07	5.06E-07	5.44E-05	6.50E-08	0.00E+00
CHILD	3.51E-07	6.93E-08	2.90E-06	1.20E-06	8.41E-07	1.08E-04	9.99E-08	0.00E+00
INFANT	5.20E-07	6.92E-08	4.11E-06	2.50E-06	1.43E-06	2.63E-04	1.81E-07	0.00E+00
INHAL								
ADULT	2.05E-08	4.53E-08	5.96E-08	4.40E-08	5.66E-08	4.26E-06	2.30E-07	0.00E+00
TEEN	2.70E-08	1.11E-07	7.53E-08	6.05E-08	7.79E-08	5.56E-06	3.52E-07	0.00E+00
CHILD	3.18E-08	6.56E-07	9.47E-08	5.91E-08	7.28E-08	6.84E-06	2.94E-07	0.00E+00
INFANT	2.22E-08	5.85E-07	5.69E-08	5.43E-08	4.78E-08	6.27E-06	2.19E-07	0.00E+00

TABLE 2. DOSES TO MAXIMUM INDIVIDUAL (MREM), APRIL-JUNE 2021 (Continued)

SPECIAL LOCATION NO. 5A Nearest Garden
 AT 2.30 MILES ESE

ANNUAL BETA AIR DOSE = 8.66E-06 MILLRADS
 ANNUAL GAMMA AIR DOSE = 1.40E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	9.41E-06	9.41E-06	9.41E-06	9.41E-06	9.41E-06	9.41E-06	9.50E-06	1.86E-05
GROUND	3.06E-06	3.06E-06	3.06E-06	3.06E-06	3.06E-06	3.06E-06	3.06E-06	3.59E-06
VEGET								
ADULT	2.28E-07	5.17E-07	4.16E-06	1.85E-07	1.41E-07	1.97E-05	1.17E-08	0.00E+00
TEEN	2.89E-07	5.74E-07	5.78E-06	2.87E-07	2.14E-07	2.65E-05	2.19E-08	0.00E+00
CHILD	5.06E-07	4.01E-07	1.20E-05	4.85E-07	3.46E-07	5.07E-05	3.33E-08	0.00E+00
MEAT								
ADULT	1.91E-08	1.01E-07	5.50E-08	1.53E-08	5.62E-09	5.23E-07	9.53E-10	0.00E+00
TEEN	1.30E-08	5.46E-08	3.94E-08	1.22E-08	4.57E-09	3.79E-07	9.02E-10	0.00E+00
CHILD	1.78E-08	2.77E-08	6.45E-08	1.57E-08	5.80E-09	5.72E-07	1.06E-09	0.00E+00
COW MILK								
ADULT	7.98E-08	4.47E-08	2.67E-07	1.21E-07	1.08E-07	1.51E-05	8.07E-09	0.00E+00
TEEN	9.86E-08	5.71E-08	4.33E-07	2.15E-07	1.92E-07	2.40E-05	1.67E-08	0.00E+00
CHILD	1.36E-07	4.28E-08	9.58E-07	3.73E-07	3.20E-07	4.78E-05	2.56E-08	0.00E+00
INFANT	2.17E-07	4.10E-08	1.35E-06	8.03E-07	5.47E-07	1.16E-04	4.64E-08	0.00E+00
GOATMILK								
ADULT	1.81E-07	3.80E-08	5.78E-07	2.73E-07	1.73E-07	1.81E-05	2.42E-08	0.00E+00
TEEN	1.98E-07	5.14E-08	9.40E-07	4.82E-07	3.08E-07	2.88E-05	5.00E-08	0.00E+00
CHILD	2.23E-07	4.14E-08	2.08E-06	8.37E-07	5.12E-07	5.74E-05	7.69E-08	0.00E+00
INFANT	3.11E-07	4.13E-08	2.89E-06	1.72E-06	8.62E-07	1.39E-04	1.39E-07	0.00E+00
INHAL								
ADULT	1.53E-08	5.69E-08	9.53E-08	3.08E-08	4.50E-08	4.72E-06	4.87E-07	0.00E+00
TEEN	1.87E-08	1.71E-07	1.15E-07	4.24E-08	6.22E-08	6.12E-06	7.40E-07	0.00E+00
CHILD	2.03E-08	1.20E-06	1.39E-07	4.16E-08	5.84E-08	7.51E-06	6.15E-07	0.00E+00
INFANT	1.35E-08	1.05E-06	7.02E-08	3.77E-08	3.85E-08	6.90E-06	4.48E-07	0.00E+00

TABLE 3. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-JUNE 2021

SPECIAL LOCATION NO. 1A Site Boundary
AT .69 MILES NNW

ANNUAL BETA AIR DOSE = 4.28E-05 MILLRADS
ANNUAL GAMMA AIR DOSE = 7.19E-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	4.87E-05	9.37E-05
GROUND	1.81E-04	1.81E-04	1.81E-04	1.81E-04	1.81E-04	1.81E-04	1.81E-04	2.13E-04
VEGET								
ADULT	1.57E-05	3.28E-05	2.37E-04	1.46E-05	1.02E-05	1.32E-03	1.04E-06	0.00E+00
TEEN	1.92E-05	3.66E-05	3.36E-04	2.28E-05	1.57E-05	1.77E-03	1.95E-06	0.00E+00
CHILD	3.21E-05	2.58E-05	7.13E-04	3.86E-05	2.53E-05	3.39E-03	2.96E-06	0.00E+00
MEAT								
ADULT	1.28E-06	5.86E-06	3.27E-06	1.17E-06	4.39E-07	3.50E-05	8.49E-08	0.00E+00
TEEN	8.29E-07	3.17E-06	2.39E-06	9.32E-07	3.57E-07	2.53E-05	8.03E-08	0.00E+00
CHILD	1.08E-06	1.61E-06	4.00E-06	1.20E-06	4.53E-07	3.82E-05	9.44E-08	0.00E+00
COW MILK								
ADULT	6.32E-06	2.89E-06	1.72E-05	9.70E-06	7.78E-06	1.01E-03	7.18E-07	0.00E+00
TEEN	7.49E-06	3.72E-06	2.85E-05	1.72E-05	1.38E-05	1.61E-03	1.48E-06	0.00E+00
CHILD	9.69E-06	2.81E-06	6.43E-05	2.98E-05	2.30E-05	3.20E-03	2.28E-06	0.00E+00
INFANT	1.50E-05	2.70E-06	9.59E-05	6.32E-05	3.92E-05	7.78E-03	4.13E-06	0.00E+00
GOATMILK								
ADULT	1.51E-05	2.74E-06	3.82E-05	2.30E-05	1.32E-05	1.21E-03	2.16E-06	0.00E+00
TEEN	1.61E-05	3.71E-06	6.37E-05	4.07E-05	2.35E-05	1.93E-03	4.45E-06	0.00E+00
CHILD	1.69E-05	2.99E-06	1.44E-04	7.06E-05	3.90E-05	3.84E-03	6.85E-06	0.00E+00
INFANT	2.29E-05	2.98E-06	2.12E-04	1.44E-04	6.54E-05	9.34E-03	1.24E-05	0.00E+00
INHAL								
ADULT	4.53E-07	1.82E-06	2.32E-06	9.59E-07	1.44E-06	1.54E-04	1.33E-05	0.00E+00
TEEN	5.46E-07	6.33E-06	2.87E-06	1.32E-06	1.99E-06	2.00E-04	2.05E-05	0.00E+00
CHILD	5.83E-07	4.70E-05	3.53E-06	1.30E-06	1.87E-06	2.46E-04	1.72E-05	0.00E+00
INFANT	3.91E-07	4.12E-05	1.90E-06	1.18E-06	1.23E-06	2.26E-04	1.32E-05	0.00E+00

TABLE 3. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-JUNE 2021 (Continued)

SPECIAL LOCATION NO. 2A Site Boundary
 AT .67 MILES N

ANNUAL BETA AIR DOSE = 3.45E-05 MILLRADS
 ANNUAL GAMMA AIR DOSE = 5.80E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	3.89E-05	3.89E-05	3.89E-05	3.89E-05	3.89E-05	3.89E-05	3.93E-05	7.56E-05
GROUND	2.16E-04	2.16E-04	2.16E-04	2.16E-04	2.16E-04	2.16E-04	2.16E-04	2.54E-04
VEGET								
ADULT	1.88E-05	3.92E-05	2.83E-04	1.76E-05	1.24E-05	1.61E-03	1.25E-06	0.00E+00
TEEN	2.30E-05	4.38E-05	4.01E-04	2.75E-05	1.90E-05	2.15E-03	2.34E-06	0.00E+00
CHILD	3.85E-05	3.09E-05	8.52E-04	4.65E-05	3.07E-05	4.12E-03	3.56E-06	0.00E+00
MEAT								
ADULT	1.53E-06	7.00E-06	3.91E-06	1.40E-06	5.31E-07	4.25E-05	1.02E-07	0.00E+00
TEEN	9.93E-07	3.78E-06	2.87E-06	1.12E-06	4.31E-07	3.08E-05	9.66E-08	0.00E+00
CHILD	1.29E-06	1.92E-06	4.79E-06	1.45E-06	5.47E-07	4.65E-05	1.14E-07	0.00E+00
COW MILK								
ADULT	7.63E-06	3.48E-06	2.06E-05	1.17E-05	9.43E-06	1.23E-03	8.64E-07	0.00E+00
TEEN	9.05E-06	4.47E-06	3.42E-05	2.07E-05	1.68E-05	1.95E-03	1.79E-06	0.00E+00
CHILD	1.17E-05	3.39E-06	7.72E-05	3.60E-05	2.79E-05	3.90E-03	2.74E-06	0.00E+00
INFANT	1.82E-05	3.26E-06	1.15E-04	7.63E-05	4.76E-05	9.47E-03	4.97E-06	0.00E+00
GOATMILK								
ADULT	1.82E-05	3.31E-06	4.58E-05	2.78E-05	1.60E-05	1.48E-03	2.59E-06	0.00E+00
TEEN	1.94E-05	4.48E-06	7.65E-05	4.90E-05	2.84E-05	2.34E-03	5.36E-06	0.00E+00
CHILD	2.04E-05	3.61E-06	1.73E-04	8.50E-05	4.72E-05	4.68E-03	8.23E-06	0.00E+00
INFANT	2.77E-05	3.60E-06	2.55E-04	1.73E-04	7.92E-05	1.14E-02	1.49E-05	0.00E+00
INHAL								
ADULT	5.30E-07	2.14E-06	2.74E-06	1.12E-06	1.68E-06	1.80E-04	1.57E-05	0.00E+00
TEEN	6.38E-07	7.45E-06	3.38E-06	1.54E-06	2.32E-06	2.34E-04	2.42E-05	0.00E+00
CHILD	6.80E-07	5.54E-05	4.16E-06	1.52E-06	2.18E-06	2.88E-04	2.03E-05	0.00E+00
INFANT	4.56E-07	4.86E-05	2.23E-06	1.37E-06	1.44E-06	2.65E-04	1.55E-05	0.00E+00

C20

TABLE 3. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-JUNE 2021 (Continued)

SPECIAL LOCATION NO. 3A Nearest Resident
 AT .90 MILES NW

ANNUAL BETA AIR DOSE = 1.41E-04 MILLRADS
 ANNUAL GAMMA AIR DOSE = 2.37E-04 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.59E-04	1.59E-04	1.59E-04	1.59E-04	1.59E-04	1.59E-04	1.60E-04	3.09E-04
GROUND	6.39E-05	6.39E-05	6.39E-05	6.39E-05	6.39E-05	6.39E-05	6.39E-05	7.52E-05
VEGET								
ADULT	5.86E-06	1.17E-05	8.42E-05	5.67E-06	4.19E-06	5.58E-04	3.93E-07	0.00E+00
TEEN	7.13E-06	1.31E-05	1.20E-04	8.85E-06	6.40E-06	7.48E-04	7.37E-07	0.00E+00
CHILD	1.19E-05	9.26E-06	2.55E-04	1.50E-05	1.03E-05	1.43E-03	1.12E-06	0.00E+00
MEAT								
ADULT	4.67E-07	2.06E-06	1.17E-06	4.37E-07	1.75E-07	1.48E-05	3.21E-08	0.00E+00
TEEN	3.00E-07	1.11E-06	8.63E-07	3.50E-07	1.42E-07	1.07E-05	3.04E-08	0.00E+00
CHILD	3.85E-07	5.64E-07	1.45E-06	4.53E-07	1.80E-07	1.62E-05	3.57E-08	0.00E+00
COW MILK								
ADULT	2.46E-06	1.10E-06	6.34E-06	3.82E-06	3.19E-06	4.28E-04	2.72E-07	0.00E+00
TEEN	2.95E-06	1.42E-06	1.06E-05	6.75E-06	5.68E-06	6.79E-04	5.62E-07	0.00E+00
CHILD	3.89E-06	1.08E-06	2.40E-05	1.17E-05	9.44E-06	1.35E-03	8.64E-07	0.00E+00
INFANT	6.12E-06	1.05E-06	3.64E-05	2.50E-05	1.61E-05	3.29E-03	1.56E-06	0.00E+00
GOATMILK								
ADULT	5.81E-06	1.08E-06	1.40E-05	8.89E-06	5.30E-06	5.13E-04	8.16E-07	0.00E+00
TEEN	6.22E-06	1.46E-06	2.35E-05	1.57E-05	9.41E-06	8.15E-04	1.69E-06	0.00E+00
CHILD	6.66E-06	1.18E-06	5.36E-05	2.72E-05	1.56E-05	1.62E-03	2.59E-06	0.00E+00
INFANT	9.17E-06	1.17E-06	7.95E-05	5.57E-05	2.63E-05	3.95E-03	4.69E-06	0.00E+00
INHAL								
ADULT	1.60E-07	5.83E-07	7.15E-07	3.42E-07	4.99E-07	5.08E-05	3.96E-06	0.00E+00
TEEN	1.96E-07	2.00E-06	8.88E-07	4.71E-07	6.90E-07	6.61E-05	6.12E-06	0.00E+00
CHILD	2.14E-07	1.47E-05	1.10E-06	4.62E-07	6.48E-07	8.13E-05	5.14E-06	0.00E+00
INFANT	1.45E-07	1.29E-05	6.10E-07	4.20E-07	4.27E-07	7.48E-05	3.97E-06	0.00E+00

TABLE 3. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-JUNE 2021 (Continued)

SPECIAL LOCATION NO. 4A Nearest Cow
AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 7.30E-05 MILLRADS
ANNUAL GAMMA AIR DOSE = 1.23E-04 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	8.22E-05	8.22E-05	8.22E-05	8.22E-05	8.22E-05	8.22E-05	8.29E-05	1.60E-04
GROUND	3.69E-06	3.69E-06	3.69E-06	3.69E-06	3.69E-06	3.69E-06	3.69E-06	4.34E-06
VEGET								
ADULT	3.72E-07	6.91E-07	4.92E-06	3.83E-07	3.03E-07	4.20E-05	2.56E-08	0.00E+00
TEEN	4.51E-07	7.74E-07	7.01E-06	5.96E-07	4.61E-07	5.63E-05	4.79E-08	0.00E+00
CHILD	7.43E-07	5.50E-07	1.50E-05	1.01E-06	7.45E-07	1.08E-04	7.29E-08	0.00E+00
MEAT								
ADULT	2.85E-08	1.17E-07	6.98E-08	2.80E-08	1.22E-08	1.12E-06	2.09E-09	0.00E+00
TEEN	1.81E-08	6.33E-08	5.16E-08	2.25E-08	9.89E-09	8.08E-07	1.98E-09	0.00E+00
CHILD	2.28E-08	3.22E-08	8.71E-08	2.91E-08	1.25E-08	1.22E-06	2.32E-09	0.00E+00
COW MILK								
ADULT	1.67E-07	7.14E-08	3.96E-07	2.62E-07	2.31E-07	3.22E-05	1.77E-08	0.00E+00
TEEN	2.03E-07	9.29E-08	6.66E-07	4.62E-07	4.11E-07	5.10E-05	3.65E-08	0.00E+00
CHILD	2.73E-07	7.15E-08	1.52E-06	8.03E-07	6.83E-07	1.02E-04	5.61E-08	0.00E+00
INFANT	4.39E-07	6.98E-08	2.36E-06	1.73E-06	1.17E-06	2.47E-04	1.02E-07	0.00E+00
GOATMILK								
ADULT	3.86E-07	7.32E-08	8.71E-07	5.94E-07	3.72E-07	3.86E-05	5.30E-08	0.00E+00
TEEN	4.18E-07	9.93E-08	1.47E-06	1.05E-06	6.62E-07	6.12E-05	1.10E-07	0.00E+00
CHILD	4.58E-07	8.03E-08	3.36E-06	1.82E-06	1.10E-06	1.22E-04	1.68E-07	0.00E+00
INFANT	6.46E-07	8.01E-08	5.09E-06	3.75E-06	1.85E-06	2.96E-04	3.05E-07	0.00E+00
INHAL								
ADULT	2.70E-08	6.63E-08	8.53E-08	5.84E-08	7.99E-08	7.18E-06	3.74E-07	0.00E+00
TEEN	3.44E-08	1.73E-07	1.08E-07	8.04E-08	1.10E-07	9.33E-06	5.74E-07	0.00E+00
CHILD	3.89E-08	1.08E-06	1.37E-07	7.88E-08	1.03E-07	1.15E-05	4.80E-07	0.00E+00
INFANT	2.70E-08	9.54E-07	8.18E-08	7.20E-08	6.79E-08	1.05E-05	3.62E-07	0.00E+00

TABLE 3. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-JUNE 2021 (Continued)

SPECIAL LOCATION NO. 5A Nearest Garden
AT 2.80 MILES NNW

ANNUAL BETA AIR DOSE = 8.76E-05 MILLRADS
ANNUAL GAMMA AIR DOSE = 1.47E-04 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	9.87E-05	9.87E-05	9.87E-05	9.87E-05	9.87E-05	9.87E-05	9.95E-05	1.92E-04
GROUND	6.25E-06	6.25E-06	6.25E-06	6.25E-06	6.25E-06	6.25E-06	6.25E-06	7.34E-06
VEGET								
ADULT	6.22E-07	1.17E-06	8.31E-06	6.36E-07	5.00E-07	6.91E-05	4.26E-08	0.00E+00
TEEN	7.55E-07	1.31E-06	1.18E-05	9.91E-07	7.62E-07	9.26E-05	7.99E-08	0.00E+00
CHILD	1.25E-06	9.27E-07	2.53E-05	1.68E-06	1.23E-06	1.77E-04	1.22E-07	0.00E+00
MEAT								
ADULT	4.80E-08	1.98E-07	1.18E-07	4.68E-08	2.01E-08	1.83E-06	3.48E-09	0.00E+00
TEEN	3.04E-08	1.07E-07	8.70E-08	3.75E-08	1.64E-08	1.33E-06	3.30E-09	0.00E+00
CHILD	3.85E-08	5.45E-08	1.47E-07	4.87E-08	2.08E-08	2.00E-06	3.87E-09	0.00E+00
COW MILK								
ADULT	2.77E-07	1.19E-07	6.64E-07	4.34E-07	3.81E-07	5.29E-05	2.95E-08	0.00E+00
TEEN	3.37E-07	1.55E-07	1.12E-06	7.68E-07	6.79E-07	8.39E-05	6.09E-08	0.00E+00
CHILD	4.52E-07	1.19E-07	2.55E-06	1.33E-06	1.13E-06	1.67E-04	9.37E-08	0.00E+00
INFANT	7.25E-07	1.16E-07	3.95E-06	2.86E-06	1.93E-06	4.06E-04	1.69E-07	0.00E+00
GOATMILK								
ADULT	6.42E-07	1.22E-07	1.46E-06	9.88E-07	6.17E-07	6.35E-05	8.85E-08	0.00E+00
TEEN	6.95E-07	1.65E-07	2.46E-06	1.75E-06	1.10E-06	1.01E-04	1.83E-07	0.00E+00
CHILD	7.60E-07	1.34E-07	5.64E-06	3.03E-06	1.82E-06	2.01E-04	2.81E-07	0.00E+00
INFANT	1.07E-06	1.33E-07	8.52E-06	6.23E-06	3.07E-06	4.88E-04	5.08E-07	0.00E+00
INHAL								
ADULT	3.71E-08	9.79E-08	1.25E-07	7.99E-08	1.11E-07	1.02E-05	5.80E-07	0.00E+00
TEEN	4.68E-08	2.71E-07	1.58E-07	1.10E-07	1.53E-07	1.32E-05	8.91E-07	0.00E+00
CHILD	5.27E-08	1.77E-06	1.99E-07	1.08E-07	1.43E-07	1.62E-05	7.47E-07	0.00E+00
INFANT	3.64E-08	1.56E-06	1.17E-07	9.84E-08	9.41E-08	1.49E-05	5.65E-07	0.00E+00

