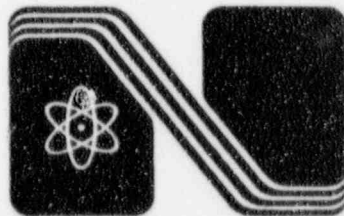


NEBRASKA PUBLIC POWER DISTRICT

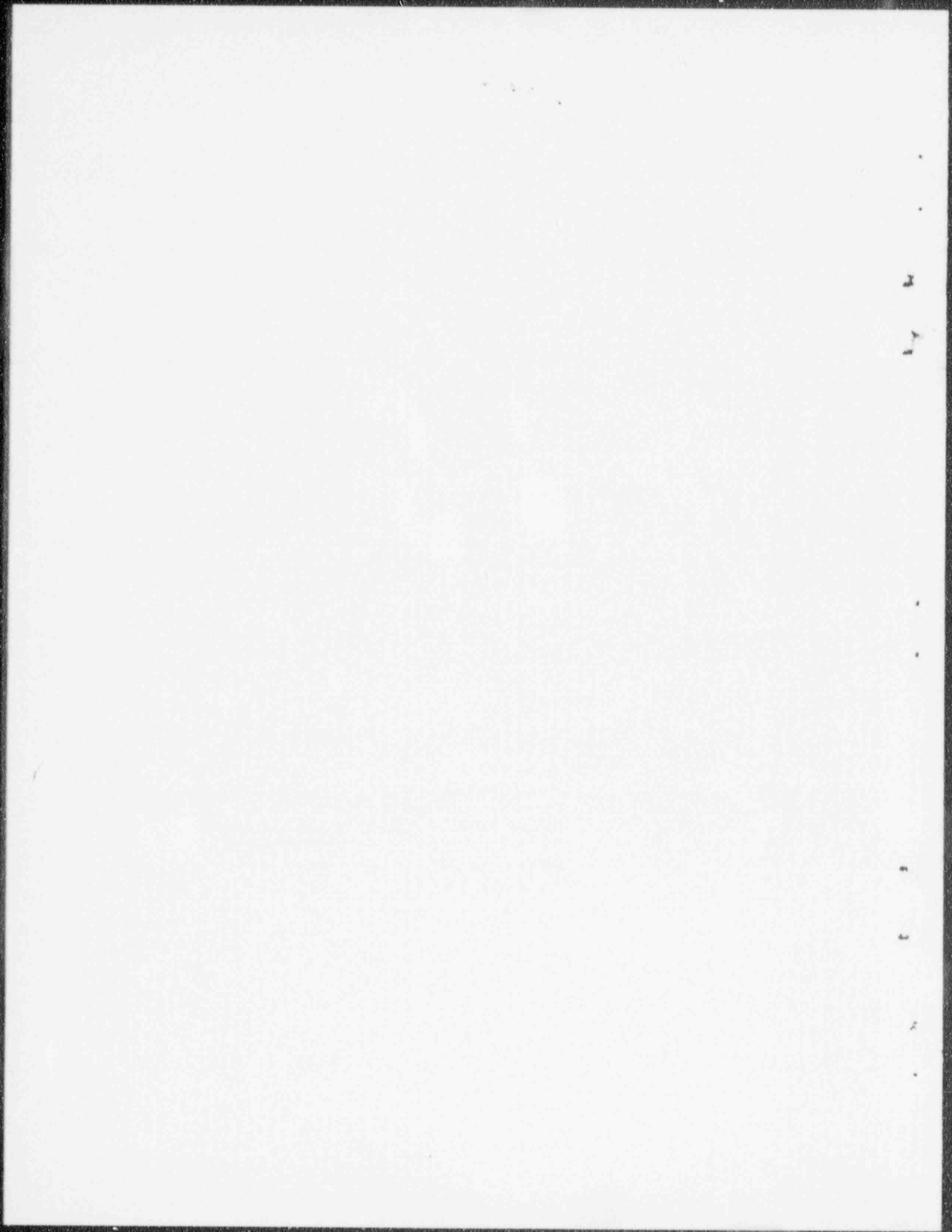
**COOPER NUCLEAR STATION  
SEMI-ANNUAL OPERATING REPORT  
RADIOACTIVE EFFLUENTS  
DOCKET NUMBER 50-298**

July 1, 1993 through December 31, 1993



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# Nebraska Public Power District

COOPER NUCLEAR STATION  
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NSD940193

February 18, 1994

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

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

In accordance with Specification 6.5.1.F of the Cooper Nuclear Station Technical Specifications, the Nebraska Public Power District submits the Cooper Nuclear Station Semi-Annual Radioactive Material Release Report for the period July 1, 1993, through December 31, 1993.

A land use census is taken every year for the area within three miles of the plant as required by Cooper Nuclear Station Technical Specification 4.21.F. The census data is used in performing calculations, and the results of these calculations appear in the Cooper Nuclear Station Semi-Annual Radioactive Material Release Report. The Report for January 1, 1993, through June 30, 1993, used land use census data from both 1992 and 1993. Flooding which occurred around Cooper Nuclear Station in the summer prohibited a census representative of the conditions of the first half of 1993 from being taken. For the enclosed Report, another land use census was taken to adequately reflect the conditions within three miles of the Cooper Nuclear Station during the period July 1, 1993, through December 31, 1993.

In accordance with 10 CFR 50.4(b)(1), we are enclosing one signed original of the report for your use, one copy to the Regional Office and one copy to the NRC Resident Inspector.

Should you have any questions or comments regarding this report, please contact my office.

G. R. Horn  
Vice President - Nuclear

GRH/hch:glc(SAORII)  
Enclosures

cc: U.S. Nuclear Regulatory Commission  
Regional Office - Region IV

NRC Senior Resident Inspector  
Cooper Nuclear Station

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NEBRASKA PUBLIC POWER DISTRICT

COOPER NUCLEAR STATION

SEMIANNUAL OPERATING REPORT

RADIOACTIVE EFFLUENTS

JULY 1, 1993 THROUGH DECEMBER 31, 1993

USNRC DOCKET 50-298

## INTRODUCTION

This report summarizes meteorological data and doses from radioactive effluents for the Cooper Nuclear Station for the period July through December 1993. The data presented meet the reporting requirements of regulatory Guide 1.21 of the U.S. Nuclear Regulatory Commission (Revision 1, June 1974).

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

## Contents

Introduction

Appendix A: Source Terms

Appendix B: Meteorology

Appendix C: Dose Calculations

References

APPENDIX A

SOURCE TERMS

EFFLUENT AND WASTE DISPOSAL REPORTS

SUPPLEMENTAL INFORMATION

EFFLUENT AND WASTE DISPOSAL  
July - December 1993

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 Semiannual 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. The concentration of radioactive material in water offsite due to radioactive liquid effluents shall not exceed the concentration specified in 10 CFR Part 20.106 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall not exceed  $2 \times 10^{-4}$   $\mu\text{Ci/ml}$  total activity.



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 ( $\bar{E}$ ) 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 GeLi 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 GeLi 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 GeLi 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.

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 GeLi detector gamma spectrometer. In addition, each batch is monitored for gross gamma radioactivity by a NaI detector in-line with the release pathway.

b. Tritium:

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

c. Sr-89 and Sr-90:

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

d. Gross alpha:

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

e. Fe-55:

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

E. Batch Releases

The following information relates to batch releases of radioactive materials in liquid and gaseous effluents:

a. Liquid

1. Number of batch releases: 45
2. Total time period for batch releases: 1.44 E+04 minutes
3. Maximum time period for batch release: 6.72 E+02 minutes
4. Average time period for batch releases: 3.21 E+02 minutes
5. Minimum time period for a batch release: 1.95 E+02 minutes
6. Average stream flow during periods of release of effluent into a flowing stream: 1.24 E+08 liters/minute

b. Gaseous

1. Number of batch releases: None
2. Total time period for batch releases: N/A
3. Maximum time period for a batch release: N/A
4. Average time period for batch releases: N/A
5. Minimum time period for a batch release: N/A

F. Abnormal Release

a. Liquid

1. Number of releases: 0
2. Total activity released: None

b. Gaseous

1. Number of releases: 0
2. Total activity released: None

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

		<u>Unit</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>EST. TOTAL ERROR %</u>
A.	Fission and activation gases				
1.	Total release	Ci	3.72 E+00	2.70 E+00	2.0 E+01
2.	Average release rate for period	μCi/sec	4.68 E-01	3.40 E-01	
B.	Iodines				
1.	Total iodine 131	Ci	1.32 E-05	1.05 E-05	3.0 E+01
2.	Average release rate for period	μCi/sec	1.66 E-06	1.32 E-06	
C.	Particulates				
1.	Particulates with half-lives >8 days	Ci	3.23 E-03	3.47 E-05	5.0 E+01
2.	Average release rate for period	μCi/sec	4.06 E-04	4.37 E-06	
3.	Gross alpha radioactivity	Ci	0.00 E+00	0.00 E+00	
D.	Tritium				
1.	Total release	Ci	0.00 E+00	0.00 E+00	3.0 E+01
2.	Average release rate for period	μCi/sec	0.00 E+00	0.00 E+00	

TABLE 1B  
 EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT  
 GASEOUS EFFLUENT-ELEVATED RELEASE

<u>NUCLIDES RELEASED</u>	<u>UNIT</u>	CONTINUOUS MODE		*BATCH
		<u>3rd QUARTER</u>	<u>4th QUARTER</u>	
1. Fission gases.				
krypton-83m	ci	3.10 E-02	2.30 E-02	
krypton-85m	ci	5.70 E-02	4.10 E-02	
krypton-85	ci	1.80 E-01	1.30 E-01	
krypton-87	ci	1.90 E-01	1.30 E-01	
krypton-88	ci	1.90 E-01	1.30 E-01	
krypton-89	ci	8.80 E-01	6.30 E-01	
xenon-133m	ci	2.60 E-03	1.90 E-03	
xenon-133	ci	1.30 E-01	9.50 E-02	
xenon-135m	ci	6.30 E-02	4.50 E-02	
xenon-135	ci	2.30 E-01	1.70 E-01	
xenon-137	ci	1.00 E+00	7.50 E-01	
xenon-138	ci	7.70 E-01	5.50 E-01	
Total for period	ci	3.72 E+00	2.70 E+00	
2. Iodines.				
iodine-131	ci	1.32 E-05	1.05 E-05	
iodine-134	ci	1.47 E-05	0.00 E+00	
iodine-135	ci	6.22 E-05	0.00 E+00	
Total for period	ci	9.01 E-05	1.05 E-05	

\* No batch discharges were made

TABLE 1B  
 EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT  
 GASEOUS EFFLUENT-ELEVATED RELEASE (continued)

<u>NUCLIDES RELEASED</u>	<u>UNIT</u>	<u>CONTINUOUS MODE</u>		<u>*BATCH</u>
		<u>3rd QUARTER</u>	<u>4th QUARTER</u>	
3. Particulates.				
cesium-138	Ci	2.38 E-03	0.00 E+00	
barium-139	Ci	1.87 E-04	3.47 E-05	
rubidium-88	Ci	6.02 E-04	0.00 E+00	
rubidium-89	Ci	4.76 E-05	0.00 E+00	
tellurium-132	Ci	1.59 E-05	0.00 E+00	
Total for period	Ci	3.23 E-03	3.47 E-05	

\*No batch discharges were made.

TABLE 1C  
 EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT  
 GASEOUS EFFLUENT-BUILDING VENT RELEASES

<u>NUCLIDES RELEASED</u>	<u>UNIT</u>	<u>3rd QUARTER</u>	<u>4th QUARTER</u>
1. Fission gases.			
krypton-85m	Ci	0.00 E+00	0.00 E+00
krypton-87	Ci	0.00 E+00	0.00 E+00
krypton-88	Ci	0.00 E+00	0.00 E+00
xenon-133	Ci	0.00 E+00	0.00 E+00
xenon-135m	Ci	0.00 E+00	0.00 E+00
xenon-135	Ci	0.00 E+00	0.00 E+00
xenon-138	Ci	0.00 E+00	0.00 E+00
Total for period	Ci	0.00 E+00	0.00 E+00
2. Iodines.			
Iodine-131	Ci	0.00 E+00	0.00 E+00
Iodine-133	Ci	0.00 E+00	0.00 E+00
Total for period	Ci	0.00 E+00	0.00 E+00
3. Particulates.			
Total for period	Ci	0.00 E+00	0.00 E+00

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

	UNIT	3rd QUARTER	4th QUARTER	EST. TOTAL ERROR %
A. Fission and activation products.				
1. Total release (not including tritium, gases, alpha)	Ci	1.79 E-01	1.81 E-01	2.0 E+01
2. Average diluted concentration during period	μCi/ml	1.19 E-08	2.79 E-08	
B. Tritium.				
1. Total release	Ci	1.23 E+00	9.66 E-01	2.0 E+01
2. Average diluted concentration during period	μCi/ml	8.15 E-08	1.49 E-07	
C. Dissolved and entrained gases.				
1. Total release	Ci	0.00 E+00	0.00 E+00	5.0 E+01
2. Average diluted concentration during period	μCi/ml	0.00 E+00	0.00 E+00	
D. Gross alpha radioactivity.				
1. Total release	Ci	0.00 E+00	5.76 E-05	5.0 E+01
E. Volume of waste released (prior to dilution).				
	liters	1.97 E+06	1.07 E+06	1.0 E+01
F. Volume of dilution water used during period.				
	liters	1.51 E+10	6.48 E+09	1.0 E+01



TABLE 2B  
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT  
LIQUID EFFLUENTS

<u>NUCLIDES RELEASED</u>	<u>UNIT</u>	CONTINUOUS MODE*      BATCH MODE	
		<u>3rd QUARTER</u>	<u>4th QUARTER</u>
manganese-54	Ci	3.36 E-02	1.63 E-02
iron-55	Ci	3.23 E-02	1.24 E-02
cobalt-58	Ci	1.94 E-03	2.16 E-03
cobalt-60	Ci	1.00 E-01	1.32 E-01
strontium-89	Ci	2.50 E-03	5.20 E-04
strontium-90	Ci	1.19 E-04	0.00 E+00
cesium-134	Ci	8.05 E-04	1.09 E-03
cesium-137	Ci	7.43 E-03	6.17 E-03
silver-110m	Ci	0.00 E+00	1.04 E-02
iron-59	Ci	3.01 E-04	0.00 E+00
zinc-65	Ci	0.00 E+00	3.85 E-04
lanthanum-140	Ci	1.07 E-04	0.00 E+00
Total for period above	Ci	1.79 E-01	1.81 E-01
xenon-133	Ci	0.00 E+00	0.00 E+00
xenon-135	Ci	0.00 E+00	0.00 E+00

\*No continuous mode discharges made

	Bottoms	cc.	m <sup>3</sup>	Ci	
b.	Dry compressible waste, contaminated equip, etc.			2.86 E+01	15%
				7.45 E+01	
c.	Irradiated components, control rods, etc.		m <sup>3</sup>	3.41 E+00	25%
			Ci	2.37 E-02	
d.	Other.		m <sup>3</sup>		
			Ci		

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

a.	carbon-14	1.31 E+00
	cesium-137	6.30 E-01
	cobalt-58	5.45 E-01
	cobalt-60	3.80 E+01
	curium-242	1.89 E-05
	iodine-131	7.03 E-03
	iron-55	3.80 E+01
	manganese-54	9.89 E+00
	nickel-63	7.58 E+00
	nickel-59	7.58 E-02
	plutonium-241	2.52 E-04
	silver-110m	1.41 E+00
	strontium-89	2.52 E+00
	strontium-90	3.15 E-02
	transuranics	6.30 E-05
	tritium	2.46 E-02

TABLE 3  
 EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT  
 SOLID WASTE AND IRRADIATED FUEL SHIPMENTS  
 PERIOD July 1, 1993 TO December 31, 1993

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not Irradiated Fuel).

1. Type of Waste	UNIT	6-MONTH PERIOD	EST. TOTAL ERROR%
a. Spent resins, filter sludges, evaporator bottoms, etc.	m <sup>3</sup> Ci	2.86 E+01 7.45 E+01	15%
b. Dry compressible waste, contaminated equip, etc.	m <sup>3</sup> Ci	3.41 E+00 2.37 E-02	25%
c. Irradiated components, control rods, etc.	m <sup>3</sup> Ci		
d. Other.	m <sup>3</sup> Ci		

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

a. carbon-14	1.31 E+00
cesium-137	6.30 E-01
cobalt-58	5.45 E-01
cobalt-60	3.80 E+01
curium-242	1.89 E-05
iodine-131	7.03 E-03
iron-55	3.80 E+01
manganese-54	9.89 E+00
nickel-63	7.58 E+00
nickel-59	7.58 E-02
plutonium-241	2.52 E-04
silver-110m	1.41 E+00
strontium-89	2.52 E+00
strontium-90	3.15 E-02
transuranics	6.30 E-05
tritium	2.46 E-02

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

b. carbon-14	3.77 E-01
cesium-134	2.21 E+00
cesium-137	1.13 E+01
cobalt-58	7.13 E-01
cobalt-60	2.39 E+01
curium-242	8.44 E-04
iron-55	5.19 E+01
iron-59	1.45 E+00
manganese-54	7.17 E+00
nickel-63	9.37 E-01
strontium-89	1.35 E-02
strontium-90	1.69 E-03

3. SOLID WASTE DISPOSITION

<u>NUMBER OF SHIPMENTS</u>	<u>MODE OF TRANSPORTATION</u>	<u>DESTINATION</u>
10	Exclusive Use Vehicle	Barnwell, SC

4. Solidification Agent

No shipments required solidification during this semiannual period.

B. IRRADIATED FUEL SHIPMENTS (Disposition)

<u>NUMBER OF SHIPMENTS</u>	<u>MODE OF TRANSPORTATION</u>	<u>DESTINATION</u>
0	N/A	N/A

GASEOUS RADIOACTIVE WASTES

CUMULATIVE DOSE DATA

A. Maximum gamma air dose	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Annual
Site boundary ( 0.67 miles North ) ( 0.67 miles North )					
1. Total mrad	0.00E+0	0.00E+0	9.41E-5	2.35E-5	8.81E-5
2. Percent of Technical Specification Limit %	0.00	0.00	0.00	0.00	0.00
Most Exposed Resident ( 0.9 miles Northwest )					
1. Total mrad	0.00E+0	0.00E+0	1.65E-4	3.96E-5	1.59E-4
2. Percent of Technical Specification Limit %	0.00	0.00	0.00	0.00	0.00
B. Maximum beta air dose					
Site boundary ( 0.67 miles North ) ( 0.67 miles North )					
1. Total mrad	0.00E+0	0.00E+0	8.73E-5	2.34E-5	8.44E-5
2. Percent of Technical Specification Limit %	0.00	0.00	0.00	0.00	0.00
Most Exposed Resident ( 0.9 miles Northwest )					
1. Total mrad	0.00E+0	0.00E+0	1.43E-4	3.56E-5	1.39E-4
2. Percent of Technical Specification Limit %	0.00	0.00	0.00	0.00	0.00
C. Maximum organ dose due to I-131, I-133, and particulates (>8 day half lives)					
Site boundary ( 0.67 miles North ) ( 0.67 miles North )					
1. Total mrem	5.79E-4	0.00E+0	1.26E-3	3.37E-4	1.33E-3
2. Percent of Technical Specification Limit %	0.01	0.00	0.02	0.00	0.01
3. Organ	GI Tract	NA	Thyroid	Thyroid	Thyroid
4. Exposed Individual	Teen	NA	Infant	Infant	Infant
Most Exposed Resident ( 0.9 miles Northwest )					
1. Total mrem	3.35E-4	0.00E+0	1.12E-3	3.41E-4	1.48E-3
2. Percent of Technical Specification Limit %	0.00	0.00	0.01	0.00	0.01
3. Organ	GI Tract	NA	Thyroid	Thyroid	Thyroid
4. Exposed Individual	Teen	NA	Infant	Infant	Infant

- D. Maximum organ dose rate due to I-131, I-133, tritium, and particulates (>8 day half-lives) was  $1.48 \text{ E-}03$  mrem/year which was 0.01 % of the Technical Specification Limit.
- E. All radioactive noble gas effluent monitors were set to automatically alarm when the monitor alarm setpoint, determined as specified in the Offsite Dose Assessment Manual (ODAM), was exceeded. This is required to ensure that the limits to the skin (3000 mrem/yr) are not exceeded.

### LIQUID RADIOACTIVE WASTES

#### CUMULATIVE DOSE DATA

		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Annual
A.	Maximum whole body dose					
	1. Total	mrem $3.71\text{E-}2$	$4.48\text{E-}3$	$1.39\text{E-}3$	$1.50\text{E-}3$	$4.45\text{E-}2$
	2. Percent of Technical Specification Limit	% 2.47	0.30	0.09	0.10	1.48
B.	Maximum organ dose					
	1. Total	mrem $1.26\text{E-}1$	$3.28\text{E-}2$	$3.61\text{E-}3$	$5.22\text{E-}3$	$1.68\text{E-}1$
	2. Percent of Technical Specification Limit	% 2.52	0.66	0.07	0.10	1.68
C.	All radioactive liquid effluents were diluted, at time of discharge to concentrations below the concentrations specified in 10 CFR Part 20.106 for radionuclides other than dissolved and entrained noble gases. For dissolved and entrained noble gases the concentrations were diluted below $2.00 \text{ E-}04$ uCi/ml total activity.					



SUPPLEMENTAL INFORMATION

A. Unplanned Releases:

None.

B. District Initiated Changes to the Process Control Program:

During this period there were no changes to the Process Control Program.

C. District Initiated Changes to the Offsite Dose Assessment Manual:

During this period, there were no changes to the Cooper Nuclear Station (CNS) Offsite Dose Assessment Manual.

D. Maximum organ dose rate due to I-131, I-133, tritium, and particulates (>8 day half-lives) was 1.48 E-03 mrem/year which was 0.01 % of the Technical Specification Limit.

E. All radioactive noble gas effluent monitors were set to automatically alarm when the monitor alarm setpoint, determined as specified in the Offsite Dose Assessment Manual (ODAM), was exceeded. This is required to ensure that the limits to the skin (3000 mrem/yr) are not exceeded.

### LIQUID RADIOACTIVE WASTES

#### CUMULATIVE DOSE DATA

A. Maximum whole body dose		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Annual
1. Total	mrem	3.71E-2	4.48E-3	1.39E-3	1.50E-3	4.45E-2
2. Percent of Technical Specification Limit	%	2.47	0.30	0.09	0.10	1.48

B. Maximum organ dose		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Annual
1. Total	mrem	1.26E-1	3.28E-2	3.61E-3	5.22E-3	1.68E-1
2. Percent of Technical Specification Limit	%	2.52	0.66	0.07	0.10	1.68

C. All radioactive liquid effluents were diluted, at time of discharge to concentrations below the concentrations specified in 10 CFR Part 20.106 for radionuclides other than dissolved and entrained noble gases. For dissolved and entrained noble gases the concentrations were diluted below 2.00 E-04 uCi/ml total activity.

SUPPLEMENTAL INFORMATION

A. Unplanned Releases:

None.

B. District Initiated Changes to the Process Control Program:

During this period there were no changes to the Process Control Program.

C. District Initiated Changes to the Offsite Dose Assessment Manual:

During this period, there were no changes to the Cooper Nuclear Station (CNS) Offsite Dose Assessment Manual.

APPENDIX B  
METEOROLOGY

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## METEOROLOGICAL DATA SUMMARIES

Meteorological data collected onsite for the period July 1, 1993, through December 31, 1993, were reduced, validated, summarized for analysis, and included in appropriate dose calculations. Hourly data summaries are provided for all pertinent parameters and for the joint frequency distributions (JFD's) of wind speed and wind direction by atmospheric stability class.

### DATA RECOVERY

Data recovery statistics are provided in Table 1 for all pertinent meteorological parameters.

	<u>Lowest Data Recovery</u>	<u>Average Data Data Recovery</u>
July 1 - September 30, 1993 (Q3)	78.1%	94.6%
October 1 - December 31, 1993 (Q4)	88.1%	96.2%
Second Semiannual Period - July 1 - December 31, 1993 (SEM2)	83.1%	95.4%
Annual Period - January 1 - December 31, 1993	90.8%	96.0%

### 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>
Q3	South 12.3%		South 14.3%
Q4	NorthNorthwest 15.3%		South 14.1%
Sem2	NorthNorthwest 11.9%		South 14.2%
ANN	NorthNorthwest 12.4%		NorthNorthwest 12.4%
	<u>Mean Wind Speed at 100m Level</u>		<u>Mean Wind Speed at 10m Level</u>
Q3	12.0 MPH		6.9 MPH
Q4	13.9 MPH		8.4 MPH
SEM2	12.9 MPH		7.6 MPH
ANN	12.9 MPH		7.7 MPH
	<u>Maximum Hourly Average Wind Speed/(Date at 100m Level)</u>		<u>Maximum Hourly Average Wind Speed/(Date at 10m Level)</u>
Q3	36.6 MPH/(93/09/19)		21.3 MPH/(93/09/26)
Q4	36.3 MPH/(93/12/25)		26.4 MPH/(93/12/25)
SEM2	36.6 MPH/(93/09/19)		26.4 MPH/(93/12/25)
ANN	36.6 MPH/(93/09/19)		32.1 MPH/(93/04/16)

TEMPERATURE AT 10-METER LEVEL

	<u>Mean Hourly Average Temperature</u>	<u>Average Daily Maximum</u>	<u>Average Daily Minimum</u>
Q3	21.0 Degrees Celsius	25.6 Degrees Celsius	17.2 Degrees Celsius
Q4	4.7 Degrees Celsius	9.4 Degrees Celsius	0.5 Degrees Celsius
SEM2	12.7 Degrees Celsius	17.5 Degrees Celsius	8.8 Degrees Celsius
ANN	9.6 Degrees Celsius	14.1 Degrees Celsius	5.7 Degrees Celsius

	<u>Maximum Temperature (Date)</u>	<u>Minimum Temperature (Date)</u>
Q3	35.0 Degrees Celsius (93/08/18)	3.1 Degrees Celsius (93/09/15)
Q4	29.3 Degrees Celsius (93/10/06)	-14.2 Degrees Celsius (93/12/28)
SEM2	35.0 Degrees Celsius (93/08/18)	-14.2 Degrees Celsius (93/12/28)
ANN	35.0 Degrees Celsius (93/08/18)	-19.3 Degrees Celsius (93/02/17)

PRECIPITATION

	<u>Total Precipitation</u>	<u>Maximum Daily Precipitation Total/(Date)</u>	<u>Maximum Hourly Precipitation Total/(Date)</u>
Q3	31.35 Inches	3.99 Inches (93/07/24)	1.60 Inches (93/07/01)
Q4	4.06 Inches	0.78 Inches (93/12/13)	.30 Inches (93/10/09)
SEM2	35.41 Inches	3.99 Inches (93/07/24)	1.60 Inches (93/07/01)
ANN	52.66 Inches	3.99 Inches (93/07/24)	1.60 Inches (93/07/01)



### 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</u> <u>Classes A-C</u>	<u>Neutral Conditions</u> <u>Class D</u>	<u>Stable Conditions</u> <u>Classes E-G</u>
Q3	18%	46%	36%
Q4	5%	54%	41%
SEM2	11%	50%	39%
ANN	9%	48%	43%

Table 1. Meteorological Data Recovery

Data Recovery (% of total Observations)

	July- September <u>1993</u>	October- December <u>1993</u>	July- December <u>1993</u>	January- December <u>1993</u>
100m wind speed	99.2	96.8	98.0	98.3
100m wind direction	99.2	96.8	98.0	98.3
100m ambient temperature	91.3	93.5	92.4	95.3
60m wind speed	99.2	99.0	99.1	98.8
60m wind direction	78.1	88.1	83.1	90.8
60m ambient temperature	99.2	98.7	99.0	98.2
10m wind speed	99.2	99.0	99.1	98.8
10m wind direction	99.2	99.0	99.1	98.8
10m ambient temperature	94.9	97.6	96.2	94.8
10m dew point	98.8	95.4	97.1	96.0
100m-10m delta T	87.0	93.2	90.1	91.7
100m-60m delta T	91.3	93.5	92.4	94.9
60m-10m delta T	94.9	97.6	96.2	94.7
Precipitation	100.0	100.0	100.0	100.0
100m JFD	87.0	93.1	90.0	91.7
10m JFD	94.9	97.6	96.2	94.7

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 semiannual period July through December, 1993. Summaries for the first quarter, second quarter, and semiannual period 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: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JUL-SEP 1993

MONTHLY HOUR AVERAGES FOR THE PERIOD 7/ 1/93 TO 9/30/93

JULY

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER		NUMBER		NUMBER		NUMBER		NUMBER	
	OBS	(DEG C)	OBS	(DEG C)	OBS	(%)	OBS	(GM/M3)	OBS	(DEG C)
1	31.	22.4	31.	15.8	31.	66.8	31.	13.3	31.	18.4
2	31.	22.2	31.	15.8	31.	67.5	31.	13.3	31.	18.3
3	31.	21.9	31.	15.6	31.	67.9	31.	13.1	31.	18.1
4	31.	21.5	31.	15.4	31.	68.3	31.	12.9	31.	17.8
5	31.	21.3	31.	15.2	31.	68.5	31.	12.8	31.	17.6
6	31.	21.1	31.	15.1	31.	68.8	31.	12.7	31.	17.5
7	31.	21.3	31.	15.2	31.	68.7	31.	12.8	31.	17.6
8	31.	21.8	31.	14.4	31.	65.0	31.	12.4	31.	17.5
9	31.	22.5	31.	14.3	31.	63.4	31.	12.5	31.	17.8
10	30.	23.1	31.	15.7	30.	63.2	30.	13.1	30.	18.5
11	27.	23.8	31.	16.0	27.	61.5	27.	13.2	27.	18.9
12	26.	24.6	31.	16.3	26.	60.1	26.	13.5	26.	19.4
13	26.	25.1	31.	16.4	26.	58.2	26.	13.5	26.	19.5
14	26.	25.8	31.	16.8	26.	57.2	26.	13.7	26.	19.9
15	26.	26.3	31.	17.1	26.	56.2	26.	13.9	26.	20.2
16	26.	26.5	30.	17.4	26.	56.7	26.	14.2	26.	20.4
17	28.	26.4	30.	17.5	28.	57.5	28.	14.3	28.	20.5
18	30.	26.5	30.	17.7	30.	58.7	30.	14.8	30.	20.8
19	30.	26.2	30.	17.8	30.	60.3	30.	14.9	30.	20.8
20	30.	25.2	30.	17.7	30.	63.4	30.	14.8	30.	20.4
21	30.	24.3	30.	17.2	30.	64.9	30.	14.4	30.	19.8
22	29.	23.7	29.	16.7	29.	65.0	29.	14.0	29.	19.3
23	29.	23.1	29.	16.3	29.	65.7	29.	13.6	29.	18.9
24	31.	22.6	31.	16.0	31.	66.4	31.	13.4	31.	18.5
HOURLY MEAN		23.6		16.2		63.6		13.5		19.0
AVG DAILY MAX		27.3		18.5		71.4		15.5		21.2
AVG DAILY MIN		20.4		13.1		53.6		11.6		16.5
ABSOLUTE MAX		32.5		22.5		75.1		19.4		25.3
ABSOLUTE MIN		18.2		-20.0		19.0		0.9		8.6
TOTAL OBS	703		734		703		703		703	

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PROGRAM: WETTEMP  
 VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JUL-SEP 1993

MONTHLY HOUR AVERAGES FOR THE PERIOD 7/ 1/93 TO 9/30/93

AUGUST

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	31.	22.2	31.	14.8	31.	62.9	31.	12.5	31.	17.7
2	31.	21.8	31.	14.4	31.	63.1	31.	12.3	31.	17.4
3	31.	21.4	31.	14.1	31.	63.4	31.	12.1	31.	17.1
4	30.	21.4	30.	14.1	30.	63.8	30.	12.1	30.	17.1
5	31.	20.9	31.	13.9	31.	64.6	31.	11.9	31.	16.8
6	31.	20.5	31.	13.7	31.	65.4	31.	11.8	31.	16.5
7	31.	20.7	31.	13.9	31.	65.4	31.	11.9	31.	16.7
8	31.	21.6	31.	14.3	31.	63.4	31.	12.1	31.	17.2
9	28.	22.3	31.	14.7	28.	61.7	28.	12.3	28.	17.6
10	26.	23.4	30.	15.2	26.	59.6	26.	12.6	26.	18.2
11	26.	23.7	31.	15.1	26.	57.7	26.	12.4	26.	18.2
12	26.	24.6	31.	15.3	26.	55.5	26.	12.5	26.	18.6
13	25.	25.2	30.	15.6	25.	53.6	25.	12.6	25.	18.9
14	26.	26.2	30.	15.5	26.	51.1	26.	12.7	26.	19.3
15	27.	26.8	31.	15.7	27.	50.0	27.	12.9	27.	19.5
16	27.	26.8	31.	15.7	27.	50.0	27.	12.9	27.	19.6
17	29.	27.3	31.	15.7	29.	49.4	29.	13.0	29.	19.8
18	29.	26.9	31.	15.7	29.	50.3	29.	13.0	29.	19.7
19	31.	26.4	31.	15.9	31.	53.0	31.	13.4	31.	19.8
20	31.	25.1	31.	15.7	31.	56.4	31.	13.2	31.	19.2
21	31.	24.1	31.	15.5	31.	58.9	31.	13.1	31.	18.8
22	31.	23.5	31.	15.3	31.	60.6	31.	13.0	31.	18.5
23	31.	22.9	31.	15.1	31.	61.7	31.	12.8	31.	18.1
24	31.	22.4	31.	14.8	31.	62.6	31.	12.6	31.	17.8
HOURLY MEAN		23.6		15.0		58.7		12.6		18.2
AVG DAILY MAX		28.5		16.9		68.3		14.1		20.7
AVG DAILY MIN		19.9		12.9		46.5		11.2		15.9
ABSOLUTE MAX		35.0		20.5		77.8		17.2		24.5
ABSOLUTE MIN		12.9		6.1		33.8		7.1		9.5
TOTAL OBS	702		740		702		702		702	

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PROGRAM: WETTEMP  
 VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JUL-SEP 1993

MONTHLY HOUR AVERAGES FOR THE PERIOD 7/ 1/93 TO 9/30/93

SEPTEMBER

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	30.	13.8	30.	7.8	30.	67.8	30.	8.3	30.	10.7
2	30.	13.5	30.	7.7	30.	68.4	30.	8.2	30.	10.5
3	30.	13.2	30.	7.5	30.	68.8	30.	8.1	30.	10.3
4	30.	12.9	30.	7.4	30.	69.6	30.	8.1	30.	10.1
5	30.	12.6	30.	7.3	30.	70.3	30.	8.0	30.	10.0
6	30.	12.4	30.	7.3	30.	71.2	30.	8.0	30.	9.8
7	30.	12.4	30.	7.2	30.	70.9	30.	8.0	30.	9.8
8	30.	13.2	30.	7.5	30.	68.6	30.	8.1	30.	10.3
9	30.	14.5	30.	7.8	30.	64.4	30.	8.2	30.	11.0
10	28.	15.6	29.	7.9	27.	61.0	27.	8.2	27.	11.5
11	27.	16.8	29.	8.1	26.	57.3	26.	8.3	26.	12.1
12	27.	17.4	29.	8.0	26.	54.9	26.	8.2	26.	12.4
13	27.	18.0	29.	8.1	26.	53.3	26.	8.2	26.	12.7
14	26.	18.9	28.	8.3	25.	51.6	25.	8.4	25.	13.2
15	25.	18.7	28.	8.0	25.	51.4	25.	8.2	25.	13.0
16	27.	19.7	28.	8.1	27.	49.6	27.	8.3	27.	13.5
17	29.	19.8	29.	8.2	29.	49.4	29.	8.4	29.	13.5
18	30.	19.1	30.	8.4	30.	51.4	30.	8.4	30.	13.3
19	29.	17.4	30.	8.7	29.	57.6	29.	8.6	29.	12.7
20	29.	16.2	30.	8.7	29.	61.7	29.	8.7	29.	12.2
21	29.	15.5	30.	8.6	29.	64.0	29.	8.6	29.	11.9
22	29.	15.0	30.	8.5	29.	65.6	29.	8.6	29.	11.5
23	29.	14.5	30.	8.3	29.	66.5	29.	8.5	29.	11.3
24	29.	14.1	29.	8.0	29.	67.4	29.	8.4	29.	10.9
HOURLY MEAN		15.6		8.0		62.1		8.3		11.6
AVG DAILY MAX		20.9		10.5		73.9		9.8		14.5
AVG DAILY MIN		11.1		5.5		45.6		7.0		8.5
ABSOLUTE MAX		33.2		17.9		82.6		15.0		22.1
ABSOLUTE MIN		3.1		-1.2		27.8		4.2		1.8
TOTAL OBS	690		708		685		685		685	

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PROGRAM: WETTEMP  
 VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JUL-SEP 1993

JUL-SEP HOUR AVERAGES FOR THE PERIOD 7/ 1/93 TO 9/30/93

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	92.	19.5	92.	12.9	92.	65.8	92.	11.4	92.	15.6
2	92.	19.2	92.	12.7	92.	66.3	92.	11.3	92.	15.5
3	92.	18.9	92.	12.5	92.	66.7	92.	11.1	92.	15.2
4	91.	18.6	91.	12.4	91.	67.2	91.	11.0	91.	15.0
5	92.	18.3	92.	12.2	92.	67.8	92.	10.9	92.	14.8
6	92.	18.1	92.	12.1	92.	68.5	92.	10.9	92.	14.7
7	92.	18.2	92.	12.2	92.	68.3	92.	10.9	92.	14.8
8	92.	18.9	92.	12.1	92.	65.6	92.	10.9	92.	15.1
9	89.	19.7	92.	12.3	89.	63.2	89.	11.0	89.	15.5
10	84.	20.7	90.	13.0	83.	61.3	83.	11.3	83.	16.1
11	80.	21.4	91.	13.2	79.	58.9	79.	11.3	79.	16.4
12	79.	22.1	91.	13.3	78.	56.8	78.	11.4	78.	16.6
13	78.	22.7	90.	13.4	77.	55.1	77.	11.4	77.	17.0
14	78.	23.6	89.	13.7	77.	53.4	77.	11.6	77.	17.5
15	78.	24.1	90.	13.8	78.	52.5	78.	11.7	78.	17.7
16	80.	24.3	89.	13.9	80.	52.0	80.	11.7	80.	17.8
17	86.	24.4	90.	13.9	86.	52.0	86.	11.8	86.	17.9
18	89.	24.2	91.	13.9	89.	53.5	89.	12.0	89.	17.9
19	90.	23.4	91.	14.1	90.	56.9	90.	12.3	90.	17.8
20	90.	22.3	91.	14.0	90.	60.5	90.	12.3	90.	17.4
21	90.	21.4	91.	13.8	90.	62.6	90.	12.1	90.	16.9
22	89.	20.8	90.	13.5	89.	63.7	89.	11.9	89.	16.5
23	89.	20.2	90.	13.2	89.	64.6	89.	11.7	89.	16.1
24	91.	19.8	91.	13.0	91.	65.4	91.	11.5	91.	15.9
HOURLY MEAN		21.0		13.1		61.5		11.5		16.3
AVG DAILY MAX		25.6		15.3		71.2		13.1		18.8
AVG DAILY MIN		17.2		10.5		48.6		9.9		13.7
ABSOLUTE MAX		35.0		22.5		82.6		19.4		25.3
ABSOLUTE MIN		3.1		-20.0		19.0		0.9		1.8
TOTAL OBS	2095		2182		2090		2090		2090	

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PROGRAM: WETTEMP  
 VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY OCT-DEC 1993

MONTHLY HOUR AVERAGES FOR THE PERIOD 10/ 1/93 TO 12/31/93

OCTOBER

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	-----		-----		-----		-----		-----	
	NUMBER	(DEG C)	NUMBER	(DEG C)	NUMBER	(%)	NUMBER	(GM/M3)	NUMBER	(DEG C)
-----	OBS	-----	OBS	-----	OBS	-----	OBS	-----	OBS	-----
1	28.	9.4	29.	2.7	28.	63.1	28.	6.0	28.	6.3
2	28.	8.9	29.	2.6	28.	64.8	28.	6.0	28.	6.0
3	28.	8.6	29.	2.4	28.	65.3	28.	5.9	28.	5.7
4	28.	8.3	29.	2.2	28.	65.6	28.	5.8	28.	5.5
5	30.	8.4	30.	2.3	30.	66.1	30.	5.9	30.	5.7
6	30.	8.1	30.	2.1	30.	66.7	30.	5.8	30.	5.4
7	29.	7.8	29.	2.1	29.	67.7	29.	5.8	29.	5.3
8	29.	8.2	29.	1.7	29.	65.3	29.	5.7	29.	5.3
9	27.	9.3	27.	2.4	27.	63.2	27.	6.0	27.	6.2
10	28.	10.9	28.	2.7	28.	58.0	28.	6.0	28.	7.1
11	27.	12.0	26.	3.0	26.	54.4	26.	6.2	26.	7.9
12	28.	13.2	28.	3.3	27.	51.1	27.	6.3	27.	8.6
13	28.	14.0	28.	3.3	27.	48.8	27.	6.3	27.	9.0
14	28.	14.5	28.	3.3	27.	47.2	27.	6.3	27.	9.2
15	29.	14.8	28.	3.0	28.	46.5	28.	6.2	28.	9.2
16	30.	15.3	30.	3.1	30.	45.9	30.	6.3	30.	9.4
17	30.	15.0	30.	3.1	30.	46.4	30.	6.2	30.	9.3
18	30.	14.0	30.	3.3	30.	49.8	30.	6.3	30.	8.9
19	30.	12.6	30.	3.3	30.	53.9	30.	6.3	30.	8.2
20	30.	11.8	30.	3.1	30.	56.1	30.	6.2	30.	7.7
21	30.	11.1	30.	3.0	30.	58.4	30.	6.2	30.	7.3
22	30.	10.5	30.	3.0	30.	60.5	30.	6.2	30.	7.0
23	30.	9.9	30.	2.8	30.	62.0	30.	6.1	30.	6.7
24	30.	9.6	30.	2.6	30.	62.5	30.	6.0	30.	6.4
HOURLY MEAN		11.1		2.8		57.9		6.1		7.2
AVG DAILY MAX		15.5		5.2		72.4		7.1		9.8
AVG DAILY MIN		6.8		-0.3		43.4		4.9		4.0
ABSOLUTE MAX		29.3		14.5		88.2		11.8		20.0
ABSOLUTE MIN		-7.7		-10.9		24.5		2.1		-8.3
TOTAL OBS	695		697		690		690		690	

B11

PROGRAM: WETTEMP  
 VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY OCT-DEC 1993

MONTHLY HOUR AVERAGES FOR THE PERIOD 10/ 1/93 TO 12/31/93

NOVEMBER

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	29.	2.2	30.	-2.9	29.	70.4	29.	4.1	29.	0.2
2	29.	2.0	30.	-3.0	29.	70.7	29.	4.1	29.	0.1
3	30.	1.5	30.	-3.2	30.	72.4	30.	4.1	30.	-0.3
4	30.	1.1	30.	-3.5	30.	72.7	30.	4.0	30.	-0.6
5	30.	0.6	30.	-3.7	30.	73.7	30.	3.9	30.	-1.0
6	30.	0.3	30.	-3.8	30.	74.6	30.	3.9	30.	-1.2
7	30.	-0.1	30.	-4.0	30.	75.7	30.	3.9	30.	-1.5
8	30.	-0.2	30.	-4.0	30.	76.0	30.	3.9	30.	-1.5
9	30.	0.4	30.	-3.7	30.	75.0	30.	3.9	30.	-1.1
10	30.	1.6	30.	-3.1	30.	72.1	30.	4.1	30.	-0.2
11	30.	3.0	30.	-2.5	30.	68.5	30.	4.2	30.	0.9
12	30.	4.4	30.	-2.1	30.	65.0	30.	4.3	30.	1.8
13	30.	5.5	30.	-2.1	30.	61.3	30.	4.3	30.	2.4
14	30.	6.5	30.	-2.2	30.	58.6	30.	4.3	30.	2.9
15	30.	6.7	30.	-2.3	30.	57.0	30.	4.3	30.	3.0
16	30.	6.9	30.	-2.2	30.	56.5	30.	4.3	30.	3.2
17	30.	6.5	30.	-2.2	30.	58.2	30.	4.3	30.	2.9
18	30.	5.5	30.	-2.4	30.	60.6	30.	4.3	30.	2.3
19	30.	4.6	30.	-2.4	30.	63.5	30.	4.3	30.	1.8
20	30.	4.0	30.	-2.4	30.	65.8	30.	4.3	30.	1.5
21	30.	3.5	30.	-2.4	30.	67.5	30.	4.3	30.	1.2
22	29.	3.0	30.	-2.5	29.	69.1	29.	4.3	29.	0.9
23	29.	2.8	30.	-2.6	29.	69.6	29.	4.2	29.	0.7
24	29.	2.5	30.	-2.7	29.	70.5	29.	4.2	29.	0.5
HOURLY MEAN		3.1		-2.8		67.7		4.2		0.8
AVG DAILY MAX		7.8		-0.1		80.9		5.0		4.1
AVG DAILY MIN		-1.3		-5.5		53.4		3.4		-2.6
ABSOLUTE MAX		18.6		13.6		95.5		11.7		14.1
ABSOLUTE MIN		-13.2		-16.5		23.5		1.4		-13.9
TOTAL OBS	715		720		715		715		715	

B12

PROGRAM: WETTEMP  
 VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY OCT-DEC 1993

MONTHLY HOUR AVERAGES FOR THE PERIOD 10/ 1/93 TO 12/31/93

DECEMBER

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/H3)	NUMBER OBS	(DEG C)
1	31.	-1.2	28.	-5.3	28.	76.1	28.	3.5	28.	-2.8
2	31.	-1.5	28.	-5.2	28.	78.2	28.	3.5	28.	-3.0
3	31.	-1.8	28.	-5.4	28.	78.6	28.	3.5	28.	-3.2
4	31.	-1.9	28.	-5.5	28.	78.7	28.	3.5	28.	-3.3
5	31.	-1.9	29.	-5.3	29.	79.4	29.	3.6	29.	-3.1
6	31.	-1.9	29.	-5.2	29.	79.2	29.	3.6	29.	-3.0
7	31.	-2.0	29.	-5.3	29.	79.0	29.	3.5	29.	-3.1
8	31.	-2.0	29.	-5.4	29.	78.9	29.	3.5	29.	-3.2
9	31.	-1.6	30.	-5.2	30.	78.2	30.	3.6	30.	-2.8
10	31.	-0.6	29.	-4.8	29.	75.5	29.	3.7	29.	-2.1
11	31.	0.5	29.	-4.2	29.	72.0	29.	3.8	29.	-1.2
12	31.	1.6	29.	-3.9	29.	68.5	29.	3.9	29.	-0.5
13	31.	2.3	29.	-3.6	29.	66.5	29.	4.0	29.	0.1
14	31.	2.9	28.	-3.6	28.	63.9	28.	4.0	28.	0.5
15	31.	3.5	29.	-3.6	29.	60.9	29.	3.9	29.	0.9
16	31.	3.7	29.	-3.7	29.	60.1	29.	3.9	29.	0.9
17	31.	3.2	29.	-3.9	29.	61.0	29.	3.8	29.	0.6
18	31.	2.3	29.	-4.1	29.	63.9	29.	3.8	29.	0.0
19	31.	1.6	29.	-4.3	29.	66.5	29.	3.7	29.	-0.6
20	31.	1.1	29.	-4.6	29.	67.9	29.	3.6	29.	-1.0
21	31.	0.6	29.	-4.7	29.	69.4	29.	3.6	29.	-1.4
22	31.	0.1	29.	-4.9	29.	70.8	29.	3.6	29.	-1.8
23	31.	-0.3	28.	-5.2	28.	72.0	28.	3.5	28.	-2.2
24	31.	-0.7	28.	-5.2	28.	73.5	28.	3.5	28.	-2.4
HOURLY MEAN		0.3		-4.7		71.6		3.7		-1.6
AVG DAILY MAX		4.8		-1.3		85.2		4.6		2.0
AVG DAILY MIN		-4.1		-7.6		57.0		3.0		-5.1
ABSOLUTE MAX		15.9		-6.9		99.3		7.7		10.8
ABSOLUTE MIN		-14.2		-20.4		30.6		1.0		-15.2
TOTAL OBS	744		690		690		690		690	

B13

PROGRAM: WETTEMP  
 VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY OCT-DEC 1993

OCT-DEC HOUR AVERAGES FOR THE PERIOD 10/ 1/93 TO 12/31/93

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	88.	3.3	87.	-1.8	85.	69.9	85.	4.5	85.	1.2
2	88.	2.9	87.	-1.9	85.	71.2	85.	4.5	85.	1.0
3	89.	2.6	87.	-2.0	86.	72.1	86.	4.5	86.	0.7
4	89.	2.3	87.	-2.2	86.	72.3	86.	4.4	86.	0.5
5	91.	2.3	89.	-2.2	89.	73.0	89.	4.5	89.	0.6
6	91.	2.1	89.	-2.3	89.	73.5	89.	4.4	89.	0.4
7	90.	1.8	88.	-2.4	88.	74.1	88.	4.4	88.	0.2
8	90.	1.9	88.	-2.6	88.	73.5	88.	4.4	88.	0.2
9	88.	2.4	87.	-2.3	87.	72.5	87.	4.4	87.	0.6
10	89.	3.8	87.	-1.8	87.	68.7	87.	4.6	87.	1.5
11	88.	4.9	85.	-1.4	85.	65.4	85.	4.7	85.	2.3
12	89.	6.2	87.	-1.0	86.	61.8	86.	4.6	86.	3.1
13	89.	7.1	87.	-0.9	86.	59.1	86.	4.8	86.	3.7
14	89.	7.7	86.	-0.9	85.	56.7	85.	4.8	85.	4.1
15	90.	8.2	87.	-1.0	87.	55.0	87.	4.8	87.	4.3
16	91.	8.6	89.	-0.9	89.	54.1	89.	4.8	89.	4.6
17	91.	8.2	89.	-1.0	89.	55.1	89.	4.8	89.	4.3
18	91.	7.2	89.	-1.0	89.	58.0	89.	4.8	89.	3.8
19	91.	6.2	89.	-1.1	89.	61.2	89.	4.8	89.	3.2
20	91.	5.6	89.	-1.2	89.	63.2	89.	4.7	89.	2.8
21	91.	5.0	89.	-1.3	89.	65.0	89.	4.7	89.	2.4
22	90.	4.5	89.	-1.5	88.	66.7	88.	4.7	88.	2.1
23	90.	4.1	88.	-1.6	87.	67.7	87.	4.6	87.	1.8
24	90.	3.8	88.	-1.7	87.	68.7	87.	4.6	87.	1.6
HOURLY MEAN		4.7		-1.6		65.8		4.6		2.1
AVG DAILY MAX		9.4		1.3		79.4		5.6		5.3
AVG DAILY MIN		0.5		-4.4		51.2		3.8		-1.1
ABSOLUTE MAX		29.3		14.5		99.3		11.8		20.0
ABSOLUTE MIN		-14.2		-20.4		23.5		1.0		-15.2
TOTAL OBS	2154		2107		2095		2095		2095	

B14

PROGRAM: WETTEMP  
 VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JUL-DEC 1993

JUL-DEC HOUR AVERAGES FOR THE PERIOD 7/ 1/93 TO 12/31/93

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	180.	11.6	179.	5.7	177.	67.8	177.	8.1	177.	8.7
2	180.	11.3	179.	5.6	177.	68.7	177.	8.0	177.	8.5
3	181.	10.9	179.	5.4	178.	69.3	178.	7.9	178.	8.2
4	180.	10.6	178.	5.2	177.	69.7	177.	7.8	177.	8.0
5	183.	10.4	181.	5.1	181.	70.3	181.	7.8	181.	7.8
6	183.	10.1	181.	5.0	181.	70.9	181.	7.7	181.	7.7
7	182.	10.1	180.	5.0	180.	71.1	180.	7.7	180.	7.6
8	182.	10.5	180.	4.9	180.	69.5	180.	7.7	180.	7.8
9	177.	11.1	179.	5.2	176.	67.8	176.	7.8	176.	8.1
10	173.	12.0	177.	5.7	170.	65.1	170.	7.9	170.	8.7
11	168.	12.8	176.	6.1	164.	62.3	164.	7.9	164.	9.1
12	168.	13.7	178.	6.3	164.	59.4	164.	7.9	164.	9.6
13	167.	14.4	177.	6.4	163.	57.2	163.	7.9	163.	10.0
14	167.	15.1	175.	6.5	162.	55.1	162.	8.1	162.	10.5
15	168.	15.6	177.	6.5	165.	53.8	165.	8.1	165.	10.6
16	171.	15.9	178.	6.5	169.	53.1	169.	8.1	169.	10.8
17	177.	16.1	179.	6.5	175.	53.6	175.	8.3	175.	11.0
18	180.	15.6	180.	6.5	178.	55.8	178.	8.4	178.	10.8
19	181.	14.8	180.	6.6	179.	59.1	179.	8.6	179.	10.6
20	181.	13.9	180.	6.5	179.	61.8	179.	8.5	179.	10.1
21	181.	13.2	180.	6.3	179.	63.8	179.	8.4	179.	9.7
22	179.	12.6	179.	6.1	177.	65.2	177.	8.3	177.	9.3
23	179.	12.1	178.	5.9	176.	66.1	176.	8.2	176.	9.1
24	181.	11.8	179.	5.8	178.	67.0	178.	8.1	178.	8.9
HOURLY MEAN		12.7		5.9		63.6		8.0		9.2
AVG DAILY MAX		17.5		8.4		75.3		9.4		12.1
AVG DAILY MIN		8.8		3.1		49.9		6.9		6.3
ABSOLUTE MAX		35.0		22.5		99.3		19.4		25.3
ABSOLUTE MIN		-14.2		-20.4		19.0		0.9		-15.2
TOTAL OBS	4249		4289		4185		4185		4185	

B15

PROGRAM: WETTEMP  
 VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JAN-DEC 1993

JAN-DEC HOUR AVERAGES FOR THE PERIOD 1/ 1/93 TO 12/31/93

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	350.	8.3	350.	2.8	347.	68.9	347.	6.9	347.	5.7
2	351.	7.9	351.	2.6	348.	69.7	348.	6.8	348.	5.5
3	352.	7.6	351.	2.4	349.	70.6	349.	6.7	349.	5.2
4	351.	7.3	350.	2.3	348.	71.2	348.	6.6	348.	5.0
5	355.	7.1	354.	2.2	353.	71.8	353.	6.6	353.	4.9
6	355.	6.9	354.	2.1	353.	72.3	353.	6.6	353.	4.7
7	354.	6.9	353.	2.1	352.	72.1	352.	6.6	352.	4.8
8	353.	7.4	352.	2.2	351.	70.6	351.	6.6	351.	5.0
9	348.	8.1	351.	2.4	347.	68.8	347.	6.7	347.	5.4
10	343.	9.0	349.	2.8	340.	65.9	340.	6.8	340.	5.9
11	335.	9.6	349.	3.1	331.	63.0	331.	6.7	331.	6.3
12	333.	10.5	351.	3.3	329.	60.3	329.	6.7	329.	6.7
13	330.	11.2	349.	3.5	325.	58.4	325.	6.7	325.	7.1
14	331.	11.9	347.	3.6	325.	56.8	325.	6.8	325.	7.6
15	332.	12.3	349.	3.7	329.	55.7	329.	6.8	329.	7.9
16	339.	12.8	350.	3.7	337.	54.9	337.	7.0	337.	8.2
17	346.	13.0	350.	3.7	344.	55.2	344.	7.1	344.	8.3
18	348.	12.7	349.	3.8	346.	56.7	346.	7.2	346.	8.3
19	350.	11.9	350.	3.7	348.	59.5	348.	7.2	348.	7.9
20	350.	11.0	350.	3.7	348.	62.2	348.	7.2	348.	7.5
21	351.	10.3	351.	3.6	349.	64.5	349.	7.2	349.	7.0
22	350.	9.6	351.	3.3	348.	66.0	348.	7.1	348.	6.6
23	350.	9.1	351.	3.1	347.	67.2	347.	7.0	347.	6.3
24	350.	8.8	350.	3.0	347.	68.2	347.	7.0	347.	6.1
HOURLY MEAN		9.6		3.0		64.7		6.9		6.4
AVG DAILY MAX		14.1		5.5		76.3		8.0		9.2
AVG DAILY MIN		5.7		0.3		51.2		5.8		3.5
ABSOLUTE MAX		35.0		22.5		99.3		19.4		25.3
ABSOLUTE MIN		-19.3		-25.2		19.0		0.7		-19.9
TOTAL OBS	8307		8412		8241		8241		8241	

B16

Wind Direction Frequencies

10-Meter Level

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION JUL-SEP 1993

PROGRAM: WINPER  
VERSION: 2P

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	6.5	9.7	0.0	3.2	6.5	6.5	9.7	12.9	19.4	9.7	3.2	3.2	6.5	0.0	0.0	3.2	0.0	100.	
2	3.2	6.5	9.7	3.2	3.2	6.5	9.7	16.1	22.6	3.2	6.5	0.0	6.5	3.2	0.0	0.0	0.0	100.	
3	6.5	3.2	6.5	3.2	12.9	3.2	6.5	12.9	9.7	16.1	0.0	3.2	3.2	3.2	3.2	6.5	0.0	100.	
4	9.7	0.0	16.1	3.2	6.5	3.2	3.2	19.4	12.9	6.5	6.5	0.0	6.5	0.0	3.2	3.2	0.0	100.	
5	6.5	3.2	9.7	6.5	3.2	3.2	9.7	9.7	25.8	9.7	0.0	0.0	0.0	6.5	6.5	0.0	0.0	100.	
6	9.7	12.9	0.0	3.2	3.2	3.2	25.8	3.2	12.9	9.7	0.0	3.2	0.0	0.0	12.9	0.0	0.0	100.	
7	9.7	3.2	3.2	6.5	3.2	9.7	9.7	6.5	19.4	6.5	6.5	3.2	3.2	0.0	6.5	3.2	0.0	100.	
8	6.5	0.0	9.7	3.2	6.5	6.5	9.7	19.4	0.0	12.9	3.2	9.7	3.2	3.2	3.2	3.2	0.0	100.	
9	6.5	3.2	3.2	6.5	3.2	12.9	6.5	16.1	6.5	6.5	9.7	6.5	3.2	0.0	6.5	3.2	0.0	100.	
10	9.7	0.0	3.2	3.2	9.7	9.7	16.1	9.7	3.2	9.7	9.7	3.2	0.0	0.0	12.9	0.0	0.0	100.	
11	3.2	12.9	3.2	0.0	3.2	12.9	22.6	6.5	9.7	3.2	6.5	3.2	0.0	0.0	9.7	3.2	0.0	100.	
12	3.2	6.5	0.0	6.5	9.7	3.2	32.3	6.5	6.5	6.5	3.2	0.0	0.0	6.5	6.5	3.2	0.0	100.	
13	6.5	3.2	3.2	0.0	3.2	12.9	22.6	9.7	19.4	3.2	3.2	0.0	0.0	6.5	6.5	3.2	0.0	100.	
14	3.2	6.5	3.2	0.0	6.5	9.7	16.1	16.1	12.9	9.7	3.2	0.0	0.0	3.2	6.5	3.2	0.0	100.	
15	0.0	6.5	3.2	3.2	3.2	6.5	25.8	16.1	12.9	3.2	3.2	0.0	0.0	6.5	6.5	3.2	0.0	100.	
16	6.7	6.7	0.0	3.3	6.7	10.0	16.7	13.3	20.0	0.0	6.7	0.0	3.3	0.0	3.3	3.3	0.0	100.	
17	0.0	3.3	3.3	3.3	3.3	10.0	13.3	20.0	16.7	3.3	0.0	3.3	3.3	10.0	0.0	6.7	0.0	100.	
18	13.3	3.3	6.7	3.3	3.3	10.0	23.3	20.0	3.3	3.3	0.0	3.3	0.0	6.7	0.0	0.0	0.0	100.	
19	10.0	6.7	3.3	0.0	10.0	3.3	33.3	10.0	6.7	3.3	0.0	3.3	3.3	3.3	0.0	3.3	0.0	100.	
20	3.3	10.0	6.7	3.3	6.7	6.7	23.3	10.0	6.7	6.7	3.3	3.3	0.0	0.0	6.7	3.3	3.3	0.0	100.
21	10.0	0.0	6.7	13.3	3.3	10.0	6.7	23.3	6.7	0.0	0.0	6.7	3.3	3.3	3.3	3.3	0.0	100.	
22	10.3	0.0	3.4	3.4	3.4	17.2	10.3	24.1	10.3	3.4	10.3	0.0	0.0	3.4	0.0	0.0	0.0	100.	
23	6.9	0.0	0.0	10.3	0.0	13.8	3.4	17.2	20.7	10.3	10.3	0.0	3.4	3.4	0.0	0.0	0.0	100.	
24	12.9	6.5	3.2	3.2	0.0	6.5	9.7	16.1	16.1	6.5	3.2	3.2	3.2	0.0	6.5	3.2	0.0	100.	
ALL	6.8	4.8	4.5	4.0	5.0	8.2	15.3	13.9	12.5	6.4	4.1	2.5	2.2	2.6	4.6	2.7	0.0	100.	

NUMBER OF OBS = 734

B18



NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION JUL-SEP 1993

PROGRAM: WINPER  
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

AUGUST

HR. OF DAY	WIND DIRECTION																TOTAL	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		CALM
1	0.0	6.5	3.2	3.2	0.0	3.2	9.7	0.0	29.0	16.1	0.0	3.2	3.2	3.2	9.7	9.7	0.0	100.
2	3.2	3.2	0.0	3.2	6.5	3.2	3.2	16.1	19.4	16.1	0.0	0.0	0.0	12.9	9.7	3.2	0.0	100.
3	6.5	3.2	3.2	6.5	3.2	3.2	6.5	6.5	19.4	19.4	9.7	0.0	0.0	3.2	6.5	3.2	0.0	100.
4	10.0	10.0	0.0	6.7	0.0	0.0	6.7	16.7	13.3	13.3	13.3	0.0	0.0	0.0	6.7	3.3	0.0	100.
5	3.2	3.2	3.2	3.2	3.2	0.0	6.5	9.7	22.6	9.7	6.5	6.5	6.5	6.5	0.0	9.7	0.0	100.
6	0.0	0.0	0.0	3.2	12.9	0.0	0.0	12.9	16.1	9.7	3.2	6.5	3.2	9.7	16.1	6.5	0.0	100.
7	3.2	3.2	0.0	3.2	0.0	16.1	3.2	12.9	9.7	9.7	0.0	9.7	3.2	9.7	9.7	6.5	0.0	100.
8	6.5	3.2	3.2	0.0	9.7	0.0	12.9	6.5	12.9	9.7	6.5	0.0	6.5	0.0	12.9	9.7	0.0	100.
9	12.9	6.5	3.2	6.5	0.0	6.5	9.7	9.7	6.5	12.9	3.2	0.0	3.2	0.0	3.2	16.1	0.0	100.
10	10.0	13.3	3.3	0.0	3.3	3.3	3.3	13.3	6.7	16.7	3.3	3.3	0.0	3.3	0.0	16.7	0.0	100.
11	16.1	6.5	3.2	0.0	0.0	6.5	6.5	3.2	12.9	12.9	9.7	3.2	3.2	3.2	3.2	9.7	0.0	100.
12	6.5	9.7	0.0	3.2	3.2	6.5	6.5	6.5	16.1	16.1	6.5	0.0	6.5	0.0	3.2	9.7	0.0	100.
13	6.7	10.0	3.3	0.0	0.0	3.3	13.3	3.3	16.7	10.0	10.0	0.0	6.7	3.3	3.3	10.0	0.0	100.
14	3.3	6.7	6.7	0.0	0.0	0.0	13.3	6.7	16.7	13.3	3.3	3.3	0.0	3.3	3.3	20.0	0.0	100.
15	6.5	6.5	0.0	6.5	0.0	0.0	6.5	16.1	12.9	16.1	3.2	0.0	3.2	0.0	3.2	19.4	0.0	100.
16	9.7	6.5	3.2	0.0	3.2	3.2	6.5	6.5	25.0	6.5	6.5	3.2	3.2	0.0	3.2	12.9	0.0	100.
17	9.7	9.7	3.2	0.0	3.2	0.0	9.7	9.7	29.0	0.0	6.5	0.0	6.5	3.2	3.2	6.5	0.0	100.
18	9.7	9.7	3.2	0.0	0.0	3.2	9.7	16.1	22.6	3.2	0.0	3.2	3.2	3.2	9.7	3.2	0.0	100.
19	9.7	3.2	9.7	0.0	0.0	3.2	12.9	19.4	16.1	6.5	0.0	0.0	3.2	0.0	6.5	9.7	0.0	100.
20	6.5	6.5	6.5	0.0	6.5	6.5	12.9	19.4	6.5	3.2	6.5	0.0	3.2	3.2	6.5	6.5	0.0	100.
21	3.2	6.5	3.2	0.0	3.2	6.5	12.9	19.4	12.9	6.5	0.0	0.0	3.2	0.0	12.9	9.7	0.0	100.
22	12.9	3.2	3.2	3.2	0.0	6.5	16.1	12.9	6.5	12.9	0.0	0.0	6.5	3.2	0.0	12.9	0.0	100.
23	0.0	3.2	6.5	6.5	0.0	0.0	9.7	16.1	16.1	12.9	0.0	3.2	3.2	0.0	3.2	19.4	0.0	100.
24	9.7	0.0	3.2	9.7	0.0	0.0	9.7	0.0	32.3	12.9	0.0	3.2	6.5	0.0	3.2	9.7	0.0	100.
ALL	6.9	5.8	3.1	2.7	2.4	3.4	8.6	10.8	16.6	11.1	4.1	2.0	3.5	3.0	5.8	10.1	0.0	100.

NUMBER OF OBS = 740

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION JUL-SEP 1993

PROGRAM: WINPER  
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

SEPTEMBR

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	0.0	3.3	3.3	0.0	3.3	10.0	13.3	16.7	6.7	3.3	3.3	0.0	3.3	6.7	13.3	0.0	100.
2	13.3	3.3	3.3	0.0	6.7	6.7	6.7	6.7	13.3	6.7	6.7	3.3	0.0	3.3	6.7	13.3	0.0	100.
3	13.3	3.3	3.3	0.0	0.0	6.7	6.7	10.0	13.3	10.0	3.3	6.7	10.0	0.0	3.3	10.0	0.0	100.
4	23.3	0.0	0.0	3.3	3.3	10.0	3.3	13.3	10.0	3.3	6.7	6.7	0.0	3.3	10.0	3.3	0.0	100.
5	6.7	6.7	6.7	0.0	3.3	3.3	3.3	3.3	26.7	6.7	3.3	3.3	0.0	3.3	10.0	13.3	0.0	100.
6	6.7	10.0	10.0	6.7	0.0	3.3	3.3	6.7	23.3	10.0	0.0	3.3	3.3	0.0	10.0	3.3	0.0	100.
7	3.3	3.3	3.3	3.3	3.3	3.3	10.0	6.7	26.7	3.3	3.3	0.0	6.7	6.7	6.7	6.7	3.3	100.
8	10.0	3.3	10.0	0.0	0.0	3.3	10.0	13.3	13.3	10.0	0.0	3.3	3.3	0.0	13.3	6.7	0.0	100.
9	3.3	6.7	3.3	10.0	0.0	3.3	16.7	0.0	16.7	3.3	3.3	3.3	6.7	6.7	3.3	13.3	0.0	100.
10	3.3	6.7	3.3	6.7	3.3	3.3	10.0	16.7	6.7	6.7	6.7	0.0	0.0	10.0	3.3	13.3	0.0	100.
11	10.0	3.3	3.3	10.0	0.0	3.3	20.0	10.0	6.7	6.7	0.0	6.7	0.0	0.0	10.0	10.0	0.0	100.
12	0.0	3.3	6.7	3.3	0.0	3.3	16.7	16.7	6.7	3.3	3.3	0.0	0.0	6.7	13.3	16.7	0.0	100.
13	3.3	6.7	6.7	6.7	0.0	3.3	10.0	13.3	3.3	10.0	3.3	0.0	0.0	3.3	13.3	16.7	0.0	100.
14	6.9	6.9	0.0	6.9	0.0	0.0	17.2	10.3	10.3	0.0	3.4	0.0	3.4	3.4	3.4	27.6	0.0	100.
15	6.9	3.4	0.0	3.4	3.4	6.9	6.9	13.8	3.4	6.9	3.4	0.0	0.0	10.3	3.4	27.6	0.0	100.
16	17.2	6.9	6.9	0.0	3.4	0.0	17.2	3.4	6.9	6.9	3.4	0.0	3.4	3.4	6.9	13.8	0.0	100.
17	17.2	10.3	0.0	3.4	0.0	0.0	13.8	3.4	10.3	6.9	3.4	0.0	3.4	3.4	3.4	20.7	0.0	100.
18	6.7	3.3	6.7	6.7	3.3	3.3	10.0	3.3	13.3	3.3	3.3	3.3	0.0	0.0	10.0	23.3	0.0	100.
19	6.7	3.3	3.3	10.0	0.0	3.3	6.7	6.7	13.3	6.7	3.3	3.3	0.0	0.0	16.7	16.7	0.0	100.
20	16.7	0.0	6.7	6.7	0.0	3.3	6.7	10.0	13.3	3.3	0.0	3.3	3.3	3.3	10.0	13.3	0.0	100.
21	6.7	3.3	3.3	0.0	6.7	0.0	0.0	10.0	16.7	6.7	0.0	3.3	3.3	3.3	6.7	23.3	6.7	100.
22	10.0	6.7	0.0	3.3	0.0	3.3	6.7	0.0	16.7	6.7	3.3	6.7	0.0	3.3	6.7	26.7	0.0	100.
23	13.3	6.7	3.3	3.3	0.0	3.3	6.7	10.0	13.3	10.0	3.3	0.0	3.3	3.3	20.0	0.0	0.0	100.
24	10.0	3.3	3.3	3.3	3.3	3.3	10.0	0.0	30.0	6.7	3.3	0.0	6.7	0.0	6.7	10.0	0.0	100.
ALL	9.5	4.6	4.1	4.2	1.7	3.5	9.5	8.4	13.8	6.3	3.1	2.5	2.4	3.4	8.5	14.2	0.4	100.

NUMBER OF OBS = 716

B20

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION JUL-SEP 1993

PROGRAM: WINPER  
VERSION: 2P

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	6.5	5.4	2.2	3.3	2.2	4.3	9.8	8.7	21.7	10.9	2.2	3.3	3.3	2.2	5.4	8.7	0.0	100.
2	6.5	4.3	4.3	2.2	5.4	5.4	6.5	13.0	19.5	8.7	4.3	1.1	2.2	6.5	5.4	5.4	0.0	100.
3	8.7	3.3	4.3	3.3	5.4	4.3	6.5	9.8	14.1	15.2	4.3	3.3	4.3	2.2	4.3	6.5	0.0	100.
4	14.3	3.3	5.5	4.4	3.3	4.4	4.4	16.5	12.1	7.7	8.8	2.2	2.2	1.1	6.6	3.3	0.0	100.
5	5.4	4.3	6.5	3.3	3.3	2.2	6.5	7.6	25.0	8.7	3.3	3.3	2.2	5.4	5.4	7.6	0.0	100.
6	5.4	7.6	3.3	4.3	5.4	2.2	9.8	7.6	17.4	9.8	1.1	4.3	2.2	3.3	13.0	3.3	0.0	100.
7	5.4	3.3	2.2	4.3	2.2	9.8	7.6	8.7	18.5	6.5	3.3	4.3	4.3	5.4	7.6	5.4	1.1	100.
8	7.6	2.2	7.6	1.1	5.4	3.3	10.9	13.0	8.7	10.9	3.3	4.3	4.3	1.1	9.8	6.5	0.0	100.
9	7.6	5.4	3.3	7.6	1.1	7.6	10.9	8.7	9.8	7.6	5.4	3.3	4.3	2.2	4.3	10.9	0.0	100.
10	7.7	6.6	3.3	3.3	5.5	5.5	9.9	13.2	5.5	11.0	6.6	2.2	0.0	4.4	5.5	9.9	0.0	100.
11	9.8	7.6	3.3	3.3	1.1	7.6	16.3	6.5	9.8	7.6	5.4	4.3	1.1	1.1	7.6	7.6	0.0	100.
12	3.3	6.5	2.2	4.3	4.3	4.3	18.5	9.8	9.8	8.7	4.3	0.0	2.2	4.3	7.6	9.8	0.0	100.
13	5.5	6.6	4.4	2.2	1.1	6.6	15.4	8.8	13.2	7.7	5.5	0.0	2.2	2.2	7.7	11.0	0.0	100.
14	4.4	6.7	3.3	2.2	2.2	3.3	15.4	11.1	13.3	7.8	3.3	1.1	1.1	3.3	4.4	16.7	0.0	100.
15	4.4	5.5	1.1	4.4	2.2	4.4	13.2	15.4	9.9	8.8	3.3	0.0	1.1	5.5	4.4	16.5	0.0	100.
16	11.1	6.7	3.3	1.1	4.4	4.4	13.3	7.8	17.8	4.4	5.6	1.1	3.3	1.1	4.4	10.9	0.0	100.
17	8.9	7.8	2.2	2.2	2.2	3.3	12.2	11.1	18.9	3.3	3.3	1.1	4.4	5.6	2.2	11.1	0.0	100.
18	9.9	5.5	5.5	3.3	2.2	5.5	14.3	13.2	13.2	3.3	1.1	3.3	1.1	3.3	6.6	8.8	0.0	100.
19	8.8	4.4	5.5	3.3	3.3	3.3	17.6	12.1	12.1	5.5	1.1	2.2	2.2	1.1	7.7	9.9	0.0	100.
20	8.8	5.5	6.6	3.3	4.4	5.5	14.3	13.2	8.8	4.4	3.3	2.2	2.2	2.2	7.7	7.7	0.0	100.
21	6.6	3.3	4.4	4.4	4.4	5.5	6.6	17.6	12.1	4.4	0.0	3.3	3.3	2.2	7.7	12.1	2.2	100.
22	11.1	3.3	2.2	3.3	1.1	8.9	11.1	12.2	11.1	7.8	4.4	2.2	2.2	3.3	2.2	13.3	0.0	100.
23	6.7	3.3	3.3	6.7	0.0	5.6	6.7	14.4	16.7	11.1	4.4	1.1	3.3	2.2	7.8	6.7	0.0	100.
24	10.9	3.3	3.3	5.4	1.1	3.3	9.8	5.4	26.1	8.7	2.2	2.2	5.4	0.0	5.4	7.6	0.0	100.
ALL	7.7	5.1	3.9	3.6	3.1	5.0	11.1	11.1	14.3	7.9	3.7	2.3	2.7	3.0	6.3	9.0	0.1	100.