TABLE 4. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 2021

SPECIAL LOCATION NO. 1A Site Boundary
 AT .67 MILES N

ANNUAL BETA AIR DOSE = 3.10E-05 MILLRADS
 ANNUAL GAMMA AIR DOSE = 5.03E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	3.38E-05	3.38E-05	3.38E-05	3.38E-05	3.38E-05	3.38E-05	3.41E-05	6.64E-05
GROUND	3.36E-04	3.36E-04	3.36E-04	3.36E-04	3.36E-04	3.36E-04	3.36E-04	3.95E-04
VEGET								
ADULT	1.25E-05	6.05E-05	8.19E-05	1.30E-05	1.40E-05	2.21E-03	1.43E-08	0.00E+00
TEEN	1.92E-05	6.63E-05	1.35E-04	1.96E-05	2.10E-05	2.97E-03	2.68E-08	0.00E+00
CHILD	3.88E-05	4.55E-05	3.28E-04	3.14E-05	3.32E-05	5.69E-03	4.08E-08	0.00E+00
MEAT								
ADULT	2.17E-06	1.25E-05	1.37E-06	2.36E-06	1.36E-06	5.89E-05	1.17E-09	0.00E+00
TEEN	1.71E-06	6.73E-06	1.08E-06	1.83E-06	1.02E-06	4.27E-05	1.11E-09	0.00E+00
CHILD	2.64E-06	3.40E-06	1.90E-06	2.15E-06	1.19E-06	6.44E-05	1.30E-09	0.00E+00
COW MILK								
ADULT	6.12E-06	8.51E-06	9.19E-06	1.16E-05	1.32E-05	1.68E-03	9.96E-09	0.00E+00
TEEN	1.04E-05	1.02E-05	1.62E-05	1.99E-05	2.29E-05	2.67E-03	2.06E-08	0.00E+00
CHILD	2.01E-05	7.08E-06	3.83E-05	3.23E-05	3.68E-05	5.30E-03	3.17E-08	0.00E+00
INFANT	3.21E-05	2.63E-05	7.26E-05	6.80E-05	6.02E-05	1.29E-02	5.73E-08	0.00E+00
GOATMILK								
ADULT	4.30E-06	3.93E-06	1.23E-05	7.41E-06	1.16E-05	2.02E-03	2.96E-08	0.00E+00
TEEN	7.11E-06	5.20E-06	2.24E-05	1.31E-05	2.06E-05	3.20E-03	6.12E-08	0.00E+00
CHILD	1.34E-05	4.09E-06	5.49E-05	2.25E-05	3.41E-05	6.36E-03	9.41E-08	0.00E+00
INFANT	2.45E-05	6.40E-06	1.07E-04	5.34E-05	5.88E-05	1.55E-02	1.70E-07	0.00E+00
INHAL								
ADULT	5.79E-07	4.89E-06	1.16E-06	1.36E-06	2.20E-06	2.59E-04	3.50E-05	0.00E+00
TEEN	7.74E-07	2.26E-05	1.63E-06	1.87E-06	3.04E-06	3.33E-04	5.47E-05	0.00E+00
CHILD	8.86E-07	1.85E-04	2.23E-06	1.82E-06	2.85E-06	4.03E-04	4.62E-05	0.00E+00
INFANT	6.13E-07	1.63E-04	1.67E-06	1.66E-06	1.87E-06	3.71E-04	3.75E-05	0.00E+00

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TABLE 4. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 2021 (Continued)

SPECIAL LOCATION NO. 2A Site Boundary
 AT .65 MILES SE

ANNUAL BETA AIR DOSE = 5.60E-06 MILLRADS
 ANNUAL GAMMA AIR DOSE = 9.09E-06 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	6.10E-06	6.10E-06	6.10E-06	6.10E-06	6.10E-06	6.10E-06	6.15E-06	1.20E-05
GROUND	8.66E-05	8.66E-05	8.66E-05	8.66E-05	8.66E-05	8.66E-05	8.66E-05	1.02E-04
VEGET								
ADULT	3.21E-06	1.56E-05	2.09E-05	3.29E-06	3.53E-06	5.57E-04	2.49E-09	0.00E+00
TEEN	4.92E-06	1.71E-05	3.45E-05	4.97E-06	5.30E-06	7.49E-04	4.67E-09	0.00E+00
CHILD	9.94E-06	1.17E-05	8.39E-05	7.96E-06	8.39E-06	1.43E-03	7.10E-09	0.00E+00
MEAT								
ADULT	5.59E-07	3.24E-06	3.49E-07	6.07E-07	3.47E-07	1.49E-05	2.03E-10	0.00E+00
TEEN	4.42E-07	1.74E-06	2.76E-07	4.69E-07	2.61E-07	1.08E-05	1.92E-10	0.00E+00
CHILD	6.82E-07	8.79E-07	4.86E-07	5.52E-07	3.05E-07	1.63E-05	2.26E-10	0.00E+00
COW MILK								
ADULT	1.55E-06	2.18E-06	2.33E-06	2.93E-06	3.34E-06	4.23E-04	1.73E-09	0.00E+00
TEEN	2.64E-06	2.62E-06	4.12E-06	5.05E-06	5.77E-06	6.70E-04	3.58E-09	0.00E+00
CHILD	5.12E-06	1.80E-06	9.72E-06	8.19E-06	9.29E-06	1.33E-03	5.51E-09	0.00E+00
INFANT	8.14E-06	6.74E-06	1.84E-05	1.72E-05	1.52E-05	3.24E-03	9.97E-09	0.00E+00
GOATMILK								
ADULT	1.07E-06	9.90E-07	3.11E-06	1.84E-06	2.90E-06	5.08E-04	5.15E-09	0.00E+00
TEEN	1.78E-06	1.31E-06	5.68E-06	3.25E-06	5.15E-06	8.05E-04	1.06E-08	0.00E+00
CHILD	3.36E-06	1.02E-06	1.39E-05	5.60E-06	8.52E-06	1.60E-03	1.64E-08	0.00E+00
INFANT	6.16E-06	1.62E-06	2.72E-05	1.33E-05	1.47E-05	3.88E-03	2.96E-08	0.00E+00
INHAL								
ADULT	4.18E-07	1.81E-06	8.35E-07	9.62E-07	1.55E-06	1.86E-04	1.89E-05	0.00E+00
TEEN	5.58E-07	3.78E-06	1.18E-06	1.32E-06	2.14E-06	2.39E-04	2.82E-05	0.00E+00
CHILD	6.36E-07	2.11E-05	1.61E-06	1.29E-06	2.00E-06	2.88E-04	2.32E-05	0.00E+00
INFANT	4.39E-07	1.83E-05	1.20E-06	1.17E-06	1.32E-06	2.65E-04	1.62E-05	0.00E+00

TABLE 4. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 2021 (Continued)

SPECIAL LOCATION NO. 3A Nearest Resident
 AT .90 MILES NW

ANNUAL BETA AIR DOSE = 1.72E-04 MILLRADS
 ANNUAL GAMMA AIR DOSE = 2.80E-04 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.88E-04	1.88E-04	1.88E-04	1.88E-04	1.88E-04	1.88E-04	1.89E-04	3.69E-04
GROUND	8.05E-05	8.05E-05	8.05E-05	8.05E-05	8.05E-05	8.05E-05	8.05E-05	9.47E-05
VEGET								
ADULT	3.46E-06	1.51E-05	2.34E-05	3.75E-06	4.12E-06	6.53E-04	2.52E-08	0.00E+00
TEEN	5.19E-06	1.66E-05	3.81E-05	5.67E-06	6.19E-06	8.77E-04	4.73E-08	0.00E+00
CHILD	1.03E-05	1.15E-05	9.18E-05	9.16E-06	9.82E-06	1.68E-03	7.19E-08	0.00E+00
MEAT								
ADULT	5.55E-07	3.03E-06	3.98E-07	6.35E-07	3.77E-07	1.74E-05	2.06E-09	0.00E+00
TEEN	4.35E-07	1.63E-06	3.14E-07	4.92E-07	2.85E-07	1.26E-05	1.95E-09	0.00E+00
CHILD	6.66E-07	8.22E-07	5.51E-07	5.80E-07	3.34E-07	1.90E-05	2.29E-09	0.00E+00
COW MILK								
ADULT	1.80E-06	2.25E-06	2.71E-06	3.37E-06	3.82E-06	4.96E-04	1.75E-08	0.00E+00
TEEN	2.98E-06	2.72E-06	4.77E-06	5.81E-06	6.63E-06	7.86E-04	3.62E-08	0.00E+00
CHILD	5.67E-06	1.89E-06	1.13E-05	9.48E-06	1.07E-05	1.56E-03	5.58E-08	0.00E+00
INFANT	9.05E-06	7.04E-06	2.11E-05	2.00E-05	1.76E-05	3.79E-03	1.01E-07	0.00E+00
GOATMILK								
ADULT	1.50E-06	1.10E-06	3.80E-06	2.54E-06	3.52E-06	5.95E-04	5.22E-08	0.00E+00
TEEN	2.30E-06	1.45E-06	6.88E-06	4.49E-06	6.25E-06	9.43E-04	1.08E-07	0.00E+00
CHILD	4.05E-06	1.14E-06	1.67E-05	7.75E-06	1.04E-05	1.87E-03	1.66E-07	0.00E+00
INFANT	7.26E-06	1.76E-06	3.19E-05	1.79E-05	1.78E-05	4.55E-03	3.00E-07	0.00E+00
INHAL								
ADULT	8.25E-08	7.38E-07	1.66E-07	1.92E-07	3.09E-07	3.63E-05	4.63E-06	0.00E+00
TEEN	1.10E-07	3.13E-06	2.33E-07	2.64E-07	4.26E-07	4.67E-05	7.24E-06	0.00E+00
CHILD	1.26E-07	2.48E-05	3.17E-07	2.58E-07	4.00E-07	5.65E-05	6.13E-06	0.00E+00
INFANT	8.71E-08	2.18E-05	2.36E-07	2.35E-07	2.63E-07	5.19E-05	5.00E-06	0.00E+00

TABLE 4. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 2021 (Continued)

SPECIAL LOCATION NO. 4A Nearest Cow
AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 1.55E-05 MILLRADS
ANNUAL GAMMA AIR DOSE = 2.47E-05 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.66E-05	1.66E-05	1.66E-05	1.66E-05	1.66E-05	1.66E-05	1.68E-05	3.19E-05
GROUND	5.27E-06	5.27E-06	5.27E-06	5.27E-06	5.27E-06	5.27E-06	5.27E-06	6.20E-06
VEGET								
ADULT	2.38E-07	1.01E-06	1.63E-06	2.60E-07	2.87E-07	4.54E-05	2.18E-09	0.00E+00
TEEN	3.55E-07	1.11E-06	2.64E-06	3.95E-07	4.31E-07	6.11E-05	4.09E-09	0.00E+00
CHILD	7.01E-07	7.69E-07	6.34E-06	6.39E-07	6.85E-07	1.17E-04	6.22E-09	0.00E+00
MEAT								
ADULT	3.73E-08	2.00E-07	2.79E-08	4.34E-08	2.60E-08	1.21E-06	1.78E-10	0.00E+00
TEEN	2.91E-08	1.07E-07	2.19E-08	3.36E-08	1.96E-08	8.79E-07	1.68E-10	0.00E+00
CHILD	4.45E-08	5.43E-08	3.85E-08	3.97E-08	2.30E-08	1.33E-06	1.98E-10	0.00E+00
COW MILK								
ADULT	1.25E-07	1.53E-07	1.89E-07	2.34E-07	2.65E-07	3.45E-05	1.51E-09	0.00E+00
TEEN	2.07E-07	1.84E-07	3.33E-07	4.04E-07	4.59E-07	5.46E-05	3.13E-09	0.00E+00
CHILD	3.91E-07	1.28E-07	7.85E-07	6.61E-07	7.42E-07	1.08E-04	4.81E-09	0.00E+00
INFANT	6.24E-07	4.80E-07	1.47E-06	1.40E-06	1.22E-06	2.64E-04	8.71E-09	0.00E+00
GOATMILK								
ADULT	1.09E-07	7.49E-08	2.69E-07	1.84E-07	2.47E-07	4.13E-05	4.51E-09	0.00E+00
TEEN	1.64E-07	9.93E-08	4.86E-07	3.25E-07	4.38E-07	6.55E-05	9.31E-09	0.00E+00
CHILD	2.84E-07	7.80E-08	1.18E-06	5.61E-07	7.26E-07	1.30E-04	1.43E-08	0.00E+00
INFANT	5.06E-07	1.20E-07	2.24E-06	1.29E-06	1.25E-06	3.16E-04	2.59E-08	0.00E+00
INHAL								
ADULT	1.40E-08	1.00E-07	2.90E-08	3.20E-08	5.18E-08	6.30E-06	5.39E-07	0.00E+00
TEEN	1.84E-08	2.50E-07	4.04E-08	4.40E-08	7.15E-08	8.08E-06	8.23E-07	0.00E+00
CHILD	2.08E-08	1.49E-06	5.47E-08	4.30E-08	6.71E-08	9.72E-06	6.87E-07	0.00E+00
INFANT	1.45E-08	1.29E-06	4.02E-08	3.93E-08	4.42E-08	8.93E-06	5.19E-07	0.00E+00

TABLE 4. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 2021 (Continued)

SPECIAL LOCATION NO. 5A Nearest Garden
AT 2.30 MILES ESE

ANNUAL BETA AIR DOSE = 4.31E-07 MILLRADS
ANNUAL GAMMA AIR DOSE = 6.56E-07 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	4.40E-07	4.40E-07	4.40E-07	4.40E-07	4.40E-07	4.40E-07	4.44E-07	8.43E-07
GROUND	2.37E-06	2.37E-06	2.37E-06	2.37E-06	2.37E-06	2.37E-06	2.37E-06	2.79E-06
VEGET								
ADULT	9.25E-08	4.33E-07	6.12E-07	9.67E-08	1.05E-07	1.65E-05	2.96E-10	0.00E+00
TEEN	1.41E-07	4.75E-07	1.00E-06	1.46E-07	1.57E-07	2.22E-05	5.54E-10	0.00E+00
CHILD	2.83E-07	3.27E-07	2.43E-06	2.35E-07	2.49E-07	4.26E-05	8.43E-10	0.00E+00
MEAT								
ADULT	1.56E-08	8.89E-08	1.03E-08	1.73E-08	1.00E-08	4.42E-07	2.41E-11	0.00E+00
TEEN	1.23E-08	4.78E-08	8.11E-09	1.34E-08	7.56E-09	3.20E-07	2.28E-11	0.00E+00
CHILD	1.90E-08	2.41E-08	1.43E-08	1.58E-08	8.84E-09	4.83E-07	2.68E-11	0.00E+00
COW MILK								
ADULT	4.59E-08	6.18E-08	6.90E-08	8.65E-08	9.82E-08	1.26E-05	2.05E-10	0.00E+00
TEEN	7.73E-08	7.43E-08	1.22E-07	1.49E-07	1.70E-07	1.99E-05	4.24E-10	0.00E+00
CHILD	1.49E-07	5.14E-08	2.88E-07	2.42E-07	2.74E-07	3.95E-05	6.53E-10	0.00E+00
INFANT	2.37E-07	1.92E-07	5.42E-07	5.09E-07	4.48E-07	9.61E-05	1.18E-09	0.00E+00
GOATMILK								
ADULT	3.42E-08	2.87E-08	9.40E-08	5.85E-08	8.72E-08	1.51E-05	6.12E-10	0.00E+00
TEEN	5.50E-08	3.80E-08	1.71E-07	1.03E-07	1.55E-07	2.39E-05	1.26E-09	0.00E+00
CHILD	1.01E-07	2.98E-08	4.18E-07	1.78E-07	2.57E-07	4.74E-05	1.94E-09	0.00E+00
INFANT	1.83E-07	4.67E-08	8.08E-07	4.18E-07	4.42E-07	1.15E-04	3.52E-09	0.00E+00
INHAL								
ADULT	1.93E-08	9.59E-08	3.85E-08	4.49E-08	7.25E-08	8.67E-06	8.84E-07	0.00E+00
TEEN	2.58E-08	2.67E-07	5.42E-08	6.17E-08	1.00E-07	1.11E-05	1.33E-06	0.00E+00
CHILD	2.95E-08	1.80E-06	7.39E-08	6.02E-08	9.39E-08	1.35E-05	1.11E-06	0.00E+00
INFANT	2.04E-08	1.57E-06	5.53E-08	5.49E-08	6.18E-08	1.24E-05	8.01E-07	0.00E+00

TABLE 5. DOSES TO MAXIMUM INDIVIDUAL (MREM), OCTOBER-DECEMBER 2021

SPECIAL LOCATION NO. 1A Site Boundary
 AT .69 MILES NNW

ANNUAL BETA AIR DOSE = 4.46E-03 MILLRADS
 ANNUAL GAMMA AIR DOSE = 2.90E-03 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.90E-03	1.90E-03	1.90E-03	1.90E-03	1.90E-03	1.90E-03	1.95E-03	5.44E-03
GROUND	3.22E-04	3.22E-04	3.22E-04	3.22E-04	3.22E-04	3.22E-04	3.22E-04	3.78E-04
VEGET								
ADULT	8.29E-06	5.01E-05	2.41E-05	8.57E-06	7.65E-06	1.20E-03	4.09E-17	0.00E+00
TEEN	1.27E-05	5.36E-05	3.95E-05	1.30E-05	1.15E-05	1.61E-03	4.62E-17	0.00E+00
CHILD	2.53E-05	3.55E-05	9.57E-05	2.05E-05	1.81E-05	3.09E-03	5.51E-17	0.00E+00
MEAT								
ADULT	1.64E-06	1.14E-05	4.81E-07	1.36E-06	6.12E-07	3.20E-05	0.00E+00	0.00E+00
TEEN	1.30E-06	6.15E-06	3.75E-07	1.05E-06	4.64E-07	2.32E-05	0.00E+00	0.00E+00
CHILD	2.01E-06	3.10E-06	6.49E-07	1.24E-06	5.44E-07	3.50E-05	0.00E+00	0.00E+00
COW MILK								
ADULT	3.06E-06	5.09E-06	3.78E-06	5.58E-06	6.68E-06	9.13E-04	6.15E-23	0.00E+00
TEEN	5.20E-06	6.10E-06	6.67E-06	9.64E-06	1.16E-05	1.45E-03	1.36E-22	0.00E+00
CHILD	1.01E-05	4.19E-06	1.57E-05	1.58E-05	1.88E-05	2.88E-03	2.17E-22	0.00E+00
INFANT	1.64E-05	1.21E-05	3.01E-05	3.38E-05	3.11E-05	7.00E-03	5.91E-22	0.00E+00
GOATMILK								
ADULT	2.16E-06	1.89E-06	4.57E-06	3.80E-06	6.18E-06	1.10E-03	7.38E-24	0.00E+00
TEEN	3.62E-06	2.48E-06	8.32E-06	6.73E-06	1.10E-05	1.74E-03	1.64E-23	0.00E+00
CHILD	6.85E-06	1.93E-06	2.03E-05	1.16E-05	1.82E-05	3.45E-03	2.60E-23	0.00E+00
INFANT	1.26E-05	2.88E-06	4.03E-05	2.78E-05	3.15E-05	8.40E-03	7.09E-23	0.00E+00
INHAL								
ADULT	4.84E-07	4.63E-06	7.66E-07	1.13E-06	1.73E-06	2.03E-04	4.18E-05	0.00E+00
TEEN	6.47E-07	2.02E-05	1.08E-06	1.54E-06	2.39E-06	2.62E-04	6.39E-05	0.00E+00
CHILD	7.39E-07	1.64E-04	1.47E-06	1.50E-06	2.24E-06	3.17E-04	5.34E-05	0.00E+00
INFANT	5.04E-07	1.44E-04	1.13E-06	1.34E-06	1.47E-06	2.91E-04	4.07E-05	0.00E+00

TABLE 5. DOSES TO MAXIMUM INDIVIDUAL (MREM), OCTOBER-DECEMBER 2021 (Continued)