NUMBER OF OBS = 2190

B21

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION OCT-DEC 1993

PROGRAM: WINPER  
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

OCTOBER

HR. OF DAY	WIND DIRECTION																TOTAL	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	WW	NNW		CALM
1	6.5	3.2	3.2	0.0	3.2	3.2	0.0	12.9	12.9	6.5	9.7	0.0	6.5	3.2	12.9	16.1	0.0	100.
2	9.7	0.0	3.2	3.2	0.0	0.0	3.2	9.7	22.6	9.7	9.7	0.0	0.0	6.5	6.5	16.1	0.0	100.
3	9.7	0.0	3.2	0.0	0.0	3.2	3.2	3.2	25.8	6.5	3.2	6.5	0.0	0.0	12.9	22.6	0.0	100.
4	12.9	0.0	3.2	0.0	0.0	0.0	6.5	12.9	19.4	12.9	6.5	0.0	0.0	3.2	9.7	12.9	0.0	100.
5	9.7	0.0	3.2	0.0	0.0	3.2	9.7	6.5	19.4	6.5	9.7	0.0	3.2	6.5	9.7	12.9	0.0	100.
6	19.4	3.2	0.0	0.0	0.0	0.0	6.5	6.5	32.3	3.2	9.7	0.0	3.2	3.2	9.7	3.2	0.0	100.
7	13.3	3.3	3.3	0.0	0.0	0.0	6.7	0.0	43.3	3.3	10.0	0.0	0.0	3.3	10.0	3.3	0.0	100.
8	13.3	6.7	3.3	0.0	0.0	3.3	3.3	10.0	26.7	6.7	6.7	3.3	0.0	3.3	3.3	10.0	0.0	100.
9	14.3	0.0	3.6	3.6	0.0	0.0	10.7	3.6	14.3	3.6	7.1	3.6	7.1	0.0	14.3	0.0	100.	
10	10.7	0.0	3.6	3.6	0.0	3.6	7.1	3.6	7.1	17.9	7.1	10.7	0.0	3.6	3.6	17.9	0.0	100.
11	11.1	0.0	0.0	3.7	0.0	0.0	11.1	0.0	0.0	22.2	7.4	3.7	11.1	7.4	0.0	22.2	0.0	100.
12	10.7	0.0	0.0	0.0	3.6	0.0	10.7	0.0	3.6	17.9	7.1	0.0	7.1	3.6	7.1	28.6	0.0	100.
13	21.4	0.0	3.6	0.0	3.6	0.0	7.1	3.6	7.1	17.9	7.1	0.0	3.6	3.6	7.1	14.3	0.0	100.
14	10.7	7.1	0.0	0.0	3.6	0.0	7.1	0.0	10.7	21.4	0.0	3.6	3.6	3.6	7.1	21.4	0.0	100.
15	6.7	6.7	3.3	3.3	0.0	0.0	6.7	0.0	16.7	16.7	0.0	6.7	3.3	3.3	3.3	23.3	0.0	100.
16	16.7	3.3	3.3	0.0	0.0	3.3	0.0	6.7	10.0	13.3	6.7	3.3	3.3	3.3	3.3	23.3	0.0	100.
17	16.1	6.5	3.2	0.0	0.0	3.2	0.0	6.5	12.9	12.9	6.5	3.2	3.2	3.2	3.2	19.4	0.0	100.
18	12.9	6.5	6.5	0.0	0.0	0.0	0.0	12.9	19.4	9.7	3.2	3.2	0.0	0.0	3.2	22.6	0.0	100.
19	12.9	6.5	6.5	3.2	0.0	0.0	0.0	16.1	16.1	12.9	0.0	0.0	3.2	0.0	6.5	16.1	0.0	100.
20	12.9	6.5	0.0	0.0	3.2	0.0	3.2	16.1	12.9	6.5	9.7	0.0	0.0	3.2	6.5	19.4	0.0	100.
21	12.9	3.2	6.5	0.0	0.0	0.0	6.5	6.5	25.8	6.5	9.7	0.0	3.2	3.2	6.5	6.5	3.2	100.
22	3.2	6.5	3.2	0.0	0.0	3.2	3.2	9.7	19.4	9.7	3.2	3.2	6.5	0.0	9.7	19.4	0.0	100.
23	12.9	3.2	0.0	0.0	3.2	0.0	3.2	9.7	12.9	9.7	12.9	3.2	0.0	0.0	19.4	9.7	0.0	100.
24	9.7	0.0	3.2	3.2	0.0	0.0	3.2	12.9	6.5	12.9	12.9	6.5	0.0	3.2	16.1	9.7	0.0	100.
ALL	12.1	3.1	2.9	1.0	0.8	1.1	4.9	7.2	16.8	11.4	6.8	2.6	2.6	3.2	7.5	16.0	0.1	100.

NUMBER OF OBS = 721

B22

HPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION OCT-DEC 1993

PROGRAM: WINPER  
VERSION: 2P

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	6.7	0.0	0.0	0.0	3.3	0.0	3.3	6.7	20.0	10.0	13.3	0.0	10.0	6.7	20.0	0.0	0.0	100.
2	6.7	3.3	0.0	0.0	3.3	3.3	6.7	10.0	3.3	16.7	6.7	6.7	6.7	6.7	13.3	6.7	0.0	100.
3	0.0	3.3	3.3	0.0	3.3	0.0	10.0	13.3	10.0	13.3	3.3	10.0	3.3	6.7	13.3	6.7	0.0	100.
4	0.0	6.7	0.0	0.0	0.0	3.3	3.3	16.7	10.0	10.0	10.0	10.0	3.3	6.7	6.7	13.3	0.0	100.
5	3.3	0.0	0.0	0.0	0.0	3.3	6.7	13.3	16.7	6.7	13.3	6.7	3.3	0.0	10.0	16.7	0.0	100.
6	3.3	3.3	0.0	0.0	3.3	0.0	3.3	30.0	6.7	6.7	6.7	6.7	3.3	6.7	10.0	10.0	0.0	100.
7	3.3	0.0	0.0	0.0	3.3	0.0	3.3	13.3	20.0	13.3	6.7	3.3	3.3	3.3	13.3	13.3	0.0	100.
8	3.3	0.0	3.3	0.0	3.3	0.0	6.7	6.7	23.3	10.0	6.7	0.0	3.3	6.7	16.7	10.0	0.0	100.
9	6.7	3.3	0.0	0.0	0.0	6.7	3.3	16.7	6.7	6.7	10.0	6.7	3.3	6.7	16.7	6.7	0.0	100.
10	3.3	3.3	3.3	0.0	0.0	3.3	10.0	3.3	13.3	10.0	6.7	10.0	3.3	3.3	20.0	6.7	0.0	100.
11	10.0	3.3	0.0	0.0	0.0	3.3	6.7	3.3	20.0	10.0	6.7	3.3	6.7	3.3	10.0	13.3	0.0	100.
12	3.3	6.7	0.0	0.0	0.0	3.3	6.7	10.0	13.3	0.0	16.7	3.3	3.3	6.7	13.3	13.3	0.0	100.
13	3.3	6.7	3.3	0.0	0.0	0.0	6.7	6.7	10.0	10.0	6.7	6.7	3.3	16.7	10.0	10.0	0.0	100.
14	6.7	3.3	0.0	3.3	0.0	3.3	6.7	3.3	10.0	10.0	10.0	10.0	0.0	10.0	20.0	3.3	0.0	100.
15	6.7	0.0	0.0	0.0	3.3	3.3	6.7	13.3	3.3	3.3	13.3	6.7	0.0	10.0	23.3	6.7	0.0	100.
16	0.0	3.3	0.0	3.3	0.0	3.3	6.7	10.0	10.0	6.7	10.0	3.3	0.0	10.0	23.3	10.0	0.0	100.
17	3.3	0.0	0.0	3.3	3.3	0.0	6.7	13.3	6.7	16.7	0.0	3.3	0.0	13.3	23.3	6.7	0.0	100.
18	3.3	0.0	0.0	0.0	6.7	3.3	0.0	20.0	6.7	16.7	3.3	3.3	0.0	10.0	16.7	10.0	0.0	100.
19	3.3	0.0	0.0	0.0	6.7	3.3	3.3	16.7	10.0	20.0	3.3	0.0	0.0	10.0	16.7	6.7	0.0	100.
20	0.0	0.0	6.7	0.0	0.0	3.3	3.3	23.3	6.7	16.7	6.7	0.0	3.3	6.7	16.7	6.7	0.0	100.
21	3.3	0.0	6.7	0.0	0.0	3.3	3.3	16.7	6.7	16.7	3.3	0.0	6.7	10.0	13.3	10.0	0.0	100.
22	3.3	0.0	0.0	3.3	0.0	3.3	6.7	10.0	23.3	10.0	0.0	3.3	3.3	13.3	13.3	6.7	0.0	100.
23	0.0	0.0	0.0	3.3	0.0	0.0	10.0	10.0	20.0	16.7	0.0	0.0	10.0	3.3	13.3	13.3	0.0	100.
24	0.0	3.3	0.0	0.0	3.3	0.0	6.7	13.3	20.0	13.3	3.3	0.0	6.7	6.7	13.3	10.0	0.0	100.
ALL	3.5	2.1	1.1	0.7	1.8	2.2	5.7	12.5	12.4	11.2	6.9	4.3	3.6	7.6	15.3	9.0	0.0	100.

NUMBER OF OBS = 720

B23

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION OCT-DEC 1993

PROGRAM: WINPER  
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

DECEMBER

HR. OF DAY	WIND DIRECTION																TOTAL	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		CALM
1	0.0	3.2	3.2	0.0	0.0	0.0	6.5	19.4	16.1	0.0	0.0	9.7	3.2	9.7	9.7	19.4	0.0	100.
2	0.0	6.5	0.0	3.2	0.0	3.2	9.7	9.7	19.4	3.2	0.0	6.5	6.5	3.2	9.7	19.4	0.0	100.
3	3.2	6.5	3.2	0.0	0.0	0.0	6.5	16.1	19.4	0.0	6.5	3.2	3.2	9.7	9.7	12.9	0.0	100.
4	3.2	9.7	0.0	3.2	0.0	0.0	9.7	16.1	12.9	3.2	0.0	6.5	6.5	6.5	9.7	12.9	0.0	100.
5	6.5	6.5	3.2	0.0	0.0	3.2	3.2	16.1	12.9	6.5	6.5	0.0	3.2	9.7	12.9	9.7	0.0	100.
6	6.5	3.2	0.0	0.0	6.5	6.5	0.0	9.7	22.6	0.0	6.5	3.2	0.0	9.7	12.9	12.9	0.0	100.
7	0.0	9.7	0.0	0.0	3.2	3.2	12.9	6.5	19.4	3.2	6.5	0.0	0.0	6.5	16.1	9.7	3.2	100.
8	0.0	6.5	0.0	3.2	3.2	0.0	3.2	9.7	25.8	9.7	6.5	0.0	0.0	6.5	9.7	16.1	0.0	100.
9	0.0	3.2	3.2	3.2	3.2	0.0	3.2	9.7	25.8	9.7	3.2	3.2	0.0	6.5	9.7	16.1	0.0	100.
10	9.7	3.2	3.2	3.2	0.0	3.2	6.5	3.2	16.1	12.9	6.5	3.2	0.0	3.2	12.9	12.9	0.0	100.
11	6.5	6.5	0.0	0.0	0.0	9.7	0.0	9.7	9.7	16.1	6.5	0.0	3.2	3.2	12.9	16.1	0.0	100.
12	3.2	3.2	6.5	0.0	0.0	3.2	3.2	0.0	16.1	9.7	12.9	6.5	0.0	6.5	19.4	9.7	0.0	100.
13	3.2	6.5	3.2	0.0	0.0	3.2	6.5	3.2	9.7	6.5	12.9	0.0	6.5	12.9	12.9	12.9	0.0	100.
14	3.2	3.2	3.2	0.0	3.2	3.2	0.0	3.2	12.9	6.5	12.9	0.0	12.9	6.5	19.4	9.7	0.0	100.
15	3.2	3.2	6.5	3.2	0.0	0.0	3.2	0.0	9.7	9.7	9.7	9.7	6.5	12.9	12.9	9.7	0.0	100.
16	0.0	3.2	6.5	9.0	0.0	6.5	0.0	6.5	3.2	6.5	6.5	16.1	3.2	12.9	16.1	12.9	0.0	100.
17	3.2	6.5	3.2	3.2	0.0	3.2	3.2	3.2	6.5	9.7	9.7	3.2	3.2	9.7	16.1	16.1	0.0	100.
18	6.5	0.0	3.2	3.2	0.0	0.0	6.5	9.7	6.5	6.5	3.2	6.5	0.0	12.9	19.4	16.1	0.0	100.
19	3.2	6.5	3.2	0.0	0.0	6.5	3.2	3.2	12.9	3.2	3.2	9.7	3.2	6.5	19.4	16.1	0.0	100.
20	6.5	3.2	3.2	0.0	0.0	0.0	6.5	6.5	9.7	9.7	0.0	9.7	3.2	16.1	9.7	16.1	0.0	100.
21	6.5	3.2	3.2	0.0	0.0	0.0	6.5	6.5	9.7	12.9	0.0	3.2	6.5	9.7	12.9	19.4	0.0	100.
22	3.2	3.2	3.2	0.0	0.0	0.0	12.9	3.2	6.5	9.7	9.7	0.0	9.7	6.5	9.7	22.6	0.0	100.
23	3.2	3.2	3.2	0.0	0.0	3.2	9.7	6.5	9.7	6.5	9.7	6.5	3.2	3.2	16.1	16.1	0.0	100.
24	3.2	6.5	0.0	3.2	0.0	0.0	12.9	12.9	6.5	6.5	3.2	3.2	6.5	6.5	19.4	9.7	0.0	100.
ALL	3.5	4.8	2.7	1.2	0.8	2.4	5.6	7.9	13.3	7.0	5.9	4.6	3.8	8.2	13.7	14.4	0.1	100.

NUMBER OF OBS = 744

B24

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION OCT-DEC 1993

PROGRAM: WINPER  
VERSION: 2P

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	4.3	2.2	2.2	0.0	2.2	1.1	3.3	13.0	16.3	5.4	7.6	3.3	6.5	6.5	14.1	12.0	0.0	100.
2	5.4	3.3	1.1	2.2	1.1	2.2	6.5	9.8	15.2	9.8	5.4	4.3	4.3	5.4	9.8	14.1	0.0	100.
3	4.3	3.3	3.3	0.0	1.1	1.1	6.5	10.9	18.5	6.5	4.3	6.5	2.2	5.4	12.0	14.1	0.0	100.
4	5.4	5.4	1.1	1.1	0.0	1.1	6.5	15.2	14.1	8.7	5.4	5.4	3.3	5.4	8.7	13.0	0.0	100.
5	6.5	2.2	2.2	0.0	0.0	3.3	6.5	12.0	16.3	6.5	9.8	2.2	3.3	5.4	10.9	13.0	0.0	100.
6	9.8	3.3	0.0	0.0	3.3	2.2	3.3	15.2	20.7	3.3	7.6	3.3	2.2	6.5	10.9	8.7	0.0	100.
7	5.5	4.4	1.1	0.0	2.2	1.1	7.7	6.6	27.5	6.6	7.7	1.1	1.1	4.4	13.2	8.8	1.1	100.
8	5.5	4.4	2.2	1.1	2.2	1.1	4.4	8.8	25.3	8.8	6.6	1.1	1.1	5.5	9.9	12.1	0.0	100.
9	6.7	2.2	2.2	2.2	1.1	2.2	5.6	10.1	15.7	10.1	5.6	5.6	2.2	6.7	9.0	12.4	0.0	100.
10	7.9	2.2	3.4	2.2	0.0	3.4	7.9	3.4	12.4	13.5	6.7	7.9	1.1	3.4	12.4	12.4	0.0	100.
11	9.1	3.4	0.0	1.1	0.0	4.5	5.7	4.5	10.2	15.9	6.8	2.3	6.8	4.5	8.0	17.0	0.0	100.
12	5.6	3.4	2.2	0.0	1.1	2.2	6.7	3.4	11.2	9.0	12.4	3.4	3.4	5.6	13.5	16.9	0.0	100.
13	9.0	4.5	3.4	0.0	1.1	1.1	6.7	4.5	9.0	11.2	9.0	2.2	4.5	11.2	10.1	12.4	0.0	100.
14	6.7	4.5	1.1	1.1	2.2	2.2	4.5	2.2	11.2	12.4	7.9	4.5	5.6	6.7	15.7	11.2	0.0	100.
15	5.5	3.3	3.3	2.2	1.1	1.1	5.5	4.4	9.9	9.9	7.7	7.7	3.3	8.8	13.2	13.2	0.0	100.
16	5.5	3.3	3.3	1.1	0.0	4.4	2.2	7.7	7.7	8.8	7.7	7.7	2.2	8.8	14.3	15.4	0.0	100.
17	7.6	4.3	2.2	2.2	1.1	2.2	3.3	7.6	8.7	13.0	5.4	3.3	2.2	8.7	14.1	14.1	0.0	100.
18	7.6	2.2	3.3	1.1	2.2	1.1	2.2	14.1	10.9	10.9	3.3	4.3	0.0	7.6	13.0	16.3	0.0	100.
19	6.5	4.3	3.3	1.1	2.2	3.3	2.2	12.0	13.0	12.0	2.2	3.3	2.2	5.4	14.1	13.0	0.0	100.
20	6.5	3.3	3.3	0.0	1.1	1.1	4.3	15.2	9.8	10.9	5.4	3.3	2.2	8.7	10.9	14.1	0.0	100.
21	7.6	2.2	5.4	0.0	0.0	1.1	5.4	9.8	14.1	12.0	4.3	1.1	5.4	7.6	10.9	12.0	1.1	100.
22	3.3	3.3	2.2	1.1	0.0	2.2	7.6	7.6	16.3	7.8	4.3	2.2	6.5	6.5	10.9	16.3	0.0	100.
23	5.4	2.2	1.1	1.1	1.1	1.1	7.6	8.7	14.1	10.9	7.6	3.3	4.3	2.2	16.3	13.0	0.0	100.
24	4.3	3.3	1.1	2.2	1.1	0.0	7.6	13.0	10.9	10.9	6.5	3.3	4.3	5.4	16.3	9.8	0.0	100.
ALL	6.3	3.3	2.2	1.0	1.1	1.9	5.4	9.2	14.1	9.8	6.5	3.8	3.3	6.4	12.2	13.1	0.1	100.

NUMBER OF OBS = 2185

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION JUL-DEC 1993

PROGRAM: WINPER  
VERSION: 2P

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	5.4	3.8	2.2	1.6	2.2	2.7	6.5	10.9	19.0	8.2	4.9	3.3	4.9	4.3	9.8	10.3	0.0	100.
2	6.0	3.8	2.7	2.2	3.3	3.8	6.5	11.4	16.8	9.2	4.9	2.7	3.3	6.0	7.6	9.8	0.0	100.
3	6.5	3.3	3.8	1.6	3.3	2.7	6.5	10.3	16.3	10.9	4.3	4.9	3.3	3.8	8.2	10.3	0.0	100.
4	9.8	4.4	3.3	2.7	1.6	2.7	5.5	15.8	13.1	8.2	7.1	3.8	2.7	3.3	7.7	8.2	0.0	100.
5	6.0	3.3	4.3	1.6	1.6	2.7	6.5	9.8	20.7	7.6	6.5	2.7	2.7	5.4	8.2	10.3	0.0	100.
6	7.6	5.4	1.6	2.2	4.3	2.2	6.5	11.4	19.0	6.5	4.3	3.8	2.2	4.9	12.0	6.0	0.0	100.
7	5.5	3.8	1.6	2.2	2.2	5.5	7.7	7.7	23.0	6.6	5.5	2.7	2.7	4.9	19.4	7.1	1.1	100.
8	6.6	3.3	4.9	1.1	3.8	2.2	7.7	10.9	16.9	9.8	4.9	2.7	2.7	3.3	9.8	9.3	0.0	100.
9	7.2	3.9	2.8	5.0	1.1	5.0	8.3	9.4	12.7	8.8	5.5	4.4	3.3	4.4	6.6	11.6	0.0	100.
10	7.8	4.4	3.3	2.8	2.8	4.4	8.9	8.3	8.9	12.2	6.7	5.0	8.6	3.9	8.9	11.1	0.0	100.
11	9.4	5.6	1.7	2.2	0.6	6.1	11.1	5.6	10.0	11.7	6.1	3.3	3.9	2.8	7.8	12.2	0.0	100.
12	4.4	5.0	2.2	2.2	2.8	3.3	12.7	6.6	10.5	8.8	8.3	1.7	2.8	5.0	10.5	13.3	0.0	100.
13	7.2	5.6	3.9	1.1	1.1	3.9	11.1	6.7	11.1	9.4	7.2	1.1	3.3	6.7	8.9	11.7	0.0	100.
14	5.6	5.6	2.2	1.7	2.2	2.8	10.1	6.7	12.3	10.1	5.6	2.8	3.4	5.0	10.1	14.0	0.0	100.
15	4.9	4.4	2.2	3.3	1.6	2.7	9.3	9.9	9.9	9.3	5.5	3.8	2.2	7.1	8.8	14.8	0.0	100.
16	8.3	5.0	3.3	1.1	2.2	4.4	7.7	7.7	12.7	6.6	6.6	4.4	2.8	5.0	9.4	12.7	0.0	100.
17	8.2	6.0	2.2	2.2	1.6	2.7	7.7	9.3	13.7	8.2	4.4	2.2	3.3	7.1	8.2	12.6	0.0	100.
18	8.7	3.8	4.4	2.2	2.2	3.3	8.2	13.7	12.0	7.1	2.2	3.8	0.5	5.5	9.8	12.6	0.0	100.
19	7.7	4.4	4.4	2.2	2.7	3.3	9.8	12.0	12.6	8.7	1.6	2.7	2.2	3.3	10.9	11.5	0.0	100.
20	7.7	4.4	4.9	1.6	2.7	3.3	9.3	14.2	9.3	7.7	4.4	2.7	2.2	5.5	9.3	10.9	0.0	100.
21	7.1	2.7	4.9	2.2	2.2	3.3	6.0	13.7	13.1	8.2	2.2	2.2	4.4	4.9	9.3	12.0	1.6	100.
22	7.1	3.3	2.2	2.2	0.5	5.5	9.3	9.9	13.7	8.8	4.4	2.2	4.4	4.9	6.6	14.8	0.0	100.
23	6.0	2.7	2.2	3.8	0.5	3.3	7.1	11.5	15.4	11.0	6.0	2.2	3.8	2.2	12.1	9.9	0.0	100.
24	7.6	3.3	2.2	3.8	1.1	1.6	8.7	9.2	18.5	9.8	4.3	2.7	4.9	2.7	10.9	8.7	0.0	100.
ALL	7.0	4.2	3.1	2.3	2.1	3.5	8.3	10.1	14.2	8.9	5.1	3.1	3.0	4.7	9.2	11.1	0.1	100.

NUMBER OF OBS = 4375



NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION JAN-DEC 1993

PROGRAM: WINPER  
VERSION: 2P

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	10.2	4.1	1.9	2.2	3.0	3.6	6.9	8.8	15.2	8.0	3.6	2.5	4.4	5.2	7.7	12.2	0.3	100.
2	8.3	4.4	2.5	2.2	3.9	4.7	6.9	9.1	16.0	7.2	3.9	2.8	2.5	5.5	7.7	12.4	0.0	100.
3	10.8	4.4	3.0	3.0	3.3	4.4	5.5	10.5	12.7	9.1	3.3	3.0	2.5	4.4	8.0	11.9	0.0	100.
4	11.9	5.0	3.6	3.0	1.9	4.4	6.9	12.5	12.7	5.5	5.5	3.3	2.5	3.0	8.0	10.0	0.0	100.
5	9.1	4.4	5.2	2.5	2.8	2.8	7.2	8.8	16.8	7.4	4.1	2.8	2.2	4.7	8.3	11.0	0.0	100.
6	9.1	5.0	3.3	3.3	4.4	2.2	7.4	9.1	16.5	6.1	3.0	2.8	3.3	4.4	9.9	10.2	0.0	100.
7	7.7	4.4	2.8	2.8	4.7	4.4	8.3	7.5	17.7	5.5	4.4	2.5	1.9	5.0	9.1	10.8	0.6	100.
8	6.4	4.2	5.0	2.2	3.9	6.6	8.0	7.8	13.0	8.0	4.2	2.2	2.5	4.7	10.0	11.4	0.0	100.
9	9.5	4.7	3.1	5.0	1.7	6.1	8.1	8.4	10.0	7.0	6.4	2.8	3.1	3.9	8.1	12.3	0.0	100.
10	8.4	5.0	4.5	3.1	3.9	3.6	8.7	8.9	7.3	9.5	5.9	3.6	1.1	4.5	8.4	13.7	0.0	100.
11	10.1	5.3	3.4	2.8	1.7	5.9	10.3	6.1	8.4	8.9	5.6	2.8	3.1	3.1	7.3	15.4	0.0	100.
12	6.4	4.7	3.1	3.3	2.8	3.1	12.5	6.4	9.5	8.9	5.0	1.9	1.9	5.0	9.7	15.6	0.0	100.
13	7.8	5.3	3.9	2.8	1.4	3.3	10.6	7.0	9.5	9.2	5.6	1.9	3.1	6.7	8.9	13.1	0.0	100.
14	7.2	5.8	2.2	2.8	2.5	2.8	9.7	7.5	10.9	8.6	5.0	2.2	2.2	5.8	9.5	14.8	0.3	100.
15	8.0	5.3	2.2	3.6	2.5	1.7	10.8	7.8	10.2	6.9	5.8	3.6	2.2	6.1	8.9	14.1	0.3	100.
16	9.2	5.8	3.3	1.9	2.2	3.1	9.2	7.2	10.6	6.9	5.8	3.6	3.3	4.4	9.4	13.6	0.3	100.
17	9.7	6.1	1.9	3.9	1.9	2.8	8.6	8.3	10.8	7.2	4.4	2.8	2.5	5.8	9.4	13.3	0.3	100.
18	10.3	5.0	3.6	3.9	3.1	3.1	8.9	10.0	10.0	6.1	3.1	3.3	1.9	4.2	9.2	13.9	0.3	100.
19	10.8	5.3	3.9	3.3	3.3	3.3	8.6	10.6	10.8	6.1	2.5	3.1	2.5	4.4	10.0	11.1	0.3	100.
20	11.9	4.2	5.0	2.5	3.1	3.6	8.6	11.7	9.7	6.4	3.9	2.2	2.5	4.7	7.5	12.2	0.3	100.
21	11.1	5.0	5.5	2.5	2.8	2.8	6.6	11.4	11.6	6.6	3.0	1.7	3.0	5.0	7.5	12.7	1.1	100.
22	13.0	3.9	3.0	2.5	1.7	5.8	8.6	8.3	13.3	7.2	3.3	1.7	3.3	4.4	6.6	13.0	0.3	100.
23	10.2	4.7	3.3	3.6	2.2	3.9	8.8	8.6	15.2	8.0	4.4	1.9	3.3	3.3	8.6	9.7	0.3	100.
24	13.0	4.4	2.2	3.3	1.7	3.0	8.8	9.1	14.9	7.7	3.0	2.2	4.4	4.1	7.7	9.9	0.3	100.
ALL	9.6	4.9	3.4	3.0	2.8	3.8	8.5	8.8	12.2	7.4	4.4	2.6	2.7	4.7	8.6	12.4	0.2	100.

NUMBER OF OBS = 8654

Wind Direction Frequencies

100-Meter Level

NPPD-COOPE<sup>®</sup> NUCLEAR STATION 100-M WIND DIRECTION JUL-SEP 1993

PROGRAM: WINPER  
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

JULY

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	3.2	6.5	6.5	3.2	6.5	6.5	9.7	19.4	16	3.2	3.2	6.5	0.0	6.5	3.2	0.0	0.0	100.
2	3.2	3.2	6.5	6.5	6.5	6.5	16.1	6.5	19.4	6.5	3.2	6.5	3.2	3.2	3.2	0.0	0.0	100.
3	6.5	3.2	3.2	6.5	12.9	3.2	9.7	16.1	12.9	9.7	6.5	3.2	0.0	3.2	3.2	0.0	0.0	100.
4	6.5	6.5	0.0	19.4	3.2	6.5	6.5	19.4	9.7	9.7	3.2	3.2	0.0	3.2	0.0	3.2	0.0	100.
5	6.5	0.0	6.5	3.2	16.1	3.2	9.7	12.9	19.4	6.5	3.2	0.0	0.0	3.2	6.5	3.2	0.0	100.
6	6.5	3.2	6.5	6.5	6.5	3.2	19.4	9.7	9.7	9.7	3.2	3.2	0.0	3.2	6.5	3.2	0.0	100.
7	6.5	3.2	6.5	0.0	6.5	12.9	12.9	6.5	9.7	12.9	6.5	3.2	3.2	0.0	3.2	6.5	0.0	100.
8	9.7	0.0	9.7	3.2	6.5	9.7	9.7	9.7	3.2	19.4	0.0	9.7	0.0	0.0	9.7	0.0	0.0	100.
9	3.2	3.2	3.2	6.5	6.5	9.7	6.5	12.9	9.7	6.5	6.5	6.5	3.2	3.2	6.5	6.5	0.0	100.
10	6.5	0.0	3.2	0.0	9.7	9.7	19.4	9.7	3.2	6.5	6.5	9.7	0.0	0.0	12.9	3.2	0.0	100.
11	3.2	9.7	0.0	3.2	6.5	12.9	22.6	6.5	9.7	3.2	6.5	3.2	0.0	3.2	9.7	0.0	0.0	100.
12	6.5	3.2	3.2	0.0	9.7	6.5	25.8	12.9	6.5	12.9	0.0	0.0	0.0	6.5	6.5	0.0	0.0	100.
13	6.5	0.0	3.2	0.0	3.2	12.9	25.8	6.5	16.1	6.5	3.2	0.0	0.0	6.5	0.0	9.7	0.0	100.
14	6.5	3.2	3.2	0.0	6.5	9.7	22.6	3.2	25.8	3.2	3.2	0.0	0.0	3.2	6.5	3.2	0.0	100.
15	3.2	3.2	3.2	3.2	3.2	12.9	19.4	16.1	16.1	0.0	3.2	0.0	3.2	3.2	6.5	3.2	0.0	100.
16	3.3	6.7	3.3	0.0	6.7	10.0	16.7	16.7	16.7	0.0	3.3	3.3	0.0	6.7	0.0	6.7	0.0	100.
17	3.3	0.0	3.3	6.7	3.3	10.0	16.7	16.7	16.7	0.0	0.0	3.3	0.0	10.0	3.3	6.7	0.0	100.
18	6.7	0.0	10.0	0.0	3.3	6.7	30.0	16.7	3.3	3.3	0.0	3.3	3.3	3.3	0.0	10.0	0.0	100.
19	10.0	0.0	6.7	0.0	6.7	6.7	30.0	13.3	6.7	3.3	0.0	3.3	3.3	3.3	0.0	6.7	0.0	100.
20	6.7	3.3	6.7	3.3	6.7	13.3	20.0	6.7	16.7	0.0	3.3	6.7	0.0	0.0	0.0	6.7	0.0	100.
21	6.7	3.3	6.7	10.0	3.3	10.0	16.7	16.7	6.7	3.3	3.3	3.3	0.0	0.0	0.0	10.0	0.0	100.
22	3.4	3.4	3.4	6.9	6.9	13.8	10.3	13.8	13.8	3.4	10.3	0.0	6.9	0.0	3.4	0.0	0.0	100.
23	3.4	3.4	0.0	6.9	3.4	17.2	6.9	17.2	17.2	3.4	6.9	0.0	10.3	0.0	3.4	0.0	0.0	100.
24	3.2	6.5	3.2	6.5	3.2	9.7	9.7	19.4	12.9	3.2	6.5	3.2	3.2	6.5	3.2	0.0	0.0	100.
ALL	5.4	3.1	4.5	4.2	6.4	9.3	16.3	12.7	12.4	5.7	3.8	3.4	1.6	3.3	4.1	3.7	0.0	100.

NUMBER OF OBS = 734

B29

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION JUL-SEP 1993

PROGRAM: W. L. ER  
VERSION: 2P

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	0.0	3.2	3.2	6.5	6.5	0.0	12.9	3.2	32.3	9.7	0.0	6.5	0.0	3.2	0.0	12.9	0.0	100.
2	0.0	6.5	0.0	6.5	6.5	3.2	9.7	9.7	25.8	3.2	6.5	3.2	3.2	6.5	3.2	6.5	0.0	100.
3	3.2	0.0	6.5	3.2	6.5	3.2	3.2	12.9	19.4	12.9	6.5	6.5	3.2	0.0	9.7	3.2	0.0	100.
4	0.0	0.0	6.7	10.0	0.0	6.7	6.7	10.0	13.3	16.7	6.7	3.3	3.3	3.3	3.3	10.0	0.0	100.
5	0.0	3.2	0.0	6.5	0.0	9.7	3.2	16.1	12.9	12.9	6.5	6.5	6.5	3.2	6.5	6.5	0.0	100.
6	0.0	0.0	0.0	6.5	3.2	6.5	3.2	19.4	16.1	9.7	3.2	0.0	3.2	12.9	6.5	9.7	0.0	100.
7	3.2	6.5	0.0	0.0	6.5	9.7	3.2	12.9	3.2	16.1	6.5	3.2	0.0	6.5	12.9	9.7	0.0	100.
8	19.4	3.2	0.0	3.2	3.2	9.7	6.5	9.7	6.5	12.9	3.2	6.5	0.0	0.0	9.7	6.5	0.0	100.
9	16.1	6.5	3.2	3.2	3.2	6.5	6.5	9.7	9.7	9.7	6.5	3.2	3.2	0.0	3.2	9.7	0.0	100.
10	13.3	10.0	3.3	0.0	6.7	3.3	3.3	13.3	6.7	13.3	6.7	6.7	0.0	0.0	0.0	13.3	0.0	100.
11	19.4	3.2	3.2	0.0	0.0	9.7	3.2	6.5	12.9	12.9	9.7	0.0	3.2	3.2	3.2	9.7	0.0	100.
12	6.5	9.7	0.0	6.5	3.2	6.5	9.7	3.2	16.1	12.9	6.5	3.2	3.2	3.2	0.0	9.7	0.0	100.
13	10.0	6.7	6.7	0.0	0.0	6.7	10.0	3.3	15.7	13.3	6.7	0.0	6.7	3.3	3.3	6.7	0.0	100.
14	3.3	6.7	3.3	3.3	0.0	3.3	10.0	10.0	13.3	13.3	3.3	3.3	0.0	3.3	6.7	16.7	0.0	100.
15	12.9	3.2	6.5	3.2	0.0	3.2	3.2	22.6	9.7	12.9	3.2	0.0	3.2	0.0	6.5	9.7	0.0	100.
16	9.7	6.5	3.2	0.0	3.2	3.2	3.2	22.6	16.1	6.5	6.5	0.0	3.2	0.0	9.7	6.5	0.0	100.
17	9.7	9.7	3.2	0.0	0.0	9.7	3.2	12.9	25.8	0.0	9.7	0.0	3.2	3.2	0.0	9.7	0.0	100.
18	9.7	3.2	9.7	0.0	0.0	3.2	9.7	16.1	22.6	3.2	0.0	3.2	3.2	6.5	3.2	6.5	0.0	100.
19	9.7	3.2	9.7	3.2	0.0	6.5	3.2	29.0	12.9	3.2	3.2	0.0	3.2	0.0	6.5	6.5	0.0	100.
20	3.2	9.7	9.7	3.2	3.2	9.7	9.7	22.6	6.5	6.5	3.2	0.0	3.2	0.0	6.5	3.2	0.0	100.
21	6.5	3.2	6.5	6.5	6.5	9.7	9.7	22.6	6.5	9.7	0.0	0.0	3.2	0.0	3.2	6.5	0.0	100.
22	0.0	9.7	3.2	6.5	6.5	3.2	12.9	19.4	6.5	12.9	3.2	0.0	3.2	6.5	0.0	6.5	0.0	100.
23	0.0	6.5	9.7	3.2	6.5	6.5	9.7	12.9	16.1	3.2	6.5	9.7	3.2	0.0	0.0	6.5	0.0	100.
24	3.2	3.2	3.2	3.2	9.7	6.5	9.7	3.2	25.8	9.7	0.0	6.5	3.2	3.2	0.0	9.7	0.0	100.
ALL	6.6	5.1	4.2	3.5	3.4	6.1	6.9	13.5	14.7	9.9	4.7	3.0	2.8	2.8	4.3	8.4	0.0	100.

NUMBER OF OBS = 740

B30

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION JUL-SEP 1993

PROGRAM: WINPER  
VERSION: 2P

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	HNW	CALM	TOTAL
1	6.7	3.3	3.3	3.3	3.3	13.3	6.7	10.0	13.3	3.3	6.7	0.0	0.0	3.3	6.7	16.7	0.0	100.
2	10.0	0.0	3.3	3.3	3.3	10.0	13.3	3.3	16.7	3.3	6.7	0.0	0.0	3.3	10.0	13.3	0.0	100.
3	13.3	0.0	3.3	3.3	0.0	10.0	16.7	3.3	10.0	6.7	3.3	3.3	0.0	0.0	16.7	10.0	0.0	100.
4	3.3	10.0	3.3	0.0	6.7	10.0	3.3	13.3	10.0	6.7	3.3	3.3	0.0	3.3	20.0	3.3	0.0	100.
5	3.3	6.7	6.7	0.0	6.7	3.3	10.0	10.0	10.0	3.3	6.7	0.0	3.3	13.3	6.7	10.0	0.0	100.
6	10.0	0.0	3.3	10.0	0.0	10.0	10.0	10.0	10.0	6.7	3.3	0.0	6.7	6.7	6.7	6.7	0.0	100.
7	3.3	3.3	0.0	6.7	6.7	10.0	6.7	16.7	6.7	6.7	3.3	0.0	6.7	10.0	3.3	10.0	0.0	100.
8	3.3	6.7	0.0	3.3	3.3	13.3	6.7	10.0	10.0	10.0	0.0	3.3	3.3	6.7	10.0	10.0	0.0	100.
9	6.7	3.3	3.3	0.0	6.7	6.7	6.7	13.3	13.3	3.3	3.3	3.3	6.7	3.3	10.0	10.0	0.0	100.
10	3.3	10.0	3.3	3.3	0.0	10.0	13.3	10.0	6.7	6.7	3.3	3.3	0.0	10.0	3.3	13.3	0.0	100.
11	0.0	3.3	3.3	6.7	0.0	10.0	16.7	10.0	6.7	6.7	0.0	6.7	0.0	3.3	10.0	16.7	0.0	100.
12	3.3	0.0	6.7	3.3	0.0	6.7	20.0	10.0	6.7	3.3	3.3	0.0	3.3	3.3	13.3	16.7	0.0	100.
13	3.3	6.7	10.0	3.3	0.0	6.7	10.0	13.3	3.3	6.7	3.3	0.0	0.0	3.3	16.7	13.3	0.0	100.
14	10.3	0.0	3.4	10.3	0.0	3.4	10.3	13.8	10.3	0.0	3.4	0.0	3.4	3.4	3.4	24.1	0.0	100.
15	6.9	6.9	0.0	0.0	6.9	6.9	6.9	13.8	3.4	6.9	3.4	0.0	0.0	10.3	10.3	17.2	0.0	100.
16	13.8	6.9	3.4	3.4	3.4	0.0	13.8	6.9	6.9	6.9	3.4	0.0	3.4	3.4	10.3	13.8	0.0	100.
17	6.9	10.3	3.4	0.0	3.4	3.4	10.3	6.9	6.9	6.9	3.4	0.0	3.4	3.4	3.4	27.6	0.0	100.
18	10.0	3.3	6.7	0.0	6.7	3.3	10.0	6.7	10.0	0.0	6.7	3.3	0.0	0.0	10.0	23.3	0.0	100.
19	10.0	3.3	3.3	13.3	3.3	3.3	10.0	3.3	13.3	0.0	10.0	0.0	0.0	0.0	16.7	10.0	0.0	100.
20	10.0	3.3	0.0	10.0	6.7	6.7	3.3	13.3	10.0	3.3	6.7	3.3	0.0	3.3	0.0	20.0	0.0	100.
21	16.7	0.0	6.7	3.3	10.0	3.3	3.3	16.7	13.3	3.3	0.0	3.3	3.3	3.3	3.3	10.0	0.0	100.
22	13.3	3.3	6.7	3.3	6.7	3.3	10.0	10.0	10.0	10.0	0.0	0.0	9.0	0.0	13.3	10.0	0.0	100.
23	13.3	0.0	6.7	0.0	13.3	3.3	6.7	13.3	10.0	6.7	3.3	0.0	0.0	0.0	16.7	6.7	0.0	100.
24	10.0	3.3	6.7	0.0	6.7	6.7	10.0	6.7	13.3	6.7	3.3	0.0	0.0	0.0	13.3	13.3	0.0	100.
ALL	8.0	3.9	4.1	3.8	4.3	6.8	9.8	10.2	9.6	5.2	3.8	1.4	1.8	4.1	9.8	13.5	0.0	100.

NUMBER OF OBS = 716

B31

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION JUL-SEP 1993

PROGRAM: WINPER  
VERSION: 2P

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	3.3	4.3	4.3	4.3	5.4	6.5	9.8	10.9	20.7	5.4	3.3	4.3	0.0	4.3	3.3	9.8	0.0	100.
2	4.3	3.3	3.3	5.4	5.4	6.5	13.0	6.5	20.7	4.3	5.4	3.3	2.2	4.3	5.4	6.5	0.0	100.
3	7.6	1.1	4.3	4.3	6.5	5.4	9.8	10.9	14.1	9.8	5.4	4.3	1.1	1.1	9.8	4.3	0.0	100.
4	3.3	5.5	3.3	9.9	3.3	7.7	5.5	14.3	11.0	11.0	4.4	3.3	1.1	3.3	7.7	5.5	0.0	100.
5	3.3	3.3	4.3	3.3	7.6	5.4	7.6	13.0	14.1	7.6	5.4	2.2	3.3	6.5	6.5	6.5	0.0	100.
6	5.4	1.1	3.3	7.6	3.3	6.5	10.9	13.0	12.0	8.7	3.3	1.1	3.3	7.6	6.5	6.5	0.0	100.
7	4.3	4.3	2.2	2.2	6.5	10.9	7.6	12.0	6.5	12.0	5.4	2.2	3.3	5.4	6.5	8.7	0.0	100.
8	10.9	3.3	3.3	3.3	4.3	10.9	7.6	9.8	6.5	14.1	1.1	6.5	1.1	2.2	9.8	5.4	0.0	100.
9	8.7	4.3	3.3	3.3	5.4	7.6	6.5	12.0	10.9	6.5	5.4	4.3	4.3	2.2	6.5	8.7	0.0	100.
10	7.7	6.6	3.3	1.1	5.5	7.7	12.1	11.0	5.5	8.8	5.5	6.6	0.0	3.3	5.5	9.9	0.0	100.
11	7.6	5.4	2.2	3.3	2.2	10.9	14.1	7.6	9.8	7.6	5.4	3.3	1.1	3.3	7.6	8.7	0.0	100.
12	5.4	4.3	3.3	3.3	4.3	6.5	18.5	8.7	9.8	9.8	3.3	1.1	2.2	4.3	6.5	8.7	0.0	100.
13	6.6	4.4	6.6	1.1	1.1	8.8	15.4	7.7	12.1	8.8	4.4	0.0	2.2	4.4	6.6	9.9	0.0	100.
14	6.7	3.3	3.3	4.4	2.2	5.6	14.1	8.9	16.7	5.6	3.3	1.1	1.1	3.3	5.6	14.4	0.0	100.
15	7.7	4.4	3.3	2.2	3.3	7.7	9.9	17.6	9.9	6.6	3.3	0.0	2.2	4.4	7.7	9.9	0.0	100.
16	8.9	6.7	3.3	1.1	4.4	4.4	11.1	15.6	13.3	4.4	4.4	1.1	2.2	3.3	6.7	8.9	0.0	100.
17	6.7	6.7	3.3	2.2	2.2	7.8	10.0	12.2	16.7	2.2	4.4	1.1	2.2	5.6	2.2	14.4	0.0	100.
18	8.8	2.2	8.8	0.0	3.3	4.4	16.5	13.2	12.1	2.2	2.2	3.3	2.2	3.3	4.4	13.2	0.0	100.
19	9.9	2.2	6.6	5.5	3.3	5.5	14.3	15.4	11.0	2.2	4.4	1.1	2.2	1.1	7.7	7.7	0.0	100.
20	6.6	5.5	5.5	5.5	5.5	9.9	11.0	14.3	11.0	3.3	4.4	3.3	1.1	1.1	2.2	9.9	0.0	100.
21	9.9	2.2	6.6	6.6	6.6	7.7	9.9	18.7	8.8	5.5	1.1	2.2	2.2	1.1	2.2	8.8	0.0	100.
22	5.6	5.6	4.4	5.6	6.7	6.7	11.1	14.4	10.0	8.9	4.4	0.0	3.3	2.2	5.6	5.6	0.0	100.
23	5.6	3.3	5.6	3.3	7.8	8.9	7.8	14.4	14.4	4.4	5.6	3.3	4.4	0.0	6.7	4.4	0.0	100.
24	5.4	4.3	4.3	3.3	6.5	7.6	9.8	9.8	17.4	6.5	3.3	3.3	2.2	3.3	5.4	7.6	0.0	100.
ALL	6.7	4.1	4.2	3.8	4.7	7.4	11.0	12.1	12.3	6.9	4.1	2.6	2.1	3.4	6.0	8.5	0.0	100.

NUMBER OF OBS = 2190

B32

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION OCT-DEC 1993

PROGRAM: WINPER  
VERSION: 2?

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	17.2	3.4	6.9	0.0	3.4	3.4	3.4	3.4	6.9	6.9	10.3	0.0	6.9	0.0	3.4	24.1	0.0	100.
2	13.8	0.0	3.4	6.9	3.4	0.0	3.4	6.9	10.3	0.0	13.8	0.0	6.9	0.0	6.9	24.1	0.0	100.
3	13.8	0.0	3.4	0.0	0.0	6.9	0.0	6.9	10.3	3.4	6.9	6.9	3.4	3.4	3.4	31.0	0.0	100.
4	13.8	0.0	0.0	3.4	0.0	6.9	0.0	6.9	13.8	0.0	10.3	3.4	0.0	3.4	13.8	24.1	0.0	100.
5	20.7	0.0	3.4	3.4	0.0	6.9	0.0	10.3	10.3	0.0	10.3	3.4	3.4	3.4	10.3	13.8	0.0	100.
6	24.1	0.0	0.0	3.4	0.0	3.4	3.4	6.9	17.2	0.0	6.9	3.4	3.4	0.0	6.9	20.7	0.0	100.
7	21.4	0.0	7.1	0.0	0.0	3.6	3.6	7.1	14.3	3.6	7.1	7.1	3.6	3.6	7.1	10.7	0.0	100.
8	21.4	7.1	3.6	0.0	0.0	0.0	7.1	10.7	10.7	3.6	7.1	7.1	3.6	3.6	3.6	10.7	0.0	100.
9	11.5	3.8	3.8	3.8	0.0	0.0	11.5	3.8	3.8	11.5	7.7	3.8	3.8	11.5	0.0	19.2	0.0	100.
10	11.5	3.8	7.7	3.8	0.0	0.0	7.7	7.7	3.8	15.4	0.0	7.7	3.8	3.8	0.0	23.1	0.0	100.
11	16.0	8.0	0.0	8.0	0.0	0.0	12.0	0.0	4.0	20.0	0.0	4.0	4.0	4.0	0.0	20.0	0.0	100.
12	11.5	3.8	0.0	3.8	3.8	0.0	11.5	0.0	3.8	15.4	7.7	3.8	0.0	0.0	3.8	30.8	0.0	100.
13	26.9	3.8	3.8	3.8	0.0	0.0	11.5	0.0	3.8	15.4	7.7	0.0	0.0	0.0	7.7	15.4	0.0	100.
14	11.5	3.8	3.8	3.8	0.0	0.0	7.7	0.0	15.4	11.5	0.0	3.8	0.0	3.8	7.7	26.9	0.0	100.
15	10.7	3.6	10.7	0.0	0.0	0.0	7.1	7.1	10.7	7.1	0.0	3.6	7.1	0.0	7.1	25.0	0.0	100.
16	10.7	3.6	10.7	0.0	0.0	3.6	0.0	10.7	7.1	10.7	3.6	3.6	3.6	0.0	3.6	28.6	0.0	100.
17	13.8	10.3	0.0	0.0	0.0	3.4	0.0	10.3	10.3	6.9	6.9	3.4	3.4	3.4	3.4	24.1	0.0	100.
18	17.2	10.3	3.4	0.0	0.0	0.0	0.0	17.2	6.9	6.9	6.9	3.4	0.0	0.0	6.9	20.7	0.0	100.
19	10.3	10.3	10.3	3.4	0.0	0.0	0.0	20.7	0.0	10.3	6.9	3.4	0.0	0.0	6.9	17.2	0.0	100.
20	13.8	10.3	6.9	6.9	0.0	0.0	0.0	13.8	6.9	6.9	10.3	0.0	0.0	0.0	6.9	17.2	0.0	100.
21	20.7	3.4	3.4	3.4	3.4	3.4	0.0	10.3	10.3	3.4	13.8	0.0	3.4	3.4	6.9	10.3	0.0	100.
22	10.3	6.9	3.4	6.9	0.0	0.0	6.9	13.8	6.9	6.9	10.3	3.4	0.0	3.4	0.0	20.7	0.0	100.
23	20.7	0.0	6.9	3.4	0.0	3.4	6.9	6.9	13.8	6.9	6.9	3.4	6.9	0.0	0.0	13.8	0.0	100.
24	13.8	6.9	6.9	0.0	3.4	0.0	10.3	3.4	10.3	6.9	13.8	0.0	3.4	3.4	0.0	17.2	0.0	100.
ALL	15.8	4.3	4.6	2.8	0.7	1.9	4.6	7.9	8.9	7.3	7.4	3.3	3.0	2.2	4.9	20.4	0.0	100.

NUMBER OF OBS = 673

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION OCT-DEC 1993

PROGRAM: WINPER  
VERSION: 2P

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	3.3	3.3	0.0	0.0	3.3	0.0	6.7	3.3	10.0	13.3	16.7	0.0	6.7	10.0	16.7	6.7	0.0	100.
2	0.0	3.3	0.0	0.0	3.3	0.0	3.3	6.7	3.3	16.7	13.3	6.7	6.7	6.7	16.7	13.3	0.0	100.
3	0.0	3.3	0.0	0.0	0.0	3.3	6.7	6.7	6.7	13.3	13.3	0.0	13.3	6.7	10.0	16.7	0.0	100.
4	0.0	3.3	0.0	0.0	3.3	0.0	6.7	10.0	3.3	6.7	16.7	6.7	13.3	3.3	10.0	16.7	0.0	100.
5	3.3	3.3	0.0	0.0	0.0	3.3	6.7	10.0	6.7	6.7	10.0	10.0	13.3	0.0	10.0	16.7	0.0	100.
6	0.0	3.3	0.0	0.0	0.0	3.3	6.7	10.0	6.7	6.7	10.0	13.3	6.7	3.3	6.7	20.0	0.0	100.
7	0.0	6.7	0.0	0.0	0.0	3.3	6.7	0.0	16.7	6.7	13.3	13.3	3.3	3.3	6.7	20.0	0.0	100.
8	3.3	3.3	3.3	0.0	0.0	3.3	6.7	3.3	10.0	10.0	13.3	10.0	3.3	6.7	13.3	10.0	0.0	100.
9	3.3	3.3	0.0	0.0	3.3	3.3	3.3	3.3	13.3	10.0	10.0	10.0	6.7	3.3	16.7	10.0	0.0	100.
10	3.3	6.7	0.0	0.0	0.0	3.3	6.7	0.0	13.3	10.0	13.3	10.0	3.3	3.3	16.7	10.0	0.0	100.
11	6.7	10.0	0.0	0.0	0.0	0.0	6.7	6.7	13.3	6.7	13.3	6.7	3.3	6.7	6.7	13.3	0.0	100.
12	3.3	3.3	3.3	0.0	0.0	0.0	10.0	10.0	6.7	6.7	13.3	6.7	0.0	10.0	10.0	16.7	0.0	100.
13	3.3	3.3	3.3	3.3	0.0	0.0	6.7	6.7	10.0	6.7	6.7	10.0	3.3	13.3	10.0	13.3	0.0	100.
14	6.7	3.3	0.0	0.0	3.3	3.3	6.7	3.3	10.0	6.7	13.3	10.0	0.0	10.0	16.7	6.7	0.0	100.
15	10.0	0.0	0.0	0.0	3.3	3.3	6.7	10.0	6.7	3.3	13.3	6.7	0.0	10.0	23.3	3.3	0.0	100.
16	3.3	3.3	0.0	0.0	3.3	3.3	3.3	10.0	13.3	3.3	13.3	3.3	0.0	6.7	26.7	6.7	0.0	100.
17	6.7	0.0	0.0	0.0	6.7	0.0	3.3	13.3	6.7	10.0	10.0	3.3	0.0	10.0	23.3	6.7	0.0	100.
18	3.3	3.3	0.0	0.0	0.0	6.7	3.3	20.0	0.0	13.3	10.0	3.3	3.3	6.7	16.7	10.0	0.0	100.
19	0.0	3.3	0.0	0.0	0.0	13.3	3.3	10.0	13.3	3.3	13.3	10.0	0.0	3.3	16.7	10.0	0.0	100.
20	0.0	0.0	3.3	0.0	3.3	10.0	3.3	6.7	16.7	13.3	10.0	3.3	0.0	10.0	13.3	6.7	0.0	100.
21	3.3	3.3	0.0	0.0	3.3	6.7	3.3	10.0	10.0	13.3	10.0	6.7	0.0	6.7	16.7	6.7	0.0	100.
22	3.3	0.0	0.0	0.0	3.3	3.3	6.7	3.3	13.3	20.0	6.7	3.3	0.0	10.0	13.3	13.3	0.0	100.
23	6.7	0.0	0.0	0.0	3.3	0.0	10.0	3.3	10.0	20.0	10.0	0.0	3.3	6.7	16.7	10.0	0.0	100.
24	6.7	0.0	0.0	0.0	3.3	0.0	10.0	0.0	13.3	16.7	10.0	3.3	6.7	6.7	13.3	10.0	0.0	100.
ALL	3.3	3.1	0.7	0.1	1.9	3.1	6.0	6.9	9.7	10.1	11.8	6.5	4.0	6.8	14.4	11.4	0.0	100.

NUMBER OF OBS = 720

B34



NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION OCT-DEC 1993

PROGRAM: WINPER  
VERSION: 2P

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	3.2	3.2	3.2	0.0	0.0	0.0	3.2	9.7	9.7	9.7	3.2	9.7	6.5	6.5	16.1	16.1	0.0	100.
2	3.2	6.5	0.0	0.0	0.0	0.0	3.2	9.7	12.9	3.2	9.7	6.5	12.9	3.2	12.9	16.1	0.0	100.
3	0.0	6.5	3.2	0.0	0.0	0.0	6.5	9.7	3.2	12.9	6.5	12.9	3.2	6.5	16.1	12.9	0.0	100.
4	3.2	6.5	3.2	0.0	0.0	3.2	3.2	9.7	6.5	9.7	16.1	3.2	0.0	12.9	9.7	12.9	0.0	100.
5	6.5	3.2	3.2	0.0	3.2	3.2	6.5	6.5	9.7	12.9	9.7	0.0	6.5	9.7	12.9	6.5	0.0	100.
6	0.0	6.5	0.0	3.2	0.0	6.5	3.2	6.5	12.9	6.5	16.1	3.2	3.2	6.5	16.1	9.7	0.0	100.
7	0.0	3.2	3.2	0.0	0.0	6.5	3.2	9.7	12.9	12.9	9.7	3.2	0.0	9.7	9.7	16.1	0.0	100.
8	0.0	6.5	0.0	3.2	0.0	3.2	3.2	9.7	16.1	12.9	9.7	0.0	0.0	6.5	12.9	16.1	0.0	100.
9	6.5	3.2	3.2	0.0	3.2	0.0	9.7	3.2	12.9	16.1	9.7	0.0	3.2	3.2	12.9	12.9	0.0	100.
10	6.5	6.5	3.2	3.2	0.0	3.2	9.7	0.0	12.9	3.2	22.6	0.0	0.0	3.2	12.9	12.9	0.0	100.
11	6.5	3.2	3.2	0.0	0.0	6.5	3.2	6.5	9.7	9.7	16.1	0.0	3.2	0.0	12.9	19.4	0.0	100.
12	6.5	3.2	6.5	0.0	0.0	3.2	0.0	3.2	12.9	6.5	19.4	3.2	0.0	6.5	16.1	12.9	0.0	100.
13	0.0	9.7	3.2	0.0	0.0	3.2	3.2	3.2	9.7	9.7	9.7	3.2	6.5	12.9	16.1	9.7	0.0	100.
14	0.0	3.2	3.2	0.0	0.0	3.2	6.5	0.0	9.7	6.5	12.9	3.2	6.5	12.9	22.6	9.7	0.0	100.
15	3.2	3.2	3.2	6.5	0.0	0.0	0.0	3.2	9.7	3.2	12.9	9.7	6.5	12.9	16.1	9.7	0.0	100.
16	0.0	3.2	6.5	0.0	0.0	3.2	3.2	3.2	6.5	6.5	6.5	16.1	3.2	12.9	9.7	19.4	0.0	100.
17	3.2	3.2	3.2	3.2	0.0	0.0	9.7	3.2	6.5	6.5	6.5	9.7	0.0	16.1	12.9	16.1	0.0	100.
18	9.7	3.2	0.0	3.2	0.0	3.2	6.5	3.2	9.7	6.5	3.2	9.7	0.0	9.7	19.4	12.9	0.0	100.
19	9.7	3.2	0.0	3.2	0.0	3.2	6.5	3.2	9.7	6.5	3.2	3.2	6.5	9.7	19.4	12.9	0.0	100.
20	6.5	3.2	0.0	3.2	0.0	0.0	3.2	9.7	6.5	12.9	0.0	3.2	6.5	9.7	16.1	19.4	0.0	100.
21	9.7	6.5	0.0	3.2	0.0	0.0	3.2	6.5	9.7	3.2	6.5	3.2	6.5	12.9	12.9	16.1	0.0	100.
22	3.2	3.2	0.0	3.2	3.2	0.0	3.2	12.9	3.2	3.2	6.5	6.5	6.5	9.7	12.9	22.6	0.0	100.
23	3.2	6.5	0.0	3.2	0.0	0.0	3.2	12.9	9.7	0.0	9.7	3.2	3.2	16.1	9.7	19.4	0.0	100.
24	3.2	3.2	3.2	0.0	0.0	0.0	6.5	12.9	3.2	6.5	3.2	9.7	6.5	12.9	12.9	16.1	0.0	100.
ALL	3.9	4.6	2.3	1.6	0.4	2.2	4.6	6.6	9.4	7.8	9.5	5.1	4.0	9.3	14.2	14.5	0.0	100.

NUMBER OF OBS = 744

B35

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION OCT-DEC 1993

PROGRAM: WINPER  
VERSION: 2P

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	7.8	3.3	3.3	0.0	2.2	1.1	4.4	5.6	8.9	10.0	10.0	3.3	6.7	5.6	12.2	15.6	0.0	100.
2	5.6	3.3	1.1	2.2	2.2	0.0	3.3	7.8	8.9	6.7	12.2	4.4	8.9	3.3	12.2	17.8	0.0	100.
3	4.4	3.3	2.2	0.0	0.0	3.3	4.4	7.8	6.7	10.0	8.9	6.7	6.7	5.6	10.0	20.0	0.0	100.
4	5.6	3.3	1.1	1.1	1.1	3.3	3.3	8.9	7.8	5.6	14.4	4.4	4.4	6.7	11.1	17.8	0.0	100.
5	10.0	2.2	2.2	1.1	1.1	4.4	4.4	8.9	8.9	6.7	10.0	4.4	7.8	4.4	11.1	12.2	0.0	100.
6	7.8	3.3	1.1	2.2	0.0	4.4	4.4	7.8	12.2	4.4	11.1	6.7	4.4	3.3	10.0	16.7	0.0	100.
7	6.7	3.4	3.4	0.0	0.0	4.5	4.5	5.6	14.6	7.9	10.1	7.9	2.2	5.6	7.9	15.7	0.0	100.
8	7.9	5.6	2.2	1.1	0.0	2.2	5.6	7.9	12.4	9.0	10.1	5.6	2.2	5.6	10.1	12.4	0.0	100.
9	6.9	3.4	2.3	1.1	2.3	1.1	8.0	3.4	10.3	12.6	9.2	4.6	4.6	5.7	10.3	13.8	0.0	100.
10	6.9	5.7	3.4	2.3	0.0	2.3	8.0	2.3	10.3	9.2	12.6	5.7	2.3	3.4	10.3	14.9	0.0	100.
11	9.3	7.0	1.2	2.3	0.0	2.3	7.0	4.7	9.3	11.6	10.5	3.5	3.5	3.5	7.0	17.4	0.0	100.
12	6.9	3.4	3.4	1.1	1.1	1.1	6.9	4.6	8.0	9.2	13.8	4.6	0.0	5.7	10.3	19.5	0.0	100.
13	9.2	5.7	3.4	2.3	0.0	1.1	6.9	3.4	8.0	10.3	8.0	4.6	3.4	9.2	11.5	12.6	0.0	100.
14	5.7	3.4	2.3	1.1	1.1	2.3	6.9	1.1	11.5	8.0	9.2	5.7	2.3	9.2	16.1	13.8	0.0	100.
15	7.9	2.2	4.5	2.2	1.1	1.1	4.5	6.7	9.0	4.5	9.0	6.7	4.5	7.9	15.7	12.4	0.0	100.
16	4.5	3.4	5.6	0.0	1.1	3.4	2.2	7.9	9.0	6.7	7.9	7.9	2.2	6.7	13.5	18.0	0.0	100.
17	7.8	4.4	1.1	1.1	2.2	1.1	4.4	8.9	7.8	7.8	7.8	5.6	1.1	10.0	13.3	15.6	0.0	100.
18	10.0	5.6	1.1	1.1	0.0	3.3	3.3	13.3	5.6	8.9	6.7	5.6	1.1	5.6	14.4	14.4	0.0	100.
19	6.7	5.6	3.3	2.2	0.0	5.6	3.3	11.1	7.8	6.7	7.8	5.6	2.2	4.4	14.4	13.3	0.0	100.
20	6.7	4.4	3.3	3.3	1.1	3.3	2.2	10.0	10.0	11.1	6.7	2.2	2.2	6.7	12.2	14.4	0.0	100.
21	11.1	4.4	1.1	2.2	2.2	3.3	2.2	8.9	10.0	6.7	10.0	3.3	3.3	7.8	12.2	11.1	0.0	100.
22	5.6	3.3	1.1	3.3	2.2	1.1	5.6	10.0	7.8	10.0	7.8	4.4	2.2	7.8	8.9	18.9	0.0	100.
23	10.0	2.2	2.2	2.2	1.1	1.1	6.7	7.8	11.1	8.9	8.9	2.2	4.4	7.8	8.9	14.4	0.0	100.
24	7.8	3.3	3.3	0.0	2.2	0.0	8.9	5.6	8.9	10.0	8.9	4.4	5.6	7.8	8.9	14.4	0.0	100.
ALL	7.4	4.0	2.5	1.5	1.0	2.4	5.1	7.1	9.4	8.4	9.6	5.0	3.7	6.2	11.4	15.3	0.0	100.

NUMBER OF OBS = 2137

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION JUL-DEC 1993

PROGRAM: WINPER  
VERSION: 2P

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	5.5	3.8	3.8	2.2	3.8	3.8	7.1	8.2	14.8	7.7	6.6	3.8	3.3	4.9	7.7	12.6	0.0	100.
2	4.9	3.3	2.2	3.8	3.8	3.3	8.2	7.1	14.8	5.5	8.8	3.8	5.5	3.8	8.8	12.1	0.0	100.
3	6.0	2.2	3.3	2.2	3.3	4.4	7.1	9.3	10.4	9.9	7.1	5.5	3.8	3.3	9.9	12.1	0.0	100.
4	4.4	4.4	2.2	5.5	2.2	5.5	4.4	11.6	9.4	8.3	9.4	3.9	2.8	5.0	9.4	11.6	0.0	100.
5	6.6	2.7	3.3	2.2	4.4	4.9	6.0	11.0	11.5	7.1	7.7	3.3	5.5	5.5	8.8	9.3	0.0	100.
6	6.6	2.2	2.2	4.9	1.6	5.5	7.7	10.4	12.1	6.6	7.1	3.8	3.8	5.5	8.2	11.5	0.0	100.
7	5.5	3.9	2.8	1.1	3.3	7.7	6.1	8.8	10.5	9.9	7.7	5.0	2.8	5.5	7.2	12.2	0.0	100.
8	9.4	4.4	2.8	2.2	2.2	6.6	6.6	8.8	9.4	11.6	5.5	6.1	1.7	3.9	9.9	8.8	0.0	100.
9	7.8	3.9	2.8	2.2	3.9	4.5	7.3	7.8	10.6	9.5	7.3	4.5	4.5	3.9	8.4	11.2	0.0	100.
10	7.3	6.2	3.4	1.7	2.8	5.1	10.1	6.7	7.9	9.0	9.0	6.2	1.1	3.4	7.9	12.4	0.0	100.
11	8.4	6.2	1.7	2.8	1.1	6.7	10.7	6.2	9.6	9.6	7.9	3.4	2.2	3.4	7.3	12.9	0.0	100.
12	6.1	3.9	3.4	2.2	2.8	3.9	12.8	6.7	8.9	9.5	8.4	2.8	1.1	5.0	8.4	14.0	0.0	100.
13	7.9	5.1	5.1	1.7	0.6	5.1	11.2	5.6	10.1	9.6	6.2	2.2	2.8	6.7	9.0	11.2	0.0	100.
14	6.2	3.4	2.8	2.8	1.7	4.0	10.7	5.1	14.1	6.8	6.2	3.4	1.7	6.2	10.7	14.1	0.0	100.
15	7.8	3.3	3.9	2.2	2.2	4.4	7.2	12.2	9.4	5.6	6.1	3.3	3.3	6.1	11.7	11.1	0.0	100.
16	6.7	5.0	4.5	0.6	2.8	3.9	6.7	11.7	11.2	5.6	6.1	4.5	2.2	5.0	10.1	13.4	0.0	100.
17	7.2	5.6	2.2	1.7	2.2	4.4	7.2	10.6	12.2	5.0	6.1	3.3	1.7	7.8	7.8	15.0	0.0	100.
18	9.4	3.9	5.0	0.6	1.7	3.9	9.9	13.3	8.8	5.5	4.4	4.4	1.7	4.4	9.4	13.8	0.0	100.
19	8.3	3.9	5.0	3.9	1.7	5.5	8.8	13.3	9.4	4.4	6.1	3.3	2.2	2.8	11.0	10.5	0.0	100.
20	6.6	5.0	4.4	4.4	3.3	6.6	6.6	12.2	10.5	7.2	5.5	2.8	1.7	3.9	7.2	12.2	0.0	100.
21	10.5	3.3	3.9	4.4	4.4	5.5	6.1	13.8	9.4	6.1	5.5	2.8	2.8	4.4	7.2	9.9	0.0	100.
22	5.6	4.4	2.8	4.4	4.4	3.9	8.3	12.2	8.9	9.4	6.1	2.2	2.8	5.0	7.2	12.2	0.0	100.
23	7.8	2.8	3.9	2.8	4.4	5.0	7.2	11.1	12.8	6.7	7.2	2.8	4.4	3.9	7.8	9.4	0.0	100.
24	6.6	3.8	3.8	1.6	4.4	3.8	9.3	7.7	13.2	8.2	6.0	3.8	3.8	5.5	7.1	11.0	0.0	100.
ALL	7.0	4.0	3.4	2.7	2.9	4.9	8.1	9.7	10.8	7.7	6.8	3.8	2.9	4.6	8.7	11.9	0.0	100.

NUMBER OF OBS = 4327

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION JAN-DEC 1993

PROGRAM: WINPER  
VERSION: 2F

HOURLY WIND ROSES (PERCENT)

JAN-DEC

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	8.9	4.7	4.2	1.7	3.6	6.9	7.5	8.1	11.7	6.7	5.6	2.8	4.7	5.0	6.1	11.9	0.0	100.
2	7.5	4.2	4.2	2.5	3.9	5.3	8.3	7.5	10.6	6.7	7.2	2.8	5.0	3.9	8.6	11.9	0.0	100.
3	7.8	4.4	3.9	2.5	3.1	6.1	7.5	7.8	9.7	8.1	5.6	4.4	3.3	4.7	9.2	11.9	0.0	100.
4	6.4	5.8	3.9	3.9	2.8	6.4	6.7	8.4	9.2	7.0	7.0	4.2	2.8	5.0	8.9	11.7	0.0	100.
5	7.8	3.6	3.6	3.9	3.3	7.5	6.4	7.5	10.0	6.6	6.1	3.6	5.5	5.0	8.6	11.1	0.0	100.
6	5.5	3.6	3.3	4.7	3.6	7.5	7.5	7.2	10.8	5.3	6.4	4.2	3.6	5.0	8.0	13.9	0.0	100.
7	6.4	3.6	3.6	3.3	3.1	8.3	8.3	6.4	9.2	6.9	7.5	3.6	3.6	5.0	8.3	12.8	0.0	100.
8	7.5	3.6	4.2	1.9	3.3	9.2	8.6	5.5	8.4	8.4	5.0	5.8	1.9	4.7	10.0	11.7	0.0	100.
9	7.8	4.2	3.1	3.1	4.5	5.9	8.4	6.4	8.1	7.8	6.4	4.2	3.6	4.2	10.1	12.0	0.0	100.
10	7.6	5.6	3.7	2.8	4.2	5.3	8.1	7.6	7.9	6.7	7.0	4.2	2.0	4.5	8.4	14.3	0.0	100.
11	8.7	5.1	4.2	3.4	2.5	5.6	10.4	6.5	8.4	7.3	6.5	2.5	2.2	4.5	7.9	14.3	0.0	100.
12	6.7	3.6	5.0	3.1	3.1	3.9	12.3	4.7	7.6	9.0	5.9	2.2	1.1	5.9	9.0	14.8	0.0	100.
13	7.3	5.3	5.0	2.2	1.4	5.3	9.5	7.8	7.8	9.2	4.8	2.5	2.8	6.7	9.2	12.9	0.0	100.
14	7.0	4.8	3.1	3.4	2.2	3.6	9.2	5.6	12.9	6.7	5.9	2.2	2.0	7.3	9.2	14.3	0.0	100.
15	8.9	3.9	3.1	3.9	2.8	3.9	8.4	8.9	9.7	5.6	5.6	3.1	3.3	5.8	11.7	11.4	0.0	100.
16	8.9	4.7	4.5	2.0	2.5	3.1	8.4	10.3	9.2	6.1	5.6	3.6	2.8	4.7	9.8	13.7	0.0	100.
17	8.4	6.7	2.2	3.1	2.8	3.9	8.1	8.9	10.3	4.7	5.9	3.6	1.7	6.1	8.4	15.1	0.0	100.
18	10.4	4.8	4.2	2.8	2.8	3.6	9.5	10.6	7.3	5.6	4.2	3.6	3.1	3.6	9.2	14.6	0.0	100.
19	11.2	4.2	4.7	3.9	3.6	5.0	8.7	11.2	8.1	4.5	5.0	2.8	2.2	4.7	10.3	9.8	0.0	100.
20	10.9	4.2	3.6	5.6	4.2	6.7	7.8	9.8	8.9	6.1	4.2	2.8	2.8	3.6	7.0	11.7	0.0	100.
21	12.0	4.7	3.6	5.0	5.0	6.4	7.8	10.0	8.6	6.1	5.0	2.5	1.9	5.3	6.1	9.7	0.0	100.
22	9.2	5.0	4.5	4.2	3.9	7.2	8.9	9.2	7.8	7.2	5.8	1.9	2.5	5.0	5.8	11.7	0.0	100.
23	11.7	3.3	3.3	3.1	5.3	6.4	9.4	8.3	10.6	6.4	5.3	3.3	2.8	5.0	6.7	9.2	0.0	100.
24	10.0	4.2	4.2	1.7	3.6	6.7	9.4	7.2	11.4	6.4	5.0	3.9	3.6	6.1	5.6	11.1	0.0	100.
ALL	8.5	4.5	3.9	3.2	3.4	5.8	8.6	8.1	9.3	6.7	5.8	3.4	3.0	5.1	8.4	12.4	0.0	100.