SPECIAL LOCATION NO. 2A Site Boundary
 AT .67 MILES N

ANNUAL BETA AIR DOSE = 6.17E-03 MILLRADS
 ANNUAL GAMMA AIR DOSE = 3.95E-03 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	2.59E-03	2.59E-03	2.59E-03	2.59E-03	2.59E-03	2.59E-03	2.65E-03	7.45E-03
GROUND	4.39E-04	4.39E-04	4.39E-04	4.39E-04	4.39E-04	4.39E-04	4.39E-04	5.17E-04
VEGET								
ADULT	1.13E-05	6.84E-05	3.30E-05	1.17E-05	1.05E-05	1.64E-03	5.59E-17	0.00E+00
TEEN	1.74E-05	7.32E-05	5.40E-05	1.77E-05	1.57E-05	2.20E-03	6.30E-17	0.00E+00
CHILD	3.46E-05	4.85E-05	1.31E-04	2.81E-05	2.47E-05	4.22E-03	7.53E-17	0.00E+00
MEAT								
ADULT	2.24E-06	1.56E-05	6.56E-07	1.85E-06	8.36E-07	4.37E-05	0.00E+00	0.00E+00
TEEN	1.77E-06	8.39E-06	5.12E-07	1.43E-06	6.33E-07	3.17E-05	0.00E+00	0.00E+00
CHILD	2.74E-06	4.23E-06	8.87E-07	1.69E-06	7.43E-07	4.78E-05	0.00E+00	0.00E+00
COW MILK								
ADULT	4.18E-06	6.95E-06	5.17E-06	7.62E-06	9.12E-06	1.25E-03	8.39E-23	0.00E+00
TEEN	7.10E-06	8.33E-06	9.11E-06	1.32E-05	1.59E-05	1.98E-03	1.86E-22	0.00E+00
CHILD	1.38E-05	5.72E-06	2.14E-05	2.15E-05	2.57E-05	3.93E-03	2.96E-22	0.00E+00
INFANT	2.24E-05	1.66E-05	4.11E-05	4.62E-05	4.25E-05	9.56E-03	8.07E-22	0.00E+00
GOATMILK								
ADULT	2.95E-06	2.58E-06	6.25E-06	5.20E-06	8.44E-06	1.50E-03	1.01E-23	0.00E+00
TEEN	4.95E-06	3.39E-06	1.14E-05	9.19E-06	1.50E-05	2.37E-03	2.23E-23	0.00E+00
CHILD	9.35E-06	2.64E-06	2.77E-05	1.59E-05	2.49E-05	4.72E-03	3.56E-23	0.00E+00
INFANT	1.73E-05	3.94E-06	5.50E-05	3.80E-05	4.31E-05	1.15E-02	9.68E-23	0.00E+00
INHAL								
ADULT	6.75E-07	6.43E-06	1.07E-06	1.57E-06	2.41E-06	2.83E-04	5.81E-05	0.00E+00
TEEN	9.01E-07	2.81E-05	1.50E-06	2.15E-06	3.33E-06	3.65E-04	8.88E-05	0.00E+00
CHILD	1.03E-06	2.27E-04	2.04E-06	2.09E-06	3.12E-06	4.42E-04	7.41E-05	0.00E+00
INFANT	7.01E-07	2.00E-04	1.57E-06	1.87E-06	2.05E-06	4.06E-04	5.66E-05	0.00E+00

C30

TABLE 5. DOSES TO MAXIMUM INDIVIDUAL (MREM), OCTOBER-DECEMBER 2021 (Continued)

SPECIAL LOCATION NO. 3A Nearest Resident
 AT .90 MILES NW

ANNUAL BETA AIR DOSE = 2.50E-03 MILLRADS
 ANNUAL GAMMA AIR DOSE = 2.45E-03 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.63E-03	1.63E-03	1.63E-03	1.63E-03	1.63E-03	1.63E-03	1.66E-03	3.81E-03
GROUND	1.38E-04	1.38E-04	1.38E-04	1.38E-04	1.38E-04	1.38E-04	1.38E-04	1.62E-04
VEGET								
ADULT	3.79E-06	2.18E-05	1.32E-05	3.97E-06	3.78E-06	6.07E-04	1.82E-17	0.00E+00
TEEN	5.80E-06	2.34E-05	2.13E-05	6.00E-06	5.67E-06	8.16E-04	2.05E-17	0.00E+00
CHILD	1.15E-05	1.56E-05	5.09E-05	9.55E-06	8.97E-06	1.56E-03	2.45E-17	0.00E+00
MEAT								
ADULT	7.12E-07	4.92E-06	2.42E-07	5.96E-07	2.80E-07	1.62E-05	0.00E+00	0.00E+00
TEEN	5.64E-07	2.64E-06	1.88E-07	4.61E-07	2.13E-07	1.17E-05	0.00E+00	0.00E+00
CHILD	8.72E-07	1.33E-06	3.27E-07	5.45E-07	2.50E-07	1.77E-05	0.00E+00	0.00E+00
COW MILK								
ADULT	1.45E-06	2.28E-06	1.91E-06	2.64E-06	3.27E-06	4.62E-04	2.73E-23	0.00E+00
TEEN	2.46E-06	2.75E-06	3.36E-06	4.58E-06	5.70E-06	7.33E-04	6.07E-23	0.00E+00
CHILD	4.76E-06	1.90E-06	7.91E-06	7.52E-06	9.26E-06	1.46E-03	9.65E-23	0.00E+00
INFANT	7.83E-06	5.40E-06	1.51E-05	1.63E-05	1.54E-05	3.54E-03	2.63E-22	0.00E+00
GOATMILK								
ADULT	1.08E-06	9.23E-07	2.40E-06	1.90E-06	3.12E-06	5.55E-04	3.28E-24	0.00E+00
TEEN	1.82E-06	1.22E-06	4.34E-06	3.37E-06	5.55E-06	8.79E-04	7.28E-24	0.00E+00
CHILD	3.43E-06	9.54E-07	1.05E-05	5.82E-06	9.20E-06	1.75E-03	1.16E-23	0.00E+00
INFANT	6.35E-06	1.37E-06	2.06E-05	1.40E-05	1.59E-05	4.25E-03	3.15E-23	0.00E+00
INHAL								
ADULT	1.55E-07	1.43E-06	2.47E-07	3.61E-07	5.56E-07	6.44E-05	1.26E-05	0.00E+00
TEEN	2.07E-07	6.16E-06	3.47E-07	4.95E-07	7.67E-07	8.30E-05	1.93E-05	0.00E+00
CHILD	2.37E-07	4.96E-05	4.72E-07	4.80E-07	7.18E-07	1.01E-04	1.61E-05	0.00E+00
INFANT	1.62E-07	4.37E-05	3.61E-07	4.32E-07	4.73E-07	9.24E-05	1.23E-05	0.00E+00

TABLE 5. DOSES TO MAXIMUM INDIVIDUAL (MREM), OCTOBER-DECEMBER 2021 (Continued)

SPECIAL LOCATION NO. 4A Nearest Cow
AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 1.22E-03 MILLRADS
ANNUAL GAMMA AIR DOSE = 1.60E-03 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.07E-03	1.07E-03	1.07E-03	1.07E-03	1.07E-03	1.07E-03	1.09E-03	2.23E-03
GROUND	6.36E-06	6.36E-06	6.36E-06	6.36E-06	6.36E-06	6.36E-06	6.36E-06	7.48E-06
VEGET								
ADULT	1.85E-07	1.02E-06	7.34E-07	1.96E-07	1.95E-07	3.19E-05	3.33E-19	0.00E+00
TEEN	2.82E-07	1.10E-06	1.17E-06	2.95E-07	2.93E-07	4.29E-05	3.75E-19	0.00E+00
CHILD	5.60E-07	7.31E-07	2.79E-06	4.72E-07	4.65E-07	8.21E-05	4.48E-19	0.00E+00
MEAT								
ADULT	3.32E-08	2.27E-07	1.27E-08	2.81E-08	1.36E-08	8.51E-07	0.00E+00	0.00E+00
TEEN	2.62E-08	1.22E-07	9.90E-09	2.18E-08	1.04E-08	6.16E-07	0.00E+00	0.00E+00
CHILD	4.06E-08	6.16E-08	1.72E-08	2.57E-08	1.23E-08	9.30E-07	0.00E+00	0.00E+00
COW MILK								
ADULT	7.28E-08	1.09E-07	1.00E-07	1.32E-07	1.68E-07	2.43E-05	5.00E-25	0.00E+00
TEEN	1.23E-07	1.32E-07	1.76E-07	2.30E-07	2.93E-07	3.85E-05	1.11E-24	0.00E+00
CHILD	2.38E-07	9.19E-08	4.15E-07	3.79E-07	4.76E-07	7.65E-05	1.76E-24	0.00E+00
INFANT	3.95E-07	2.57E-07	7.93E-07	8.29E-07	7.95E-07	1.86E-04	4.80E-24	0.00E+00
GOATMILK								
ADULT	5.65E-08	4.72E-08	1.30E-07	9.92E-08	1.63E-07	2.91E-05	6.00E-26	0.00E+00
TEEN	9.48E-08	6.24E-08	2.33E-07	1.76E-07	2.90E-07	4.62E-05	1.33E-25	0.00E+00
CHILD	1.79E-07	4.91E-08	5.63E-07	3.04E-07	4.82E-07	9.18E-05	2.12E-25	0.00E+00
INFANT	3.32E-07	6.89E-08	1.09E-06	7.32E-07	8.34E-07	2.23E-04	5.76E-25	0.00E+00
INHAL								
ADULT	2.33E-08	1.23E-07	3.87E-08	5.49E-08	8.46E-08	9.17E-06	1.12E-06	0.00E+00
TEEN	3.12E-08	3.27E-07	5.38E-08	7.53E-08	1.17E-07	1.18E-05	1.67E-06	0.00E+00
CHILD	3.60E-08	2.12E-06	7.27E-08	7.31E-08	1.09E-07	1.43E-05	1.38E-06	0.00E+00
INFANT	2.49E-08	1.85E-06	5.48E-08	6.63E-08	7.16E-08	1.32E-05	9.74E-07	0.00E+00

TABLE 5. DOSES TO MAXIMUM INDIVIDUAL (MREM), OCTOBER-DECEMBER 2021 (Continued)

SPECIAL LOCATION NO. 5A Nearest Garden
AT 2.80 MILES NNW

ANNUAL BETA AIR DOSE = 1.33E-03 MILLRADS
ANNUAL GAMMA AIR DOSE = 1.67E-03 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.12E-03	1.12E-03	1.12E-03	1.12E-03	1.12E-03	1.12E-03	1.13E-03	2.37E-03
GROUND	1.08E-05	1.08E-05	1.08E-05	1.08E-05	1.08E-05	1.08E-05	1.08E-05	1.27E-05
VEGET								
ADULT	3.04E-07	1.71E-06	1.14E-06	3.21E-07	3.15E-07	5.10E-05	1.44E-18	0.00E+00
TEEN	4.65E-07	1.84E-06	1.83E-06	4.85E-07	4.72E-07	6.85E-05	1.63E-18	0.00E+00
CHILD	9.24E-07	1.22E-06	4.37E-06	7.74E-07	7.47E-07	1.31E-04	1.95E-18	0.00E+00
MEAT								
ADULT	5.58E-08	3.83E-07	2.03E-08	4.69E-08	2.25E-08	1.36E-06	0.00E+00	0.00E+00
TEEN	4.41E-08	2.06E-07	1.58E-08	3.64E-08	1.71E-08	9.85E-07	0.00E+00	0.00E+00
CHILD	6.82E-08	1.04E-07	2.74E-08	4.30E-08	2.02E-08	1.49E-06	0.00E+00	0.00E+00
COW MILK								
ADULT	1.19E-07	1.82E-07	1.60E-07	2.16E-07	2.71E-07	3.88E-05	2.17E-24	0.00E+00
TEEN	2.01E-07	2.20E-07	2.82E-07	3.74E-07	4.73E-07	6.16E-05	4.81E-24	0.00E+00
CHILD	3.88E-07	1.52E-07	6.64E-07	6.16E-07	7.69E-07	1.22E-04	7.66E-24	0.00E+00
INFANT	6.43E-07	4.28E-07	1.27E-06	1.35E-06	1.28E-06	2.98E-04	2.08E-23	0.00E+00
GOATMILK								
ADULT	9.06E-08	7.65E-08	2.05E-07	1.59E-07	2.62E-07	4.66E-05	2.60E-25	0.00E+00
TEEN	1.52E-07	1.01E-07	3.69E-07	2.82E-07	4.66E-07	7.39E-05	5.77E-25	0.00E+00
CHILD	2.87E-07	7.95E-08	8.92E-07	4.88E-07	7.72E-07	1.47E-04	9.19E-25	0.00E+00
INFANT	5.32E-07	1.13E-07	1.74E-06	1.17E-06	1.34E-06	3.57E-04	2.50E-24	0.00E+00
INHAL								
ADULT	3.14E-08	2.50E-07	5.17E-08	7.42E-08	1.14E-07	1.26E-05	2.00E-06	0.00E+00
TEEN	4.21E-08	1.03E-06	7.22E-08	1.02E-07	1.58E-07	1.63E-05	3.06E-06	0.00E+00
CHILD	4.85E-08	8.09E-06	9.77E-08	9.88E-08	1.48E-07	1.97E-05	2.56E-06	0.00E+00
INFANT	3.34E-08	7.12E-06	7.40E-08	8.94E-08	9.71E-08	1.81E-05	1.97E-06	0.00E+00

TABLE 6. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 2021

SPECIAL LOCATION NO. 1A Site Boundary
 AT .69 MILES NNW

ANNUAL BETA AIR DOSE = 2.69E-03 MILLRADS
 ANNUAL GAMMA AIR DOSE = 1.97E-03 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.29E-03	1.29E-03	1.29E-03	1.29E-03	1.29E-03	1.29E-03	1.31E-03	3.23E-03
GROUND	5.72E-04	5.72E-04	5.72E-04	5.72E-04	5.72E-04	5.72E-04	5.72E-04	6.73E-04
VEGET								
ADULT	1.72E-05	9.44E-05	7.87E-05	1.77E-05	1.73E-05	2.73E-03	9.97E-09	0.00E+00
TEEN	2.64E-05	1.02E-04	1.29E-04	2.68E-05	2.59E-05	3.66E-03	1.87E-08	0.00E+00
CHILD	5.28E-05	6.86E-05	3.13E-04	4.27E-05	4.11E-05	7.02E-03	2.84E-08	0.00E+00
MEAT								
ADULT	3.21E-06	2.08E-05	1.40E-06	3.00E-06	1.53E-06	7.28E-05	8.13E-10	0.00E+00
TEEN	2.54E-06	1.12E-05	1.10E-06	2.32E-06	1.16E-06	5.27E-05	7.69E-10	0.00E+00
CHILD	3.92E-06	5.63E-06	1.92E-06	2.73E-06	1.35E-06	7.96E-05	9.04E-10	0.00E+00
COW MILK								
ADULT	7.24E-06	1.10E-05	9.98E-06	1.34E-05	1.56E-05	2.07E-03	6.93E-09	0.00E+00
TEEN	1.23E-05	1.32E-05	1.76E-05	2.32E-05	2.71E-05	3.28E-03	1.43E-08	0.00E+00
CHILD	2.38E-05	9.07E-06	4.15E-05	3.77E-05	4.38E-05	6.52E-03	2.20E-08	0.00E+00
INFANT	3.83E-05	2.99E-05	7.88E-05	8.00E-05	7.20E-05	1.58E-02	3.99E-08	0.00E+00
GOATMILK								
ADULT	5.10E-06	4.51E-06	1.28E-05	8.85E-06	1.41E-05	2.48E-03	2.06E-08	0.00E+00
TEEN	8.49E-06	5.94E-06	2.34E-05	1.56E-05	2.50E-05	3.94E-03	4.26E-08	0.00E+00
CHILD	1.60E-05	4.63E-06	5.70E-05	2.70E-05	4.14E-05	7.82E-03	6.55E-08	0.00E+00
INFANT	2.93E-05	7.14E-06	1.12E-04	6.43E-05	7.16E-05	1.90E-02	1.18E-07	0.00E+00
INHAL								
ADULT	7.74E-07	3.64E-06	1.37E-06	1.77E-06	2.75E-06	3.32E-04	4.57E-05	0.00E+00
TEEN	1.03E-06	6.36E-06	1.93E-06	2.42E-06	3.80E-06	4.26E-04	6.76E-05	0.00E+00
CHILD	1.18E-06	3.02E-05	2.63E-06	2.35E-06	3.56E-06	5.12E-04	5.53E-05	0.00E+00
INFANT	8.03E-07	2.60E-05	1.99E-06	2.12E-06	2.34E-06	4.71E-04	3.72E-05	0.00E+00

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TABLE 6. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 2021 (Continued)

SPECIAL LOCATION NO. 2A Site Boundary
 AT .67 MILES N

ANNUAL BETA AIR DOSE = 4.35E-03 MILLRADS
 ANNUAL GAMMA AIR DOSE = 2.92E-03 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.90E-03	1.90E-03	1.90E-03	1.90E-03	1.90E-03	1.90E-03	1.95E-03	5.05E-03
GROUND	8.19E-04	8.19E-04	8.19E-04	8.19E-04	8.19E-04	8.19E-04	8.19E-04	9.63E-04
VEGET								
ADULT	2.44E-05	1.35E-04	1.11E-04	2.52E-05	2.45E-05	3.86E-03	9.97E-09	0.00E+00
TEEN	3.75E-05	1.46E-04	1.82E-04	3.81E-05	3.67E-05	5.18E-03	1.87E-08	0.00E+00
CHILD	7.51E-05	9.78E-05	4.41E-04	6.06E-05	5.81E-05	9.93E-03	2.84E-08	0.00E+00
MEAT								
ADULT	4.57E-06	2.97E-05	1.97E-06	4.27E-06	2.17E-06	1.03E-04	8.13E-10	0.00E+00
TEEN	3.62E-06	1.60E-05	1.55E-06	3.30E-06	1.64E-06	7.46E-05	7.69E-10	0.00E+00
CHILD	5.59E-06	8.05E-06	2.71E-06	3.89E-06	1.92E-06	1.13E-04	9.04E-10	0.00E+00
COW MILK								
ADULT	1.03E-05	1.57E-05	1.41E-05	1.90E-05	2.22E-05	2.93E-03	6.93E-09	0.00E+00
TEEN	1.74E-05	1.88E-05	2.49E-05	3.28E-05	3.85E-05	4.64E-03	1.43E-08	0.00E+00
CHILD	3.38E-05	1.29E-05	5.86E-05	5.34E-05	6.22E-05	9.23E-03	2.20E-08	0.00E+00
INFANT	5.43E-05	4.26E-05	1.12E-04	1.13E-04	1.02E-04	2.24E-02	3.99E-08	0.00E+00
GOATMILK								
ADULT	7.18E-06	6.42E-06	1.81E-05	1.25E-05	1.99E-05	3.52E-03	2.06E-08	0.00E+00
TEEN	1.20E-05	8.46E-06	3.29E-05	2.21E-05	3.54E-05	5.57E-03	4.26E-08	0.00E+00
CHILD	2.26E-05	6.60E-06	8.03E-05	3.80E-05	5.87E-05	1.11E-02	6.55E-08	0.00E+00
INFANT	4.16E-05	1.02E-05	1.58E-04	9.07E-05	1.01E-04	2.69E-02	1.18E-07	0.00E+00
INHAL								
ADULT	1.23E-06	6.55E-06	2.18E-06	2.83E-06	4.42E-06	5.28E-04	7.47E-05	0.00E+00
TEEN	1.64E-06	1.61E-05	3.07E-06	3.87E-06	6.10E-06	6.79E-04	1.11E-04	0.00E+00
CHILD	1.87E-06	1.03E-04	4.18E-06	3.77E-06	5.72E-06	8.19E-04	9.14E-05	0.00E+00
INFANT	1.28E-06	8.97E-05	3.16E-06	3.40E-06	3.76E-06	7.52E-04	6.35E-05	0.00E+00

TABLE 6. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 2021 (Continued)