NUMBER OF OBS = 8606

Precipitation

RAIN VERSION # 2P

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JUL-SEP 1993

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	12M 12MDNT	TOTAL
93	7	1	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.40	0.00 1.60	0.00 0.10	0.00 0.00	2.10
93	7	2	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.40	0.00 0.40	0.00 0.40	0.00 0.46	0.00 0.40	2.06
93	7	3	0.40 0.00	0.07 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.47
93	7	4	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.20	0.00 0.30	1.30
93	7	5	0.00 0.47	0.00 0.00	0.00 0.00	0.10 0.00	0.00 0.00	0.30 0.00	0.10 0.00	0.10 0.00	0.10 0.00	0.10 0.00	0.60 0.00	0.30 0.00	2.17
93	7	6	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	7	7	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.49 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.49
93	7	8	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.10 0.00	0.00 0.00	0.10
93	7	9	0.40 0.10	0.10 0.00	0.10 0.00	0.10 0.00	0.10 0.00	0.20 0.00	0.10 0.00	0.00 0.00	0.00 0.00	0.00 0.10	0.14 0.00	0.00 0.00	1.44
93	7	10	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.26 0.00	0.26
93	7	11	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	7	12	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	7	13	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.10 0.00	0.00 0.00	0.00 0.00	0.10 0.00	0.10 0.00	0.10 0.00	0.20 0.00	0.00 0.00	0.60
93	7	14	0.00 0.00	0.00 0.26	0.00 0.40	0.00 0.20	0.00 0.60	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	1.46
93	7	15	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	7	16	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.10 0.00	0.00 0.00	0.18
93	7	17	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.50	0.00 0.30	0.00 0.00	0.00 0.10	0.00 0.00	0.78

RAIN VERSION # 2P

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JUL-SEP 1993

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
93	7	18	0.00 0.10	0.10 0.00	0.10 0.00	0.10 0.00	0.10 0.00	0.00 0.00	0.00 0.00	0.10 0.00	0.10 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.70
93	7	19	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	7	20	0.00 0.05	0.00 0.05	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.10	0.00 0.00	0.00 0.00	0.00 0.00	0.20
93	7	21	0.07 0.21	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.07	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.10	0.00 0.00	0.45
93	7	22	0.30 0.00	0.59 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.89
93	7	23	0.00 0.00	0.30 0.00	0.30 0.00	0.30 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.90
93	7	24	0.00 0.00	0.49 0.00	0.53 0.00	0.50 0.00	0.50 0.00	0.50 0.00	0.50 0.00	0.50 0.00	0.50 0.00	0.00 0.00	0.00 0.00	0.00 0.00	3.99
93	7	25	0.00 0.00	0.30 0.00	0.30 0.00	0.30 0.00	0.27 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	1.17
93	7	26	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.30	0.00 0.24	0.54
93	7	27	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	7	28	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	7	29	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	7	30	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	7	31	0.00 0.00	0.00 0.00	0.10 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.10

MONTH OF JULY

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 84  
TOTAL DAYS WITH PRECIPITATION - 22  
TOTAL AMOUNT OF PRECIPITATION - 22.35 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - 1.60 INCHES  
MAXIMUM DAILY PRECIPITATION - 3.99 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 1 HOUR 22 - 1.60 INCHES  
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 24 HOUR 4 - 3.00 INCHES  
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 24 HOUR 2 - 3.99 INCHES  
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 24 HOUR 2 - 3.99 INCHES  
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 24 HOUR 2 - 3.99 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 0  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 0  
TOTAL DAYS WITH PRECIPITATION - 0  
TOTAL AMOUNT OF PRECIPITATION - 0.00 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - 0.00 INCHES  
MAXIMUM DAILY PRECIPITATION - 0.00 INCHES



MONTH OF JULY

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
0.01	84	213	325	418	492
0.02	84	213	325	418	492
0.03	84	213	325	418	492
0.04	84	213	325	418	492
0.05	84	213	325	418	492
0.07	82	211	324	417	491
0.10	77	201	318	415	489
0.15	46	163	269	362	438
0.20	46	154	251	340	415
0.25	40	137	231	329	406
0.30	37	129	213	299	378
0.35	24	120	201	286	366
0.40	24	119	199	278	350
0.45	16	103	193	272	345
0.50	12	74	177	271	314
0.60	4	79	157	227	284
0.70	2	68	139	204	257
0.80	2	60	130	194	248
0.90	1	51	119	179	236
1.00	1	42	100	155	207
1.10	1	39	91	145	197
1.20	1	36	75	122	175
1.30	1	34	71	112	155
1.40	1	26	64	96	135
1.50	1	21	51	76	100
1.60	1	19	49	74	99
1.70	0	17	47	72	96
1.80	0	15	41	68	93
1.90	0	15	40	67	92
2.00	0	14	38	65	90

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

RAIN VERSION # 2P

NPPD-COOPER NUCLEAR STATION PERCIPIATION DATA FOR JUL-SEP 1993

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
93	8	1	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	2	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	3	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	4	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	5	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.05
93	8	6	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	7	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	8	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	9	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	10	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	11	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.03
93	8	12	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	13	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.02
93	8	14	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	15	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	16	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	17	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00

RAIN VERSION # 2P

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JUL-SEP 1993

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
93	8	18	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	19	0.00 0.40	0.00 0.20	0.00 0.10	0.00 0.00	0.00 0.12	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.82
93	8	20	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	21	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.10	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.10 0.00	0.30 0.00	0.58
93	8	22	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	23	0.00 0.00	0.00 0.00	0.23 0.00	0.24 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.47
93	8	24	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	25	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	26	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	27	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.20	0.00 0.00	0.20
93	8	28	0.01 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.01
93	8	29	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	8	30	0.00 0.00	0.00 0.14	0.00 0.20	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.20 0.00	0.00 0.00	0.00 0.00	0.13 0.00	0.00 0.00	1.27
93	8	31	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00

MONTH OF AUGUST

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 20  
 TOTAL DAYS WITH PRECIPITATION - 9  
 TOTAL AMOUNT OF PRECIPITATION - 3.45 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - 0.60 INCHES  
 MAXIMUM DAILY PRECIPITATION - 1.27 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 30 HOUR 7 - 0.60 INCHES  
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 30 HOUR 7 - 0.93 INCHES  
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 30 HOUR 7 - 1.27 INCHES  
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 30 HOUR 7 - 1.27 INCHES  
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 30 HOUR 7 - 1.27 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 0  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 0  
 TOTAL DAYS WITH PRECIPITATION - 0  
 TOTAL AMOUNT OF PRECIPITATION - 0.00 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - 0.00 INCHES  
 MAXIMUM DAILY PRECIPITATION - 0.00 INCHES

MONTH OF AUGUST

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
0.01	20	72	120	168	216
0.02	19	70	118	166	214
0.03	18	64	106	148	190
0.04	17	58	94	130	166
0.05	17	58	94	130	166
0.07	16	52	82	112	142
0.10	15	49	79	109	139
0.15	9	42	72	102	132
0.20	9	41	71	101	131
0.25	3	31	55	79	103
0.30	3	30	55	79	103
0.35	2	26	52	76	100
0.40	2	26	52	76	100
0.45	1	20	49	73	97
0.50	1	11	30	39	66
0.60	1	11	24	36	48
0.70	0	9	21	33	45
0.80	0	7	19	31	43
0.90	0	2	8	14	20
1.00	0	0	5	11	17
1.10	0	0	4	10	16
1.20	0	0	4	10	16
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

B47

RAIN VERSION # 2P

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JUL-SEP 1993

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	12M 12MDNT	TOTAL
93	9	1	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	9	2	0.00 0.20	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.20
93	9	3	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	9	4	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	9	5	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	9	6	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.23	0.13 0.43	0.13 0.14	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	1.06
93	9	7	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	9	8	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.14	0.00 0.24	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.56
93	9	9	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	9	10	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	9	11	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	9	12	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	9	13	0.00 0.05	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.05
93	9	14	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.03
93	9	15	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	9	16	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	9	17	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00

RAINFALL VERSION # 2P

NFPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JUL-SEP 1993

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	12M 12MDHT	TOTAL
93	9	18	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.20 0.10	0.10 0.00	0.10 0.00	0.10 0.00	0.10 0.00	0.10 0.15	0.85
93	9	19	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	9	20	0.00 0.00	0.06 0.00	0.00 0.00	0.10 0.00	0.20 0.00	0.30 0.10	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.66
93	9	21	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.03	0.00 0.00	0.00 0.03	0.00 0.03	0.00 0.02	0.00 0.00	0.00 0.00	0.11
93	9	22	0.00 0.00	0.17 0.00	0.17 0.00	0.51 0.00	0.17 0.00	0.17 0.00	0.17 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	1.36
93	9	23	0.00 0.00	0.08 0.00	0.08 0.00	0.08 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.24
93	9	24	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.14 0.00	0.00 0.07	0.07 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.36
93	9	25	0.12 0.00	0.00 0.00	0.00 0.00	0.00 0.30	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.12
93	9	26	0.00 0.00	0.00 0.00	0.13 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.13
93	9	27	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	9	28	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	9	29	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	9	30	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JUL-SEP 1993

MONTH OF SEPTEMBER

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 720  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 40  
 TOTAL DAYS WITH PRECIPITATION - 13  
 TOTAL AMOUNT OF PRECIPITATION - 5.55 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - 0.51 INCHES  
 MAXIMUM DAILY PRECIPITATION - 1.36 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION	STARTS DAY 22	HOUR 4	-	0.51 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION	STARTS DAY 22	HOUR 2	-	1.36 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION	STARTS DAY 21	HOUR 20	-	1.44 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION	STARTS DAY 21	HOUR 18	-	1.47 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION	STARTS DAY 21	HOUR 18	-	1.47 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FAHRENHEIT

TOTAL NUMBER OF HOURS - 0  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 0  
 TOTAL DAYS WITH PRECIPITATION - 0  
 TOTAL AMOUNT OF PRECIPITATION - 0.00 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - 0.00 INCHES  
 MAXIMUM DAILY PRECIPITATION - 0.00 INCHES



MONTH OF SEPTEMBR

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
0.01	40	124	201	267	324
0.02	40	124	201	267	324
0.03	39	124	201	267	324
0.04	35	116	187	247	302
0.05	35	116	187	247	302
0.07	33	107	172	226	279
0.10	27	95	164	223	273
0.15	14	74	140	195	239
0.20	8	64	130	186	232
0.25	3	40	90	133	171
0.30	3	34	66	98	136
0.35	2	30	62	94	132
0.40	2	23	50	75	106
0.45	1	21	48	74	104
0.50	1	21	46	71	96
0.60	0	17	41	66	91
0.70	0	10	23	41	60
0.80	0	10	22	36	54
0.90	0	5	12	25	37
1.00	0	5	11	22	34
1.10	0	3	10	16	23
1.20	0	1	8	14	21
1.30	0	1	7	14	20
1.40	0	0	2	8	14
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

B51

## ANNUAL INDEX

## FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 2208  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 144  
TOTAL DAYS WITH PRECIPITATION - 44  
TOTAL AMOUNT OF PRECIPITATION - 31.35 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - 1.60 INCHES  
MAXIMUM DAILY PRECIPITATION - 3.99 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH	7 DAY	1 HOUR	22 -	1.60 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH	7 DAY	24 HOUR	4 -	3.00 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH	7 DAY	24 HOUR	2 -	3.99 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH	7 DAY	24 HOUR	2 -	3.99 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH	7 DAY	24 HOUR	2 -	3.99 INCHES

## FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 0  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 0  
TOTAL DAYS WITH PRECIPITATION - 0  
TOTAL AMOUNT OF PRECIPITATION - 0.00 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - 0.00 INCHES  
MAXIMUM DAILY PRECIPITATION - 0.00 INCHES

ANNUAL INDEX

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
0.01	144	409	646	853	1034
0.02	143	407	644	851	1032
0.03	141	401	632	833	1008
0.04	136	387	606	795	962
0.05	136	387	606	795	962
0.07	131	370	578	755	914
0.10	119	345	561	747	903
0.15	69	279	481	659	809
0.20	63	259	452	627	778
0.25	46	208	376	541	680
0.30	43	193	334	476	617
0.35	28	176	315	456	598
0.40	28	158	301	449	556
0.45	18	144	290	419	546
0.50	14	126	253	370	476
0.60	5	107	222	329	423
0.70	2	87	183	278	362
0.80	2	77	171	261	345
0.90	1	58	13	218	293
1.00	1	47	116	188	258
1.10	1	42	105	171	236
1.20	1	37	87	146	212
1.30	1	35	78	126	175
1.40	1	26	66	104	149
1.50	1	21	51	76	100
1.60	1	19	49	74	99
1.70	0	17	47	72	96
1.80	0	15	41	68	93
1.90	0	15	40	67	92
2.00	0	14	38	65	90

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RAIN VERSION # 2P

NPPB-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1993

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	12M 12MDNT	TOTAL
93	10	1	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	2	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	3	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	4	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	5	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	6	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	7	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	8	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	9	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	10	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	11	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	12	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	13	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	14	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	15	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	16	0.00 0.04	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	17	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00

RAIN VERSION # 2P

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1993

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
93	10	18	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.08 0.00	0.08 0.00	0.08 0.00	0.00 0.00	0.00 0.00	0.24
93	10	19	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	20	0.00 0.14	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.14
93	10	21	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	22	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	23	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	24	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	25	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	26	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	27	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	28	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	29	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	30	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	10	31	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00

NPPD-COOPER NUCLEAR STATION PERCIPITATION DATA FOR OCT-DEC 1993

MONTH OF OCTOBER

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 18  
 TOTAL DAYS WITH PRECIPITATION - 10  
 TOTAL AMOUNT OF PRECIPITATION - 2.39 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - 0.36 INCHES  
 MAXIMUM DAILY PRECIPITATION - 0.60 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 9 HOUR 9 - 0.30 INCHES  
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 15 HOUR 7 - 0.36 INCHES  
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 14 HOUR 21 - 0.66 INCHES  
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 8 HOUR 9 - 0.74 INCHES  
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 8 HOUR 12 - 0.74 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 51  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 1  
 TOTAL DAYS WITH PRECIPITATION - 1  
 TOTAL AMOUNT OF PRECIPITATION - 0.01 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - 0.01 INCHES  
 MAXIMUM DAILY PRECIPITATION - 0.01 INCHES

MONTH OF OCTOBER

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
0.01	18	77	124	166	208
0.02	17	71	112	148	184
0.03	17	71	112	148	184
0.04	17	71	112	148	184
0.05	16	65	100	130	160
0.07	15	62	100	130	160
0.10	11	54	96	128	158
0.15	6	43	77	106	130
0.20	3	36	71	100	124
0.25	3	30	60	83	101
0.30	3	27	1	68	80
0.35	0	8	11	50	62
0.40	0	0	11	32	47
0.45	0	0	9	22	40
0.50	0	0	7	10	38
0.60	0	0	6	19	37
0.70	0	0	0	1	10
0.80	0	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

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RAIN VERSION # 2P

NPPD-COOPER NUCLEAR STATION PERCIPITATION DATA FOR OCT-DEC 1993

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	12M 12MDNT	TOTAL
93	11	1	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	2	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	3	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	4	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	5	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	6	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	7	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	8	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	9	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	10	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	11	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	12	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.10 0.00	0.10 0.00	0.13 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.33
93	11	13	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	14	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.17 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.17
93	11	15	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	16	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	17	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00



RAIN VERSION # 2P

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1993

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	12M 12MDNT	TOTAL
93	11	18	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	19	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	20	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	21	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	22	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	23	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	24	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.07
93	11	25	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	26	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	27	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.08
93	11	28	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	29	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	11	30	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00

MONTH OF NOVEMBER

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 720  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 6  
 TOTAL DAYS WITH PRECIPITATION - 4  
 TOTAL AMOUNT OF PRECIPITATION - 0.65 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - 0.17 INCHES  
 MAXIMUM DAILY PRECIPITATION - 0.33 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 14 HOUR 5 - 0.17 INCHES  
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 12 HOUR 6 - 0.33 INCHES  
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 12 HOUR 6 - 0.33 INCHES  
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 12 HOUR 6 - 0.33 INCHES  
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 12 HOUR 6 - 0.33 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 215  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 2  
 TOTAL DAYS WITH PRECIPITATION - 2  
 TOTAL AMOUNT OF PRECIPITATION - 0.15 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - 0.08 INCHES  
 MAXIMUM DAILY PRECIPITATION - 0.08 INCHES

NPPD-COOPER NUCLEAR STATION PERCIPITATION DATA FOR OCT-DEC 1993

MONTH OF NOVEMBER

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)			
	1	6	12	24
0.01	6	26	50	74
0.02	6	26	50	98
0.03	6	26	50	98
0.04	6	26	50	98
0.05	6	26	50	98
0.07	6	26	50	98
0.10	4	26	50	98
0.15	1	14	26	38
0.20	0	12	24	36
0.25	0	6	12	18
0.30	0	4	10	16
0.35	0	4	10	16
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
1.00	0	0	0	0
1.10	0	0	0	0
1.20	0	0	0	0
1.30	0	0	0	0
1.40	0	0	0	0
1.50	0	0	0	0
1.60	0	0	0	0
1.70	0	0	0	0
1.80	0	0	0	0
1.90	0	0	0	0
2.00	0	0	0	0

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

RAIN VERSION # 2P

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1993

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	12M 12MDNT	TOTAL
93	12	1	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	2	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	3	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	4	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	5	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	6	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	7	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	8	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	9	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	10	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	11	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	12	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	13	0.00 0.00	0.10 0.00	0.16 0.00	0.10 0.00	0.10 0.10	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.10 0.00	0.78
93	12	14	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.06 0.00	0.00 0.69	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.12
93	12	15	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	16	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.05 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	17	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.05 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.05

RAIN VERSION # 2P

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1993

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
93	12	18	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	19	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	20	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	21	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	22	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	23	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	24	0.00 0.02	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.02
93	12	25	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	26	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	27	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	28	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.05	0.00
93	12	29	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	30	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	12	31	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00

MONTH OF DECEMBER

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 12  
TOTAL DAYS WITH PRECIPITATION - 5  
TOTAL AMOUNT OF PRECIPITATION - 1.02 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - 0.18 INCHES  
MAXIMUM DAILY PRECIPITATION - 0.78 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 13 HOUR 3 - 0.18 INCHES  
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 13 HOUR 3 - 0.48 INCHES  
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 13 HOUR 2 - 0.68 INCHES  
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 13 HOUR 2 - 0.78 INCHES  
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 13 HOUR 2 - 0.78 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 326  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 3  
TOTAL DAYS WITH PRECIPITATION - 3  
TOTAL AMOUNT OF PRECIPITATION - 0.13 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - 0.06 INCHES  
MAXIMUM DAILY PRECIPITATION - 0.06 INCHES

MONTH OF DECEMBER

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
0.01	12	51	87	117	141
0.02	12	51	87	117	141
0.03	11	45	75	99	117
0.04	11	45	75	99	117
0.05	11	45	75	99	117
0.07	7	21	27	35	47
0.10	7	21	27	35	47
0.15	1	11	21	31	38
0.20	0	11	21	27	33
0.25	0	7	17	23	33
0.30	0	6	16	22	28
0.35	0	5	12	19	26
0.40	0	4	11	18	24
0.45	0	4	10	17	23
0.50	0	0	7	4	20
0.60	0	0	2	9	15
0.70	0	0	0	3	9
0.80	0	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

B65

ANNUAL INDEX

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 2208  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 36  
 TOTAL DAYS WITH PRECIPITATION - 19  
 TOTAL AMOUNT OF PRECIPITATION - 4.06 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - 0.30 INCHES  
 MAXIMUM DAILY PRECIPITATION - 0.78 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH 10 DAY 9 HOUR 9 - 0.30 INCHES  
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH 12 DAY 13 HOUR 3 - 0.48 INCHES  
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH 12 DAY 13 HOUR 2 - 0.68 INCHES  
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH 12 DAY 13 HOUR 2 - 0.78 INCHES  
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH 12 DAY 13 HOUR 2 - 0.78 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 592  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 6  
 TOTAL DAYS WITH PRECIPITATION - 6  
 TOTAL AMOUNT OF PRECIPITATION - 0.29 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - 0.08 INCHES  
 MAXIMUM DAILY PRECIPITATION - 0.08 INCHES



ANNUAL INDEX

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
0.01	36	154	261	357	447
0.02	35	148	249	339	423
0.03	34	142	237	321	399
0.04	34	142	237	321	399
0.05	33	136	225	303	375
0.07	28	109	177	239	305
0.10	22	89	149	201	255
0.15	8	66	122	173	216
0.20	3	53	104	145	181
0.25	3	41	87	122	156
0.30	3	37	77	106	130
0.35	0	13	43	69	88
0.40	0	4	22	30	71
0.45	0	4	19	39	63
0.50	0	0	14	34	58
0.60	0	0	8	28	52
0.70	0	0	0	4	19
0.80	0	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

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## ANNUAL INDEX

## FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 4416  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 180  
TOTAL DAYS WITH PRECIPITATION - 63  
TOTAL AMOUNT OF PRECIPITATION - 35.41 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - 1.60 INCHES  
MAXIMUM DAILY PRECIPITATION - 3.99 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH 7 DAY 1 HOUR 22 - 1.60 INCHES  
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH 7 DAY 24 HOUR 4 - 3.00 INCHES  
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH 7 DAY 24 HOUR 2 - 3.99 INCHES  
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH 7 DAY 24 HOUR 2 - 3.99 INCHES  
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH 7 DAY 24 HOUR 2 - 3.99 INCHES

## FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 592  
NUMBER OF MISSING HOURS - 0  
TOTAL HOURS OF PRECIPITATION - 6  
TOTAL DAYS WITH PRECIPITATION - 6  
TOTAL AMOUNT OF PRECIPITATION - 0.29 INCHES  
MAXIMUM 1-HOUR PRECIPITATION - 0.08 INCHES  
MAXIMUM DAILY PRECIPITATION - 0.08 INCHES

## ANNUAL INDEX

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
0.01	180	563	907	1210	1481
0.02	178	555	893	1190	1455
0.03	175	543	869	1154	1407
0.04	170	529	843	1116	1361
0.05	169	523	831	1098	1337
0.07	159	479	755	994	1219
0.10	141	434	710	948	1158
0.15	77	345	603	832	1025
0.20	66	312	556	772	959
0.25	49	249	463	663	856
0.30	46	230	411	582	747
0.35	28	189	358	525	686
0.40	28	172	323	479	627
0.45	18	148	309	458	609
0.50	14	126	267	404	534
0.60	5	107	230	357	475
0.70	2	87	183	282	381
0.80	2	77	171	261	345
0.90	1	58	139	218	293
1.00	1	47	116	188	258
1.10	1	42	105	171	236
1.20	1	37	87	146	212
1.30	1	35	78	126	175
1.40	1	26	66	104	149
1.50	1	21	51	76	100
1.60	1	19	49	74	99
1.70	0	17	47	72	96
1.80	0	15	41	68	93
1.90	0	15	40	67	92
2.00	0	14	38	65	96

ANNUAL INDEX

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 8760  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 360  
 TOTAL DAYS WITH PRECIPITATION - 133  
 TOTAL AMOUNT OF PRECIPITATION - 52.66 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - 1.60 INCHES  
 MAXIMUM DAILY PRECIPITATION - 3.99 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	7 DAY	1 HOUR	22 -	1.60 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	7 DAY	24 HOUR	4 -	3.00 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	7 DAY	24 HOUR	2 -	3.99 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	7 DAY	24 HOUR	2 -	3.99 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	7 DAY	24 HOUR	2 -	3.99 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 1907  
 NUMBER OF MISSING HOURS - 0  
 TOTAL HOURS OF PRECIPITATION - 43  
 TOTAL DAYS WITH PRECIPITATION - 24  
 TOTAL AMOUNT OF PRECIPITATION - 2.43 INCHES  
 MAXIMUM 1-HOUR PRECIPITATION - 0.13 INCHES  
 MAXIMUM DAILY PRECIPITATION - 0.46 INCHES

## ANNUAL INDEX

PRECIPITATION INTENSITY - DURATION  
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
0.01	360	1142	1890	2546	3107
0.02	355	1116	1840	2472	3012
0.03	339	1065	1750	2349	2869
0.04	321	990	1607	2152	2642
0.05	317	971	1570	2099	2578
0.07	279	852	1355	1783	2196
0.10	238	764	1252	1663	2036
0.15	181	595	1058	1468	1824
0.20	77	498	897	1273	1612
0.25	58	381	727	1053	1351
0.30	54	343	644	924	1204
0.35	31	266	516	744	985
0.40	31	238	466	678	882
0.45	19	197	437	638	837
0.50	15	166	380	561	736
0.60	6	132	310	483	641
0.70	2	108	245	387	519
0.80	2	95	221	359	475
0.90	1	72	183	307	415
1.00	1	54	144	256	372
1.10	1	47	125	221	340
1.20	1	38	102	183	300
1.30	1	35	91	157	236
1.40	1	26	74	130	203
1.50	1	21	51	91	141
1.60	1	19	49	80	118
1.70	0	17	47	78	112
1.80	0	15	41	68	101
1.90	0	15	40	67	98
2.00	0	14	38	65	96

## 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. The joint frequency distribution (JFD) tables represent the frequency of occurrence, in number of observations, that a particular wind speed, wind direction, and stability category occurred simultaneously. On a quarterly and semiannual basis, the JFDs were produced for wind speed and wind direction by atmospheric stability corresponding to the seven Pasquill stability classes, and for wind speed and wind direction for all stability categories combined. Atmospheric stability was classified per Regulatory Guide 1.23, using the 100-meter to 10-meter temperature difference ( $\Delta T$ ) for the 100-meter JFDs and the 60-meter to 10-meter  $\Delta T$  for the 10-meter JFDs.

JFDs of 10-Meter Wind vs. Delta T

July-September 1993

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JUL-SEP 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 9/30/93

\*\*\* JUL-SEP 1993 \*\*\*

STABILITY CLASS A

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	4
3.51- 7.50	8	16	6	2	2	5	19	4	8	5	10	2	3	4	4	4	102
7.51-12.50	2	0	1	0	3	7	21	25	26	14	8	2	0	5	2	3	119
12.51-18.50	1	0	0	0	0	0	1	4	19	6	0	0	0	0	0	0	31
18.51-24.00	0	0	0	0	0	0	0	1	2	2	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	11	17	7	3	5	12	42	35	55	27	18	4	3	9	6	7	261

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	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
3.51- 7.50	9	5	5	3	1	2	9	7	1	1	3	2	3	5	2	7	65
7.51-12.50	1	0	0	0	2	4	9	12	8	2	1	0	1	2	8	13	63
12.51-18.50	0	0	0	0	0	0	1	0	2	0	0	0	0	1	0	0	4
18.51-24.00	0	0	0	0	0	0	0	0	2	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	11	6	5	3	3	7	19	19	13	3	4	2	4	8	16	20	137

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PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JUL-SEP 1993  
 SITE IDENTIFIER: MPPD  
 DATA PERIOD EXAMINED: 7/1/93 - 9/30/93

\*\*\* JUL-SEP 1993 \*\*\*

STABILITY CLASS C

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01-3.50	1	0	0	0	0	0	1	2	1	2	0	0	1	0	2	0	10
3.51-7.50	9	10	5	3	1	4	11	5	5	1	2	2	3	3	2	6	72
7.51-12.50	1	1	0	0	2	2	6	6	2	1	0	0	0	3	8	12	44
12.51-16.50	0	1	0	0	0	0	1	1	3	2	0	0	0	0	0	5	13
16.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	11	12	5	3	3	6	19	14	11	6	2	2	4	6	15	23	142

STABILITY CLASS D

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01-3.50	14	11	9	11	0	0	4	2	4	3	3	6	2	2	5	6	82
3.51-7.50	56	36	38	46	34	41	52	27	29	17	6	11	6	7	16	18	434
7.51-12.50	18	10	2	6	12	26	31	32	32	4	1	4	6	3	17	43	247
12.51-16.50	0	0	0	0	2	1	6	10	13	3	0	0	1	0	6	19	61
16.51-24.00	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	2	6
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	88	57	49	63	48	68	94	71	79	28	10	21	15	12	39	88	830

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JUL-SEP 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 9/30/93

\*\*\* JUL-SEP 1993 \*\*\*

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																	1
1.01- 3.50	19	10	9	5	1	4	7	17	23	14	6	4	4	10	7	14	154
3.51- 7.50	7	7	4	3	5	6	26	37	60	40	13	6	7	6	16	13	256
7.51-12.50	2	0	0	1	2	1	3	18	23	14	6	2	3	4	11	3	93
12.51-18.50	1	0	1	0	0	0	0	2	12	3	2	0	0	0	0	0	21
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	29	17	14	9	8	11	36	74	118	71	27	12	14	20	34	30	525

STABILITY CLASS F

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	9	2	0	0	0	0	2	6	12	10	7	9	2	3	8	13	83
3.51- 7.50	2	1	1	1	0	0	1	0	5	7	1	0	4	3	8	8	42
7.51-12.50	0	0	0	0	0	0	0	0	0	1	2	0	1	4	5	0	13
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	11	3	1	1	0	0	3	6	17	18	10	9	7	10	21	21	138

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 66-10M DELTA-T JUL-SEP 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 9/30/93

\*\*\* JUL-SEP 1993 \*\*\*

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	4	0	0	0	0	0	0	6	5	6	4	3	5	0	6	15	2
1.01- 3.50	4	0	0	0	0	0	0	0	0	1	0	0	3	0	0	0	54
3.51- 7.50	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4
7.51-12.50	0	0	0	0	0	0	0	0	0	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	4	0	0	0	0	0	0	6	5	7	4	3	9	1	6	15	62

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	48	25	18	17	1	5	15	34	45	35	20	22	14	15	28	48	390
1.01- 3.50	91	75	59	58	43	58	118	80	108	72	35	23	29	28	42	56	975
3.51- 7.50	24	11	3	7	21	40	70	93	91	36	18	8	12	22	51	74	581
7.51-12.50	2	1	1	0	2	1	9	17	49	14	2	0	1	1	6	24	130
12.51-18.50	0	0	0	0	0	0	1	1	5	3	0	0	0	0	4	2	16
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	165	112	81	82	67	104	213	225	298	160	75	53	56	66	131	204	2095

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JUL-SEP 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 9/30/93

\*\*\* JUL-SEP 1993 \*\*\*

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: 2095

TOTAL NUMBER OF MISSING OBSERVATIONS: 113

PERCENT DATA RECOVERY FOR THIS PERIOD: 94.9 %

MEAN WIND SPEED FOR THIS PERIOD: 6.7 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
12.46	6.54	6.78	39.62	25.06	6.59	2.96

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	11	17	7	3	5	12	42	35	55	27	18	4	3	9	5	7	0
B	11	6	5	3	3	7	19	19	13	3	4	2	4	8	10	20	0
C	11	12	5	3	3	6	19	14	11	6	2	2	4	6	15	23	0
D	88	57	49	63	48	68	94	71	79	28	10	21	15	12	39	88	0
E	29	17	14	9	8	11	36	74	118	71	27	12	14	20	34	30	1
F	11	3	1	1	0	0	3	6	17	18	10	9	7	10	21	21	0
G	4	0	0	0	0	0	0	6	5	7	4	3	9	1	6	15	2
TOTAL	165	112	81	82	67	104	213	225	298	160	75	53	56	66	131	204	3

JFDs of 10-Meter Wind vs. Delta T

October-December 1993

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T OCT-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/93 - 12/31/93

\*\*\* OCT-DEC 1993 \*\*\*

STABILITY CLASS A

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3
7.51-12.50	3	0	0	0	0	0	5	1	4	12	5	3	0	1	0	1	35
12.51-18.50	0	0	0	0	0	0	1	1	5	4	0	1	0	0	0	0	12
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	0	0	0	0	0	6	2	9	18	5	4	0	2	0	2	51

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	3	2	1	0	0	0	0	0	0	6	3	0	1	1	0	2	19
7.51-12.50	2	1	0	0	0	0	0	1	2	5	2	2	0	3	2	2	22
12.51-18.50	0	0	0	0	0	0	0	2	3	0	0	0	0	0	3	7	15
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	5	3	1	0	0	0	0	3	5	11	5	2	1	4	5	12	57

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T OCT-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/93 - 12/31/93

MMM OCT-DEC 1993 MMM

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
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	4	1	0	0	0	0	0	2	1	2	2	0	4	0	2	5	23
7.51-12.50	1	4	1	0	0	0	0	2	4	5	5	0	1	6	5	6	40
12.51-18.50	0	0	0	0	0	0	1	0	4	0	2	2	3	0	5	10	27
18.51-24.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	4	3	8
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	5	5	1	0	0	0	1	4	9	7	10	2	8	6	16	24	98

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
1.01- 3.50	9	8	10	3	0	3	9	7	5	1	3	0	0	3	4	2	67
3.51- 7.50	47	20	23	13	11	16	17	12	20	20	13	11	7	17	15	23	285
7.51-12.50	15	24	2	0	5	11	25	18	40	28	24	19	11	38	52	64	376
12.51-18.50	9	1	0	0	1	2	5	7	7	3	7	8	7	9	67	86	219
18.51-24.00	0	0	0	0	0	0	0	0	3	0	0	0	2	8	25	24	62
>24.00	0	0	0	0	0	0	0	0	4	0	0	0	0	1	1	1	7
TOTAL	80	53	35	16	17	32	56	44	79	52	47	38	27	76	164	200	1016

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T OCT-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/93 - 12/31/93

\*\*\* OCT-DEC 1993 \*\*\*

STABILITY CLASS    E

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	8	6	2	2	0	1	6	10	13	8	6	2	3	8	9	14	98
3.51- 7.50	15	5	6	3	5	7	20	28	40	37	18	11	6	9	19	15	244
7.51-12.50	0	0	0	0	0	0	13	54	41	31	23	10	7	15	22	9	225
12.51-18.50	0	0	0	0	0	0	0	8	9	5	3	4	2	7	9	1	48
18.51-24.00	0	0	0	0	0	0	0	0	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	23	11	8	5	5	8	39	100	103	81	50	27	18	39	59	41	617

STABILITY CLASS    F

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	6	0	0	1	0	1	1	14	22	10	5	3	2	6	3	10	84
3.51- 7.50	0	0	0	0	0	1	3	20	37	19	11	4	5	1	3	0	104
7.51-12.50	0	0	0	0	0	0	0	0	4	4	0	3	9	3	0	0	23
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	6	0	0	1	0	2	4	34	63	33	16	10	16	11	6	10	212



PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T OCT-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/93 - 12/31/93

\*\*\* OCT-DEC 1993 \*\*\*

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	MNW	NW	NNW	TOTAL
CALM																	
1.01- 3.50	8	4	3	0	1	1	7	13	17	13	5	1	1	1	2	12	89
3.51- 7.50	0	0	0	1	0	0	0	1	3	3	3	1	0	1	0	0	13
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	8	4	3	1	1	1	7	14	20	16	8	2	1	2	2	12	104

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	MNW	NW	NNW	TOTAL
CALM																	
1.01- 3.50	31	19	15	6	1	6	23	44	57	32	19	6	6	18	14	38	338
3.51- 7.50	69	28	30	17	16	24	40	63	101	89	50	27	23	30	39	45	691
7.51-12.50	21	29	3	0	5	11	43	76	95	85	59	37	28	66	81	82	721
12.51-18.50	9	1	0	0	1	2	7	18	28	12	12	15	12	17	84	104	322
18.51-24.00	0	0	0	0	0	0	0	0	3	0	1	0	2	8	29	31	74
>24.00	0	0	0	0	0	0	0	0	4	0	0	0	0	1	1	1	7
TOTAL	130	76	48	23	23	43	113	201	288	218	141	85	71	140	252	301	2155

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T OCT-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/93 - 12/31/93

\*\*\* OCT-DEC 1993 \*\*\*

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: 2155  
 TOTAL NUMBER OF MISSING OBSERVATIONS: 53  
 PERCENT DATA RECOVERY FOR THIS PERIOD: 97.6 %  
 MEAN WIND SPEED FOR THIS PERIOD: 8.4 MPH  
 TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

	A	B	C	D	E	F	G
%	2.37	2.65	4.55	47.15	28.63	9.84	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	3	0	0	0	0	0	6	2	9	18	5	4	0	2	0	2	0
B	5	3	1	0	0	0	0	3	5	11	5	2	1	4	5	12	0
C	5	5	1	0	0	0	1	4	9	7	10	2	8	6	16	24	0
D	80	55	35	16	17	32	56	44	79	52	47	38	27	76	164	200	0
E	23	11	8	5	5	8	39	100	103	81	50	27	18	39	59	41	0
F	6	0	0	1	0	2	4	34	63	33	16	10	16	11	6	10	0
G	8	4	3	1	1	1	7	14	20	16	8	2	1	2	2	12	2
TOTAL	130	76	48	23	23	43	113	201	288	218	141	85	71	140	252	301	2

JFDs of 10-Meter Wind vs. Delta T

July-December 1993

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

\*\*\* JUL-DEC 1993 \*\*\*

STABILITY CLASS A

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	4
3.51- 7.50	8	16	6	2	2	5	19	4	8	7	10	2	3	5	4	4	105
7.51-12.50	5	0	1	0	3	7	26	26	30	26	13	5	0	6	2	4	154
12.51-18.50	1	0	0	0	0	0	2	5	24	10	0	1	0	0	0	0	43
18.51-24.00	0	0	0	0	0	0	0	1	2	2	0	0	0	0	0	1	6
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	14	17	7	3	5	12	48	37	64	45	23	8	3	11	6	9	312

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	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
3.51- 7.50	12	7	6	3	1	2	9	7	1	7	6	2	4	6	2	9	84
7.51-12.50	3	1	0	0	2	4	9	13	10	7	3	2	1	5	10	15	85
12.51-18.50	0	0	0	0	0	0	1	2	5	0	0	0	0	1	3	7	19
18.51-24.00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	3
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	16	9	6	3	3	7	19	22	18	14	9	4	5	12	15	32	194

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

\*\*\* JUL-DEC 1993 \*\*\*

STABILITY CLASS C

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	0	0	0	0	0	1	2	1	2	0	0	1	0	2	0	10
3.51- 7.50	13	11	5	3	1	4	11	7	6	3	4	2	7	3	4	11	95
7.51-12.50	2	5	1	0	2	2	6	8	6	6	5	0	1	9	13	18	84
12.51-18.50	0	1	0	0	0	0	2	1	7	2	2	2	3	0	5	15	40
18.51-24.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	7	3	11
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	16	17	6	3	3	6	20	18	20	13	12	4	12	12	31	47	240

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	23	19	19	14	0	3	13	9	9	4	6	4	2	5	9	8	149
3.51- 7.50	103	56	61	59	45	57	69	39	49	37	19	22	13	24	25	41	719
7.51-12.50	33	34	4	6	17	37	56	50	72	32	25	23	17	41	69	107	623
12.51-18.50	9	1	0	0	3	3	11	17	20	6	7	8	8	9	73	105	280
18.51-24.00	0	0	0	0	0	0	1	0	4	1	0	0	2	8	26	26	68
>24.00	0	0	0	0	0	0	0	0	4	0	0	0	0	1	1	1	7
TOTAL	168	110	84	79	65	100	150	115	158	80	57	59	42	88	203	288	1846

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

\*\*\* JUL-DEC 1993 \*\*\*

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																	1
1.01- 3.50	27	16	11	7	1	5	13	27	36	22	12	6	7	18	16	28	252
3.51- 7.50	22	12	10	6	10	13	46	65	100	77	31	17	13	15	35	28	500
7.51-12.50	2	0	0	1	2	1	16	72	64	45	29	12	10	19	33	12	318
12.51-18.50	1	0	1	0	0	0	0	10	21	8	5	4	2	7	9	1	69
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	52	28	22	14	13	19	75	174	221	152	77	39	32	59	93	71	1142

STABILITY CLASS F

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	15	2	0	1	0	1	3	20	34	20	12	12	4	9	11	23	167
3.51- 7.50	2	1	1	1	0	1	4	20	42	26	12	4	9	4	11	8	146
7.51-12.50	0	0	0	0	0	0	0	0	4	5	2	3	10	7	5	0	36
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	17	3	1	2	0	2	7	40	80	51	26	19	23	21	27	31	350

B88

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

\*\*\* JUL-DEC 1993 \*\*\*

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																	4
1.01- 3.50	12	4	3	0	1	1	7	19	22	19	9	4	6	1	8	27	143
3.51- 7.50	0	0	0	1	0	0	0	1	3	4	3	1	3	1	0	0	17
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	1	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	12	4	3	1	1	1	7	20	25	23	12	5	10	3	8	27	166

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																	5
1.01- 3.50	79	43	33	23	2	11	38	78	102	67	39	28	20	33	46	86	728
3.51- 7.50	160	103	89	75	59	82	158	143	209	161	85	50	52	58	81	101	1666
7.51-12.50	45	40	6	7	26	51	113	169	186	121	77	45	40	88	132	156	1302
12.51-18.50	11	2	1	0	3	3	16	35	77	26	14	15	13	18	90	128	452
18.51-24.00	0	0	0	0	0	0	1	1	8	3	1	0	2	8	33	33	90
>24.00	0	0	0	0	0	0	0	0	4	0	0	0	0	1	1	1	7
TOTAL	295	188	129	105	90	147	326	426	586	378	216	138	127	206	383	505	4250

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

\*\*\* JUL-DEC 1993 \*\*\*

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: 4250  
 TOTAL NUMBER OF MISSING OBSERVATIONS: 166  
 PERCENT DATA RECOVERY FOR THIS PERIOD: 96.2 %  
 MEAN WIND SPEED FOR THIS PERIOD: 7.6 MPH  
 TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
7.34	4.56	5.55	43.44	26.87	8.24	3.91

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	14	17	7	3	5	12	48	37	64	45	23	8	3	11	6	9	0
B	16	9	6	3	3	7	19	22	18	14	9	4	5	12	15	32	0
C	16	17	6	3	3	6	20	18	20	13	12	4	12	12	31	47	0
D	168	110	84	79	65	100	150	115	158	80	57	59	42	88	263	288	0
E	52	28	22	14	13	19	75	174	221	152	77	39	32	59	93	71	1
F	17	3	1	2	0	2	7	40	80	51	26	19	23	21	27	31	0
G	12	4	3	1	1	1	7	20	25	23	12	5	10	3	8	27	4
TOTAL	295	188	129	105	90	147	326	426	586	378	216	138	127	266	383	505	5

B90



JFDs of 10-Meter Wind vs Delta T  
January-December 1993

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/93 - 12/31/93

\*\*\* JAN-DEC 1993 \*\*\*

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	1	2	1	1	0	1	1	2	1	0	0	0	0	0	0	0	10
3.51- 7.50	25	28	11	9	4	6	28	6	20	13	13	2	4	9	5	11	194
7.51-12.50	19	3	1	1	3	10	42	43	39	30	15	5	0	6	4	25	246
12.51-18.50	10	0	0	0	0	0	12	12	38	12	3	1	0	0	1	5	94
18.51-24.00	0	0	0	0	0	0	0	5	3	5	0	0	0	0	0	2	15
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
TOTAL	55	33	13	11	7	17	83	68	101	60	31	8	4	15	10	44	560

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	1	2	0	0	0	1	0	1	2	1	0	0	0	0	0	1	9
3.51- 7.50	28	10	7	5	1	7	13	14	8	12	8	2	5	7	3	17	147
7.51-12.50	19	6	1	1	6	13	23	19	13	9	7	2	1	7	18	35	180
12.51-18.50	2	0	1	0	0	0	3	7	13	0	0	1	0	4	7	26	63
18.51-24.00	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	2	6
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
TOTAL	50	18	8	6	7	21	39	41	39	23	15	5	6	18	28	82	406

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/93 - 12/31/93

\*\*\* JAN-DEC 1993 \*\*\*

STABILITY CLASS C

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	1	1	2	1	1	2	4	1	2	0	1	1	0	3	2	23
3.51- 7.50	39	21	12	19	4	12	17	12	10	6	7	4	10	7	10	26	216
7.51-12.50	20	7	7	6	8	8	29	16	10	13	8	2	3	19	27	49	232
12.51-18.50	5	1	0	0	0	0	6	4	11	4	6	4	4	3	20	44	112
18.51-24.00	0	0	0	0	0	0	0	2	1	1	1	0	0	0	7	8	20
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	65	30	20	27	13	21	54	38	33	26	22	11	18	29	67	129	603

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	53	37	38	22	5	6	18	23	22	17	12	8	5	11	19	20	316
3.51- 7.50	216	122	120	118	98	127	148	81	104	62	48	52	38	51	59	85	1529
7.51-12.50	90	96	31	39	61	67	139	98	124	63	44	33	24	89	132	248	1378
12.51-18.50	32	3	0	0	3	4	20	30	41	17	9	9	12	38	128	157	503
18.51-24.00	0	0	0	0	0	0	1	4	4	1	0	0	4	10	37	44	105
>24.00	0	0	0	0	0	0	0	0	4	0	0	0	0	1	3	4	12
TOTAL	391	258	189	179	167	104	326	236	299	160	113	102	83	200	378	558	3843

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/93 - 12/31/93

\*\*\* JAN-DEC 1993 \*\*\*

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																	1
1.01- 3.50	55	36	23	13	6	12	28	47	64	33	16	12	10	30	35	45	465
3.51- 7.50	94	19	14	14	21	33	81	85	178	112	46	33	19	33	58	58	868
7.51-12.50	4	1	1	1	2	4	28	90	83	60	45	21	31	35	51	24	481
12.51-18.50	1	0	1	0	0	0	0	1	2	9	5	4	3	13	12	9	102
18.51-24.00	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	3	5
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	154	56	39	28	29	49	137	242	321	214	112	70	63	112	156	139	1922

STABILITY CLASS F

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 10.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	47	14	1	3	2	4	3	32	68	42	21	18	12	11	25	45	348
3.51- 7.50	4	3	2	1	0	1	8	23	62	49	16	7	12	8	14	13	223
7.51-12.50	0	0	0	0	0	0	0	0	4	7	3	6	16	10	7	0	53
12.51-18.50	0	0	0	0	0	0	0	0	1	0	0	0	1	1	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	0	0	0	0	0	0	0	0	0	0
TOTAL	51	17	3	4	2	5	11	55	135	98	40	31	40	30	46	58	626

B94

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/93 - 12/31/93

\*\*\* JAN-DEC 1993 \*\*\*

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																	4
1.01- 3.50	27	15	5	5	4	7	15	1	46	30	16	8	10	2	12	46	304
3.51- 7.50	0	0	0	1	0	0	0	2	6	5	3	1	3	1	0	1	23
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	1	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	27	15	5	6	4	7	15	58	52	35	19	9	14	4	12	47	333

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																	5
1.01- 3.50	185	107	69	46	18	32	67	165	204	125	65	47	38	54	94	159	1475
3.51- 7.50	406	203	166	167	128	186	295	223	358	259	141	101	91	116	149	211	3206
7.51-12.50	152	113	41	48	80	102	261	266	273	182	122	69	76	167	239	381	2572
12.51-18.50	50	4	1	0	3	4	41	72	130	42	23	19	19	59	168	241	876
18.51-24.00	0	0	0	0	0	0	1	12	11	8	1	0	4	11	44	59	151
>24.00	0	0	0	0	0	0	0	0	4	0	0	0	0	1	3	6	14
TOTAL	793	427	277	261	229	324	665	738	980	616	352	236	228	408	697	1057	8293

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/93 - 12/31/93

\*\*\* JAN-DEC 1993 \*\*\*

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: 8293

TOTAL NUMBER OF MISSING OBSERVATIONS: 467

PERCENT DATA RECOVERY FOR THIS PERIOD: 94.7 %

MEAN WIND SPEED FOR THIS PERIOD: 7.6 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
6.75	4.90	7.27	46.34	23.18	7.55	4.02

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	55	33	13	11	7	17	83	68	101	60	31	6	4	15	10	44	0
B	50	18	8	6	7	21	39	41	39	23	15	5	6	18	28	82	0
C	65	30	20	27	13	21	54	38	33	26	22	11	18	29	67	129	0
D	391	258	189	179	167	204	326	236	299	160	113	102	83	200	378	558	0
E	154	56	39	28	29	49	137	242	321	214	112	70	63	112	156	139	1
F	51	17	3	4	2	5	11	55	135	98	40	31	40	30	46	58	0
G	27	15	5	6	4	7	15	58	52	35	19	9	14	4	12	47	4
TOTAL	793	427	277	261	229	324	665	738	980	616	352	236	228	408	697	1057	5

Stability Class by Hour of Day

10-Meter Wind vs. Delta T

July-December 1993

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

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
93 7 1	D	D	D	D	D	D	D	D	C	A	A	A	A	A	A	A	A	C	D	D	D	E	E	E
93 7 2	F	F	E	E	E	E	E	D	C	C	C	D	A	A	A	A	B	B	D	D	D	E	E	E
93 7 3	D	D	E	D	D	D	D	D	B	A	A	A	A	A	A	B	C	D	D	D	D	D	D	D
93 7 4	D	D	E	E	E	D	D	D	C	A	A	D	D	A	C	C	B	B	C	D	D	D	D	D
93 7 5	D	D	D	D	D	D	D	D	D	C	C	C	D	C	C	D	D	D	E	F	F	F	F	E
93 7 6	F	F	E	E	E	E	E	E	D	C	A	A	A	A	A	A	B	D	D	E	E	E	E	E
93 7 7	E	D	D	D	D	D	D	D	B	A	A	A	A	A	A	-	-	-	-	-	-	-	-	D
93 7 8	D	D	D	D	D	D	D	D	E	E	E	D	D	A	A	A	C	D	D	D	D	D	D	D
93 7 9	D	D	D	D	D	D	D	D	B	A	A	A	B	A	A	C	D	D	D	D	D	D	D	D
93 7 10	D	D	D	D	D	D	D	B	B	A	A	D	B	A	A	A	A	B	D	D	E	E	E	E
93 7 11	E	E	E	F	D	D	D	D	C	D	D	B	B	B	B	C	C	D	D	D	D	D	D	D
93 7 12	D	D	D	D	D	D	D	C	B	A	A	A	A	A	A	A	A	B	D	D	D	D	D	D
93 7 13	D	D	D	D	D	D	D	D	C	A	A	A	A	A	A	D	D	D	D	D	D	D	D	D
93 7 14	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
93 7 15	D	D	D	D	D	D	D	D	C	B	C	B	B	B	A	A	B	D	D	D	D	D	D	D
93 7 16	D	D	D	D	D	D	D	C	C	A	A	A	D	B	A	A	A	C	E	E	E	E	E	E
93 7 17	E	E	E	E	E	E	D	B	C	-	-	-	-	-	-	C	D	D	D	C	C	D	D	D
93 7 18	D	D	D	D	D	D	C	C	C	B	A	A	B	B	B	C	D	E	F	F	F	F	F	F
93 7 19	E	E	E	E	E	E	E	E	D	C	B	B	C	B	A	B	D	D	D	D	E	E	E	E
93 7 20	E	E	E	E	D	D	D	D	D	D	A	A	A	A	A	B	B	D	D	D	-	-	-	D
93 7 21	D	D	D	D	D	D	D	D	D	C	C	D	B	C	D	D	D	D	D	D	D	D	D	D
93 7 22	D	D	D	D	D	D	C	C	B	-	-	-	-	-	-	B	B	D	D	E	E	E	D	D
93 7 23	D	D	D	D	D	D	D	D	D	-	-	-	-	-	-	C	D	D	D	D	D	E	E	E
93 7 24	E	F	E	E	E	E	D	E	D	C	-	-	-	-	-	-	-	D	D	D	D	F	E	E
93 7 25	E	D	D	E	E	D	D	D	D	C	C	B	C	B	A	B	D	D	F	G	F	G	G	G
93 7 26	G	G	G	F	F	F	E	C	B	D	E	E	D	E	D	B	A	C	D	E	E	E	D	D
93 7 27	D	D	D	D	E	D	D	D	B	A	A	A	A	A	A	A	C	D	D	E	E	E	E	F
93 7 28	F	G	F	F	F	E	E	D	C	C	B	B	B	C	B	B	C	D	E	F	G	G	F	F
93 7 29	E	E	F	F	F	F	D	D	B	A	A	A	A	A	A	B	A	D	F	E	E	E	E	E
93 7 30	E	E	E	E	E	E	D	B	A	A	-	-	-	-	-	-	A	D	E	E	E	E	E	E
93 7 31	E	E	E	E	E	E	E	E	E	E	D	D	B	D	E	F	D	D	E	E	E	E	D	E
93 8 1	F	D	D	D	E	E	D	D	D	D	C	C	C	C	C	D	D	E	F	G	G	G	G	G
93 8 2	G	F	E	E	F	F	E	D	C	C	B	A	A	B	D	D	D	D	E	E	F	E	E	E
93 8 3	E	F	E	-	E	E	D	D	D	D	C	B	C	B	C	D	D	D	F	F	E	E	F	F
93 8 4	F	F	E	E	E	E	D	D	C	A	A	A	A	A	A	B	C	D	E	D	D	E	E	E
93 8 5	E	E	D	E	E	E	E	D	D	D	D	A	A	A	C	D	D	D	D	E	E	E	E	E
93 8 6	E	E	D	E	E	E	E	D	B	B	B	A	A	B	B	C	C	D	D	F	G	G	F	F
93 8 7	F	F	F	F	E	E	D	B	A	A	A	A	A	A	A	A	A	D	E	E	E	E	E	E
93 8 8	E	E	E	E	E	D	D	C	A	A	A	A	A	A	A	A	C	D	D	D	D	D	D	D
93 8 9	D	D	D	D	D	D	C	A	A	A	A	A	A	A	A	A	B	D	E	E	E	E	E	E
93 8 10	E	E	E	E	E	E	D	D	C	D	C	C	A	A	A	C	B	C	D	D	D	D	D	D
93 8 11	D	D	D	D	D	D	D	C	D	D	C	B	A	A	B	C	D	D	E	E	E	E	E	E
93 8 12	E	D	D	D	D	D	D	D	A	A	A	A	A	A	A	C	D	D	E	F	F	F	F	F
93 8 13	E	E	E	E	E	E	E	D	D	D	D	B	A	A	A	A	A	D	E	E	E	E	E	E
93 8 14	D	E	E	D	E	E	D	B	-	-	-	-	-	-	-	-	-	-	E	E	E	E	E	E



PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

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
93 8 15	E	E	E	E	E	E	E	D	D	A	A	A	A	A	A	A	A	B	D	E	E	E	E	E
93 8 16	E	E	E	E	E	E	D	D	C	A	A	A	A	A	A	A	B	D	E	F	E	E	E	D
93 8 17	D	D	D	D	D	D	D	B	-	-	-	-	-	-	-	-	-	-	D	E	E	E	E	
93 8 18	E	E	E	E	E	E	D	A	A	-	-	-	-	A	D	A	C	D	D	D	D	D	D	D
93 8 19	D	D	D	D	D	D	D	D	D	D	A	A	A	A	B	D	D	D	E	E	F	F	F	F
93 8 20	E	E	E	E	E	E	E	D	D	D	C	B	B	A	D	D	D	D	E	D	D	D	D	D
93 8 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
93 8 22	D	D	D	D	E	E	D	B	-	-	-	-	-	-	-	B	D	E	E	F	F	E	E	
93 8 23	E	E	E	E	E	E	D	D	A	A	A	A	A	A	A	A	D	E	F	F	F	F	F	F
93 8 24	F	F	F	E	F	F	E	D	C	A	A	A	-	-	C	A	A	B	E	E	E	E	E	E
93 8 25	E	E	E	E	E	E	D	C	B	B	A	A	A	A	A	A	B	D	E	E	E	E	E	E
93 8 26	E	E	E	E	E	F	E	D	-	-	-	-	-	-	-	B	D	E	E	E	E	E	E	E
93 8 27	F	E	E	E	E	E	D	D	B	B	B	B	B	B	A	A	C	D	D	D	D	D	D	D
93 8 28	D	E	E	D	D	D	D	D	C	D	D	C	C	B	B	C	D	D	D	D	D	D	D	D
93 8 29	D	D	E	D	D	D	D	C	A	A	A	A	A	A	A	A	C	E	E	E	E	E	E	E
93 8 30	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
93 8 31	E	E	E	E	E	F	D	D	-	A	A	B	B	A	B	C	D	E	G	G	F	G	F	F
93 9 1	F	F	E	F	E	E	D	B	B	B	B	B	B	-	-	B	D	D	D	D	E	E	E	E
93 9 2	E	E	E	E	E	E	D	C	D	D	D	D	D	D	D	D	D	D	E	E	F	F	E	E
93 9 3	E	E	E	E	E	E	D	C	B	A	B	B	B	C	B	C	D	F	G	G	G	G	F	F
93 9 4	F	F	F	F	F	E	E	E	B	A	A	A	A	A	A	C	D	D	G	G	G	G	G	G
93 9 5	F	E	E	E	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D	D
93 9 6	D	D	D	D	D	D	D	C	C	C	C	B	B	A	A	D	D	E	G	G	G	G	G	G
93 9 7	G	F	F	F	F	E	E	E	D	C	A	A	D	D	D	D	E	E	E	D	D	D	E	E
93 9 8	F	E	E	E	E	E	E	D	D	A	C	A	B	A	A	C	D	F	G	G	F	F	F	F
93 9 9	E	E	E	E	E	E	D	B	A	B	B	B	C	-	-	-	D	E	F	F	F	F	F	F
93 9 10	E	E	E	E	E	E	D	C	B	B	B	B	C	B	C	E	G	G	G	F	F	F	F	F
93 9 11	E	E	E	E	E	D	E	D	C	A	A	A	A	A	A	A	D	D	E	E	E	E	E	E
93 9 12	E	E	E	E	E	F	E	D	B	-	-	-	-	-	-	B	D	D	E	E	E	E	E	E
93 9 13	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
93 9 14	D	D	D	D	D	D	D	D	D	D	D	D	D	-	D	C	D	D	F	F	G	G	G	G
93 9 15	G	G	G	G	G	F	G	F	E	D	B	A	A	A	A	A	B	D	E	E	F	F	F	E
93 9 16	E	E	E	E	E	E	E	D	B	-	-	-	-	-	-	A	D	E	E	E	F	F	E	E
93 9 17	E	E	E	E	E	E	D	C	A	-	-	-	-	-	-	A	D	D	E	E	E	E	E	E
93 9 18	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
93 9 19	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
93 9 20	D	D	D	D	D	E	E	D	C	B	A	A	A	A	A	B	C	E	G	G	G	F	E	E
93 9 21	E	E	E	E	E	E	D	C	B	B	D	D	C	C	D	D	E	E	E	E	E	E	E	D
93 9 22	D	D	D	E	D	D	D	D	D	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D
93 9 23	D	D	D	D	D	D	D	D	D	B	A	B	C	D	C	D	D	E	E	E	E	E	E	E
93 9 24	D	E	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
93 9 25	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	D	E	G	G	G	F	E	E
93 9 26	F	F	E	E	E	E	E	D	D	D	C	C	C	D	D	D	D	E	E	E	E	E	E	F
93 9 27	F	F	E	E	E	E	E	D	D	B	A	A	A	A	A	A	D	E	F	E	F	F	F	F
93 9 28	E	F	F	E	E	E	E	D	D	D	D	D	B	C	C	D	D	E	F	F	F	F	F	G

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

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
93 9 29	G	G	G	G	F	F	E	D	C	C	C	B	B	C	A	B	C	D	E	E	E	E	E	E
93 9 30	E	E	E	E	E	E	E	D	C	B	A	A	A	A	A	C	D	E	-	-	-	-	-	-
93 10 1	-	-	-	-	E	E	E	E	D	D	-	B	B	C	C	D	D	E	G	G	G	G	G	G
93 10 2	G	G	F	E	E	E	E	D	C	A	A	A	A	A	A	B	D	E	G	G	G	F	F	F
93 10 3	F	F	F	F	E	E	E	D	C	A	A	A	A	A	A	B	D	E	F	G	G	G	F	E
93 10 4	E	E	E	E	E	E	E	D	D	C	B	B	C	B	C	D	D	E	E	E	E	E	E	E
93 10 5	E	E	E	E	E	E	E	D	D	B	A	A	A	A	A	A	D	E	E	E	E	E	E	E
93 10 6	E	E	E	E	E	E	E	D	C	A	A	A	A	A	A	A	C	D	E	E	E	E	E	E
93 10 7	E	E	E	E	E	E	E	D	C	A	A	A	A	A	A	A	C	D	E	E	E	E	E	E
93 10 8	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	D	D	D	D	D
93 10 9	D	D	D	D	D	D	D	D	D	B	B	A	A	A	A	B	D	D	E	F	E	E	F	F
93 10 10	F	F	G	F	F	F	F	E	D	D	B	A	B	B	D	D	D	D	E	E	E	D	D	E
93 10 11	D	D	D	D	D	E	D	D	C	B	A	A	A	A	B	D	D	D	E	F	F	F	F	E
93 10 12	F	G	G	G	G	G	E	D	D	C	C	B	B	C	D	E	F	G	G	G	G	G	G	G
93 10 13	G	F	F	E	E	E	E	E	D	D	A	B	A	C	C	D	E	E	E	E	E	E	E	E
93 10 14	F	F	F	E	F	E	E	E	D	D	C	C	D	E	D	E	E	E	E	E	D	E	E	E
93 10 15	E	D	E	E	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
93 10 16	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	D	D	D
93 10 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
93 10 18	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
93 10 19	-	-	-	-	D	D	D	D	-	-	-	-	-	-	-	D	D	D	D	D	D	D	D	D
93 10 20	E	E	E	F	F	F	F	E	E	D	D	D	D	D	D	D	D	E	E	E	F	F	F	F
93 10 21	F	F	F	E	E	E	E	E	D	D	C	C	A	A	C	D	D	F	G	G	G	G	G	G
93 10 22	F	F	F	G	G	G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
93 10 23	-	-	-	-	-	-	-	-	-	C	A	B	A	C	D	E	E	F	E	F	F	F	F	F
93 10 24	F	F	F	F	E	E	F	E	D	B	B	B	A	A	A	C	E	F	F	F	E	E	F	F
93 10 25	F	F	F	F	F	F	F	E	-	-	-	-	-	-	E	D	E	E	E	E	E	E	E	E
93 10 26	E	E	E	E	E	E	E	D	D	D	C	C	C	C	D	D	D	D	D	D	D	D	D	D
93 10 27	D	D	D	E	E	E	E	D	D	C	C	C	C	B	C	D	E	F	E	E	E	E	E	E
93 10 28	F	D	E	E	E	E	E	E	D	D	C	C	C	D	D	D	D	E	E	E	F	E	D	D
93 10 29	D	D	D	D	D	D	D	D	D	C	B	B	B	C	D	D	D	D	D	D	E	E	D	D
93 10 30	D	D	D	D	D	D	D	D	D	D	C	C	C	C	D	D	D	D	D	D	D	D	D	D
93 10 31	F	F	E	E	E	E	F	F	D	C	D	B	B	C	C	D	E	F	F	E	E	E	E	E
93 11 1	E	E	E	E	E	E	E	D	D	C	B	B	B	C	D	D	D	E	E	E	E	E	E	E
93 11 2	E	E	E	E	E	E	E	E	D	D	D	C	B	C	C	D	D	F	G	G	G	G	F	F
93 11 3	E	E	E	E	E	E	E	E	D	C	B	A	B	D	D	E	E	E	E	E	E	E	E	E
93 11 4	E	E	E	E	E	E	E	D	D	C	B	B	B	C	D	D	D	D	D	D	D	D	D	D
93 11 5	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	D	D	D	D	D	D	D	D	D
93 11 6	D	D	D	D	D	E	D	D	C	B	B	B	B	C	D	D	E	F	F	F	F	F	F	E
93 11 7	F	E	E	E	E	E	F	E	D	C	B	B	A	B	C	D	E	E	F	F	F	G	G	F
93 11 8	F	F	E	E	F	G	F	F	E	D	D	D	C	D	D	D	E	F	G	G	G	-	-	-
93 11 9	-	-	G	G	G	G	G	G	F	D	C	C	A	A	C	D	E	E	E	F	F	G	F	G
93 11 10	G	G	G	G	G	G	G	G	F	D	C	C	A	A	B	D	E	E	E	E	F	F	F	F
93 11 11	E	E	E	E	E	F	F	G	F	E	D	D	D	D	D	D	E	E	E	E	D	D	D	D
93 11 12	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

STABILITY BASED ON: DELTA T      BETWEEN 60.0 AND 10.0 METERS

HOURLY STABILITIES  
 HOURS

YR	HN	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
93	11	13	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
93	11	14	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
93	11	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
93	11	16	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E
93	11	17	E	D	D	E	D	D	E	E	D	D	C	D	C	B	C	D	D	D	E	F	F	G	G	G
93	11	18	F	F	F	F	F	E	F	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
93	11	19	E	E	E	D	D	E	D	D	D	D	D	C	B	C	D	D	D	D	E	F	F	F	F	F
93	11	20	F	F	E	E	F	F	E	E	E	D	D	D	C	C	D	D	D	E	E	F	E	E	E	E
93	11	21	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	F	F	F	G	G	F
93	11	22	F	E	F	F	F	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
93	11	23	F	F	F	F	F	F	E	E	D	D	C	C	C	D	D	D	D	D	D	D	D	D	D	D
93	11	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
93	11	25	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	D	D	D	E	E	D	D	D	D
93	11	26	E	E	E	E	E	E	E	E	D	D	D	C	C	D	D	D	D	E	E	E	E	E	E	E
93	11	27	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
93	11	28	D	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	F	E	E
93	11	29	E	F	F	E	E	F	F	F	E	D	D	D	D	D	D	D	D	D	E	E	D	D	D	D
93	11	30	D	D	D	D	E	E	E	E	D	D	D	C	D	D	D	D	D	E	D	D	D	D	D	D
93	12	1	E	E	D	E	E	E	E	E	E	D	D	D	D	D	D	D	E	E	E	F	F	F	F	F
93	12	2	G	G	G	G	F	F	F	F	E	E	D	D	D	D	D	D	E	F	G	G	G	G	G	G
93	12	3	G	G	G	G	F	F	G	G	G	F	E	D	D	D	D	D	E	D	D	D	E	D	D	D
93	12	4	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
93	12	5	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
93	12	6	D	D	D	D	D	D	D	D	D	D	C	C	D	D	D	D	D	E	E	E	E	E	E	E
93	12	7	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	F	G	G	G	G
93	12	8	G	G	G	G	G	G	G	F	D	D	D	D	D	D	D	D	D	E	F	F	F	E	F	F
93	12	9	E	E	D	E	D	D	D	D	D	D	C	D	D	D	D	D	E	E	F	E	E	E	E	E
93	12	10	F	F	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
93	12	11	E	E	E	E	D	D	D	E	D	D	D	B	B	C	C	D	E	E	E	E	E	E	E	E
93	12	12	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
93	12	13	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
93	12	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
93	12	15	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
93	12	16	E	E	E	E	E	E	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
93	12	17	D	D	D	D	D	D	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
93	12	18	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F
93	12	19	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
93	12	20	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	G	G	G
93	12	21	F	F	F	F	E	F	F	E	E	D	D	D	D	D	D	D	D	E	E	D	E	D	D	D
93	12	22	D	D	D	D	D	D	D	D	D	C	B	C	C	D	D	D	D	E	E	E	F	F	F	E
93	12	23	F	F	F	F	F	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
93	12	24	E	E	D	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	D
93	12	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
93	12	26	E	E	E	E	E	E	F	F	F	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D
93	12	27	D	D	D	D	D	D	D	D	D	D	C	C	C	D	D	D	D	D	D	D	D	D	D	D

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

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
93 12 28	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
93 12 29	E	E	E	E	E	E	E	D	D	D	C	B	A	B	C	D	D	D	E	E	F	F	F	F
93 12 30	F	F	E	E	E	D	D	D	D	D	D	C	D	D	D	E	E	E	F	F	F	F	F	E
93 12 31	F	F	F	F	F	G	G	G	F	E	D	D	D	D	D	E	E	E	E	F	F	E	E	E

JFDs of 100-Meter Wind vs. Delta T

July-September 1993

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JUL-SEP 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 9/30/93

\*\*\* JUL-SEP 1993 \*\*\*

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	1	0	0	2	1	0	0	0	0	0	0	0	4
7.51-12.50	0	0	1	0	0	0	8	3	1	7	0	0	0	0	0	0	20
12.51-18.50	0	0	0	0	0	0	3	3	2	1	0	0	0	0	0	0	9
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	1	0	0	1	11	9	8	8	0	0	0	0	0	0	38

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	2	1	0	0	0	4	0	0	0	3	1	1	0	0	0	12
7.51-12.50	2	1	2	1	0	2	5	8	6	5	4	3	0	0	0	0	39
12.51-18.50	0	2	0	1	0	6	5	4	8	0	3	0	0	2	1	0	32
18.51-24.00	0	0	0	0	0	0	0	1	5	2	0	0	0	0	0	0	8
>24.00	0	0	0	0	0	0	0	2	6	0	0	0	0	0	0	0	8
TOTAL	2	5	3	2	0	8	14	15	25	7	10	4	1	2	1	0	99

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JUL-SEP 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 9/30/93

\*\*\* JUL-SEP 1993 \*\*\*

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	2	0	0	0	2	0	0	0	1	0	0	0	0	0	6
3.51-7.50	7	1	3	1	1	5	10	5	4	0	3	3	2	3	3	5	56
7.51-12.50	10	7	4	4	2	9	13	9	9	3	2	1	3	4	2	9	91
12.51-18.50	2	0	3	2	2	6	2	6	8	4	1	0	0	3	2	5	46
18.51-24.00	1	0	0	0	0	0	3	4	3	2	0	0	0	0	0	4	17
>24.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL	21	8	12	7	5	20	30	24	25	9	7	4	5	10	7	23	217

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	1	2	0	1	1	1	2	1	2	1	6	1	0	1	1	2	17
3.51-7.50	21	15	9	10	10	12	20	12	12	16	5	7	5	6	3	18	181
7.51-12.50	24	21	23	22	22	26	22	25	19	9	11	9	6	12	23	21	295
12.51-18.50	20	5	4	10	12	18	29	52	25	5	1	7	6	6	16	54	270
18.51-24.00	5	0	1	1	2	11	9	8	14	5	0	0	1	1	3	13	74
>24.00	0	0	0	0	1	4	1	4	20	1	0	0	1	0	5	3	40
TOTAL	71	43	37	44	48	72	83	102	92	37	17	24	19	26	51	111	877

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JUL-SEP 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 9/30/93

\*\*\* JUL-SEP 1993 \*\*\*

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	2	0	0	1	0	2	0	5	0	0	2	0	0	0	1	1	14
3.51- 7.50	4	2	3	4	2	3	2	5	2	2	3	3	0	2	5	5	47
7.51-12.50	1	15	10	9	8	7	19	29	19	30	6	6	3	9	13	6	190
12.51-18.50	1	1	1	2	2	4	20	35	32	20	16	7	6	3	15	16	181
18.51-24.00	1	0	1	0	1	0	2	10	22	3	2	2	1	4	4	1	54
>24.00	1	0	0	0	0	0	0	3	5	0	0	0	0	0	0	0	9
TOTAL	10	18	15	16	13	16	43	87	80	55	29	18	10	18	38	29	495

STABILITY CLASS F

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	1	2	2	2	1	1	3	0	0	1	0	0	0	13
3.51- 7.50	2	5	3	2	4	4	4	2	0	9	4	0	2	0	0	2	43
7.51-12.50	4	0	4	1	3	5	6	2	3	8	9	4	2	3	5	7	66
12.51-18.50	3	1	1	0	0	0	0	1	0	5	1	0	0	2	6	7	27
18.51-24.00	0	0	1	0	0	0	1	0	0	0	1	0	1	2	6	2	14
>24.00	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	3
TOTAL	9	6	9	4	9	11	13	6	4	25	16	4	6	8	18	18	166



PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JUL-SEP 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 9/30/93

\*\*\* JUL-SEP 1993 \*\*\*

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	1	0	2	0	0	0	0	2	0	3	8
3.51- 7.50	0	1	4	0	0	1	1	0	1	0	0	1	1	0	0	0	10
7.51-12.50	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	2	5
12.51-18.50	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	3
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	1	4	0	0	2	2	0	5	0	0	1	3	4	1	5	28

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	4	2	2	3	3	5	7	7	5	4	3	1	1	3	2	6	58
3.51- 7.50	34	26	23	17	17	26	41	26	20	27	18	15	11	11	11	30	353
7.51-12.50	41	44	44	37	35	50	73	76	58	62	32	23	14	29	43	45	706
12.51-18.50	26	9	9	15	16	34	59	101	76	35	22	14	13	16	41	82	568
18.51-24.00	7	0	3	1	3	11	15	24	48	12	3	2	4	8	13	20	174
>24.00	1	0	0	0	1	4	1	9	32	1	1	0	1	1	6	3	61
TOTAL	113	81	81	73	75	130	196	243	239	141	79	55	44	68	116	186	1920

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JUL-SEP 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 9/30/93

\*\*\* JUL-SEP 1993 \*\*\*

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: 1920

TOTAL NUMBER OF MISSING OBSERVATIONS: 288

PERCENT DATA RECOVERY FOR THIS PERIOD: 87.0 %

MEAN WIND SPEED FOR THIS PERIOD: 12.1 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
1.98	5.16	11.30	45.68	25.78	8.65	1.46

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	1	0	0	1	11	9	8	8	0	0	0	0	0	0	0
B	2	5	3	2	0	8	14	15	25	7	10	4	1	2	1	0	0
C	21	8	12	7	5	20	30	24	25	9	7	4	5	10	7	23	0
D	71	43	37	44	48	72	83	102	92	37	17	24	19	26	51	111	0
E	10	18	15	16	13	16	43	87	80	55	29	18	10	18	38	29	0
F	9	6	9	4	9	11	13	6	4	25	16	4	6	8	18	18	0
G	0	1	4	0	0	2	2	0	5	0	0	1	3	4	1	5	0
TOTAL	113	81	81	73	75	130	196	243	239	141	79	55	44	68	116	186	0

B108

JFDs of 100-Meter Wind vs. Delta T

October-December 1993

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T OCT-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/93 - 12/31/93

\*\*\* OCT-DEC 1993 \*\*\*

STABILITY CLASS A

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

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

STABILITY CLASS B

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.51-12.50	0	0	1	0	0	0	2	1	0	2	2	1	0	0	0	0	9
12.51-18.50	0	0	0	0	0	0	5	0	2	4	1	1	0	0	0	1	14
18.51-24.00	2	0	0	0	0	0	0	0	3	0	0	0	0	0	0	1	6
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	2	0	1	0	0	0	7	1	5	6	3	2	0	0	0	2	29

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T OCT-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/93 - 12/31/93

\*\*\* OCT-DEC 1993 \*\*\*

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	3	1	0	0	0	0	0	0	1	7	2	0	1	0	0	0	15
7.51-12.50	2	0	0	0	0	0	1	0	1	3	6	1	0	3	2	2	21
12.51-18.50	0	0	0	0	0	0	2	1	5	3	1	1	0	0	3	3	19
18.51-24.00	1	0	0	0	0	0	0	0	4	0	0	2	0	0	2	11	20
>24.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	4
TOTAL	6	1	0	0	0	0	3	1	12	13	9	4	1	3	7	14	79

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	3	3	2	0	1	5	0	0	1	0	0	0	0	1	0	20
3.51- 7.50	19	12	11	9	4	8	8	18	9	13	6	6	7	12	12	15	169
7.51-12.50	18	19	17	12	5	9	10	15	13	20	41	12	8	28	25	34	286
12.51-18.50	18	30	0	1	5	6	21	19	31	16	18	15	10	23	56	78	347
18.51-24.00	2	2	0	0	1	4	9	15	14	0	6	5	5	10	35	59	167
>24.00	2	0	0	0	0	2	4	1	11	0	0	0	1	8	30	52	111
TOTAL	63	66	31	24	15	30	57	68	78	50	71	38	31	81	159	238	1100

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T OCT-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/93 - 12/31/93

\*\*\* OCT-DEC 1993 \*\*\*

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	2	2	0	1	0	1	1	0	2	0	0	0	0	2	0	3	14
3.51- 7.50	8	3	3	2	0	1	2	0	1	8	3	3	1	0	2	8	45
7.51-12.50	12	2	4	2	3	6	4	10	12	28	28	12	9	5	10	14	161
12.51-18.50	9	2	4	0	0	6	8	43	39	31	25	11	11	9	16	16	230
18.51-24.00	0	0	0	0	0	0	7	17	27	7	12	11	4	4	10	3	102
>24.00	0	0	0	0	0	0	0	1	9	0	1	4	0	2	6	0	23
TOTAL	31	9	11	5	3	14	22	71	90	74	69	41	25	22	44	44	575

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	2	2	3	0	2	1	1	1	0	4	0	1	0	0	0	2	19
3.51- 7.50	6	2	2	1	0	2	0	1	1	6	4	1	0	1	3	3	33
7.51-12.50	4	0	0	1	0	2	1	0	3	14	11	3	4	3	7	5	58
12.51-18.50	0	1	0	0	0	0	2	6	2	4	13	6	7	7	0	4	52
18.51-24.00	0	0	0	0	0	0	0	0	0	0	3	5	3	6	3	1	21
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4
TOTAL	12	5	5	2	2	5	4	8	6	28	31	16	14	18	16	15	187

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T OCT-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/93 - 12/31/93

\*\*\* OCT-DEC 1993 \*\*\*

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	1	0	0	1	3	0	0	0	1	0	0	1	0	0	7
3.51- 7.50	1	1	3	0	1	1	5	3	0	3	0	2	1	0	1	1	23
7.51-12.50	2	1	0	0	1	1	3	1	2	3	5	0	2	2	1	6	30
12.51-18.50	0	0	0	0	0	0	2	0	2	1	5	2	1	1	0	1	15
18.51-24.00	0	0	0	0	0	0	0	0	0	0	3	0	1	1	0	0	5
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
TOTAL	3	2	4	0	2	3	13	4	4	7	14	4	6	5	3	8	82

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	8	7	7	3	2	4	10	1	2	5	1	1	0	3	1	5	60
3.51- 7.50	37	19	19	12	5	12	15	22	12	37	15	12	10	13	18	27	285
7.51-12.50	38	22	23	15	9	18	21	27	31	70	93	29	23	41	45	61	566
12.51-18.50	27	33	4	1	5	12	40	69	81	61	63	36	29	40	75	103	679
18.51-24.00	5	2	0	0	1	4	16	32	48	7	24	23	13	21	50	75	321
>24.00	2	0	0	0	0	2	4	2	21	0	1	4	2	11	40	55	144
TOTAL	117	83	53	31	22	52	106	153	195	180	197	105	77	129	229	326	2055

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T OCT-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 10/ 1/93 - 12/31/93

\*\*\* OCT-DEC 1993 \*\*\*

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: 2055

TOTAL NUMBER OF MISSING OBSERVATIONS: 153

PERCENT DATA RECOVERY FOR THIS PERIOD: 93.1 %

MEAN WIND SPEED FOR THIS PERIOD: 13.9 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

	A	B	C	D	E	F	G
	0.15	1.41	3.34	53.53	27.98	9.10	3

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	E	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	0	0	1	0	0	0	0	0	0		0	0	0	0	0	4	0
B	2	0	1	0	0	0	7	1	5		3	2	0	0	0	2	0
C	6	1	0	0	0	0	3	1	12	10	9	4	1	3	7	19	0
D	63	66	31	24	15	30	57	68	78	50	71	38	31	81	159	238	0
E	31	9	11	5	3	14	22	71	90	74	69	41	25	22	44	44	0
F	12	5	5	2	2	5	4	8	6	28	31	16	14	18	16	15	0
G	3	2	4	0	2	3	13	4	4	7	14	4	6	5	3	8	0
TOTAL	117	83	53	31	22	52	106	153	195	180	197	105	77	129	229	326	0

B114



JFDs of 100-Meter Wind vs. Delta T

July-December 1993

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

\*\*\* JUL-DEC 1993 \*\*\*

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	MNW	NW	NNW	TOTAL
CALM																	
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	0	0	2	1	0	0	0	0	0	0	0	4
7.51-12.50	0	0	2	0	0	0	8	3	1	7	0	0	0	0	0	0	21
12.51-18.50	0	0	0	0	0	0	3	3	0	3	0	0	0	0	0	0	11
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	2	0	1	11	9	6	10	10	0	0	0	0	0	0	41

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	MNW	NW	NNW	TOTAL
CALM																	
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	2	1	0	0	0	4	0	0	0	3	1	1	0	0	0	12
7.51-12.50	2	1	3	1	0	2	7	9	6	7	6	4	0	0	0	0	48
12.51-18.50	0	2	0	1	0	6	10	4	10	4	4	1	0	2	1	1	46
18.51-24.00	2	0	0	0	0	0	0	1	8	2	0	0	0	0	0	1	14
>24.00	0	0	0	0	0	0	0	2	6	0	0	0	0	0	0	0	8
TOTAL	4	5	4	2	0	6	21	16	30	13	13	6	1	2	1	2	128

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

\*\*\* JUL-DEC 1993 \*\*\*

STABILITY CLASS C

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	0	2	0	0	0	2	0	0	0	1	0	0	0	0	0	6
3.51- 7.50	10	2	3	1	1	5	10	5	5	7	5	3	3	3	3	5	71
7.51-12.50	12	7	4	4	2	9	14	9	10	6	8	2	3	7	4	11	112
12.51-18.50	2	0	3	2	2	6	4	7	13	7	2	1	0	3	5	8	65
18.51-24.00	2	0	0	0	0	0	3	4	7	2	0	2	0	0	2	15	37
>24.00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3	5
TOTAL	27	9	12	7	5	20	33	25	37	22	16	8	6	13	14	42	296

STABILITY CLASS D

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	5	5	3	3	1	2	7	1	2	2	0	1	0	1	2	2	37
3.51- 7.50	40	27	20	19	14	20	28	30	21	29	11	13	12	18	15	33	350
7.51-12.50	42	40	40	34	27	35	32	40	32	29	52	21	14	40	48	55	581
12.51-18.50	38	35	4	11	17	24	50	71	56	21	19	22	16	29	72	132	617
18.51-24.00	7	2	1	1	3	15	18	23	28	5	6	5	6	11	38	72	241
>24.00	2	0	0	0	1	6	5	5	31	1	0	0	2	6	35	55	151
TOTAL	134	109	68	68	63	102	140	170	179	87	88	62	50	107	210	349	1977