SPECIAL LOCATION NO. 3A Nearest Resident
 AT .90 MILES NW

ANNUAL BETA AIR DOSE = 2.82E-03 MILLRADS
 ANNUAL GAMMA AIR DOSE = 3.31E-03 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	2.21E-03	2.21E-03	2.21E-03	2.21E-03	2.21E-03	2.21E-03	2.24E-03	4.77E-03
GROUND	2.18E-04	2.18E-04	2.18E-04	2.18E-04	2.18E-04	2.18E-04	2.18E-04	2.56E-04
VEGET								
ADULT	7.21E-06	3.68E-05	3.69E-05	7.65E-06	7.90E-06	1.27E-03	1.87E-08	0.00E+00
TEEN	1.09E-05	3.99E-05	5.97E-05	1.16E-05	1.18E-05	1.70E-03	3.50E-08	0.00E+00
CHILD	2.18E-05	2.69E-05	1.43E-04	1.85E-05	1.88E-05	3.26E-03	5.33E-08	0.00E+00
MEAT								
ADULT	1.26E-06	7.92E-06	6.35E-07	1.21E-06	6.46E-07	3.38E-05	1.52E-09	0.00E+00
TEEN	9.90E-07	4.25E-06	4.98E-07	9.37E-07	4.89E-07	2.45E-05	1.44E-09	0.00E+00
CHILD	1.53E-06	2.15E-06	8.71E-07	1.11E-06	5.75E-07	3.69E-05	1.69E-09	0.00E+00
COW MILK								
ADULT	3.20E-06	4.50E-06	4.59E-06	5.92E-06	7.06E-06	9.63E-04	1.30E-08	0.00E+00
TEEN	5.38E-06	5.42E-06	8.09E-06	1.02E-05	1.23E-05	1.53E-03	2.68E-08	0.00E+00
CHILD	1.03E-05	3.76E-06	1.91E-05	1.68E-05	1.99E-05	3.03E-03	4.13E-08	0.00E+00
INFANT	1.68E-05	1.22E-05	3.61E-05	3.60E-05	3.29E-05	7.37E-03	7.48E-08	0.00E+00
GOATMILK								
ADULT	2.51E-06	2.01E-06	6.15E-06	4.34E-06	6.62E-06	1.16E-03	3.86E-08	0.00E+00
TEEN	4.06E-06	2.67E-06	1.11E-05	7.67E-06	1.18E-05	1.83E-03	7.98E-08	0.00E+00
CHILD	7.44E-06	2.09E-06	2.70E-05	1.32E-05	1.95E-05	3.64E-03	1.23E-07	0.00E+00
INFANT	1.36E-05	3.11E-06	5.21E-05	3.13E-05	3.37E-05	8.84E-03	2.22E-07	0.00E+00
INHAL								
ADULT	2.32E-07	1.47E-06	4.15E-07	5.40E-07	8.45E-07	9.88E-05	1.37E-05	0.00E+00
TEEN	3.10E-07	4.65E-06	5.84E-07	7.40E-07	1.17E-06	1.27E-04	2.07E-05	0.00E+00
CHILD	3.55E-07	3.33E-05	7.94E-07	7.20E-07	1.09E-06	1.54E-04	1.71E-05	0.00E+00
INFANT	2.44E-07	2.92E-05	5.98E-07	6.51E-07	7.19E-07	1.41E-04	1.24E-05	0.00E+00

TABLE 6. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 2021 (Continued)

SPECIAL LOCATION NO. 4A Nearest Cow
AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 1.41E-03 MILLRADS
ANNUAL GAMMA AIR DOSE = 1.90E-03 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.29E-03	2.63E-03
GROUND	1.21E-05	1.21E-05	1.21E-05	1.21E-05	1.21E-05	1.21E-05	1.21E-05	1.43E-05
VEGET								
ADULT	4.26E-07	2.09E-06	2.31E-06	4.58E-07	4.86E-07	7.86E-05	1.59E-09	0.00E+00
TEEN	6.44E-07	2.27E-06	3.72E-06	6.93E-07	7.29E-07	1.06E-04	2.98E-09	0.00E+00
CHILD	1.28E-06	1.54E-06	8.90E-06	1.11E-06	1.16E-06	2.02E-04	4.53E-09	0.00E+00
MEAT								
ADULT	7.14E-08	4.43E-07	3.92E-08	7.02E-08	3.84E-08	2.10E-06	1.29E-10	0.00E+00
TEEN	5.62E-08	2.38E-07	3.07E-08	5.44E-08	2.91E-08	1.52E-06	1.23E-10	0.00E+00
CHILD	8.66E-08	1.20E-07	5.37E-08	6.43E-08	3.43E-08	2.29E-06	1.44E-10	0.00E+00
COW MILK								
ADULT	1.95E-07	2.62E-07	2.84E-07	3.59E-07	4.32E-07	5.97E-05	1.10E-09	0.00E+00
TEEN	3.25E-07	3.16E-07	5.00E-07	6.21E-07	7.51E-07	9.46E-05	2.28E-09	0.00E+00
CHILD	6.22E-07	2.20E-07	1.18E-06	1.02E-06	1.22E-06	1.88E-04	3.51E-09	0.00E+00
INFANT	1.01E-06	7.12E-07	2.23E-06	2.20E-06	2.02E-06	4.57E-04	6.35E-09	0.00E+00
GOATMILK								
ADULT	1.60E-07	1.22E-07	3.89E-07	2.75E-07	4.12E-07	7.16E-05	3.28E-09	0.00E+00
TEEN	2.55E-07	1.62E-07	7.00E-07	4.87E-07	7.33E-07	1.14E-04	6.79E-09	0.00E+00
CHILD	4.62E-07	1.27E-07	1.70E-06	8.41E-07	1.21E-06	2.26E-04	1.04E-08	0.00E+00
INFANT	8.43E-07	1.87E-07	3.25E-06	1.98E-06	2.10E-06	5.48E-04	1.89E-08	0.00E+00
INHAL								
ADULT	3.81E-08	2.25E-07	6.94E-08	8.88E-08	1.39E-07	1.55E-05	1.59E-06	0.00E+00
TEEN	5.09E-08	5.68E-07	9.66E-08	1.22E-07	1.91E-07	1.99E-05	2.39E-06	0.00E+00
CHILD	5.84E-08	3.46E-06	1.31E-07	1.19E-07	1.79E-07	2.41E-05	1.98E-06	0.00E+00
INFANT	4.05E-08	3.01E-06	9.74E-08	1.08E-07	1.18E-07	2.21E-05	1.43E-06	0.00E+00

TABLE 6. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 2021 (Continued)

SPECIAL LOCATION NO. 5A Nearest Garden
 AT 2.80 MILES NNW

ANNUAL BETA AIR DOSE = 1.61E-03 MILLRADS
 ANNUAL GAMMA AIR DOSE = 2.13E-03 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.43E-03	1.43E-03	1.43E-03	1.43E-03	1.43E-03	1.43E-03	1.44E-03	2.97E-03
GROUND	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.36E-05
VEGET								
ADULT	6.91E-07	3.43E-06	3.67E-06	7.40E-07	7.78E-07	1.25E-04	2.31E-09	0.00E+00
TEEN	1.05E-06	3.73E-06	5.93E-06	1.12E-06	1.17E-06	1.68E-04	4.32E-09	0.00E+00
CHILD	2.08E-06	2.52E-06	1.42E-05	1.80E-06	1.85E-06	3.23E-04	6.57E-09	0.00E+00
MEAT								
ADULT	1.17E-07	7.32E-07	6.26E-08	1.14E-07	6.21E-08	3.35E-06	1.88E-10	0.00E+00
TEEN	9.24E-08	3.93E-07	4.91E-08	8.87E-08	4.71E-08	2.42E-06	1.78E-10	0.00E+00
CHILD	1.42E-07	1.98E-07	8.58E-08	1.05E-07	5.54E-08	3.66E-06	2.09E-10	0.00E+00
COW MILK								
ADULT	3.13E-07	4.27E-07	4.54E-07	5.77E-07	6.92E-07	9.53E-05	1.60E-09	0.00E+00
TEEN	5.24E-07	5.15E-07	7.99E-07	9.99E-07	1.20E-06	1.51E-04	3.31E-09	0.00E+00
CHILD	1.00E-06	3.59E-07	1.88E-06	1.64E-06	1.95E-06	3.00E-04	5.10E-09	0.00E+00
INFANT	1.63E-06	1.16E-06	3.56E-06	3.52E-06	3.24E-06	7.30E-04	9.22E-09	0.00E+00
GOATMILK								
ADULT	2.54E-07	1.97E-07	6.17E-07	4.36E-07	6.57E-07	1.14E-04	4.77E-09	0.00E+00
TEEN	4.05E-07	2.61E-07	1.11E-06	7.71E-07	1.17E-06	1.81E-04	9.85E-09	0.00E+00
CHILD	7.38E-07	2.05E-07	2.69E-06	1.33E-06	1.94E-06	3.60E-04	1.51E-08	0.00E+00
INFANT	1.35E-06	3.01E-07	5.17E-06	3.14E-06	3.35E-06	8.76E-04	2.74E-08	0.00E+00
INHAL								
ADULT	5.29E-08	3.32E-07	9.58E-08	1.24E-07	1.93E-07	2.18E-05	2.47E-06	0.00E+00
TEEN	7.06E-08	9.71E-07	1.34E-07	1.69E-07	2.67E-07	2.81E-05	3.74E-06	0.00E+00
CHILD	8.10E-08	6.56E-06	1.81E-07	1.65E-07	2.50E-07	3.40E-05	3.10E-06	0.00E+00
INFANT	5.61E-08	5.73E-06	1.36E-07	1.50E-07	1.64E-07	3.12E-05	2.29E-06	0.00E+00

TABLE 7. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-DECEMBER 2021

SPECIAL LOCATION NO. 1A Site Boundary
 AT .69 MILES NNW

ANNUAL BETA AIR DOSE = 3.80E-03 MILLRADS
 ANNUAL GAMMA AIR DOSE = 2.82E-03 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.86E-03	1.86E-03	1.86E-03	1.86E-03	1.86E-03	1.86E-03	1.90E-03	4.96E-03
GROUND	7.31E-04	7.31E-04	7.31E-04	7.31E-04	7.31E-04	7.31E-04	7.31E-04	8.60E-04
VEGET								
ADULT	3.30E-05	1.24E-04	3.30E-04	3.24E-05	2.75E-05	4.02E-03	1.12E-06	0.00E+00
TEEN	4.54E-05	1.35E-04	4.83E-04	4.98E-05	4.15E-05	5.39E-03	2.10E-06	0.00E+00
CHILD	8.42E-05	9.20E-05	1.06E-03	8.18E-05	6.62E-05	1.03E-02	3.20E-06	0.00E+00
MEAT								
ADULT	4.38E-06	2.57E-05	4.84E-06	4.06E-06	1.91E-06	1.07E-04	9.17E-08	0.00E+00
TEEN	3.27E-06	1.38E-05	3.61E-06	3.18E-06	1.47E-06	7.74E-05	8.68E-08	0.00E+00
CHILD	4.83E-06	6.99E-06	6.11E-06	3.85E-06	1.76E-06	1.17E-04	1.02E-07	0.00E+00
COW MILK								
ADULT	1.36E-05	1.35E-05	2.79E-05	2.31E-05	2.33E-05	3.07E-03	7.76E-07	0.00E+00
TEEN	1.97E-05	1.65E-05	4.73E-05	4.04E-05	4.08E-05	4.86E-03	1.60E-06	0.00E+00
CHILD	3.30E-05	1.16E-05	1.09E-04	6.78E-05	6.66E-05	9.68E-03	2.47E-06	0.00E+00
INFANT	5.25E-05	3.11E-05	1.78E-04	1.44E-04	1.11E-04	2.35E-02	4.46E-06	0.00E+00
GOATMILK								
ADULT	2.11E-05	7.27E-06	5.33E-05	3.32E-05	2.77E-05	3.68E-03	2.33E-06	0.00E+00
TEEN	2.53E-05	9.70E-06	9.07E-05	5.86E-05	4.92E-05	5.83E-03	4.81E-06	0.00E+00
CHILD	3.34E-05	7.68E-06	2.09E-04	1.01E-04	8.16E-05	1.16E-02	7.40E-06	0.00E+00
INFANT	5.26E-05	1.00E-05	3.34E-04	2.16E-04	1.39E-04	2.82E-02	1.34E-05	0.00E+00
INHAL								
ADULT	1.22E-06	8.18E-06	3.96E-06	2.73E-06	4.23E-06	4.79E-04	6.49E-05	0.00E+00
TEEN	1.56E-06	3.44E-05	5.10E-06	3.76E-06	5.84E-06	6.19E-04	1.00E-04	0.00E+00
CHILD	1.73E-06	2.74E-04	6.51E-06	3.67E-06	5.48E-06	7.55E-04	8.39E-05	0.00E+00
INFANT	1.18E-06	2.41E-04	4.01E-06	3.33E-06	3.61E-06	6.94E-04	6.53E-05	0.00E+00

TABLE 7. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-DECEMBER 2021 (Continued)

SPECIAL LOCATION NO. 2A Site Boundary
 AT .67 MILES N

ANNUAL BETA AIR DOSE = 4.97E-03 MILLRADS
 ANNUAL GAMMA AIR DOSE = 3.45E-03 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	2.27E-03	2.27E-03	2.27E-03	2.27E-03	2.27E-03	2.27E-03	2.32E-03	6.26E-03
GROUND	9.65E-04	9.65E-04	9.65E-04	9.65E-04	9.65E-04	9.65E-04	9.65E-04	1.14E-03
VEGET								
ADULT	4.36E-05	1.63E-04	4.35E-04	4.27E-05	3.62E-05	5.29E-03	1.48E-06	0.00E+00
TEEN	5.99E-05	1.78E-04	6.38E-04	6.57E-05	5.46E-05	7.10E-03	2.77E-06	0.00E+00
CHILD	1.11E-04	1.21E-04	1.40E-03	1.08E-04	8.72E-05	1.36E-02	4.22E-06	0.00E+00
MEAT								
ADULT	5.78E-06	3.40E-05	6.38E-06	5.36E-06	2.52E-06	1.41E-04	1.21E-07	0.00E+00
TEEN	4.31E-06	1.83E-05	4.76E-06	4.19E-06	1.94E-06	1.02E-04	1.14E-07	0.00E+00
CHILD	6.37E-06	9.23E-06	8.07E-06	5.09E-06	2.32E-06	1.54E-04	1.34E-07	0.00E+00
COW MILK								
ADULT	1.80E-05	1.78E-05	3.68E-05	3.05E-05	3.07E-05	4.03E-03	1.02E-06	0.00E+00
TEEN	2.59E-05	2.17E-05	6.24E-05	5.32E-05	5.37E-05	6.40E-03	2.12E-06	0.00E+00
CHILD	4.34E-05	1.53E-05	1.43E-04	8.93E-05	8.77E-05	1.27E-02	3.25E-06	0.00E+00
INFANT	6.92E-05	4.10E-05	2.35E-04	1.90E-04	1.46E-04	3.09E-02	5.88E-06	0.00E+00
GOATMILK								
ADULT	2.78E-05	9.58E-06	7.02E-05	4.37E-05	3.65E-05	4.84E-03	3.07E-06	0.00E+00
TEEN	3.34E-05	1.28E-05	1.20E-04	7.72E-05	6.48E-05	7.68E-03	6.35E-06	0.00E+00
CHILD	4.40E-05	1.01E-05	2.76E-04	1.34E-04	1.07E-04	1.53E-02	9.75E-06	0.00E+00
INFANT	6.92E-05	1.32E-05	4.40E-04	2.84E-04	1.83E-04	3.71E-02	1.76E-05	0.00E+00
INHAL								
ADULT	1.74E-06	1.19E-05	5.73E-06	3.90E-06	6.02E-06	6.82E-04	9.48E-05	0.00E+00
TEEN	2.23E-06	5.01E-05	7.36E-06	5.36E-06	8.32E-06	8.82E-04	1.46E-04	0.00E+00
CHILD	2.47E-06	3.99E-04	9.39E-06	5.24E-06	7.80E-06	1.07E-03	1.23E-04	0.00E+00
INFANT	1.68E-06	3.51E-04	5.77E-06	4.74E-06	5.14E-06	9.88E-04	9.54E-05	0.00E+00

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TABLE 7. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-DECEMBER 2021 (Continued)

SPECIAL LOCATION NO. 3A Nearest Resident
 AT .90 MILES NW

ANNUAL BETA AIR DOSE = 3.00E-04 MILLRADS
 ANNUAL GAMMA AIR DOSE = 4.72E-04 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	3.16E-04	3.16E-04	3.16E-04	3.16E-04	3.16E-04	3.16E-04	3.19E-04	6.29E-04
GROUND	1.56E-03	1.56E-03	1.56E-03	1.56E-03	1.56E-03	1.56E-03	1.56E-03	1.83E-03
VEGET								
ADULT	3.84E-05	2.23E-04	1.66E-04	3.30E-05	1.47E-05	1.27E-03	1.44E-06	0.00E+00
TEEN	5.50E-05	2.39E-04	2.42E-04	5.11E-05	2.22E-05	1.71E-03	2.66E-06	0.00E+00
CHILD	1.04E-04	1.58E-04	5.30E-04	8.16E-05	3.49E-05	3.28E-03	4.02E-06	0.00E+00
MEAT								
ADULT	8.49E-06	5.71E-05	3.71E-06	7.64E-06	2.63E-06	3.40E-05	2.83E-07	0.00E+00
TEEN	6.54E-06	3.07E-05	2.77E-06	5.94E-06	1.96E-06	2.47E-05	2.58E-07	0.00E+00
CHILD	9.93E-06	1.55E-05	4.62E-06	7.08E-06	2.27E-06	3.72E-05	2.95E-07	0.00E+00
COW MILK								
ADULT	1.33E-05	2.16E-05	1.79E-05	2.30E-05	1.59E-05	9.65E-04	7.83E-07	0.00E+00
TEEN	1.94E-05	2.53E-05	3.00E-05	3.94E-05	2.68E-05	1.53E-03	1.61E-06	0.00E+00
CHILD	3.33E-05	1.67E-05	6.73E-05	6.34E-05	4.21E-05	3.03E-03	2.48E-06	0.00E+00
INFANT	4.67E-05	5.61E-05	1.04E-04	1.21E-04	6.42E-05	7.38E-03	4.50E-06	0.00E+00
GOATMILK								
ADULT	1.64E-05	4.84E-06	3.23E-05	2.54E-05	1.41E-05	1.16E-03	2.27E-06	0.00E+00
TEEN	1.77E-05	6.08E-06	5.54E-05	4.46E-05	2.49E-05	1.83E-03	4.70E-06	0.00E+00
CHILD	1.95E-05	4.46E-06	1.28E-04	7.68E-05	4.10E-05	3.64E-03	7.22E-06	0.00E+00
INFANT	2.62E-05	9.18E-06	2.00E-04	1.55E-04	6.77E-05	8.85E-03	1.31E-05	0.00E+00
INHAL								
ADULT	1.54E-06	4.70E-06	2.28E-06	2.81E-06	2.36E-06	8.69E-05	7.77E-05	0.00E+00
TEEN	2.05E-06	6.63E-06	3.01E-06	3.85E-06	3.25E-06	1.11E-04	1.14E-04	0.00E+00
CHILD	2.44E-06	2.48E-05	3.91E-06	3.73E-06	3.04E-06	1.33E-04	9.28E-05	0.00E+00
INFANT	1.66E-06	2.31E-05	2.65E-06	3.34E-06	1.99E-06	1.22E-04	6.06E-05	0.00E+00

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TABLE 7. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-DECEMBER 2021 (Continued)

SPECIAL LOCATION NO. 4A Nearest Cow
AT 3.50 MILES NNW

ANNUAL BETA AIR DOSE = 1.34E-03 MILLRADS
ANNUAL GAMMA AIR DOSE = 1.84E-03 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.23E-03	1.23E-03	1.23E-03	1.23E-03	1.23E-03	1.23E-03	1.25E-03	2.53E-03
GROUND	1.53E-05	1.53E-05	1.53E-05	1.53E-05	1.53E-05	1.53E-05	1.53E-05	1.80E-05
VEGET								
ADULT	8.02E-07	2.70E-06	7.60E-06	8.40E-07	7.84E-07	1.19E-04	2.87E-08	0.00E+00
TEEN	1.09E-06	2.96E-06	1.12E-05	1.29E-06	1.18E-06	1.60E-04	5.38E-08	0.00E+00
CHILD	2.01E-06	2.04E-06	2.49E-05	2.13E-06	1.89E-06	3.07E-04	8.18E-08	0.00E+00
MEAT								
ADULT	9.75E-08	5.39E-07	1.14E-07	9.61E-08	4.93E-08	3.18E-06	2.34E-09	0.00E+00
TEEN	7.21E-08	2.90E-07	8.56E-08	7.52E-08	3.81E-08	2.30E-06	2.22E-09	0.00E+00
CHILD	1.06E-07	1.47E-07	1.46E-07	9.17E-08	4.59E-08	3.48E-06	2.61E-09	0.00E+00
COW MILK								
ADULT	3.62E-07	3.23E-07	6.99E-07	6.19E-07	6.55E-07	9.09E-05	1.99E-08	0.00E+00
TEEN	5.25E-07	3.98E-07	1.20E-06	1.08E-06	1.15E-06	1.44E-04	4.10E-08	0.00E+00
CHILD	8.81E-07	2.84E-07	2.77E-06	1.82E-06	1.88E-06	2.87E-04	6.31E-08	0.00E+00
INFANT	1.43E-06	7.49E-07	4.66E-06	3.92E-06	3.16E-06	6.97E-04	1.14E-07	0.00E+00
GOATMILK								
ADULT	5.63E-07	1.94E-07	1.31E-06	8.93E-07	7.87E-07	1.09E-04	5.95E-08	0.00E+00
TEEN	6.87E-07	2.60E-07	2.25E-06	1.58E-06	1.40E-06	1.73E-04	1.23E-07	0.00E+00
CHILD	9.27E-07	2.07E-07	5.24E-06	2.74E-06	2.32E-06	3.44E-04	1.89E-07	0.00E+00
INFANT	1.49E-06	2.62E-07	8.57E-06	5.86E-06	3.96E-06	8.36E-04	3.42E-07	0.00E+00
INHAL								
ADULT	6.58E-08	2.67E-07	1.66E-07	1.47E-07	2.15E-07	2.20E-05	1.78E-06	0.00E+00
TEEN	8.56E-08	6.33E-07	2.17E-07	2.02E-07	2.97E-07	2.84E-05	2.69E-06	0.00E+00
CHILD	9.74E-08	3.69E-06	2.82E-07	1.97E-07	2.78E-07	3.45E-05	2.23E-06	0.00E+00
INFANT	6.75E-08	3.22E-06	1.84E-07	1.80E-07	1.83E-07	3.17E-05	1.62E-06	0.00E+00

TABLE 7. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-DECEMBER 2021 (Continued)

SPECIAL LOCATION NO. 5A Nearest Garden
AT 2.80 MILES NNW

ANNUAL BETA AIR DOSE = 6.85E-04 MILLRADS
ANNUAL GAMMA AIR DOSE = 7.06E-04 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	4.72E-04	4.72E-04	4.72E-04	4.72E-04	4.72E-04	4.72E-04	4.79E-04	1.05E-03
GROUND	2.61E-05	2.61E-05	2.61E-05	2.61E-05	2.61E-05	2.61E-05	2.61E-05	3.07E-05
VEGET								
ADULT	1.35E-06	4.60E-06	1.29E-05	1.40E-06	1.29E-06	1.96E-04	4.80E-08	0.00E+00
TEEN	1.84E-06	5.04E-06	1.90E-05	2.15E-06	1.95E-06	2.63E-04	8.99E-08	0.00E+00
CHILD	3.38E-06	3.46E-06	4.21E-05	3.54E-06	3.12E-06	5.03E-04	1.37E-07	0.00E+00
MEAT								
ADULT	1.66E-07	9.23E-07	1.92E-07	1.62E-07	8.23E-08	5.22E-06	3.92E-09	0.00E+00
TEEN	1.23E-07	4.97E-07	1.44E-07	1.27E-07	6.36E-08	3.78E-06	3.71E-09	0.00E+00
CHILD	1.80E-07	2.51E-07	2.46E-07	1.54E-07	7.64E-08	5.70E-06	4.36E-09	0.00E+00
COW MILK								
ADULT	6.02E-07	5.43E-07	1.17E-06	1.03E-06	1.08E-06	1.49E-04	3.32E-08	0.00E+00
TEEN	8.72E-07	6.67E-07	2.00E-06	1.79E-06	1.89E-06	2.36E-04	6.86E-08	0.00E+00
CHILD	1.46E-06	4.76E-07	4.62E-06	3.02E-06	3.10E-06	4.70E-04	1.05E-07	0.00E+00
INFANT	2.37E-06	1.26E-06	7.75E-06	6.49E-06	5.20E-06	1.14E-03	1.91E-07	0.00E+00
GOATMILK								
ADULT	9.35E-07	3.21E-07	2.20E-06	1.48E-06	1.30E-06	1.79E-04	9.95E-08	0.00E+00
TEEN	1.14E-06	4.29E-07	3.78E-06	2.62E-06	2.30E-06	2.83E-04	2.06E-07	0.00E+00
CHILD	1.53E-06	3.41E-07	8.78E-06	4.54E-06	3.82E-06	5.64E-04	3.16E-07	0.00E+00
INFANT	2.45E-06	4.35E-07	1.43E-05	9.71E-06	6.52E-06	1.37E-03	5.72E-07	0.00E+00
INHAL								
ADULT	7.49E-08	3.41E-07	2.21E-07	1.70E-07	2.68E-07	3.03E-05	2.63E-06	0.00E+00
TEEN	9.61E-08	8.13E-07	2.87E-07	2.34E-07	3.69E-07	3.91E-05	3.96E-06	0.00E+00
CHILD	1.07E-07	4.83E-06	3.69E-07	2.29E-07	3.46E-07	4.75E-05	3.27E-06	0.00E+00
INFANT	7.33E-08	4.20E-06	2.35E-07	2.08E-07	2.28E-07	4.37E-05	2.34E-06	0.00E+00

TABLE 8. DOSES TO POPULATION WITHIN 50 MILES, JANUARY-MARCH 2021

ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (PERSON-REM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 2.97E-06	: 2.97E-06	: 2.97E-06	: 2.97E-06	: 2.97E-06	: 2.97E-06	: 3.00E-06	: 6.22E-06
	: 52.23%	: 55.08%	: 35.81%	: 44.06%	: 49.96%	: 2.38%	: 56.77%	: 74.98%
GROUND	: 1.77E-06	: 1.77E-06	: 1.77E-06	: 1.77E-06	: 1.77E-06	: 1.77E-06	: 1.77E-06	: 2.08E-06
	: 31.16%	: 32.87%	: 21.37%	: 26.29%	: 29.81%	: 1.42%	: 33.53%	: 25.02%
INHAL	: 3.91E-08	: 1.25E-07	: 8.42E-08	: 9.01E-08	: 1.33E-07	: 1.59E-05	: 3.29E-07	: 0.00E+00
	: .69%	: 2.33%	: 1.02%	: 1.34%	: 2.24%	: 12.72%	: 6.24%	: .00%
VEGET	: 3.38E-07	: 3.46E-07	: 2.06E-06	: 6.42E-07	: 2.15E-07	: 1.25E-06	: 7.19E-08	: 0.00E+00
	: 5.95%	: 6.42%	: 24.82%	: 9.53%	: 3.63%	: 1.00%	: 1.36%	: .00%
COW MILK	: 5.27E-07	: 1.16E-07	: 1.33E-06	: 1.20E-06	: 8.26E-07	: 1.01E-04	: 1.05E-07	: 0.00E+00
	: 9.27%	: 2.15%	: 16.11%	: 17.88%	: 13.90%	: 80.80%	: 1.98%	: .00%
MEAT	: 3.95E-08	: 6.23E-08	: 7.28E-08	: 6.11E-08	: 2.81E-08	: 2.08E-06	: 5.89E-09	: 0.00E+00
	: .70%	: 1.16%	: .88%	: .91%	: .47%	: 1.67%	: .11%	: .00%
TOTAL	: 5.68E-06	: 5.39E-06	: 8.29E-06	: 6.73E-06	: 5.94E-06	: 1.25E-04	: 5.28E-06	: 8.30E-06

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TABLE 9. DOSES TO POPULATION WITHIN 50 MILES, APRIL-JUNE 2021

ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (PERSON-REM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 6.73E-05	: 6.73E-05	: 6.73E-05	: 6.73E-05	: 6.73E-05	: 6.73E-05	: 6.81E-05	: 1.50E-04
	: 85.62%	: 84.38%	: 66.14%	: 85.08%	: 85.72%	: 23.86%	: 85.80%	: 93.05%
GROUND	: 9.56E-06	: 9.56E-06	: 9.56E-06	: 9.56E-06	: 9.56E-06	: 9.56E-06	: 9.56E-06	: 1.12E-05
	: 12.17%	: 11.99%	: 9.40%	: 12.09%	: 12.18%	: 3.39%	: 12.04%	: 6.95%
INHAL	: 7.78E-08	: 4.15E-07	: 3.80E-07	: 1.67E-07	: 2.54E-07	: 2.76E-05	: 1.55E-06	: 0.00E+00
	: .10%	: .52%	: .37%	: .21%	: .32%	: 9.78%	: 1.96%	: .00%
VEGET	: 8.75E-07	: 1.71E-06	: 2.09E-05	: 6.25E-07	: 1.87E-07	: 2.12E-06	: 6.14E-08	: 0.00E+00
	: 1.11%	: 2.15%	: 20.57%	: .79%	: .24%	: .75%	: .08%	: .00%
COW MILK	: 6.84E-07	: 3.11E-07	: 3.26E-06	: 1.36E-06	: 1.18E-06	: 1.72E-04	: 9.53E-08	: 0.00E+00
	: .87%	: .39%	: 3.21%	: 1.72%	: 1.50%	: 60.96%	: .12%	: .00%
MEAT	: 1.01E-07	: 4.54E-07	: 3.08E-07	: 8.47E-08	: 3.40E-08	: 3.54E-06	: 5.28E-09	: 0.00E+00
	: .13%	: .57%	: .30%	: .11%	: .04%	: 1.25%	: .01%	: .00%
TOTAL	: 7.85E-05	: 7.97E-05	: 1.02E-04	: 7.90E-05	: 7.85E-05	: 2.82E-04	: 7.94E-05	: 1.62E-04

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TABLE 10. DOSES TO POPULATION WITHIN 50 MILES, JANUARY-JUNE 2021

ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (PERSON-REM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 6.92E-05	: 6.92E-05	: 6.92E-05	: 6.92E-05	: 6.92E-05	: 6.92E-05	: 7.01E-05	: 1.54E-04
	: 83.60%	: 82.74%	: 63.77%	: 82.05%	: 83.43%	: 17.12%	: 84.15%	: 92.32%
GROUND	: 1.09E-05	: 1.09E-05	: 1.09E-05	: 1.09E-05	: 1.09E-05	: 1.09E-05	: 1.09E-05	: 1.28E-05
	: 13.16%	: 13.02%	: 10.04%	: 12.91%	: 13.13%	: 2.69%	: 13.08%	: 7.68%
INHAL	: 1.17E-07	: 5.47E-07	: 4.80E-07	: 2.57E-07	: 3.86E-07	: 4.36E-05	: 1.96E-06	: 0.00E+00
	: .14%	: .65%	: .44%	: .31%	: .47%	: 10.77%	: 2.36%	: .00%
VEGET	: 1.21E-06	: 2.06E-06	: 2.30E-05	: 1.27E-06	: 4.04E-07	: 3.37E-06	: 1.34E-07	: 0.00E+00
	: 1.47%	: 2.46%	: 21.16%	: 1.51%	: .49%	: .83%	: .16%	: .00%
COW MILK	: 1.21E-06	: 4.26E-07	: 4.60E-06	: 2.57E-06	: 2.00E-06	: 2.72E-04	: 2.01E-07	: 0.00E+00
	: 1.46%	: .51%	: 4.24%	: 3.05%	: 2.41%	: 67.20%	: .24%	: .00%
MEAT	: 1.41E-07	: 5.16E-07	: 3.81E-07	: 1.46E-07	: 6.22E-08	: 5.60E-06	: 1.12E-08	: 0.00E+00
	: .17%	: .62%	: .35%	: .17%	: .07%	: 1.38%	: .01%	: .00%
TOTAL	: 8.28E-05	: 8.37E-05	: 1.09E-04	: 8.44E-05	: 8.30E-05	: 4.04E-04	: 8.33E-05	: 1.67E-04

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TABLE 11. DOSES TO POPULATION WITHIN 50 MILES, JULY-SEPTEMBER 2021

ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (PERSON-REM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 7.20E-05	: 7.20E-05	: 7.20E-05	: 7.20E-05	: 7.20E-05	: 7.20E-05	: 7.30E-05	: 1.67E-04
	: 82.91%	: 80.43%	: 79.12%	: 82.23%	: 82.31%	: 19.93%	: 81.66%	: 91.52%
GROUND	: 1.32E-05	: 1.32E-05	: 1.32E-05	: 1.32E-05	: 1.32E-05	: 1.32E-05	: 1.32E-05	: 1.55E-05
	: 15.14%	: 14.69%	: 14.45%	: 15.02%	: 15.03%	: 3.64%	: 14.71%	: 8.48%
INHAL	: 9.18E-08	: 9.13E-07	: 1.99E-07	: 1.98E-07	: 3.15E-07	: 4.18E-05	: 3.23E-06	: 0.00E+00
	: .11%	: 1.02%	: .22%	: .23%	: .36%	: 11.56%	: 3.61%	: .00%
VEGET	: 5.32E-07	: 2.10E-06	: 3.93E-06	: 4.12E-07	: 1.60E-07	: 2.81E-06	: 9.58E-09	: 0.00E+00
	: .61%	: 2.34%	: 4.31%	: .47%	: .18%	: .78%	: .01%	: .00%
COW MILK	: 9.18E-07	: 7.16E-07	: 1.61E-06	: 1.64E-06	: 1.75E-06	: 2.27E-04	: 1.27E-08	: 0.00E+00
	: 1.06%	: .80%	: 1.77%	: 1.87%	: 2.00%	: 62.79%	: .01%	: .00%
MEAT	: 1.49E-07	: 6.39E-07	: 1.16E-07	: 1.65E-07	: 9.81E-08	: 4.72E-06	: 7.58E-10	: 0.00E+00
	: .17%	: .71%	: .13%	: .19%	: .11%	: 1.31%	: .00%	: .00%
TOTAL	: 8.69E-05	: 8.95E-05	: 9.10E-05	: 8.76E-05	: 8.75E-05	: 3.61E-04	: 8.94E-05	: 1.82E-04

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TABLE 12. DOSES TO POPULATION WITHIN 50 MILES, OCTOBER-DECEMBER 2021

ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (PERSON-REM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 1.93E-03	: 1.93E-03	: 1.93E-03	: 1.93E-03	: 1.93E-03	: 1.93E-03	: 1.97E-03	: 5.08E-03
	: 98.92%	: 98.71%	: 98.78%	: 98.90%	: 98.90%	: 85.25%	: 98.74%	: 99.56%
GROUND	: 1.92E-05	: 1.92E-05	: 1.92E-05	: 1.92E-05	: 1.92E-05	: 1.92E-05	: 1.92E-05	: 2.25E-05
	: .98%	: .98%	: .98%	: .98%	: .98%	: .85%	: .96%	: .44%
INHAL	: 1.27E-07	: 9.19E-07	: 2.28E-07	: 2.82E-07	: 4.40E-07	: 5.47E-05	: 5.96E-06	: 0.00E+00
	: .01%	: .05%	: .01%	: .01%	: .02%	: 2.42%	: .30%	: .00%
VEGET	: 6.72E-07	: 3.29E-06	: 3.11E-06	: 4.46E-07	: 1.24E-07	: 3.14E-06	: 0.00E+00	: 0.00E+00
	: .03%	: .17%	: .16%	: .02%	: .01%	: .14%	: .00%	: .00%
COW MILK	: 8.11E-07	: 7.48E-07	: 1.31E-06	: 1.37E-06	: 1.68E-06	: 2.52E-04	: 1.99E-34	: 0.00E+00
	: .04%	: .04%	: .07%	: .07%	: .09%	: 11.12%	: .00%	: .00%
MEAT	: 1.89E-07	: 1.02E-06	: 8.36E-08	: 1.53E-07	: 7.64E-08	: 5.24E-06	: 0.00E+00	: 0.00E+00
	: .01%	: .05%	: .00%	: .01%	: .00%	: .23%	: .00%	: .00%
TOTAL	: 1.95E-03	: 1.95E-03	: 1.95E-03	: 1.95E-03	: 1.95E-03	: 2.26E-03	: 1.99E-03	: 5.11E-03

TABLE 13. DOSES TO POPULATION WITHIN 50 MILES, JULY-DECEMBER 2021

ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (PERSON-REM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 1.88E-03	: 1.88E-03	: 1.88E-03	: 1.88E-03	: 1.88E-03	: 1.88E-03	: 1.92E-03	: 5.06E-03
	: 98.12%	: 97.77%	: 97.76%	: 98.06%	: 98.06%	: 75.13%	: 97.88%	: 99.25%
GROUND	: 3.27E-05	: 3.27E-05	: 3.27E-05	: 3.27E-05	: 3.27E-05	: 3.27E-05	: 3.27E-05	: 3.84E-05
	: 1.70%	: 1.70%	: 1.69%	: 1.70%	: 1.70%	: 1.30%	: 1.66%	: .75%
INHAL	: 2.18E-07	: 1.78E-06	: 4.28E-07	: 4.78E-07	: 7.53E-07	: 9.63E-05	: 8.97E-06	: 0.00E+00
	: .01%	: .09%	: .02%	: .02%	: .04%	: 3.84%	: .46%	: .00%
VEGET	: 1.20E-06	: 5.38E-06	: 7.05E-06	: 8.56E-07	: 2.83E-07	: 5.94E-06	: 9.38E-09	: 0.00E+00
	: .06%	: .28%	: .37%	: .04%	: .01%	: .24%	: .00%	: .00%
COW MILK	: 1.73E-06	: 1.46E-06	: 2.92E-06	: 3.00E-06	: 3.43E-06	: 4.79E-04	: 1.24E-08	: 0.00E+00
	: .09%	: .08%	: .15%	: .16%	: .18%	: 19.09%	: .00%	: .00%
MEAT	: 3.38E-07	: 1.66E-06	: 2.00E-07	: 3.17E-07	: 1.74E-07	: 9.97E-06	: 7.38E-10	: 0.00E+00
	: .02%	: .09%	: .01%	: .02%	: .01%	: .40%	: .00%	: .00%
TOTAL	: 1.92E-03	: 1.93E-03	: 1.93E-03	: 1.92E-03	: 1.92E-03	: 2.51E-03	: 1.96E-03	: 5.09E-03

TABLE 14. DOSES TO POPULATION WITHIN 50 MILES, JANUARY-DECEMBER 2021

ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (PERSON-REM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	: 1.84E-03	: 1.84E-03	: 1.84E-03	: 1.84E-03	: 1.84E-03	: 1.84E-03	: 1.87E-03	: 4.82E-03
	: 97.38%	: 96.99%	: 95.71%	: 97.24%	: 97.32%	: 65.76%	: 97.22%	: 98.96%
GROUND	: 4.32E-05	: 4.32E-05	: 4.32E-05	: 4.32E-05	: 4.32E-05	: 4.32E-05	: 4.32E-05	: 5.08E-05
	: 2.29%	: 2.28%	: 2.25%	: 2.29%	: 2.29%	: 1.55%	: 2.24%	: 1.04%
INHAL	: 3.27E-07	: 2.21E-06	: 9.68E-07	: 7.17E-07	: 1.11E-06	: 1.35E-04	: 9.94E-06	: 0.00E+00
	: .02%	: .12%	: .05%	: .04%	: .06%	: 4.83%	: .52%	: .00%
VEGET	: 2.42E-06	: 7.45E-06	: 3.00E-05	: 2.12E-06	: 6.86E-07	: 9.33E-06	: 1.43E-07	: 0.00E+00
	: .13%	: .39%	: 1.57%	: .11%	: .04%	: .33%	: .01%	: .00%
COW MILK	: 2.94E-06	: 1.89E-06	: 7.53E-06	: 5.58E-06	: 5.44E-06	: 7.53E-04	: 2.12E-07	: 0.00E+00
	: .16%	: .10%	: .39%	: .30%	: .29%	: 26.97%	: .01%	: .00%
MEAT	: 4.79E-07	: 2.18E-06	: 5.81E-07	: 4.64E-07	: 2.37E-07	: 1.56E-05	: 1.19E-08	: 0.00E+00
	: .03%	: .12%	: .03%	: .02%	: .01%	: .56%	: .00%	: .00%
TOTAL	: 1.88E-03	: 1.89E-03	: 1.92E-03	: 1.89E-03	: 1.89E-03	: 2.79E-03	: 1.93E-03	: 4.87E-03

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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 latest version of the GASPAR computer code included as part of NRC Dose 2.3.20 (ORNL 2015). 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 2020 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 (GW_T) power generation were utilized to determine the quantity of Carbon-14 in the CNS gaseous effluent discharge for 2021. Specifically, the Boiling Water Reactor proxy production rate of 5.1 curies Carbon-14 per GW_T generation using the methodology described in EPRI, 2010 was the basis for the CNS total calculated emissions of 12.1 curies of Carbon-14 in 2021.