B117

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

\*\*\* JUL-DEC 1993 \*\*\*

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	4	2	0	2	0	3	1	5	2	0	2	0	0	2	1	4	28
3.51- 7.50	12	5	6	6	2	4	4	5	3	10	6	6	1	2	7	13	92
7.51-12.50	13	17	14	11	11	13	23	39	31	58	34	18	12	14	23	20	351
12.51-18.50	10	3	5	2	2	10	28	78	71	51	41	18	17	12	31	32	411
18.51-24.00	1	0	1	0	1	0	9	27	49	10	14	13	5	8	14	4	156
>24.00	1	0	0	0	0	0	0	4	14	0	1	4	0	2	6	0	32
TOTAL	41	27	26	21	16	30	65	158	170	129	98	59	35	40	82	73	1070

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	2	2	3	1	4	3	3	2	1	7	0	1	1	0	0	2	32
3.51- 7.50	8	7	5	3	4	6	4	3	1	15	8	1	2	1	3	5	76
7.51-12.50	8	0	4	2	3	7	7	2	6	22	20	7	6	6	12	12	124
12.51-18.50	3	2	1	0	0	0	2	7	2	9	14	6	7	9	6	11	79
18.51-24.00	0	0	1	0	0	0	1	0	0	0	4	5	4	8	9	3	35
>24.00	0	0	0	0	0	0	0	0	0	0	1	0	0	2	4	0	7
TOTAL	21	11	14	6	11	16	17	14	10	53	47	20	20	26	34	33	353

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

\*\*\* JUL-DEC 1993 \*\*\*

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	1	0	0	1	4	0	2	0	1	0	0	3	0	3	15
3.51- 7.50	1	2	7	0	1	2	6	3	1	3	0	3	2	0	1	1	33
7.51-12.50	2	1	0	0	1	2	3	1	3	3	5	0	2	3	1	8	35
12.51-18.50	0	0	0	0	0	0	2	0	3	1	5	2	2	1	1	1	18
18.51-24.00	0	0	0	0	0	0	0	0	0	0	3	0	2	2	0	0	7
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
TOTAL	3	3	8	0	2	5	15	4	9	7	14	5	9	9	4	13	110

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	12	9	9	6	5	9	17	8	7	9	4	2	1	6	3	11	118
3.51- 7.50	71	45	42	29	22	38	56	48	32	64	33	27	21	24	29	57	638
7.51-12.50	79	66	67	52	44	68	94	103	89	132	125	52	37	70	88	106	1272
12.51-18.50	53	42	13	16	21	46	99	170	157	96	85	50	42	56	116	185	1247
18.51-24.00	12	2	3	1	4	15	31	56	76	19	27	25	17	29	63	95	495
>24.00	3	0	0	0	1	6	5	11	3	1	2	4	3	12	46	58	205
TOTAL	230	164	134	104	97	182	302	396	434	321	276	160	121	197	345	512	3975

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

\*\*\* JUL-DEC 1993 \*\*\*

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: 3975  
 TOTAL NUMBER OF MISSING OBSERVATIONS: 441  
 PERCENT DATA RECOVERY FOR THIS PERIOD: 90.0 %  
 MEAN WIND SPEED FOR THIS PERIOD: 13.1 MPH  
 TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
1.03	3.22	7.45	45.74	26.92	8.88	2.77

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	2	0	0	1	11	9	8	10	0	0	0	0	0	0	0
B	4	5	4	2	0	8	21	16	30	13	13	6	1	2	1	2	0
C	27	9	12	7	5	20	33	25	37	22	16	8	6	13	14	42	0
D	134	109	68	68	63	102	140	170	170	87	88	62	50	107	210	349	0
E	41	27	26	21	16	30	65	158	170	129	98	59	35	4	82	73	0
F	21	11	14	6	11	16	17	14	10	53	47	20	20	26	34	33	0
G	3	3	8	0	2	5	15	4	9	7	14	5	9	9	4	13	0
TOTAL	230	164	134	104	97	182	302	396	434	321	276	160	121	197	345	512	0

B120

JFDs of 100-Meter Wind vs. Delta T  
January-December 1993

PROGRAM: JFD VERSION: 5P  
 MPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JAN-DEC 1993  
 SITE IDENTIFIER: MPPD  
 DATA PERIOD EXAMINED: 1/ 1/93 - 12/31/93

\*\*\* JAN-DEC 1993 \*\*\*

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	1	0	0	0	0	0	0	0
3.51- 7.50	0	0	0	0	0	1	0	0	2	1	0	1	0	0	0	0	4
7.51-12.50	0	0	2	0	0	0	8	3	1	7	0	0	0	0	0	0	21
12.51-18.50	0	0	0	0	0	0	4	4	2	4	0	0	0	0	0	0	14
18.51-24.00	0	0	0	0	0	0	0	2	7	0	0	0	0	0	0	0	9
>24.00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
TOTAL	3	0	2	0	0	1	12	11	11	11	0	0	0	0	0	0	51

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	1	4	1	1	3	0	6	1	0	1	4	1	1	0	0	1	25
7.51-12.50	6	2	3	1	0	4	14	10	12	8	6	4	0	0	0	5	75
12.51-18.50	2	3	0	1	0	6	13	8	12	4	5	1	0	2	1	3	61
18.51-24.00	3	0	0	0	0	0	4	5	15	3	0	0	0	0	0	1	31
>24.00	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	12
TOTAL	14	9	4	3	3	10	37	26	47	16	15	6	1	2	1	10	204



PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JAN-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/93 - 12/31/93

\*\*\* JAN-DEC 1993 \*\*\*

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	4	0	0	0	2	0	0	0	1	1	0	0	0	0	9
3.51- 7.50	21	7	3	6	1	6	12	9	12	12	9	4	4	5	3	5	119
7.51-12.50	18	10	8	4	3	9	25	16	14	9	13	2	3	7	6	25	172
12.51-18.50	3	0	3	4	2	8	9	15	15	7	7	1	0	3	7	18	102
18.51-24.00	4	0	0	0	0	0	6	5	11	2	0	2	0	0	2	24	56
>24.00	1	0	0	0	0	0	0	4	4	0	0	0	0	0	1	5	15
TOTAL	48	17	18	14	6	23	54	49	56	30	30	10	7	15	19	77	473

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	7	15	8	6	8	6	10	5	5	4	2	1	2	1	5	5	90
3.51- 7.50	71	56	44	48	32	40	45	50	39	56	27	34	27	40	29	48	686
7.51-12.50	91	66	67	64	59	91	63	66	62	56	72	32	29	79	98	112	1107
12.51-18.50	99	58	26	53	44	72	119	99	90	45	36	23	24	62	143	205	1198
18.51-24.00	47	14	7	1	8	22	39	52	50	12	9	9	10	46	63	126	515
>24.00	9	1	0	0	1	6	6	18	40	1	0	0	3	9	46	85	225
TOTAL	324	210	152	172	152	237	282	290	286	174	146	99	95	237	384	581	3821

B123

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JAN-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/93 - 12/31/93

\*\*\* JAN-DEC 1993 \*\*\*

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	6	7	1	7	3	9	2	9	3	9	2	1	1	2	3	6	71
3.51- 7.50	38	25	27	14	12	24	23	17	15	26	20	16	7	13	34	25	336
7.51-12.50	65	50	38	23	31	54	60	62	50	84	56	37	29	36	60	77	812
12.51-18.50	67	22	20	6	20	53	86	116	108	68	59	30	35	26	72	129	917
18.51-24.00	11	5	8	1	1	7	24	42	62	11	16	20	15	28	29	23	303
>24.00	5	0	0	0	0	0	2	10	20	1	1	4	2	6	10	13	74
TOTAL	192	109	94	51	67	147	197	256	258	199	154	108	89	111	208	273	2513

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	3	4	5	2	5	4	5	2	2	8	0	2	1	0	0	4	47
3.51- 7.50	15	10	8	8	6	10	9	5	8	29	13	3	3	3	7	19	147
7.51-12.50	16	8	17	7	7	21	17	4	19	46	32	23	11	13	16	27	284
12.51-18.50	7	4	3	1	0	5	19	11	13	19	25	10	11	13	14	24	179
18.51-24.00	1	0	2	0	0	0	2	0	0	0	5	5	12	14	13	3	57
>24.00	0	0	0	0	0	0	0	0	1	0	2	0	0	3	4	4	14
TOTAL	42	26	35	18	18	40	52	22	43	102	77	43	38	46	54	72	728

B124

PROGRAM: JFD VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JAN-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/93 - 12/31/93

\*\*\* JAN-DEC 1993 \*\*\*

STABILITY CLASS G

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	2	0	1	2	5	0	2	1	1	0	0	3	0	3	20
3.51- 7.50	2	6	8	1	3	3	8	6	9	9	3	4	4	2	1	2	71
7.51-12.50	4	2	0	0	1	5	5	5	16	8	20	6	5	6	3	15	101
12.51-18.50	2	0	0	0	1	1	4	1	3	1	9	3	6	3	1	3	38
18.51-24.00	0	0	0	0	0	0	0	0	0	0	3	0	2	2	0	0	7
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
TOTAL	8	8	10	1	6	11	22	12	30	19	36	13	18	16	6	23	239

STABILITY CLASS ALL

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT100.00 METERS

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	17	26	20	15	17	21	24	16	12	22	6	5	4	6	8	18	237
3.51- 7.50	148	108	91	78	57	84	103	90	84	133	76	62	46	63	74	91	1388
7.51-12.50	200	138	135	99	101	184	192	166	174	218	199	104	77	141	103	261	2572
12.51-18.50	180	87	52	65	67	145	254	254	243	148	141	68	76	109	238	382	2509
18.51-24.00	66	19	17	2	9	29	75	106	145	28	33	36	39	90	107	177	978
>24.00	20	1	0	0	1	6	8	34	73	2	3	4	6	18	62	107	345
TOTAL	631	379	315	259	252	469	656	666	731	551	458	279	248	427	672	1036	8029

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JAN-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 1/ 1/93 - 12/31/93

\*\*\* JAN-DEC 1993 \*\*\*

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: 8029

TOTAL NUMBER OF MISSING OBSERVATIONS: 731

PERCENT DATA RECOVERY FOR THIS PERIOD: 91.7 %

MEAN WIND SPEED FOR THIS PERIOD: 12.8 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
0.64	2.54	5.99	47.59	31.30	9.07	2.98

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	3	0	2	0	0	1	12	11	11	11	0	0	0	0	0	0	0
B	14	9	4	3	3	10	37	26	47	16	15	6	1	2	1	10	0
C	48	17	18	14	6	23	54	49	56	30	30	10	7	15	19	77	0
D	324	210	152	172	152	237	282	290	286	174	146	99	95	237	384	581	0
E	192	109	94	51	67	147	197	256	258	199	154	108	89	111	208	273	0
F	42	26	35	18	18	40	52	22	43	102	77	43	38	46	54	72	0
G	8	8	10	1	6	11	22	12	30	19	36	13	18	16	6	23	0
TOTAL	631	379	315	259	252	469	656	666	731	551	450	279	248	427	672	1036	0

B126

Stability Classes by Hour of Day

100-Meter Wind vs. Delta T

July-December 1993

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

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
93	7	1	D	D	D	D	D	D	D	D	D	C	C	B	B	C	C	B	C	D	D	D	D	F	F	E
93	7	2	G	F	E	E	E	E	E	E	D	D	D	D	C	B	C	C	D	D	D	D	D	D	E	E
93	7	3	E	E	E	D	D	D	D	D	D	C	B	A	B	B	B	B	D	D	D	D	D	E	D	D
93	7	4	D	D	D	E	E	E	D	D	D	C	C	D	D	C	D	D	D	D	D	D	D	D	E	D
93	7	5	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F
93	7	6	F	F	E	E	E	E	D	E	E	D	D	A	A	A	A	B	C	D	D	D	D	E	D	D
93	7	7	D	C	D	D	C	E	F	F	F	D	B	B	A	B	A	-	-	-	-	-	-	-	-	D
93	7	8	D	D	D	D	D	D	D	D	E	E	E	D	C	C	C	C	D	D	D	D	D	D	D	B
93	7	9	D	D	B	C	D	D	D	D	D	D	C	B	C	D	C	C	D	D	D	D	D	E	D	D
93	7	10	D	D	D	D	D	D	D	D	D	C	D	C	C	B	B	C	D	D	D	D	D	E	E	E
93	7	11	E	E	E	E	D	D	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E
93	7	12	E	D	E	E	E	E	D	D	D	B	B	A	A	A	A	B	C	C	D	D	D	D	D	D
93	7	13	D	D	D	-	-	-	-	-	-	-	C	B	B	B	B	D	D	D	C	D	E	E	D	D
93	7	14	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	D	D	B	C	C	D	D	C
93	7	15	-	-	-	-	-	-	-	C	C	D	D	D	D	D	C	D	D	D	D	C	D	D	D	D
93	7	16	C	B	-	-	-	-	-	-	-	-	A	B	F	C	B	D	D	C	D	E	E	E	E	E
93	7	17	E	D	E	E	E	E	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
93	7	18	-	-	-	-	-	-	-	-	-	-	B	D	D	D	D	D	D	D	E	E	E	F	F	F
93	7	19	E	E	E	E	E	E	E	E	E	D	D	C	D	D	D	D	D	D	D	D	D	E	E	E
93	7	20	E	E	E	E	E	D	D	D	C	-	-	-	-	B	C	D	D	D	D	D	C	-	-	-
93	7	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
93	7	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	D	D	D	D	E	D	C	D
93	7	23	D	D	D	C	D	D	D	D	D	D	D	-	-	-	-	-	D	D	D	D	D	D	D	E
93	7	24	E	F	E	E	E	E	D	E	D	D	-	-	-	-	-	-	D	E	E	D	F	F	E	E
93	7	25	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	D	E	E	E	F	F	F	G
93	7	26	G	F	G	F	F	G	F	D	D	D	D	E	E	D	E	D	C	C	D	D	E	E	D	D
93	7	27	D	D	D	D	D	C	C	C	D	B	B	B	B	B	C	D	D	D	D	D	E	E	E	F
93	7	28	F	F	F	F	F	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	F	F
93	7	29	F	F	G	F	F	F	E	D	D	D	C	A	C	C	C	C	D	D	D	E	E	E	E	E
93	7	30	E	E	E	E	E	E	D	C	B	-	-	-	-	-	-	-	D	E	E	E	E	E	E	D
93	7	31	D	E	E	E	D	E	E	E	E	E	D	D	D	D	E	F	D	D	D	E	E	E	E	E
93	8	1	F	E	D	D	D	E	D	D	C	D	D	D	D	D	D	D	D	D	D	E	F	G	G	G
93	8	2	G	F	F	F	F	F	E	E	D	D	D	C	C	D	D	D	D	D	D	D	E	F	E	E
93	8	3	E	E	E	-	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	F	E	F
93	8	4	F	F	F	F	E	E	E	D	C	C	B	C	B	C	B	D	D	D	D	E	D	D	E	E
93	8	5	E	E	D	E	E	E	D	D	D	D	C	B	C	D	D	D	D	D	D	D	E	D	E	D
93	8	6	E	-	-	-	-	-	D	C	D	B	C	C	D	D	D	D	D	D	D	E	F	F	F	F
93	8	7	F	F	E	E	E	E	D	D	C	B	B	A	C	B	B	C	D	D	D	E	E	E	E	E
93	8	8	E	E	E	E	E	D	D	D	C	B	A	A	A	A	B	C	D	D	D	D	D	D	D	-
93	8	9	-	-	-	-	-	D	D	C	C	A	A	A	A	A	B	C	D	D	D	E	E	E	E	E
93	8	10	E	E	D	D	D	D	D	C	B	B	C	A	C	C	D	D	D	D	D	D	D	D	C	-
93	8	11	-	-	-	-	-	-	-	-	-	-	-	-	-	B	B	C	C	D	D	D	D	D	-	-
93	8	12	-	-	-	-	-	-	-	-	-	-	C	C	C	C	C	C	D	D	D	E	E	E	E	E
93	8	13	E	E	E	E	E	D	E	D	D	D	D	D	C	B	C	C	C	D	E	E	E	E	E	E
93	8	14	D	D	D	D	E	D	D	C	-	-	-	-	-	-	-	-	-	D	E	E	E	E	E	E

B128

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

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
93	8	15	E	E	E	E	E	E	E	D	D	C	C	A	A	A	A	B	C	D	E	E	E	E	E	E
93	8	16	E	E	E	E	E	E	E	D	D	B	C	B	B	C	C	C	D	D	E	E	E	E	E	D
93	8	17	D	D	E	E	D	D	E	D	-	-	-	-	-	-	-	-	-	D	E	E	E	E	E	
93	8	18	E	E	E	E	E	E	E	D	D	B	-	-	-	C	D	C	D	D	D	D	D	D	D	
93	8	19	D	-	-	-	-	-	-	-	-	-	C	B	C	C	C	D	D	D	E	F	F	F	F	
93	8	20	E	E	E	E	E	E	D	D	D	D	D	D	C	D	D	D	D	E	D	D	D	D	D	
93	8	21	D	D	D	D	D	D	D	D	D	-	-	-	-	-	-	-	-	-	-	-	-	D	D	
93	8	22	D	D	D	D	D	E	E	D	D	-	-	-	-	-	-	D	E	E	E	F	E	E	E	
93	8	23	E	E	E	E	E	E	D	D	D	C	B	C	A	A	B	B	D	E	F	F	F	F	F	
93	8	24	F	F	F	F	F	F	D	D	C	C	A	-	-	D	C	C	D	E	E	E	E	E	E	
93	8	25	E	E	E	E	E	E	E	D	D	D	D	C	B	B	A	A	B	D	E	E	E	E	E	E
93	8	26	E	E	E	E	E	E	E	D	-	-	-	-	-	-	-	D	D	E	E	E	E	E	E	E
93	8	27	F	E	E	E	E	E	D	D	C	C	C	C	C	D	C	C	D	D	D	D	D	D	B	D
93	8	28	D	D	D	D	D	D	C	B	A	B	C	D	D	D	D	D	D	D	D	D	D	D	D	D
93	8	29	D	D	D	D	D	D	D	D	D	C	B	B	B	A	A	C	D	D	E	E	E	E	E	E
93	8	30	E	E	E	E	E	E	E	F	F	F	E	D	E	E	E	D	D	D	D	D	D	D	D	E
93	8	31	E	E	E	E	D	D	D	D	-	C	C	D	C	C	D	D	D	D	E	F	F	F	F	F
93	9	1	F	F	F	F	E	F	E	D	D	C	C	C	C	C	-	-	C	D	D	D	D	D	D	D
93	9	2	-	-	-	-	-	D	D	C	D	D	D	J	-	-	D	D	D	E	E	E	F	F	E	E
93	9	3	E	E	E	E	D	D	D	D	D	C	C	C	D	C	D	C	D	D	E	F	F	F	G	G
93	9	4	F	F	F	F	F	F	E	D	B	B	C	C	C	C	D	D	D	F	G	G	G	G	F	F
93	9	5	F	D	E	D	D	D	D	-	-	B	C	C	B	B	-	-	-	-	-	-	-	-	-	-
93	9	6	-	-	-	D	D	D	D	D	D	D	D	C	D	C	C	D	D	E	F	F	F	F	F	F
93	9	7	F	F	F	F	F	F	F	E	D	C	C	D	D	D	D	D	D	D	D	D	D	D	D	E
93	9	8	E	E	E	E	E	D	D	D	D	C	D	D	C	C	C	D	D	E	F	F	F	F	F	F
93	9	9	E	E	E	E	E	E	D	C	C	D	D	-	-	-	D	E	E	F	F	F	F	F	F	F
93	9	10	E	E	F	E	E	E	E	D	D	D	D	C	C	D	D	D	D	D	F	G	G	F	F	E
93	9	11	E	E	E	E	E	E	D	D	C	B	B	B	B	B	C	D	D	E	E	E	E	E	E	E
93	9	12	E	E	E	E	E	E	D	D	-	-	-	-	-	-	D	D	D	E	E	E	E	D	D	D
93	9	13	D	D	D	D	J	D	D	D	D	B	C	C	D	D	C	D	D	C	C	C	C	C	C	D
93	9	14	D	D	D	D	D	D	D	D	D	D	D	D	D	-	D	D	D	D	E	E	F	F	F	G
93	9	15	G	G	G	G	G	G	F	F	E	D	D	C	B	C	A	B	C	D	E	E	E	F	E	E
93	9	16	E	E	D	E	E	E	D	D	C	-	-	-	-	-	-	C	D	E	E	E	E	F	E	E
93	9	17	E	E	E	E	E	E	E	D	C	-	-	-	-	-	C	D	D	D	E	E	E	E	E	E
93	9	18	D	D	D	D	D	C	D	D	C	C	B	C	B	C	B	C	D	D	D	D	D	D	D	D
93	9	19	D	D	D	D	D	D	D	D	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D
93	9	20	D	D	D	D	D	D	D	D	C	C	B	B	C	C	C	C	D	D	F	F	F	E	E	E
93	9	21	E	E	E	E	E	E	D	C	C	D	D	D	D	D	D	D	D	E	E	E	E	E	E	D
93	9	22	D	D	D	D	D	D	D	D	C	B	C	D	D	D	D	D	D	D	D	D	D	D	D	D
93	9	23	D	D	D	D	D	D	D	D	D	C	C	C	D	D	D	D	D	E	E	E	E	E	E	D
93	9	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
93	9	25	D	D	D	D	D	D	C	C	D	D	D	C	D	D	D	D	D	E	F	F	F	F	F	F
93	9	26	F	E	E	F	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	F
93	9	27	F	F	E	E	E	E	E	D	C	B	B	B	B	B	C	D	E	E	E	F	F	F	F	F
93	9	28	E	E	F	F	E	E	E	D	D	D	D	D	D	D	D	D	D	E	F	F	F	F	F	G

PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

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
93	9	29	G	F	F	F	F	F	E	D	D	D	D	C	C	C	C	C	D	D	E	E	E	E	E	E
93	9	30	E	E	E	E	E	E	E	D	D	C	B	B	B	B	C	D	D	D	E	F	G	G	F	F
93	10	1	-	-	-	-	-	E	E	E	D	D	D	D	C	D	C	C	D	D	E	F	F	F	G	G
93	10	2	F	F	F	E	E	E	E	D	D	D	D	C	D	C	C	D	D	E	F	F	F	G	G	G
93	10	3	F	F	F	F	E	E	E	D	D	C	B	B	B	C	B	C	D	E	F	G	G	G	F	E
93	10	4	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
93	10	5	E	E	E	E	E	E	E	D	D	C	B	B	B	B	C	D	E	E	E	E	E	E	E	E
93	10	6	E	E	E	E	E	E	E	D	C	B	A	B	B	B	C	D	D	E	E	E	E	E	E	E
93	10	7	E	E	E	E	E	E	E	D	D	C	B	A	B	B	B	D	D	E	E	E	E	E	E	E
93	10	8	E	E	E	E	E	E	E	D	D	D	D	D	D	C	D	D	E	E	D	D	D	D	D	D
93	10	9	D	D	D	D	D	D	D	D	C	C	B	B	B	B	C	D	D	E	E	E	E	E	E	E
93	10	10	F	F	F	F	F	F	F	F	E	D	C	C	C	C	D	D	D	D	E	E	D	E	D	D
93	10	11	D	D	D	D	D	D	E	D	D	C	C	C	B	B	C	C	D	E	F	F	F	F	F	F
93	10	12	F	G	G	G	G	F	F	E	D	D	D	D	C	C	C	D	D	E	E	E	E	E	E	E
93	10	13	F	F	F	E	E	E	E	E	D	D	D	B	B	C	D	D	D	E	E	E	E	E	E	E
93	10	14	E	F	F	E	E	E	E	E	D	D	D	D	D	E	D	E	E	E	E	D	D	E	E	D
93	10	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
93	10	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
93	10	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
93	10	18	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
93	10	19	-	-	-	-	D	D	D	D	-	-	-	-	-	-	D	D	D	D	D	D	D	D	D	D
93	10	20	E	E	E	F	F	F	F	F	E	-	-	-	-	-	-	D	D	D	E	E	F	F	F	F
93	10	21	G	F	F	E	E	E	E	E	D	D	D	D	A	B	D	D	D	E	F	F	G	G	G	G
93	10	22	F	F	F	G	G	G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
93	10	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
93	10	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
93	10	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
93	10	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
93	10	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	D	D	D	E	E	E	E	E	E	E
93	10	28	D	D	D	D	D	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	D	D
93	10	29	D	D	D	D	D	D	D	D	D	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D
93	10	30	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	D
93	10	31	F	F	F	F	F	E	F	F	D	D	D	C	C	C	C	D	D	E	E	E	E	E	E	E
93	11	1	E	E	E	E	E	E	E	D	D	C	C	C	C	C	D	D	D	E	E	E	E	E	D	D
93	11	2	E	E	E	E	E	E	E	D	D	D	D	C	D	D	D	D	E	F	G	G	G	G	F	F
93	11	3	E	E	E	E	E	E	E	D	D	C	B	C	D	D	D	E	E	E	E	E	E	E	E	E
93	11	4	E	E	E	E	E	E	E	D	D	D	C	C	C	C	D	D	D	D	D	D	D	D	D	D
93	11	5	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D	D
93	11	6	D	D	D	D	D	D	D	D	D	C	C	C	C	C	D	D	D	E	E	E	F	F	F	E
93	11	7	E	E	E	E	E	E	E	D	C	C	C	C	C	C	D	D	D	E	F	F	F	F	F	E
93	11	8	E	E	E	F	F	F	F	E	D	D	D	C	D	D	D	D	E	F	G	G	-	-	-	-
93	11	9	-	-	G	G	G	G	G	F	E	D	D	B	C	C	D	D	E	E	F	F	F	F	F	F
93	11	10	F	G	G	G	G	G	G	F	E	D	D	B	C	C	D	E	E	E	E	E	E	E	E	E
93	11	11	E	E	E	E	E	F	F	F	E	D	D	D	D	D	D	D	D	D	E	D	D	D	D	D
93	11	12	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E

B130



PROGRAM: JFD      VERSION: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

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	
93 11 13	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
93 11 14	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
93 11 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	
93 11 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	
93 11 17	E	D	D	D	D	D	E	E	D	D	D	D	C	C	D	D	D	E	F	F	F	G	F	F	
93 11 18	F	F	F	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
93 11 19	F	E	D	D	D	D	D	D	D	D	C	C	C	C	D	D	D	E	F	F	F	F	G	G	
93 11 20	F	F	F	E	F	F	E	F	F	D	D	D	D	D	D	D	D	E	E	F	E	E	E	E	
93 11 21	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	F	F	F	G	G	F	F
93 11 22	F	E	E	F	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
93 11 23	E	E	F	F	F	F	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
93 11 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	
93 11 25	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	E	E	D	D	D	D	
93 11 26	E	E	E	F	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
93 11 27	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
93 11 28	D	E	E	E	E	E	F	E	E	E	D	D	D	D	D	D	D	E	E	E	E	F	E	E	
93 11 29	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	D	D	D	D	D	
93 11 30	D	D	D	D	D	E	E	E	D	D	D	D	C	D	D	D	D	E	D	D	D	D	D	E	
93 12 1	E	E	D	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	F	F	F	G	F	
93 12 2	G	G	G	G	G	F	F	G	G	F	E	D	D	D	D	D	D	E	F	F	G	G	G	G	
93 12 3	G	G	G	G	G	F	F	G	G	F	E	D	D	D	D	D	D	D	D	D	D	D	D	D	
93 12 4	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
93 12 5	E	E	E	E	E	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
93 12 6	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
93 12 7	E	E	E	E	D	E	E	E	E	D	D	D	D	D	D	D	D	E	F	F	G	G	G	G	
93 12 8	G	G	G	G	G	G	G	G	F	E	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
93 12 9	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	E	E	E	F	
93 12 10	G	F	E	F	F	F	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
93 12 11	E	E	E	E	D	D	D	E	D	D	D	C	C	C	D	D	D	E	E	E	E	E	E	E	
93 12 12	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	D	C	D	
93 12 13	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
93 12 14	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	F	G	F	F	F	F	
93 12 15	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	
93 12 16	E	E	E	E	E	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
93 12 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	
93 12 18	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E
93 12 19	E	E	E	E	E	F	F	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
93 12 20	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	F	F	F	
93 12 21	F	F	F	F	F	F	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
93 12 22	D	D	D	D	D	D	D	D	D	D	C	C	D	D	D	D	D	E	E	E	F	E	E	E	
93 12 23	F	F	F	F	F	F	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	
93 12 24	E	E	D	E	E	E	F	E	D	D	D	D	D	D	D	D	D	E	D	E	D	E	D	D	
93 12 25	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	
93 12 26	E	E	E	E	E	E	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
93 12 27	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: 5P  
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JUL-DEC 1993  
 SITE IDENTIFIER: NPPD  
 DATA PERIOD EXAMINED: 7/ 1/93 - 12/31/93

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
93 12 28	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
93 12 29	E	E	E	E	E	E	D	D	D	D	D	C	C	C	C	D	D	D	E	E	F	F	F	F
93 12 30	F	F	E	E	E	D	D	D	D	D	D	C	D	D	D	E	E	E	E	F	F	F	F	E
93 12 31	F	F	F	F	F	G	G	G	F	E	D	D	D	D	D	D	E	E	E	E	E	E	E	E

## ATMOSPHERIC DIFFUSION ESTIMATES

The tables of atmospheric diffusion estimates in this section were generated using the computer code XOQDOQ. Data are given for 22 distances and 16 compass points (directions from site) centered on the Cooper Nuclear Station. Tables are presented for the ground-level (vent) and elevated (stack) release options separately, and for the following time periods: July-September, October-December, July-December, and January-December 1993.

Atmospheric Diffusion Estimates

Ground Level Releases

July-September 1993

VENTS GROUND LEVEL RELEASES - JUL-SEP 1993  
 NO DECAY, UNDEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES											
	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500	
SECTOR												
S	4.349E-05	1.483E-05	7.954E-06	3.975E-06	1.569E-06	8.392E-07	5.270E-07	3.651E-07	2.702E-07	2.096E-07	1.684E-07	
SSW	2.211E-05	7.775E-06	4.167E-06	2.067E-06	7.980E-07	4.202E-07	2.607E-07	1.788E-07	1.312E-07	1.010E-07	8.064E-08	
SW	1.694E-05	6.126E-06	3.292E-06	1.631E-06	6.271E-07	3.290E-07	2.035E-07	1.392E-07	1.019E-07	7.830E-08	6.238E-08	
WSW	1.682E-05	6.108E-06	3.269E-06	1.617E-06	6.194E-07	3.239E-07	1.997E-07	1.363E-07	9.949E-08	7.627E-08	6.064E-08	
W	9.074E-06	3.294E-06	1.758E-06	8.675E-07	3.316E-07	1.731E-07	1.066E-07	7.268E-08	5.303E-08	4.063E-08	3.228E-08	
WNW	1.388E-05	4.991E-06	2.656E-06	1.309E-06	4.999E-07	2.611E-07	1.609E-07	1.097E-07	8.012E-08	6.143E-08	4.884E-08	
NW	2.865E-05	1.002E-05	5.345E-06	2.644E-06	1.019E-06	5.360E-07	3.323E-07	2.279E-07	1.672E-07	1.287E-07	1.028E-07	
NNW	4.277E-05	1.453E-05	7.781E-06	3.885E-06	1.546E-06	8.323E-07	5.255E-07	3.657E-07	2.717E-07	2.115E-07	1.705E-07	
N	5.770E-05	1.970E-05	1.073E-05	5.407E-06	2.160E-06	1.165E-06	7.364E-07	5.130E-07	3.814E-07	2.970E-07	2.395E-07	
NNE	4.183E-05	1.386E-05	7.510E-06	3.793E-06	1.535E-06	8.354E-07	5.317E-07	3.724E-07	2.781E-07	2.175E-07	1.760E-07	
NE	2.125E-05	6.834E-06	3.667E-06	1.852E-06	7.552E-07	4.133E-07	2.641E-07	1.856E-07	1.390E-07	1.090E-07	8.835E-08	
ENE	1.980E-05	6.392E-06	3.445E-06	1.744E-06	7.069E-07	3.850E-07	2.451E-07	1.717E-07	1.282E-07	1.003E-07	8.113E-08	
E	1.841E-05	5.829E-06	3.024E-06	1.505E-06	6.184E-07	3.403E-07	2.184E-07	1.540E-07	1.157E-07	9.096E-08	7.394E-08	
ESE	1.459E-05	4.956E-06	2.718E-06	1.373E-06	5.444E-07	2.923E-07	1.841E-07	1.279E-07	9.486E-08	7.374E-08	5.937E-08	
SE	3.335E-05	1.079E-05	5.770E-06	2.903E-06	1.174E-06	6.389E-07	4.066E-07	2.848E-07	2.127E-07	1.663E-07	1.346E-07	
SSE	5.567E-05	1.780E-05	9.352E-06	4.677E-06	1.905E-06	1.042E-06	6.654E-07	4.674E-07	3.500E-07	2.743E-07	2.224E-07	

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES											
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000	
BEARING												
S	1.391E-07	7.103E-08	4.583E-08	2.614E-08	1.765E-08	1.304E-08	1.020E-08	8.290E-09	6.935E-09	5.928E-09	5.154E-09	
SSW	6.622E-08	3.304E-08	2.097E-08	1.169E-08	7.775E-09	5.678E-09	4.398E-09	3.547E-09	2.946E-09	2.502E-09	2.164E-09	
SW	5.113E-08	2.531E-08	1.597E-08	8.812E-09	5.808E-09	4.211E-09	3.242E-09	2.601E-09	2.150E-09	1.819E-09	1.566E-09	
WSW	4.960E-08	2.434E-08	1.525E-08	8.326E-09	5.441E-09	3.917E-09	2.998E-09	2.393E-09	1.970E-09	1.660E-09	1.424E-09	
W	2.640E-08	1.293E-08	8.092E-09	4.413E-09	2.883E-09	2.075E-09	1.588E-09	1.267E-09	1.043E-09	8.784E-10	7.537E-10	
WNW	3.997E-08	1.969E-08	1.237E-08	6.794E-09	4.466E-09	3.232E-09	2.484E-09	1.990E-09	1.644E-09	1.389E-09	1.196E-09	
NW	8.441E-08	4.219E-08	2.682E-08	1.499E-08	1.000E-08	7.320E-09	5.681E-09	4.590E-09	3.819E-09	3.249E-09	2.812E-09	
NNW	1.413E-07	7.294E-08	4.744E-08	2.738E-08	1.864E-08	1.386E-08	1.089E-08	8.897E-09	7.470E-09	6.406E-09	5.586E-09	
N	1.984E-07	1.023E-07	6.450E-08	3.829E-08	2.599E-08	1.929E-08	1.513E-08	1.234E-08	1.034E-08	8.856E-09	7.712E-09	
NNE	1.462E-07	7.629E-08	4.998E-08	2.910E-08	1.991E-08	1.487E-08	1.172E-08	9.596E-09	8.074E-09	6.936E-09	6.057E-09	
NE	7.356E-08	3.868E-08	2.547E-08	1.494E-08	1.028E-08	7.703E-09	6.094E-09	5.002E-09	4.219E-09	3.632E-09	3.178E-09	
ENE	6.741E-08	3.517E-08	2.304E-08	1.341E-08	9.178E-09	6.851E-09	5.402E-09	4.423E-09	3.722E-09	3.197E-09	2.793E-09	
E	6.170E-08	3.274E-08	2.170E-08	1.286E-08	8.917E-09	6.725E-09	5.348E-09	4.409E-09	3.733E-09	3.225E-09	2.830E-09	
ESE	4.913E-08	2.526E-08	1.637E-08	9.399E-09	6.372E-09	4.722E-09	3.701E-09	3.014E-09	2.525E-09	2.161E-09	1.880E-09	
SE	1.119E-07	5.846E-08	3.834E-08	2.239E-08	1.537E-08	1.150E-08	9.085E-09	7.451E-09	6.279E-09	5.401E-09	4.723E-09	
SSE	1.852E-07	9.750E-08	6.428E-08	3.780E-08	2.606E-08	1.957E-08	1.551E-08	1.275E-08	1.077E-08	9.283E-09	8.131E-09	

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

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	7.713E-06	1.779E-06	5.455E-07	2.742E-07	1.698E-07	7.497E-08	2.674E-08	1.313E-08	8.319E-09	5.939E-09	
SSW	4.035E-06	9.121E-07	2.705E-07	1.333E-07	8.133E-08	3.505E-08	1.201E-08	5.725E-09	3.561E-09	2.508E-09	
SW	3.183E-06	7.177E-07	2.113E-07	1.036E-07	6.293E-08	2.690E-08	9.067E-09	4.249E-09	2.612E-09	1.824E-09	
WSW	3.166E-06	7.097E-07	2.075E-07	1.011E-07	6.119E-08	2.591E-08	8.581E-09	3.956E-09	2.405E-09	1.664E-09	
W	1.703E-06	3.803E-07	1.108E-07	5.392E-08	3.258E-08	1.377E-08	4.551E-09	2.095E-09	1.273E-09	8.809E-10	
WNW	2.576E-06	5.734E-07	1.671E-07	8.146E-08	4.929E-08	2.094E-08	6.999E-09	3.262E-09	1.999E-09	1.393E-09	
NW	5.183E-06	1.165E-06	3.448E-07	1.699E-07	1.037E-07	4.474E-08	1.540E-08	7.379E-09	4.608E-09	3.256E-09	
NNW	7.550E-06	1.748E-06	5.434E-07	2.757E-07	1.719E-07	7.679E-08	2.795E-08	1.395E-08	6.924E-09	6.417E-09	
N	1.036E-05	2.439E-06	7.613E-07	3.868E-07	2.413E-07	1.078E-07	3.909E-08	1.941E-08	1.238E-08	8.872E-09	
NNE	7.269E-06	1.726E-06	5.489E-07	2.819E-07	1.773E-07	8.014E-08	2.966E-08	1.495E-08	9.623E-09	6.948E-09	
NE	3.564E-06	8.469E-07	2.725E-07	1.409E-07	8.898E-08	4.056E-08	1.521E-08	7.746E-09	5.016E-09	3.638E-09	
ENE	3.344E-06	7.942E-07	2.530E-07	1.300E-07	8.172E-08	3.694E-08	1.367E-08	6.892E-09	4.435E-09	3.293E-09	
E	2.972E-06	6.919E-07	2.252E-07	1.172E-07	7.445E-08	3.427E-08	1.307E-08	6.759E-09	4.420E-09	3.229E-09	
ESE	2.618E-06	6.164E-07	1.905E-07	9.625E-08	5.983E-08	2.661E-08	9.603E-09	4.753E-09	3.024E-09	2.165E-09	
SE	5.611E-06	1.321E-06	4.198E-07	2.156E-07	1.356E-07	6.139E-08	2.281E-08	1.156E-08	7.471E-09	5.410E-09	
SSE	9.151E-06	2.137E-06	6.865E-07	3.547E-07	2.240E-07	1.022E-07	3.846E-08	1.968E-08	1.278E-08	9.297E-09	

VENTS GROUND LEVEL RELEASES - JUL-SEP 1993  
 2.266 DAY DECAY, UNDEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)									DISTANCE IN MILES											
	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500	5.000	6.000	7.000	8.000	9.000	10.000	12.000	15.000	20.000	
S	4.344E-05	1.479E-05	7.927E-06	3.957E-06	1.558E-06	8.314E-07	5.208E-07	3.599E-07	2.657E-07	2.056E-07	1.648E-07	1.311E-07	1.041E-07	8.191E-08	6.547E-08	5.117E-08	4.000E-08	3.111E-08	2.444E-08	1.900E-08	1.479E-08
SSW	2.209E-05	7.759E-06	4.154E-06	2.058E-06	7.931E-07	4.167E-07	2.579E-07	1.765E-07	1.292E-07	9.931E-08	7.910E-08	6.255E-08	4.962E-08	3.891E-08	3.000E-08	2.311E-08	1.800E-08	1.400E-08	1.100E-08	8.500E-09	6.600E-09
SW	1.692E-05	6.114E-06	3.282E-06	1.624E-06	6.233E-07	3.264E-07	2.015E-07	1.375E-07	1.005E-07	7.704E-08	6.125E-08	4.811E-08	3.744E-08	2.900E-08	2.211E-08	1.700E-08	1.300E-08	1.000E-08	7.800E-09	6.100E-09	4.800E-09
WSW	1.680E-05	6.097E-06	3.260E-06	1.611E-06	6.159E-07	3.215E-07	1.979E-07	1.347E-07	1.005E-07	7.704E-08	6.125E-08	4.811E-08	3.744E-08	2.900E-08	2.211E-08	1.700E-08	1.300E-08	1.000E-08	7.800E-09	6.100E-09	4.800E-09
W	9.068E-06	3.290E-06	1.755E-06	8.655E-07	3.304E-07	1.723E-07	1.060E-07	7.217E-08	5.260E-08	4.025E-08	3.194E-08	2.500E-08	1.900E-08	1.400E-08	1.100E-08	8.500E-09	6.600E-09	5.100E-09	3.900E-09	3.000E-09	2.300E-09
WNW	1.387E-05	4.984E-06	2.650E-06	1.305E-06	4.978E-07	2.597E-07	1.598E-07	1.088E-07	7.936E-08	6.076E-08	4.824E-08	3.744E-08	2.900E-08	2.211E-08	1.700E-08	1.300E-08	1.000E-08	7.800E-09	6.100E-09	4.800E-09	3.700E-09
NW	2.863E-05	1.000E-05	5.333E-06	2.636E-06	1.014E-06	5.326E-07	3.297E-07	2.257E-07	1.653E-07	1.271E-07	1.013E-07	7.800E-08	6.100E-08	4.800E-08	3.700E-08	2.900E-08	2.211E-08	1.700E-08	1.300E-08	1.000E-08	7.800E-09
NNW	4.272E-05	1.450E-05	7.758E-06	3.864E-06	1.537E-06	8.256E-07	5.201E-07	3.612E-07	2.678E-07	2.081E-07	1.674E-07	1.311E-07	1.041E-07	8.191E-08	6.547E-08	5.117E-08	4.000E-08	3.111E-08	2.444E-08	1.900E-08	1.479E-08
N	5.764E-05	1.966E-05	1.070E-05	5.386E-06	2.147E-06	1.156E-06	7.289E-07	5.067E-07	3.759E-07	2.922E-07	2.351E-07	1.875E-07	1.479E-07	1.147E-07	8.966E-08	7.000E-08	5.400E-08	4.200E-08	3.300E-08	2.500E-08	1.900E-08
NNE	4.179E-05	1.383E-05	7.485E-06	3.776E-06	1.525E-06	8.281E-07	5.258E-07	3.675E-07	2.738E-07	2.137E-07	1.725E-07	1.366E-07	1.068E-07	8.399E-08	6.639E-08	5.117E-08	4.000E-08	3.111E-08	2.444E-08	1.900E-08	1.479E-08
NE	2.122E-05	6.817E-06	3.654E-06	1.843E-06	7.497E-07	4.092E-07	2.609E-07	1.829E-07	1.366E-07	1.068E-07	8.399E-08	6.639E-08	5.117E-08	4.000E-08	3.111E-08	2.444E-08	1.900E-08	1.479E-08	1.147E-08	8.966E-08	7.000E-08
ENE	1.977E-05	6.375E-06	3.432E-06	1.735E-06	7.012E-07	3.809E-07	2.418E-07	1.689E-07	1.258E-07	9.811E-08	7.917E-08	6.255E-08	4.962E-08	3.891E-08	3.000E-08	2.311E-08	1.800E-08	1.400E-08	1.100E-08	8.500E-09	6.600E-09
E	1.839E-05	5.817E-06	3.015E-06	1.499E-06	6.144E-07	3.374E-07	2.161E-07	1.520E-07	1.140E-07	8.938E-08	7.249E-08	5.685E-08	4.400E-08	3.400E-08	2.600E-08	2.000E-08	1.500E-08	1.100E-08	8.500E-09	6.600E-09	5.100E-09
ESE	1.458E-05	4.946E-06	2.709E-06	1.367E-06	5.408E-07	2.897E-07	1.821E-07	1.262E-07	9.341E-08	7.545E-08	5.820E-08	4.500E-08	3.500E-08	2.700E-08	2.100E-08	1.600E-08	1.200E-08	9.000E-09	7.000E-09	5.400E-09	4.200E-09
SE	3.331E-05	1.077E-05	5.751E-06	2.891E-06	1.167E-06	6.333E-07	4.021E-07	2.810E-07	2.094E-07	1.634E-07	1.319E-07	1.041E-07	8.191E-08	6.547E-08	5.117E-08	4.000E-08	3.111E-08	2.444E-08	1.900E-08	1.479E-08	1.147E-08
SSE	5.561E-05	1.776E-05	9.320E-06	4.655E-06	1.891E-06	1.032E-06	6.574E-07	4.607E-07	3.441E-07	2.690E-07	2.176E-07	1.700E-07	1.300E-07	1.000E-07	7.800E-08	6.100E-08	4.800E-08	3.700E-08	2.900E-08	2.211E-08	1.700E-08

BEARING	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)									DISTANCE IN MILES											
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000	60.000	70.000	80.000	90.000	100.000	120.000	150.000	200.000		
S	1.358E-07	6.849E-08	4.364E-08	2.428E-08	1.599E-08	1.153E-08	8.794E-09	6.976E-09	5.694E-09	4.749E-09	4.029E-09	3.474E-09	2.974E-09	2.524E-09	2.124E-09	1.774E-09	1.474E-09	1.224E-09	1.024E-09	8.494E-10	7.144E-10
SSW	6.482E-08	3.199E-08	2.008E-08	1.096E-08	7.131E-09	5.097E-09	3.864E-09	3.051E-09	2.481E-09	2.063E-09	1.747E-09	1.487E-09	1.227E-09	1.027E-09	8.527E-10	7.177E-10	6.027E-10	5.027E-10	4.227E-10	3.527E-10	2.927E-10
SW	5.010E-08	2.455E-08	1.533E-08	8.286E-09	5.351E-09	3.802E-09	2.868E-09	2.254E-09	1.827E-09	1.514E-09	1.278E-09	1.080E-09	9.000E-10	7.500E-10	6.200E-10	5.100E-10	4.200E-10	3.500E-10	2.900E-10	2.400E-10	1.900E-10
WSW	4.868E-08	2.366E-08	1.468E-08	7.866E-09	5.044E-09	3.564E-09	2.677E-09	2.097E-09	1.694E-09	1.401E-09	1.180E-09	1.000E-09	8.400E-10	7.000E-10	5.800E-10	4.800E-10	4.000E-10	3.300E-10	2.700E-10	2.200E-10	1.800E-10
W	2.609E-08	1.270E-08	7.901E-09	4.258E-09	2.748E-09	1.954E-09	1.477E-09	1.165E-09	9.472E-10	7.884E-10	6.685E-10	5.685E-10	4.800E-10	4.000E-10	3.300E-10	2.700E-10	2.200E-10	1.800E-10	1.500E-10	1.200E-10	1.000E-10
WNW	3.943E-08	1.928E-08	1.203E-08	6.514E-09	4.221E-09	3.010E-09	2.281E-09	1.802E-09	1.467E-09	1.222E-09	1.037E-09	8.700E-10	7.300E-10	6.100E-10	5.100E-10	4.300E-10	3.600E-10	3.000E-10	2.500E-10	2.100E-10	1.700E-10
NW	8.307E-08	4.118E-08	2.596E-08	1.428E-08	9.372E-09	6.750E-09	5.156E-09	4.099E-09	3.356E-09	2.810E-09	2.395E-09	2.000E-09	1.680E-09	1.420E-09	1.200E-09	1.000E-09	8.500E-10	7.200E-10	6.000E-10	5.000E-10	4.200E-10
NNW	1.384E-07	7.067E-08	4.547E-08	2.567E-08	1.710E-08	1.244E-08	9.572E-09	7.649E-09	6.285E-09	5.275E-09	4.502E-09	3.800E-09	3.200E-09	2.700E-09	2.300E-09	1.900E-09	1.600E-09	1.300E-09	1.100E-09	9.000E-10	7.500E-10
N	1.944E-07	9.919E-08	6.377E-08	3.594E-08	2.389E-08	1.735E-08	1.333E-08	1.064E-08	8.735E-09	7.326E-09	6.248E-09	5.300E-09	4.500E-09	3.800E-09	3.200E-09	2.700E-09	2.300E-09	1.900E-09	1.600E-09	1.300E-09	1.100E-09
NNE	1.430E-07	7.378E-08	4.778E-08	2.720E-08	1.820E-08	1.328E-08	1.024E-08	8.200E-09	6.748E-09	5.670E-09	4.844E-09	4.100E-09	3.400E-09	2.900E-09	2.400E-09	2.000E-09	1.700E-09	1.400E-09	1.200E-09	1.000E-09	8.500E-10
NE	7.175E-08	3.726E-08	2.423E-08	1.386E-08	9.299E-09	6.799E-09	5.247E-09	4.203E-09	3.459E-09	2.906E-09	2.482E-09	2.128E-09	1.828E-09	1.578E-09	1.328E-09	1.128E-09	9.494E-10	8.044E-10	6.844E-10	5.844E-10	5.044E-10
ENE	6.560E-08	3.376E-08	2.181E-08	1.235E-08	8.223E-09	5.973E-09	4.584E-09	3.652E-09	2.992E-09	2.502E-09	2.128E-09	1.828E-09	1.578E-09	1.328E-09	1.128E-09	9.494E-10	8.044E-10	6.844E-10	5.844E-10	5.044E-10	4.300E-09
E	6.036E-08	3.167E-08	2.076E-08	1.203E-08	8.159E-09	6.018E-09	4.681E-09	3.75E-09	3.127E-09	2.642E-09	2.269E-09	1.929E-09	1.649E-09	1.429E-09	1.209E-09	1.029E-09	8.694E-10	7.394E-10	6.394E-10	5.594E-10	4.894E-10
ESE	4.805E-08	2.443E-08	1.567E-08	8.800E-09	5.839E-09	4.236E-09	3.251E-09	2.593E-09	2.128E-09	1.784E-09	1.521E-09	1.301E-09	1.121E-09	9.611E-10	8.211E-10	7.011E-10	6.011E-10	5.211E-10	4.511E-10	3.911E-10	3.411E-10
SE	1.094E-07	5.651E-08	3.664E-08	2.091E-08	1.402E-08	1.026E-08	7.921E-09	6.350E-09	5.232E-09	4.400E-09	3.762E-09	3.200E-09	2.700E-09	2.300E-09	1.900E-09	1.600E-09	1.300E-09	1.100E-09	9.000E-10	7.500E-10	6.300E-10
SSE	1.807E-07	9.393E-08	6.114E-08	3.505E-08	2.356E-08	1.725E-08	1.333E-08	1.068E-08	8.799E-09	7.397E-09	6.310E-09	5.400E-09	4.600E-09	3.900E-09	3.300E-09	2.800E-09	2.400E-09	2.000E-09	1.700E-09	1.400E-09	1.200E-09

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

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	7.688E-06	1.768E-06	5.393E-07	2.697E-07	1.662E-07	7.242E-08	2.490E-08	1.162E-08	7.007E-09	4.762E-09
SSW	4.024E-06	9.869E-07	2.677E-07	1.313E-07	7.980E-08	3.399E-08	1.128E-08	5.146E-09	3.066E-09	2.070E-09
SW	3.174E-06	7.138E-07	2.092E-07	1.021E-07	6.180E-08	2.613E-08	8.546E-09	3.841E-09	2.267E-09	1.519E-09
WSW	3.158E-06	7.062E-07	2.056E-07	9.985E-08	6.017E-08	2.523E-08	8.127E-09	3.604E-09	2.109E-09	1.406E-09
W	1.701E-06	3.791E-07	1.102E-07	5.348E-08	3.223E-08	1.354E-08	4.396E-09	1.975E-09	1.171E-09	7.910E-10
WNW	2.571E-06	5.714E-07	1.660E-07	8.069E-08	4.869E-08	2.053E-08	6.720E-09	3.041E-09	1.811E-09	1.226E-09
NW	5.172E-06	1.160E-06	3.422E-07	1.680E-07	1.022E-07	4.373E-08	1.470E-08	6.811E-09	4.118E-09	2.818E-09
NNW	7.529E-06	1.739E-06	5.380E-07	2.717E-07	1.687E-07	7.451E-08	2.626E-08	1.254E-08	7.679E-09	5.288E-09
N	1.933E-05	2.426E-06	7.538E-07	3.814E-07	2.369E-07	1.046E-07	3.677E-08	1.748E-08	1.068E-08	7.344E-09
NNE	7.247E-06	1.715E-06	5.431E-07	2.777E-07	1.738E-07	7.761E-08	2.777E-08	1.338E-08	8.230E-09	5.683E-09
NE	3.552E-06	8.413E-07	2.692E-07	1.385E-07	8.702E-08	3.913E-08				



VENTS GROUND LEVEL RELEASES - JUL-SEP 1993  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)			DISTANCE IN MILES							
	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	4.115E-05	1.353E-05	7.081E-06	3.475E-06	1.330E-06	5.931E-07	4.254E-07	2.868E-07	2.098E-07	1.600E-07	1.266E-07
SSW	2.092E-05	7.096E-06	3.710E-06	1.807E-06	6.766E-07	3.471E-07	2.105E-07	1.415E-07	1.019E-07	7.717E-08	6.064E-08
SW	1.603E-05	5.591E-06	2.931E-06	1.426E-06	5.716E-07	2.718E-07	1.644E-07	1.102E-07	7.920E-08	5.983E-08	4.692E-08
WSW	1.591E-05	5.575E-06	2.911E-06	1.414E-06	5.252E-07	2.676E-07	1.614E-07	1.079E-07	7.735E-08	5.830E-08	4.563E-08
W	8.586E-06	3.007E-06	1.566E-06	7.589E-07	2.813E-07	1.432E-07	8.624E-08	5.762E-08	4.128E-08	3.111E-08	2.434E-08
WNW	1.314E-05	4.556E-06	2.365E-06	1.145E-06	4.240E-07	2.159E-07	1.301E-07	8.695E-08	6.235E-08	4.701E-08	3.680E-08
NW	2.711E-05	9.145E-06	4.760E-06	2.312E-06	8.641E-07	4.430E-07	2.686E-07	1.805E-07	1.300E-07	9.847E-08	7.738E-08
NNW	4.046E-05	1.326E-05	6.928E-06	3.397E-06	1.311E-06	6.876E-07	4.244E-07	2.895E-07	2.112E-07	1.616E-07	1.283E-07
N	5.459E-05	1.798E-05	9.555E-06	4.728E-06	1.831E-06	9.625E-07	5.948E-07	4.060E-07	2.964E-07	2.270E-07	1.801E-07
NNE	3.958E-05	1.265E-05	6.686E-06	3.316E-06	1.301E-06	6.900E-07	4.293E-07	2.947E-07	2.161E-07	1.661E-07	1.323E-07
NE	2.010E-05	6.236E-06	3.264E-06	1.619E-06	6.400E-07	3.413E-07	2.132E-07	1.468E-07	1.079E-07	8.317E-08	6.638E-08
ENE	1.873E-05	5.833E-06	3.067E-06	1.524E-06	5.990E-07	3.178E-07	1.978E-07	1.357E-07	9.952E-08	7.649E-08	6.091E-08
E	1.742E-05	5.320E-06	2.693E-06	1.316E-06	5.242E-07	2.811E-07	1.764E-07	1.219E-07	8.991E-08	6.948E-08	5.559E-08
ESE	1.381E-05	4.523E-06	2.420E-06	1.200E-06	4.615E-07	2.414E-07	1.487E-07	1.012E-07	7.370E-08	5.633E-08	4.463E-08
SE	3.155E-05	9.847E-06	5.137E-06	2.538E-06	9.954E-07	5.278E-07	3.283E-07	2.253E-07	1.652E-07	1.270E-07	1.012E-07
SSE	5.267E-05	1.624E-05	8.326E-06	4.089E-06	1.614E-06	8.602E-07	5.371E-07	3.698E-07	2.718E-07	2.094E-07	1.671E-07

BEARING	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)				DISTANCE IN MILES							
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000	
S	1.030E-07	4.956E-08	3.036E-08	1.592E-08	1.002E-08	6.965E-09	5.155E-09	3.984E-09	3.178E-09	2.597E-09	2.163E-09	
SSW	4.906E-08	2.308E-08	1.392E-08	7.137E-09	4.430E-09	3.046E-09	2.235E-09	1.715E-09	1.360E-09	1.106E-09	9.167E-10	
SW	3.790E-08	1.769E-08	1.060E-08	5.385E-09	3.314E-09	2.264E-09	1.651E-09	1.261E-09	9.953E-10	8.060E-10	6.660E-10	
WSW	3.678E-08	1.702E-08	1.013E-08	5.095E-09	3.110E-09	2.110E-09	1.531E-09	1.164E-09	9.150E-10	7.384E-10	6.082E-10	
W	1.961E-08	9.071E-09	5.400E-09	2.717E-09	1.661E-09	1.129E-09	8.204E-10	6.246E-10	4.920E-10	3.978E-10	3.282E-10	
WNW	2.968E-08	1.380E-08	8.245E-09	4.175E-09	2.567E-09	1.752E-09	1.279E-09	9.767E-10	7.716E-10	6.253E-10	5.172E-10	
NW	6.263E-08	2.954E-08	1.785E-08	9.196E-09	5.733E-09	3.958E-09	2.914E-09	2.244E-09	1.784E-09	1.455E-09	1.210E-09	
NNW	1.047E-07	5.096E-08	3.149E-08	1.672E-08	1.062E-08	7.436E-09	5.537E-09	4.301E-09	3.447E-09	2.829E-09	2.365E-09	
N	1.470E-07	7.151E-08	4.415E-08	2.338E-08	1.482E-08	1.035E-08	7.695E-09	5.969E-09	4.776E-09	3.914E-09	3.269E-09	
NNE	1.083E-07	5.328E-08	3.315E-08	1.775E-08	1.133E-08	7.965E-09	5.947E-09	4.631E-09	3.718E-09	3.056E-09	2.558E-09	
NE	5.445E-08	2.698E-08	1.687E-08	9.096E-09	5.833E-09	4.113E-09	3.079E-09	2.402E-09	1.932E-09	1.590E-09	1.333E-09	
ENE	4.986E-08	2.451E-08	1.524E-08	8.148E-09	5.194E-09	3.645E-09	2.718E-09	2.113E-09	1.695E-09	1.391E-09	1.163E-09	
E	4.571E-08	2.286E-08	1.440E-08	7.848E-09	5.078E-09	3.605E-09	2.715E-09	2.130E-09	1.721E-09	1.422E-09	1.197E-09	
ESE	3.639E-08	1.764E-08	1.086E-08	5.736E-09	3.499E-09	2.533E-09	1.881E-09	1.457E-09	1.165E-09	9.545E-10	7.967E-10	
SE	8.286E-08	4.082E-08	2.543E-08	1.365E-08	8.742E-09	6.158E-09	4.607E-09	3.593E-09	2.889E-09	2.377E-09	1.993E-09	
SSE	1.371E-07	6.801E-08	4.258E-08	2.300E-08	1.479E-08	1.045E-08	7.833E-09	6.120E-09	4.928E-09	4.061E-09	3.408E-09	

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

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	6.912E-06	1.524E-06	4.422E-07	2.134E-07	1.278E-07	5.291E-08	1.651E-08	7.055E-09	4.011E-09	2.608E-09
SSW	3.617E-06	7.814E-07	2.193E-07	1.073E-07	6.125E-08	2.478E-08	7.440E-09	3.091E-09	1.728E-09	1.111E-09
SW	2.853E-06	6.149E-07	1.714E-07	8.038E-08	4.740E-08	1.903E-08	5.624E-09	2.299E-09	1.271E-09	8.103E-10
WSW	2.838E-06	6.082E-07	1.683E-07	7.882E-08	4.611E-08	1.835E-08	5.332E-09	2.145E-09	1.174E-09	7.425E-10
W	1.527E-06	3.261E-07	8.997E-08	4.307E-08	2.459E-08	9.781E-09	2.844E-09	1.147E-09	6.301E-10	4.000E-10
WNW	2.310E-06	4.916E-07	1.357E-07	6.353E-08	3.719E-08	1.486E-08	4.365E-09	1.780E-09	9.848E-10	6.286E-10
NW	4.647E-06	9.988E-07	2.799E-07	1.324E-07	7.817E-08	3.170E-08	9.580E-09	4.014E-09	2.260E-09	1.462E-09
NNW	6.767E-06	1.497E-06	4.486E-07	2.147E-07	1.294E-07	5.425E-08	1.729E-08	7.525E-09	4.329E-09	2.840E-09
N	9.281E-06	2.089E-06	6.174E-07	3.013E-07	1.818E-07	7.614E-08	2.419E-08	1.048E-08	6.008E-09	3.931E-09
NNE	6.514E-06	1.477E-06	4.450E-07	2.195E-07	1.334E-07	5.656E-08	1.832E-08	8.056E-09	4.659E-09	3.068E-09
NE	3.193E-06	7.247E-07	2.208E-07	1.096E-07	6.693E-08	2.859E-08	9.374E-09	4.158E-09	2.416E-09	1.596E-09
ENE	2.996E-06	6.796E-07	2.050E-07	1.011E-07	6.144E-08	2.602E-08	8.411E-09	3.687E-09	2.126E-09	1.397E-09
E	2.665E-06	5.921E-07	1.825E-07	9.127E-08	5.605E-08	2.418E-08	8.073E-09	3.642E-09	2.141E-09	1.427E-09
ESE	2.345E-06	5.278E-07	1.544E-07	7.494E-08	4.504E-08	1.879E-08	5.939E-09	2.564E-09	1.467E-09	9.586E-10
SE	5.029E-06	1.130E-06	3.403E-07	1.698E-07	1.020E-07	4.332E-08	1.409E-08	6.227E-09	3.614E-09	2.386E-09
SSE	8.202E-06	1.829E-06	5.563E-07	2.709E-07	1.685E-07	7.206E-08	2.370E-08	1.056E-08	6.155E-09	4.076E-09

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VENTS GROUND LEVEL RELEASES - JUL-SEP 1993  
CORRECTED FOR OPEN TERRAIN RECIRCULATION

DIRECTION FROM SITE	RELATIVE DEPOSITION PER UNIT AREA (M**2) AT FIXED POINTS BY DOWNWIND SECTORS										
	DISTANCES IN MILES										
	0.25	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S	1.807E-07	6.111E-08	3.138E-08	1.492E-08	5.358E-09	2.657E-09	1.565E-09	1.025E-09	7.209E-10	5.343E-10	4.117E-10
SSW	1.226E-07	4.146E-08	2.129E-08	1.012E-08	3.636E-09	1.803E-09	1.062E-09	6.951E-10	4.891E-10	3.625E-10	2.793E-10
SW	8.866E-08	2.998E-08	1.539E-08	7.318E-09	2.629E-09	1.304E-09	7.676E-10	5.026E-10	3.537E-10	2.621E-10	2.020E-10
WSW	8.975E-08	3.035E-08	1.558E-08	7.409E-09	2.661E-09	1.320E-09	7.771E-10	5.088E-10	3.580E-10	2.653E-10	2.045E-10
W	7.333E-08	2.480E-08	1.273E-08	6.053E-09	2.174E-09	1.078E-09	6.349E-10	4.157E-10	2.925E-10	2.168E-10	1.671E-10
WNW	1.138E-07	3.849E-08	1.976E-08	9.396E-09	3.375E-09	1.674E-09	9.856E-10	6.453E-10	4.541E-10	3.365E-10	2.593E-10
NW	2.332E-07	7.885E-08	4.048E-08	1.925E-08	6.913E-09	3.428E-09	2.019E-09	1.322E-09	9.301E-10	6.893E-10	5.312E-10
NNW	2.463E-07	8.330E-08	4.277E-08	2.033E-08	7.304E-09	3.622E-09	2.133E-09	1.397E-09	9.827E-10	7.283E-10	5.612E-10
N	3.263E-07	1.104E-07	5.666E-08	2.694E-08	9.676E-09	4.798E-09	2.825E-09	1.850E-09	1.302E-09	9.647E-10	7.434E-10
NNE	1.753E-07	5.926E-08	3.043E-08	1.447E-08	5.196E-09	2.577E-09	1.517E-09	9.936E-10	6.991E-10	5.181E-10	3.993E-10
NE	8.218E-08	2.779E-08	1.427E-08	6.784E-09	2.437E-09	1.208E-09	7.115E-10	4.659E-10	3.278E-10	2.430E-10	1.872E-10
ENE	5.813E-08	1.966E-08	1.009E-08	4.798E-09	1.724E-09	8.547E-10	5.033E-10	3.295E-10	2.319E-10	1.718E-10	1.324E-10
E	6.132E-08	2.074E-08	1.065E-08	5.062E-09	1.818E-09	9.017E-10	5.309E-10	3.476E-10	2.446E-10	1.813E-10	1.397E-10
ESE	7.228E-08	2.444E-08	1.255E-08	5.966E-09	2.143E-09	1.063E-09	6.258E-10	4.098E-10	2.883E-10	2.137E-10	1.647E-10
SE	1.435E-07	4.852E-08	2.491E-08	1.184E-08	4.254E-09	2.110E-09	1.242E-09	8.135E-10	5.724E-10	4.242E-10	3.269E-10
SSE	2.235E-07	7.556E-08	3.880E-08	1.845E-08	6.625E-09	3.286E-09	1.935E-09	1.267E-09	8.914E-10	6.606E-10	5.091E-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	3.271E-10	1.453E-10	8.802E-11	4.449E-11	2.693E-11	1.805E-11	1.294E-11	9.714E-12	7.553E-12	6.033E-12	4.924E-12
SSW	2.219E-10	9.858E-11	5.972E-11	3.018E-11	1.827E-11	1.225E-11	8.777E-12	6.591E-12	5.124E-12	4.093E-12	3.341E-12
SW	1.605E-10	7.128E-11	4.318E-11	2.182E-11	1.321E-11	8.857E-12	6.346E-12	4.765E-12	3.705E-12	2.960E-12	2.416E-12
WSW	1.624E-10	7.216E-11	4.371E-11	2.209E-11	1.337E-11	8.966E-12	6.425E-12	4.824E-12	3.751E-12	2.996E-12	2.446E-12
W	1.327E-10	5.896E-11	3.572E-11	1.805E-11	1.093E-11	7.326E-12	5.249E-12	3.942E-12	3.065E-12	2.448E-12	1.998E-12
WNW	2.060E-10	9.152E-11	5.544E-11	2.802E-11	1.696E-11	1.137E-11	8.148E-12	6.119E-12	4.757E-12	3.890E-12	3.102E-12
NW	4.220E-10	1.875E-10	1.136E-10	5.740E-11	3.474E-11	2.329E-11	1.669E-11	1.253E-11	9.744E-12	7.784E-12	6.353E-12
NNW	4.459E-10	1.981E-10	1.200E-10	6.064E-11	3.671E-11	2.461E-11	1.763E-11	1.324E-11	1.030E-11	8.224E-12	6.713E-12
N	5.906E-10	2.624E-10	1.589E-10	8.033E-11	4.862E-11	3.260E-11	2.336E-11	1.754E-11	1.364E-11	1.089E-11	8.892E-12
NNE	3.172E-10	1.409E-10	8.536E-11	4.314E-11	2.611E-11	1.751E-11	1.255E-11	9.420E-12	7.324E-12	5.851E-12	4.776E-12
NE	1.487E-10	6.608E-11	4.003E-11	2.023E-11	1.224E-11	8.210E-12	5.883E-12	4.417E-12	3.435E-12	2.744E-12	2.239E-12
ENE	1.052E-10	4.674E-11	2.831E-11	1.431E-11	8.661E-12	5.807E-12	4.161E-12	3.124E-12	2.429E-12	1.941E-12	1.584E-12
E	1.110E-10	4.930E-11	2.987E-11	1.510E-11	9.136E-12	6.126E-12	4.389E-12	3.296E-12	2.563E-12	2.047E-12	1.671E-12
ESE	1.308E-10	5.811E-11	3.520E-11	1.779E-11	1.077E-11	7.221E-12	5.174E-12	3.95E-12	3.021E-12	2.413E-12	1.970E-12
SE	2.597E-10	1.154E-10	6.988E-11	3.532E-11	2.138E-11	1.433E-11	1.027E-11	7.713E-12	5.997E-12	4.790E-12	3.910E-12
SSE	4.044E-10	1.797E-10	1.088E-10	5.501E-11	3.329E-11	2.232E-11	1.600E-11	1.201E-11	9.339E-12	7.460E-12	6.089E-12

DIRECTION FROM SITE	RELATIVE DEPOSITION PER UNIT AREA (M**2) BY DOWNWIND SECTORS									
	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	3.067E-08	6.282E-09	1.640E-09	7.365E-10	4.167E-10	1.602E-10	4.636E-11	1.837E-11	9.811E-12	6.073E-12
SSW	2.081E-08	4.262E-09	1.113E-09	4.997E-10	2.827E-10	1.087E-10	3.145E-11	1.247E-11	6.657E-12	4.120E-12
SW	1.505E-08	3.082E-09	8.045E-10	3.613E-10	2.044E-10	7.861E-11	2.274E-11	9.013E-12	4.813E-12	2.979E-12
WSW	1.523E-08	3.120E-09	8.145E-10	3.658E-10	2.069E-10	7.958E-11	2.302E-11	9.125E-12	4.873E-12	3.816E-12
W	1.245E-08	2.549E-09	6.655E-10	2.989E-10	1.691E-10	6.502E-11	1.881E-11	7.455E-12	3.981E-12	2.464E-12
WNW	1.932E-08	3.957E-09	1.833E-09	4.639E-10	2.625E-10	1.009E-10	2.920E-11	1.157E-11	6.180E-12	3.825E-12
NW	3.957E-08	8.105E-09	2.116E-09	9.503E-10	5.376E-10	2.067E-10	5.981E-11	2.370E-11	1.266E-11	7.835E-12
NNW	4.181E-08	8.564E-09	2.236E-09	1.004E-09	5.680E-10	2.184E-10	6.319E-11	2.504E-11	1.337E-11	8.278E-12
N	5.538E-08	1.134E-08	2.961E-09	1.330E-09	7.524E-10	2.893E-10	8.371E-11	3.318E-11	1.772E-11	1.097E-11
NNE	2.974E-08	6.092E-09	1.590E-09	7.143E-10	4.041E-10	1.554E-10	4.495E-11	1.782E-11	9.515E-12	5.889E-12
NE	1.395E-08	2.857E-09	7.458E-10	3.350E-10	1.895E-10	7.287E-11	2.108E-11	8.355E-12	4.462E-12	2.762E-12
ENE	9.865E-09	2.021E-09	5.275E-10	2.369E-10	1.340E-10	5.154E-11	1.491E-11	5.910E-12	3.156E-12	1.953E-12
E	1.041E-08	2.132E-09	5.565E-10	2.499E-10	1.414E-10	5.437E-11	1.573E-11	6.234E-12	3.329E-12	2.061E-12
ESE	1.227E-08	2.513E-09	6.559E-10	2.946E-10	1.667E-10	6.409E-11	1.854E-11	7.348E-12	3.924E-12	2.429E-12
SE	2.435E-08	4.988E-09	1.302E-09	5.848E-10	3.308E-10	1.272E-10	3.681E-11	1.459E-11	7.790E-12	4.822E-12
SSE	3.792E-08	7.768E-09	2.028E-09	9.107E-10	5.152E-10	1.981E-10	5.732E-11	2.272E-11	1.213E-11	7.509E-12

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VENTS GROUND LEVEL RELEASES - JUL-SEP 1993  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION  
 SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE		X/Q		X/Q		X/Q		D/Q
			(MILES)	(METERS)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(PER SQ.METER)	
					NO DECAY 2.260 DAY DECAY		NO DECAY 2.260 DAY DECAY		8.000 DAY DECAY		
				UNDEPLETED	UNDEPLETED	UNDEPLETED	UNDEPLETED	DEPLETED			
A	SITE BOUNDARY	S	0.80	1287.	6.834E-06	6.809E-06	6.809E-06	6.809E-06	6.809E-06	2.668E-08	
A	SITE BOUNDARY	SSW	0.82	1327.	3.313E-06	3.301E-06	3.301E-06	3.301E-06	2.933E-06	1.671E-08	
A	SITE BOUNDARY	SW	0.98	1569.	1.733E-06	1.727E-06	1.727E-06	1.727E-06	1.518E-06	7.809E-09	
A	SITE BOUNDARY	WSW	0.93	1489.	1.954E-06	1.947E-06	1.947E-06	1.947E-06	1.717E-06	9.053E-09	
A	SITE BOUNDARY	W	0.91	1468.	1.086E-06	1.084E-06	1.084E-06	1.084E-06	9.559E-07	7.675E-09	
A	SITE BOUNDARY	WNW	0.94	1509.	1.531E-06	1.527E-06	1.527E-06	1.527E-06	1.345E-06	1.109E-08	
A	SITE BOUNDARY	NW	0.81	1307.	4.489E-06	4.398E-06	4.398E-06	4.398E-06	3.908E-06	3.306E-08	
A	SITE BOUNDARY	NNW	0.69	1106.	8.902E-06	8.878E-06	8.878E-06	8.878E-06	7.965E-06	4.953E-08	
A	SITE BOUNDARY	N	0.67	1086.	1.257E-05	1.254E-05	1.254E-05	1.254E-05	1.126E-05	6.766E-08	
A	SITE BOUNDARY	NNE	0.60	965.	1.051E-05	1.049E-05	1.049E-05	1.049E-05	9.484E-06	4.403E-08	
A	SITE BOUNDARY	NE	0.62	1005.	4.839E-06	4.824E-06	4.824E-06	4.824E-06	4.351E-06	1.941E-08	
A	SITE BOUNDARY	ENE	0.59	945.	4.975E-06	4.959E-06	4.959E-06	4.959E-06	4.493E-06	1.512E-08	
A	SITE BOUNDARY	E	0.53	845.	5.373E-06	5.361E-06	5.361E-06	5.361E-06	4.889E-06	1.915E-08	
A	SITE BOUNDARY	ESE	0.54	865.	4.428E-06	4.418E-06	4.418E-06	4.418E-06	4.323E-06	2.173E-08	
A	SITE BOUNDARY	SE	0.65	1046.	7.171E-06	7.151E-06	7.151E-06	7.151E-06	6.435E-06	3.169E-08	
A	SITE BOUNDARY	SSE	0.81	1307.	7.721E-06	7.698E-06	7.698E-06	7.698E-06	6.846E-06	3.168E-08	
A	NEAR. RESIDENCE	SW	1.40	2253.	7.347E-07	7.306E-07	7.306E-07	7.306E-07	6.264E-07	3.118E-09	
A	NEAR. RESIDENCE	WSW	1.30	2092.	8.635E-07	8.593E-07	8.593E-07	8.593E-07	7.407E-07	3.800E-09	
A	NEAR. RESIDENCE	W	1.00	1609.	8.675E-07	8.655E-07	8.655E-07	8.655E-07	7.589E-07	6.053E-09	
A	NEAR. RESIDENCE	WNW	1.60	2575.	4.312E-07	4.293E-07	4.293E-07	4.293E-07	3.638E-07	2.880E-09	
A	NEAR. RESIDENCE	NW	0.90	1448.	3.418E-06	3.409E-06	3.409E-06	3.409E-06	3.010E-06	2.529E-08	
A	NEAR. RESIDENCE	NNW	2.00	3219.	8.323E-07	8.256E-07	8.256E-07	8.256E-07	6.876E-07	3.622E-09	
A	NEAR. RESIDENCE	NNE	2.70	4345.	4.569E-07	4.515E-07	4.515E-07	4.515E-07	3.659E-07	1.268E-09	
A	NEAR. RESIDENCE	ENE	1.70	2736.	5.409E-07	5.360E-07	5.360E-07	5.360E-07	4.534E-07	1.267E-09	
A	NEAR. RESIDENCE	E	1.80	2897.	4.222E-07	4.189E-07	4.189E-07	4.189E-07	3.522E-07	1.163E-09	
A	NEAREST COW	NNW	3.50	5634.	2.716E-07	2.677E-07	2.677E-07	2.677E-07	2.110E-07	9.821E-10	
A	NEAREST GARDEN	SW	1.40	2253.	7.347E-07	7.306E-07	7.306E-07	7.306E-07	6.264E-07	3.118E-09	
A	NEAREST GARDEN	WSW	1.80	2897.	4.894E-07	4.867E-07	4.867E-07	4.867E-07	3.417E-07	1.702E-09	
A	NEAREST GARDEN	WNW	1.60	2575.	4.312E-07	4.293E-07	4.293E-07	4.293E-07	3.638E-07	2.880E-09	
A	NEAREST GARDEN	NNW	2.00	3219.	8.323E-07	8.256E-07	8.256E-07	8.256E-07	6.876E-07	3.622E-09	