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 2021

SPECIAL LOCATION NO. 4A 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	8.14E-03	8.14E-03	4.07E-02	8.14E-03	8.14E-03	8.14E-03	8.14E-03	8.14E-03
TEEN	1.36E-02	1.36E-02	6.81E-02	1.36E-02	1.36E-02	1.36E-02	1.36E-02	1.36E-02
CHILD	3.31E-02	3.31E-02	1.66E-01	3.31E-02	3.31E-02	3.31E-02	3.31E-02	3.31E-02
MEAT								
ADULT	3.25E-03	3.25E-03	1.62E-02	3.25E-03	3.25E-03	3.25E-03	3.25E-03	3.25E-03
TEEN	2.74E-03	2.74E-03	1.37E-02	2.74E-03	2.74E-03	2.74E-03	2.74E-03	2.74E-03
CHILD	5.16E-03	5.16E-03	2.58E-02	5.16E-03	5.16E-03	5.16E-03	5.16E-03	5.16E-03
COW MILK								
ADULT	3.54E-03	3.54E-03	1.77E-02	3.54E-03	3.54E-03	3.54E-03	3.54E-03	3.54E-03
TEEN	6.54E-03	6.54E-03	3.27E-02	6.54E-03	6.54E-03	6.54E-03	6.54E-03	6.54E-03
CHILD	1.61E-02	1.61E-02	8.04E-02	1.61E-02	1.61E-02	1.61E-02	1.61E-02	1.61E-02
INFANT	3.36E-02	3.36E-02	1.57E-01	3.36E-02	3.36E-02	3.36E-02	3.36E-02	3.36E-02
GOATMILK								
ADULT	3.54E-03	3.54E-03	1.77E-02	3.54E-03	3.54E-03	3.54E-03	3.54E-03	3.54E-03
TEEN	6.54E-03	6.54E-03	3.27E-02	6.54E-03	6.54E-03	6.54E-03	6.54E-03	6.54E-03
CHILD	1.61E-02	1.61E-02	8.04E-02	1.61E-02	1.61E-02	1.61E-02	1.61E-02	1.61E-02
INFANT	3.36E-02	3.36E-02	1.57E-01	3.36E-02	3.36E-02	3.36E-02	3.36E-02	3.36E-02

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TABLE 15. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-MARCH 2021 (Continued)

SPECIAL LOCATION NO. 5A 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	1.23E-02	1.23E-02	6.15E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02
TEEN	2.06E-02	2.06E-02	1.03E-01	2.06E-02	2.06E-02	2.06E-02	2.06E-02	2.06E-02
CHILD	5.00E-02	5.00E-02	2.50E-01	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02
MEAT								
ADULT	4.91E-03	4.91E-03	2.45E-02	4.91E-03	4.91E-03	4.91E-03	4.91E-03	4.91E-03
TEEN	4.14E-03	4.14E-03	2.07E-02	4.14E-03	4.14E-03	4.14E-03	4.14E-03	4.14E-03
CHILD	7.79E-03	7.79E-03	3.89E-02	7.79E-03	7.79E-03	7.79E-03	7.79E-03	7.79E-03
COW MILK								
ADULT	5.35E-03	5.35E-03	2.68E-02	5.35E-03	5.35E-03	5.35E-03	5.35E-03	5.35E-03
TEEN	9.87E-03	9.87E-03	4.94E-02	9.87E-03	9.87E-03	9.87E-03	9.87E-03	9.87E-03
CHILD	2.43E-02	2.43E-02	1.21E-01	2.43E-02	2.43E-02	2.43E-02	2.43E-02	2.43E-02
INFANT	5.07E-02	5.07E-02	2.38E-01	5.07E-02	5.07E-02	5.07E-02	5.07E-02	5.07E-02
GOATMILK								
ADULT	5.35E-03	5.35E-03	2.68E-02	5.35E-03	5.35E-03	5.35E-03	5.35E-03	5.35E-03
TEEN	9.87E-03	9.87E-03	4.94E-02	9.87E-03	9.87E-03	9.87E-03	9.87E-03	9.87E-03
CHILD	2.43E-02	2.43E-02	1.21E-01	2.43E-02	2.43E-02	2.43E-02	2.43E-02	2.43E-02
INFANT	5.07E-02	5.07E-02	2.38E-01	5.07E-02	5.07E-02	5.07E-02	5.07E-02	5.07E-02

CS3

TABLE 16. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), APRIL-JUNE 2021

SPECIAL LOCATION NO. 4A 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	4.68E-03	4.68E-03	2.34E-02	4.68E-03	4.68E-03	4.68E-03	4.68E-03	4.68E-03
TEEN	7.82E-03	7.82E-03	3.91E-02	7.82E-03	7.82E-03	7.82E-03	7.82E-03	7.82E-03
CHILD	1.90E-02	1.90E-02	9.52E-02	1.90E-02	1.90E-02	1.90E-02	1.90E-02	1.90E-02
MEAT								
ADULT	1.87E-03	1.87E-03	9.33E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03
TEEN	1.58E-03	1.58E-03	7.88E-03	1.58E-03	1.58E-03	1.58E-03	1.58E-03	1.58E-03
CHILD	2.96E-03	2.96E-03	1.48E-02	2.96E-03	2.96E-03	2.96E-03	2.96E-03	2.96E-03
COW MILK								
ADULT	2.04E-03	2.04E-03	1.02E-02	2.04E-03	2.04E-03	2.04E-03	2.04E-03	2.04E-03
TEEN	3.75E-03	3.75E-03	1.88E-02	3.75E-03	3.75E-03	3.75E-03	3.75E-03	3.75E-03
CHILD	9.23E-03	9.23E-03	4.62E-02	9.23E-03	9.23E-03	9.23E-03	9.23E-03	9.23E-03
INFANT	1.93E-02	1.93E-02	9.04E-02	1.93E-02	1.93E-02	1.93E-02	1.93E-02	1.93E-02
GOATMILK								
ADULT	2.04E-03	2.04E-03	1.02E-02	2.04E-03	2.04E-03	2.04E-03	2.04E-03	2.04E-03
TEEN	3.75E-03	3.75E-03	1.88E-02	3.75E-03	3.75E-03	3.75E-03	3.75E-03	3.75E-03
CHILD	9.23E-03	9.23E-03	4.62E-02	9.23E-03	9.23E-03	9.23E-03	9.23E-03	9.23E-03
INFANT	1.93E-02	1.93E-02	9.04E-02	1.93E-02	1.93E-02	1.93E-02	1.93E-02	1.93E-02

CS4

TABLE 16. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), APRIL-JUNE 2021 (Continued)

SPECIAL LOCATION NO. 5A Nearest Garden
 AT 2.30 MILES ESE

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	1.00E-02	1.00E-02	5.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
TEEN	1.67E-02	1.67E-02	8.36E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02
CHILD	4.07E-02	4.07E-02	2.03E-01	4.07E-02	4.07E-02	4.07E-02	4.07E-02	4.07E-02
MEAT								
ADULT	3.99E-03	3.99E-03	1.99E-02	3.99E-03	3.99E-03	3.99E-03	3.99E-03	3.99E-03
TEEN	3.37E-03	3.37E-03	1.68E-02	3.37E-03	3.37E-03	3.37E-03	3.37E-03	3.37E-03
CHILD	6.34E-03	6.34E-03	3.17E-02	6.34E-03	6.34E-03	6.34E-03	6.34E-03	6.34E-03
COW MILK								
ADULT	4.35E-03	4.35E-03	2.18E-02	4.35E-03	4.35E-03	4.35E-03	4.35E-03	4.35E-03
TEEN	8.03E-03	8.03E-03	4.01E-02	8.03E-03	8.03E-03	8.03E-03	8.03E-03	8.03E-03
CHILD	1.97E-02	1.97E-02	9.87E-02	1.97E-02	1.97E-02	1.97E-02	1.97E-02	1.97E-02
INFANT	4.13E-02	4.13E-02	1.93E-01	4.13E-02	4.13E-02	4.13E-02	4.13E-02	4.13E-02
GOATMILK								
ADULT	4.35E-03	4.35E-03	2.18E-02	4.35E-03	4.35E-03	4.35E-03	4.35E-03	4.35E-03
TEEN	8.03E-03	8.03E-03	4.01E-02	8.03E-03	8.03E-03	8.03E-03	8.03E-03	8.03E-03
CHILD	1.97E-02	1.97E-02	9.87E-02	1.97E-02	1.97E-02	1.97E-02	1.97E-02	1.97E-02
INFANT	4.13E-02	4.13E-02	1.93E-01	4.13E-02	4.13E-02	4.13E-02	4.13E-02	4.13E-02

CSS

TABLE 17. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-JUNE 2021

SPECIAL LOCATION NO. 4A 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	6.42E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02
TEEN	2.15E-02	2.15E-02	1.07E-01	2.15E-02	2.15E-02	2.15E-02	2.15E-02	2.15E-02
CHILD	5.22E-02	5.22E-02	2.61E-01	5.22E-02	5.22E-02	5.22E-02	5.22E-02	5.22E-02
MEAT								
ADULT	5.12E-03	5.12E-03	2.56E-02	5.12E-03	5.12E-03	5.12E-03	5.12E-03	5.12E-03
TEEN	4.33E-03	4.33E-03	2.16E-02	4.33E-03	4.33E-03	4.33E-03	4.33E-03	4.33E-03
CHILD	8.13E-03	8.13E-03	4.07E-02	8.13E-03	8.13E-03	8.13E-03	8.13E-03	8.13E-03
COW MILK								
ADULT	5.59E-03	5.59E-03	2.79E-02	5.59E-03	5.59E-03	5.59E-03	5.59E-03	5.59E-03
TEEN	1.03E-02	1.03E-02	5.15E-02	1.03E-02	1.03E-02	1.03E-02	1.03E-02	1.03E-02
CHILD	2.53E-02	2.53E-02	1.27E-01	2.53E-02	2.53E-02	2.53E-02	2.53E-02	2.53E-02
INFANT	5.30E-02	5.30E-02	2.48E-01	5.30E-02	5.30E-02	5.30E-02	5.30E-02	5.30E-02
GOATMILK								
ADULT	5.59E-03	5.59E-03	2.79E-02	5.59E-03	5.59E-03	5.59E-03	5.59E-03	5.59E-03
TEEN	1.03E-02	1.03E-02	5.15E-02	1.03E-02	1.03E-02	1.03E-02	1.03E-02	1.03E-02
CHILD	2.53E-02	2.53E-02	1.27E-01	2.53E-02	2.53E-02	2.53E-02	2.53E-02	2.53E-02
INFANT	5.30E-02	5.30E-02	2.48E-01	5.30E-02	5.30E-02	5.30E-02	5.30E-02	5.30E-02

TABLE 17. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-JUNE 2021 (Continued)

SPECIAL LOCATION NO. 5A 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	9.62E-02	1.92E-02	1.92E-02	1.92E-02	1.92E-02	1.92E-02
TEEN	3.22E-02	3.22E-02	1.61E-01	3.22E-02	3.22E-02	3.22E-02	3.22E-02	3.22E-02
CHILD	7.84E-02	7.84E-02	3.92E-01	7.84E-02	7.84E-02	7.84E-02	7.84E-02	7.84E-02
MEAT								
ADULT	7.68E-03	7.68E-03	3.84E-02	7.68E-03	7.68E-03	7.68E-03	7.68E-03	7.68E-03
TEEN	6.49E-03	6.49E-03	3.25E-02	6.49E-03	6.49E-03	6.49E-03	6.49E-03	6.49E-03
CHILD	1.22E-02	1.22E-02	6.10E-02	1.22E-02	1.22E-02	1.22E-02	1.22E-02	1.22E-02
COW MILK								
ADULT	8.38E-03	8.38E-03	4.19E-02	8.38E-03	8.38E-03	8.38E-03	8.38E-03	8.38E-03
TEEN	1.55E-02	1.55E-02	7.73E-02	1.55E-02	1.55E-02	1.55E-02	1.55E-02	1.55E-02
CHILD	3.80E-02	3.80E-02	1.90E-01	3.80E-02	3.80E-02	3.80E-02	3.80E-02	3.80E-02
INFANT	7.95E-02	7.95E-02	3.72E-01	7.95E-02	7.95E-02	7.95E-02	7.95E-02	7.95E-02
GOATMILK								
ADULT	8.38E-03	8.38E-03	4.19E-02	8.38E-03	8.38E-03	8.38E-03	8.38E-03	8.38E-03
TEEN	1.55E-02	1.55E-02	7.73E-02	1.55E-02	1.55E-02	1.55E-02	1.55E-02	1.55E-02
CHILD	3.80E-02	3.80E-02	1.90E-01	3.80E-02	3.80E-02	3.80E-02	3.80E-02	3.80E-02
INFANT	7.95E-02	7.95E-02	3.72E-01	7.95E-02	7.95E-02	7.95E-02	7.95E-02	7.95E-02

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TABLE 18. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 2021

SPECIAL LOCATION NO. 4A 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	7.98E-03	7.98E-03	3.99E-02	7.98E-03	7.98E-03	7.98E-03	7.98E-03	7.98E-03
TEEN	1.33E-02	1.33E-02	6.67E-02	1.33E-02	1.33E-02	1.33E-02	1.33E-02	1.33E-02
CHILD	3.25E-02	3.25E-02	1.62E-01	3.25E-02	3.25E-02	3.25E-02	3.25E-02	3.25E-02
MEAT								
ADULT	3.18E-03	3.18E-03	1.59E-02	3.18E-03	3.18E-03	3.18E-03	3.18E-03	3.18E-03
TEEN	2.69E-03	2.69E-03	1.34E-02	2.69E-03	2.69E-03	2.69E-03	2.69E-03	2.69E-03
CHILD	5.06E-03	5.06E-03	2.53E-02	5.06E-03	5.06E-03	5.06E-03	5.06E-03	5.06E-03
COW MILK								
ADULT	3.47E-03	3.47E-03	1.74E-02	3.47E-03	3.47E-03	3.47E-03	3.47E-03	3.47E-03
TEEN	6.41E-03	6.41E-03	3.20E-02	6.41E-03	6.41E-03	6.41E-03	6.41E-03	6.41E-03
CHILD	1.58E-02	1.58E-02	7.88E-02	1.58E-02	1.58E-02	1.58E-02	1.58E-02	1.58E-02
INFANT	3.29E-02	3.29E-02	1.54E-01	3.29E-02	3.29E-02	3.29E-02	3.29E-02	3.29E-02
GOATMILK								
ADULT	3.47E-03	3.47E-03	1.74E-02	3.47E-03	3.47E-03	3.47E-03	3.47E-03	3.47E-03
TEEN	6.41E-03	6.41E-03	3.20E-02	6.41E-03	6.41E-03	6.41E-03	6.41E-03	6.41E-03
CHILD	1.58E-02	1.58E-02	7.88E-02	1.58E-02	1.58E-02	1.58E-02	1.58E-02	1.58E-02
INFANT	3.29E-02	3.29E-02	1.54E-01	3.29E-02	3.29E-02	3.29E-02	3.29E-02	3.29E-02

CS8

TABLE 18. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 2021 (Continued)

SPECIAL LOCATION NO. 5A Nearest Garden
 AT 2.30 MILES ESE

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	1.58E-02	1.58E-02	7.90E-02	1.58E-02	1.58E-02	1.58E-02	1.58E-02	1.58E-02
TEEN	2.64E-02	2.64E-02	1.32E-01	2.64E-02	2.64E-02	2.64E-02	2.64E-02	2.64E-02
CHILD	6.43E-02	6.43E-02	3.21E-01	6.43E-02	6.43E-02	6.43E-02	6.43E-02	6.43E-02
MEAT								
ADULT	6.30E-03	6.30E-03	3.15E-02	6.30E-03	6.30E-03	6.30E-03	6.30E-03	6.30E-03
TEEN	5.32E-03	5.32E-03	2.66E-02	5.32E-03	5.32E-03	5.32E-03	5.32E-03	5.32E-03
CHILD	1.00E-02	1.00E-02	5.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
COW MILK								
ADULT	6.88E-03	6.88E-03	3.44E-02	6.88E-03	6.88E-03	6.88E-03	6.88E-03	6.88E-03
TEEN	1.27E-02	1.27E-02	6.34E-02	1.27E-02	1.27E-02	1.27E-02	1.27E-02	1.27E-02
CHILD	3.12E-02	3.12E-02	1.56E-01	3.12E-02	3.12E-02	3.12E-02	3.12E-02	3.12E-02
INFANT	6.52E-02	6.52E-02	3.05E-01	6.52E-02	6.52E-02	6.52E-02	6.52E-02	6.52E-02
GOATMILK								
ADULT	6.88E-03	6.88E-03	3.44E-02	6.88E-03	6.88E-03	6.88E-03	6.88E-03	6.88E-03
TEEN	1.27E-02	1.27E-02	6.34E-02	1.27E-02	1.27E-02	1.27E-02	1.27E-02	1.27E-02
CHILD	3.12E-02	3.12E-02	1.56E-01	3.12E-02	3.12E-02	3.12E-02	3.12E-02	3.12E-02
INFANT	6.52E-02	6.52E-02	3.05E-01	6.52E-02	6.52E-02	6.52E-02	6.52E-02	6.52E-02

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TABLE 19. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), OCTOBER-DECEMBER 2021

SPECIAL LOCATION NO. 4A 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	1.12E-02	1.12E-02	5.62E-02	1.12E-02	1.12E-02	1.12E-02	1.12E-02	1.12E-02
TEEN	1.88E-02	1.88E-02	9.39E-02	1.88E-02	1.88E-02	1.88E-02	1.88E-02	1.88E-02
CHILD	4.57E-02	4.57E-02	2.29E-01	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02
MEAT								
ADULT	4.48E-03	4.48E-03	2.24E-02	4.48E-03	4.48E-03	4.48E-03	4.48E-03	4.48E-03
TEEN	3.79E-03	3.79E-03	1.89E-02	3.79E-03	3.79E-03	3.79E-03	3.79E-03	3.79E-03
CHILD	7.12E-03	7.12E-03	3.56E-02	7.12E-03	7.12E-03	7.12E-03	7.12E-03	7.12E-03
COW MILK								
ADULT	4.89E-03	4.89E-03	2.45E-02	4.89E-03	4.89E-03	4.89E-03	4.89E-03	4.89E-03
TEEN	9.02E-03	9.02E-03	4.51E-02	9.02E-03	9.02E-03	9.02E-03	9.02E-03	9.02E-03
CHILD	2.22E-02	2.22E-02	1.11E-01	2.22E-02	2.22E-02	2.22E-02	2.22E-02	2.22E-02
INFANT	4.64E-02	4.64E-02	2.17E-01	4.64E-02	4.64E-02	4.64E-02	4.64E-02	4.64E-02
GOATMILK								
ADULT	4.89E-03	4.89E-03	2.45E-02	4.89E-03	4.89E-03	4.89E-03	4.89E-03	4.89E-03
TEEN	9.02E-03	9.02E-03	4.51E-02	9.02E-03	9.02E-03	9.02E-03	9.02E-03	9.02E-03
CHILD	2.22E-02	2.22E-02	1.11E-01	2.22E-02	2.22E-02	2.22E-02	2.22E-02	2.22E-02
INFANT	4.64E-02	4.64E-02	2.17E-01	4.64E-02	4.64E-02	4.64E-02	4.64E-02	4.64E-02

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TABLE 19. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), OCTOBER-DECEMBER 2021 (Continued)

SPECIAL LOCATION NO. 5A 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	1.63E-02	1.63E-02	8.14E-02	1.63E-02	1.63E-02	1.63E-02	1.63E-02	1.63E-02
TEEN	2.72E-02	2.72E-02	1.36E-01	2.72E-02	2.72E-02	2.72E-02	2.72E-02	2.72E-02
CHILD	6.63E-02	6.63E-02	3.31E-01	6.63E-02	6.63E-02	6.63E-02	6.63E-02	6.63E-02
MEAT								
ADULT	6.50E-03	6.50E-03	3.25E-02	6.50E-03	6.50E-03	6.50E-03	6.50E-03	6.50E-03
TEEN	5.49E-03	5.49E-03	2.74E-02	5.49E-03	5.49E-03	5.49E-03	5.49E-03	5.49E-03
CHILD	1.03E-02	1.03E-02	5.16E-02	1.03E-02	1.03E-02	1.03E-02	1.03E-02	1.03E-02
COW MILK								
ADULT	7.09E-03	7.09E-03	3.54E-02	7.09E-03	7.09E-03	7.09E-03	7.09E-03	7.09E-03
TEEN	1.31E-02	1.31E-02	6.54E-02	1.31E-02	1.31E-02	1.31E-02	1.31E-02	1.31E-02
CHILD	3.22E-02	3.22E-02	1.61E-01	3.22E-02	3.22E-02	3.22E-02	3.22E-02	3.22E-02
INFANT	6.72E-02	6.72E-02	3.15E-01	6.72E-02	6.72E-02	6.72E-02	6.72E-02	6.72E-02
GOATMILK								
ADULT	7.09E-03	7.09E-03	3.54E-02	7.09E-03	7.09E-03	7.09E-03	7.09E-03	7.09E-03
TEEN	1.31E-02	1.31E-02	6.54E-02	1.31E-02	1.31E-02	1.31E-02	1.31E-02	1.31E-02
CHILD	3.22E-02	3.22E-02	1.61E-01	3.22E-02	3.22E-02	3.22E-02	3.22E-02	3.22E-02
INFANT	6.72E-02	6.72E-02	3.15E-01	6.72E-02	6.72E-02	6.72E-02	6.72E-02	6.72E-02

TABLE 20. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 2021

SPECIAL LOCATION NO. 4A 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	1.92E-02	1.92E-02	9.62E-02	1.92E-02	1.92E-02	1.92E-02	1.92E-02	1.92E-02
TEEN	3.22E-02	3.22E-02	1.61E-01	3.22E-02	3.22E-02	3.22E-02	3.22E-02	3.22E-02
CHILD	7.83E-02	7.83E-02	3.92E-01	7.83E-02	7.83E-02	7.83E-02	7.83E-02	7.83E-02
MEAT								
ADULT	7.68E-03	7.68E-03	3.84E-02	7.68E-03	7.68E-03	7.68E-03	7.68E-03	7.68E-03
TEEN	6.49E-03	6.49E-03	3.24E-02	6.49E-03	6.49E-03	6.49E-03	6.49E-03	6.49E-03
CHILD	1.22E-02	1.22E-02	6.10E-02	1.22E-02	1.22E-02	1.22E-02	1.22E-02	1.22E-02
COW MILK								
ADULT	8.38E-03	8.38E-03	4.19E-02	8.38E-03	8.38E-03	8.38E-03	8.38E-03	8.38E-03
TEEN	1.55E-02	1.55E-02	7.73E-02	1.55E-02	1.55E-02	1.55E-02	1.55E-02	1.55E-02
CHILD	3.80E-02	3.80E-02	1.90E-01	3.80E-02	3.80E-02	3.80E-02	3.80E-02	3.80E-02
INFANT	7.95E-02	7.95E-02	3.72E-01	7.95E-02	7.95E-02	7.95E-02	7.95E-02	7.95E-02
GOATMILK								
ADULT	8.38E-03	8.38E-03	4.19E-02	8.38E-03	8.38E-03	8.38E-03	8.38E-03	8.38E-03
TEEN	1.55E-02	1.55E-02	7.73E-02	1.55E-02	1.55E-02	1.55E-02	1.55E-02	1.55E-02
CHILD	3.80E-02	3.80E-02	1.90E-01	3.80E-02	3.80E-02	3.80E-02	3.80E-02	3.80E-02
INFANT	7.95E-02	7.95E-02	3.72E-01	7.95E-02	7.95E-02	7.95E-02	7.95E-02	7.95E-02

TABLE 20. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 2021 (Continued)

SPECIAL LOCATION NO. 5A 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	2.94E-02	2.94E-02	1.47E-01	2.94E-02	2.94E-02	2.94E-02	2.94E-02	2.94E-02
TEEN	4.91E-02	4.91E-02	2.45E-01	4.91E-02	4.91E-02	4.91E-02	4.91E-02	4.91E-02
CHILD	1.20E-01	1.20E-01	5.98E-01	1.20E-01	1.20E-01	1.20E-01	1.20E-01	1.20E-01
MEAT								
ADULT	1.17E-02	1.17E-02	5.86E-02	1.17E-02	1.17E-02	1.17E-02	1.17E-02	1.17E-02
TEEN	9.90E-03	9.90E-03	4.95E-02	9.90E-03	9.90E-03	9.90E-03	9.90E-03	9.90E-03
CHILD	1.86E-02	1.86E-02	9.30E-02	1.86E-02	1.86E-02	1.86E-02	1.86E-02	1.86E-02
COW MILK								
ADULT	1.28E-02	1.28E-02	6.39E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02
TEEN	2.36E-02	2.36E-02	1.18E-01	2.36E-02	2.36E-02	2.36E-02	2.36E-02	2.36E-02
CHILD	5.80E-02	5.80E-02	2.90E-01	5.80E-02	5.80E-02	5.80E-02	5.80E-02	5.80E-02
INFANT	1.21E-01	1.21E-01	5.68E-01	1.21E-01	1.21E-01	1.21E-01	1.21E-01	1.21E-01
GOATMILK								
ADULT	1.28E-02	1.28E-02	6.39E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02
TEEN	2.36E-02	2.36E-02	1.18E-01	2.36E-02	2.36E-02	2.36E-02	2.36E-02	2.36E-02
CHILD	5.80E-02	5.80E-02	2.90E-01	5.80E-02	5.80E-02	5.80E-02	5.80E-02	5.80E-02
INFANT	1.21E-01	1.21E-01	5.68E-01	1.21E-01	1.21E-01	1.21E-01	1.21E-01	1.21E-01

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TABLE 21. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-DECEMBER 2021

SPECIAL LOCATION NO. 4A 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	3.23E-02	3.23E-02	1.61E-01	3.23E-02	3.23E-02	3.23E-02	3.23E-02	3.23E-02
TEEN	5.40E-02	5.40E-02	2.70E-01	5.40E-02	5.40E-02	5.40E-02	5.40E-02	5.40E-02
CHILD	1.31E-01	1.31E-01	6.57E-01	1.31E-01	1.31E-01	1.31E-01	1.31E-01	1.31E-01
MEAT								
ADULT	1.29E-02	1.29E-02	6.44E-02	1.29E-02	1.29E-02	1.29E-02	1.29E-02	1.29E-02
TEEN	1.09E-02	1.09E-02	5.44E-02	1.09E-02	1.09E-02	1.09E-02	1.09E-02	1.09E-02
CHILD	2.05E-02	2.05E-02	1.02E-01	2.05E-02	2.05E-02	2.05E-02	2.05E-02	2.05E-02
COW MILK								
ADULT	1.41E-02	1.41E-02	7.03E-02	1.41E-02	1.41E-02	1.41E-02	1.41E-02	1.41E-02
TEEN	2.59E-02	2.59E-02	1.30E-01	2.59E-02	2.59E-02	2.59E-02	2.59E-02	2.59E-02
CHILD	6.38E-02	6.38E-02	3.19E-01	6.38E-02	6.38E-02	6.38E-02	6.38E-02	6.38E-02
INFANT	1.33E-01	1.33E-01	6.25E-01	1.33E-01	1.33E-01	1.33E-01	1.33E-01	1.33E-01
GOATMILK								
ADULT	1.41E-02	1.41E-02	7.03E-02	1.41E-02	1.41E-02	1.41E-02	1.41E-02	1.41E-02
TEEN	2.59E-02	2.59E-02	1.30E-01	2.59E-02	2.59E-02	2.59E-02	2.59E-02	2.59E-02
CHILD	6.38E-02	6.38E-02	3.19E-01	6.38E-02	6.38E-02	6.38E-02	6.38E-02	6.38E-02
INFANT	1.33E-01	1.33E-01	6.25E-01	1.33E-01	1.33E-01	1.33E-01	1.33E-01	1.33E-01

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TABLE 21. CARBON-14 DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-DECEMBER 2021 (Continued)

SPECIAL LOCATION NO. 5A 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	4.91E-02	4.91E-02	2.45E-01	4.91E-02	4.91E-02	4.91E-02	4.91E-02	4.91E-02
TEEN	8.21E-02	8.21E-02	4.11E-01	8.21E-02	8.21E-02	8.21E-02	8.21E-02	8.21E-02
CHILD	2.00E-01	2.00E-01	9.99E-01	2.00E-01	2.00E-01	2.00E-01	2.00E-01	2.00E-01
MEAT								
ADULT	1.96E-02	1.96E-02	9.80E-02	1.96E-02	1.96E-02	1.96E-02	1.96E-02	1.96E-02
TEEN	1.66E-02	1.66E-02	8.28E-02	1.66E-02	1.66E-02	1.66E-02	1.66E-02	1.66E-02
CHILD	3.11E-02	3.11E-02	1.56E-01	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02
COW MILK								
ADULT	2.14E-02	2.14E-02	1.07E-01	2.14E-02	2.14E-02	2.14E-02	2.14E-02	2.14E-02
TEEN	3.94E-02	3.94E-02	1.97E-01	3.94E-02	3.94E-02	3.94E-02	3.94E-02	3.94E-02
CHILD	9.69E-02	9.69E-02	4.85E-01	9.69E-02	9.69E-02	9.69E-02	9.69E-02	9.69E-02
INFANT	2.03E-01	2.03E-01	9.49E-01	2.03E-01	2.03E-01	2.03E-01	2.03E-01	2.03E-01
GOATMILK								
ADULT	2.14E-02	2.14E-02	1.07E-01	2.14E-02	2.14E-02	2.14E-02	2.14E-02	2.14E-02
TEEN	3.94E-02	3.94E-02	1.97E-01	3.94E-02	3.94E-02	3.94E-02	3.94E-02	3.94E-02
CHILD	9.69E-02	9.69E-02	4.85E-01	9.69E-02	9.69E-02	9.69E-02	9.69E-02	9.69E-02
INFANT	2.03E-01	2.03E-01	9.49E-01	2.03E-01	2.03E-01	2.03E-01	2.03E-01	2.03E-01

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DOSE CALCULATION MODELS

To evaluate the radiological consequences of the routine release of liquid and gaseous effluents from the Cooper Nuclear Station, the latest versions of two computer codes were used: LADTAP II for liquid doses and GASPAR for gaseous doses included as part of NRC Dose 2.3.20 (ORNL 2015). 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 g/m³)
- 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 2021

Parameter	Values Assigned	
	Individual	Population
Cooling flow rate (cfs) * (Average daily value)	Q1 NR	NR
	Q2 NR	NR
	Q3 NR	NR
	Q4 NR	NR
Dilution factor*	Q1 NR	NR
	Q2 NR	NR
	Q3 NR	NR
	Q4 NR	NR
Holding time:		
Fish	24 hr ***	168 hr ***
Drinking water	12 hr ***	22.4 hr **
Shoreline exposure	0 hr ***	22.4 hr **
Swimming	0 hr ***	22.4 hr **
Boating	0 hr ***	22.4 hr **

* Q1, Q2, Q3, and Q4 represent first, second, third and fourth quarter station data for 2021, 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

REFERENCES

Electric Power Research Institute, Technical Report 1021106, "Estimation of Carbon-14 in Nuclear Power Plant Gaseous Effluents", December 2010.

Oak Ridge National Laboratory, NRC Dose 2.3.20, "Code System for Evaluating Routine Radioactive Effluents from Nuclear Power Plants with Windows Interface", February 2015.

U.S. Nuclear Regulatory Commission, Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants", Revision 1, 1974.

U.S. Nuclear Regulatory Commission, Regulatory Guide 1.23 (Safety Guide 23), "Onsite Meteorological Programs", Revision 0, 1972.

U.S. Nuclear Regulatory Commission, Regulatory Guide 1.111, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors", Revision 1, 1977.

U.S. Nuclear Regulatory Commission, NUREG/CR-2919, "XOQDOQ: Computer Program for the Meteorological Evaluation of Routine Effluent Releases at Nuclear Power Stations", 1982.

U.S. Nuclear Regulatory Commission, Regulatory Guide 1.111, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors", Revision 0, 1976.

U.S. Nuclear Regulatory Commission, NUREG-0597, "User's Guide to GASPAR Code", December 1980.

U.S. Nuclear Regulatory Commission, NUREG/CR-1276, "User's Manual for LADTAP II: A Computer Code for Calculating Radiation Exposure to Man From Routine Release of Nuclear Reactor Liquid Effluents", 1980.

U.S. Nuclear Regulatory Commission, Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR 50, Appendix I", Revision 1, 1977.

APPENDIX D
ANNUAL RADIOLOGICAL GROUNDWATER PROTECTION PROGRAM
(ARGPP) REPORT

***NEBRASKA PUBLIC POWER DISTRICT
COOPER NUCLEAR STATION
Radiological Groundwater Protection Program
2021 Annual Report
January 1, 2021 to December 31, 2021***

Prepared by
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Attachments

Attachment 1: Location Designation of the Annual Radiological Groundwater Protection Program Report (ARGPPR)

Tables

Table A-1: Radiological Groundwater Protection Program - Sampling Locations, Nebraska Public Power District, Cooper Nuclear Station, 2021

Map

Map A-1: Routine Well Water Sample Locations for the Radiological Groundwater Protection Program, Nebraska Public Power District, Cooper Nuclear Station, 2021

Attachment 2: Data Tables of the Annual Radiological Groundwater Protection Program Report (ARGPPR)

Table B-1: Exposure Pathway – Water - Ground, 2021

SECTION I. SUMMARY

I. SUMMARY

In 2008, the Cooper Nuclear Station (CNS) of the Nebraska Public Power District (NPPD) instituted a comprehensive program to evaluate the impact of station operations on groundwater in the vicinity of CNS. This report covers groundwater samples, collected outside of the Licensee required Off-Site Dose Assessment Manual (ODAM) requirements, both on and off station property in 2021. During that time period, analyses were performed on 53 samples from 22 locations.

In assessing all the data gathered for this report, it was concluded that the operation of CNS had no adverse radiological impact on the environment, and there are no known active releases into the groundwater or surface water at Nebraska Public Power District.

Tritium was not detected in any of the groundwater samples at concentrations greater than the United States Environmental Protection Agency (USEPA) drinking water standard (and the Nuclear Regulatory Commission [NRC] reporting limit) of 20,000 pCi/L. The tritium concentrations ranged from 320 ± 203 pCi/L to 851 ± 226 pCi/L.

Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective Lower Limits of Detection (LLDs) as specified in NUREG-1302 in any of the groundwater samples. In the case of tritium, CNS specified that the independent laboratory achieve a lower limit of detection 10 times lower than that required by the United States Environmental Protection Agency (USEPA) regulation.

SECTION II. CHARACTERISTICS OF TRITIUM (H-3)

II. CHARACTERISTICS OF TRITIUM (H-3)

Tritium (chemical symbol H-3) is a radioactive isotope of hydrogen. The most common form of tritium is tritium oxide, which is also called "tritiated water." The chemical properties of tritium are essentially those of ordinary hydrogen.

Tritiated water functions the same as ordinary water in both the environment and the body. Tritium can be taken into the body by drinking water, breathing air, eating food, or absorption through skin. Once tritium enters the body, it disperses quickly and is uniformly distributed throughout the body. Tritium is excreted primarily through urine with a clearance rate characterized by an effective biological half-life of about 14 days. Within one month or so after ingestion, essentially all tritium is cleared. Organically bound tritium (tritium that is incorporated in organic compounds) can remain in the body for a longer period.

Tritium is produced naturally in the upper atmosphere when cosmic rays strike air molecules. Tritium is also produced during nuclear weapons explosions, as a by-product in reactors producing electricity, and in special production reactors, where the isotopes lithium-6 and/or boron-10 are activated to produce tritium. Like normal water, tritiated water is colorless and odorless. Tritiated water behaves chemically and physically like non-tritiated water in the subsurface, and therefore tritiated water will travel at the same velocity as the average groundwater velocity.

Tritium has a half-life of approximately 12.3 years. It decays spontaneously to helium-3 (^3He). This radioactive decay releases a beta particle (low-energy electron). The radioactive decay of tritium is the source of the health risk from exposure to tritium. Tritium is one of the least dangerous radionuclides because it emits very weak beta radiation and leaves the body relatively quickly. Since tritium is almost always found as water, it goes directly into soft tissues and organs. The associated dose to these tissues is generally uniform and is dependent on the water content of the specific tissue.

SECTION III. INTRODUCTION

III. INTRODUCTION

Cooper Nuclear Station is located in Nemaha County in the southeast corner of Nebraska on the Missouri River. A portion of the site extends into Missouri. The reactor is an 830-megawatt (net electrical) boiling water reactor. Initial criticality was attained on February 21, 1974.

This report covers those analyses performed by Teledyne Brown Engineering (TBE) on samples collected in 2021.

III. INTRODUCTION (cont)

A. Objectives of the Radiological Groundwater Protection Program (RGPP)

The long-term objectives of the RGPP are as follows:

1. Identify suitable locations to monitor and evaluate potential impacts from station operations before significant radiological impact to the environment and potential drinking water sources.
2. Understand the local hydrogeologic regime in the vicinity of the station and maintain up-to-date knowledge of flow patterns on the surface and shallow subsurface.
3. Perform routine water sampling and radiological analysis of water from selected locations.
4. Report new leaks, spills, or other detections with potential radiological significance to stakeholders in a timely manner.
5. Regularly assess analytical results to identify adverse trends.
6. Take necessary corrective actions to protect groundwater resources.

B. Implementation of the Objectives

The objectives identified have been implemented at CNS as discussed below:

1. Cooper Nuclear Station will continue to perform routine sampling and radiological analysis of water from selected locations.
2. Cooper Nuclear Station has implemented procedures to identify and report new leaks, spills, or other detections with potential radiological significance in a timely manner.
3. Cooper Nuclear Station staff assesses analytical results on an ongoing basis to identify adverse trends.

III. INTRODUCTION (cont)

C. Program Description

1. Sample Collection

Sample locations can be found in Attachment 1, Table A-1 and Map A-1.

Groundwater

Samples of water are collected, managed, transported and analyzed in accordance with approved procedures following regulatory methods. Sample locations, sample collection frequencies and analytical frequencies are controlled in accordance with approved station procedures. Contractor and/or station personnel are trained in the collection, preservation management, and shipment of samples, as well as in documentation of sampling events. Analytical laboratories are subject to internal quality assurance programs, inter-laboratory cross-check programs, as well as nuclear industry audits. Station personnel review and evaluate all analytical data deliverables after initial review by the contractor.

Analytical data results are reviewed by station personnel for adverse trends or changes to hydrogeologic conditions.

SECTION IV. PROGRAM DESCRIPTION

III. Program Description

A. Sample Analysis

This section describes the general analytical methodologies used by TBE to analyze the environmental samples for radioactivity for the CNS RGPP in 2021.

In order to achieve the stated objectives, the current program analyzes each sample for tritium. If a sample indicates tritium above TBE's lower limit of detection (LLD), then the sample is analyzed for gamma emitters (Be-7, K-40, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Zr-95, Ru-103, Ru-106, I-131, Cs-134, Cs-137, Ba-140, La-140, Ce-141, Ce-144, Ra-226 and Th-228). If the sample indicates gamma emitters (other than those that are naturally occurring) above TBE's LLD, then the sample is analyzed for Hard to Detects (HTDs – Gross Alpha, Fe-55, Ni-63, Sr-89, Sr-90).

Note: Statistically positive results include their respective uncertainties. Results reported below TBE's LLD for a given radio nuclide are preceded with "<" (= "Less Than").

B. Data Interpretation

The radiological data collected prior to CNS becoming operational were used as a baseline with which these operational data were compared. For the purpose of this report, CNS was considered operational at initial criticality. Several factors were important in the interpretation of the data:

1. Lower Limit of Detection and Minimum Detectable Concentration

The lower limit of detection (LLD) is specified by federal regulation as a minimum sensitivity value that must be achieved routinely by the analytical parameter.

2. Laboratory Measurements Uncertainty

The estimated uncertainty in measurement of tritium in environmental samples is frequently on the order of 50% of the measurement value.