Atmospheric Diffusion Estimates

Ground Level Releases

October-December 1993

VENTS GROUND LEVEL RELEASES - OCT-DEC 1993  
 NO DECAY, UNDEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE	CHI/Q (SEC./METER CUBED)											
	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	5.000	
SECTOR	S	3.520E-05	1.176E-05	6.196E-06	3.084E-06	1.237E-06	6.688E-07	4.235E-07	2.954E-07	2.199E-07	1.715E-07	1.584E-07
	SSW	1.795E-05	6.174E-06	3.234E-06	1.596E-06	6.318E-07	3.386E-07	2.130E-07	1.478E-07	1.095E-07	8.502E-08	6.838E-08
	SW	1.381E-05	4.773E-06	2.498E-06	1.233E-06	4.870E-07	2.606E-07	1.636E-07	1.134E-07	8.390E-08	6.508E-08	5.230E-08
	WSW	6.040E-06	2.132E-06	1.151E-06	5.754E-07	2.257E-07	1.201E-07	7.508E-08	5.181E-08	3.821E-08	2.955E-08	2.360E-08
	W	4.498E-06	1.556E-06	8.184E-07	4.049E-07	1.606E-07	8.622E-08	5.428E-08	3.767E-08	2.792E-08	2.169E-08	1.745E-08
	WNW	8.987E-06	3.131E-06	1.677E-06	8.364E-07	3.296E-07	1.760E-07	1.103E-07	7.627E-08	5.635E-08	4.365E-08	3.502E-08
	NW	2.763E-05	9.338E-06	4.930E-06	2.453E-06	9.875E-07	5.355E-07	3.398E-07	2.375E-07	1.770E-07	1.382E-07	1.116E-07
	NNW	5.773E-05	1.866E-05	1.001E-05	5.056E-06	2.071E-06	1.137E-06	7.277E-07	5.121E-07	3.839E-07	3.012E-07	2.444E-07
	N	8.138E-05	2.595E-05	1.393E-05	7.060E-06	2.900E-06	1.594E-06	1.022E-06	6.770E-07	4.767E-07	3.576E-07	2.807E-07
	NNE	5.475E-05	1.757E-05	9.332E-06	4.695E-06	1.925E-06	1.057E-06	6.770E-07	4.767E-07	3.576E-07	2.807E-07	2.279E-07
	NE	3.097E-05	1.019E-05	5.449E-06	2.738E-06	1.108E-06	6.029E-07	3.837E-07	2.687E-07	2.007E-07	1.570E-07	1.270E-07
	ENE	1.438E-05	4.845E-06	2.635E-06	1.331E-06	5.331E-07	2.880E-07	1.822E-07	1.270E-07	9.441E-08	7.355E-08	5.932E-08
	E	1.269E-05	4.191E-06	2.284E-06	1.156E-06	4.630E-07	2.502E-07	1.583E-07	1.104E-07	8.212E-08	6.400E-08	5.163E-08
	ESE	2.367E-05	8.146E-06	4.434E-06	2.232E-06	8.843E-07	4.740E-07	2.981E-07	2.068E-07	1.531E-07	1.152E-07	1.226E-07
	SE	3.118E-05	1.101E-05	5.952E-06	2.973E-06	1.166E-06	6.203E-07	3.879E-07	2.678E-07	1.976E-07	1.529E-07	1.226E-07
	SSE	5.151E-05	1.708E-05	9.004E-06	4.465E-06	1.803E-06	9.769E-07	6.196E-07	4.327E-07	3.225E-07	2.517E-07	2.033E-07

ANNUAL AVERAGE	CHI/Q (SEC./METER CUBED)											
	BEARING	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
	S	1.148E-07	5.943E-08	3.873E-08	2.241E-08	1.527E-08	1.137E-08	8.946E-09	7.312E-09	6.145E-09	5.275E-09	4.603E-09
	SSW	5.653E-08	2.893E-08	1.870E-08	1.070E-08	7.240E-09	5.360E-09	4.199E-09	3.420E-09	2.865E-09	2.453E-09	2.135E-09
	SW	4.319E-08	2.201E-08	1.418E-08	8.077E-09	5.442E-09	4.016E-09	3.138E-09	2.551E-09	2.133E-09	1.823E-09	1.585E-09
	WSW	1.950E-08	9.826E-09	6.278E-09	3.527E-09	2.352E-09	1.720E-09	1.334E-09	1.077E-09	8.958E-10	7.615E-10	6.588E-10
	W	1.443E-08	7.379E-09	4.768E-09	2.724E-09	1.839E-09	1.359E-09	1.063E-09	8.650E-10	7.240E-10	6.191E-10	5.386E-10
	WNW	2.889E-08	1.463E-08	9.389E-09	5.307E-09	3.555E-09	2.610E-09	2.031E-09	1.645E-09	1.371E-09	1.168E-09	1.013E-09
	NW	9.265E-08	4.809E-08	3.140E-08	1.820E-08	1.241E-08	9.245E-09	7.277E-09	5.951E-09	5.002E-09	4.294E-09	3.748E-09
	NNW	2.036E-07	1.072E-07	7.068E-08	4.151E-08	2.856E-08	2.141E-08	1.694E-08	1.391E-08	1.173E-08	1.010E-08	8.838E-09
	N	2.869E-07	1.513E-07	9.987E-08	5.874E-08	4.046E-08	3.036E-08	2.404E-08	1.975E-08	1.666E-08	1.435E-08	1.256E-08
	NNE	1.900E-07	1.003E-07	6.626E-08	3.903E-08	2.691E-08	2.022E-08	1.602E-08	1.317E-08	1.112E-08	9.585E-09	8.394E-09
	NE	1.056E-07	5.512E-08	3.613E-08	2.106E-08	1.443E-08	1.078E-08	8.509E-09	6.971E-09	5.870E-09	5.046E-09	4.409E-09
	ENE	4.915E-08	2.535E-08	1.647E-08	9.480E-09	6.430E-09	4.768E-09	3.739E-09	3.047E-09	2.554E-09	2.187E-09	1.904E-09
	E	4.280E-08	2.211E-08	1.439E-08	8.304E-09	5.655E-09	4.205E-09	3.306E-09	2.99E-09	2.266E-09	1.943E-09	1.693E-09
	ESE	7.899E-08	4.033E-08	2.601E-08	1.482E-08	9.985E-09	7.366E-09	5.752E-09	4.670E-09	3.902E-09	3.331E-09	2.893E-09
	SE	1.010E-07	5.103E-08	3.267E-08	1.843E-08	1.233E-08	9.049E-09	7.037E-09	5.693E-09	4.742E-09	4.038E-09	3.498E-09
	SSE	1.687E-07	8.763E-08	5.723E-08	3.322E-08	2.270E-08	1.694E-08	1.335E-08	1.093E-08	9.195E-09	7.900E-09	6.900E-09

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

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	6.049E-06	1.395E-06	4.377E-07	2.230E-07	1.395E-07	6.253E-08	2.286E-08	1.144E-08	7.335E-09	5.284E-09
SSW	3.159E-06	7.158E-07	2.204E-07	1.111E-07	6.892E-08	3.052E-08	1.094E-08	5.397E-09	3.431E-09	2.457E-09
SW	2.441E-06	5.520E-07	1.694E-07	8.515E-08	5.271E-08	2.324E-08	8.263E-09	4.045E-09	2.560E-09	1.827E-09
WSW	1.113E-06	2.565E-07	7.778E-08	3.880E-08	2.387E-08	1.040E-08	3.616E-09	1.734E-09	1.082E-09	7.632E-10
W	7.986E-07	1.818E-07	5.615E-08	2.834E-08	1.759E-08	7.785E-09	2.785E-09	1.369E-09	8.679E-10	6.204E-10
WNW	1.626E-06	3.739E-07	1.142E-07	5.720E-08	3.531E-08	1.547E-08	5.435E-09	2.631E-09	1.651E-09	1.171E-09
NW	4.809E-06	1.112E-06	3.511E-07	1.795E-07	1.125E-07	5.057E-08	1.856E-08	9.302E-09	5.968E-09	4.301E-09
NNW	9.729E-06	2.319E-06	7.505E-07	3.899E-07	2.461E-07	1.124E-07	4.224E-08	2.153E-08	1.395E-08	1.012E-08
N	1.355E-05	3.244E-06	1.054E-06	5.471E-07	3.466E-07	1.586E-07	5.976E-08	3.052E-08	1.980E-08	1.437E-08
NNE	9.101E-06	2.155E-06	6.982E-07	3.623E-07	2.295E-07	1.051E-07	3.970E-08	2.032E-08	1.320E-08	9.599E-09
NE	5.297E-06	1.244E-06	3.962E-07	2.035E-07	1.279E-07	5.789E-08	2.146E-08	1.085E-08	6.991E-09	5.054E-09
ENE	2.547E-06	6.015E-07	1.883E-07	9.576E-08	5.977E-08	2.669E-08	9.678E-09	4.800E-09	3.057E-09	2.191E-09
E	2.206E-06	5.224E-07	1.636E-07	8.329E-08	5.202E-08	2.327E-08	8.478E-09	4.232E-09	2.707E-09	1.946E-09
ESE	4.280E-06	1.001E-06	3.085E-07	1.554E-07	9.635E-08	4.256E-08	1.516E-08	7.419E-09	4.686E-09	3.338E-09
SE	5.752E-06	1.325E-06	4.019E-07	2.006E-07	1.236E-07	5.398E-08	1.888E-08	9.120E-09	5.715E-09	4.046E-09
SSE	8.790E-06	2.032E-06	6.401E-07	3.270E-07	2.048E-07	9.214E-08	3.388E-08	1.704E-08	1.096E-08	7.913E-09

VENTS GROUND LEVEL RELEASES - OCT-DEC 1993  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES											
	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.516E-05	1.173E-05	6.175E-06	3.070E-06	1.228E-06	6.626E-07	4.186E-07	2.913E-07	2.163E-07	1.683E-07	1.355E-07	1.793E-05	6.161E-06	3.223E-06	1.589E-06	6.276E-07	3.356E-07	2.106E-07	1.457E-07	1.077E-07	8.345E-08	6.696E-08
SSW	1.379E-05	4.762E-06	2.490E-06	1.227E-06	4.837E-07	2.582E-07	1.618E-07	1.118E-07	8.253E-08	6.387E-08	5.120E-08	1.379E-05	4.762E-06	2.490E-06	1.227E-06	4.837E-07	2.582E-07	1.618E-07	1.118E-07	8.253E-08	6.387E-08	5.120E-08
SW	6.034E-06	2.128E-06	1.148E-06	5.731E-07	2.244E-07	1.192E-07	7.434E-08	5.120E-08	3.768E-08	2.908E-08	2.325E-08	4.494E-06	1.554E-06	8.165E-07	4.036E-07	1.599E-07	8.566E-08	5.383E-08	3.730E-08	2.759E-08	2.139E-08	1.718E-08
WSW	8.978E-06	3.125E-06	1.672E-06	8.335E-07	3.278E-07	1.747E-07	1.093E-07	7.542E-08	5.542E-08	4.300E-08	3.444E-08	8.978E-06	3.125E-06	1.672E-06	8.335E-07	3.278E-07	1.747E-07	1.093E-07	7.542E-08	5.542E-08	4.300E-08	3.444E-08
W	2.760E-05	9.318E-06	4.915E-06	2.443E-06	9.812E-07	5.309E-07	3.362E-07	2.344E-07	1.743E-07	1.358E-07	1.094E-07	2.760E-05	9.318E-06	4.915E-06	2.443E-06	9.812E-07	5.309E-07	3.362E-07	2.344E-07	1.743E-07	1.358E-07	1.094E-07
WNW	5.766E-05	1.862E-05	9.976E-06	5.035E-06	2.058E-06	1.127E-06	7.198E-07	5.054E-07	3.781E-07	2.959E-07	2.396E-07	5.766E-05	1.862E-05	9.976E-06	5.035E-06	2.058E-06	1.127E-06	7.198E-07	5.054E-07	3.781E-07	2.959E-07	2.396E-07
NW	8.129E-05	2.589E-05	1.389E-05	7.031E-06	2.882E-06	1.581E-06	1.011E-06	7.105E-07	5.319E-07	4.168E-07	3.375E-07	8.129E-05	2.589E-05	1.389E-05	7.031E-06	2.882E-06	1.581E-06	1.011E-06	7.105E-07	5.319E-07	4.168E-07	3.375E-07
NNW	5.469E-05	1.753E-05	9.305E-06	4.677E-06	1.913E-06	1.048E-06	6.701E-07	4.708E-07	3.524E-07	2.760E-07	2.236E-07	5.469E-05	1.753E-05	9.305E-06	4.677E-06	1.913E-06	1.048E-06	6.701E-07	4.708E-07	3.524E-07	2.760E-07	2.236E-07
N	3.094E-05	1.017E-05	5.434E-06	2.728E-06	1.102E-06	5.984E-07	3.801E-07	2.657E-07	1.980E-07	1.545E-07	1.248E-07	3.094E-05	1.017E-05	5.434E-06	2.728E-06	1.102E-06	5.984E-07	3.801E-07	2.657E-07	1.980E-07	1.545E-07	1.248E-07
NNE	1.437E-05	4.838E-06	2.629E-06	1.327E-06	5.307E-07	2.862E-07	1.808E-07	1.258E-07	9.337E-08	7.262E-08	5.847E-08	1.437E-05	4.838E-06	2.629E-06	1.327E-06	5.307E-07	2.862E-07	1.808E-07	1.258E-07	9.337E-08	7.262E-08	5.847E-08
NE	1.268E-05	4.185E-06	2.278E-06	1.152E-06	4.608E-07	2.486E-07	1.571E-07	1.093E-07	8.119E-08	6.317E-08	5.083E-08	1.268E-05	4.185E-06	2.278E-06	1.152E-06	4.608E-07	2.486E-07	1.571E-07	1.093E-07	8.119E-08	6.317E-08	5.083E-08
E	2.365E-05	8.132E-06	4.423E-06	2.224E-06	8.796E-07	4.706E-07	2.954E-07	2.045E-07	1.512E-07	1.172E-07	9.462E-08	2.365E-05	8.132E-06	4.423E-06	2.224E-06	8.796E-07	4.706E-07	2.954E-07	2.045E-07	1.512E-07	1.172E-07	9.462E-08
ESE	3.115E-05	1.099E-05	5.939E-06	2.964E-06	1.160E-06	6.166E-07	3.850E-07	2.654E-07	1.955E-07	1.510E-07	1.208E-07	3.115E-05	1.099E-05	5.939E-06	2.964E-06	1.160E-06	6.166E-07	3.850E-07	2.654E-07	1.955E-07	1.510E-07	1.208E-07
SE	5.146E-05	1.705E-05	8.977E-06	4.467E-06	1.792E-06	9.686E-07	6.130E-07	4.272E-07	3.176E-07	2.473E-07	1.993E-07	5.146E-05	1.705E-05	8.977E-06	4.467E-06	1.792E-06	9.686E-07	6.130E-07	4.272E-07	3.176E-07	2.473E-07	1.993E-07
SSE																						

BEARING	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES											
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	1.121E-07	5.730E-08	3.688E-08	2.080E-08	1.382E-08	1.003E-08	7.695E-09	6.133E-09	5.025E-09	4.206E-09	3.579E-09	1.121E-07	5.730E-08	3.688E-08	2.080E-08	1.382E-08	1.003E-08	7.695E-09	6.133E-09	5.025E-09	4.206E-09	3.579E-09
SSW	5.522E-08	2.792E-08	1.782E-08	9.947E-09	6.563E-09	4.739E-09	3.621E-09	2.876E-09	2.350E-09	1.962E-09	1.666E-09	5.522E-08	2.792E-08	1.782E-08	9.947E-09	6.563E-09	4.739E-09	3.621E-09	2.876E-09	2.350E-09	1.962E-09	1.666E-09
SW	4.218E-08	2.123E-08	1.351E-08	7.505E-09	4.932E-09	3.550E-09	2.706E-09	2.145E-09	1.749E-09	1.458E-09	1.237E-09	4.218E-08	2.123E-08	1.351E-08	7.505E-09	4.932E-09	3.550E-09	2.706E-09	2.145E-09	1.749E-09	1.458E-09	1.237E-09
WSW	1.911E-08	9.536E-09	6.032E-09	3.322E-09	2.171E-09	1.557E-09	1.184E-09	9.372E-10	7.639E-10	6.368E-10	5.402E-10	1.911E-08	9.536E-09	6.032E-09	3.322E-09	2.171E-09	1.557E-09	1.184E-09	9.372E-10	7.639E-10	6.368E-10	5.402E-10
W	1.418E-08	7.182E-09	4.595E-09	2.574E-09	1.703E-09	1.233E-09	9.456E-10	7.537E-10	6.181E-10	5.179E-10	4.415E-10	1.418E-08	7.182E-09	4.595E-09	2.574E-09	1.703E-09	1.233E-09	9.456E-10	7.537E-10	6.181E-10	5.179E-10	4.415E-10
WNW	2.835E-08	1.422E-08	9.032E-09	5.004E-09	3.284E-09	2.363E-09	1.802E-09	1.430E-09	1.168E-09	9.748E-10	8.280E-10	2.835E-08	1.422E-08	9.032E-09	5.004E-09	3.284E-09	2.363E-09	1.802E-09	1.430E-09	1.168E-09	9.748E-10	8.280E-10
NW	9.062E-08	4.650E-08	3.000E-08	1.699E-08	1.132E-08	8.234E-09	6.332E-09	5.059E-09	4.155E-09	3.485E-09	2.972E-09	9.062E-08	4.650E-08	3.000E-08	1.699E-08	1.132E-08	8.234E-09	6.332E-09	5.059E-09	4.155E-09	3.485E-09	2.972E-09
NNW	1.992E-07	1.037E-07	6.757E-08	3.878E-08	2.608E-08	1.911E-08	1.478E-08	1.186E-08	9.782E-09	8.234E-09	7.045E-09	1.992E-07	1.037E-07	6.757E-08	3.878E-08	2.608E-08	1.911E-08	1.478E-08	1.186E-08	9.782E-09	8.234E-09	7.045E-09
N	2.807E-07	1.464E-07	9.555E-08	5.494E-08	3.700E-08	2.714E-08	2.102E-08	1.688E-08	1.393E-08	1.174E-08	1.005E-08	2.807E-07	1.464E-07	9.555E-08	5.494E-08	3.700E-08	2.714E-08	2.102E-08	1.688E-08	1.393E-08	1.174E-08	1.005E-08
NNE	1.860E-07	9.714E-08	6.346E-08	3.656E-08	2.467E-08	1.812E-08	1.405E-08	1.130E-08	9.338E-09	7.876E-09	6.751E-09	1.860E-07	9.714E-08	6.346E-08	3.656E-08	2.467E-08	1.812E-08	1.405E-08	1.130E-08	9.338E-09	7.876E-09	6.751E-09
NE	1.035E-07	5.350E-08	3.471E-08	1.983E-08	1.331E-08	9.746E-09	7.537E-09	6.052E-09	4.994E-09	4.208E-09	3.605E-09	1.035E-07	5.350E-08	3.471E-08	1.983E-08	1.331E-08	9.746E-09	7.537E-09	6.052E-09	4.994E-09	4.208E-09	3.605E-09
E	4.836E-08	2.474E-08	1.594E-08	9.018E-09	6.014E-09	4.384E-09	3.380E-09	2.708E-09	2.231E-09	1.878E-09	1.608E-09	4.836E-08	2.474E-08	1.594E-08	9.018E-09	6.014E-09	4.384E-09	3.380E-09	2.708E-09	2.231E-09	1.878E-09	1.608E-09
ESE	4.210E-08	2.157E-08	1.392E-08	7.896E-09	5.286E-09	3.865E-09	2.987E-09	2.398E-09	1.980E-09	1.669E-09	1.431E-09	4.210E-08	2.157E-08	1.392E-08	7.896E-09	5.286E-09	3.865E-09	2.987E-09	2.398E-09	1.980E-09	1.669E-09	1.431E-09
E	7.754E-08	3.921E-08	2.505E-08	1.400E-08	9.251E-09	6.693E-09	5.126E-09	4.083E-09	3.346E-09	2.802E-09	2.387E-09	7.754E-08	3.921E-08	2.505E-08	1.400E-08	9.251E-09	6.693E-09	5.126E-09	4.083E-09	3.346E-09	2.802E-09	2.387E-09
SE	9.942E-08	4.981E-08	3.162E-08	1.753E-08	1.153E-08	8.320E-09	6.359E-09	5.057E-09	4.140E-09	3.465E-09	2.951E-09	9.942E-08	4.981E-08	3.162E-08	1.753E-08	1.153E-08	8.320E-09	6.359E-09	5.057E-09	4.140E-09	3.465E-09	2.951E-09
SSE	1.650E-07	8.468E-08	5.465E-08	3.096E-08	2.065E-08	1.503E-08	1.156E-08	9.235E-09	7.583E-09	6.359E-09	5.421E-09	1.650E-07	8.468E-08	5.465E-08	3.096E-08	2.065E-08	1.503E-08	1.156E-08	9.235E-09	7.583E-09	6.359E-09	5.421E-09

DIRECTION FROM SITE	CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT										SEGMENT BOUNDARIES IN MILES																													
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50																				
S	6.030E-06	1.386E-06	4.328E-07	2.194E-07	1.365E-07	6.040E-08	2.127E-08	1.011E-08	6.157E-09	4.216E-09	6.030E-06	1.386E-06	4.328E-07	2.194E-07	1.365E-07	6.040E-08	2.127E-08	1.011E-08	6.157E-09	4.216E-09	6.030E-06	1.386E-06	4.328E-07	2.194E-07	1.365E-07	6.040E-08	2.127E-08	1.011E-08	6.157E-09	4.216E-09	6.030E-06	1.386E-06	4.328E-07	2.194E-07	1.365E-07	6.040E-08	2.127E-08	1.011E-08	6.157E-09	4.216E-09
SSW	3.150E-06	7.115E-07	2.180E-07	1.093E-07	6.750E-08	2.950E-08	1.019E-08	4.778E-09	2.888E-09	1.968E-09	3.150E-06	7.115E-07	2.180E-07	1.093E-07	6.750E-08	2.950E-08	1.019E-08	4.778E-09	2.888E-09	1.968E-09	3.150E-06	7.115E-07	2.180E-07	1.093E-07	6.750E-08	2.950E-08	1.019E-08	4.778E-09	2.888E-09	1.968E-09	3.150E-06	7.115E-07	2.180E-07	1.093E-07	6.750E-08	2.950E-08	1.019E-08	4.778E-09	2.888E-09	1.968E-09
SW	2.433E-06	5.487E-07	1.675E-07	8.378E-08	5.161E-08	2.246E-08	7.697E-09	3.581E-09	2.154E-09	1.463E-09	2.433E-06	5.487E-07	1.675E-07	8.378E-08	5.161E-08	2.246E-08	7.697E-09	3.581E-09	2.154E-09	1.463E-09	2.433E-06	5.487E-07	1.675E-07	8.378E-08	5.161E-08	2.246E-08	7.697E-09	3.581E-09	2.154E-09	1.463E-09	2.433E-06	5.487E-07	1.675E-07	8.378E-08	5.161					

VENTS GROUND LEVEL RELEASES - OCT-DEC 1993  
CORRECTED FOR OPEN TERRAIN RECIRCULATION  
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE		X/Q		X/Q		X/Q		D/Q
			(MILES)	(METERS)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(PER SQ.METER)	
					NO DECAY		2.260 DAY DECAY		8.000 DAY DECAY		
					UNDEPLETED	UNDEPLETED	UNDEPLETED	DEPLETED			
A	SITE BOUNDARY	S	0.88	1287.	5.315E-06	5.296E-06	4.714E-06	2.027E-08			
A	SITE BOUNDARY	SSW	0.82	1327.	2.564E-06	2.555E-06	2.270E-06	1.093E-08			
A	SITE BOUNDARY	SW	0.98	1569.	1.308E-06	1.302E-06	1.145E-06	4.464E-09			
A	SITE BOUNDARY	WSW	0.93	1489.	6.929E-07	6.904E-07	6.090E-07	2.448E-09			
A	SITE BOUNDARY	W	0.91	1468.	5.054E-07	5.040E-07	4.447E-07	2.541E-09			
A	SITE BOUNDARY	WNW	0.94	1509.	9.752E-07	9.720E-07	8.565E-07	4.422E-09			
A	SITE BOUNDARY	NW	0.81	1307.	4.069E-06	4.055E-06	3.605E-06	1.692E-08			
A	SITE BOUNDARY	NNW	0.69	1106.	1.141E-05	1.138E-05	1.021E-05	4.268E-08			
A	SITE BOUNDARY	N	0.67	1086.	1.632E-05	1.628E-05	1.462E-05	6.305E-08			
A	SITE BOUNDARY	NNE	0.60	965.	1.320E-05	1.317E-05	1.191E-05	5.783E-08			
A	SITE BOUNDARY	NE	0.62	1005.	7.207E-06	7.190E-06	6.482E-06	3.514E-08			
A	SITE BOUNDARY	ENE	0.59	945.	3.794E-06	3.787E-06	3.428E-06	2.333E-08			
A	SITE BOUNDARY	E	0.53	845.	3.875E-06	3.868E-06	3.526E-06	2.340E-08			
A	SITE BOUNDARY	ESE	0.54	865.	7.278E-06	7.264E-06	6.613E-06	4.441E-08			
A	SITE BOUNDARY	SE	0.65	1046.	7.402E-06	7.388E-06	6.645E-06	5.872E-08			
A	SITE BOUNDARY	SSE	0.81	1307.	7.434E-06	7.410E-06	6.587E-06	4.505E-08			
A	NEAR. RESIDENCE	SW	1.40	2253.	5.679E-07	5.643E-07	4.841E-07	1.783E-09			
A	NEAR. RESIDENCE	WSW	1.30	2092.	3.120E-07	3.104E-07	2.676E-07	1.028E-09			
A	NEAR. RESIDENCE	W	1.00	1609.	4.049E-07	4.036E-07	3.541E-07	2.004E-09			
A	NEAR. RESIDENCE	WNW	1.60	2575.	2.857E-07	2.841E-07	2.409E-07	1.148E-09			
A	NEAR. RESIDENCE	NW	0.90	1448.	3.159E-06	3.147E-06	2.781E-06	1.294E-08			
A	NEAR. RESIDENCE	NNW	2.00	3219.	1.137E-06	1.127E-06	9.388E-07	3.121E-09			
A	NEAR. RESIDENCE	NNE	2.70	4345.	5.831E-07	5.766E-07	4.670E-07	1.665E-09			
A	NEAR. RESIDENCE	ENE	1.70	2736.	4.065E-07	4.044E-07	3.411E-07	1.956E-09			
A	NEAR. RESIDENCE	E	1.80	2897.	3.125E-07	3.107E-07	2.608E-07	1.421E-09			
A	NEAREST COW	NNW	3.50	5634.	3.837E-07	3.779E-07	2.981E-07	8.461E-10			
A	NEAREST GARDEN	SW	1.40	2253.	5.679E-07	5.643E-07	4.841E-07	1.783E-09			
A	NEAREST GARDEN	WSW	1.80	2897.	1.509E-07	1.498E-07	1.259E-07	4.603E-10			
A	NEAREST GARDEN	WNW	1.60	2575.	2.857E-07	2.841E-07	2.409E-07	1.148E-09			
A	NEAREST GARDEN	NNW	2.00	3219.	1.137E-06	1.127E-06	9.388E-07	3.121E-09			



Atmospheric Diffusion Estimates

Ground Level Releases

July-December 1993

VENTS GROUND LEVEL RELEASES - OCT-DEC 1993  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNJAL SECTOR	CHI/Q (SEC/METER CUBED)			DISTANCE IN MILES							
	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.331E-05	1.073E-05	5.516E-06	2.696E-06	1.048E-06	5.523E-07	3.419E-07	2.337E-07	1.708E-07	1.309E-07	1.040E-07
SSW	1.698E-05	5.635E-06	2.879E-06	1.395E-06	5.355E-07	2.797E-07	1.720E-07	1.169E-07	8.503E-08	6.492E-08	5.140E-08
SW	1.307E-05	4.355E-06	2.224E-06	1.078E-06	4.128E-07	2.152E-07	1.321E-07	8.970E-08	6.516E-08	4.969E-08	3.930E-08
WSW	5.715E-06	1.946E-06	1.025E-06	5.031E-07	1.914E-07	9.923E-08	6.065E-08	4.102E-08	2.970E-08	2.258E-08	1.781E-08
W	4.256E-06	1.421E-06	7.288E-07	3.541E-07	1.362E-07	7.126E-08	4.388E-08	2.984E-08	2.172E-08	1.659E-08	1.314E-08
WNW	8.503E-06	2.858E-06	1.493E-06	7.314E-07	2.795E-07	1.454E-07	8.910E-08	6.039E-08	4.381E-08	3.336E-08	2.635E-08
NW	2.614E-05	8.522E-06	4.389E-06	2.145E-06	8.371E-07	4.424E-07	2.744E-07	1.879E-07	1.375E-07	1.055E-07	8.394E-08
NNW	5.462E-05	1.703E-05	8.910E-06	4.421E-06	1.756E-06	9.388E-07	5.876E-07	4.052E-07	2.983E-07	2.301E-07	1.838E-07
N	7.699E-05	2.368E-05	1.241E-05	6.173E-06	2.459E-06	1.317E-06	8.252E-07	5.696E-07	4.196E-07	3.238E-07	2.588E-07
NNE	5.180E-05	1.603E-05	8.309E-06	4.106E-06	1.632E-06	8.730E-07	5.468E-07	3.773E-07	2.779E-07	2.145E-07	1.714E-07
NE	2.930E-05	9.299E-06	4.852E-06	2.394E-06	9.393E-07	4.982E-07	3.100E-07	2.128E-07	1.560E-07	1.200E-07	9.555E-08
ENE	1.361E-05	4.422E-06	2.347E-06	1.164E-06	4.522E-07	2.380E-07	1.472E-07	1.006E-07	7.344E-08	5.626E-08	4.467E-08
E	1.200E-05	3.826E-06	2.034E-06	1.011E-06	3.927E-07	2.068E-07	1.280E-07	8.744E-08	6.387E-08	4.895E-08	3.888E-08
ESE	2.240E-05	7.435E-06	3.949E-06	1.952E-06	7.498E-07	3.917E-07	2.409E-07	1.637E-07	1.191E-07	9.089E-08	7.194E-08
SE	2.950E-05	1.005E-05	5.300E-06	2.600E-06	9.886E-07	5.128E-07	3.136E-07	2.122E-07	1.537E-07	1.170E-07	9.230E-08
SSE	4.874E-05	1.559E-05	8.017E-06	3.921E-06	1.528E-06	8.070E-07	5.004E-07	3.425E-07	2.505E-07	1.922E-07	1.529E-07

ANNUAL BEARING	CHI/Q (SEC/METER CUBED)			DISTANCE IN MILES							
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	8.498E-08	4.146E-08	2.566E-08	1.364E-08	8.667E-09	6.069E-09	4.518E-09	3.509E-09	2.812E-09	2.307E-09	1.928E-09
SSW	4.186E-08	2.019E-08	1.239E-08	6.517E-09	4.111E-09	2.863E-09	2.122E-09	1.642E-09	1.312E-09	1.073E-09	8.951E-10
SW	3.198E-08	1.536E-08	9.399E-09	4.918E-09	3.090E-09	2.145E-09	1.586E-09	1.225E-09	9.746E-10	7.979E-10	6.645E-10
WSW	1.445E-08	6.869E-09	4.170E-09	2.156E-09	1.343E-09	9.253E-10	6.802E-10	5.228E-10	4.151E-10	3.379E-10	2.805E-10
W	1.070E-08	5.162E-09	3.169E-09	1.666E-09	1.050E-09	7.313E-10	5.420E-10	4.196E-10	3.352E-10	2.744E-10	2.289E-10
WNW	2.142E-08	1.023E-08	6.239E-09	3.245E-09	2.030E-09	1.404E-09	1.035E-09	7.975E-10	6.346E-10	5.176E-10	4.304E-10
NW	6.863E-08	3.358E-08	2.082E-08	1.110E-08	7.059E-09	4.948E-09	3.687E-09	2.866E-09	2.298E-09	1.887E-09	1.578E-09
NNW	1.508E-07	7.487E-08	4.688E-08	2.532E-08	1.625E-08	1.147E-08	8.590E-09	6.707E-09	5.397E-09	4.445E-09	3.728E-09
N	2.125E-07	1.057E-07	6.626E-08	3.584E-08	2.303E-08	1.627E-08	1.220E-08	9.528E-09	7.672E-09	6.322E-09	5.305E-09
NNE	1.408E-07	7.007E-08	4.397E-08	2.382E-08	1.533E-08	1.084E-08	8.135E-09	6.361E-09	5.126E-09	4.227E-09	3.549E-09
NE	7.825E-08	3.853E-08	2.400E-08	1.287E-08	8.234E-09	5.795E-09	4.333E-09	3.379E-09	2.716E-09	2.235E-09	1.874E-09
ENE	3.647E-08	1.775E-08	1.096E-08	5.811E-09	3.684E-09	2.576E-09	1.916E-09	1.487E-09	1.191E-09	9.771E-10	8.168E-10
E	3.175E-08	1.548E-08	9.574E-09	5.090E-09	3.239E-09	2.271E-09	1.693E-09	1.271E-09	1.057E-09	8.681E-10	7.266E-10
ESE	5.857E-08	2.821E-08	1.729E-08	9.067E-09	5.706E-09	3.966E-09	2.935E-09	2.269E-09	1.810E-09	1.480E-09	1.233E-09
SE	7.496E-08	3.573E-08	2.175E-08	1.130E-08	7.065E-09	4.888E-09	3.604E-09	2.778E-09	2.211E-09	1.803E-09	1.500E-09
SSE	1.250E-07	6.118E-08	3.795E-08	2.025E-08	1.290E-08	9.055E-09	6.755E-09	5.255E-09	4.216E-09	3.463E-09	2.898E-09

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

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	5.422E-06	1.194E-06	3.548E-07	1.736E-07	1.049E-07	4.411E-08	1.410E-08	6.141E-09	3.532E-09	2.316E-09
SSW	2.832E-06	6.129E-07	1.787E-07	8.648E-08	5.187E-08	2.154E-08	6.754E-09	2.899E-09	1.653E-09	1.078E-09
SW	2.188E-06	4.727E-07	1.373E-07	6.628E-08	3.967E-08	1.640E-08	5.101E-09	2.173E-09	1.233E-09	8.014E-10
WSW	9.976E-07	2.197E-07	6.309E-08	3.022E-08	1.798E-08	7.355E-09	2.242E-09	9.385E-10	5.268E-10	3.395E-10
W	7.160E-07	1.558E-07	4.556E-08	2.208E-08	1.326E-08	5.507E-09	1.727E-09	7.407E-10	4.224E-10	2.755E-10
WNW	1.458E-06	3.203E-07	9.263E-08	4.457E-08	2.660E-08	1.094E-08	3.370E-09	1.423E-09	8.033E-10	5.199E-10
NW	4.310E-06	9.523E-07	2.846E-07	1.397E-07	8.467E-08	3.570E-08	1.146E-08	5.006E-09	2.884E-09	1.894E-09
NNW	8.718E-06	1.985E-06	6.083E-07	3.028E-07	1.853E-07	7.931E-08	2.608E-08	1.159E-08	6.746E-09	4.461E-09
N	1.214E-05	2.777E-06	8.541E-07	4.260E-07	2.609E-07	1.119E-07	3.691E-08	1.644E-08	9.583E-09	6.345E-09
NNE	8.157E-06	1.844E-06	5.660E-07	2.821E-07	1.728E-07	7.418E-08	2.452E-08	1.095E-08	6.397E-09	4.242E-09
NE	4.748E-06	1.067E-06	3.213E-07	1.585E-07	9.637E-08	4.090E-08	1.328E-08	5.861E-09	3.399E-09	2.244E-09
ENE	2.282E-06	5.152E-07	1.528E-07	7.464E-08	4.506E-08	1.889E-08	6.011E-09	2.607E-09	1.497E-09	9.811E-10
E	1.977E-06	4.475E-07	1.328E-07	6.492E-08	3.922E-08	1.647E-08	5.264E-09	2.298E-09	1.325E-09	8.716E-10
ESE	3.836E-06	8.578E-07	2.502E-07	1.211E-07	7.260E-08	3.010E-08	9.401E-09	4.017E-09	2.284E-09	1.486E-09
SE	5.156E-06	1.135E-06	3.261E-07	1.564E-07	9.318E-08	3.823E-08	1.174E-08	4.955E-09	2.798E-09	1.812E-09
SSE	7.879E-06	1.740E-06	5.190E-07	2.546E-07	1.542E-07	6.503E-08	2.092E-08	9.161E-09	5.288E-09	3.477E-09

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VENTS GROUND LEVEL RELEASES - OCT-DEC 1993  
CORRECTED FOR OPEN TERRAIN RECIRCULATION

***** RELATIVE DEPOSITION PER UNIT AREA (M**2) AT FIXED POINTS BY DOWNWIND SECTORS *****											
DIRECTION FROM SITE	DISTANCES IN MILES										
	0.25	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S	1.373E-07	4.642E-08	2.383E-08	1.133E-08	4.070E-09	2.018E-09	1.188E-09	7.782E-10	5.476E-10	4.058E-10	3.127E-10
SSW	8.024E-08	2.713E-08	1.393E-08	6.623E-09	2.379E-09	1.180E-09	6.947E-10	4.549E-10	3.201E-10	2.372E-10	1.828E-10
SW	5.068E-08	1.714E-08	8.800E-09	4.184E-09	1.503E-09	7.452E-10	4.388E-10	2.873E-10	2.022E-10	1.498E-10	1.155E-10
WSW	2.427E-08	8.206E-09	4.214E-09	2.003E-09	7.196E-10	3.568E-10	2.101E-10	1.376E-10	9.681E-11	7.175E-11	5.529E-11
W	2.428E-08	8.210E-09	4.216E-09	2.004E-09	7.199E-10	3.570E-10	2.102E-10	1.376E-10	9.686E-11	7.178E-11	5.532E-11
WNW	4.538E-08	1.535E-08	7.880E-09	3.746E-09	1.346E-09	6.673E-10	3.929E-10	2.573E-10	1.810E-10	1.342E-10	1.034E-10
NW	1.193E-07	4.035E-08	2.072E-08	9.849E-09	3.538E-09	1.754E-09	1.033E-09	6.764E-10	4.760E-10	3.527E-10	2.718E-10
NNW	2.122E-07	7.177E-08	3.685E-08	1.752E-08	6.293E-09	3.121E-09	1.838E-09	1.203E-09	8.466E-10	6.274E-10	4.835E-10
N	3.041E-07	1.028E-07	5.280E-08	2.510E-08	9.016E-09	4.471E-09	2.633E-09	1.724E-09	1.213E-09	8.990E-10	6.928E-10
NNE	2.302E-07	7.784E-08	3.996E-08	1.900E-08	6.825E-09	3.384E-09	1.993E-09	1.305E-09	9.182E-10	6.805E-10	5.244E-10
NE	1.488E-07	5.033E-08	2.584E-08	1.229E-08	4.413E-09	2.188E-09	1.289E-09	8.438E-10	5.937E-10	4.400E-10	3.391E-10
ENE	8.970E-08	3.033E-08	1.557E-08	7.404E-09	2.660E-09	1.319E-09	7.766E-10	5.085E-10	3.578E-10	2.652E-10	2.044E-10
E	7.493E-08	2.534E-08	1.301E-08	6.185E-09	2.222E-09	1.102E-09	6.487E-10	4.248E-10	2.989E-10	2.215E-10	1.707E-10
ESE	1.477E-07	4.996E-08	2.565E-08	1.219E-08	4.380E-09	2.172E-09	1.279E-09	8.375E-10	5.893E-10	4.367E-10	3.366E-10
SE	2.659E-07	8.992E-08	4.617E-08	2.195E-08	7.885E-09	3.910E-09	2.302E-09	1.508E-09	1.061E-09	7.861E-10	6.058E-10
SSE	3.177E-07	1.074E-07	5.517E-08	2.623E-08	9.421E-09	4.672E-09	2.751E-09	1.801E-09	1.267E-09	9.393E-10	7.239E-10

***** RELATIVE DEPOSITION PER UNIT AREA (M**2) BY DOWNWIND SECTORS *****											
DIRECTION FROM SITE	DISTANCES IN MILES										
	5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
S	2.484E-10	1.184E-10	6.685E-11	3.379E-11	2.045E-11	1.371E-11	9.826E-12	7.378E-12	5.737E-12	4.582E-12	3.740E-12
SSW	1.452E-10	6.451E-11	3.908E-11	1.975E-11	1.196E-11	8.016E-12	5.744E-12	4.313E-12	3.353E-12	2.679E-12	2.186E-12
SW	9.173E-11	4.075E-11	2.468E-11	1.248E-11	7.551E-12	5.063E-12	3.628E-12	2.724E-12	2.118E-12	1.692E-12	1.381E-12
WSW	4.392E-11	1.951E-11	1.182E-11	5.974E-12	3.616E-12	2.424E-12	1.737E-12	1.304E-12	1.014E-12	8.102E-13	6.613E-13
W	4.394E-11	1.952E-11	1.183E-11	5.977E-12	3.618E-12	2.426E-12	1.738E-12	1.305E-12	1.015E-12	8.106E-13	6.616E-13
WNW	8.214E-11	3.649E-11	2.210E-11	1.117E-11	6.762E-12	4.534E-12	3.249E-12	2.439E-12	1.897E-12	1.515E-12	1.237E-12
NW	2.159E-10	9.593E-11	5.811E-11	2.937E-11	1.778E-11	1.192E-11	8.541E-12	6.413E-12	4.986E-12	3.983E-12	3.251E-12
NNW	3.841E-10	1.706E-10	1.034E-10	5.225E-11	3.162E-11	2.120E-11	1.519E-11	1.141E-11	8.870E-12	7.085E-12	5.783E-12
N	5.504E-10	2.445E-10	1.481E-10	7.486E-11	4.531E-11	3.058E-11	2.177E-11	1.634E-11	1.271E-11	1.015E-11	8.286E-12
NNE	4.166E-10	1.851E-10	1.121E-10	5.666E-11	3.430E-11	2.299E-11	1.648E-11	1.237E-11	9.620E-12	7.684E-12	6.272E-12
NE	2.694E-10	1.197E-10	7.249E-11	3.664E-11	2.218E-11	1.487E-11	1.065E-11	8.000E-12	6.220E-12	4.969E-12	4.056E-12
ENE	1.623E-10	7.212E-11	4.369E-11	2.208E-11	1.336E-11	8.961E-12	6.421E-12	4.821E-12	3.749E-12	2.995E-12	2.444E-12
E	1.356E-10	6.024E-11	3.649E-11	1.844E-11	1.116E-11	7.485E-12	5.363E-12	4.027E-12	3.131E-12	2.501E-12	2.042E-12
ESE	2.674E-10	1.188E-10	7.195E-11	3.637E-11	2.201E-11	1.476E-11	1.057E-11	7.741E-12	6.174E-12	4.932E-12	4.026E-12
SE	4.813E-10	2.138E-10	1.295E-10	6.546E-11	3.962E-11	2.656E-11	1.904E-11	1.429E-11	1.111E-11	8.878E-12	7.246E-12
SSE	5.751E-10	2.555E-10	1.548E-10	7.822E-11	4.734E-11	3.174E-11	2.274E-11	1.708E-11	1.328E-11	1.061E-11	8.658E-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	2.329E-08	4.772E-09	1.246E-09	5.594E-10	3.165E-10	1.217E-10	3.521E-11	1.795E-11	7.452E-12	4.612E-12
SSW	1.362E-08	2.789E-09	7.281E-10	3.270E-10	1.850E-10	7.114E-11	2.058E-11	8.157E-12	4.356E-12	2.696E-12
SW	8.601E-09	1.762E-09	4.599E-10	2.066E-10	1.169E-10	4.494E-11	1.300E-11	5.153E-12	2.752E-12	1.703E-12
WSW	4.119E-09	8.436E-10	2.202E-10	9.891E-11	5.595E-11	2.152E-11	6.225E-12	2.467E-12	1.318E-12	8.155E-13
W	4.121E-09	8.440E-10	2.203E-10	9.896E-11	5.598E-11	2.153E-11	6.228E-12	2.468E-12	1.318E-12	8.159E-13
WNW	7.702E-09	1.578E-09	4.118E-10	1.850E-10	1.046E-10	4.024E-11	1.164E-11	4.614E-12	2.464E-12	1.525E-12
NW	2.025E-08	4.148E-09	1.083E-09	4.863E-10	2.751E-10	1.058E-10	3.060E-11	1.233E-11	6.478E-12	4.009E-12
NNW	3.602E-08	7.378E-09	1.926E-09	8.650E-10	4.894E-10	1.882E-10	5.444E-11	2.118E-11	1.152E-11	7.132E-12
N	5.161E-08	1.057E-08	2.759E-09	1.239E-09	7.011E-10	2.696E-10	7.800E-11	3.051E-11	1.651E-11	1.022E-11
NNE	3.906E-08	8.001E-09	2.089E-09	9.581E-10	5.307E-10	2.041E-10	5.904E-11	2.340E-11	1.250E-11	7.735E-12
NE	2.526E-08	5.174E-09	1.351E-09	6.066E-10	3.432E-10	1.320E-10	3.818E-11	1.513E-11	8.080E-12	5.001E-12
ENE	1.522E-08	3.118E-09	8.146E-10	3.656E-10	2.068E-10	7.953E-11	2.301E-11	9.119E-12	4.870E-12	3.014E-12
E	1.272E-08	2.605E-09	6.799E-10	3.054E-10	1.728E-10	6.643E-11	1.922E-11	7.617E-12	4.068E-12	2.518E-12
ESE	2.507E-08	5.135E-09	1.341E-09	6.021E-10	3.406E-10	1.310E-10	3.789E-11	1.502E-11	8.020E-12	4.964E-12
SE	4.513E-08	9.244E-09	2.413E-09	1.084E-09	6.131E-10	2.358E-10	6.821E-11	2.703E-11	1.444E-11	8.936E-12
SSE	5.392E-08	1.105E-08	2.883E-09	1.295E-09	7.326E-10	2.817E-10	8.150E-11	3.230E-11	1.725E-11	1.068E-11



VENTS GROUND LEVEL RELEASES - JUL-DEC 1993  
 NO DECAY, UNDEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES										
	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
SECTOR											
S	3.922E-05	1.325E-05	7.051E-06	3.517E-06	1.398E-06	7.515E-07	4.737E-07	3.292E-07	2.443E-07	1.899E-07	1.529E-07
SSW	1.992E-05	6.940E-06	3.472E-06	1.822E-06	7.112E-07	3.774E-07	2.356E-07	1.624E-07	1.197E-07	9.252E-08	7.411E-08
SW	1.531E-05	5.427E-06	2.883E-06	1.426E-06	5.547E-07	2.936E-07	1.828E-07	1.258E-07	9.251E-08	7.139E-08	5.710E-08
WSW	1.134E-05	4.087E-06	2.193E-06	1.088E-06	4.193E-07	2.204E-07	1.364E-07	9.335E-08	6.836E-08	5.254E-08	4.187E-08
W	6.732E-06	2.403E-06	1.278E-06	6.312E-07	2.442E-07	1.287E-07	7.985E-08	5.476E-08	4.018E-08	3.093E-08	2.468E-08
WNW	1.139E-05	4.644E-06	2.157E-06	1.068E-06	4.132E-07	2.177E-07	1.351E-07	9.269E-08	6.801E-08	5.237E-08	4.180E-08
NW	2.804E-05	9.645E-06	5.121E-06	2.540E-06	1.009E-06	5.341E-07	3.351E-07	2.320E-07	1.716E-07	1.331E-07	1.069E-07
NNW	5.043E-05	1.665E-05	8.923E-06	4.486E-06	1.815E-06	9.883E-07	6.291E-07	4.407E-07	3.292E-07	2.575E-07	2.084E-07
N	6.976E-05	2.288E-05	1.236E-05	6.251E-06	2.537E-06	1.384E-06	8.819E-07	6.184E-07	4.622E-07	3.617E-07	2.929E-07
NNE	4.837E-05	1.574E-05	8.432E-06	4.250E-06	1.732E-06	9.474E-07	6.052E-07	4.252E-07	3.184E-07	2.495E-07	2.023E-07
NE	2.619E-05	8.541E-06	4.573E-06	2.302E-06	9.345E-07	5.097E-07	3.249E-07	2.279E-07	1.704E-07	1.334E-07	1.080E-07
ENE	1.702E-05	5.599E-06	3.029E-06	1.531E-06	6.174E-07	3.351E-07	2.127E-07	1.487E-07	1.109E-07	8.654E-08	6.993E-08
E	1.558E-05	5.020E-06	2.659E-06	1.333E-06	5.418E-07	2.959E-07	1.888E-07	1.325E-07	9.914E-08	7.765E-08	6.293E-08
ESE	1.924E-05	6.586E-06	3.595E-06	1.812E-06	7.182E-07	3.853E-07	2.424E-07	1.682E-07	1.247E-07	9.684E-08	7.790E-08
SE	3.228E-05	1.091E-05	5.866E-06	2.940E-06	1.171E-06	6.300E-07	3.974E-07	2.764E-07	2.052E-07	1.596E-07	1.286E-07
SSE	5.367E-05	1.747E-05	9.190E-06	4.586E-06	1.856E-06	1.011E-06	6.433E-07	4.507E-07	3.367E-07	2.634E-07	2.132E-07

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
BEARING											
S	1.266E-07	6.503E-08	4.215E-08	2.420E-08	1.641E-08	1.217E-08	9.543E-09	7.779E-09	6.522E-09	5.585E-09	4.864E-09
SSW	6.104E-08	3.082E-08	1.973E-08	1.113E-08	7.464E-09	5.487E-09	4.273E-09	3.463E-09	2.888E-09	2.463E-09	2.136E-09
SW	4.697E-08	2.356E-08	1.501E-08	8.409E-09	5.601E-09	4.096E-09	3.177E-09	2.565E-09	2.133E-09	1.813E-09	1.569E-09
WSW	3.432E-08	1.697E-08	1.069E-08	5.891E-09	3.873E-09	2.803E-09	2.154E-09	1.726E-09	1.425E-09	1.204E-09	1.036E-09
W	2.026E-08	1.008E-08	6.384E-09	3.544E-09	2.344E-09	1.705E-09	1.317E-09	1.059E-09	8.774E-10	7.438E-10	6.419E-10
WNW	3.433E-08	1.711E-08	1.085E-08	6.036E-09	4.001E-09	2.914E-09	2.253E-09	1.814E-09	1.504E-09	1.276E-09	1.102E-09
NW	8.820E-08	4.501E-08	2.903E-08	1.655E-08	1.117E-08	8.259E-09	6.461E-09	5.256E-09	4.392E-09	3.761E-09	3.271E-09
NNW	1.732E-07	9.949E-08	5.934E-08	3.461E-08	2.371E-08	1.772E-08	1.399E-08	1.146E-08	9.649E-09	8.295E-09	7.248E-09
N	2.435E-07	1.273E-07	8.349E-08	4.870E-08	3.336E-08	2.492E-08	1.866E-08	1.610E-08	1.356E-08	1.165E-08	1.018E-08
NNE	1.684E-07	8.845E-08	5.822E-08	3.412E-08	2.346E-08	1.757E-08	1.390E-08	1.140E-08	9.616E-09	8.275E-09	7.240E-09
NE	8.983E-08	4.704E-08	3.089E-08	1.806E-08	1.239E-08	9.270E-09	7.323E-09	6.005E-09	5.059E-09	4.352E-09	3.805E-09
ENE	5.804E-08	3.014E-08	1.967E-08	1.140E-08	7.771E-09	5.786E-09	4.552E-09	3.720E-09	3.125E-09	2.681E-09	2.338E-09
E	5.237E-08	2.749E-08	1.809E-08	1.061E-08	7.305E-09	5.480E-09	4.338E-09	3.54E-09	3.007E-09	2.591E-09	2.268E-09
ESE	6.441E-08	3.297E-08	2.131E-08	1.217E-08	8.221E-09	6.075E-09	4.751E-09	3.862E-09	3.230E-09	2.760E-09	2.399E-09
SE	1.065E-07	5.475E-08	3.551E-08	2.040E-08	1.385E-08	1.027E-08	8.058E-09	6.570E-09	5.508E-09	4.717E-09	4.108E-09
SSE	1.772E-07	9.270E-08	6.085E-08	3.556E-08	2.442E-08	1.828E-08	1.445E-08	1.186E-08	9.998E-09	8.606E-09	7.528E-09

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

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	6.858E-06	1.582E-06	4.900E-07	2.478E-07	1.541E-07	6.853E-08	2.473E-08	1.225E-08	7.804E-09	5.596E-09
SSW	3.579E-06	8.098E-07	2.441E-07	1.215E-07	7.473E-08	3.260E-08	1.141E-08	5.529E-09	3.475E-09	2.468E-09
SW	2.800E-06	6.322E-07	1.895E-07	9.397E-08	5.758E-08	2.496E-08	8.628E-09	4.130E-09	2.575E-09	1.817E-09
WSW	2.122E-06	4.794E-07	1.416E-07	6.948E-08	4.223E-08	1.804E-08	6.061E-09	2.829E-09	1.734E-09	1.208E-09
W	1.241E-06	2.789E-07	8.284E-08	4.082E-08	2.490E-08	1.070E-08	3.642E-09	1.720E-09	1.063E-09	7.456E-10
WNW	2.093E-06	4.719E-07	1.402E-07	6.911E-08	4.217E-08	1.815E-08	6.201E-09	2.939E-09	1.821E-09	1.279E-09
NW	4.979E-06	1.135E-06	3.469E-07	1.742E-07	1.078E-07	4.752E-08	1.693E-08	8.318E-09	5.275E-09	3.768E-09
NNW	8.667E-06	2.041E-06	6.495E-07	3.337E-07	2.099E-07	9.502E-08	3.526E-08	1.782E-08	1.149E-08	8.309E-09
N	1.198E-05	2.850E-06	9.103E-07	4.685E-07	2.950E-07	1.336E-07	4.961E-08	2.507E-08	1.615E-08	1.167E-08
NNE	8.197E-06	1.943E-06	6.245E-07	3.226E-07	2.037E-07	9.277E-08	3.474E-08	1.767E-08	1.143E-08	8.289E-09
NE	4.445E-06	1.050E-06	3.354E-07	1.727E-07	1.088E-07	4.937E-08	1.839E-08	9.323E-09	6.021E-09	4.359E-09
ENE	2.934E-06	6.950E-07	2.198E-07	1.124E-07	7.045E-08	3.169E-08	1.163E-08	5.822E-09	3.751E-09	2.686E-09
E	2.594E-06	6.083E-07	1.948E-07	1.005E-07	6.338E-08	2.884E-08	1.080E-08	5.510E-09	3.573E-09	2.595E-09
ESE	3.467E-06	8.133E-07	2.508E-07	1.265E-07	7.851E-08	3.477E-08	1.245E-08	6.118E-09	3.875E-09	2.765E-09
SE	5.687E-06	1.324E-06	4.110E-07	2.082E-07	1.296E-07	5.769E-08	2.085E-08	1.034E-08	6.591E-09	4.726E-09
SSE	8.983E-06	2.087E-06	6.642E-07	3.413E-07	2.147E-07	9.732E-08	3.623E-08	1.839E-08	1.189E-08	8.619E-09

VENTS GROUND LEVEL RELEASES - JUL-DEC 1993  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)			DISTANCE IN MILES									
SECTOR	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500	
S	3.918E-05	1.322E-05	7.028E-06	3.501E-06	1.388E-06	7.446E-07	4.682E-07	3.246E-07	2.403E-07	1.864E-07	1.497E-07	
SSW	1.990E-05	6.926E-06	3.670E-06	1.815E-06	7.067E-07	3.742E-07	2.331E-07	1.603E-07	1.179E-07	9.092E-08	7.257E-08	
SW	1.530E-05	5.415E-06	2.874E-06	1.420E-06	5.512E-07	2.911E-07	1.809E-07	1.242E-07	9.113E-08	7.017E-08	5.600E-08	
WSW	1.133E-05	4.079E-06	2.186E-06	1.083E-06	4.169E-07	2.187E-07	1.351E-07	9.229E-08	6.745E-08	5.174E-08	4.115E-08	
W	6.728E-06	2.403E-06	1.275E-06	6.296E-07	2.432E-07	1.280E-07	7.932E-08	5.432E-08	3.980E-08	3.060E-08	2.438E-08	
WNW	1.138E-05	4.038E-06	2.153E-06	1.065E-06	4.113E-07	2.164E-07	1.341E-07	9.182E-08	6.727E-08	5.171E-08	4.121E-08	
NW	2.801E-05	9.628E-06	5.107E-06	2.531E-06	9.947E-07	5.302E-07	3.320E-07	2.294E-07	1.694E-07	1.311E-07	1.051E-07	
NNW	5.038E-05	1.661E-05	8.896E-06	4.468E-06	1.804E-06	9.800E-07	6.224E-07	4.351E-07	3.243E-07	2.530E-07	2.043E-07	
N	6.968E-05	2.283E-05	1.233E-05	6.226E-06	2.522E-06	1.372E-06	8.727E-07	6.106E-07	4.554E-07	3.556E-07	2.873E-07	
NNE	4.832E-05	1.570E-05	8.407E-06	4.232E-06	1.721E-06	9.395E-07	5.989E-07	4.198E-07	3.136E-07	2.452E-07	1.984E-07	
NE	2.616E-05	8.523E-06	4.559E-06	2.293E-06	9.286E-07	5.054E-07	3.215E-07	2.250E-07	1.678E-07	1.311E-07	1.059E-07	
ENE	1.700E-05	5.587E-06	3.019E-06	1.525E-06	6.134E-07	3.322E-07	2.194E-07	1.467E-07	1.092E-07	8.502E-08	6.854E-08	
E	1.557E-05	5.010E-06	2.651E-06	1.328E-06	5.386E-07	2.935E-07	1.869E-07	1.309E-07	9.776E-08	7.642E-08	6.180E-08	
ESE	1.922E-05	6.574E-06	3.585E-06	1.805E-06	7.141E-07	3.823E-07	2.401E-07	1.663E-07	1.230E-07	9.531E-07	7.652E-08	
SE	3.225E-05	1.089E-05	5.851E-06	2.930E-06	1.164E-06	6.253E-07	3.973E-07	2.733E-07	2.025E-07	1.572E-07	1.264E-07	
SSE	5.361E-05	1.743E-05	9.160E-06	4.566E-06	1.844E-06	1.001E-06	6.359E-07	4.445E-07	3.312E-07	2.584E-07	2.087E-07	

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)			DISTANCE IN MILES								
BEARING	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	1.236E-07	6.272E-08	4.015E-08	2.249E-08	1.487E-08	1.075E-08	8.227E-09	6.542E-09	5.349E-09	4.469E-09	3.797E-09
SSW	5.972E-08	2.981E-08	1.886E-08	1.041E-08	6.819E-09	4.899E-09	3.729E-09	2.954E-09	2.408E-09	2.007E-09	1.702E-09
SW	4.596E-08	2.280E-08	1.437E-08	7.869E-09	5.126E-09	3.665E-09	2.779E-09	2.194E-09	1.784E-09	1.483E-09	1.255E-09
WSW	3.366E-08	1.649E-08	1.029E-08	5.558E-09	3.585E-09	2.544E-09	1.918E-09	1.508E-09	1.221E-09	1.012E-09	8.547E-10
W	1.999E-08	9.873E-09	6.206E-09	3.394E-09	2.212E-09	1.584E-09	1.205E-09	9.541E-10	7.786E-10	6.499E-10	5.522E-10
WNW	3.378E-08	1.670E-08	1.050E-08	5.744E-09	3.743E-09	2.680E-09	2.037E-09	1.612E-09	1.314E-09	1.096E-09	9.303E-10
NW	8.662E-08	4.374E-08	2.793E-08	1.561E-08	1.033E-08	7.485E-09	5.740E-09	4.577E-09	3.754E-09	3.147E-09	2.684E-09
NNW	1.695E-07	8.755E-08	5.677E-08	3.237E-08	2.169E-08	1.585E-08	1.223E-08	9.798E-09	8.069E-09	6.784E-09	5.799E-09
N	2.383E-07	1.232E-07	7.995E-08	4.561E-08	3.056E-08	2.234E-08	1.724E-08	1.382E-08	1.138E-08	9.572E-09	8.184E-09
NNE	1.648E-07	8.561E-08	5.573E-08	3.195E-08	2.148E-08	1.574E-08	1.217E-08	9.775E-09	8.063E-09	6.791E-09	5.813E-09
NE	8.791E-08	4.552E-08	2.957E-08	1.690E-08	1.134E-08	8.299E-09	6.413E-09	5.145E-09	4.241E-09	3.569E-09	3.053E-09
ENE	5.676E-08	2.914E-08	1.880E-08	1.065E-08	7.094E-09	5.161E-09	3.969E-09	3.170E-09	2.604E-09	2.184E-09	1.863E-09
E	5.132E-08	2.666E-08	1.736E-08	9.973E-09	6.725E-09	4.942E-09	3.832E-09	3.084E-09	2.550E-09	2.153E-09	1.847E-09
ESE	6.313E-08	3.199E-08	2.046E-08	1.146E-08	7.582E-09	5.491E-09	4.208E-09	3.354E-09	2.749E-09	2.303E-09	1.963E-09
SE	1.844E-07	5.316E-08	3.413E-08	1.921E-08	1.277E-08	9.281E-09	7.133E-09	5.697E-09	4.680E-09	3.928E-09	3.352E-09
SSE	1.731E-07	8.940E-08	5.795E-08	3.303E-08	2.212E-08	1.615E-08	1.245E-08	9.961E-09	8.191E-09	6.877E-09	5.868E-09

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

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	6.837E-06	1.572E-06	4.845E-07	2.438E-07	1.509E-07	6.621E-08	2.303E-08	1.084E-08	6.569E-09	4.481E-09
SSW	3.569E-06	8.051E-07	2.416E-07	1.197E-07	7.328E-08	3.159E-08	1.069E-08	4.943E-09	2.968E-09	2.013E-09
SW	2.792E-06	6.286E-07	1.876E-07	9.258E-08	5.648E-08	2.420E-08	8.094E-09	3.700E-09	2.205E-09	1.488E-09
WSW	2.117E-06	4.769E-07	1.403E-07	6.856E-08	4.151E-08	1.755E-08	5.732E-09	2.571E-09	1.516E-09	1.016E-09
W	1.239E-06	2.779E-07	8.230E-08	4.844E-08	2.460E-08	1.049E-08	3.493E-09	1.600E-09	9.588E-10	6.518E-10
WNW	2.088E-06	4.700E-07	1.391E-07	6.836E-08	4.157E-08	1.774E-08	5.912E-09	2.706E-09	1.620E-09	1.099E-09
NW	4.967E-06	1.130E-06	3.438E-07	1.719E-07	1.060E-07	4.624E-08	1.600E-08	7.546E-09	4.596E-09	3.156E-09
NNW	8.642E-06	2.030E-06	6.428E-07	3.288E-07	2.059E-07	9.208E-08	3.304E-08	1.596E-08	9.834E-09	6.800E-09
N	1.195E-05	2.834E-06	9.011E-07	4.617E-07	2.894E-07	1.296E-07	4.655E-08	2.249E-08	1.387E-08	9.594E-09
NNE	8.173E-06	1.932E-06	6.181E-07	3.179E-07	1.998E-07	8.992E-08	3.258E-08	1.584E-08	9.808E-09	6.806E-09
NE	4.433E-06	1.044E-06	3.319E-07	1.782E-07	1.067E-07	4.785E-08	1.724E-08	8.356E-09	5.162E-09	3.577E-09
ENE	2.925E-06	6.909E-07	2.174E-07	1.107E-07	6.906E-08	3.068E-08	1.088E-08	5.200E-09	3.183E-09	2.189E-09
E	2.587E-06	6.051E-07	1.930E-07	9.911E-08	6.225E-08	2.801E-08	1.017E-08	4.974E-09	3.095E-09	2.157E-09
ESE	3.458E-06	8.091E-07	2.485E-07	1.248E-07	7.713E-08	3.379E-08	1.174E-08	5.535E-09	3.368E-09	2.309E-09
SE	5.673E-06	1.317E-06	4.073E-07	2.055E-07	1.274E-07	5.609E-08	1.966E-08	9.352E-09	5.720E-09	3.937E-09
SSE	8.956E-06	2.074E-06	6.568E-07	3.359E-07	2.102E-07	9.402E-08	3.372E-08	1.626E-08	9.997E-09	6.893E-09

VENTS GROUND LEVEL RELEASES - JUL-DEC 1993  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES											
	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500	
SECTOR												
S	3.711E-05	1.209E-05	6.278E-06	3.075E-06	1.185E-06	6.206E-07	3.824E-07	2.604E-07	1.897E-07	1.450E-07	1.149E-07	
SSW	1.885E-05	6.334E-06	3.278E-06	1.593E-06	6.029E-07	3.118E-07	1.903E-07	1.285E-07	9.299E-08	7.067E-08	5.572E-08	
SW	1.449E-05	4.953E-06	2.567E-06	1.246E-06	4.702E-07	2.425E-07	1.476E-07	9.954E-08	7.188E-08	5.454E-08	4.294E-08	
WSW	1.073E-05	3.730E-06	1.952E-06	9.509E-07	3.555E-07	1.821E-07	1.102E-07	7.391E-08	5.314E-08	4.016E-08	3.150E-08	
W	6.370E-06	2.196E-06	1.138E-06	5.521E-07	2.072E-07	1.064E-07	6.456E-08	4.340E-08	3.127E-08	2.367E-08	1.860E-08	
WNN	1.078E-05	3.691E-06	1.921E-06	9.343E-07	3.505E-07	1.800E-07	1.092E-07	7.343E-08	5.291E-08	4.006E-08	3.140E-08	
NW	2.653E-05	8.804E-06	4.560E-06	2.221E-06	8.480E-07	4.414E-07	2.707E-07	1.837E-07	1.334E-07	1.017E-07	8.044E-08	
NNW	4.771E-05	1.519E-05	7.945E-06	3.922E-06	1.539E-06	8.164E-07	5.081E-07	3.488E-07	2.558E-07	1.967E-07	1.567E-07	
N	6.600E-05	2.088E-05	1.101E-05	5.465E-06	2.151E-06	1.143E-06	7.123E-07	4.894E-07	3.592E-07	2.763E-07	2.202E-07	
NNE	4.576E-05	1.436E-05	7.508E-06	3.716E-06	1.468E-06	7.827E-07	4.888E-07	3.365E-07	2.474E-07	1.906E-07	1.521E-07	
NE	2.478E-05	7.795E-06	4.072E-06	2.013E-06	7.922E-07	4.211E-07	2.624E-07	1.804E-07	1.324E-07	1.019E-07	8.122E-08	
ENE	1.610E-05	5.110E-06	2.696E-06	1.339E-06	5.234E-07	2.768E-07	1.718E-07	1.177E-07	8.612E-08	6.610E-08	5.257E-08	
E	1.474E-05	4.582E-06	2.367E-06	1.166E-06	4.594E-07	2.444E-07	1.525E-07	1.049E-07	7.706E-08	5.934E-08	4.734E-08	
ESE	1.820E-05	6.011E-06	3.201E-06	1.585E-06	6.090E-07	3.183E-07	1.958E-07	1.332E-07	9.691E-08	7.401E-08	5.860E-08	
SE	3.054E-05	9.960E-06	5.224E-06	2.571E-06	9.926E-07	5.205E-07	3.211E-07	2.188E-07	1.595E-07	1.220E-07	9.676E-08	
SSE	5.078E-05	1.594E-05	8.182E-06	4.010E-06	1.573E-06	8.346E-07	5.194E-07	3.566E-07	2.615E-07	2.011E-07	1.602E-07	

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES											
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000	
BEARING												
S	9.370E-08	4.537E-08	2.793E-08	1.474E-08	9.318E-09	6.499E-09	4.824E-09	3.737E-09	2.987E-09	2.446E-09	2.041E-09	
SSW	4.522E-08	2.152E-08	1.309E-08	6.791E-09	4.248E-09	2.939E-09	2.168E-09	1.670E-09	1.329E-09	1.084E-09	9.017E-10	
SW	3.479E-08	1.646E-08	9.961E-09	5.131E-09	3.190E-09	2.196E-09	1.613E-09	1.238E-09	9.826E-10	7.993E-10	6.631E-10	
WSW	2.544E-08	1.187E-08	7.106E-09	3.603E-09	2.213E-09	1.509E-09	1.099E-09	8.385E-10	6.613E-10	5.351E-10	4.419E-10	
W	1.504E-08	7.065E-09	4.255E-09	2.177E-09	1.347E-09	9.240E-10	6.769E-10	5.188E-10	4.111E-10	3.341E-10	2.769E-10	
WNN	2.547E-08	1.198E-08	7.222E-09	3.701E-09	2.293E-09	1.575E-09	1.154E-09	8.852E-10	7.016E-10	5.702E-10	4.728E-10	
NW	6.545E-08	3.148E-08	1.929E-08	1.012E-08	6.381E-09	4.443E-09	3.294E-09	2.550E-09	2.037E-09	1.668E-09	1.392E-09	
NNW	1.283E-07	6.320E-08	3.937E-08	2.111E-08	1.350E-08	9.496E-09	7.097E-09	5.530E-09	4.443E-09	3.654E-09	3.061E-09	
N	1.804E-07	8.891E-08	5.541E-08	2.722E-08	1.900E-08	1.336E-08	9.985E-09	7.780E-09	6.259E-09	5.139E-09	4.305E-09	
NNE	1.247E-07	6.178E-08	3.863E-08	2.082E-08	1.336E-08	9.421E-09	7.055E-09	5.507E-09	4.431E-09	3.649E-09	3.061E-09	
NE	6.655E-08	3.285E-08	2.050E-08	1.102E-08	7.055E-09	4.969E-09	3.718E-09	2.899E-09	2.331E-09	1.919E-09	1.608E-09	
ENE	4.299E-08	2.104E-08	1.305E-08	6.952E-09	4.422E-09	3.098E-09	2.308E-09	1.793E-09	1.437E-09	1.180E-09	9.863E-10	
E	3.882E-08	1.921E-08	1.201E-08	6.482E-09	4.166E-09	2.943E-09	2.208E-09	1.726E-09	1.390E-09	1.146E-09	9.626E-10	
ESE	4.774E-08	2.304E-08	1.415E-08	7.440E-09	4.692E-09	3.266E-09	2.420E-09	1.872E-09	1.495E-09	1.223E-09	1.020E-09	
SE	7.892E-08	3.828E-08	2.359E-08	1.247E-08	7.901E-09	5.520E-09	4.103E-09	3.183E-09	2.548E-09	2.089E-09	1.745E-09	
SSE	1.312E-07	6.468E-08	4.032E-08	2.165E-08	1.386E-08	9.762E-09	7.302E-09	5.694E-09	4.577E-09	3.766E-09	3.156E-09	

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

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	6.146E-06	1.354E-06	3.972E-07	1.929E-07	1.160E-07	4.836E-08	1.526E-08	6.581E-09	3.762E-09	2.456E-09
SSW	3.208E-06	6.936E-07	1.980E-07	9.464E-08	5.626E-08	2.304E-08	7.060E-09	2.980E-09	1.683E-09	1.089E-09
SW	2.510E-06	5.415E-07	1.537E-07	7.318E-08	4.336E-08	1.765E-08	5.342E-09	2.228E-09	1.248E-09	8.031E-10
WSW	1.902E-06	4.107E-07	1.148E-07	5.413E-08	3.182E-08	1.277E-08	3.764E-09	1.533E-09	8.455E-10	5.380E-10
W	1.113E-06	2.390E-07	6.725E-08	3.184E-08	1.879E-08	7.589E-09	2.269E-09	9.378E-10	5.230E-10	3.357E-10
WNN	1.876E-06	4.044E-07	1.138E-07	5.388E-08	3.180E-08	1.286E-08	3.857E-09	1.598E-09	8.921E-10	5.731E-10
NW	4.464E-06	9.725E-07	2.814E-07	1.357E-07	8.119E-08	3.361E-08	1.050E-08	4.500E-09	2.567E-09	1.675E-09
NNW	7.768E-06	1.747E-06	5.266E-07	2.598E-07	1.580E-07	6.708E-08	2.179E-08	9.604E-09	5.564E-09	3.668E-09
N	1.074E-05	2.440E-06	7.380E-07	3.648E-07	2.221E-07	9.435E-08	3.066E-08	1.351E-08	7.827E-09	5.159E-09
NNE	7.346E-06	1.663E-06	5.062E-07	2.512E-07	1.534E-07	6.548E-08	2.146E-08	9.524E-09	5.540E-09	3.663E-09
NE	3.984E-06	8.985E-07	2.719E-07	1.345E-07	8.191E-08	3.485E-08	1.136E-08	5.025E-09	2.917E-09	1.926E-09
ENE	2.629E-06	5.950E-07	1.781E-07	8.751E-08	5.303E-08	2.237E-08	7.182E-09	3.135E-09	1.805E-09	1.184E-09
E	2.325E-06	5.208E-07	1.580E-07	7.826E-08	4.774E-08	2.037E-08	6.682E-09	2.975E-09	1.736E-09	1.151E-09
ESE	3.107E-06	6.966E-07	2.034E-07	9.855E-08	5.914E-08	2.458E-08	7.710E-09	3.308E-09	1.885E-09	1.228E-09
SE	5.097E-06	1.134E-06	3.334E-07	1.622E-07	9.764E-08	4.078E-08	1.291E-08	5.588E-09	3.204E-09	2.047E-09
SSE	8.051E-06	1.786E-06	5.383E-07	2.657E-07	1.616E-07	6.864E-08	2.234E-08	9.871E-09	5.728E-09	3.780E-09

VENTS GROUND LEVEL RELEASES - JUL-DEC 1993  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

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

DIRECTION FROM SITE	DISTANCES IN MILES										
	0.25	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S	1.586E-07	5.362E-08	2.753E-08	1.309E-08	4.702E-09	2.332E-09	1.373E-09	8.990E-10	6.326E-10	4.688E-10	3.613E-10
SSW	1.010E-07	3.416E-08	1.754E-08	8.339E-09	2.995E-09	1.485E-09	8.747E-10	5.727E-10	4.030E-10	2.987E-10	2.302E-10
SW	6.931E-08	2.344E-08	1.203E-08	5.722E-09	2.055E-09	1.019E-09	6.061E-10	3.930E-10	2.765E-10	2.049E-10	1.579E-10
WSW	5.641E-08	1.908E-08	9.795E-09	4.657E-09	1.673E-09	8.295E-10	4.884E-10	3.198E-10	2.250E-10	1.668E-10	1.285E-10
W	4.836E-08	1.635E-08	8.396E-09	3.991E-09	1.434E-09	7.110E-10	4.187E-10	2.741E-10	1.929E-10	1.430E-10	1.102E-10
WNW	7.898E-08	2.671E-08	1.371E-08	6.519E-09	2.342E-09	1.161E-09	6.838E-10	4.478E-10	3.151E-10	2.335E-10	1.799E-10
NW	1.752E-07	5.924E-08	3.041E-08	1.446E-08	5.194E-09	2.576E-09	1.517E-09	9.931E-10	6.988E-10	5.179E-10	3.991E-10
NNW	2.290E-07	7.744E-08	3.976E-08	1.890E-08	6.790E-09	3.367E-09	1.983E-09	1.298E-09	9.135E-10	6.770E-10	5.217E-10
N	3.150E-07	1.065E-07	5.469E-08	2.600E-08	9.340E-09	4.632E-09	2.727E-09	1.786E-09	1.257E-09	9.313E-10	7.177E-10
NNE	2.032E-07	6.872E-08	3.528E-08	1.677E-08	6.025E-09	2.988E-09	1.759E-09	1.152E-09	8.106E-10	6.008E-10	4.630E-10
NE	1.161E-07	3.927E-08	2.016E-08	9.585E-09	3.443E-09	1.707E-09	1.005E-09	6.583E-10	4.632E-10	3.433E-10	2.645E-10
ENE	7.419E-08	2.509E-08	1.288E-08	6.124E-09	2.200E-09	1.091E-09	6.424E-10	4.206E-10	2.960E-10	2.193E-10	1.690E-10
E	6.826E-08	2.308E-08	1.185E-08	5.635E-09	2.024E-09	1.004E-09	5.910E-10	3.870E-10	2.723E-10	2.018E-10	1.555E-10
ESE	1.107E-07	3.744E-08	1.922E-08	9.138E-09	3.282E-09	1.628E-09	9.585E-10	6.276E-10	4.416E-10	3.273E-10	2.522E-10
SE	2.058E-07	6.960E-08	3.574E-08	1.699E-08	6.103E-09	3.026E-09	1.782E-09	1.167E-09	8.211E-10	6.085E-10	4.689E-10
SSE	2.715E-07	9.180E-08	4.714E-08	2.241E-08	8.049E-09	3.992E-09	2.350E-09	1.539E-09	1.083E-09	8.026E-10	6.185E-10

DIRECTION FROM SITE	DISTANCES IN MILES										
	5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
S	2.870E-10	1.275E-10	7.723E-11	3.904E-11	2.363E-11	1.584E-11	1.135E-11	8.524E-12	6.627E-12	5.294E-12	4.321E-12
SSW	1.828E-10	8.122E-11	4.920E-11	2.487E-11	1.505E-11	1.009E-11	7.231E-12	5.430E-12	4.222E-12	3.373E-12	2.753E-12
SW	1.255E-10	5.573E-11	3.376E-11	1.706E-11	1.033E-11	6.924E-12	4.962E-12	3.726E-12	2.897E-12	2.314E-12	1.889E-12
WSW	1.021E-10	4.536E-11	2.748E-11	1.389E-11	8.405E-12	5.636E-12	4.038E-12	3.032E-12	2.358E-12	1.883E-12	1.537E-12
W	8.752E-11	3.888E-11	2.355E-11	1.190E-11	7.205E-12	4.831E-12	3.461E-12	2.599E-12	2.021E-12	1.614E-12	1.318E-12
WNW	1.429E-10	6.350E-11	3.847E-11	1.944E-11	1.177E-11	7.890E-12	5.654E-12	4.245E-12	3.301E-12	2.637E-12	2.152E-12
NW	3.170E-10	1.408E-10	8.532E-11	4.312E-11	2.610E-11	1.750E-11	1.254E-11	9.416E-12	7.321E-12	5.848E-12	4.773E-12
NNW	4.145E-10	1.841E-10	1.115E-10	5.637E-11	3.412E-11	2.288E-11	1.639E-11	1.231E-11	9.570E-12	7.645E-12	6.240E-12
N	5.791E-10	2.533E-10	1.534E-10	7.755E-11	4.694E-11	3.147E-11	2.255E-11	1.693E-11	1.317E-11	1.052E-11	8.584E-12
NNE	3.678E-10	1.634E-10	9.897E-11	5.003E-11	3.028E-11	2.030E-11	1.455E-11	1.092E-11	8.493E-12	6.784E-12	5.537E-12
NE	2.102E-10	9.336E-11	5.655E-11	2.858E-11	1.730E-11	1.160E-11	8.312E-12	6.241E-12	4.853E-12	3.876E-12	3.164E-12
ENE	1.343E-10	5.965E-11	3.613E-11	1.826E-11	1.105E-11	7.412E-12	5.311E-12	3.988E-12	3.101E-12	2.477E-12	2.022E-12
E	1.236E-10	5.489E-11	3.325E-11	1.680E-11	1.017E-11	6.820E-12	4.887E-12	3.669E-12	2.853E-12	2.279E-12	1.860E-12
ESE	2.004E-10	8.901E-11	5.392E-11	2.725E-11	1.649E-11	1.106E-11	7.924E-12	5.50E-12	4.627E-12	3.696E-12	3.017E-12
SE	3.725E-10	1.655E-10	1.002E-10	5.067E-11	3.067E-11	2.056E-11	1.473E-11	1.106E-11	8.602E-12	6.871E-12	5.609E-12
SSE	4.913E-10	2.183E-10	1.322E-10	6.683E-11	4.045E-11	2.712E-11	1.943E-11	1.459E-11	1.135E-11	9.063E-12	7.398E-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	2.691E-08	5.512E-09	1.439E-09	6.463E-10	3.656E-10	1.406E-10	4.068E-11	1.612E-11	8.609E-12	5.329E-12
SSW	1.714E-08	3.512E-09	9.168E-10	4.117E-10	2.329E-10	8.957E-11	2.591E-11	1.027E-11	5.484E-12	3.395E-12
SW	1.176E-08	2.410E-09	6.290E-10	2.825E-10	1.598E-10	6.146E-11	1.778E-11	7.047E-12	3.763E-12	2.329E-12
WSW	9.574E-09	1.961E-09	5.119E-10	2.299E-10	1.301E-10	5.002E-11	1.447E-11	5.735E-12	3.063E-12	1.896E-12
W	8.206E-09	1.681E-09	4.388E-10	1.971E-10	1.115E-10	4.287E-11	1.240E-11	4.916E-12	2.625E-12	1.625E-12
WNW	1.340E-08	2.746E-09	7.167E-10	3.219E-10	1.821E-10	7.003E-11	2.026E-11	8.030E-12	4.288E-12	2.654E-12
NW	2.973E-08	6.089E-09	1.590E-09	7.140E-10	4.039E-10	1.553E-10	4.493E-11	1.781E-11	9.510E-12	5.886E-12
NNW	3.886E-08	7.960E-09	2.078E-09	9.333E-10	5.280E-10	2.030E-10	5.874E-11	2.328E-11	1.243E-11	7.695E-12
N	5.346E-08	1.095E-08	2.859E-09	1.284E-09	7.263E-10	2.793E-10	8.080E-11	3.203E-11	1.710E-11	1.059E-11
NNE	3.449E-08	7.064E-09	1.844E-09	8.282E-10	4.685E-10	1.802E-10	5.213E-11	2.066E-11	1.103E-11	6.829E-12
NE	1.971E-08	4.036E-09	1.054E-09	4.733E-10	2.677E-10	1.030E-10	2.978E-11	1.180E-11	6.304E-12	3.902E-12
ENE	1.259E-08	2.579E-09	6.733E-10	3.024E-10	1.711E-10	6.578E-11	1.903E-11	7.543E-12	4.028E-12	2.493E-12
E	1.159E-08	2.373E-09	6.195E-10	2.782E-10	1.574E-10	6.053E-11	1.751E-11	6.940E-12	3.706E-12	2.294E-12
ESE	1.879E-08	3.848E-09	1.005E-09	4.512E-10	2.552E-10	9.816E-11	2.840E-11	1.125E-11	6.010E-12	3.720E-12
SE	3.493E-08	7.155E-09	1.868E-09	8.389E-10	4.746E-10	1.825E-10	5.260E-11	2.093E-11	1.117E-11	6.910E-12
SSE	4.607E-08	9.437E-09	2.464E-09	1.106E-09	6.259E-10	2.407E-10	6.964E-11	2.760E-11	1.474E-11	9.123E-12

B150



VENTS GROUND LEVEL RELEASES - JUL-DEC 1993  
CORRECTED FOR OPEN TERRAIN RECIRCULATION  
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE		X/Q		X/Q		X/Q		D/Q
			(MILES)	(METERS)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)		
			NO DECAY		UNDEPLETED	UNDEPLETED	DEPLETED				
A	SITE BOUNDARY	S	0.80	1287.	6.054E-06	6.032E-06	5.369E-06	2.342E-08			
A	SITE BOUNDARY	SSW	0.82	1327.	2.923E-06	2.913E-06	2.588E-06	1.376E-08			
A	SITE BOUNDARY	SW	0.98	1569.	1.514E-06	1.508E-06	1.326E-06	6.105E-09			
A	SITE BOUNDARY	WSW	0.93	1489.	1.313E-06	1.308E-06	1.154E-06	5.690E-09			
A	SITE BOUNDARY	W	0.91	1468.	7.894E-07	7.876E-07	6.947E-07	5.061E-09			
A	SITE BOUNDARY	WNW	0.94	1509.	1.248E-06	1.245E-06	1.096E-06	7.695E-09			
A	SITE BOUNDARY	NW	0.81	1307.	4.225E-06	4.213E-06	3.744E-06	2.484E-08			
A	SITE BOUNDARY	NNW	0.69	1106.	1.019E-05	1.016E-05	9.118E-06	4.605E-08			
A	SITE BOUNDARY	N	0.67	1086.	1.448E-05	1.444E-05	1.297E-05	6.531E-08			
A	SITE BOUNDARY	NNE	0.60	965.	1.188E-05	1.185E-05	1.071E-05	5.106E-08			
A	SITE BOUNDARY	NE	0.62	1005.	6.043E-06	6.028E-06	5.435E-06	2.742E-08			
A	SITE BOUNDARY	ENE	0.59	945.	4.369E-06	4.358E-06	3.946E-06	1.929E-08			
A	SITE BOUNDARY	E	0.53	845.	4.633E-06	4.623E-06	4.215E-06	2.132E-08			
A	SITE BOUNDARY	ESE	0.54	865.	5.884E-06	5.872E-06	5.346E-06	3.328E-08			
A	SITE BOUNDARY	SE	0.65	1046.	7.294E-06	7.277E-06	6.547E-06	4.545E-08			
A	SITE BOUNDARY	SSE	0.81	1307.	7.590E-06	7.563E-06	6.725E-06	3.849E-08			
A	NEAR. RESIDENCE	SW	1.40	2253.	6.486E-07	6.448E-07	5.530E-07	2.438E-09			
A	NEAR. RESIDENCE	WSW	1.30	2092.	5.832E-07	5.804E-07	5.003E-07	2.389E-09			
A	NEAR. RESIDENCE	W	1.00	1609.	6.312E-07	6.296E-07	5.521E-07	3.991E-09			
A	NEAR. RESIDENCE	WNW	1.60	2575.	3.571E-07	3.554E-07	3.013E-07	1.998E-09			
A	NEAR. RESIDENCE	NW	0.90	1448.	3.278E-06	3.267E-06	2.887E-06	1.900E-08			
A	NEAR. RESIDENCE	NNW	2.00	3219.	9.883E-07	9.800E-07	8.164E-07	3.367E-09			
A	NEAR. RESIDENCE	NNE	2.70	4345.	5.208E-07	5.148E-07	4.171E-07	1.470E-09			
A	NEAR. RESIDENCE	ENE	1.70	2736.	4.717E-07	4.683E-07	3.956E-07	1.618E-09			
A	NEAR. RESIDENCE	E	1.80	2897.	3.681E-07	3.655E-07	3.071E-07	1.295E-09			
A	NEAREST COW	NNW	3.50	5634.	3.290E-07	3.241E-07	2.556E-07	9.130E-10			
A	NEAREST GARDEN	SW	1.40	2253.	6.486E-07	6.448E-07	5.530E-07	2.438E-09			
A	NEAREST GARDEN	WSW	1.80	2897.	2.780E-07	2.761E-07	2.320E-07	1.070E-09			
A	NEAREST GARDEN	WNW	1.60	2575.	3.571E-07	3.554E-07	3.013E-07	1.998E-09			
A	NEAREST GARDEN	NNW	2.00	3219.	9.883E-07	9.800E-07	8.164E-07	3.367E-09			

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Atmospheric Diffusion Estimates

Ground Level Releases

January-December 1993

VENTS GROUND LEVEL RELEASES - JAN-DEC 1993  
 NO DECAY, UNDEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES										
	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	5.097E-05	1.708E-05	9.117E-06	4.559E-06	1.816E-06	9.775E-07	6.169E-07	4.291E-07	3.187E-07	2.430E-07	1.998E-07
SSW	2.635E-05	8.937E-06	4.734E-06	2.353E-06	9.315E-07	4.993E-07	3.140E-07	2.178E-07	1.614E-07	1.253E-07	1.008E-07
SW	1.606E-05	5.694E-06	3.028E-06	1.498E-06	5.816E-07	3.073E-07	1.911E-07	1.314E-07	9.653E-08	7.443E-08	5.949E-08
WSW	1.394E-05	4.861E-06	2.570E-06	1.269E-06	4.935E-07	2.611E-07	1.626E-07	1.118E-07	8.224E-08	6.347E-08	5.076E-08
W	1.011E-05	3.552E-06	1.883E-06	9.316E-07	3.629E-07	1.922E-07	1.198E-07	8.243E-08	6.066E-08	4.682E-08	3.746E-08
WNW	1.505E-05	5.213E-06	2.758E-06	1.365E-06	5.344E-07	2.842E-07	1.776E-07	1.226E-07	9.045E-08	6.999E-08	5.611E-08
NW	2.841E-05	9.784E-06	5.178E-06	2.565E-06	1.009E-06	5.387E-07	3.379E-07	2.339E-07	1.730E-07	1.341E-07	1.077E-07
NNW	5.136E-05	1.660E-05	8.720E-06	4.355E-06	1.778E-06	9.743E-07	6.232E-07	4.383E-07	3.285E-07	2.577E-07	2.091E-07
N	6.625E-05	2.151E-05	1.155E-05	5.833E-06	2.375E-06	1.298E-06	8.283E-07	5.814E-07	4.351E-07	3.407E-07	2.761E-07
NNE	4.305E-05	1.392E-05	7.472E-06	3.773E-06	1.537E-06	8.407E-07	5.369E-07	3.770E-07	2.822E-07	2.211E-07	1.792E-07
NE	2.261E-05	7.360E-06	3.929E-06	1.975E-06	8.012E-07	4.368E-07	2.783E-07	1.951E-07	1.458E-07	1.141E-07	9.238E-08
ENE	1.561E-05	5.155E-06	2.781E-06	1.403E-06	5.653E-07	3.067E-07	1.946E-07	1.360E-07	1.014E-07	7.912E-08	6.393E-08
E	1.471E-05	4.757E-06	2.537E-06	1.276E-06	5.178E-07	2.824E-07	1.799E-07	1.262E-07	9.430E-08	7.379E-08	5.976E-08
ESE	1.788E-05	6.211E-06	3.381E-06	1.698E-06	6.689E-07	3.573E-07	2.241E-07	1.551E-07	1.147E-07	8.887E-08	7.136E-08
SE	3.116E-05	1.056E-05	5.695E-06	2.856E-06	1.134E-06	6.093E-07	3.838E-07	2.666E-07	1.977E-07	1.537E-07	1.237E-07
SSE	5.331E-05	1.735E-05	9.125E-06	4.548E-06	1.833E-06	9.949E-07	6.320E-07	4.420E-07	3.298E-07	2.577E-07	2.084E-07

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	1.654E-07	8.520E-08	5.532E-08	3.184E-08	2.163E-08	1.606E-08	1.261E-08	1.029E-08	8.632E-09	7.398E-09	6.446E-09
SSW	8.334E-08	4.265E-08	2.757E-08	1.578E-08	1.068E-08	7.906E-09	6.194E-09	5.045E-09	4.226E-09	3.617E-09	3.148E-09
SW	4.889E-08	2.445E-08	1.554E-08	8.680E-09	5.772E-09	4.216E-09	3.266E-09	2.634E-09	2.189E-09	1.859E-09	1.608E-09
WSW	4.175E-08	2.094E-08	1.334E-08	7.484E-09	5.000E-09	3.665E-09	2.848E-09	2.304E-09	1.919E-09	1.634E-09	1.416E-09
W	3.082E-08	1.547E-08	9.858E-09	5.527E-09	3.687E-09	2.699E-09	2.095E-09	1.693E-09	1.408E-09	1.198E-09	1.037E-09
WNW	4.625E-08	2.342E-08	1.503E-08	8.510E-09	5.718E-09	4.211E-09	3.284E-09	2.665E-09	2.225E-09	1.899E-09	1.649E-09
NW	8.896E-08	4.535E-08	2.923E-08	1.667E-08	1.126E-08	8.323E-09	6.512E-09	5.298E-09	4.434E-09	3.792E-09	3.299E-09
NNW	1.742E-07	9.179E-08	6.056E-08	3.564E-08	2.457E-08	1.846E-08	1.463E-08	1.203E-08	1.016E-08	8.755E-09	7.669E-09
N	2.297E-07	1.204E-07	7.917E-08	4.631E-08	3.178E-08	2.378E-08	1.879E-08	1.541E-08	1.298E-08	1.117E-08	9.763E-09
NNE	1.491E-07	7.828E-08	5.150E-08	3.016E-08	2.072E-08	1.551E-08	1.226E-08	1.006E-08	8.481E-09	7.298E-09	6.382E-09
NE	7.631E-08	4.018E-08	2.637E-08	1.540E-08	1.056E-08	7.902E-09	6.241E-09	5.117E-09	4.311E-09	3.708E-09	3.241E-09
ENE	5.305E-08	2.753E-08	1.797E-08	1.041E-08	7.098E-09	5.285E-09	4.159E-09	3.399E-09	2.856E-09	2.450E-09	2.137E-09
E	4.969E-08	2.600E-08	1.707E-08	9.974E-09	6.847E-09	5.125E-09	4.050E-09	3.22E-09	2.799E-09	2.409E-09	2.106E-09
ESE	5.898E-08	2.995E-08	1.927E-08	1.094E-08	7.355E-09	5.418E-09	4.225E-09	3.427E-09	2.860E-09	2.440E-09	2.118E-09
SE	1.023E-07	5.248E-08	3.397E-08	1.946E-08	1.318E-08	9.766E-09	7.652E-09	6.232E-09	5.220E-09	4.468E-09	3.888E-09
SSE	1.731E-07	9.027E-08	5.915E-08	3.449E-08	2.366E-08	1.770E-08	1.399E-08	1.147E-08	9.670E-09	8.320E-09	7.276E-09

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

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	8.860E-06	2.953E-06	6.380E-07	3.233E-07	2.014E-07	8.975E-08	3.252E-08	1.616E-08	1.032E-08	7.411E-09
SSW	4.610E-06	1.055E-06	3.249E-07	1.638E-07	1.016E-07	4.499E-08	1.613E-08	7.966E-09	5.061E-09	3.624E-09
SW	2.940E-06	6.634E-07	1.982E-07	9.806E-08	5.999E-08	2.592E-08	8.913E-09	4.251E-09	2.645E-09	1.864E-09
WSW	2.501E-06	5.626E-07	1.685E-07	8.354E-08	5.119E-08	2.219E-08	7.681E-09	3.694E-09	2.313E-09	1.637E-09
W	1.831E-06	4.134E-07	1.242E-07	6.161E-08	3.777E-08	1.639E-08	5.672E-09	2.721E-09	1.699E-09	1.201E-09
WNW	2.655E-06	6.078E-07	1.840E-07	9.184E-08	5.657E-08	2.477E-08	8.718E-09	4.242E-09	2.674E-09	1.903E-09
NW	5.040E-06	1.146E-06	3.498E-07	1.756E-07	1.086E-07	4.788E-08	1.706E-08	8.381E-09	5.316E-09	3.800E-09
NNW	8.532E-06	1.994E-06	6.429E-07	3.329E-07	2.105E-07	9.622E-08	3.626E-08	1.855E-08	1.206E-08	8.768E-09
N	1.122E-05	2.664E-06	8.547E-07	4.409E-07	2.781E-07	1.264E-07	4.715E-08	2.392E-08	1.545E-08	1.118E-08
NNE	7.261E-06	1.725E-06	5.539E-07	2.860E-07	1.805E-07	8.213E-08	3.070E-08	1.560E-08	1.009E-08	7.309E-09
NE	3.823E-06	9.802E-07	2.873E-07	1.478E-07	9.304E-08	4.218E-08	1.569E-08	7.947E-09	5.131E-09	3.713E-09
ENE	2.696E-06	6.366E-07	2.011E-07	1.028E-07	6.440E-08	2.895E-08	1.062E-08	5.318E-09	3.409E-09	2.454E-09
E	2.470E-06	5.817E-07	1.857E-07	9.559E-08	6.019E-08	2.729E-08	1.016E-08	5.154E-09	3.331E-09	2.412E-09
ESE	3.262E-06	7.591E-07	2.320E-07	1.164E-07	6.194E-08	3.164E-08	1.120E-08	5.457E-09	3.439E-09	2.445E-09
SE	5.515E-06	1.284E-06	3.971E-07	2.086E-07	1.247E-07	5.533E-08	1.990E-08	9.832E-09	6.253E-09	4.476E-09
SSE	8.919E-06	2.064E-06	6.528E-07	3.344E-07	2.099E-07	9.484E-08	3.516E-08	1.781E-08	1.150E-08	8.333E-09

VENTS GROUND LEVEL RELEASES - JAN-DEC 1993  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES											
	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	5.091E-05	1.704E-05	9.084E-06	4.537E-06	1.803E-06	9.679E-07	6.093E-07	4.227E-07	3.131E-07	2.430E-07	1.953E-07	2.631E-05	8.916E-06	4.717E-06	2.342E-06	9.248E-07	4.944E-07	3.102E-07	2.146E-07	1.586E-07	1.229E-07	9.856E-08
SSW	1.605E-05	5.682E-06	3.018E-06	1.492E-06	5.778E-07	3.047E-07	1.890E-07	1.296E-07	9.504E-08	7.312E-08	5.830E-08	1.393E-05	4.852E-06	2.562E-06	1.264E-06	4.905E-07	2.590E-07	1.609E-07	1.104E-07	8.105E-08	6.241E-08	4.981E-08
SW	1.810E-05	3.546E-06	1.878E-06	9.285E-07	3.611E-07	1.909E-07	1.187E-07	8.156E-08	5.991E-08	4.616E-08	3.686E-08	1.504E-05	5.203E-06	2.751E-06	1.360E-06	5.314E-07	2.820E-07	1.760E-07	1.212E-07	8.924E-08	6.891E-08	5.513E-08
WSW	2.838E-05	9.766E-06	5.164E-06	2.555E-06	1.003E-06	5.347E-07	3.347E-07	2.312E-07	1.706E-07	1.320E-07	1.058E-07	5.129E-05	1.656E-05	8.688E-06	4.334E-06	1.765E-06	9.645E-07	6.153E-07	4.316E-07	3.226E-07	2.523E-07	2.042E-07
W	6.617E-05	2.146E-05	1.151E-05	5.805E-06	2.358E-06	1.285E-06	8.182E-07	5.729E-07	4.276E-07	3.340E-07	2.700E-07	4.299E-05	1.389E-05	7.446E-06	3.756E-06	1.527E-06	8.527E-07	5.305E-07	3.716E-07	2.775E-07	2.169E-07	1.753E-07
WNW	2.250E-05	7.343E-06	3.915E-06	1.966E-06	7.956E-07	4.327E-07	2.750E-07	1.923E-07	1.434E-07	1.119E-07	9.038E-08	1.559E-05	5.143E-06	2.772E-06	1.397E-06	5.614E-07	3.038E-07	1.923E-07	1.341E-07	9.969E-08	7.762E-08	6.256E-08
NW	1.469E-05	4.747E-06	2.529E-06	1.271E-06	5.144E-07	2.799E-07	1.779E-07	1.245E-07	9.282E-08	7.246E-08	5.854E-08	1.787E-05	6.200E-06	3.372E-06	1.691E-06	6.651E-07	3.545E-07	2.219E-07	1.532E-07	1.131E-07	8.747E-08	7.010E-08
NNW	3.113E-05	1.054E-05	5.677E-06	2.845E-06	1.127E-06	6.042E-07	3.798E-07	2.632E-07	1.948E-07	1.510E-07	1.213E-07	5.129E-05	1.656E-05	8.688E-06	4.334E-06	1.765E-06	9.645E-07	6.153E-07	4.316E-07	3.226E-07	2.523E-07	2.042E-07
N	6.617E-05	2.146E-05	1.151E-05	5.805E-06	2.358E-06	1.285E-06	8.182E-07	5.729E-07	4.276E-07	3.340E-07	2.700E-07	4.299E-05	1.389E-05	7.446E-06	3.756E-06	1.527E-06	8.527E-07	5.305E-07	3.716E-07	2.775E-07	2.169E-07	1.753E-07
NNE	2.250E-05	7.343E-06	3.915E-06	1.966E-06	7.956E-07	4.327E-07	2.750E-07	1.923E-07	1.434E-07	1.119E-07	9.038E-08	1.559E-05	5.143E-06	2.772E-06	1.397E-06	5.614E-07	3.038E-07	1.923E-07	1.341E-07	9.969E-08	7.762E-08	6.256E-08
NE	1.469E-05	4.747E-06	2.529E-06	1.271E-06	5.144E-07	2.799E-07	1.779E-07	1.245E-07	9.282E-08	7.246E-08	5.854E-08	1.787E-05	6.200E-06	3.372E-06	1.691E-06	6.651E-07	3.545E-07	2.219E-07	1.532E-07	1.131E-07	8.747E-08	7.010E-08
ENE	3.113E-05	1.054E-05	5.677E-06	2.845E-06	1.127E-06	6.042E-07	3.798E-07	2.632E-07	1.948E-07	1.510E-07	1.213E-07	5.129E-05	1.656E-05	8.688E-06	4.334E-06	1.765E-06	9.645E-07	6.153E-07	4.316E-07	3.226E-07	2.523E-07	2.042E-07
E	6.617E-05	2.146E-05	1.151E-05	5.805E-06	2.358E-06	1.285E-06	8.182E-07	5.729E-07	4.276E-07	3.340E-07	2.700E-07	6.617E-05	2.146E-05	1.151E-05	5.805E-06	2.358E-06	1.285E-06	8.182E-07	5.729E-07	4.276E-07	3.340E-07	2.700E-07
ESE	3.113E-05	1.054E-05	5.677E-06	2.845E-06	1.127E-06	6.042E-07	3.798E-07	2.632E-07	1.948E-07	1.510E-07	1.213E-07	3.113E-05	1.054E-05	5.677E-06	2.845E-06	1.127E-06	6.042E-07	3.798E-07	2.632E-07	1.948E-07	1.510E-07	1.213E-07
SE	5.325E-05	1.731E-05	9.093E-06	4.527E-06	1.820E-06	9.853E-07	6.243E-07	4.355E-07	3.240E-07	2.525E-07	2.036E-07	5.325E-05	1.731E-05	9.093E-06	4.527E-06	1.820E-06	9.853E-07	6.243E-07	4.355E-07	3.240E-07	2.525E-07	2.036E-07
SSE																						

BEARING	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES											
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	1.613E-07	8.196E-08	5.251E-08	2.943E-08	1.947E-08	1.408E-08	1.078E-08	8.568E-09	7.006E-09	5.854E-09	4.974E-09	8.127E-08	4.105E-08	2.619E-08	1.460E-08	9.621E-09	6.940E-09	5.297E-09	4.204E-09	3.432E-09	2.863E-09	2.430E-09
SSW	4.781E-08	2.363E-08	1.485E-08	8.101E-09	5.264E-09	3.756E-09	2.843E-09	2.241E-09	1.819E-09	1.511E-09	1.277E-09	4.087E-08	2.027E-08	1.277E-08	7.006E-09	4.577E-09	3.281E-09	2.493E-09	1.972E-09	1.607E-09	1.338E-09	1.134E-09
SW	3.026E-08	1.504E-08	9.495E-09	5.220E-09	3.413E-09	2.449E-09	1.863E-09	1.476E-09	1.204E-09	1.004E-09	8.521E-10	4.535E-08	2.273E-08	1.443E-08	7.998E-09	5.260E-09	3.791E-09	2.895E-09	2.299E-09	1.879E-09	1.570E-09	1.335E-09
WSW	8.722E-08	4.400E-08	2.807E-08	1.567E-08	1.036E-08	7.503E-09	5.750E-09	4.582E-09	3.756E-09	3.147E-09	2.682E-09	1.697E-07	8.821E-08	5.742E-08	3.289E-08	2.208E-08	1.615E-08	1.246E-08	9.984E-09	8.217E-09	6.903E-09	5.895E-09
W	2.241E-07	1.160E-07	7.527E-08	4.292E-08	2.872E-08	2.096E-08	1.615E-08	1.293E-08	1.063E-08	8.926E-09	7.619E-09	3.026E-08	1.504E-08	9.495E-09	5.220E-09	3.413E-09	2.449E-09	1.863E-09	1.476E-09	1.204E-09	1.004E-09	8.521E-10
WNW	4.535E-08	2.273E-08	1.443E-08	7.998E-09	5.260E-09	3.791E-09	2.895E-09	2.299E-09	1.879E-09	1.570E-09	1.335E-09	1.697E-07	8.821E-08	5.742E-08	3.289E-08	2.208E-08	1.615E-08	1.246E-08	9.984E-09	8.217E-09	6.903E-09	5.895E-09
NW	1.697E-07	8.821E-08	5.742E-08	3.289E-08	2.208E-08	1.615E-08	1.246E-08	9.984E-09	8.217E-09	6.903E-09	5.895E-09	1.697E-07	8.821E-08	5.742E-08	3.289E-08	2.208E-08	1.615E-08	1.246E-08	9.984E-09	8.217E-09	6.903E-09	5.895E-09
NNW	2.241E-07	1.160E-07	7.527E-08	4.292E-08	2.872E-08	2.096E-08	1.615E-08	1.293E-08	1.063E-08	8.926E-09	7.619E-09	2.241E-07	1.160E-07	7.527E-08	4.292E-08	2.872E-08	2.096E-08	1.615E-08	1.293E-08	1.063E-08	8.926E-09	7.619E-09
N	1.456E-07	7.546E-08	4.902E-08	2.801E-08	1.877E-08	1.372E-08	1.059E-08	8.480E-09	6.981E-09	5.868E-09	5.014E-09	1.456E-07	7.546E-08	4.902E-08	2.801E-08	1.877E-08	1.372E-08	1.059E-08	8.480E-09	6.981E-09	5.868E-09	5.014E-09
NNE	7.496E-08	3.873E-08	2.510E-08	1.430E-08	9.569E-09	6.984E-09	5.383E-09	4.309E-09	3.544E-09	2.977E-09	2.543E-09	7.496E-08	3.873E-08	2.510E-08	1.430E-08	9.569E-09	6.984E-09	5.383E-09	4.309E-09	3.544E-09	2.977E-09	2.543E-09
NE	5.178E-08	2.654E-08	1.711E-08	9.667E-09	6.430E-09	4.672E-09	3.588E-09	2.862E-09	2.348E-09	1.967E-09	1.676E-09	5.178E-08	2.654E-08	1.711E-08	9.667E-09	6.430E-09	4.672E-09	3.588E-09	2.862E-09	2.348E-09	1.967E-09	1.676E-09
ENE	4.856E-08	2.511E-08	1.629E-08	9.299E-09	6.237E-09	4.561E-09	3.523E-09	2.825E-09	2.328E-09	1.959E-09	1.676E-09	4.856E-08	2.511E-08	1.629E-08	9.299E-09	6.237E-09	4.561E-09	3.523E-09	2.825E-09	2.328E-09	1.959E-09	1.676E-09
E	5.774E-08	2.906E-08	1.850E-08	1.029E-08	6.783E-09	4.896E-09	3.743E-09	2.977E-09	2.436E-09	2.038E-09	1.735E-09	5.774E-08	2.906E-08	1.850E-08	1.029E-08	6.783E-09	4.896E-09	3.743E-09	2.977E-09	2.436E-09	2.038E-09	1.735E-09
ESE	1.001E-07	5.076E-08	3.248E-08	1.819E-08	1.204E-08	8.719E-09	6.680E-09	5.320E-09	4.358E-09	3.648E-09	3.106E-09	1.001E-07	5.076E-08	3.248E-08	1.819E-08	1.204E-08	8.719E-09	6.680E-09	5.320E-09	4.358E-09	3.648E-09	3.106E-09
SE	1.687E-07	8.683E-08	5.613E-08	3.187E-08	2.128E-08	1.551E-08	1.194E-08	9.538E-09	7.834E-09	6.570E-09	5.602E-09	1.687E-07	8.683E-08	5.613E-08	3.187E-08	2.128E-08	1.551E-08	1.194E-08	9.538E-09	7.834E-09	6.570E-09	5.602E-09
SSE																						

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

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	8.830E-06	2.039E-06	6.303E-07	3.177E-07	1.968E-07	8.650E-08	3.013E-08	1.420E-08	8.604E-09	5.869E-09
SSW	4.595E-06	1.048E-06	3.211E-07	1.610E-07	9.936E-08	4.338E-08	1.496E-08	6.998E-09	4.222E-09	2.871E-09
SW	2.932E-06	6.595E-07	1.961E-07	9.657E-08	5.881E-08	2.510E-08	8.340E-09	3.793E-09	2.252E-09	1.515E-09
WSW	2.494E-06	5.596E-07	1.669E-07	8.234E-08	5.023E-08	2.152E-08	7.208E-09	3.311E-09	1.982E-09	1.342E-09
W	1.827E-06	4.115E-07	1.231E-07	6.086E-08	3.717E-08	1.596E-08	5.367E-09	2.472E-09	1.483E-09	1.007E-09
WNW	2.678E-06	6.048E-07	1.823E-07	9.063E-08	5.559E-08	2.407E-08	8.211E-09	3.824E-09	2.309E-09	1.575E-09
NW	5.027E-06	1.140E-06	3.466E-07	1.732E-07	1.067E-07	4.653E-08	1.607E-08	7.565E-09	4.601E-09	3.156E-09
NNW	8.503E-06	1.980E-06	6.349E-07	3.270E-07	2.057E-07	9.263E-08	3.354E-08	1.626E-08	1.002E-08	6.919E-09
N	1.119E-05	2.647E-06	8.446E-07	4.335E-07	2.719E-07	1.219E-07	4.380E-08	2.111E-08	1.297E-08	8.947E-09
NNE	7.237E-06	1.714E-06	5.475E-07	2.813E-07	1.766E-07	7.929E-08	2.857E-08	1.381E-08	8.511E-09	5.882E-09
NE	3.811E-06	8.945E-07	2.840E-07	1.454E-07	9.105E-08	4.0				



VENTS GROUND LEVEL RELEASES - JAN-DEC 1993  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES										
	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	4.822E-05	1.558E-05	8.116E-06	3.985E-06	1.539E-06	8.072E-07	4.980E-07	3.394E-07	2.474E-07	1.893E-07	1.501E-07
SSW	2.493E-05	8.155E-06	4.214E-06	2.057E-06	7.894E-07	4.123E-07	2.535E-07	1.723E-07	1.253E-07	9.567E-08	7.574E-08
SW	1.520E-05	5.196E-06	2.696E-06	1.310E-06	4.930E-07	2.539E-07	1.543E-07	1.039E-07	7.499E-08	5.685E-08	4.472E-08
WSW	1.319E-05	4.437E-06	2.288E-06	1.110E-06	4.184E-07	2.157E-07	1.313E-07	8.850E-08	6.391E-08	4.849E-08	3.817E-08
W	9.568E-06	3.242E-06	1.677E-06	8.147E-07	3.078E-07	1.589E-07	9.677E-08	6.528E-08	4.716E-08	3.580E-08	2.819E-08
WNW	1.424E-05	4.758E-06	2.456E-06	1.194E-06	4.531E-07	2.348E-07	1.435E-07	9.707E-08	7.031E-08	5.349E-08	4.221E-08
NW	2.688E-05	8.930E-06	4.611E-06	2.243E-06	8.556E-07	4.451E-07	2.730E-07	1.852E-07	1.344E-07	1.025E-07	8.105E-08
NNW	4.859E-05	1.515E-05	7.763E-06	3.807E-06	1.507E-06	8.045E-07	5.030E-07	3.466E-07	2.550E-07	1.966E-07	1.570E-07
N	6.268E-05	1.963E-05	1.029E-05	5.099E-06	2.013E-06	1.072E-06	6.186E-07	4.599E-07	3.378E-07	2.601E-07	2.074E-07
NNE	4.073E-05	1.270E-05	6.652E-06	3.298E-06	1.303E-06	6.942E-07	4.357E-07	2.982E-07	2.192E-07	1.688E-07	1.347E-07
NE	2.139E-05	6.717E-06	3.498E-06	1.727E-06	6.791E-07	3.607E-07	2.247E-07	1.543E-07	1.132E-07	8.710E-08	6.941E-08
ENE	1.477E-05	4.705E-06	2.476E-06	1.227E-06	4.792E-07	2.535E-07	1.571E-07	1.076E-07	7.872E-08	6.041E-08	4.804E-08
E	1.391E-05	4.342E-06	2.259E-06	1.116E-06	4.390E-07	2.332E-07	1.453E-07	9.982E-08	7.325E-08	5.636E-08	4.492E-08
ESE	1.692E-05	5.669E-06	3.011E-06	1.485E-06	5.672E-07	2.952E-07	1.810E-07	1.228E-07	8.911E-08	5.368E-08	4.282E-08
SE	2.948E-05	9.642E-06	5.070E-06	2.497E-06	9.616E-07	5.033E-07	3.100E-07	2.110E-07	1.536E-07	1.174E-07	9.302E-08
SSE	5.044E-05	1.584E-05	8.123E-06	3.976E-06	1.553E-06	8.216E-07	5.102E-07	3.496E-07	2.561E-07	1.967E-07	1.565E-07

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	1.224E-07	5.940E-08	3.661E-08	1.935E-08	1.225E-08	8.555E-09	6.353E-09	4.924E-09	3.937E-09	3.224E-09	2.690E-09
SSW	6.168E-08	2.974E-08	1.826E-08	9.595E-09	6.052E-09	4.213E-09	3.122E-09	2.415E-09	1.920E-09	1.577E-09	1.314E-09
SW	3.621E-08	1.707E-08	1.031E-08	5.292E-09	3.283E-09	2.257E-09	1.655E-09	1.269E-09	1.006E-09	8.174E-10	6.774E-10
WSW	3.093E-08	1.463E-08	8.853E-09	4.567E-09	2.847E-09	1.964E-09	1.445E-09	1.112E-09	8.835E-10	7.196E-10	5.977E-10
W	2.285E-08	1.082E-08	6.553E-09	3.381E-09	2.106E-09	1.452E-09	1.068E-09	8.210E-10	6.522E-10	5.311E-10	4.410E-10
WNW	3.429E-08	1.637E-08	9.981E-09	5.199E-09	3.260E-09	2.260E-09	1.670E-09	1.288E-09	1.027E-09	8.384E-10	6.980E-10
NW	6.594E-08	3.169E-08	1.941E-08	1.018E-08	6.420E-09	4.469E-09	3.313E-09	2.564E-09	2.048E-09	1.676E-09	1.398E-09
NNW	1.289E-07	6.398E-08	4.007E-08	2.165E-08	1.391E-08	9.823E-09	7.362E-09	5.749E-09	4.627E-09	3.810E-09	3.196E-09
N	1.700E-07	8.400E-08	5.242E-08	2.817E-08	1.803E-08	1.269E-08	9.482E-09	7.388E-09	5.935E-09	4.880E-09	4.077E-09
NNE	1.104E-07	5.461E-08	3.411E-08	1.836E-08	1.176E-08	8.283E-09	6.196E-09	4.831E-09	3.883E-09	3.195E-09	2.677E-09
NE	5.686E-08	2.803E-08	1.747E-08	9.376E-09	5.996E-09	4.218E-09	3.152E-09	2.456E-09	1.973E-09	1.622E-09	1.359E-09
ENE	3.927E-08	1.921E-08	1.194E-08	6.336E-09	4.028E-09	2.821E-09	2.101E-09	1.632E-09	1.307E-09	1.072E-09	8.959E-10
E	3.680E-08	1.815E-08	1.132E-08	6.078E-09	3.892E-09	2.741E-09	2.050E-09	1.599E-09	1.285E-09	1.058E-09	8.865E-10
ESE	4.366E-08	2.094E-08	1.280E-08	6.684E-09	4.196E-09	2.911E-09	2.151E-09	1.661E-09	1.323E-09	1.081E-09	8.996E-10
SE	7.581E-08	3.665E-08	2.253E-08	1.187E-08	7.500E-09	5.228E-09	3.879E-09	3.004E-09	2.400E-09	1.965E-09	1.639E-09
SSE	1.281E-07	6.294E-08	3.914E-08	2.097E-08	1.340E-08	9.426E-09	7.043E-09	5.486E-09	4.406E-09	3.622E-09	3.033E-09

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

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	7.940E-06	1.757E-06	5.170E-07	2.516E-07	1.515E-07	6.328E-08	2.003E-08	8.660E-09	4.956E-09	3.238E-09
SSW	4.131E-06	9.035E-07	2.634E-07	1.275E-07	7.644E-08	3.174E-08	9.945E-09	4.267E-09	2.431E-09	1.584E-09
SW	2.636E-06	5.682E-07	1.607E-07	7.635E-08	4.517E-08	1.832E-08	5.514E-09	2.290E-09	1.279E-09	8.214E-10
WSW	2.242E-06	4.820E-07	1.367E-07	6.506E-08	3.855E-08	1.568E-08	4.755E-09	1.992E-09	1.120E-09	7.230E-10
W	1.641E-06	3.542E-07	1.007E-07	4.801E-08	2.847E-08	1.160E-08	3.519E-09	1.473E-09	8.272E-10	5.336E-10
WNW	2.407E-06	5.207E-07	1.493E-07	7.155E-08	4.262E-08	1.751E-08	5.400E-09	2.291E-09	1.298E-09	8.422E-10
NW	4.518E-06	9.814E-07	2.838E-07	1.368E-07	8.181E-08	3.385E-08	1.056E-08	4.527E-09	2.581E-09	1.683E-09
NNW	7.647E-06	1.706E-06	5.208E-07	2.589E-07	1.583E-07	6.777E-08	2.231E-08	9.929E-09	5.782E-09	3.825E-09
N	1.006E-05	2.280E-06	6.926E-07	3.431E-07	2.092E-07	8.908E-08	2.905E-08	1.283E-08	7.433E-09	4.899E-09
NNE	6.506E-06	1.476E-06	4.489E-07	2.226E-07	1.358E-07	5.790E-08	1.893E-08	8.375E-09	4.860E-09	3.207E-09
NE	3.426E-06	7.705E-07	2.328E-07	1.150E-07	7.000E-08	2.974E-08	9.672E-09	4.266E-09	2.471E-09	1.629E-09
ENE	2.416E-06	5.449E-07	1.630E-07	7.999E-08	4.846E-08	2.042E-08	6.547E-09	2.855E-09	1.642E-09	1.076E-09
E	2.214E-06	4.979E-07	1.506E-07	7.441E-08	4.530E-08	1.926E-08	6.270E-09	2.772E-09	1.608E-09	1.062E-09
ESE	2.923E-06	6.502E-07	1.882E-07	9.065E-08	5.419E-08	2.237E-08	6.936E-09	2.950E-09	1.672E-09	1.086E-09
SE	4.943E-06	1.099E-06	3.219E-07	1.562E-07	9.387E-08	3.908E-08	1.230E-08	5.294E-09	3.024E-09	1.973E-09
SSE	7.994E-06	1.767E-06	5.290E-07	2.692E-07	1.579E-07	6.684E-08	2.164E-08	9.533E-09	5.520E-09	3.636E-09

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VENTS GROUND LEVEL RELEASES - JAN-DEC 1993  
CORRECTED FOR OPEN TERRAIN RECIRCULATION

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

DIRECTION FROM SITE	DISTANCES IN MILES										
	0.25	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S	2.180E-07	7.373E-08	3.786E-08	1.800E-08	6.465E-09	3.206E-09	1.888E-09	1.236E-09	8.698E-10	6.446E-10	4.967E-10
SSW	1.174E-07	3.969E-08	2.038E-08	9.688E-09	3.480E-09	1.726E-09	1.016E-09	6.654E-10	4.682E-10	3.470E-10	2.674E-10
SW	7.608E-08	2.573E-08	1.321E-08	6.280E-09	2.256E-09	1.119E-09	6.587E-10	4.313E-10	3.035E-10	2.249E-10	1.733E-10
WSW	7.168E-08	2.424E-08	1.245E-08	5.917E-09	2.125E-09	1.054E-09	6.206E-10	4.064E-10	2.859E-10	2.119E-10	1.633E-10
W	6.288E-08	2.126E-08	1.092E-08	5.191E-09	1.864E-09	9.246E-10	5.444E-10	3.565E-10	2.508E-10	1.859E-10	1.433E-10
WNW	8.898E-08	3.009E-08	1.545E-08	7.345E-09	2.638E-09	1.308E-09	7.704E-10	5.045E-10	3.550E-10	2.631E-10	2.027E-10
NW	1.826E-07	6.175E-08	3.171E-08	1.507E-08	5.415E-09	2.685E-09	1.581E-09	1.035E-09	7.285E-10	5.399E-10	4.160E-10
NNW	2.030E-07	6.865E-08	3.525E-08	1.676E-08	6.019E-09	2.985E-09	1.758E-09	1.151E-09	8.098E-10	6.001E-10	4.625E-10
N	2.696E-07	9.115E-08	4.680E-08	2.225E-08	7.992E-09	3.964E-09	2.354E-09	1.528E-09	1.075E-09	7.969E-10	6.141E-10
NNE	1.694E-07	5.729E-08	2.942E-08	1.399E-08	5.024E-09	2.491E-09	1.467E-09	9.605E-10	6.759E-10	5.009E-10	3.860E-10
NE	9.679E-08	3.273E-08	1.681E-08	7.990E-09	2.870E-09	1.423E-09	8.381E-10	5.487E-10	3.861E-10	2.862E-10	2.205E-10
ENE	6.490E-08	2.195E-08	1.127E-08	5.358E-09	1.924E-09	9.543E-10	5.619E-10	3.680E-10	2.589E-10	1.919E-10	1.479E-10
E	6.269E-08	2.120E-08	1.088E-08	5.174E-09	1.859E-09	9.217E-10	5.427E-10	3.554E-10	2.501E-10	1.853E-10	1.428E-10
ESE	1.121E-07	3.790E-08	1.946E-08	9.251E-09	3.323E-09	1.648E-09	9.703E-10	6.353E-10	4.471E-10	3.313E-10	2.553E-10
SE	1.915E-07	6.476E-08	3.325E-08	1.581E-08	5.678E-09	2.816E-09	1.658E-09	1.086E-09	7.639E-10	5.661E-10	4.363E-10
SSE	2.906E-07	9.826E-08	5.045E-08	2.398E-08	8.615E-09	4.272E-09	2.516E-09	1.647E-09	1.159E-09	8.590E-10	6.620E-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	3.946E-10	1.753E-10	1.062E-10	5.368E-11	3.249E-11	2.178E-11	1.561E-11	1.172E-11	9.113E-12	7.279E-12	5.941E-12
SSW	2.124E-10	9.436E-11	5.716E-11	2.889E-11	1.749E-11	1.172E-11	8.401E-12	6.308E-12	4.905E-12	3.918E-12	3.198E-12
SW	1.377E-10	6.117E-11	3.705E-11	1.873E-11	1.133E-11	7.600E-12	5.446E-12	4.089E-12	3.179E-12	2.540E-12	2.073E-12
WSW	1.297E-10	5.763E-11	3.491E-11	1.765E-11	1.068E-11	7.161E-12	5.131E-12	3.853E-12	2.996E-12	2.393E-12	1.953E-12
W	1.138E-10	5.056E-11	3.063E-11	1.548E-11	9.369E-12	6.282E-12	4.501E-12	3.380E-12	2.628E-12	2.099E-12	1.713E-12
WNW	1.611E-10	7.155E-11	4.334E-11	2.191E-11	1.326E-11	8.889E-12	6.370E-12	4.783E-12	3.719E-12	2.971E-12	2.425E-12
NW	3.305E-10	1.468E-10	8.894E-11	4.496E-11	2.721E-11	1.824E-11	1.307E-11	9.816E-12	7.632E-12	6.097E-12	4.976E-12
NNW	3.674E-10	1.632E-10	9.887E-11	4.997E-11	3.025E-11	2.028E-11	1.453E-11	1.091E-11	8.484E-12	6.777E-12	5.532E-12
N	4.879E-10	2.167E-10	1.313E-10	6.636E-11	4.016E-11	2.693E-11	1.930E-11	1.449E-11	1.127E-11	8.999E-12	7.345E-12
NNE	3.066E-10	1.362E-10	8.252E-11	4.171E-11	2.524E-11	1.693E-11	1.213E-11	9.107E-12	7.081E-12	5.656E-12	4.617E-12
NE	1.752E-10	7.782E-11	4.714E-11	2.383E-11	1.442E-11	9.670E-12	6.929E-12	5.203E-12	4.045E-12	3.231E-12	2.638E-12
ENE	1.175E-10	5.218E-11	3.161E-11	1.598E-11	9.670E-12	6.484E-12	4.646E-12	3.489E-12	2.712E-12	2.167E-12	1.769E-12
E	1.135E-10	5.040E-11	3.053E-11	1.543E-11	9.340E-12	6.262E-12	4.487E-12	3.369E-12	2.620E-12	2.093E-12	1.708E-12
ESE	2.028E-10	9.011E-11	5.458E-11	2.759E-11	1.670E-11	1.120E-11	8.022E-12	6.124E-12	4.684E-12	3.741E-12	3.054E-12
SE	3.466E-10	1.540E-10	9.327E-11	4.714E-11	2.853E-11	1.913E-11	1.371E-11	1.029E-11	8.003E-12	6.393E-12	5.218E-12
SSE	5.259E-10	2.336E-10	1.415E-10	7.153E-11	4.329E-11	2.903E-11	2.080E-11	1.562E-11	1.214E-11	9.700E-12	7.917E-12

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

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES									
	0-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	3.700E-08	7.580E-09	1.979E-09	8.887E-10	5.027E-10	1.933E-10	5.593E-11	2.217E-11	1.184E-11	7.327E-12
SSW	1.992E-08	4.080E-09	1.065E-09	4.783E-10	2.706E-10	1.041E-10	3.010E-11	1.193E-11	6.372E-12	3.944E-12
SW	1.291E-08	2.645E-09	6.904E-10	3.101E-10	1.754E-10	6.745E-11	1.951E-11	7.734E-12	4.130E-12	2.556E-12
WSW	1.216E-08	2.492E-09	6.505E-10	2.922E-10	1.653E-10	6.356E-11	1.839E-11	7.288E-12	3.892E-12	2.409E-12
W	1.067E-08	2.186E-09	5.706E-10	2.563E-10	1.450E-10	5.576E-11	1.613E-11	6.393E-12	3.414E-12	2.113E-12
WNW	1.510E-08	3.093E-09	8.075E-10	3.627E-10	2.052E-10	7.890E-11	2.283E-11	9.047E-12	4.831E-12	2.990E-12
NW	3.099E-08	6.348E-09	1.657E-09	7.443E-10	4.211E-10	1.619E-10	4.684E-11	1.857E-11	9.914E-12	6.137E-12
NNW	3.445E-08	7.057E-09	1.842E-09	8.274E-10	4.681E-10	1.800E-10	5.207E-11	2.064E-11	1.102E-11	6.821E-12
N	4.575E-08	9.370E-09	2.446E-09	1.099E-09	6.215E-10	2.398E-10	6.914E-11	2.740E-11	1.463E-11	9.058E-12
NNE	2.875E-08	5.890E-09	1.538E-09	6.905E-10	3.907E-10	1.502E-10	4.346E-11	1.723E-11	9.198E-12	5.693E-12
NE	1.643E-08	3.365E-09	8.784E-10	3.945E-10	2.232E-10	8.582E-11	2.483E-11	9.841E-12	5.255E-12	3.253E-12
ENE	1.101E-08	2.256E-09	5.890E-10	2.645E-10	1.496E-10	5.755E-11	1.665E-11	6.598E-12	3.524E-12	2.181E-12
E	1.064E-08	2.179E-09	5.689E-10	2.555E-10	1.445E-10	5.558E-11	1.608E-11	6.373E-12	3.403E-12	2.106E-12
ESE	1.902E-08	3.896E-09	1.017E-09	4.568E-10	2.584E-10	9.937E-11	2.875E-11	1.139E-11	6.084E-12	3.766E-12
SE	3.250E-08	6.657E-09	1.738E-09	7.805E-10	4.415E-10	1.698E-10	4.912E-11	1.947E-11	1.040E-11	6.435E-12
SSE	4.931E-08	1.010E-08	2.637E-09	1.184E-09	6.699E-10	2.576E-10	7.453E-11	2.954E-11	1.577E-11	9.764E-12

B156

VENTS GROUND LEVEL RELEASES - JAN-DEC 1993  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION  
 SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE		X/Q			D/Q (PER SQ.METER)
			(MILES)	(METERS)	(SEC/CUB.METER) NO DECAY	(SEC/CUB.METER) 2.260 DAY DECAY	(SEC/CUB.METER) 8.000 DAY DECAY	
					UNDEPLETED	UNDEPLETED	DEPLETED	
A	SITE BOUNDARY	S	0.80	1287.	7.832E-06	7.802E-06	6.946E-06	3.220E-08
A	SITE BOUNDARY	SSW	0.82	1327.	3.763E-06	3.748E-06	3.331E-06	1.599E-08
A	SITE BOUNDARY	SW	0.98	1569.	1.591E-06	1.585E-06	1.394E-06	6.701E-09
A	SITE BOUNDARY	WSW	0.93	1489.	1.533E-06	1.527E-06	1.347E-06	7.230E-09
A	SITE BOUNDARY	W	0.91	1468.	1.164E-06	1.161E-06	1.024E-06	6.581E-09
A	SITE BOUNDARY	WNW	0.94	1509.	1.594E-06	1.589E-06	1.400E-06	8.670E-09
A	SITE BOUNDARY	NW	0.81	1307.	4.270E-06	4.258E-06	3.785E-06	2.589E-08
A	SITE BOUNDARY	NNW	0.69	1106.	9.992E-06	9.958E-06	8.939E-06	4.082E-08
A	SITE BOUNDARY	N	0.67	1086.	1.355E-05	1.350E-05	1.213E-05	5.589E-08
A	SITE BOUNDARY	NNE	0.60	965.	1.050E-05	1.047E-05	9.472E-06	4.257E-08
A	SITE BOUNDARY	NE	0.62	1005.	5.197E-06	5.182E-06	4.673E-06	2.286E-08
A	SITE BOUNDARY	ENE	0.59	945.	4.021E-06	4.011E-06	3.632E-06	1.688E-08
A	SITE BOUNDARY	E	0.53	845.	4.391E-06	4.381E-06	3.995E-06	1.957E-08
A	SITE BOUNDARY	ESE	0.54	865.	5.555E-06	5.544E-06	5.047E-06	3.369E-08
A	SITE BOUNDARY	SE	0.65	1046.	7.074E-06	7.056E-06	6.349E-06	4.229E-08
A	SITE BOUNDARY	SSE	0.81	1307.	7.534E-06	7.506E-06	6.676E-06	4.120E-08
A	NEAR. RESIDENCE	SW	1.40	2253.	6.803E-07	6.762E-07	5.800E-07	2.676E-09
A	NEAR. RESIDENCE	WSW	1.30	2092.	6.843E-07	6.808E-07	5.870E-07	3.035E-09
A	NEAR. RESIDENCE	W	1.00	1609.	9.316E-07	9.285E-07	8.147E-07	5.191E-09
A	NEAR. RESIDENCE	WNW	1.60	2575.	4.628E-07	4.601E-07	3.903E-07	2.251E-09
A	NEAR. RESIDENCE	NW	0.90	1448.	3.311E-06	3.300E-06	2.916E-06	1.981E-08
A	NEAR. RESIDENCE	NNW	2.00	3219.	9.743E-07	9.645E-07	8.045E-07	2.985E-09
A	NEAR. RESIDENCE	NNE	2.70	4345.	4.619E-07	4.559E-07	3.697E-07	1.226E-09
A	NEAR. RESIDENCE	ENE	1.70	2736.	4.318E-07	4.284E-07	3.621E-07	1.415E-09
A	NEAR. RESIDENCE	E	1.80	2897.	3.515E-07	3.487E-07	2.932E-07	1.189E-09
A	NEAREST COW	NNW	3.50	5634.	3.283E-07	3.224E-07	2.549E-07	8.093E-10
A	NEAREST GARDEN	SW	1.40	2253.	6.803E-07	6.762E-07	5.800E-07	2.676E-09
A	NEAREST GARDEN	WSW	1.80	2897.	3.286E-07	3.262E-07	2.742E-07	1.360E-09
A	NEAREST GARDEN	WNW	1.60	2575.	4.628E-07	4.601E-07	3.903E-07	2.251E-09
A	NEAREST GARDEN	NNW	2.00	3219.	9.743E-07	9.645E-07	8.045E-07	2.985E-09

Atmospheric Diffusion Estimates

Elevated Releases

July-September 1993

ERP ELEVATED STACK RELEASES - JUL-SEP 1993  
 NO DECAY, UNDEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES									
	0-250	0-500	0-750	1-1000	1-1500	2-2000	2-2500	3-3000	3-3500	4-4000	4-4500	5-5000	5-5500	6-6000	6-6500	7-7000	7-7500	8-8000	8-8500	9-9000
S	5.028E-09	7.846E-08	1.310E-07	1.190E-07	9.053E-08	6.848E-08	5.282E-08	4.191E-08	3.412E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08
SSW	1.143E-08	6.055E-08	7.239E-08	6.481E-08	5.457E-08	4.439E-08	3.576E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08
SW	1.744E-08	6.614E-08	1.257E-07	1.406E-07	1.435E-07	9.049E-08	6.291E-08	4.608E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08
WSW	3.956E-09	2.996E-08	8.200E-08	1.302E-07	1.934E-07	1.102E-07	8.115E-08	5.922E-08	4.502E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08
W	1.592E-09	7.544E-08	2.168E-07	2.591E-07	2.094E-07	1.299E-07	8.488E-08	6.231E-08	4.866E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08
MNW	4.162E-08	1.576E-07	2.986E-07	3.319E-07	2.200E-07	1.935E-07	1.288E-07	9.835E-08	7.789E-08	6.154E-08	4.866E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08
NW	1.296E-07	2.231E-07	3.713E-07	4.478E-07	5.210E-07	3.035E-07	1.978E-07	1.452E-07	1.099E-07	8.635E-08	6.154E-08	4.866E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08
NNW	1.148E-07	1.674E-07	2.147E-07	2.244E-07	2.565E-07	2.349E-07	1.797E-07	1.389E-07	1.085E-07	8.635E-08	6.154E-08	4.866E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08
N	9.719E-08	1.845E-07	1.846E-07	1.418E-07	1.019E-07	8.041E-08	6.497E-08	5.242E-08	4.358E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08
NNE	8.882E-08	8.084E-08	7.036E-08	5.898E-08	5.011E-08	4.344E-08	3.717E-08	3.179E-08	2.788E-08	2.489E-08	2.252E-08	2.035E-08	1.836E-08	1.652E-08	1.481E-08	1.321E-08	1.171E-08	1.031E-08	9.00E-09	7.831E-09
NE	2.227E-08	9.071E-08	9.446E-08	6.594E-08	4.010E-08	2.946E-08	2.312E-08	1.879E-08	1.600E-08	1.378E-08	1.167E-08	1.000E-08	8.48E-09	7.18E-09	6.12E-09	5.21E-09	4.44E-09	3.78E-09	3.22E-09	2.76E-09
E	9.506E-09	4.561E-08	5.052E-08	3.180E-08	2.587E-08	2.055E-08	1.600E-08	1.253E-08	1.000E-08	8.48E-09	7.18E-09	6.12E-09	5.21E-09	4.44E-09	3.78E-09	3.22E-09	2.76E-09	2.30E-09	1.94E-09	1.67E-09
ESE	3.123E-09	2.728E-08	3.731E-08	3.180E-08	2.587E-08	2.055E-08	1.600E-08	1.253E-08	1.000E-08	8.48E-09	7.18E-09	6.12E-09	5.21E-09	4.44E-09	3.78E-09	3.22E-09	2.76E-09	2.30E-09	1.94E-09	1.67E-09
ESE	1.809E-09	3.703E-08	5.549E-08	4.829E-08	3.673E-08	2.853E-08	2.262E-08	1.836E-08	1.523E-08	1.287E-08	1.071E-08	9.00E-09	7.64E-09	6.52E-09	5.60E-09	4.81E-09	4.14E-09	3.57E-09	3.09E-09	2.61E-09
SE	1.809E-09	2.603E-08	4.845E-08	5.099E-08	4.740E-08	4.026E-08	3.359E-08	2.819E-08	2.396E-08	2.064E-08	1.801E-08	1.604E-08	1.471E-08	1.344E-08	1.224E-08	1.111E-08	1.004E-08	9.03E-09	8.14E-09	7.37E-09
SSE	8.075E-10	6.014E-08	1.162E-07	1.111E-07	1.015E-07	8.101E-08	6.445E-08	5.233E-08	4.394E-08	3.696E-08	3.096E-08	2.596E-08	2.196E-08	1.896E-08	1.596E-08	1.296E-08	1.096E-08	9.06E-09	7.17E-09	5.34E-09

BEARING	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES									
	5-000	7-500	10-000	15-000	20-000	25-000	30-000	35-000	40-000	45-000	50-000	55-000	60-000	65-000	70-000	75-000	80-000	85-000	90-000	95-000
S	3.255E-08	1.937E-08	1.228E-08	6.837E-09	4.619E-09	3.400E-09	2.628E-09	2.116E-09	1.760E-09	1.495E-09	1.291E-09	1.129E-09	1.000E-09	8.81E-10	7.74E-10	6.76E-10	5.87E-10	5.06E-10	4.33E-10	3.67E-10
SSW	2.503E-08	1.733E-08	1.111E-08	6.273E-09	4.330E-09	3.203E-09	2.484E-09	2.006E-09	1.668E-09	1.419E-09	1.228E-09	1.090E-09	9.52E-10	8.24E-10	7.06E-10	6.00E-10	5.11E-10	4.37E-10	3.70E-10	3.10E-10
SW	2.191E-08	1.656E-08	1.087E-08	6.303E-09	4.590E-09	3.548E-09	2.876E-09	2.365E-09	1.977E-09	1.685E-09	1.469E-09	1.281E-09	1.119E-09	9.72E-10	8.36E-10	7.18E-10	6.16E-10	5.30E-10	4.58E-10	3.93E-10
WSW	2.563E-08	1.894E-08	1.255E-08	7.400E-09	5.180E-09	3.880E-09	3.080E-09	2.580E-09	2.190E-09	1.860E-09	1.580E-09	1.340E-09	1.140E-09	9.70E-10	8.20E-10	6.90E-10	5.80E-10	4.90E-10	4.10E-10	3.40E-10
W	2.667E-08	1.941E-08	1.308E-08	7.254E-09	5.040E-09	3.720E-09	2.920E-09	2.420E-09	2.030E-09	1.700E-09	1.450E-09	1.240E-09	1.070E-09	9.20E-10	7.80E-10	6.60E-10	5.60E-10	4.70E-10	3.90E-10	3.20E-10
MNW	4.235E-08	2.324E-08	1.553E-08	9.229E-09	6.302E-09	4.690E-09	3.620E-09	2.920E-09	2.420E-09	2.030E-09	1.700E-09	1.450E-09	1.240E-09	1.070E-09	9.20E-10	7.80E-10	6.60E-10	5.60E-10	4.70E-10	3.90E-10
NW	5.896E-08	3.204E-08	2.148E-08	1.283E-08	8.678E-09	6.414E-09	5.104E-09	4.175E-09	3.493E-09	2.985E-09	2.590E-09	2.250E-09	1.950E-09	1.680E-09	1.440E-09	1.230E-09	1.050E-09	9.00E-10	7.60E-10	6.30E-10
NNW	7.278E-08	3.818E-08	2.436E-08	1.387E-08	9.144E-09	6.620E-09	5.050E-09	4.233E-09	3.518E-09	2.995E-09	2.590E-09	2.250E-09	1.950E-09	1.680E-09	1.440E-09	1.230E-09	1.050E-09	9.00E-10	7.60E-10	6.30E-10
N	2.756E-08	1.661E-08	1.288E-08	9.427E-09	7.809E-09	6.659E-09	5.738E-09	4.980E-09	4.371E-09	3.862E-09	3.411E-09	3.011E-09	2.661E-09	2.361E-09	2.111E-09	1.861E-09	1.611E-09	1.361E-09	1.111E-09	9.61E-10
NNE	4.430E-08	3.225E-08	2.177E-08	1.299E-08	8.538E-09	6.390E-09	5.238E-09	4.380E-09	3.711E-09	3.192E-09	2.781E-09	2.421E-09	2.111E-09	1.861E-09	1.611E-09	1.361E-09	1.111E-09	9.61E-10	8.11E-10	6.61E-10
NE	1.367E-08	1.788E-08	1.134E-08	6.935E-09	4.494E-09	3.355E-09	2.698E-09	2.255E-09	1.911E-09	1.555E-09	1.255E-09	1.000E-09	8.14E-10	6.81E-10	5.68E-10	4.76E-10	3.94E-10	3.22E-10	2.61E-10	2.10E-10
E	6.949E-09	9.564E-09	6.294E-09	3.680E-09	2.527E-09	1.911E-09	1.452E-09	1.100E-09	8.20E-10	6.10E-10	4.50E-10	3.30E-10	2.40E-10	1.80E-10	1.30E-10	9.0E-11	6.5E-11	4.5E-11	3.0E-11	2.0E-11
ESE	1.106E-08	1.286E-08	8.618E-09	5.165E-09	3.686E-09	2.731E-09	2.176E-09	1.797E-09	1.497E-09	1.247E-09	1.047E-09	8.97E-10	7.77E-10	6.77E-10	5.97E-10	5.37E-10	4.87E-10	4.47E-10	4.07E-10	3.67E-10
SE	1.589E-08	9.944E-09	7.825E-09	5.656E-09	4.177E-09	3.200E-09	2.566E-09	2.188E-09	1.888E-09	1.638E-09	1.438E-09	1.288E-09	1.138E-09	1.038E-09	9.38E-10	8.38E-10	7.38E-10	6.38E-10	5.38E-10	4.38E-10
SSE	6.213E-08	3.725E-08	2.404E-08	1.574E-08	9.302E-09	6.898E-09	5.398E-09	4.398E-09	3.898E-09	3.398E-09	2.898E-09	2.398E-09	1.898E-09	1.398E-09	9.98E-10	7.98E-10	6.48E-10	5.48E-10	4.48E-10	3.48E-10

DIRECTION FROM SITE	CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT										SEGMENT BOUNDARIES IN MILES									
	5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	5-10	10-20	20-30	30-40	40-50					
S	1.140E-07	8.701E-08	5.261E-08	3.717E-08	3.524E-08	1.915E-08	7.061E-09	3.415E-09	2.177E-09	1.498E-09	1.915E-08	7.061E-09	3.415E-09	2.177E-09	1.498E-09					
SSW	6.639E-08	5.228E-08	3.650E-08	3.470E-08	2.776E-08	1.628E-08	6.465E-09	3.216E-09	2.014E-09	1.422E-09	1.628E-08	6.465E-09	3.216E-09	2.014E-09	1.422E-09					
SW	1.191E-07	1.194E-07	6.379E-08	3.650E-08	2.481E-08	1.522E-08	5.569E-09	3.557E-09	2.333E-09	1.689E-09	1.522E-08	5.569E-09	3.557E-09	2.333E-09	1.689E-09					
WSW	9.584E-08	1.483E-07	8.252E-08	4.584E-08	3.009E-08	1.510E-08	5.019E-09	2.803E-09	1.779E-09	1.222E-09	1.510E-08	5.019E-09	2.803E-09	1.779E-09	1.222E-09					
W	1.952E-07	1.750E-07	8.624E-08	4.868E-08	3.183E-08	1.521E-08	6.284E-09	3.263E-09	2.091E-09	1.442E-09	1.521E-08	6.284E-09	3.263E-09	2.091E-09	1.442E-09					
MNW	2.794E-07	2.673E-07	1.392E-07	7.750E-08	5.064E-08	2.466E-08	9.528E-09	4.721E-09	3.035E-09	2.149E-09	2.466E-08	9.528E-09	4.721E-09	3.035E-09	2.149E-09					
NW	3.724E-07	4.066E-07	2.030E-07	1.105E-07	7.080E-08	3.353E-08	1.290E-08	6.492E-09	4.181E-09	2.892E-09	1.290E-08	6.492E-09	4.181E-09	2.892E-09						
NNW	2.094E-07	2.402E-07	1.973E-07	1.355E-07	8.804E-08	3.973E-08	1.403E-08	6.749E-09	4.222E-09	3.000E-09	1.403E-08	6.749E-09	4.222E-09	3.000E-09						
N	1.655E-07	1.012E-07	6.415E-08	4.358E-08	3.163E-08	1.759E-08	9.516E-09	6.402E-09	4.289E-09	3.070E-09	1.759E-08	9.516E-09	6.402E-09	4.289E-09						
NNE	6.202E-08	4.093E-08	3.675E-08	2.731E-08	2.314E-08	1.493E-08	1.297E-08	6.395E-09	4.055E-09	2.896E-09	1.493E-08	1.297E-08	6.395E-09	4.055E-09						
NE	8.202E-08	4.093E-08	2.312E-08	1.600E-08	1.317E-08	1.493E-08	9.746E-09	3.335E-09	2.111E-09	1.526E-09	1.493E-08	9.746E-09	3.335E-09	2.111E-09						



ERP ELEVATED STACK RELEASES - JUL-SEP 1993  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE SECTOR	CHI/Q (SEC/METER CUBED)										
	0-250	0-500	0-750	1-000	1-500	2-000	2-500	3-000	3-500	4-000	4-500
S	5.027E-09	7.839E-08	1.308E-07	1.187E-07	9.426E-08	6.812E-08	5.255E-08	4.165E-08	3.587E-08	3.098E-08	4.500
SSW	1.143E-08	6.050E-08	7.230E-08	6.470E-08	5.442E-08	4.411E-08	3.558E-08	3.669E-08	3.625E-08	3.19E-08	3.693E-08
SSW	1.743E-08	6.606E-08	1.254E-07	1.403E-07	1.431E-07	9.035E-08	6.262E-08	4.635E-08	3.590E-08	2.896E-08	2.396E-08
MSW	3.955E-09	2.994E-08	8.191E-08	1.389E-07	1.928E-07	1.187E-07	8.072E-08	5.883E-08	4.587E-08	3.55E-08	2.93E-08
MSW	1.392E-08	5.538E-08	2.164E-07	1.992E-07	1.992E-07	1.234E-07	6.444E-08	6.191E-08	4.770E-08	3.83E-08	3.13E-08
MNW	4.168E-08	1.575E-07	2.903E-07	3.313E-07	3.221E-07	1.921E-07	1.960E-07	1.423E-07	7.725E-08	6.096E-08	4.94E-08
MNW	1.295E-08	2.29E-07	3.707E-07	4.470E-07	1.95E-07	1.95E-07	1.960E-07	1.669E-07	1.691E-07	8.565E-08	6.94E-08
MNW	1.148E-07	1.673E-07	2.145E-07	2.261E-07	2.559E-07	2.840E-07	2.017E-07	1.669E-07	1.379E-07	8.63E-08	7.13E-08
N	9.716E-08	1.844E-07	1.844E-07	1.416E-07	1.017E-07	8.18E-08	6.473E-08	5.239E-08	4.376E-08	3.68E-08	3.13E-08
NNE	8.879E-08	8.060E-08	7.029E-08	5.820E-08	4.359E-08	3.701E-08	3.156E-08	2.721E-08	2.36E-08	2.00E-08	1.75E-08
NNE	2.226E-08	9.662E-08	9.431E-08	6.519E-08	3.997E-08	2.922E-08	2.299E-08	1.885E-08	1.588E-08	1.366E-08	1.195E-08
ENE	9.502E-09	4.557E-08	5.975E-08	3.237E-08	2.577E-08	1.700E-08	1.190E-08	8.18E-08	1.204E-08	1.037E-08	9.66E-09
E	3.121E-09	2.725E-08	3.725E-08	3.174E-08	2.355E-08	1.788E-08	1.395E-08	1.119E-08	9.20E-09	7.76E-09	6.66E-09
ESE	3.476E-09	3.700E-08	5.342E-08	4.821E-08	3.664E-08	2.642E-08	1.826E-08	1.182E-08	1.51E-08	1.27E-08	1.09E-08
SE	1.809E-09	2.601E-08	4.839E-08	5.092E-08	4.729E-08	3.545E-08	2.652E-08	1.805E-08	2.32E-08	2.05E-08	1.787E-08
SSE	8.073E-10	6.010E-08	1.161E-07	1.179E-07	1.015E-07	8.074E-08	6.418E-08	5.187E-08	4.278E-08	3.566E-08	3.111E-08

ANNUAL AVERAGE BEARING	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	3.219E-08	1.904E-08	1.201E-08	6.609E-09	4.415E-09	3.213E-09	2.566E-09	1.956E-09	1.69E-09	1.352E-09	1.154E-09
SSW	2.478E-08	1.706E-08	1.088E-08	6.081E-09	4.154E-09	3.042E-09	2.366E-09	1.867E-09	1.537E-09	1.294E-09	1.108E-09
SSW	2.172E-08	1.634E-08	1.07E-08	6.169E-09	4.19E-09	3.383E-09	2.715E-09	2.192E-09	1.821E-09	1.545E-09	1.333E-09
MSW	2.533E-08	1.467E-08	9.708E-09	5.523E-09	3.618E-09	2.604E-09	1.989E-09	1.581E-09	1.295E-09	1.085E-09	9.250E-10
W	2.637E-08	1.416E-08	8.876E-09	6.018E-09	4.034E-09	3.034E-09	2.324E-09	1.852E-09	1.521E-09	1.27E-09	1.090E-09
MNW	4.184E-08	2.280E-08	1.514E-08	8.876E-09	5.76E-09	4.33E-09	3.43E-09	2.745E-09	2.23E-09	1.90E-09	1.633E-09
MNW	5.832E-08	3.150E-08	2.098E-08	1.236E-08	8.25E-09	6.027E-09	4.732E-09	3.80E-09	3.15E-09	2.662E-09	2.285E-09
MNW	7.202E-08	3.758E-08	2.384E-08	8.748E-09	6.340E-09	4.729E-09	3.60E-09	3.26E-09	2.718E-09	2.47E-09	2.26E-09
N	2.735E-08	1.643E-08	1.269E-08	9.223E-09	7.41E-09	6.244E-09	4.874E-09	3.934E-09	3.252E-09	2.747E-09	2.360E-09
NNE	2.408E-08	3.567E-08	2.167E-08	1.527E-08	8.01E-09	5.997E-09	4.60E-09	3.73E-09	3.08E-09	2.61E-09	2.244E-09
NE	1.353E-08	1.761E-08	1.131E-08	6.395E-09	4.286E-09	3.42E-09	2.50E-09	1.95E-09	1.64E-09	1.392E-09	1.198E-09
NE	6.891E-09	9.403E-08	6.642E-09	3.745E-09	2.591E-09	1.828E-09	1.394E-09	1.178E-09	1.07E-09	8.25E-10	7.070E-10
ENE	1.096E-08	1.263E-08	8.411E-09	4.970E-09	3.22E-09	2.554E-09	1.906E-09	1.633E-09	1.46E-09	1.27E-09	1.005E-09
E	1.576E-08	9.820E-09	7.696E-09	5.20E-09	3.87E-09	3.076E-09	2.47E-09	2.04E-09	1.76E-09	1.44E-09	1.246E-09
SE	6.146E-08	3.656E-08	2.344E-08	1.521E-08	8.621E-09	6.444E-09	4.979E-09	4.00E-09	3.305E-09	2.78E-09	2.395E-09

DIRECTION FROM SITE	CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT									
	.5-1	1-2	2-3	3-4	SEGMENT BOUNDARIES IN MILES					40-50
					5-10	10-20	20-30	30-40	40-50	
S	1.138E-07	8.675E-08	5.234E-08	3.690E-08	1.884E-08	6.834E-09	3.231E-09	1.967E-09	1.255E-09	1.255E-09
SSW	6.130E-08	5.212E-08	3.050E-08	3.445E-08	1.603E-08	6.292E-09	3.054E-09	1.875E-09	1.187E-09	1.255E-09
SSW	1.188E-07	1.190E-07	6.300E-08	3.627E-08	1.601E-08	6.392E-09	3.392E-09	2.20E-09	1.548E-09	1.255E-09
MSW	9.570E-08	1.479E-07	8.209E-08	4.549E-08	2.465E-08	5.686E-09	2.62E-09	1.58E-09	1.04E-09	1.255E-09
MSW	1.950E-07	1.745E-07	8.583E-08	4.811E-08	3.152E-08	6.050E-09	3.057E-09	1.86E-09	1.20E-09	1.255E-09
MNW	3.717E-07	2.655E-07	1.334E-07	7.687E-08	5.019E-08	8.981E-09	4.425E-09	2.75E-09	1.91E-09	1.255E-09
MNW	2.092E-07	4.054E-07	2.020E-07	1.345E-07	8.723E-08	3.278E-08	6.102E-09	3.92E-09	2.69E-09	1.255E-09
N	1.654E-07	1.810E-07	6.371E-08	4.335E-08	3.163E-08	9.247E-09	6.042E-09	3.74E-09	2.64E-09	1.255E-09
NNE	6.725E-08	4.020E-08	3.686E-08	2.714E-08	2.296E-08	1.255E-08	9.042E-09	5.94E-09	3.74E-09	1.255E-09
NE	8.188E-08	4.074E-08	2.299E-08	1.588E-08	1.304E-08	6.549E-09	3.171E-09	1.96E-09	1.35E-09	1.255E-09
ENE	3.258E-08	3.152E-08	2.059E-08	1.094E-08	8.751E-09	3.834E-09	1.854E-09	1.17E-09	8.24E-10	1.255E-09
E	4.812E-08	2.285E-08	1.390E-08	7.076E-09	7.403E-09	5.628E-09	1.797E-09	1.14E-09	8.34E-10	1.255E-09
ESE	4.812E-08	2.285E-08	1.513E-08	1.50E-08	1.036E-08	5.047E-09	2.566E-09	1.637E-09	1.14E-09	1.255E-09
SE	4.454E-08	4.492E-08	3.307E-08	1.787E-08	1.00E-08	5.322E-09	3.080E-09	2.04E-09	1.44E-09	1.255E-09
SSE	1.045E-07	9.584E-08	6.367E-08	5.029E-08	6.296E-08	3.626E-08	6.492E-09	4.015E-09	2.78E-09	1.255E-09