Statistically, the exact value of a measurement is expressed as a range with a stated level of confidence. Analytical uncertainties are reported at the 95% confidence level in this report for reporting consistency with the REMP. The uncertainty comes from calibration standards, sample volume or weight measurements, sampling uncertainty and other factors. CNS reports the uncertainty of a measurement created by statistical process (counting error). Each result has two values calculated. CNS reports the result with plus or minus (\pm) the estimated sample standard deviation.

SECTION V. RESULTS AND DISCUSSION

D. Results and Discussion

A. Groundwater Results

Tritium

Samples from 22 locations were analyzed for tritium activity (Table B-1, Attachment 2). Tritium was detected at five locations. Tritium values ranged from 320 to 851 pCi/L. All values were below the United States Environmental Protection Agency (USEPA) drinking water standard (and the Nuclear Regulatory Commission [NRC] reporting limit) of 20,000 pCi/liter.

Gamma Emitters

Naturally occurring Thorium-228 was detected in one of nine samples with a concentration of 10.0 pCi/L. No other gamma emitting nuclides were detected (Table B-1, Attachment 2).

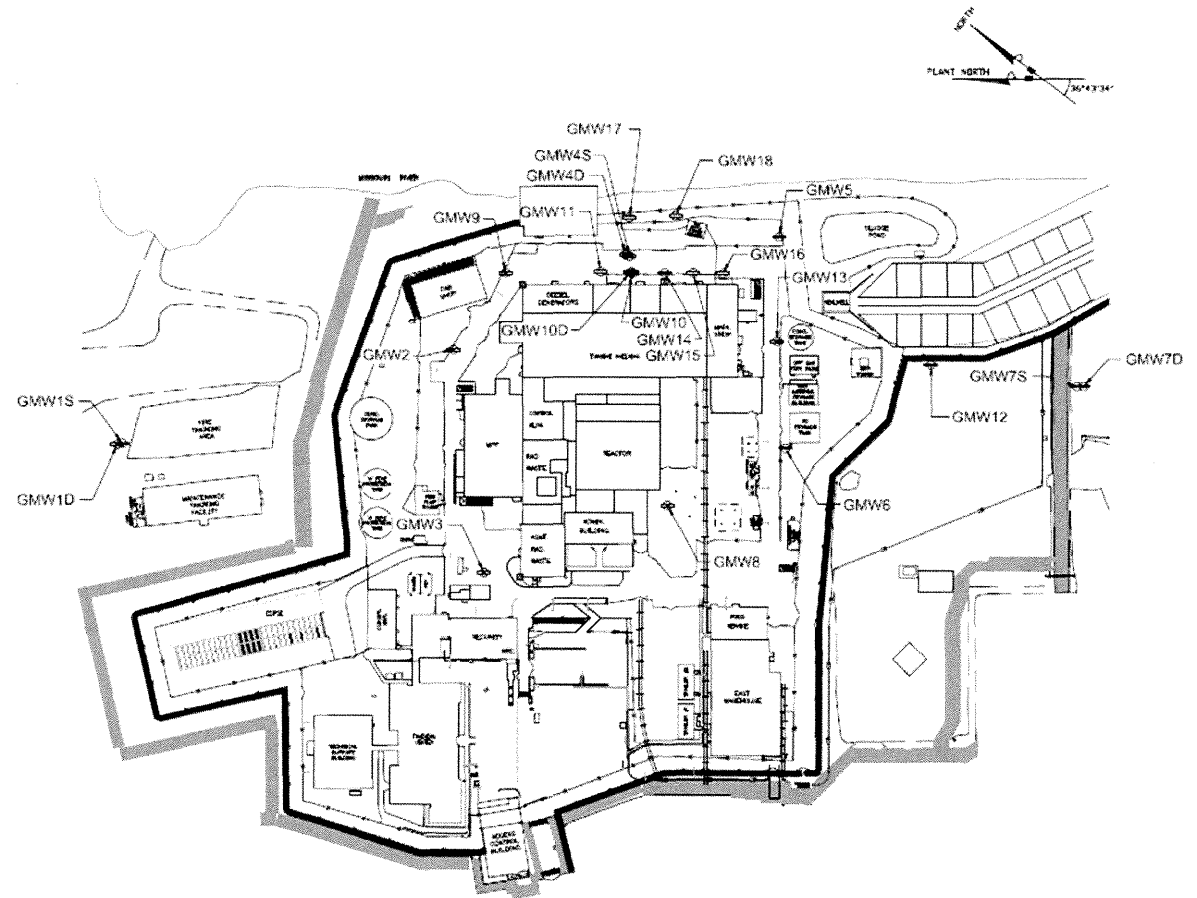
ATTACHMENT 1

**LOCATION DESIGNATION OF THE ANNUAL
RADIOLOGICAL GROUNDWATER PROTECTION
PROGRAM REPORT (ARGPPR)**

TABLE A-1: Radiological Groundwater Protection Program - Sampling Locations,
 Nebraska Public Power District, Cooper Nuclear Station,
 2021

Site	Type
Ground Monitoring Well-1D	Ground Water
Ground Monitoring Well-1S	Ground Water
Ground Monitoring Well-2	Ground Water
Ground Monitoring Well-3	Ground Water
Ground Monitoring Well-4D	Ground Water
Ground Monitoring Well-4S	Ground Water
Ground Monitoring Well-5	Ground Water
Ground Monitoring Well-6	Ground Water
Ground Monitoring Well-7D	Ground Water
Ground Monitoring Well-7S	Ground Water
Ground Monitoring Well-8	Ground Water
Ground Monitoring Well-9	Ground Water
Ground Monitoring Well-10	Ground Water
Ground Monitoring Well-10D	Ground Water
Ground Monitoring Well-11	Ground Water
Ground Monitoring Well-12	Ground Water
Ground Monitoring Well-13	Ground Water
Ground Monitoring Well-14	Ground Water
Ground Monitoring Well-15	Ground Water
Ground Monitoring Well-16	Ground Water
Ground Monitoring Well-17	Ground Water
Ground Monitoring Well-18	Ground Water

MAP A-1



Routine Well Water Sample Locations for the Radiological Groundwater Protection Program, Nebraska Public Power District, Cooper Nuclear Station, 2021

ATTACHMENT 2

**DATA TABLES OF THE ANNUAL RADIOLOGICAL
GROUNDWATER PROTECTION PROGRAM REPORT
(ARGPPR)**

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 1D

DATE COLLECTED 8/17/2021

GAMMA SPECTRUM ANALYSIS: (a)

BE-7
K-40
MN-54
CO-58
FE-59
CO-60
ZN-65
ZR-95
RU-103
RU-106
I-131
CS-134
CS-137
BA-140
LA-140
CE-141
CE-144
RA-226
TH-228

H-3 < 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 1S

DATE COLLECTED	3/4/2021	8/17/2021
GAMMA SPECTRUM ANALYSIS:	(a)	(a)
BE-7		
K-40		
MN-54		
CO-58		
FE-59		
CO-60		
ZN-65		
ZR-95		
RU-103		
RU-106		
I-131		
CS-134		
CS-137		
BA-140		
LA-140		
CE-141		
CE-144		
RA-226		
TH-228		
H-3	< 3.E+02	< 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 2

DATE COLLECTED	3/2/2021	8/16/2021
GAMMA SPECTRUM ANALYSIS:	(a)	(a)
BE-7		
K-40		
MN-54		
CO-58		
FE-59		
CO-60		
ZN-65		
ZR-95		
RU-103		
RU-106		
I-131		
CS-134		
CS-137		
BA-140		
LA-140		
CE-141		
CE-144		
RA-226		
TH-228		
H-3	< 3.E+02	< 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 3

DATE COLLECTED	3/2/2021	8/16/2021
GAMMA SPECTRUM ANALYSIS:	(a)	(a)
BE-7		
K-40		
MN-54		
CO-58		
FE-59		
CO-60		
ZN-65		
ZR-95		
RU-103		
RU-106		
I-131		
CS-134		
CS-137		
BA-140		
LA-140		
CE-141		
CE-144		
RA-226		
TH-228		
H-3	< 3.E+02	< 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
**COOPER NUCLEAR STATION
 WATER - GROUND (PCI/LITER)**

STATION NUMBER 4D

DATE COLLECTED	3/2/2021	6/9/2021	8/16/2021	12/2/2021
GAMMA SPECTRUM ANALYSIS:	(a)	(a)	(a)	(a)
BE-7				
K-40				
MN-54				
CO-58				
FE-59				
CO-60				
ZN-65				
ZR-95				
RU-103				
RU-106				
I-131				
CS-134				
CS-137				
BA-140				
LA-140				
CE-141				
CE-144				
RA-226				
TH-228				
H-3	< 3.E+02	< 6.E+02	< 3.E+02	< 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
**COOPER NUCLEAR STATION
 WATER - GROUND (PCI/LITER)**

STATION NUMBER 4S

DATE COLLECTED	3/2/2021	6/9/2021	8/16/2021	12/2/2021
GAMMA SPECTRUM ANALYSIS:		(a)		
BE-7	< 2.E+01		< 3.E+01	< 3.E+01
K-40	< 3.E+01		< 3.E+01	< 3.E+01
MN-54	< 2.E+00		< 2.E+00	< 2.E+00
CO-58	< 2.E+00		< 3.E+00	< 3.E+00
FE-59	< 5.E+00		< 7.E+00	< 7.E+00
CO-60	< 2.E+00		< 2.E+00	< 2.E+00
ZN-65	< 3.E+00		< 4.E+00	< 4.E+00
ZR-95	< 3.E+00		< 5.E+00	< 5.E+00
RU-103	< 3.E+00		< 4.E+00	< 4.E+00
RU-106	< 1.E+01		< 2.E+01	< 2.E+01
I-131	< 2.E+01		< 1.E+02	< 1.E+02
CS-134	< 2.E+00		< 2.E+00	< 2.E+00
CS-137	< 2.E+00		< 2.E+00	< 2.E+00
BA-140	< 3.E+01		< 1.E+02	< 9.E+01
LA-140	< 8.E+00		< 3.E+01	< 3.E+01
CE-141	< 5.E+00		< 8.E+00	< 8.E+00
CE-144	< 1.E+01		< 1.E+01	< 1.E+01
RA-226	< 4.E+01		< 4.E+01	< 5.E+01
TH-228	< 3.E+00		< 3.E+00	< 3.E+00
H-3	3.34E+02 ± 2.01E+02	< 6.E+02	3.23E+02 ± 2.00E+02	3.99E+02 ± 2.10E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 5

DATE COLLECTED	3/2/2021	8/16/2021
GAMMA SPECTRUM ANALYSIS:	(a)	(a)
BE-7		
K-40		
MN-54		
CO-58		
FE-59		
CO-60		
ZN-65		
ZR-95		
RU-103		
RU-106		
I-131		
CS-134		
CS-137		
BA-140		
LA-140		
CE-141		
CE-144		
RA-226		
TH-228		
H-3	< 3.E+02	< 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
**COOPER NUCLEAR STATION
 WATER - GROUND (PCI/LITER)**

STATION NUMBER 6

DATE COLLECTED	3/2/2021	6/9/2021	8/16/2021	11/23/2021
GAMMA SPECTRUM ANALYSIS:	(a)	(a)	(a)	(a)
BE-7				
K-40				
MN-54				
CO-58				
FE-59				
CO-60				
ZN-65				
ZR-95				
RU-103				
RU-106				
I-131				
CS-134				
CS-137				
BA-140				
LA-140				
CE-141				
CE-144				
RA-226				
TH-228				
H-3	< 3.E+02	< 6.E+02	< 3.E+02	< 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
**COOPER NUCLEAR STATION
 WATER - GROUND (PCI/LITER)**

STATION NUMBER 7D

DATE COLLECTED	3/4/2021	8/17/2021
GAMMA SPECTRUM ANALYSIS:	(a)	(a)
BE-7		
K-40		
MN-54		
CO-58		
FE-59		
CO-60		
ZN-65		
ZR-95		
RU-103		
RU-106		
I-131		
CS-134		
CS-137		
BA-140		
LA-140		
CE-141		
CE-144		
RA-226		
TH-228		
H-3	< 3.E+02	< 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 7S

DATE COLLECTED	3/4/2021	8/17/2021
GAMMA SPECTRUM ANALYSIS:	(a)	(a)
BE-7		
K-40		
MN-54		
CO-58		
FE-59		
CO-60		
ZN-65		
ZR-95		
RU-103		
RU-106		
I-131		
CS-134		
CS-137		
BA-140		
LA-140		
CE-141		
CE-144		
RA-226		
TH-228		
H-3	< 3.E+02	< 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 8

DATE COLLECTED	3/2/2021	8/16/2021
GAMMA SPECTRUM ANALYSIS:	(a)	(a)
BE-7		
K-40		
MN-54		
CO-58		
FE-59		
CO-60		
ZN-65		
ZR-95		
RU-103		
RU-106		
I-131		
CS-134		
CS-137		
BA-140		
LA-140		
CE-141		
CE-144		
RA-226		
TH-228		
H-3	< 3.E+02	< 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 9

DATE COLLECTED	3/2/2021	8/16/2021
GAMMA SPECTRUM ANALYSIS:	(a)	(a)
BE-7		
K-40		
MN-54		
CO-58		
FE-59		
CO-60		
ZN-65		
ZR-95		
RU-103		
RU-106		
I-131		
CS-134		
CS-137		
BA-140		
LA-140		
CE-141		
CE-144		
RA-226		
TH-228		
H-3	< 3.E+02	< 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 10

DATE COLLECTED	6/9/2021	8/16/2021	12/2/2021
GAMMA SPECTRUM ANALYSIS:	(a)		
BE-7		< 2.E+01	< 3.E+01
K-40		< 2.E+01	< 4.E+01
MN-54		< 2.E+00	< 2.E+00
CO-58		< 3.E+00	< 3.E+00
FE-59		< 8.E+00	< 8.E+00
CO-60		< 2.E+00	< 2.E+00
ZN-65		< 4.E+00	< 4.E+00
ZR-95		< 5.E+00	< 5.E+00
RU-103		< 4.E+00	< 5.E+00
RU-106		< 2.E+01	< 2.E+01
I-131		< 1.E+02	< 1.E+02
CS-134		< 2.E+00	< 2.E+00
CS-137		< 2.E+00	< 2.E+00
BA-140		< 9.E+01	< 9.E+01
LA-140		< 4.E+01	< 3.E+01
CE-141		< 7.E+00	< 9.E+00
CE-144		< 1.E+01	< 2.E+01
RA-226		< 4.E+01	< 5.E+01
TH-228		< 3.E+00	< 4.E+00
H-3	< 6.E+02	8.51E+02 ± 2.26E+02	3.20E+02 ± 2.03E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 10D

DATE COLLECTED	3/2/2021	8/16/2021
GAMMA SPECTRUM ANALYSIS:	(a)	
BE-7		< 2.E+01
K-40		< 3.E+01
MN-54		< 2.E+00
CO-58		< 2.E+00
FE-59		< 6.E+00
CO-60		< 2.E+00
ZN-65		< 4.E+00
ZR-95		< 4.E+00
RU-103		< 4.E+00
RU-106		< 2.E+01
I-131		< 1.E+02
CS-134		< 2.E+00
CS-137		< 2.E+00
BA-140		< 9.E+01
LA-140		< 3.E+01
CE-141		< 8.E+00
CE-144		< 1.E+01
RA-226		< 3.E+01
TH-228		< 3.E+00
H-3	< 3.E+02	4.96E+02 ± 2.10E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 11

DATE COLLECTED	3/2/2021	6/9/2021	8/16/2021	12/2/2021
GAMMA SPECTRUM ANALYSIS:	(a)	(a)	(a)	
BE-7				< 3.E+01
K-40				< 4.E+01
MN-54				< 2.E+00
CO-58				< 3.E+00
FE-59				< 8.E+00
CO-60				< 2.E+00
ZN-65				< 4.E+00
ZR-95				< 6.E+00
RU-103				< 5.E+00
RU-106				< 2.E+01
I-131				< 1.E+02
CS-134				< 2.E+00
CS-137				< 2.E+00
BA-140				< 9.E+01
LA-140				< 3.E+01
CE-141				< 9.E+00
CE-144				< 2.E+01
RA-226				< 4.E+01
TH-228				1.00E+01 ± 4.65E+00
H-3	< 3.E+02	< 6.E+02	< 3.E+02	3.21E+02 ± 2.04E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 12

DATE COLLECTED	3/4/2021	9/8/2021
GAMMA SPECTRUM ANALYSIS:	(a)	(a)
BE-7		
K-40		
MN-54		
CO-58		
FE-59		
CO-60		
ZN-65		
ZR-95		
RU-103		
RU-106		
I-131		
CS-134		
CS-137		
BA-140		
LA-140		
CE-141		
CE-144		
RA-226		
TH-228		
H-3	< 3.E+02	< 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 13

DATE COLLECTED	3/2/2021	6/9/2021	8/16/2021	12/2/2021
GAMMA SPECTRUM ANALYSIS:		(a)		(a)
BE-7	< 2.E+01		< 2.E+01	
K-40	< 2.E+01		< 1.E+01	
MN-54	< 2.E+00		< 1.E+00	
CO-58	< 2.E+00		< 2.E+00	
FE-59	< 5.E+00		< 5.E+00	
CO-60	< 2.E+00		< 1.E+00	
ZN-65	< 4.E+00		< 3.E+00	
ZR-95	< 4.E+00		< 3.E+00	
RU-103	< 3.E+00		< 2.E+00	
RU-106	< 2.E+01		< 1.E+01	
I-131	< 2.E+01		< 1.E+02	
CS-134	< 2.E+00		< 1.E+00	
CS-137	< 2.E+00		< 1.E+00	
BA-140	< 3.E+01		< 7.E+01	
LA-140	< 9.E+00		< 2.E+01	
CE-141	< 5.E+00		< 5.E+00	
CE-144	< 1.E+01		< 8.E+00	
RA-226	< 5.E+01		< 3.E+01	
TH-228	< 4.E+00		< 3.E+00	
H-3	3.65E+02 ± 1.97E+02	< 6.E+02	3.86E+02 ± 2.00E+02	< 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 14

DATE COLLECTED	6/9/2021	12/2/2021
GAMMA SPECTRUM ANALYSIS:	(a)	(a)
BE-7		
K-40		
MN-54		
CO-58		
FE-59		
CO-60		
ZN-65		
ZR-95		
RU-103		
RU-106		
I-131		
CS-134		
CS-137		
BA-140		
LA-140		
CE-141		
CE-144		
RA-226		
TH-228		
H-3	< 6.E+02	< 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 15

DATE COLLECTED 11/23/2021

(a)

GAMMA SPECTRUM ANALYSIS:

BE-7
K-40
MN-54
CO-58
FE-59
CO-60
ZN-65
ZR-95
RU-103
RU-106
I-131
CS-134
CS-137
BA-140
LA-140
CE-141
CE-144
RA-226
TH-228

H-3 < 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 16

DATE COLLECTED	6/9/2021	12/2/2021
GAMMA SPECTRUM ANALYSIS:	(a)	(a)
BE-7		
K-40		
MN-54		
CO-58		
FE-59		
CO-60		
ZN-65		
ZR-95		
RU-103		
RU-106		
I-131		
CS-134		
CS-137		
BA-140		
LA-140		
CE-141		
CE-144		
RA-226		
TH-228		
H-3	< 6.E+02	< 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 17

DATE COLLECTED	6/9/2021	12/2/2021
GAMMA SPECTRUM ANALYSIS:	(a)	(a)
BE-7		
K-40		
MN-54		
CO-58		
FE-59		
CO-60		
ZN-65		
ZR-95		
RU-103		
RU-106		
I-131		
CS-134		
CS-137		
BA-140		
LA-140		
CE-141		
CE-144		
RA-226		
TH-228		
H-3	< 6.E+02	< 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.

B-1
COOPER NUCLEAR STATION
WATER - GROUND (PCI/LITER)

STATION NUMBER 18

DATE COLLECTED	6/9/2021	12/2/2021
GAMMA SPECTRUM ANALYSIS:	(a)	(a)
BE-7		
K-40		
MN-54		
CO-58		
FE-59		
CO-60		
ZN-65		
ZR-95		
RU-103		
RU-106		
I-131		
CS-134		
CS-137		
BA-140		
LA-140		
CE-141		
CE-144		
RA-226		
TH-228		
H-3	< 6.E+02	< 3.E+02

(a) Gamma analysis not performed. Refer to section IV.A for additional information.