ERP ELEVATED STACK RELEASES - JUL-SEP 1993  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)		DISTANCE IN MILES									
SECTOR	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	5.028E-09	7.775E-08	1.282E-07	1.161E-07	8.797E-08	6.607E-08	5.866E-08	3.993E-08	3.229E-08	3.430E-08	3.525E-08
SSW	1.143E-08	6.000E-08	7.096E-08	6.349E-08	5.335E-08	4.306E-08	3.454E-08	3.553E-08	3.504E-08	3.004E-08	2.617E-08
SW	1.744E-08	6.552E-08	1.232E-07	1.380E-07	1.404E-07	8.789E-08	6.052E-08	4.457E-08	3.445E-08	2.763E-08	2.279E-08
WSW	3.956E-09	2.969E-08	8.095E-08	1.379E-07	1.903E-07	1.162E-07	7.055E-08	5.696E-08	4.562E-08	3.636E-08	2.982E-08
W	1.392E-09	7.456E-08	2.142E-07	2.350E-07	1.952E-07	1.197E-07	8.142E-08	5.944E-08	4.562E-08	3.636E-08	2.982E-08
WNW	4.161E-08	1.562E-07	2.865E-07	3.262E-07	3.154E-07	1.869E-07	1.246E-07	9.344E-08	7.412E-08	5.825E-08	4.721E-08
NW	1.295E-07	2.211E-07	3.642E-07	4.398E-07	5.103E-07	2.914E-07	1.897E-07	1.372E-07	1.048E-07	8.190E-08	6.608E-08
NNW	1.148E-07	1.659E-07	2.107E-07	2.226E-07	2.523E-07	2.301E-07	1.979E-07	1.635E-07	1.349E-07	1.045E-07	8.366E-08
N	9.718E-08	1.828E-07	1.806E-07	1.382E-07	9.905E-08	7.793E-08	6.272E-08	5.057E-08	4.170E-08	3.507E-08	2.999E-08
NNE	8.881E-08	8.011E-08	6.892E-08	5.706E-08	4.972E-08	4.267E-08	3.612E-08	3.071E-08	2.642E-08	2.301E-08	2.030E-08
NE	2.226E-08	9.582E-08	9.226E-08	6.334E-08	3.867E-08	2.825E-08	2.222E-08	1.820E-08	1.533E-08	1.318E-08	1.153E-08
ENE	9.505E-09	4.520E-08	4.975E-08	4.085E-08	3.164E-08	2.510E-08	2.013E-08	1.643E-08	1.365E-08	1.154E-08	9.914E-09
E	3.122E-09	2.703E-08	3.652E-08	3.103E-08	2.296E-08	1.736E-08	1.347E-08	1.076E-08	8.823E-09	7.402E-09	6.332E-09
ESE	3.476E-09	3.669E-08	5.431E-08	4.710E-08	3.571E-08	2.760E-08	2.178E-08	1.759E-08	1.452E-08	1.222E-08	1.046E-08
SE	1.809E-09	2.580E-08	4.759E-08	5.011E-08	4.647E-08	3.928E-08	3.261E-08	2.724E-08	2.305E-08	1.978E-08	1.720E-08
SSE	8.875E-10	5.960E-08	1.141E-07	1.159E-07	9.925E-08	7.870E-08	6.218E-08	4.996E-08	4.098E-08	3.535E-08	6.898E-08

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)		DISTANCE IN MILES									
BEARING	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	3.064E-08	1.782E-08	1.095E-08	5.734E-09	3.635E-09	2.534E-09	1.872E-09	1.446E-09	1.159E-09	9.540E-10	8.000E-10
SSW	2.375E-08	1.615E-08	1.002E-08	5.306E-09	3.429E-09	2.434E-09	1.820E-09	1.421E-09	1.146E-09	9.468E-10	7.975E-10
SW	2.066E-08	1.550E-08	9.848E-09	5.377E-09	3.607E-09	2.615E-09	2.036E-09	1.604E-09	1.303E-09	1.068E-09	9.177E-10
WSW	2.422E-08	1.378E-08	8.894E-09	4.850E-09	3.070E-09	2.149E-09	1.603E-09	1.249E-09	1.005E-09	8.292E-10	6.972E-10
W	2.502E-08	1.332E-08	9.191E-09	5.388E-09	3.575E-09	2.523E-09	1.889E-09	1.477E-09	1.193E-09	9.862E-10	8.313E-10
WNW	3.964E-08	2.108E-08	1.364E-08	7.577E-09	4.791E-09	3.350E-09	2.521E-09	1.980E-09	1.599E-09	1.322E-09	1.113E-09
NW	5.526E-08	2.910E-08	1.889E-08	1.056E-08	6.694E-09	4.686E-09	3.568E-09	2.814E-09	2.277E-09	1.887E-09	1.593E-09
NNW	6.948E-08	3.526E-08	2.172E-08	1.136E-08	7.014E-09	4.807E-09	3.532E-09	2.726E-09	2.191E-09	1.806E-09	1.516E-09
N	2.607E-08	1.549E-08	1.193E-08	8.718E-09	7.099E-09	5.706E-09	4.369E-09	3.467E-09	2.823E-09	2.353E-09	1.998E-09
NNE	2.340E-08	3.296E-08	2.860E-08	1.106E-08	7.026E-09	4.928E-09	3.680E-09	2.871E-09	2.311E-09	1.907E-09	1.633E-09
NE	1.314E-08	1.722E-08	1.073E-08	5.751E-09	3.660E-09	2.572E-09	1.941E-09	1.531E-09	1.245E-09	1.035E-09	8.760E-10
ENE	1.011E-08	9.910E-09	6.185E-09	3.295E-09	2.065E-09	1.432E-09	1.081E-09	8.515E-10	6.875E-10	5.686E-10	4.793E-10
E	6.562E-09	9.139E-09	5.817E-09	3.174E-09	2.014E-09	1.408E-09	1.048E-09	8.137E-10	6.691E-10	5.602E-10	4.704E-10
ESE	1.045E-08	1.225E-08	7.951E-09	4.454E-09	2.877E-09	2.038E-09	1.531E-09	1.198E-09	9.658E-10	7.970E-10	6.698E-10
SE	1.514E-08	9.358E-09	7.328E-09	5.269E-09	3.807E-09	2.942E-09	2.375E-09	1.966E-09	1.598E-09	1.330E-09	1.128E-09
SSE	5.940E-08	3.456E-08	2.153E-08	1.152E-08	7.314E-09	5.125E-09	3.823E-09	2.979E-09	2.395E-09	1.973E-09	1.657E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT		SEGMENT BOUNDARIES IN MILES								
DIRECTION FROM SITE	5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	1.116E-07	8.449E-08	5.048E-08	3.524E-08	3.326E-08	1.762E-08	5.960E-09	2.562E-09	1.459E-09	9.578E-10
SSW	6.520E-08	5.103E-08	3.721E-08	3.328E-08	2.642E-08	1.512E-08	5.520E-09	2.454E-09	1.430E-09	9.505E-10
SW	1.170E-07	1.165E-07	6.144E-08	3.474E-08	2.343E-08	1.413E-08	5.584E-09	2.640E-09	1.613E-09	1.087E-09
WSW	9.489E-08	1.457E-07	7.996E-08	4.388E-08	2.854E-08	1.393E-08	4.957E-09	2.176E-09	1.258E-09	8.325E-10
W	1.924E-07	1.705E-07	8.283E-08	4.604E-08	2.998E-08	1.409E-08	5.427E-09	2.550E-09	1.487E-09	9.899E-10
WNW	2.752E-07	2.607E-07	1.290E-07	7.374E-08	4.768E-08	2.190E-08	7.686E-09	3.403E-09	1.990E-09	1.327E-09
NW	3.660E-07	3.973E-07	1.958E-07	1.053E-07	6.676E-08	3.037E-08	1.069E-08	4.774E-09	2.825E-09	1.894E-09
NNW	2.060E-07	2.358E-07	1.927E-07	1.315E-07	8.458E-08	3.685E-08	1.173E-08	4.885E-09	2.753E-09	1.813E-09
N	1.623E-07	9.836E-08	6.192E-08	4.171E-08	3.004E-08	1.626E-08	8.713E-09	5.543E-09	3.479E-09	2.361E-09
NNE	6.613E-08	4.822E-08	3.570E-08	2.635E-08	2.225E-08	2.534E-08	1.139E-08	4.988E-09	2.889E-09	1.914E-09
NE	8.020E-08	3.952E-08	2.222E-08	1.533E-08	1.262E-08	1.343E-08	5.927E-09	2.609E-09	1.539E-09	1.038E-09
ENE	4.478E-08	3.078E-08	1.998E-08	1.364E-08	1.047E-08	8.299E-09	3.391E-09	1.460E-09	8.547E-10	5.708E-10
E	3.197E-08	2.226E-08	1.342E-08	8.835E-09	6.734E-09	7.090E-09	3.246E-09	1.425E-09	8.255E-10	5.592E-10
ESE	4.719E-08	3.464E-08	2.166E-08	1.452E-08	1.098E-08	9.938E-09	4.530E-09	2.059E-09	1.205E-09	7.999E-10
SE	4.387E-08	4.408E-08	3.224E-08	2.301E-08	1.720E-08	9.740E-09	5.077E-09	2.946E-09	1.942E-09	1.334E-09
SSE	1.028E-07	9.381E-08	6.170E-08	4.833E-08	6.085E-08	3.429E-08	1.188E-08	5.188E-09	2.998E-09	1.661E-09

ERP ELEVATED STACK RELEASES - JUL-SEP 1993  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

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

DIRECTION FROM SITE	RELATIVE DEPOSITION PER UNIT AREA (M**2) AT FIXED POINTS BY DOWNWIND SECTORS										
	DISTANCES IN MILES										
	0.25	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S	6.806E-09	5.435E-09	4.471E-09	3.001E-09	1.431E-09	8.703E-10	5.856E-10	4.196E-10	3.138E-10	2.455E-10	2.263E-10
SSW	3.851E-09	3.098E-09	2.582E-09	1.754E-09	8.447E-10	5.158E-10	3.479E-10	2.496E-10	2.259E-10	1.709E-10	1.338E-10
SW	4.716E-09	3.669E-09	2.872E-09	1.842E-09	1.319E-09	7.041E-10	4.325E-10	2.923E-10	2.108E-10	1.593E-10	1.248E-10
WSW	2.687E-09	2.273E-09	2.060E-09	2.576E-09	1.313E-09	7.065E-10	4.353E-10	2.946E-10	2.126E-10	1.606E-10	1.257E-10
W	1.528E-09	5.350E-09	4.520E-09	2.825E-09	1.320E-09	7.091E-10	4.360E-10	2.945E-10	2.122E-10	1.603E-10	1.254E-10
WNW	8.555E-09	6.695E-09	9.221E-09	5.735E-09	3.115E-09	1.564E-09	9.251E-10	6.102E-10	4.411E-10	3.315E-10	2.611E-10
NW	1.614E-08	1.222E-08	9.026E-09	8.116E-09	4.316E-09	2.150E-09	1.272E-09	8.420E-10	6.037E-10	4.610E-10	3.698E-10
NNW	1.413E-08	1.093E-08	8.444E-09	5.346E-09	3.742E-09	1.996E-09	1.229E-09	9.548E-10	6.911E-10	5.332E-10	4.334E-10
N	1.703E-08	1.292E-08	9.604E-09	5.839E-09	2.529E-09	1.470E-09	9.651E-10	6.822E-10	5.067E-10	3.902E-10	3.088E-10
NNE	7.046E-09	5.337E-09	3.954E-09	2.395E-09	1.033E-09	5.995E-10	3.931E-10	2.777E-10	2.062E-10	1.587E-10	1.256E-10
NE	4.977E-09	3.698E-09	2.624E-09	1.514E-09	6.176E-10	3.480E-10	2.243E-10	1.569E-10	1.159E-10	8.906E-11	7.048E-11
ENE	2.366E-09	1.884E-09	1.542E-09	1.030E-09	4.892E-10	2.969E-10	1.996E-10	1.429E-10	1.069E-10	8.253E-11	6.533E-11
E	1.776E-09	1.422E-09	1.175E-09	7.925E-10	3.793E-10	2.310E-10	1.556E-10	1.115E-10	8.343E-11	6.443E-11	5.101E-11
ESE	3.534E-09	2.736E-09	2.121E-09	1.347E-09	6.097E-10	3.622E-10	2.406E-10	1.712E-10	1.276E-10	9.840E-11	7.798E-11
SE	2.407E-09	2.128E-09	2.060E-09	1.567E-09	8.244E-10	5.216E-10	3.503E-10	2.595E-10	1.952E-10	1.511E-10	1.196E-10
SSE	6.866E-09	5.796E-09	5.238E-09	3.796E-09	1.928E-09	1.203E-09	8.208E-10	5.923E-10	4.647E-10	4.131E-10	3.759E-10

DISTANCES IN MILES

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	1.821E-10	9.985E-11	6.358E-11	3.481E-11	2.205E-11	1.731E-11	1.246E-11	9.401E-12	7.634E-12	6.066E-12	4.954E-12
SSW	1.084E-10	7.193E-11	4.856E-11	2.801E-11	1.773E-11	1.282E-11	9.190E-12	6.902E-12	5.422E-12	4.331E-12	3.535E-12
SW	1.007E-10	7.137E-11	4.912E-11	2.886E-11	1.653E-11	1.298E-11	9.203E-12	6.888E-12	5.355E-12	4.278E-12	3.492E-12
WSW	1.012E-10	6.382E-11	4.241E-11	2.787E-11	1.686E-11	1.131E-11	8.148E-12	6.118E-12	4.757E-12	3.800E-12	3.102E-12
W	1.010E-10	4.580E-11	4.249E-11	2.526E-11	1.765E-11	1.189E-11	8.522E-12	6.399E-12	4.975E-12	3.974E-12	3.244E-12
WNW	2.165E-10	1.109E-10	7.257E-11	4.085E-11	2.864E-11	1.990E-11	1.422E-11	1.068E-11	8.328E-12	6.653E-12	5.430E-12
NW	3.097E-10	1.681E-10	1.139E-10	7.128E-11	4.376E-11	2.956E-11	2.153E-11	1.618E-11	1.260E-11	1.007E-11	8.218E-12
NNW	3.687E-10	2.116E-10	1.476E-10	8.772E-11	5.650E-11	3.828E-11	2.785E-11	2.045E-11	1.580E-11	1.262E-11	1.030E-11
N	2.499E-10	1.198E-10	7.405E-11	4.024E-11	6.356E-11	4.099E-11	2.938E-11	2.206E-11	1.715E-11	1.370E-11	1.119E-11
NNE	1.017E-10	1.694E-10	1.055E-10	5.511E-11	3.370E-11	2.254E-11	1.609E-11	1.203E-11	9.318E-12	7.422E-12	6.045E-12
NE	5.711E-11	9.363E-11	5.880E-11	3.114E-11	1.925E-11	1.298E-11	9.148E-12	6.805E-12	5.274E-12	4.213E-12	3.439E-12
ENE	5.278E-11	4.940E-11	3.486E-11	2.086E-11	1.339E-11	9.014E-12	6.441E-12	4.563E-12	3.571E-12	2.873E-12	2.360E-12
E	4.121E-11	3.955E-11	2.804E-11	1.684E-11	1.081E-11	7.268E-12	5.185E-12	3.865E-12	2.984E-12	2.380E-12	1.947E-12
ESE	6.298E-11	6.118E-11	4.366E-11	2.640E-11	1.703E-11	1.149E-11	8.218E-12	6.13E-12	4.751E-12	3.793E-12	3.094E-12
SE	9.650E-11	4.589E-11	2.811E-11	1.497E-11	9.293E-12	6.527E-12	5.004E-12	1.265E-11	9.687E-12	7.651E-12	6.191E-12
SSE	3.119E-10	2.166E-10	1.333E-10	6.885E-11	4.205E-11	2.824E-11	2.024E-11	1.520E-11	1.182E-11	9.453E-12	7.722E-12

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

DIRECTION FROM SITE	RELATIVE DEPOSITION PER UNIT AREA (M**2) BY DOWNWIND SECTORS									
	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	4.032E-09	1.531E-09	5.951E-10	3.180E-10	2.156E-10	1.020E-10	3.553E-11	1.664E-11	9.603E-12	6.119E-12
SSW	2.328E-09	9.005E-10	3.533E-10	2.117E-10	1.354E-10	6.965E-11	2.801E-11	1.268E-11	6.992E-12	4.360E-12
SW	2.591E-09	1.162E-09	4.488E-10	2.145E-10	1.261E-10	6.799E-11	2.877E-11	1.295E-11	6.965E-12	4.306E-12
WSW	2.337E-09	1.324E-09	4.514E-10	2.162E-10	1.270E-10	6.261E-11	2.621E-11	1.153E-11	6.179E-12	3.825E-12
W	3.951E-09	1.383E-09	4.522E-10	2.159E-10	1.267E-10	5.663E-11	2.571E-11	1.208E-11	6.463E-12	4.000E-12
WNW	7.111E-09	3.008E-09	9.694E-10	4.476E-10	2.654E-10	1.173E-10	4.247E-11	1.996E-11	1.079E-11	6.696E-12
NW	9.330E-09	4.198E-09	1.334E-09	6.174E-10	3.746E-10	1.755E-10	6.853E-11	3.013E-11	1.635E-11	1.013E-11
NNW	7.619E-09	3.323E-09	1.324E-09	7.063E-10	4.390E-10	2.181E-10	8.715E-11	3.896E-11	2.079E-11	1.270E-11
N	8.668E-09	2.794E-09	9.067E-10	5.125E-10	3.111E-10	1.284E-10	5.803E-11	4.231E-11	2.228E-11	1.379E-11
NNE	3.568E-09	1.143E-09	4.020E-10	2.085E-10	1.266E-10	1.259E-10	5.679E-11	2.293E-11	1.215E-11	7.474E-12
NE	2.369E-09	6.969E-10	2.304E-10	1.174E-10	7.104E-11	7.004E-11	3.208E-11	1.312E-11	6.891E-12	4.241E-12
ENE	1.398E-09	5.240E-10	2.029E-10	1.079E-10	6.578E-11	4.369E-11	2.865E-11	9.152E-12	4.722E-12	2.890E-12
E	1.060E-09	4.052E-10	1.581E-10	8.422E-11	5.136E-11	3.480E-11	1.665E-11	7.380E-12	3.907E-12	2.399E-12
ESE	1.913E-09	6.635E-10	2.453E-10	1.290E-10	7.845E-11	5.379E-11	2.607E-11	1.166E-11	6.206E-12	3.818E-12
SE	1.856E-09	8.548E-10	3.624E-10	1.968E-10	1.204E-10	4.924E-11	1.537E-11	6.656E-12	9.336E-12	7.714E-12
SSE	4.721E-09	2.021E-09	8.314E-10	4.748E-10	3.632E-10	2.008E-10	7.127E-11	2.872E-11	1.536E-11	9.514E-12



ERP ELEVATED STACK RELEASES - JUL-SEP 1993  
CORRECTED FOR OPEN TERRAIN RECIRCULATION  
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE		X/Q		X/Q		X/Q		D/Q
			(MILES)	(METERS)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(PER SQ.METER)	
					NO DECAY	2.260 DAY DECAY	8.000 DAY DECAY				
				UNDEPLETED	UNDEPLETED	UNDEPLETED	DEPLETED				
A	SITE BOUNDARY	S	0.80	1287.	1.299E-07	1.297E-07	1.271E-07	4.134E-09			
A	SITE BOUNDARY	SSW	0.82	1327.	6.969E-08	6.960E-08	6.825E-08	2.305E-09			
A	SITE BOUNDARY	SW	0.98	1569.	1.395E-07	1.392E-07	1.369E-07	1.931E-09			
A	SITE BOUNDARY	WSW	0.93	1489.	1.228E-07	1.226E-07	1.217E-07	2.125E-09			
A	SITE BOUNDARY	W	0.91	1468.	2.386E-07	2.383E-07	2.351E-07	3.282E-09			
A	SITE BOUNDARY	WNW	0.94	1509.	3.258E-07	3.253E-07	3.205E-07	6.516E-09			
A	SITE BOUNDARY	NW	0.81	1307.	3.895E-07	3.889E-07	3.822E-07	7.931E-09			
A	SITE BOUNDARY	NNW	0.69	1106.	2.088E-07	2.086E-07	1.972E-07	8.921E-09			
A	SITE BOUNDARY	N	0.67	1086.	1.862E-07	1.860E-07	1.827E-07	1.040E-08			
A	SITE BOUNDARY	NNE	0.60	965.	7.470E-08	7.465E-08	7.357E-08	4.691E-09			
A	SITE BOUNDARY	NE	0.62	1005.	9.864E-08	9.851E-08	9.695E-08	3.094E-09			
A	SITE BOUNDARY	ENE	0.59	945.	4.856E-08	4.851E-08	4.786E-08	1.734E-09			
A	SITE BOUNDARY	E	0.53	845.	2.894E-08	2.891E-08	2.862E-08	1.388E-09			
A	SITE BOUNDARY	ESE	0.54	865.	4.129E-08	4.126E-08	4.081E-08	2.618E-09			
A	SITE BOUNDARY	SE	0.65	1046.	4.029E-08	4.025E-08	3.966E-08	2.054E-09			
A	SITE BOUNDARY	SSE	0.81	1307.	1.185E-07	1.183E-07	1.162E-07	4.864E-09			
A	NEAR. RESIDENCE	SW	1.40	2253.	1.460E-07	1.456E-07	1.429E-07	1.530E-09			
A	NEAR. RESIDENCE	WSW	1.30	2092.	1.841E-07	1.836E-07	1.817E-07	1.763E-09			
A	NEAR. RESIDENCE	W	1.00	1609.	2.391E-07	2.387E-07	2.350E-07	2.825E-09			
A	NEAR. RESIDENCE	WNW	1.60	2575.	2.881E-07	2.872E-07	2.807E-07	2.667E-09			
A	NEAR. RESIDENCE	NW	0.90	1448.	4.157E-07	4.150E-07	4.082E-07	9.269E-09			
A	NEAR. RESIDENCE	NNW	2.00	3219.	2.349E-07	2.340E-07	2.301E-07	1.996E-09			
A	NEAR. RESIDENCE	NNE	2.70	4345.	3.485E-08	3.469E-08	3.382E-08	3.397E-10			
A	NEAR. RESIDENCE	ENE	1.70	2756.	2.962E-08	2.952E-08	2.882E-08	3.866E-10			
A	NEAR. RESIDENCE	E	1.80	2897.	1.997E-08	1.991E-08	1.936E-08	2.698E-10			
A	NEAREST COW	NNW	3.50	5634.	1.388E-07	1.378E-07	1.348E-07	6.908E-10			
A	NEAREST GARDEN	SW	1.40	2253.	1.460E-07	1.456E-07	1.429E-07	1.530E-09			
A	NEAREST GARDEN	WSW	1.80	2897.	1.426E-07	1.421E-07	1.396E-07	8.847E-10			
A	NEAREST GARDEN	WNW	1.60	2575.	2.881E-07	2.872E-07	2.807E-07	2.667E-09			
A	NEAREST GARDEN	NNW	2.00	3219.	2.349E-07	2.340E-07	2.301E-07	1.996E-09			

Atmospheric Diffusion Estimates

Elevated Releases

October-December 1993

ERP ELEVATED STACK RELEASES - OCT-DEC 1993  
 NO DECAY, UNDEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES											
	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.361E-09	2.343E-08	4.685E-08	5.618E-08	5.900E-08	5.192E-08	4.378E-08	3.684E-08	3.19E-08	3.756E-08	4.323E-08	2.361E-09	2.343E-08	4.685E-08	5.618E-08	5.900E-08	5.192E-08	4.378E-08	3.684E-08	3.19E-08	3.756E-08	4.323E-08
SSW	3.273E-11	4.595E-09	2.297E-08	3.835E-08	4.602E-08	4.082E-08	3.409E-08	3.594E-08	3.585E-08	3.105E-08	2.731E-08	3.273E-11	4.595E-09	2.297E-08	3.835E-08	4.602E-08	4.082E-08	3.409E-08	3.594E-08	3.585E-08	3.105E-08	2.731E-08
SW	1.080E-08	9.121E-09	2.736E-08	6.433E-08	1.020E-07	6.932E-08	5.027E-08	3.641E-08	3.055E-08	2.507E-08	2.108E-08	1.080E-08	9.121E-09	2.736E-08	6.433E-08	1.020E-07	6.932E-08	5.027E-08	3.641E-08	3.055E-08	2.507E-08	2.108E-08
WSW	2.310E-16	3.924E-10	2.167E-08	6.264E-08	1.001E-07	6.211E-08	4.229E-08	3.078E-08	2.354E-08	1.868E-08	1.526E-08	2.310E-16	3.924E-10	2.167E-08	6.264E-08	1.001E-07	6.211E-08	4.229E-08	3.078E-08	2.354E-08	1.868E-08	1.526E-08
W	8.944E-14	1.062E-08	5.018E-08	5.907E-08	5.216E-08	3.339E-08	2.357E-08	1.776E-08	1.401E-08	1.143E-08	9.570E-09	8.944E-14	1.062E-08	5.018E-08	5.907E-08	5.216E-08	3.339E-08	2.357E-08	1.776E-08	1.401E-08	1.143E-08	9.570E-09
WNW	8.776E-15	3.362E-09	5.379E-08	1.041E-07	1.357E-07	8.447E-08	5.826E-08	4.557E-08	3.721E-08	2.982E-08	2.461E-08	8.776E-15	3.362E-09	5.379E-08	1.041E-07	1.357E-07	8.447E-08	5.826E-08	4.557E-08	3.721E-08	2.982E-08	2.461E-08
NW	1.097E-08	3.783E-08	8.241E-08	1.672E-07	2.582E-07	1.566E-07	1.070E-07	8.163E-08	6.552E-08	5.277E-08	4.376E-08	1.097E-08	3.783E-08	8.241E-08	1.672E-07	2.582E-07	1.566E-07	1.070E-07	8.163E-08	6.552E-08	5.277E-08	4.376E-08
NNW	1.960E-09	8.601E-09	3.897E-08	8.496E-08	1.352E-07	1.295E-07	1.137E-07	9.681E-08	8.351E-08	6.549E-08	5.307E-08	1.960E-09	8.601E-09	3.897E-08	8.496E-08	1.352E-07	1.295E-07	1.137E-07	9.681E-08	8.351E-08	6.549E-08	5.307E-08
N	6.396E-09	3.784E-08	5.715E-08	5.960E-08	5.765E-08	5.168E-08	4.461E-08	3.752E-08	3.189E-08	2.744E-08	2.391E-08	6.396E-09	3.784E-08	5.715E-08	5.960E-08	5.765E-08	5.168E-08	4.461E-08	3.752E-08	3.189E-08	2.744E-08	2.391E-08
NNE	2.166E-08	6.875E-08	9.019E-08	7.877E-08	6.438E-08	5.336E-08	4.449E-08	3.757E-08	3.220E-08	2.799E-08	2.467E-08	2.166E-08	6.875E-08	9.019E-08	7.877E-08	6.438E-08	5.336E-08	4.449E-08	3.757E-08	3.220E-08	2.799E-08	2.467E-08
NE	5.568E-09	3.984E-08	6.337E-08	6.589E-08	6.198E-08	5.294E-08	4.429E-08	3.725E-08	3.172E-08	2.739E-08	2.396E-08	5.568E-09	3.984E-08	6.337E-08	6.589E-08	6.198E-08	5.294E-08	4.429E-08	3.725E-08	3.172E-08	2.739E-08	2.396E-08
ENE	3.448E-09	1.690E-08	2.526E-08	2.863E-08	2.984E-08	2.656E-08	2.268E-08	1.931E-08	1.658E-08	1.439E-08	1.265E-08	3.448E-09	1.690E-08	2.526E-08	2.863E-08	2.984E-08	2.656E-08	2.268E-08	1.931E-08	1.658E-08	1.439E-08	1.265E-08
E	3.273E-11	4.055E-09	1.370E-08	1.995E-08	2.296E-08	2.062E-08	1.755E-08	1.486E-08	1.268E-08	1.095E-08	9.579E-09	3.273E-11	4.055E-09	1.370E-08	1.995E-08	2.296E-08	2.062E-08	1.755E-08	1.486E-08	1.268E-08	1.095E-08	9.579E-09
ESE	1.050E-10	8.368E-09	3.040E-08	4.571E-08	5.130E-08	4.443E-08	3.668E-08	3.029E-08	2.534E-08	2.152E-08	1.854E-08	1.050E-10	8.368E-09	3.040E-08	4.571E-08	5.130E-08	4.443E-08	3.668E-08	3.029E-08	2.534E-08	2.152E-08	1.854E-08
SE	2.095E-10	1.448E-08	5.114E-08	7.548E-08	8.324E-08	7.142E-08	5.855E-08	4.807E-08	4.001E-08	3.382E-08	2.901E-08	2.095E-10	1.448E-08	5.114E-08	7.548E-08	8.324E-08	7.142E-08	5.855E-08	4.807E-08	4.001E-08	3.382E-08	2.901E-08
SSE	2.986E-09	3.676E-08	9.037E-08	1.183E-07	1.224E-07	1.033E-07	8.425E-08	6.909E-08	5.753E-08	4.807E-08	4.001E-08	2.986E-09	3.676E-08	9.037E-08	1.183E-07	1.224E-07	1.033E-07	8.425E-08	6.909E-08	5.753E-08	4.807E-08	4.001E-08

BEARING	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES											
	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	3.915E-08	2.703E-08	1.760E-08	1.012E-08	7.063E-09	5.317E-09	4.143E-09	3.358E-09	2.819E-09	2.413E-09	2.097E-09	3.915E-08	2.703E-08	1.760E-08	1.012E-08	7.063E-09	5.317E-09	4.143E-09	3.358E-09	2.819E-09	2.413E-09	2.097E-09
SSW	2.501E-08	1.807E-08	1.164E-08	6.592E-09	4.580E-09	3.397E-09	2.632E-09	2.124E-09	1.766E-09	1.500E-09	1.297E-09	2.501E-08	1.807E-08	1.164E-08	6.592E-09	4.580E-09	3.397E-09	2.632E-09	2.124E-09	1.766E-09	1.500E-09	1.297E-09
SW	1.966E-08	1.668E-08	1.133E-08	6.602E-09	4.852E-09	3.792E-09	3.114E-09	2.539E-09	2.129E-09	1.824E-09	1.589E-09	1.966E-08	1.668E-08	1.133E-08	6.602E-09	4.852E-09	3.792E-09	3.114E-09	2.539E-09	2.129E-09	1.824E-09	1.589E-09
WSW	1.308E-08	7.361E-09	4.822E-09	2.725E-09	1.788E-09	1.292E-09	9.923E-10	7.940E-10	6.550E-10	5.529E-10	4.753E-10	1.308E-08	7.361E-09	4.822E-09	2.725E-09	1.788E-09	1.292E-09	9.923E-10	7.940E-10	6.550E-10	5.529E-10	4.753E-10
W	8.179E-09	4.671E-09	3.548E-09	2.492E-09	1.919E-09	1.435E-09	1.126E-09	9.182E-10	7.702E-10	6.600E-10	5.751E-10	8.179E-09	4.671E-09	3.548E-09	2.492E-09	1.919E-09	1.435E-09	1.126E-09	9.182E-10	7.702E-10	6.600E-10	5.751E-10
WNW	2.110E-08	1.231E-08	8.587E-09	5.412E-09	3.785E-09	2.867E-09	2.295E-09	1.891E-09	1.590E-09	1.361E-09	1.185E-09	2.110E-08	1.231E-08	8.587E-09	5.412E-09	3.785E-09	2.867E-09	2.295E-09	1.891E-09	1.590E-09	1.361E-09	1.185E-09
NW	3.790E-08	2.316E-08	1.689E-08	1.121E-08	7.715E-09	5.786E-09	4.774E-09	3.972E-09	3.346E-09	2.877E-09	2.515E-09	3.790E-08	2.316E-08	1.689E-08	1.121E-08	7.715E-09	5.786E-09	4.774E-09	3.972E-09	3.346E-09	2.877E-09	2.515E-09
NNW	4.487E-08	2.467E-08	1.591E-08	9.054E-09	6.089E-09	4.485E-09	3.519E-09	2.869E-09	2.426E-09	2.077E-09	1.801E-09	4.487E-08	2.467E-08	1.591E-08	9.054E-09	6.089E-09	4.485E-09	3.519E-09	2.869E-09	2.426E-09	2.077E-09	1.801E-09
N	2.109E-08	1.313E-08	1.045E-08	7.552E-09	5.778E-09	4.511E-09	3.515E-09	2.843E-09	2.366E-09	2.013E-09	1.743E-09	2.109E-08	1.313E-08	1.045E-08	7.552E-09	5.778E-09	4.511E-09	3.515E-09	2.843E-09	2.366E-09	2.013E-09	1.743E-09
NNE	2.807E-08	4.257E-08	2.767E-08	1.594E-08	1.084E-08	8.053E-09	6.324E-09	5.160E-09	4.329E-09	3.710E-09	3.233E-09	2.807E-08	4.257E-08	2.767E-08	1.594E-08	1.084E-08	8.053E-09	6.324E-09	5.160E-09	4.329E-09	3.710E-09	3.233E-09
NE	2.645E-08	3.806E-08	2.472E-08	1.424E-08	9.674E-09	7.185E-09	5.713E-09	4.693E-09	3.950E-09	3.382E-09	2.945E-09	2.645E-08	3.806E-08	2.472E-08	1.424E-08	9.674E-09	7.185E-09	5.713E-09	4.693E-09	3.950E-09	3.382E-09	2.945E-09
ENE	1.367E-08	1.768E-08	1.159E-08	6.731E-09	4.589E-09	3.414E-09	2.765E-09	2.299E-09	1.925E-09	1.646E-09	1.432E-09	1.367E-08	1.768E-08	1.159E-08	6.731E-09	4.589E-09	3.414E-09	2.765E-09	2.299E-09	1.925E-09	1.646E-09	1.432E-09
E	1.018E-08	1.321E-08	8.662E-09	5.037E-09	3.438E-09	2.560E-09	2.013E-09	1.645E-09	1.417E-09	1.237E-09	1.077E-09	1.018E-08	1.321E-08	8.662E-09	5.037E-09	3.438E-09	2.560E-09	2.013E-09	1.645E-09	1.417E-09	1.237E-09	1.077E-09
ESE	1.847E-08	1.878E-08	1.232E-08	7.154E-09	4.872E-09	3.620E-09	2.842E-09	2.317E-09	1.942E-09	1.663E-09	1.448E-09	1.847E-08	1.878E-08	1.232E-08	7.154E-09	4.872E-09	3.620E-09	2.842E-09	2.317E-09	1.942E-09	1.663E-09	1.448E-09
SE	2.523E-08	1.493E-08	1.109E-08	7.498E-09	5.335E-09	4.180E-09	3.309E-09	2.762E-09	2.300E-09	1.958E-09	1.696E-09	2.523E-08	1.493E-08	1.109E-08	7.498E-09	5.335E-09	4.180E-09	3.309E-09	2.762E-09	2.300E-09	1.958E-09	1.696E-09
SSE	7.626E-08	4.379E-08	2.798E-08	1.573E-08	1.051E-08	7.697E-09	5.978E-09	4.833E-09	4.022E-09	3.422E-09	2.963E-09	7.626E-08	4.379E-08	2.798E-08	1.573E-08	1.051E-08	7.697E-09	5.978E-09	4.833E-09	4.022E-09	3.422E-09	2.963E-09

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

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES									
	0-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	4.579E-08	5.523E-08	4.317E-08	3.527E-08	4.004E-08	2.553E-08	1.042E-08	5.313E-09	3.377E-09	2.415E-09
SSW	2.572E-08	4.200E-08	3.662E-08	3.405E-08	2.757E-08	1.676E-08	6.819E-09	3.406E-09	2.132E-09	1.504E-09
SW	3.974E-08	7.910E-08	5.061E-08	3.071E-08	2.174E-08	1.488E-08	6.830E-09	3.803E-09	2.547E-09	1.827E-09
WSW	3.515E-08	7.489E-08	4.297E-08	2.376E-08	1.547E-08	7.504E-09	2.775E-09	1.305E-09	7.977E-10	5.544E-10
W	4.534E-08	4.535E-08	2.387E-08	1.410E-08	9.606E-09	4.951E-09	2.472E-09	1.440E-09	9.212E-10	6.612E-10
WNW	6.495E-08	1.059E-07	6.018E-08	3.679E-08	2.485E-08	1.261E-08	5.394E-09	2.883E-09	1.892E-09	1.364E-09
NW	1.182E-07	1.928E-07	1.101E-07	6.527E-08	4.426E-08	2.365E-08	1.092E-08	5.896E-09	3.963E-09	2.852E-09
NNW	5.266E-08	1.215E-07	1.112E-07	8.045E-08	5.371E-08	2.527E-08	9.260E-09</			

ERP ELEVATED STACK RELEASES - OCT-DEC 1993  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	2.361E-09	2.341E-08	4.679E-08	5.607E-08	5.881E-08	5.169E-08	4.353E-08	3.658E-08	3.104E-08	3.719E-08	4.273E-08
SSW	3.271E-11	4.590E-09	2.294E-08	3.828E-08	4.588E-08	4.065E-08	3.390E-08	3.569E-08	3.554E-08	3.073E-08	2.698E-08
SW	1.079E-08	9.115E-09	2.732E-08	6.419E-08	1.016E-07	6.896E-08	4.993E-08	3.809E-08	3.025E-08	2.478E-08	2.091E-08
WSW	2.309E-16	3.920E-10	2.164E-08	6.249E-08	9.970E-08	6.177E-08	4.199E-08	3.052E-08	2.331E-08	1.847E-08	1.507E-08
W	8.942E-14	1.061E-08	5.012E-08	5.898E-08	5.200E-08	3.323E-08	2.342E-08	1.762E-08	1.367E-08	1.130E-08	9.443E-09
WNW	8.774E-15	3.359E-09	5.373E-08	1.039E-07	1.352E-07	8.408E-08	5.791E-08	4.523E-08	3.687E-08	2.951E-08	2.431E-08
NW	1.097E-08	3.781E-08	8.232E-08	1.669E-07	2.573E-07	1.558E-07	1.063E-07	8.095E-08	6.487E-08	5.217E-08	4.319E-08
NNW	1.959E-09	8.596E-09	3.892E-08	8.484E-08	1.349E-07	1.292E-07	1.133E-07	9.639E-08	8.307E-08	6.509E-08	5.271E-08
N	6.395E-09	3.782E-08	5.711E-08	5.953E-08	5.755E-08	5.155E-08	4.447E-08	3.737E-08	3.174E-08	2.730E-08	2.376E-08
NNE	2.166E-08	6.870E-08	9.007E-08	7.864E-08	6.421E-08	5.317E-08	4.430E-08	3.738E-08	3.201E-08	2.780E-08	2.448E-08
NE	5.567E-09	3.981E-08	6.331E-08	6.579E-08	6.185E-08	5.280E-08	4.415E-08	3.710E-08	3.158E-08	2.725E-08	2.383E-08
ENE	3.447E-09	1.689E-08	2.524E-08	2.859E-08	2.978E-08	2.649E-08	2.261E-08	1.923E-08	1.650E-08	1.432E-08	1.257E-08
E	3.271E-11	4.050E-09	1.368E-08	1.992E-08	2.290E-08	2.056E-08	1.749E-08	1.479E-08	1.262E-08	1.089E-08	9.519E-09
ESE	1.050E-10	8.363E-09	3.037E-08	4.565E-08	5.119E-08	4.430E-08	3.654E-08	3.015E-08	2.520E-08	2.138E-08	1.841E-08
SE	2.095E-10	1.447E-08	5.110E-08	7.540E-08	8.310E-08	7.125E-08	5.837E-08	4.790E-08	3.984E-08	3.365E-08	2.885E-08
SSE	2.986E-09	3.674E-08	9.031E-08	1.182E-07	1.222E-07	1.031E-07	8.400E-08	6.863E-08	5.727E-08	4.758E-08	3.910E-08

BEARING	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	3.864E-08	2.649E-08	1.714E-08	9.720E-09	6.692E-09	4.971E-09	3.822E-09	3.056E-09	2.532E-09	2.140E-09	1.831E-09
SSW	2.467E-08	1.767E-08	1.129E-08	6.295E-09	4.305E-09	3.143E-09	2.398E-09	1.905E-09	1.559E-09	1.304E-09	1.111E-09
SW	1.936E-08	1.626E-08	1.075E-08	6.261E-09	4.516E-09	3.464E-09	2.791E-09	2.234E-09	1.840E-09	1.547E-09	1.324E-09
WSW	1.289E-08	7.205E-09	4.686E-09	2.610E-09	1.689E-09	1.204E-09	9.113E-10	7.192E-10	5.850E-10	4.871E-10	4.130E-10
W	8.057E-09	4.560E-09	3.431E-09	2.367E-09	1.792E-09	1.316E-09	1.015E-09	8.136E-10	6.708E-10	5.650E-10	4.839E-10
WNW	2.081E-08	1.205E-08	8.335E-09	5.166E-09	3.554E-09	2.648E-09	2.085E-09	1.689E-09	1.397E-09	1.177E-09	1.008E-09
NW	3.735E-08	2.263E-08	1.636E-08	1.067E-08	7.223E-09	5.327E-09	4.319E-09	3.532E-09	2.927E-09	2.475E-09	2.128E-09
NNW	4.452E-08	2.438E-08	1.566E-08	8.835E-09	5.892E-09	4.304E-09	3.349E-09	2.707E-09	2.269E-09	1.926E-09	1.656E-09
N	2.095E-08	1.299E-08	1.031E-08	7.393E-09	5.617E-09	4.354E-09	3.370E-09	2.707E-09	2.237E-09	1.890E-09	1.625E-09
NNE	2.783E-08	4.188E-08	2.707E-08	1.542E-08	1.037E-08	7.620E-09	5.919E-09	4.776E-09	3.964E-09	3.360E-09	2.896E-09
NE	2.628E-08	3.763E-08	2.435E-08	1.391E-08	9.380E-09	6.911E-09	5.451E-09	4.441E-09	3.707E-09	3.149E-09	2.720E-09
ENE	1.357E-08	1.746E-08	1.140E-08	6.563E-09	4.436E-09	3.272E-09	2.627E-09	2.164E-09	1.796E-09	1.523E-09	1.314E-09
E	1.012E-08	1.308E-08	8.553E-09	4.942E-09	3.352E-09	2.400E-09	1.939E-09	1.774E-09	1.348E-09	1.169E-09	1.012E-09
ESE	1.832E-08	1.852E-08	1.209E-08	6.947E-09	4.682E-09	3.442E-09	2.674E-09	2.158E-09	1.790E-09	1.517E-09	1.307E-09
SE	2.507E-08	1.479E-08	1.095E-08	7.355E-09	5.200E-09	3.969E-09	3.182E-09	2.637E-09	2.182E-09	1.845E-09	1.588E-09
SSE	7.757E-08	4.318E-08	2.745E-08	1.529E-08	1.011E-08	7.335E-09	5.641E-09	4.516E-09	3.722E-09	3.136E-09	2.690E-09

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

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	4.572E-08	5.504E-08	4.292E-08	3.496E-08	3.957E-08	2.563E-08	1.002E-08	4.970E-09	3.075E-09	2.142E-09
SSW	2.568E-08	4.187E-08	3.642E-08	3.375E-08	2.724E-08	1.639E-08	6.520E-09	3.155E-09	1.914E-09	1.308E-09
SW	3.966E-08	7.878E-08	5.027E-08	3.041E-08	2.145E-08	1.450E-08	6.483E-09	3.475E-09	2.243E-09	1.551E-09
WSW	3.508E-08	7.457E-08	4.268E-08	2.353E-08	1.527E-08	7.350E-09	2.662E-09	1.216E-09	7.230E-10	4.887E-10
W	4.528E-08	4.521E-08	2.372E-08	1.396E-08	9.479E-09	4.836E-09	2.348E-09	1.322E-09	8.167E-10	5.663E-10
WNW	6.483E-08	1.055E-07	5.982E-08	3.646E-08	2.456E-08	1.235E-08	5.154E-09	2.664E-09	1.691E-09	1.180E-09
NW	1.100E-07	1.921E-07	1.094E-07	6.463E-08	4.369E-08	2.311E-08	1.040E-08	5.429E-09	3.526E-09	2.480E-09
NNW	5.259E-08	1.212E-07	1.108E-07	8.003E-08	5.335E-08	2.498E-08	9.043E-09	4.345E-09	2.723E-09	1.928E-09
N	5.390E-08	5.532E-08	4.352E-08	3.166E-08	2.377E-08	1.357E-08	7.251E-09	4.297E-09	2.717E-09	1.895E-09
NNE	8.024E-08	6.251E-08	4.390E-08	3.194E-08	2.670E-08	3.217E-08	1.576E-08	7.673E-09	4.793E-09	3.367E-09
NE	5.919E-08	5.871E-08	4.364E-08	3.151E-08	2.575E-08	2.921E-08	1.422E-08	6.985E-09	4.450E-09	3.155E-09
ENE	2.488E-08	2.805E-08	2.229E-08	1.645E-08	1.346E-08	1.390E-08	6.692E-09	3.324E-09	2.156E-09	1.527E-09
E	1.431E-08	2.120E-08	1.723E-08	1.258E-08	1.015E-08	1.041E-08	5.038E-09	2.496E-09	1.592E-09	1.164E-09
ESE	3.227E-08	4.690E-08	3.606E-08	2.516E-08	1.926E-08	1.562E-08	7.083E-09	3.466E-09	2.165E-09	1.520E-09
SE	5.376E-08	7.612E-08	5.761E-08	3.978E-08	2.887E-08	1.537E-08	7.195E-09	3.982E-09	2.620E-09	1.850E-09
SSE	9.080E-08	1.128E-07	8.301E-08	6.755E-08	8.148E-08	4.383E-08	1.569E-08	7.398E-09	4.535E-09	3.144E-09

ERP ELEVATED STACK RELEASES - OCT-DEC 1993  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE SECTOR	DISTANCE IN MILES									
	0.250	0.500	0.750	1.000	1.500	2.500	3.500	4.000	4.500	
S	2.361E-09	2.522E-08	4.612E-08	5.542E-08	5.891E-08	4.299E-08	3.092E-08	3.604E-08	4.157E-08	
SSW	3.272E-11	4.562E-09	2.283E-08	3.818E-08	4.547E-08	3.977E-08	3.466E-08	2.963E-08	2.594E-08	
SW	1.080E-08	9.042E-09	2.722E-08	6.420E-08	1.007E-07	6.774E-08	3.988E-08	2.387E-08	1.999E-08	
WSW	2.310E-16	3.923E-10	2.167E-08	6.255E-08	9.667E-08	4.083E-08	2.949E-08	1.765E-08	1.434E-08	
W	8.943E-14	1.062E-08	4.986E-08	5.817E-08	5.084E-08	3.299E-08	1.700E-08	1.086E-08	9.072E-09	
MNW	1.077E-15	3.361E-09	5.322E-08	1.022E-07	1.394E-07	8.256E-08	5.645E-08	3.583E-08	2.345E-08	
NW	1.097E-08	3.749E-08	8.158E-08	1.052E-07	1.526E-07	1.035E-07	7.861E-08	5.041E-08	4.157E-08	
NNW	1.960E-09	8.532E-09	3.879E-08	8.478E-08	1.340E-07	1.113E-07	9.446E-08	6.341E-08	5.110E-08	
N	4.896E-09	3.750E-08	5.618E-08	8.678E-08	5.665E-08	4.349E-08	3.084E-08	2.645E-08	2.297E-08	
NNE	2.166E-08	6.812E-08	8.831E-08	7.693E-08	6.277E-08	4.314E-08	3.631E-08	2.691E-08	2.366E-08	
NE	5.568E-09	3.948E-08	6.272E-08	6.481E-08	6.059E-08	4.307E-08	3.606E-08	2.631E-08	2.295E-08	
ENE	3.447E-09	1.675E-08	2.468E-08	2.828E-08	2.695E-08	2.212E-08	1.874E-08	1.386E-08	1.214E-08	
E	3.272E-11	4.021E-09	1.355E-08	1.979E-08	2.266E-08	2.022E-08	1.710E-08	1.440E-08	1.052E-08	
ESE	1.050E-10	8.302E-09	3.014E-08	4.544E-08	5.066E-08	4.351E-08	3.563E-08	2.427E-08	2.048E-08	
SE	2.895E-10	1.837E-08	5.071E-08	7.533E-08	8.221E-08	6.995E-08	5.688E-08	3.217E-08	2.743E-08	
SSE	2.986E-09	3.645E-08	8.935E-08	1.173E-07	1.287E-07	8.179E-08	6.659E-08	5.508E-08	4.828E-08	

ANNUAL AVERAGE BEARING	DISTANCE IN MILES									
	5.000	7.500	10.000	15.000	20.000	30.000	35.000	40.000	45.000	50.000
S	3.757E-08	2.549E-08	1.605E-08	8.622E-09	5.576E-09	3.936E-09	2.912E-09	2.253E-09	1.817E-09	1.505E-09
SSW	2.369E-08	1.684E-08	1.048E-08	5.565E-09	3.608E-09	2.559E-09	1.909E-09	1.488E-09	1.179E-09	9.870E-10
SW	1.862E-08	1.569E-08	1.012E-08	5.601E-09	3.808E-09	2.799E-09	2.103E-09	1.715E-09	1.384E-09	1.153E-09
WSW	1.223E-08	6.694E-09	4.247E-09	2.270E-09	1.421E-09	9.860E-10	7.299E-10	5.648E-10	4.517E-10	3.704E-10
W	7.355E-09	4.372E-09	3.008E-09	2.190E-09	1.544E-09	1.134E-09	8.576E-10	6.765E-10	5.502E-10	4.580E-10
MNW	2.000E-08	1.132E-08	7.336E-09	4.482E-09	2.848E-09	2.045E-09	1.561E-09	1.235E-09	1.004E-09	8.333E-10
NW	3.583E-08	2.172E-08	1.502E-08	9.308E-09	5.941E-09	4.179E-09	3.280E-09	2.633E-09	2.143E-09	1.784E-09
NNW	4.295E-08	2.288E-08	1.452E-08	7.581E-09	4.708E-09	3.239E-09	2.409E-09	1.877E-09	1.531E-09	1.270E-09
N	2.021E-08	1.244E-08	9.868E-09	7.093E-09	5.285E-09	3.933E-09	2.971E-09	2.333E-09	1.893E-09	1.543E-09
NNE	4.107E-08	2.577E-08	1.932E-08	8.883E-09	6.253E-09	4.684E-09	3.663E-09	2.956E-09	2.443E-09	2.058E-09
NE	2.539E-08	3.662E-08	2.297E-08	1.247E-08	8.041E-09	5.712E-09	4.373E-09	3.481E-09	2.845E-09	2.372E-09
ENE	1.314E-08	1.703E-08	1.079E-08	5.822E-09	3.675E-09	2.559E-09	1.948E-09	1.548E-09	1.253E-09	1.038E-09
E	9.747E-09	1.269E-08	8.048E-09	4.370E-09	2.757E-09	1.922E-09	1.428E-09	1.105E-09	9.081E-10	7.608E-10
ESE	1.744E-08	1.773E-08	1.127E-08	6.159E-09	3.896E-09	2.725E-09	2.028E-09	1.575E-09	1.263E-09	1.038E-09
SE	2.372E-08	1.374E-08	1.007E-08	6.716E-09	4.720E-09	3.595E-09	2.882E-09	2.384E-09	1.938E-09	1.613E-09
SSE	7.482E-08	4.055E-08	2.498E-08	1.310E-08	8.289E-09	5.766E-09	4.281E-09	3.323E-09	2.664E-09	2.190E-09

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT	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	4.517E-08	5.420E-08	4.198E-08	3.389E-08	3.845E-08	2.398E-08	8.919E-09	3.964E-09	2.275E-09	1.509E-09
SSW	2.559E-08	4.141E-08	3.555E-08	3.266E-08	2.620E-08	1.584E-08	5.789E-09	2.579E-09	1.497E-09	9.918E-10
SW	3.962E-08	7.370E-08	4.910E-08	2.941E-08	2.603E-08	1.387E-08	5.608E-09	2.814E-09	1.725E-09	1.157E-09
WSW	3.511E-08	7.370E-08	4.155E-08	2.261E-08	1.454E-08	6.837E-09	2.332E-09	9.996E-10	5.689E-10	3.721E-10
W	4.833E-08	4.422E-08	2.297E-08	1.365E-08	9.108E-09	4.643E-09	2.166E-09	1.142E-09	6.801E-10	4.595E-10
MNW	6.454E-08	1.040E-07	5.837E-08	3.539E-08	2.369E-08	1.161E-08	4.478E-09	2.107E-09	1.242E-09	8.335E-10
NW	1.893E-07	1.894E-07	1.067E-07	6.262E-08	4.206E-08	2.173E-08	9.081E-09	4.292E-09	2.633E-09	1.792E-09
NNW	1.693E-08	1.201E-07	1.089E-07	7.854E-08	5.173E-08	2.358E-08	7.776E-09	3.909E-09	1.896E-09	1.273E-09
N	5.314E-08	5.441E-08	4.256E-08	3.077E-08	2.298E-08	1.303E-08	6.906E-09	3.250E-09	2.350E-09	1.589E-09
NNE	7.877E-08	6.108E-08	4.274E-08	3.052E-08	2.587E-08	1.115E-08	1.431E-08	6.378E-09	3.686E-09	2.453E-09
NE	5.833E-08	5.767E-08	4.257E-08	3.022E-08	2.685E-08	2.805E-08	1.261E-08	5.729E-09	3.494E-09	2.379E-09
ENE	2.458E-08	2.181E-08	2.181E-08	1.988E-08	1.502E-08	1.339E-08	5.978E-09	2.611E-09	1.550E-09	1.042E-09
E	1.421E-08	2.094E-08	3.685E-08	1.220E-08	9.780E-09	9.972E-09	4.478E-09	1.946E-09	1.122E-09	7.608E-10
ESE	3.209E-08	4.632E-08	3.517E-08	2.424E-08	1.837E-08	1.479E-08	6.242E-09	2.759E-09	1.586E-09	1.042E-09
SE	5.365E-08	7.517E-08	5.615E-08	3.827E-08	2.746E-08	1.433E-08	6.575E-09	3.610E-09	2.356E-09	1.618E-09
SSE	9.601E-08	1.112E-07	8.085E-08	6.545E-08	7.874E-08	4.124E-08	1.353E-08	5.843E-09	3.346E-09	2.119E-09



ERP ELEVATED STACK RELEASES - OCT-DEC 1993

CORRECTED FOR OPEN TERRAIN RECIRCULATION

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

DIRECTION FROM SITE	DISTANCES IN MILES										
	0.25	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S	2.185E-09	2.015E-09	2.064E-09	1.627E-09	8.772E-10	5.601E-10	3.865E-10	2.806E-10	2.113E-10	1.662E-10	1.557E-10
SSW	3.518E-10	7.238E-10	1.263E-09	1.244E-09	7.599E-10	5.060E-10	3.563E-10	2.613E-10	2.476E-10	1.873E-10	1.466E-10
SW	5.670E-10	6.276E-10	7.796E-10	6.798E-10	7.028E-10	3.850E-10	2.398E-10	1.634E-10	1.183E-10	8.962E-11	7.019E-11
WSW	3.248E-11	1.949E-10	4.150E-10	8.109E-10	5.328E-10	2.899E-10	1.793E-10	1.216E-10	8.777E-11	6.633E-11	5.189E-11
W	2.030E-11	1.122E-09	1.084E-09	6.981E-10	3.367E-10	1.816E-10	1.118E-10	7.550E-11	5.433E-11	4.094E-11	3.196E-11
WNW	4.060E-11	2.436E-10	1.679E-09	1.375E-09	8.510E-10	4.322E-10	2.578E-10	1.724E-10	1.295E-10	9.937E-11	8.055E-11
NW	2.702E-09	2.342E-09	2.204E-09	3.166E-09	1.975E-09	9.872E-10	5.842E-10	3.871E-10	2.784E-10	2.135E-10	1.724E-10
NNW	6.171E-10	9.280E-10	1.419E-09	1.342E-09	1.565E-09	8.497E-10	5.253E-10	4.404E-10	3.240E-10	2.560E-10	2.145E-10
N	4.568E-09	3.828E-09	3.419E-09	2.457E-09	1.239E-09	7.712E-10	5.253E-10	3.788E-10	2.843E-10	2.198E-10	1.740E-10
NNE	5.580E-09	4.352E-09	3.423E-09	2.204E-09	1.012E-09	6.050E-10	4.034E-10	2.876E-10	2.145E-10	1.655E-10	1.310E-10
NE	3.246E-09	2.832E-09	2.689E-09	2.019E-09	1.053E-09	6.639E-10	4.553E-10	3.295E-10	2.477E-10	1.916E-10	1.517E-10
ENE	1.626E-09	1.436E-09	1.388E-09	1.055E-09	5.544E-10	3.507E-10	2.409E-10	1.745E-10	1.312E-10	1.015E-10	8.040E-11
E	3.045E-10	4.396E-10	6.578E-10	6.175E-10	3.683E-10	2.435E-10	1.708E-10	1.251E-10	9.458E-11	7.336E-11	5.809E-11
ESE	8.972E-10	1.221E-09	1.766E-09	1.638E-09	9.708E-10	6.404E-10	4.489E-10	3.285E-10	2.484E-10	1.926E-10	1.525E-10
SE	2.053E-09	2.607E-09	3.602E-09	3.284E-09	1.930E-09	1.269E-09	8.885E-10	6.498E-10	4.911E-10	3.808E-10	3.016E-10
SSE	5.835E-09	5.879E-09	6.673E-09	5.571E-09	3.115E-09	2.015E-09	1.399E-09	1.019E-09	7.687E-10	7.272E-10	6.389E-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	1.252E-10	9.435E-11	6.552E-11	3.855E-11	2.453E-11	1.694E-11	1.209E-11	9.035E-12	7.116E-12	5.621E-12	4.590E-12
SSW	1.188E-10	6.652E-11	4.228E-11	2.286E-11	1.707E-11	1.185E-11	8.492E-12	6.378E-12	5.034E-12	4.021E-12	3.282E-12
SW	5.741E-11	4.234E-11	2.921E-11	1.706E-11	1.082E-11	7.646E-12	5.375E-12	4.131E-12	3.212E-12	2.566E-12	2.094E-12
WSW	4.171E-11	2.444E-11	1.578E-11	1.050E-11	6.354E-12	4.261E-12	3.135E-12	2.354E-12	1.830E-12	1.462E-12	1.193E-12
W	2.567E-11	1.144E-11	1.031E-11	6.787E-12	4.725E-12	3.168E-12	2.270E-12	1.705E-12	1.325E-12	1.059E-12	8.641E-13
WNW	6.941E-11	4.050E-11	2.842E-11	1.682E-11	1.100E-11	7.191E-12	5.202E-12	3.907E-12	3.062E-12	2.446E-12	1.997E-12
NW	1.460E-10	8.237E-11	5.686E-11	3.627E-11	2.221E-11	1.485E-11	1.042E-11	7.829E-12	6.210E-12	4.961E-12	4.849E-12
NNW	1.889E-10	1.212E-10	8.898E-11	5.461E-11	3.490E-11	2.313E-11	1.491E-11	1.130E-11	9.118E-12	7.283E-12	5.945E-12
N	1.405E-10	6.691E-11	4.105E-11	2.191E-11	5.180E-11	3.160E-11	2.253E-11	1.692E-11	1.315E-11	1.051E-11	8.576E-12
NNE	1.059E-10	1.955E-10	1.226E-10	6.470E-11	3.979E-11	2.670E-11	1.911E-11	1.432E-11	1.111E-11	8.865E-12	7.230E-12
NE	1.224E-10	2.241E-10	1.373E-10	7.042E-11	4.284E-11	2.872E-11	2.046E-11	1.536E-11	1.194E-11	9.540E-12	7.787E-12
ENE	6.486E-11	8.578E-11	6.409E-11	3.993E-11	2.568E-11	1.707E-11	1.202E-11	8.040E-12	6.252E-12	4.995E-12	4.078E-12
E	4.680E-11	6.300E-11	4.700E-11	2.920E-11	1.871E-11	1.239E-11	8.686E-12	6.357E-12	4.837E-12	3.648E-12	2.981E-12
ESE	1.229E-10	1.047E-10	7.128E-11	4.114E-11	2.594E-11	1.729E-11	1.225E-11	9.782E-12	6.993E-12	5.550E-12	4.509E-12
SE	2.430E-10	1.152E-10	7.032E-11	3.709E-11	2.266E-11	1.556E-11	1.156E-11	1.780E-11	1.374E-11	1.094E-11	8.912E-12
SSE	5.224E-10	3.501E-10	2.152E-10	1.108E-10	6.740E-11	4.513E-11	3.227E-11	2.417E-11	1.875E-11	1.496E-11	1.219E-11

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES									
	5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	1.859E-09	9.029E-10	3.905E-10	2.139E-10	1.475E-10	8.840E-11	3.832E-11	1.702E-11	9.177E-12	5.682E-12
SSW	1.135E-09	7.547E-10	3.582E-10	2.285E-10	1.483E-10	6.736E-11	2.460E-11	1.190E-11	6.470E-12	4.048E-12
SW	7.815E-10	5.565E-10	2.480E-10	1.203E-10	7.121E-11	3.985E-11	1.699E-11	7.584E-12	4.136E-12	2.582E-12
WSW	5.420E-10	4.866E-10	1.857E-10	8.926E-11	5.240E-11	2.443E-11	9.831E-12	4.369E-12	2.377E-12	1.471E-12
W	9.208E-10	3.481E-10	1.159E-10	5.528E-11	3.229E-11	1.411E-11	6.654E-12	3.224E-12	1.722E-12	1.066E-12
WNW	1.225E-09	7.813E-10	2.701E-10	1.303E-10	8.200E-11	4.155E-11	1.681E-11	7.411E-12	3.955E-12	2.462E-12
NW	2.662E-09	1.801E-09	6.128E-10	2.847E-10	1.748E-10	8.516E-11	3.459E-11	1.504E-11	7.953E-12	4.993E-12
NNW	1.276E-09	1.198E-09	5.779E-10	3.314E-10	2.173E-10	1.219E-10	5.349E-11	2.298E-11	1.150E-11	7.331E-12
N	3.082E-09	1.302E-09	5.323E-10	2.867E-10	1.752E-10	7.177E-11	3.945E-11	3.336E-11	1.709E-11	1.058E-11
NNE	3.088E-09	1.896E-09	4.108E-10	2.167E-10	1.319E-10	1.432E-10	6.650E-11	2.715E-11	1.446E-11	8.924E-12
NE	2.423E-09	1.095E-09	4.606E-10	2.497E-10	1.527E-10	1.629E-10	7.303E-11	2.918E-11	1.551E-11	9.602E-12
ENE	1.250E-09	5.750E-10	2.436E-10	1.323E-10	8.091E-11	7.149E-11	3.896E-11	1.735E-11	8.495E-12	5.028E-12
E	5.914E-10	3.682E-10	1.719E-10	9.521E-11	5.843E-11	5.229E-11	2.849E-11	1.259E-11	6.443E-12	3.753E-12
ESE	1.588E-09	9.721E-10	4.518E-10	2.500E-10	1.534E-10	9.390E-11	4.108E-11	1.758E-11	9.192E-12	5.592E-12
SE	3.239E-09	1.937E-09	8.946E-10	4.946E-10	3.033E-10	1.237E-10	3.806E-11	1.585E-11	1.447E-11	1.102E-11
SSE	6.007E-09	3.172E-09	1.412E-09	8.245E-10	6.219E-10	3.284E-10	1.147E-10	4.592E-11	2.442E-11	1.506E-11

ERP ELEVATED STACK RELEASES - OCT-DEC 1993  
CORRECTED FOR OPEN TERRAIN RECIRCULATION  
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE		X/Q		X/Q		X/Q		D/Q
			(MILES)	(METERS)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(PER SQ.METER)	
					NO DECAY	2.260 DAY DECAY	8.000 DAY DECAY				
A	SITE BOUNDARY	S	0.80	1287.	4.932E-08	4.932E-08	4.856E-08	4.856E-08	1.998E-09		
A	SITE BOUNDARY	SSW	0.82	1327.	2.847E-08	2.843E-08	2.831E-08	2.831E-08	1.315E-09		
A	SITE BOUNDARY	SW	0.98	1569.	6.084E-08	6.071E-08	6.072E-08	6.072E-08	7.022E-10		
A	SITE BOUNDARY	WSW	0.93	1489.	5.089E-08	5.078E-08	5.086E-08	5.086E-08	5.017E-10		
A	SITE BOUNDARY	W	0.91	1468.	5.825E-08	5.817E-08	5.753E-08	5.753E-08	8.117E-10		
A	SITE BOUNDARY	WNW	0.94	1509.	9.409E-08	9.392E-08	9.346E-08	9.346E-08	1.528E-09		
A	SITE BOUNDARY	NW	0.81	1307.	1.020E-07	1.019E-07	1.012E-07	1.012E-07	2.066E-09		
A	SITE BOUNDARY	NNW	0.69	1106.	2.651E-08	2.648E-08	2.635E-08	2.635E-08	1.289E-09		
A	SITE BOUNDARY	N	0.67	1086.	5.132E-08	5.129E-08	5.049E-08	5.049E-08	3.489E-09		
A	SITE BOUNDARY	NNE	0.60	965.	7.998E-08	7.990E-08	7.877E-08	7.877E-08	3.905E-09		
A	SITE BOUNDARY	NE	0.62	1005.	5.200E-08	5.195E-08	5.122E-08	5.122E-08	2.713E-09		
A	SITE BOUNDARY	ENE	0.59	945.	1.931E-08	1.930E-08	1.906E-08	1.906E-08	1.397E-09		
A	SITE BOUNDARY	E	0.53	845.	4.761E-09	4.756E-09	4.717E-09	4.717E-09	4.590E-10		
A	SITE BOUNDARY	ESE	0.54	865.	1.060E-08	1.059E-08	1.050E-08	1.050E-08	1.293E-09		
A	SITE BOUNDARY	SE	0.65	1046.	3.360E-08	3.358E-08	3.328E-08	3.328E-08	3.172E-09		
A	SITE BOUNDARY	SSE	0.81	1307.	9.963E-08	9.956E-08	9.850E-08	9.850E-08	6.500E-09		
A	NEAR. RESIDENCE	SW	1.40	2253.	9.937E-08	9.937E-08	9.832E-08	9.832E-08	8.069E-10		
A	NEAR. RESIDENCE	WSW	1.30	2092.	9.403E-08	9.371E-08	9.313E-08	9.313E-08	7.075E-10		
A	NEAR. RESIDENCE	W	1.00	1609.	5.907E-08	5.898E-08	5.817E-08	5.817E-08	6.981E-10		
A	NEAR. RESIDENCE	WNW	1.60	2575.	1.222E-07	1.217E-07	1.199E-07	1.199E-07	7.310E-10		
A	NEAR. RESIDENCE	NW	0.90	1448.	1.324E-07	1.322E-07	1.315E-07	1.315E-07	3.538E-09		
A	NEAR. RESIDENCE	NNW	2.00	3219.	1.295E-07	1.292E-07	1.274E-07	1.274E-07	8.497E-10		
A	NEAR. RESIDENCE	NNE	2.70	4345.	4.151E-08	4.132E-08	4.020E-08	4.020E-08	3.501E-10		
A	NEAR. RESIDENCE	ENE	1.70	2736.	2.876E-08	2.869E-08	2.828E-08	2.828E-08	4.506E-10		
A	NEAR. RESIDENCE	E	1.80	2897.	2.178E-08	2.172E-08	2.142E-08	2.142E-08	2.838E-10		
A	NEAREST COW	NNW	3.50	5634.	8.347E-08	8.303E-08	8.125E-08	8.125E-08	3.230E-10		
A	NEAREST GARDEN	SW	1.40	2253.	9.937E-08	9.903E-08	9.832E-08	9.832E-08	8.069E-10		
A	NEAREST GARDEN	WSW	1.80	2897.	7.423E-08	7.387E-08	7.266E-08	7.266E-08	3.615E-10		
A	NEAREST GARDEN	WNW	1.60	2575.	1.222E-07	1.217E-07	1.199E-07	1.199E-07	7.310E-10		
A	NEAREST GARDEN	NNW	2.00	3219.	1.295E-07	1.292E-07	1.274E-07	1.274E-07	8.497E-10		

Atmospheric Diffusion Estimates

Elevated Releases

July-December 1993



ERP ELEVATED STACK RELEASES - JUL-DEC 1993  
 NO DECAY, UNDEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES										
	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
SECTOR											
S	3.625E-09	4.952E-08	8.672E-08	8.594E-08	7.395E-08	5.973E-08	4.866E-08	3.924E-08	3.264E-08	3.696E-08	4.042E-08
SSW	5.436E-09	3.112E-08	4.640E-08	5.089E-08	5.007E-08	4.246E-08	3.488E-08	3.640E-08	3.616E-08	3.124E-08	2.740E-08
SW	1.395E-08	3.615E-08	7.396E-08	1.005E-07	1.217E-07	7.945E-08	5.626E-08	4.230E-08	3.324E-08	2.701E-08	2.254E-08
WSW	1.875E-09	1.441E-08	5.027E-08	9.892E-08	1.443E-07	8.917E-08	6.071E-08	4.426E-08	3.391E-08	2.697E-08	2.208E-08
W	6.601E-10	4.135E-08	1.291E-07	1.444E-07	1.225E-07	7.631E-08	5.263E-08	3.888E-08	3.015E-08	2.425E-08	2.005E-08
WNW	1.973E-08	7.647E-08	1.661E-07	2.121E-07	2.245E-07	1.361E-07	9.219E-08	7.058E-08	5.649E-08	4.486E-08	3.672E-08
NW	6.718E-08	1.257E-07	2.193E-07	3.002E-07	3.828E-07	2.247E-07	1.497E-07	1.108E-07	8.658E-08	6.870E-08	5.624E-08
NNW	5.546E-08	8.389E-08	1.223E-07	1.520E-07	1.927E-07	1.795E-07	1.559E-07	1.305E-07	1.098E-07	8.571E-08	6.921E-08
N	4.944E-08	1.074E-07	1.176E-07	9.855E-08	7.862E-08	6.530E-08	5.426E-08	4.468E-08	3.743E-08	3.188E-08	2.754E-08
NNE	5.350E-08	7.448E-08	8.079E-08	6.906E-08	5.795E-08	4.880E-08	4.102E-08	3.480E-08	2.992E-08	2.607E-08	2.301E-08
NE	1.348E-08	6.680E-08	7.811E-08	6.563E-08	5.161E-08	4.176E-08	3.425E-08	2.858E-08	2.427E-08	2.093E-08	1.832E-08
ENE	6.320E-09	3.051E-08	3.738E-08	3.489E-08	3.108E-08	2.623E-08	2.181E-08	1.826E-08	1.549E-08	1.332E-08	1.161E-08
E	1.498E-09	1.506E-08	2.489E-08	2.557E-08	2.327E-08	1.935E-08	1.587E-08	1.315E-08	1.107E-08	9.466E-09	8.222E-09
ESE	1.703E-09	2.195E-08	4.229E-08	4.693E-08	4.439E-08	3.689E-08	3.002E-08	2.464E-08	2.055E-08	1.742E-08	1.500E-08
SE	9.679E-10	1.995E-08	4.987E-08	6.388E-08	6.625E-08	5.665E-08	4.672E-08	3.865E-08	3.240E-08	2.757E-08	2.380E-08
SSE	1.953E-09	4.784E-08	1.026E-07	1.182E-07	1.125E-07	9.273E-08	7.486E-08	6.105E-08	5.066E-08	4.657E-08	4.231E-08

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
BEARING											
S	3.602E-08	2.340E-08	1.588E-08	8.564E-09	5.904E-09	4.408E-09	3.425E-09	2.769E-09	2.317E-09	1.978E-09	1.712E-09
SSW	2.502E-08	1.772E-08	1.139E-08	6.441E-09	4.461E-09	3.305E-09	2.562E-09	2.068E-09	1.719E-09	1.462E-09	1.264E-09
SW	2.073E-08	1.663E-08	1.101E-08	6.479E-09	4.727E-09	3.677E-09	3.001E-09	2.447E-09	2.052E-09	1.758E-09	1.532E-09
WSW	1.903E-08	1.095E-08	7.255E-09	4.154E-09	2.747E-09	1.997E-09	1.541E-09	1.238E-09	1.025E-09	8.686E-10	7.491E-10
W	1.695E-08	9.288E-09	6.642E-09	4.275E-09	3.101E-09	2.291E-09	1.785E-09	1.447E-09	1.207E-09	1.030E-09	8.930E-10
WNW	3.117E-08	1.749E-08	1.188E-08	7.221E-09	4.978E-09	3.731E-09	2.957E-09	2.421E-09	2.028E-09	1.732E-09	1.506E-09
NW	4.789E-08	2.737E-08	1.906E-08	1.198E-08	8.168E-09	6.084E-09	4.930E-09	4.069E-09	3.416E-09	2.929E-09	2.553E-09
NNW	5.810E-08	3.108E-08	1.992E-08	1.124E-08	7.532E-09	5.531E-09	4.319E-09	3.506E-09	2.943E-09	2.512E-09	2.175E-09
N	2.416E-08	1.478E-08	1.160E-08	8.460E-09	6.769E-09	5.513E-09	4.332E-09	3.525E-09	2.943E-09	2.511E-09	2.180E-09
NNE	2.628E-08	3.863E-08	2.506E-08	1.440E-08	9.770E-09	7.245E-09	5.682E-09	4.630E-09	3.880E-09	3.322E-09	2.892E-09
NE	2.039E-08	2.849E-08	1.847E-08	1.061E-08	7.204E-09	5.346E-09	4.239E-09	3.476E-09	2.922E-09	2.501E-09	2.177E-09
ENE	1.225E-08	1.427E-08	9.302E-09	5.364E-09	3.643E-09	2.702E-09	2.177E-09	1.804E-09	1.508E-09	1.288E-09	1.119E-09
E	8.651E-09	1.148E-08	7.539E-09	4.394E-09	3.006E-09	2.242E-09	1.766E-09	1.45E-09	1.246E-09	1.089E-09	9.490E-10
ESE	1.496E-08	1.597E-08	1.057E-08	6.211E-09	4.272E-09	3.198E-09	2.526E-09	2.071E-09	1.744E-09	1.499E-09	1.309E-09
SE	2.080E-08	1.257E-08	9.540E-09	6.624E-09	4.758E-09	3.673E-09	2.971E-09	2.480E-09	2.069E-09	1.764E-09	1.529E-09
SSE	7.062E-08	4.069E-08	2.611E-08	1.479E-08	9.935E-09	7.315E-09	5.704E-09	4.627E-09	3.862E-09	3.295E-09	2.860E-09

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

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	7.811E-08	7.029E-08	4.765E-08	3.617E-08	3.776E-08	2.250E-08	8.830E-09	4.414E-09	2.784E-09	1.980E-09
SSW	4.500E-08	4.687E-08	3.751E-08	3.436E-08	2.766E-08	1.653E-08	6.660E-09	3.316E-09	2.076E-09	1.465E-09
SW	7.735E-08	9.820E-08	5.686E-08	3.345E-08	2.319E-08	1.504E-08	6.706E-09	3.686E-09	2.455E-09	1.762E-09
WSW	6.392E-08	1.097E-07	6.172E-08	3.423E-08	2.240E-08	1.110E-08	4.218E-09	2.014E-09	1.244E-09	8.708E-10
W	1.164E-07	1.068E-07	5.345E-08	3.040E-08	2.014E-08	9.814E-09	4.279E-09	2.305E-09	1.452E-09	1.031E-09
WNW	1.666E-07	1.824E-07	9.525E-08	5.609E-08	3.708E-08	1.804E-08	7.259E-09	3.754E-09	2.424E-09	1.736E-09
NW	2.345E-07	2.942E-07	1.541E-07	8.670E-08	5.684E-08	2.824E-08	1.186E-08	6.178E-09	4.066E-09	2.934E-09
NNW	1.270E-07	1.778E-07	1.520E-07	1.065E-07	6.998E-08	3.212E-08	1.152E-08	5.580E-09	3.524E-09	2.515E-09
N	1.068E-07	7.713E-08	5.337E-08	3.738E-08	2.757E-08	1.545E-08	8.407E-09	5.376E-09	3.534E-09	2.516E-09
NNE	7.417E-08	5.635E-08	4.061E-08	2.984E-08	2.513E-08	2.985E-08	1.471E-08	7.293E-09	4.645E-09	3.328E-09
NE	7.005E-08	5.034E-08	3.399E-08	2.423E-08	1.986E-08	2.224E-08	1.084E-08	5.399E-09	3.483E-09	2.506E-09
ENE	3.475E-08	2.977E-08	2.157E-08	1.545E-08	1.235E-08	1.161E-08	5.474E-09	2.743E-09	1.798E-09	1.291E-09
E	2.301E-08	2.204E-08	1.571E-08	1.105E-08	8.749E-09	9.100E-09	4.476E-09	2.255E-09	1.461E-09	1.084E-09
ESE	3.984E-08	4.162E-08	2.970E-08	2.053E-08	1.570E-08	1.334E-08	6.317E-09	3.216E-09	2.076E-09	1.501E-09
SE	4.945E-08	6.146E-08	4.614E-08	3.234E-08	2.381E-08	1.305E-08	6.443E-09	3.682E-09	2.464E-09	1.767E-09
SSE	9.738E-08	1.050E-07	7.410E-08	5.969E-08	7.331E-08	4.086E-08	1.515E-08	7.369E-09	4.643E-09	3.302E-09

ERP ELEVATED STACK RELEASES - JUL-DEC 1993  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)				DISTANCE IN MILES							
SECTOR	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	3.624E-09	4.947E-08	8.659E-08	8.577E-08	7.372E-08	5.948E-08	4.780E-08	3.898E-08	3.238E-08	3.661E-08	3.998E-08
SSW	5.433E-09	3.109E-08	4.634E-08	5.080E-08	4.993E-08	4.229E-08	3.470E-08	3.616E-08	3.588E-08	3.095E-08	2.711E-08
SW	1.394E-08	3.611E-08	7.382E-08	1.003E-07	1.213E-07	7.910E-08	5.594E-08	4.201E-08	3.297E-08	2.676E-08	2.230E-08
WSW	1.875E-09	1.440E-08	5.021E-08	9.873E-08	1.438E-07	8.875E-08	6.035E-08	4.394E-08	3.362E-08	2.671E-08	2.184E-08
W	6.590E-10	4.132E-08	1.289E-07	1.442E-07	1.221E-07	7.599E-08	5.235E-08	3.861E-08	2.991E-08	2.402E-08	1.983E-08
WNW	1.972E-08	7.641E-08	1.659E-07	2.117E-07	2.238E-07	1.355E-07	9.167E-08	7.008E-08	5.601E-08	4.442E-08	3.631E-08
NW	6.716E-08	1.256E-07	2.190E-07	2.996E-07	3.816E-07	2.237E-07	1.488E-07	1.101E-07	8.585E-08	6.804E-08	5.563E-08
NNW	5.544E-08	8.583E-08	1.222E-07	1.518E-07	1.923E-07	1.789E-07	1.552E-07	1.298E-07	1.091E-07	8.509E-08	6.863E-08
N	4.942E-08	1.073E-07	1.175E-07	9.843E-08	7.846E-08	6.512E-08	5.408E-08	4.449E-08	3.725E-08	3.170E-08	2.737E-08
NNE	5.348E-08	7.443E-08	8.070E-08	6.895E-08	5.780E-08	4.863E-08	4.084E-08	3.462E-08	2.974E-08	2.589E-08	2.283E-08
NE	1.348E-08	6.674E-08	7.800E-08	6.551E-08	5.148E-08	4.162E-08	3.412E-08	2.845E-08	2.414E-08	2.080E-08	1.820E-08
ENE	6.317E-09	3.049E-08	3.733E-08	3.483E-08	3.101E-08	2.614E-08	2.173E-08	1.817E-08	1.540E-08	1.324E-08	1.155E-08
E	1.497E-09	1.505E-08	2.485E-08	2.552E-08	2.321E-08	1.929E-08	1.581E-08	1.309E-08	1.101E-08	9.410E-09	8.167E-09
ESE	1.703E-09	2.194E-08	4.224E-08	4.686E-08	4.429E-08	3.677E-08	2.989E-08	2.452E-08	2.043E-08	1.730E-08	1.489E-08
SE	9.676E-10	1.994E-08	4.982E-08	6.379E-08	6.612E-08	5.650E-08	4.656E-08	3.849E-08	3.224E-08	2.742E-08	2.365E-08
SSE	1.953E-09	4.781E-08	1.025E-07	1.181E-07	1.123E-07	9.248E-08	7.461E-08	6.079E-08	5.041E-08	4.214E-08	3.616E-08

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)				DISTANCE IN MILES							
BEARING	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	3.558E-08	2.296E-08	1.470E-08	8.245E-09	5.612E-09	4.138E-09	3.174E-09	2.535E-09	2.094E-09	1.766E-09	1.510E-09
SSW	2.472E-08	1.738E-08	1.110E-08	6.194E-09	4.234E-09	3.095E-09	2.368E-09	1.887E-09	1.549E-09	1.299E-09	1.110E-09
SW	2.048E-08	1.630E-08	1.071E-08	6.218E-09	4.470E-09	3.426E-09	2.755E-09	2.214E-09	1.831E-09	1.546E-09	1.328E-09
WSW	1.879E-08	1.074E-08	7.067E-09	3.991E-09	2.604E-09	1.868E-09	1.422E-09	1.128E-09	9.216E-10	7.704E-10	6.557E-10
W	1.674E-08	9.110E-09	6.465E-09	4.098E-09	2.926E-09	2.130E-09	1.635E-09	1.306E-09	1.074E-09	9.022E-10	7.714E-10
WNW	3.078E-08	1.714E-08	1.156E-08	6.925E-09	4.705E-09	3.475E-09	2.714E-09	2.189E-09	1.808E-09	1.522E-09	1.304E-09
NW	4.729E-08	2.683E-08	1.855E-08	1.147E-08	7.710E-09	5.659E-09	4.515E-09	3.669E-09	3.035E-09	2.564E-09	2.202E-09
NNW	5.756E-08	3.064E-08	1.954E-08	1.092E-08	7.246E-09	5.269E-09	4.074E-09	3.275E-09	2.723E-09	2.301E-09	1.974E-09
N	2.398E-08	1.462E-08	1.144E-08	8.260E-09	6.531E-09	5.250E-09	4.083E-09	3.288E-09	2.718E-09	2.296E-09	1.974E-09
NNE	2.605E-08	3.799E-08	2.451E-08	1.393E-08	9.342E-09	6.851E-09	5.313E-09	4.281E-09	3.548E-09	3.004E-09	2.587E-09
NE	2.024E-08	2.814E-08	1.817E-08	1.035E-08	6.965E-09	5.125E-09	4.028E-09	3.275E-09	2.729E-09	2.316E-09	1.999E-09
ENE	1.215E-08	1.409E-08	9.143E-09	5.227E-09	3.519E-09	2.587E-09	2.067E-09	1.697E-09	1.406E-09	1.191E-09	1.026E-09
E	8.587E-09	1.134E-08	7.417E-09	4.286E-09	2.908E-09	2.151E-09	1.681E-09	1.363E-09	1.167E-09	1.011E-09	8.737E-10
ESE	1.483E-08	1.573E-08	1.035E-08	6.010E-09	4.085E-09	3.021E-09	2.358E-09	1.909E-09	1.588E-09	1.349E-09	1.164E-09
SE	2.066E-08	1.244E-08	9.406E-09	6.485E-09	4.625E-09	3.546E-09	2.848E-09	2.361E-09	1.956E-09	1.656E-09	1.426E-09
SSE	6.993E-08	4.804E-08	2.555E-08	1.430E-08	9.499E-09	6.913E-09	5.328E-09	4.271E-09	3.524E-09	2.972E-09	2.550E-09

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

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	7.798E-08	7.007E-08	4.739E-08	3.588E-08	3.735E-08	2.210E-08	8.510E-09	4.146E-09	2.550E-09	1.769E-09
SSW	4.494E-08	4.673E-08	3.731E-08	3.408E-08	2.736E-08	1.622E-08	6.412E-09	3.108E-09	1.895E-09	1.303E-09
SW	7.720E-08	9.786E-08	5.654E-08	3.319E-08	2.295E-08	1.474E-08	6.440E-09	3.436E-09	2.223E-09	1.550E-09
WSW	6.381E-08	1.093E-07	6.136E-08	3.394E-08	2.215E-08	1.090E-08	4.058E-09	1.886E-09	1.133E-09	7.727E-10
W	1.162E-07	1.065E-07	5.316E-08	3.015E-08	1.993E-08	9.630E-09	4.103E-09	2.145E-09	1.312E-09	9.046E-10
WNW	1.664E-07	1.819E-07	9.472E-08	5.561E-08	3.666E-08	1.769E-08	6.968E-09	3.499E-09	2.194E-09	1.526E-09
NW	2.341E-07	2.932E-07	1.533E-07	8.598E-08	5.622E-08	2.770E-08	1.137E-08	5.748E-09	3.669E-09	2.569E-09
NNW	1.268E-07	1.773E-07	1.514E-07	1.059E-07	6.941E-08	3.169E-08	1.120E-08	5.318E-09	3.293E-09	2.305E-09
N	1.067E-07	7.697E-08	5.319E-08	3.720E-08	2.740E-08	1.529E-08	8.197E-09	5.125E-09	3.298E-09	2.302E-09
NNE	7.408E-08	5.620E-08	4.043E-08	2.967E-08	2.493E-08	2.934E-08	1.424E-08	6.900E-09	4.297E-09	3.011E-09
NE	6.995E-08	5.022E-08	3.385E-08	2.410E-08	1.973E-08	2.195E-08	1.058E-08	5.177E-09	3.282E-09	2.321E-09
ENE	3.478E-08	2.970E-08	2.148E-08	1.537E-08	1.227E-08	1.146E-08	5.338E-09	2.627E-09	1.692E-09	1.194E-09
E	2.297E-08	2.198E-08	1.565E-08	1.099E-08	8.691E-09	8.985E-09	4.370E-09	2.165E-09	1.379E-09	1.006E-09
ESE	3.979E-08	4.152E-08	2.958E-08	2.041E-08	1.558E-08	1.314E-08	6.118E-09	3.039E-09	1.915E-09	1.351E-09
SE	4.939E-08	6.133E-08	4.598E-08	3.219E-08	2.366E-08	1.292E-08	6.307E-09	3.554E-09	2.346E-09	1.659E-09
SSE	9.728E-08	1.048E-07	7.385E-08	5.937E-08	7.270E-08	4.024E-08	1.467E-08	6.968E-09	4.288E-09	2.979E-09

ERP ELEVATED STACK RELEASES - JUL-DEC 1993  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES										
	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
SECTOR											
S	3.625E-09	4.907E-08	8.505E-08	8.420E-08	7.221E-08	5.800E-08	4.636E-08	3.761E-08	3.110E-08	3.522E-08	3.858E-08
SSW	5.435E-09	3.084E-08	4.564E-08	5.018E-08	4.921E-08	4.143E-08	3.378E-08	3.507E-08	3.471E-08	2.983E-08	2.605E-08
SW	1.394E-08	3.582E-08	7.273E-08	9.919E-08	1.195E-07	7.729E-08	5.432E-08	4.058E-08	3.171E-08	2.565E-08	2.132E-08
WSW	1.875E-09	1.428E-08	4.977E-08	9.829E-08	1.421E-07	8.694E-08	5.871E-08	4.251E-08	3.237E-08	2.561E-08	2.086E-08
W	6.600E-10	4.093E-08	1.278E-07	1.420E-07	1.193E-07	7.372E-08	5.052E-08	3.712E-08	2.865E-08	2.295E-08	1.891E-08
WNW	1.973E-08	7.582E-08	1.641E-07	2.089E-07	2.197E-07	1.319E-07	8.877E-08	6.767E-08	5.397E-08	4.264E-08	3.472E-08
NW	6.718E-08	1.245E-07	2.156E-07	2.957E-07	3.756E-07	2.184E-07	1.444E-07	1.064E-07	8.276E-08	6.534E-08	5.319E-08
NNW	5.546E-08	8.313E-08	1.203E-07	1.501E-07	1.901E-07	1.761E-07	1.524E-07	1.272E-07	1.067E-07	8.288E-08	6.653E-08
N	4.943E-08	1.064E-07	1.152E-07	9.637E-08	7.675E-08	6.355E-08	5.260E-08	4.313E-08	3.599E-08	3.054E-08	2.630E-08
NNE	5.349E-08	7.380E-08	7.912E-08	6.751E-08	5.658E-08	4.752E-08	3.981E-08	3.366E-08	2.885E-08	2.506E-08	2.207E-08
NE	1.348E-08	6.618E-08	7.649E-08	6.411E-08	5.033E-08	4.060E-08	3.318E-08	2.759E-08	2.335E-08	2.009E-08	1.754E-08
ENE	6.319E-09	3.023E-08	3.667E-08	3.424E-08	3.046E-08	2.559E-08	2.118E-08	1.764E-08	1.490E-08	1.276E-08	1.109E-08
E	1.497E-09	1.493E-08	2.444E-08	2.512E-08	2.280E-08	1.886E-08	1.538E-08	1.267E-08	1.061E-08	9.040E-09	7.821E-09
ESE	1.703E-09	2.176E-08	4.160E-08	4.622E-08	4.357E-08	3.597E-08	2.907E-08	2.370E-08	1.965E-08	1.656E-08	1.419E-08
SE	9.678E-10	1.979E-08	4.924E-08	6.322E-08	6.527E-08	5.541E-08	4.538E-08	3.729E-08	3.108E-08	2.630E-08	2.258E-08
SSE	1.953E-09	4.743E-08	1.011E-07	1.166E-07	1.105E-07	9.046E-08	7.250E-08	5.871E-08	4.840E-08	6.371E-08	7.914E-08

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
BEARING											
S	3.428E-08	2.186E-08	1.363E-08	7.253E-09	4.655E-09	3.271E-09	2.419E-09	1.871E-09	1.505E-09	1.244E-09	1.046E-09
SSW	2.372E-08	1.651E-08	1.027E-08	5.442E-09	3.523E-09	2.500E-09	1.867E-09	1.456E-09	1.173E-09	9.679E-10	8.143E-10
SW	1.959E-08	1.560E-08	9.992E-09	5.495E-09	3.712E-09	2.701E-09	2.113E-09	1.662E-09	1.348E-09	1.120E-09	9.473E-10
WSW	1.791E-08	1.005E-08	6.450E-09	3.493E-09	2.203E-09	1.537E-09	1.144E-09	8.893E-10	7.141E-10	5.879E-10	4.935E-10
W	1.593E-08	8.614E-09	6.093E-09	3.706E-09	2.526E-09	1.792E-09	1.347E-09	1.056E-09	8.547E-10	7.084E-10	5.983E-10
WNW	2.931E-08	1.595E-08	1.048E-08	5.949E-09	3.788E-09	2.663E-09	2.016E-09	1.590E-09	1.287E-09	1.065E-09	8.977E-10
NW	4.504E-08	2.498E-08	1.685E-08	9.903E-09	6.298E-09	4.419E-09	3.419E-09	2.719E-09	2.207E-09	1.833E-09	1.551E-09
NNW	5.552E-08	2.875E-08	1.779E-08	9.361E-09	5.797E-09	3.982E-09	2.939E-09	2.280E-09	1.844E-09	1.524E-09	1.281E-09
N	2.299E-08	1.389E-08	1.085E-08	7.864E-09	6.145E-09	4.774E-09	3.633E-09	2.872E-09	2.335E-09	1.943E-09	1.648E-09
NNE	2.531E-08	3.722E-08	2.332E-08	1.257E-08	8.003E-09	5.625E-09	4.208E-09	3.287E-09	2.650E-09	2.189E-09	1.843E-09
NE	1.958E-08	2.742E-08	1.717E-08	9.286E-09	5.964E-09	4.223E-09	3.220E-09	2.557E-09	2.087E-09	1.738E-09	1.474E-09
ENE	1.170E-08	1.365E-08	8.607E-09	4.635E-09	2.912E-09	2.022E-09	1.537E-09	1.218E-09	9.847E-10	8.155E-10	6.883E-10
E	8.237E-09	1.100E-08	6.991E-09	3.803E-09	2.405E-09	1.678E-09	1.247E-09	9.74E-10	7.948E-10	6.657E-10	5.609E-10
ESE	1.412E-08	1.513E-08	9.696E-09	5.340E-09	3.413E-09	2.399E-09	1.792E-09	1.396E-09	1.122E-09	9.236E-10	7.745E-10
SE	1.965E-08	1.166E-08	8.772E-09	6.030E-09	4.287E-09	3.285E-09	2.642E-09	2.186E-09	1.777E-09	1.479E-09	1.254E-09
SSE	6.751E-08	3.771E-08	2.334E-08	1.239E-08	7.824E-09	5.462E-09	4.064E-09	3.160E-09	2.537E-09	2.087E-09	1.751E-09

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

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	7.668E-08	6.856E-08	4.596E-08	3.453E-08	3.599E-08	2.096E-08	7.516E-09	3.299E-09	1.888E-09	1.248E-09
SSW	4.437E-08	4.597E-08	3.634E-08	3.295E-08	2.631E-08	1.534E-08	5.661E-09	2.520E-09	1.466E-09	9.718E-10
SW	7.628E-08	9.622E-08	5.495E-08	3.194E-08	2.196E-08	1.399E-08	5.702E-09	2.736E-09	1.671E-09	1.124E-09
WSW	6.345E-08	1.078E-07	5.976E-08	3.269E-08	2.118E-08	1.020E-08	3.577E-09	1.557E-09	8.953E-10	5.903E-10
W	1.148E-07	1.041E-07	5.134E-08	2.890E-08	1.900E-08	9.119E-09	3.712E-09	1.810E-09	1.062E-09	7.110E-10
WNW	1.644E-07	1.783E-07	9.184E-08	5.357E-08	3.506E-08	1.649E-08	5.996E-09	2.704E-09	1.596E-09	1.069E-09
NW	2.310E-07	2.880E-07	1.489E-07	8.287E-08	5.377E-08	2.583E-08	9.845E-09	4.520E-09	2.724E-09	1.839E-09
NNW	1.253E-07	1.750E-07	1.486E-07	1.035E-07	6.730E-08	2.983E-08	9.650E-09	4.049E-09	2.302E-09	1.529E-09
N	1.049E-07	7.524E-08	5.173E-08	3.595E-08	2.633E-08	1.456E-08	7.763E-09	4.683E-09	2.855E-09	1.950E-09
NNE	7.278E-08	5.498E-08	3.941E-08	2.878E-08	2.416E-08	2.040E-08	1.293E-08	5.692E-09	3.348E-09	2.197E-09
NE	6.870E-08	4.907E-08	3.292E-08	2.332E-08	1.905E-08	2.112E-08	9.561E-09	4.286E-09	2.567E-09	1.744E-09
ENE	3.416E-08	2.913E-08	2.094E-08	1.487E-08	1.181E-08	1.098E-08	4.752E-09	2.065E-09	1.220E-09	8.185E-10
E	2.263E-08	2.157E-08	1.523E-08	1.060E-08	8.336E-09	8.605E-09	3.890E-09	1.699E-09	9.815E-10	6.651E-10
ESE	3.925E-08	4.078E-08	2.876E-08	1.963E-08	1.487E-08	1.249E-08	5.452E-09	2.427E-09	1.405E-09	9.272E-10
SE	4.891E-08	6.043E-08	4.482E-08	3.103E-08	2.260E-08	1.215E-08	5.865E-09	3.295E-09	2.160E-09	1.484E-09
SSE	9.607E-08	1.030E-07	7.177E-08	5.718E-08	7.026E-08	3.795E-08	1.280E-08	5.533E-09	3.181E-09	2.096E-09

ERP ELEVATED STACK RELEASES - JUL-DEC 1993

CORRECTED FOR OPEN TERRAIN RECIRCULATION

***** RELATIVE DEPOSITION PER UNIT AREA (M** <sup>-2</sup> ) AT FIXED POINTS BY DOWNWIND SECTORS *****											
DIRECTION FROM SITE	DISTANCES IN MILES										
	0.25	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S	4.376E-09	3.636E-09	3.205E-09	2.278E-09	1.140E-09	7.072E-10	4.809E-10	3.465E-10	2.599E-10	2.038E-10	1.891E-10
SSW	2.011E-09	1.849E-09	1.888E-09	1.486E-09	8.001E-10	5.106E-10	3.523E-10	2.557E-10	2.373E-10	1.795E-10	1.405E-10
SW	2.534E-09	2.070E-09	1.772E-09	1.231E-09	9.951E-10	5.363E-10	3.311E-10	2.245E-10	1.622E-10	1.227E-10	9.608E-11
WSW	1.291E-09	1.180E-09	1.195E-09	1.647E-09	9.026E-10	4.874E-10	3.007E-10	2.036E-10	1.469E-10	1.110E-10	8.689E-11
W	7.352E-10	3.126E-09	2.713E-09	1.706E-09	8.030E-10	4.317E-10	2.655E-10	1.793E-10	1.292E-10	9.750E-11	7.627E-11
WNW	4.077E-09	3.302E-09	5.254E-09	3.442E-09	1.924E-09	9.685E-10	5.741E-10	3.799E-10	2.772E-10	2.094E-10	1.661E-10
NW	9.074E-09	7.022E-09	5.438E-09	5.513E-09	3.085E-09	1.538E-09	9.105E-10	6.027E-10	4.326E-10	3.308E-10	2.660E-10
NNW	7.025E-09	5.668E-09	4.749E-09	3.240E-09	2.597E-09	1.393E-09	8.589E-10	6.843E-10	4.980E-10	3.874E-10	3.183E-10
N	1.048E-08	8.139E-09	6.351E-09	4.060E-09	1.851E-09	1.103E-09	7.338E-10	5.227E-10	3.897E-10	3.006E-10	2.379E-10
NNE	6.275E-09	4.819E-09	3.674E-09	2.295E-09	1.022E-09	6.024E-10	3.985E-10	2.829E-10	2.106E-10	1.623E-10	1.285E-10
NE	4.067E-09	3.242E-09	2.658E-09	1.780E-09	8.466E-10	5.142E-10	3.458E-10	2.477E-10	1.852E-10	1.430E-10	1.132E-10
ENE	1.977E-09	1.649E-09	1.461E-09	1.043E-09	5.235E-10	3.252E-10	2.213E-10	1.595E-10	1.197E-10	9.253E-11	7.326E-11
E	1.002E-09	9.054E-10	9.032E-10	7.005E-10	3.736E-10	2.376E-10	1.636E-10	1.187E-10	8.929E-11	6.913E-11	5.474E-11
ESE	2.147E-09	1.940E-09	1.934E-09	1.500E-09	7.996E-10	5.085E-10	3.502E-10	2.540E-10	1.911E-10	1.480E-10	1.172E-10
SE	2.221E-09	2.379E-09	2.871E-09	2.470E-09	1.406E-09	9.149E-10	6.372E-10	4.648E-10	3.508E-10	2.719E-10	2.153E-10
SSE	6.324E-09	5.839E-09	5.993E-09	4.730E-09	2.552E-09	1.630E-09	1.125E-09	8.169E-10	6.151E-10	5.783E-10	5.142E-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	1.522E-10	9.695E-11	6.460E-11	3.678E-11	2.336E-11	1.711E-11	1.227E-11	9.209E-12	7.362E-12	5.832E-12	4.763E-12
SSW	1.139E-10	6.909E-11	4.526E-11	2.530E-11	1.738E-11	1.231E-11	8.823E-12	6.627E-12	5.218E-12	4.168E-12	3.402E-12
SW	7.792E-11	5.610E-11	3.865E-11	2.266E-11	1.447E-11	1.017E-11	7.189E-12	5.438E-12	4.228E-12	3.377E-12	2.757E-12
WSW	6.992E-11	4.311E-11	2.840E-11	1.873E-11	1.134E-11	7.602E-12	5.511E-12	4.138E-12	3.217E-12	2.570E-12	2.098E-12
W	6.139E-11	2.774E-11	2.557E-11	1.554E-11	1.085E-11	7.304E-12	5.234E-12	3.930E-12	3.056E-12	2.441E-12	1.992E-12
WNW	1.391E-10	7.387E-11	4.935E-11	2.821E-11	1.936E-11	1.321E-11	9.475E-12	7.116E-12	5.559E-12	4.440E-12	3.624E-12
NW	2.236E-10	1.230E-10	8.391E-11	5.286E-11	3.243E-11	2.182E-11	1.569E-11	1.179E-11	9.241E-12	7.382E-12	6.025E-12
NNW	2.741E-10	1.640E-10	1.168E-10	7.031E-11	4.514E-11	3.031E-11	2.104E-11	1.564E-11	1.228E-11	9.813E-12	8.010E-12
N	1.924E-10	9.199E-11	5.669E-11	3.060E-11	5.728E-11	3.605E-11	2.577E-11	1.935E-11	1.505E-11	1.202E-11	9.813E-12
NNE	1.039E-10	1.831E-10	1.145E-10	6.015E-11	3.690E-11	2.473E-11	1.768E-11	1.323E-11	1.026E-11	8.181E-12	6.668E-12
NE	9.147E-11	1.622E-10	1.001E-10	5.160E-11	3.166E-11	2.126E-11	1.509E-11	1.130E-11	8.781E-12	7.015E-12	5.726E-12
ENE	5.914E-11	6.854E-11	5.023E-11	3.089E-11	1.985E-11	1.325E-11	9.374E-12	6.392E-12	4.981E-12	3.989E-12	3.264E-12
E	4.415E-11	5.188E-11	3.801E-11	2.334E-11	1.496E-11	9.960E-12	7.026E-12	5.176E-12	3.959E-12	3.047E-12	2.491E-12
ESE	9.450E-11	8.407E-11	5.819E-11	3.416E-11	2.172E-11	1.454E-11	1.034E-11	7.89E-12	5.930E-12	4.717E-12	3.838E-12
SE	1.735E-10	8.235E-11	5.031E-11	2.661E-11	1.632E-11	1.128E-11	8.453E-12	1.536E-11	1.182E-11	9.379E-12	7.622E-12
SSE	4.226E-10	2.868E-10	1.764E-10	9.089E-11	5.538E-11	3.712E-11	2.657E-11	1.992E-11	1.547E-11	1.235E-11	1.007E-11

***** RELATIVE DEPOSITION PER UNIT AREA (M** <sup>-2</sup> ) BY DOWNWIND SECTORS *****										
DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES									
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	2.809E-09	1.201E-09	4.875E-10	2.633E-10	1.798E-10	9.485E-11	3.700E-11	1.684E-11	9.379E-12	5.889E-12
SSW	1.701E-09	8.238E-10	3.559E-10	2.205E-10	1.422E-10	6.845E-11	2.622E-11	1.227E-11	6.718E-12	4.196E-12
SW	1.597E-09	8.435E-10	3.432E-10	1.649E-10	9.723E-11	5.319E-11	2.257E-11	1.013E-11	5.477E-12	3.399E-12
WSW	1.393E-09	8.836E-10	3.116E-10	1.494E-10	8.776E-11	4.253E-11	1.759E-11	7.761E-12	4.180E-12	2.587E-12
W	2.357E-09	8.387E-10	2.753E-10	1.314E-10	7.705E-11	3.425E-11	1.569E-11	7.422E-12	3.969E-12	2.457E-12
WNW	4.015E-09	1.837E-09	6.016E-10	2.807E-10	1.689E-10	7.748E-11	2.898E-11	1.336E-11	7.197E-12	4.469E-12
NW	5.823E-09	2.937E-09	9.548E-10	4.424E-10	2.695E-10	1.280E-10	5.068E-11	2.220E-11	1.193E-11	7.430E-12
NNW	4.283E-09	2.205E-09	9.315E-10	5.091E-10	3.224E-10	1.675E-10	6.945E-11	3.056E-11	1.590E-11	9.877E-12
N	5.730E-09	2.009E-09	7.477E-10	3.937E-10	2.396E-10	9.861E-11	4.826E-11	3.760E-11	1.955E-11	1.210E-11
NNE	3.316E-09	1.118E-09	4.066E-10	2.128E-10	1.294E-10	1.350E-10	6.190E-11	2.515E-11	1.357E-11	8.237E-12
NE	2.398E-09	9.062E-10	3.515E-10	1.879E-10	1.140E-10	1.189E-10	5.358E-11	2.157E-11	1.143E-11	7.061E-12
ENE	1.317E-09	5.508E-10	2.243E-10	1.207E-10	7.374E-11	5.831E-11	3.028E-11	1.346E-11	6.706E-12	4.014E-12
E	8.136E-10	3.858E-10	1.653E-10	9.000E-11	5.508E-11	4.400E-11	2.288E-11	1.012E-11	5.241E-12	3.111E-12
ESE	1.742E-09	8.258E-10	3.539E-10	1.926E-10	1.179E-10	7.489E-11	3.397E-11	1.477E-11	7.776E-12	4.751E-12
SE	2.583E-09	1.424E-09	6.423E-10	3.533E-10	2.166E-10	8.838E-11	2.730E-11	1.149E-11	1.204E-11	9.451E-12
SSE	5.397E-09	2.626E-09	1.137E-09	6.587E-10	4.993E-10	2.679E-10	9.411E-11	3.777E-11	2.012E-11	1.243E-11



ERP ELEVATED STACK RELEASES - JUL-DEC 1993  
CORRECTED FOR OPEN TERRAIN RECIRCULATION  
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE		X/Q		X/Q		D/Q
			(MILES)	(METERS)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(PER SQ.METER)	
					NO DECAY	2.260 DAY DECAY	8.000 DAY DECAY		
					UNDEPLETED	UNDEPLETED	DEPLETED		
A	SITE BOUNDARY	S	0.80	1287.	8.753E-08	8.739E-08	8.578E-08	3.007E-09	
A	SITE BOUNDARY	SSW	0.82	1327.	4.801E-08	4.794E-08	4.724E-08	1.784E-09	
A	SITE BOUNDARY	SW	0.98	1569.	9.815E-08	9.793E-08	9.683E-08	1.285E-09	
A	SITE BOUNDARY	WSW	0.93	1489.	8.498E-08	8.484E-08	8.443E-08	1.271E-09	
A	SITE BOUNDARY	W	0.91	1468.	1.438E-07	1.435E-07	1.417E-07	1.983E-09	
A	SITE BOUNDARY	WNW	0.94	1509.	2.039E-07	2.036E-07	2.011E-07	3.893E-09	
A	SITE BOUNDARY	NW	0.81	1307.	2.383E-07	2.379E-07	2.344E-07	4.846E-09	
A	SITE BOUNDARY	NNW	0.69	1106.	1.091E-07	1.090E-07	1.073E-07	4.907E-09	
A	SITE BOUNDARY	N	0.67	1086.	1.153E-07	1.152E-07	1.132E-07	6.767E-09	
A	SITE BOUNDARY	NNE	0.60	965.	7.747E-08	7.741E-08	7.631E-08	4.278E-09	
A	SITE BOUNDARY	NE	0.62	1005.	7.411E-08	7.402E-08	7.290E-08	2.894E-09	
A	SITE BOUNDARY	ENE	0.59	945.	3.318E-08	3.315E-08	3.271E-08	1.557E-09	
A	SITE BOUNDARY	E	0.53	845.	1.622E-08	1.620E-08	1.605E-08	8.994E-10	
A	SITE BOUNDARY	ESE	0.54	865.	2.515E-08	2.513E-08	2.487E-08	1.921E-09	
A	SITE BOUNDARY	SE	0.65	1046.	3.677E-08	3.674E-08	3.630E-08	2.642E-09	
A	SITE BOUNDARY	SSE	0.81	1307.	1.086E-07	1.084E-07	1.069E-07	5.724E-09	
A	NEAR. RESIDENCE	SW	1.40	2253.	1.215E-07	1.211E-07	1.195E-07	1.149E-09	
A	NEAR. RESIDENCE	WSW	1.30	2092.	1.367E-07	1.363E-07	1.351E-07	1.208E-09	
A	NEAR. RESIDENCE	W	1.00	1609.	1.444E-07	1.442E-07	1.420E-07	1.706E-09	
A	NEAR. RESIDENCE	WNW	1.60	2575.	2.008E-07	2.001E-07	1.961E-07	1.649E-09	
A	NEAR. RESIDENCE	NW	0.90	1448.	2.667E-07	2.662E-07	2.626E-07	6.255E-09	
A	NEAR. RESIDENCE	NNW	2.00	3219.	1.795E-07	1.789E-07	1.761E-07	1.393E-09	
A	NEAR. RESIDENCE	NNE	2.70	4345.	3.836E-08	3.818E-08	3.717E-08	3.451E-10	
A	NEAR. RESIDENCE	ENE	1.70	2736.	2.917E-08	2.909E-08	2.854E-08	4.203E-10	
A	NEAR. RESIDENCE	E	1.80	2897.	2.092E-08	2.086E-08	2.044E-08	2.771E-10	
A	NEAREST COW	NNW	3.50	5634.	1.097E-07	1.090E-07	1.066E-07	4.978E-10	
A	NEAREST GARDEN	SW	1.40	2253.	1.215E-07	1.211E-07	1.195E-07	1.149E-09	
A	NEAREST GARDEN	WSW	1.80	2897.	1.067E-07	1.062E-07	1.044E-07	6.095E-10	
A	NEAREST GARDEN	WNW	1.60	2575.	2.008E-07	2.001E-07	1.961E-07	1.649E-09	
A	NEAREST GARDEN	NNW	2.00	3219.	1.795E-07	1.789E-07	1.761E-07	1.393E-09	

Atmospheric Diffusion Estimates

Elevated Releases

January-December 1993

ERP ELEVATED STACK RELEASES - JAN-DEC 1993  
 NO DECAY, UNDEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)				DISTANCE IN MILES							
SECTOR	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	8.969E-09	5.422E-08	8.746E-08	8.762E-08	7.847E-08	6.532E-08	5.371E-08	4.456E-08	3.752E-08	4.408E-08	4.886E-08
SSW	5.016E-09	3.012E-08	4.557E-08	5.043E-08	5.154E-08	4.527E-08	3.820E-08	4.185E-08	4.311E-08	3.772E-08	3.339E-08
SW	6.958E-09	2.314E-08	6.209E-08	9.932E-08	1.408E-07	9.451E-08	6.789E-08	5.145E-08	4.061E-08	3.309E-08	2.764E-08
WSW	1.678E-09	1.577E-08	5.983E-08	1.188E-07	1.751E-07	1.086E-07	7.414E-08	5.417E-08	4.158E-08	3.313E-08	2.716E-08
W	5.526E-09	4.958E-08	1.569E-07	1.891E-07	1.683E-07	1.044E-07	7.149E-08	5.243E-08	4.041E-08	3.232E-08	2.660E-08
WNW	1.141E-08	4.887E-08	1.533E-07	2.428E-07	3.021E-07	1.849E-07	1.257E-07	9.603E-08	7.651E-08	6.067E-08	4.959E-08
NW	4.217E-08	9.734E-08	1.808E-07	2.778E-07	4.102E-07	2.421E-07	1.614E-07	1.192E-07	9.273E-08	7.343E-08	5.998E-08
NNW	3.416E-08	6.707E-08	1.040E-07	1.291E-07	1.633E-07	1.521E-07	1.320E-07	1.107E-07	9.351E-08	7.307E-08	5.903E-08
N	3.428E-08	8.414E-08	9.522E-08	8.167E-08	6.647E-08	5.556E-08	4.630E-08	3.821E-08	3.207E-08	2.737E-08	2.369E-08
NNE	2.962E-08	4.918E-08	5.998E-08	5.620E-08	5.115E-08	4.430E-08	3.772E-08	3.222E-08	2.782E-08	2.430E-08	2.149E-08
NE	7.863E-09	4.599E-08	5.883E-08	5.183E-08	4.263E-08	3.511E-08	2.903E-08	2.432E-08	2.069E-08	1.787E-08	1.565E-08
ENE	3.145E-09	1.741E-08	2.574E-08	2.702E-08	2.640E-08	2.308E-08	1.957E-08	1.660E-08	1.422E-08	1.233E-08	1.082E-08
E	7.514E-10	8.588E-09	1.719E-08	2.082E-08	2.214E-08	1.968E-08	1.673E-08	1.418E-08	1.211E-08	1.047E-08	9.162E-09
ESE	8.619E-10	1.328E-08	3.239E-08	4.184E-08	4.413E-08	3.809E-08	3.159E-08	2.624E-08	2.206E-08	1.881E-08	1.627E-08
SE	5.196E-10	1.296E-08	3.889E-08	5.512E-08	6.204E-08	5.519E-08	4.666E-08	3.929E-08	3.336E-08	2.868E-08	2.495E-08
SSE	5.184E-09	5.339E-08	9.584E-08	1.048E-07	9.950E-08	8.363E-08	6.878E-08	5.696E-08	4.787E-08	6.706E-08	8.397E-08

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)				DISTANCE IN MILES							
BEARING	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	4.357E-08	2.810E-08	1.813E-08	1.031E-08	7.087E-09	5.282E-09	4.104E-09	3.318E-09	2.774E-09	2.367E-09	2.049E-09
SSW	3.073E-08	2.208E-08	1.423E-08	8.081E-09	5.612E-09	4.165E-09	3.233E-09	2.613E-09	2.174E-09	1.850E-09	1.601E-09
SW	2.530E-08	1.880E-08	1.233E-08	7.163E-09	5.100E-09	3.899E-09	3.138E-09	2.549E-09	2.131E-09	1.821E-09	1.582E-09
WSW	2.347E-08	1.569E-08	9.139E-09	5.277E-09	3.498E-09	2.548E-09	1.970E-09	1.586E-09	1.315E-09	1.115E-09	9.625E-10
W	2.240E-08	1.211E-08	8.512E-09	5.397E-09	3.898E-09	2.875E-09	2.235E-09	1.809E-09	1.507E-09	1.284E-09	1.112E-09
WNW	4.198E-08	2.324E-08	1.563E-08	9.359E-09	6.399E-09	4.766E-09	3.756E-09	3.061E-09	2.558E-09	2.181E-09	1.892E-09
NW	5.085E-08	2.846E-08	1.948E-08	1.193E-08	8.089E-09	5.997E-09	4.807E-09	3.943E-09	3.302E-09	2.824E-09	2.457E-09
NNW	4.962E-08	2.670E-08	1.713E-08	9.681E-09	6.493E-09	4.772E-09	3.731E-09	3.033E-09	2.551E-09	2.179E-09	1.888E-09
N	2.082E-08	1.286E-08	1.033E-08	8.028E-09	6.825E-09	5.740E-09	4.533E-09	3.701E-09	3.098E-09	2.649E-09	2.305E-09
NNE	2.454E-08	3.687E-08	2.396E-08	1.379E-08	9.367E-09	6.952E-09	5.456E-09	4.448E-09	3.730E-09	3.195E-09	2.782E-09
NE	1.738E-08	2.586E-08	1.682E-08	9.701E-09	6.603E-09	4.911E-09	3.909E-09	3.214E-09	2.706E-09	2.318E-09	2.020E-09
ENE	1.162E-08	1.469E-08	9.612E-09	5.571E-09	3.795E-09	2.821E-09	2.282E-09	1.895E-09	1.586E-09	1.356E-09	1.179E-09
E	9.731E-09	1.230E-08	8.061E-09	4.680E-09	3.192E-09	2.375E-09	1.867E-09	1.424E-09	1.131E-09	9.144E-09	9.954E-10
ESE	1.634E-08	1.663E-08	1.091E-08	6.338E-09	4.320E-09	3.212E-09	2.523E-09	2.058E-09	1.726E-09	1.478E-09	1.287E-09
SE	2.195E-08	1.352E-08	1.039E-08	7.242E-09	5.188E-09	3.989E-09	3.212E-09	2.670E-09	2.226E-09	1.896E-09	1.643E-09
SSE	7.187E-08	4.079E-08	2.617E-08	1.481E-08	9.947E-09	7.319E-09	5.704E-09	4.624E-09	3.858E-09	3.290E-09	2.855E-09

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

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	8.015E-08	7.466E-08	5.314E-08	4.203E-08	4.549E-08	2.711E-08	1.061E-08	5.292E-09	3.335E-09	2.370E-09
SSW	4.430E-08	4.851E-08	4.155E-08	4.070E-08	3.369E-08	2.051E-08	8.350E-09	4.178E-09	2.623E-09	1.854E-09
SW	6.998E-08	1.110E-07	6.841E-08	4.084E-08	2.839E-08	1.737E-08	7.394E-09	3.915E-09	2.558E-09	1.824E-09
WSW	7.623E-08	1.330E-07	7.534E-08	4.196E-08	2.756E-08	1.384E-08	5.345E-09	2.570E-09	1.592E-09	1.118E-09
W	1.474E-07	1.445E-07	7.264E-08	4.077E-08	2.674E-08	1.286E-08	5.423E-09	2.892E-09	1.816E-09	1.286E-09
WNW	1.699E-07	2.369E-07	1.296E-07	7.605E-08	5.005E-08	2.402E-08	9.436E-09	4.797E-09	3.068E-09	2.185E-09
NW	2.054E-07	3.061E-07	1.661E-07	9.295E-08	6.059E-08	2.945E-08	1.190E-08	6.079E-09	3.945E-09	2.830E-09
NNW	1.070E-07	1.507E-07	1.288E-07	9.063E-08	5.971E-08	2.754E-08	9.918E-09	4.815E-09	3.049E-09	2.181E-09
N	8.674E-08	6.500E-08	4.553E-08	3.203E-08	2.372E-08	1.350E-08	8.005E-09	5.547E-09	3.709E-09	2.655E-09
NNE	5.590E-08	4.923E-08	3.728E-08	2.774E-08	2.345E-08	2.839E-08	1.408E-08	6.997E-09	4.462E-09	3.200E-09
NE	5.287E-08	4.133E-08	2.877E-08	2.065E-08	1.695E-08	1.996E-08	9.906E-09	4.961E-09	3.219E-09	2.323E-09
ENE	2.446E-08	2.506E-08	1.932E-08	1.148E-08	1.156E-08	1.175E-08	5.680E-09	2.865E-09	1.888E-09	1.359E-09
E	1.689E-08	2.075E-08	1.649E-08	1.208E-08	9.760E-09	9.846E-09	4.770E-09	2.389E-09	1.541E-09	1.139E-09
ESE	3.234E-08	4.094E-08	3.118E-08	2.201E-08	1.705E-08	1.402E-08	6.458E-09	3.232E-09	2.064E-09	1.481E-09
SE	4.034E-08	5.746E-08	4.599E-08	3.327E-08	2.494E-08	1.400E-08	7.029E-09	3.998E-09	2.656E-09	1.900E-09
SSE	9.039E-08	9.363E-08	6.801E-08	5.778E-08	7.448E-08	4.120E-08	1.517E-08	7.374E-09	4.641E-09	3.297E-09

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ERP ELEVATED STACK RELEASES - JAN-DEC 1993  
 2.260 DAY DECAY, UNDEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES											
	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	8.967E-09	5.418E-08	8.734E-08	8.747E-08	7.825E-08	6.508E-08	5.346E-08	4.431E-08	3.727E-08	4.374E-08	4.843E-08	5.013E-09	3.009E-08	4.551E-08	5.033E-08	5.138E-08	4.507E-08	3.798E-08	4.155E-08	4.274E-08	3.734E-08	3.301E-08
SSW	6.955E-09	2.312E-08	6.197E-08	9.909E-08	1.403E-07	9.489E-08	6.751E-08	5.110E-08	4.029E-08	3.279E-08	2.736E-08	1.678E-09	1.576E-08	5.976E-08	1.185E-07	1.745E-07	1.081E-07	7.369E-08	5.377E-08	4.122E-08	3.200E-08	2.685E-08
SW	5.523E-09	4.954E-08	1.567E-07	1.808E-07	1.678E-07	1.039E-07	7.106E-08	5.205E-08	4.007E-08	3.200E-08	2.630E-08	1.141E-08	4.883E-08	1.531E-07	2.424E-07	3.012E-07	1.842E-07	1.250E-07	9.540E-08	7.591E-08	6.012E-08	4.909E-08
WSW	4.216E-08	9.726E-08	1.806E-07	2.773E-07	4.090E-07	2.412E-07	1.606E-07	1.185E-07	9.207E-08	7.282E-08	5.942E-08	3.415E-08	6.703E-08	1.039E-07	1.289E-07	1.629E-07	1.516E-07	1.314E-07	1.101E-07	9.289E-08	7.251E-08	5.853E-08
W	3.428E-08	8.410E-08	9.513E-08	8.156E-08	6.633E-08	5.540E-08	4.613E-08	3.803E-08	3.190E-08	2.720E-08	2.353E-08	2.961E-08	4.915E-08	5.991E-08	5.610E-08	5.101E-08	4.413E-08	3.753E-08	3.203E-08	2.762E-08	2.411E-08	2.129E-08
WNW	7.860E-09	4.595E-08	5.875E-08	5.174E-08	4.252E-08	3.499E-08	2.891E-08	2.420E-08	2.057E-08	1.775E-08	1.553E-08	3.144E-09	1.739E-08	2.570E-08	2.697E-08	2.633E-08	2.299E-08	1.948E-08	1.651E-08	1.413E-08	1.224E-08	1.073E-08
NW	7.510E-10	8.579E-09	1.716E-08	2.078E-08	2.206E-08	1.961E-08	1.666E-08	1.410E-08	1.204E-08	1.040E-08	9.090E-09	8.617E-10	1.327E-08	3.235E-08	4.178E-08	4.403E-08	3.798E-08	3.147E-08	2.612E-08	2.194E-08	1.869E-08	1.615E-08
NNW	5.195E-10	1.295E-08	3.886E-08	5.505E-08	6.191E-08	5.503E-08	4.650E-08	3.911E-08	3.319E-08	2.850E-08	2.478E-08	5.183E-09	5.336E-08	9.575E-08	1.047E-07	9.931E-08	8.341E-08	6.855E-08	5.672E-08	4.763E-08	4.065E-08	3.333E-08
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BEARING	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										DISTANCE IN MILES											
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	4.314E-08	2.767E-08	1.776E-08	9.988E-09	6.797E-09	5.013E-09	3.854E-09	3.084E-09	2.552E-09	2.155E-09	1.847E-09	3.034E-08	2.165E-08	1.386E-08	7.766E-09	5.323E-09	3.898E-09	2.987E-09	2.383E-09	1.958E-09	1.645E-09	1.406E-09
SSW	2.501E-08	1.844E-08	1.202E-08	6.890E-09	4.837E-09	3.647E-09	2.893E-09	2.319E-09	1.912E-09	1.612E-09	1.382E-09	2.317E-08	1.343E-08	8.901E-09	5.070E-09	3.316E-09	2.383E-09	1.818E-09	1.444E-09	1.181E-09	9.888E-10	8.425E-10
SW	2.212E-08	1.187E-08	8.287E-09	5.177E-09	3.682E-09	2.676E-09	2.051E-09	1.636E-09	1.344E-09	1.128E-09	9.642E-10	4.150E-08	2.283E-08	1.526E-08	9.020E-09	6.089E-09	4.477E-09	3.483E-09	2.803E-09	2.313E-09	1.947E-09	1.668E-09
WSW	5.031E-08	2.799E-08	1.904E-08	1.151E-08	7.707E-09	5.644E-09	4.464E-09	3.615E-09	2.989E-09	2.526E-09	2.171E-09	4.915E-08	2.631E-08	1.679E-08	9.400E-09	6.243E-09	4.544E-09	3.519E-09	2.832E-09	2.359E-09	1.996E-09	1.713E-09
W	2.666E-08	1.271E-08	1.017E-08	7.828E-09	6.583E-09	5.477E-09	4.283E-09	3.463E-09	2.872E-09	2.433E-09	2.097E-09	2.666E-08	1.271E-08	1.017E-08	7.828E-09	6.583E-09	5.477E-09	4.283E-09	3.463E-09	2.872E-09	2.433E-09	2.097E-09
WNW	2.428E-08	3.622E-08	2.340E-08	1.331E-08	8.935E-09	6.554E-09	5.083E-09	4.097E-09	3.395E-09	2.875E-09	2.475E-09	1.724E-08	2.554E-08	1.654E-08	9.463E-09	6.388E-09	4.712E-09	3.720E-09	3.033E-09	2.532E-09	2.152E-09	1.860E-09
NW	1.152E-08	1.449E-08	9.438E-09	5.421E-09	3.659E-09	2.696E-09	2.161E-09	1.778E-09	1.475E-09	1.250E-09	1.077E-09	1.152E-08	1.449E-08	9.438E-09	5.421E-09	3.659E-09	2.696E-09	2.161E-09	1.778E-09	1.475E-09	1.250E-09	1.077E-09
NNW	9.646E-09	1.215E-08	7.926E-09	4.563E-09	3.086E-09	2.277E-09	1.775E-09	1.380E-09	1.227E-09	1.062E-09	9.164E-10	1.622E-08	1.641E-08	1.072E-08	6.169E-09	4.165E-09	3.067E-09	2.386E-09	1.927E-09	1.601E-09	1.358E-09	1.171E-09
N	2.178E-08	1.337E-08	1.023E-08	7.074E-09	5.027E-09	3.836E-09	3.065E-09	2.528E-09	2.091E-09	1.768E-09	1.520E-09	2.178E-08	1.337E-08	1.023E-08	7.074E-09	5.027E-09	3.836E-09	3.065E-09	2.528E-09	2.091E-09	1.768E-09	1.520E-09
NNE	7.124E-08	4.022E-08	2.568E-08	1.440E-08	9.573E-09	6.975E-09	5.383E-09	4.322E-09	3.571E-09	3.016E-09	2.591E-09	7.124E-08	4.022E-08	2.568E-08	1.440E-08	9.573E-09	6.975E-09	5.383E-09	4.322E-09	3.571E-09	3.016E-09	2.591E-09
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CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT

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	8.003E-08	7.445E-08	5.290E-08	4.175E-08	4.508E-08	2.670E-08	1.030E-08	5.025E-09	3.101E-09	2.158E-09
SSW	4.423E-08	4.834E-08	4.130E-08	4.034E-08	3.331E-08	2.012E-08	8.034E-09	3.914E-09	2.394E-09	1.649E-09
SW	6.983E-08	1.106E-07	6.803E-08	4.052E-08	2.810E-08	1.704E-08	7.117E-09	3.663E-09	2.328E-09	1.616E-09
WSW	7.610E-08	1.326E-07	7.490E-08	4.160E-08	2.725E-08	1.358E-08	5.142E-09	2.406E-09	1.451E-09	9.917E-10
W	1.471E-07	1.441E-07	7.222E-08	4.042E-08	2.644E-08	1.256E-08	5.204E-09	2.694E-09	1.644E-09	1.131E-09
WNW	1.696E-07	2.361E-07	1.289E-07	7.547E-08	4.955E-08	2.361E-08	9.103E-09	4.509E-09	2.811E-09	1.952E-09
NW	2.051E-07	3.052E-07	1.653E-07	9.229E-08	6.002E-08	2.897E-08	1.149E-08	5.722E-09	3.619E-09	2.532E-09
NNW	1.068E-07	1.503E-07	1.282E-07	9.003E-08	5.920E-08	2.716E-08	9.640E-09	4.587E-09	2.848E-09	1.999E-09
N	8.665E-08	6.485E-08	4.536E-08	3.186E-08	2.355E-08	1.335E-08	7.794E-09	5.294E-09	3.472E-09	2.439E-09
NNE	5.582E-08	4.908E-08	3.709E-08	2.754E-08	2.323E-08	2.787E-08	1.361E-08	6.601E-09	4.111E-09	2.881E-09
NE	5.279E-08	4.122E-08	2.864E-08	2.053E-08	1.682E-08	1.970E-08	9.669E-09	4.762E-09	3.039E-09	2.157E-09
ENE	2.442E-08	2.499E-08	1.923E-08	1.409E-08	1.147E-08	1.158E-08	5.531E-09	2.739E-09	1.772E-09	1.253E-09
E	1.686E-08	2.069E-08	1.642E-08	1.200E-08	9.683E-09	9.715E-09	4.654E-09	2.292E-09	1.454E-09	1.057E-09
ESE	3.230E-08	4.084E-08	3.107E-08	2.190E-08	1.693E-08	1.384E-08	6.290E-09	3.087E-09	1.934E-09	1.361E-09
SE	4.030E-08	5.733E-08	4.582E-08	3.310E-08	2.477E-08	1.384E-08	6.866E-09	3.846E-09	2.515E-09	1.772E-09
SSE	9.030E-08	9.344E-08	6.778E-08	5.747E-08	7.391E-08	4.065E-08	1.476E-08	7.031E-09	4.339E-09	3.023E-09



ERP ELEVATED STACK RELEASES - JAN-DEC 1993  
 8.000 DAY DECAY, DEPLETED  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

SECTOR	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	8.969E-09	5.373E-08	8.583E-08	8.598E-08	7.680E-08	6.361E-08	5.201E-08	4.292E-08	3.597E-08	4.232E-08	4.700E-08
SSW	5.015E-09	2.905E-08	4.482E-08	4.970E-08	5.067E-08	4.423E-08	3.708E-08	4.049E-08	4.161E-08	3.626E-08	3.199E-08
SW	6.957E-09	2.293E-08	6.119E-08	9.832E-08	1.387E-07	9.236E-08	6.591E-08	4.968E-08	3.903E-08	3.167E-08	2.637E-08
WSW	1.678E-09	1.563E-08	5.925E-08	1.180E-07	1.725E-07	1.059E-07	7.176E-08	5.209E-08	3.975E-08	3.150E-08	2.571E-08
W	5.525E-09	4.906E-08	1.555E-07	1.865E-07	1.645E-07	1.012E-07	6.886E-08	5.022E-08	3.852E-08	3.068E-08	2.515E-08
WNW	1.141E-08	4.848E-08	1.520E-07	2.401E-07	2.970E-07	1.804E-07	1.219E-07	9.277E-08	7.368E-08	5.814E-08	4.728E-08
NW	4.217E-08	9.645E-08	1.780E-07	2.742E-07	4.039E-07	2.365E-07	1.567E-07	1.152E-07	8.932E-08	7.039E-08	5.719E-08
NNW	3.416E-08	6.646E-08	1.023E-07	1.274E-07	1.610E-07	1.492E-07	1.290E-07	1.078E-07	9.087E-08	7.064E-08	5.674E-08
N	3.428E-08	8.338E-08	9.330E-08	7.991E-08	6.493E-08	5.409E-08	4.488E-08	3.687E-08	3.082E-08	2.620E-08	2.261E-08
NNE	2.962E-08	4.874E-08	5.881E-08	5.509E-08	5.009E-08	4.323E-08	3.666E-08	3.120E-08	2.684E-08	2.338E-08	2.062E-08
NE	7.862E-09	4.557E-08	5.763E-08	5.069E-08	4.162E-08	3.416E-08	2.814E-08	2.348E-08	1.991E-08	1.714E-08	1.497E-08
ENE	3.145E-09	1.725E-08	2.528E-08	2.658E-08	2.592E-08	2.255E-08	1.903E-08	1.607E-08	1.371E-08	1.184E-08	1.036E-08
E	7.513E-10	8.512E-09	1.693E-08	2.055E-08	2.179E-08	1.926E-08	1.628E-08	1.372E-08	1.167E-08	1.004E-08	8.756E-09
ESE	8.619E-10	1.316E-08	3.197E-08	4.140E-08	4.347E-08	3.726E-08	3.069E-08	2.533E-08	2.116E-08	1.795E-08	1.545E-08
SE	5.196E-10	1.285E-08	3.850E-08	5.470E-08	6.125E-08	5.411E-08	4.545E-08	3.804E-08	3.214E-08	2.749E-08	2.381E-08
SSE	5.184E-09	5.292E-08	9.430E-08	1.033E-07	9.773E-08	8.167E-08	6.675E-08	5.496E-08	4.595E-08	6.463E-08	8.126E-08

BEARING	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)										
	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	4.181E-08	2.645E-08	1.651E-08	8.775E-09	5.602E-09	3.926E-09	2.909E-09	2.253E-09	1.815E-09	1.501E-09	1.262E-09
SSW	2.938E-08	2.075E-08	1.293E-08	6.862E-09	4.440E-09	3.156E-09	2.360E-09	1.844E-09	1.487E-09	1.228E-09	1.034E-09
SW	2.411E-08	1.769E-08	1.122E-08	6.087E-09	4.010E-09	2.870E-09	2.215E-09	1.736E-09	1.404E-09	1.163E-09	9.818E-10
WSW	2.214E-08	1.261E-08	8.152E-09	4.451E-09	2.814E-09	1.968E-09	1.467E-09	1.142E-09	9.187E-10	7.572E-10	6.363E-10
W	2.110E-08	1.124E-08	7.798E-09	4.669E-09	3.172E-09	2.247E-09	1.685E-09	1.319E-09	1.066E-09	8.828E-10	7.449E-10
WNW	3.980E-08	2.134E-08	1.388E-08	7.748E-09	4.887E-09	3.424E-09	2.581E-09	2.029E-09	1.639E-09	1.354E-09	1.141E-09
NW	4.822E-08	2.617E-08	1.732E-08	9.917E-09	6.294E-09	4.411E-09	3.383E-09	2.677E-09	2.169E-09	1.800E-09	1.521E-09
NNW	4.742E-08	2.470E-08	1.530E-08	8.062E-09	4.998E-09	3.436E-09	2.539E-09	1.970E-09	1.579E-09	1.321E-09	1.111E-09
N	1.980E-08	1.208E-08	9.661E-09	7.497E-09	6.249E-09	5.014E-09	3.838E-09	3.045E-09	2.483E-09	2.073E-09	1.762E-09
NNE	2.362E-08	3.553E-08	2.229E-08	1.202E-08	7.641E-09	5.363E-09	4.008E-09	3.128E-09	2.519E-09	2.079E-09	1.748E-09
NE	1.667E-08	2.491E-08	1.564E-08	8.497E-09	5.470E-09	3.881E-09	2.972E-09	2.368E-09	1.936E-09	1.614E-09	1.371E-09
ENE	1.114E-08	1.412E-08	8.931E-09	4.828E-09	3.036E-09	2.109E-09	1.608E-09	1.275E-09	1.032E-09	8.550E-10	7.221E-10
E	9.307E-09	1.180E-08	7.478E-09	4.053E-09	2.554E-09	1.778E-09	1.318E-09	1.21E-09	8.370E-10	6.998E-10	5.892E-10
ESE	1.550E-08	1.577E-08	1.002E-08	5.456E-09	3.460E-09	2.418E-09	1.799E-09	1.397E-09	1.119E-09	9.191E-10	7.693E-10
SE	2.086E-08	1.266E-08	9.658E-09	6.669E-09	4.733E-09	3.613E-09	2.893E-09	2.384E-09	1.939E-09	1.615E-09	1.371E-09
SSE	6.916E-08	3.802E-08	2.354E-08	1.251E-08	7.925E-09	5.549E-09	4.139E-09	3.226E-09	2.596E-09	2.141E-09	1.800E-09

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

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	7.876E-08	7.298E-08	5.147E-08	4.038E-08	4.369E-08	2.545E-08	9.083E-09	3.966E-09	2.273E-09	1.505E-09
SSW	4.366E-08	4.759E-08	4.035E-08	3.925E-08	3.229E-08	1.919E-08	7.134E-09	3.180E-09	1.855E-09	1.233E-09
SW	6.919E-08	1.091E-07	6.647E-08	3.927E-08	2.710E-08	1.624E-08	6.305E-09	2.912E-09	1.747E-09	1.167E-09
WSW	7.567E-08	1.308E-07	7.300E-08	4.013E-08	2.611E-08	1.275E-08	4.546E-09	1.993E-09	1.150E-09	7.603E-10
W	1.456E-07	1.413E-07	7.004E-08	3.888E-08	2.529E-08	1.190E-08	4.699E-09	2.269E-09	1.327E-09	8.861E-10
WNW	1.681E-07	2.325E-07	1.258E-07	7.321E-08	4.773E-08	2.213E-08	7.839E-09	3.477E-09	2.038E-09	1.359E-09
NW	2.026E-07	3.007E-07	1.614E-07	8.951E-08	5.778E-08	2.714E-08	9.953E-09	4.502E-09	2.685E-09	1.806E-09
NNW	1.055E-07	1.483E-07	1.259E-07	8.801E-08	5.741E-08	2.557E-08	8.308E-09	3.494E-09	1.991E-09	1.325E-09
N	8.515E-08	6.344E-08	4.413E-08	3.079E-08	2.263E-08	1.272E-08	7.423E-09	4.873E-09	3.058E-09	2.079E-09
NNE	5.492E-08	4.815E-08	3.623E-08	2.677E-08	2.255E-08	2.700E-08	1.236E-08	5.429E-09	3.147E-09	2.087E-09
NE	5.186E-08	4.032E-08	2.788E-08	1.988E-08	1.624E-08	1.896E-08	8.740E-09	3.941E-09	2.376E-09	1.619E-09
ENE	2.407E-08	2.457E-08	1.879E-08	1.367E-08	1.109E-08	1.115E-08	4.943E-09	2.156E-09	1.277E-09	8.581E-10
E	1.667E-08	2.039E-08	1.605E-08	1.164E-08	9.342E-09	9.326E-09	4.148E-09	1.801E-09	1.036E-09	6.995E-10
ESE	3.198E-08	4.025E-08	3.030E-08	2.113E-08	1.621E-08	1.315E-08	5.583E-09	2.448E-09	1.406E-09	9.229E-10
SE	4.000E-08	5.662E-08	4.480E-08	3.205E-08	2.381E-08	1.315E-08	6.473E-09	3.624E-09	2.360E-09	1.621E-09
SSE	8.909E-08	9.182E-08	6.601E-08	5.564E-08	7.185E-08	3.850E-08	1.292E-08	5.619E-09	3.247E-09	2.149E-09

ERP ELEVATED STACK RELEASES - JAN-DEC 1993  
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

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

DIRECTION FROM SITE	DISTANCES IN MILES										
	0.25	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S	4.566E-09	3.873E-09	3.527E-09	2.571E-09	1.311E-09	8.197E-10	5.597E-10	4.041E-10	3.034E-10	2.431E-10	2.215E-10
SSW	1.855E-09	1.720E-09	1.774E-09	1.404E-09	7.591E-10	4.852E-10	3.350E-10	2.433E-10	2.248E-10	1.701E-10	1.332E-10
SW	1.697E-09	1.499E-09	1.448E-09	1.100E-09	1.002E-09	5.433E-10	3.364E-10	2.284E-10	1.651E-10	1.249E-10	9.781E-11
WSW	1.225E-09	1.198E-09	1.316E-09	1.984E-09	1.097E-09	5.936E-10	3.665E-10	2.482E-10	1.791E-10	1.354E-10	1.059E-10
W	6.701E-10	3.436E-09	3.061E-09	1.994E-09	9.417E-10	5.069E-10	3.119E-10	2.107E-10	1.517E-10	1.145E-10	8.946E-11
WNW	2.412E-09	2.169E-09	4.987E-09	3.407E-09	2.024E-09	1.019E-09	6.060E-10	4.036E-10	2.993E-10	2.307E-10	1.878E-10
NW	7.154E-09	5.647E-09	4.545E-09	5.080E-09	2.918E-09	1.456E-09	8.638E-10	5.752E-10	4.171E-10	3.235E-10	2.646E-10
NNW	5.992E-09	4.831E-09	4.041E-09	2.753E-09	2.192E-09	1.177E-09	7.281E-10	5.783E-10	4.204E-10	3.266E-10	2.678E-10
N	7.909E-09	6.195E-09	4.913E-09	3.190E-09	1.476E-09	8.854E-10	5.914E-10	4.221E-10	3.151E-10	2.431E-10	1.924E-10
NNE	3.965E-09	3.163E-09	2.596E-09	1.740E-09	8.284E-10	5.033E-10	3.386E-10	2.425E-10	1.814E-10	1.401E-10	1.109E-10
NE	3.133E-09	2.516E-09	2.089E-09	1.414E-09	6.792E-10	4.143E-10	2.792E-10	2.002E-10	1.498E-10	1.157E-10	9.161E-11
ENE	1.131E-09	9.942E-10	9.551E-10	7.228E-10	3.789E-10	2.394E-10	1.644E-10	1.190E-10	8.948E-11	6.925E-11	5.483E-11
E	5.814E-10	5.935E-10	6.828E-10	5.740E-10	3.222E-10	2.088E-10	1.451E-10	1.057E-10	7.973E-11	6.178E-11	4.892E-11
ESE	1.248E-09	1.336E-09	1.609E-09	1.384E-09	7.873E-10	5.123E-10	3.568E-10	2.603E-10	1.964E-10	1.523E-10	1.206E-10
SE	1.595E-09	1.794E-09	2.368E-09	2.119E-09	1.233E-09	8.086E-10	5.652E-10	4.130E-10	3.120E-10	2.419E-10	1.916E-10
SSE	6.164E-09	5.496E-09	5.386E-09	4.129E-09	2.185E-09	1.385E-09	9.527E-10	6.904E-10	5.194E-10	4.866E-10	4.623E-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	1.782E-10	1.325E-10	9.187E-11	5.407E-11	3.449E-11	2.380E-11	1.705E-11	1.279E-11	9.996E-12	7.948E-12	6.489E-12
SSW	1.084E-10	7.961E-11	5.495E-11	3.217E-11	2.015E-11	1.414E-11	1.014E-11	7.615E-12	6.019E-12	4.808E-12	3.924E-12
SW	7.944E-11	6.577E-11	4.668E-11	2.797E-11	1.787E-11	1.193E-11	8.409E-12	6.369E-12	4.952E-12	3.956E-12	3.229E-12
WSW	8.541E-11	5.329E-11	3.522E-11	2.322E-11	1.405E-11	9.422E-12	6.815E-12	5.117E-12	3.979E-12	3.178E-12	2.594E-12
W	7.193E-11	3.231E-11	3.437E-11	2.114E-11	1.399E-11	9.495E-12	6.803E-12	5.109E-12	3.972E-12	3.173E-12	2.590E-12
WNW	1.621E-10	9.522E-11	6.710E-11	3.998E-11	2.595E-11	1.728E-11	1.222E-11	9.176E-12	7.173E-12	5.730E-12	4.677E-12
NW	2.267E-10	1.333E-10	9.403E-11	5.861E-11	3.588E-11	2.408E-11	1.710E-11	1.285E-11	1.005E-11	8.025E-12	6.550E-12
NNW	2.302E-10	1.368E-10	9.785E-11	5.828E-11	3.741E-11	2.513E-11	1.761E-11	1.308E-11	1.022E-11	8.168E-12	6.667E-12
N	1.555E-10	7.433E-11	4.578E-11	2.467E-11	4.856E-11	3.025E-11	2.163E-11	1.624E-11	1.263E-11	1.009E-11	8.237E-12
NNE	8.957E-11	1.533E-10	9.705E-11	5.171E-11	3.185E-11	2.133E-11	1.522E-11	1.137E-11	8.804E-12	7.011E-12	5.708E-12
NE	7.400E-11	1.318E-10	8.188E-11	4.270E-11	2.616E-11	1.755E-11	1.241E-11	9.305E-12	7.244E-12	5.787E-12	4.723E-12
ENE	4.424E-11	5.950E-11	4.456E-11	2.782E-11	1.790E-11	1.190E-11	8.374E-12	5.444E-12	4.242E-12	3.398E-12	2.780E-12
E	3.944E-11	5.291E-11	3.952E-11	2.460E-11	1.579E-11	1.047E-11	7.355E-12	5.392E-12	4.108E-12	3.066E-12	2.503E-12
ESE	9.718E-11	9.060E-11	6.319E-11	3.726E-11	2.365E-11	1.576E-11	1.116E-11	8.757E-12	6.346E-12	5.028E-12	4.078E-12
SE	1.544E-10	7.321E-11	4.470E-11	2.360E-11	1.446E-11	9.994E-12	7.515E-12	1.485E-11	1.142E-11	9.054E-12	7.359E-12
SSE	3.890E-10	2.934E-10	1.801E-10	9.257E-11	5.634E-11	3.775E-11	2.701E-11	2.025E-11	1.572E-11	1.255E-11	1.023E-11

\*\*\*\*\* RELATIVE DEPOSITION PER UNIT AREA (M\*\*<sup>-2</sup>) 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	3.179E-09	1.373E-09	5.668E-10	3.092E-10	2.119E-10	1.246E-10	5.377E-11	2.395E-11	1.294E-11	8.015E-12
SSW	1.597E-09	7.807E-10	3.384E-10	2.093E-10	1.350E-10	7.505E-11	3.189E-11	1.414E-11	7.728E-12	4.839E-12
SW	1.305E-09	8.200E-10	3.483E-10	1.678E-10	9.903E-11	6.033E-11	2.764E-11	1.211E-11	6.412E-12	3.982E-12
WSW	1.587E-09	1.070E-09	3.797E-10	1.822E-10	1.071E-10	5.240E-11	2.181E-11	9.614E-12	5.169E-12	3.199E-12
W	2.670E-09	9.822E-10	3.234E-10	1.544E-10	9.038E-11	4.203E-11	2.090E-11	9.617E-12	5.160E-12	3.194E-12
WNW	3.659E-09	1.885E-09	6.353E-10	3.030E-10	1.910E-10	9.759E-11	3.977E-11	1.757E-11	9.283E-12	5.768E-12
NW	5.028E-09	2.749E-09	9.063E-10	4.266E-10	2.681E-10	1.366E-10	5.638E-11	2.444E-11	1.300E-11	8.078E-12
NNW	3.644E-09	1.866E-09	7.879E-10	4.298E-10	2.713E-10	1.399E-10	5.762E-11	2.540E-11	1.329E-11	8.221E-12
N	4.432E-09	1.594E-09	6.021E-10	3.182E-10	1.938E-10	7.969E-11	3.998E-11	3.169E-11	1.641E-11	1.016E-11
NNE	2.342E-09	8.865E-10	3.441E-10	1.831E-10	1.116E-10	1.141E-10	5.296E-11	2.169E-11	1.149E-11	7.069E-12
NE	1.884E-09	7.247E-10	2.836E-10	1.512E-10	9.223E-11	9.677E-11	4.405E-11	1.779E-11	9.407E-12	5.825E-12
ENE	8.605E-10	3.933E-10	1.662E-10	9.021E-11	5.518E-11	4.947E-11	2.713E-11	1.299E-11	5.823E-12	3.419E-12
E	6.146E-10	3.277E-10	1.463E-10	8.032E-11	4.922E-11	4.397E-11	2.400E-11	1.064E-11	5.464E-12	3.166E-12
ESE	1.448E-09	7.976E-10	3.597E-10	1.979E-10	1.213E-10	7.988E-11	3.697E-11	1.602E-11	8.358E-12	5.066E-12
SE	2.130E-09	1.241E-09	5.692E-10	3.142E-10	1.927E-10	7.858E-11	2.422E-11	1.019E-11	1.145E-11	9.127E-12
SSE	4.852E-09	2.262E-09	9.632E-10	5.558E-10	4.424E-10	2.643E-10	9.592E-11	3.841E-11	2.046E-11	1.263E-11

ERP ELEVATED STACK RELEASES - JAN-DEC 1993  
CORRECTED FOR OPEN TERRAIN RECIRCULATION  
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE		X/Q NO DECAY		X/Q 2.260 DAY DECAY		X/Q 8.000 DAY DECAY		D/Q (PER SQ.METER)
			(MILES)	(METERS)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)		
					UNDEPLETED	UNDEPLETED	UNDEPLETED	DEPLETED	DEPLETED		
A	SITE BOUNDARY	S	0.80	1287.	8.823E-08	8.811E-08	8.655E-08	8.655E-08	3.330E-09		
A	SITE BOUNDARY	SSW	0.82	1327.	4.722E-08	4.715E-08	4.645E-08	4.645E-08	1.680E-09		
A	SITE BOUNDARY	SW	0.98	1569.	9.583E-08	9.561E-08	9.482E-08	9.482E-08	1.144E-09		
A	SITE BOUNDARY	WSW	0.93	1489.	1.020E-07	1.018E-07	1.013E-07	1.013E-07	1.691E-09		
A	SITE BOUNDARY	W	0.91	1468.	1.839E-07	1.836E-07	1.817E-07	1.817E-07	2.259E-09		
A	SITE BOUNDARY	WNW	0.94	1549.	2.240E-07	2.237E-07	2.217E-07	2.217E-07	3.826E-09		
A	SITE BOUNDARY	NW	0.81	1307.	2.022E-07	2.020E-07	1.993E-07	1.993E-07	4.096E-09		
A	SITE BOUNDARY	NNW	0.69	1106.	9.243E-08	9.234E-08	9.090E-08	9.090E-08	4.177E-09		
A	SITE BOUNDARY	N	0.67	1086.	9.252E-08	9.244E-08	9.085E-08	9.085E-08	5.207E-09		
A	SITE BOUNDARY	NNE	0.60	965.	5.365E-08	5.360E-08	5.286E-08	5.286E-08	2.883E-09		
A	SITE BOUNDARY	NE	0.62	1005.	5.381E-08	5.375E-08	5.294E-08	5.294E-08	2.258E-09		
A	SITE BOUNDARY	ENE	0.59	945.	2.029E-08	2.026E-08	2.001E-08	2.001E-08	9.650E-10		
A	SITE BOUNDARY	E	0.53	845.	9.385E-09	9.375E-09	9.289E-09	9.289E-09	5.987E-10		
A	SITE BOUNDARY	ESE	0.54	865.	1.568E-08	1.567E-08	1.552E-08	1.552E-08	1.365E-09		
A	SITE BOUNDARY	SE	0.65	1046.	2.680E-08	2.677E-08	2.650E-08	2.650E-08	2.116E-09		
A	SITE BOUNDARY	SSE	0.81	1307.	9.934E-08	9.925E-08	9.775E-08	9.775E-08	5.094E-09		
A	NEAR. RESIDENCE	SW	1.40	2253.	1.377E-07	1.372E-07	1.358E-07	1.358E-07	1.155E-09		
A	NEAR. RESIDENCE	WSW	1.30	2092.	1.649E-07	1.645E-07	1.630E-07	1.630E-07	1.466E-09		
A	NEAR. RESIDENCE	W	1.00	1609.	1.891E-07	1.888E-07	1.865E-07	1.865E-07	1.994E-09		
A	NEAR. RESIDENCE	WNW	1.60	2575.	2.711E-07	2.702E-07	2.660E-07	2.660E-07	1.735E-09		
A	NEAR. RESIDENCE	NW	0.90	1448.	2.360E-07	2.356E-07	2.329E-07	2.329E-07	5.801E-09		
A	NEAR. RESIDENCE	NNW	2.00	3219.	1.521E-07	1.516E-07	1.492E-07	1.492E-07	1.177E-09		
A	NEAR. RESIDENCE	NNE	2.70	4345.	3.538E-08	3.520E-08	3.433E-08	3.433E-08	2.945E-10		
A	NEAR. RESIDENCE	ENE	1.70	2736.	2.520E-08	2.512E-08	2.470E-08	2.470E-08	3.077E-10		
A	NEAR. RESIDENCE	E	1.80	2897.	2.083E-08	2.076E-08	2.043E-08	2.043E-08	2.434E-10		
A	NEAREST COW	NNW	3.50	5634.	9.347E-08	9.285E-08	9.083E-08	9.083E-08	4.202E-10		
A	NEAREST GARDEN	SW	1.40	2253.	1.377E-07	1.372E-07	1.358E-07	1.358E-07	1.155E-09		
A	NEAREST GARDEN	WSW	1.80	2897.	1.297E-07	1.292E-07	1.270E-07	1.270E-07	7.420E-10		
A	NEAREST GARDEN	WNW	1.60	2575.	2.711E-07	2.702E-07	2.660E-07	2.660E-07	1.735E-09		
A	NEAREST GARDEN	NNW	2.00	3219.	1.521E-07	1.516E-07	1.492E-07	1.492E-07	1.177E-09		

## ATMOSPHERIC DIFFUSION MODEL

Onsite meteorological data from July 1 through December 31, 1993, 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:

$$(X/Q)_i = 2.032 \sum_{jk} \frac{f_{ijk}}{x_{ujk} z_{zk}} \exp \left[ \frac{-4h_0^2}{\sigma_{zk}^2} \right] \quad (\text{Eq. 1})$$

and

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

where

- i - index identifying direction sector;
- j - index identifying wind speed class;
- k - index identifying atmospheric stability class;
- $\frac{X}{Q}$  - average effluent concentration normalized by source strength at the specific downwind distance;
- f - joint frequency distribution of wind direction, wind speed class, and atmospheric stability class;
- x - distance from the release point to a receptor;
- u - wind speed;
- $\Sigma_z$  - vertical plume spread with volumetric building wake correction for a release within the building wake cavity;
- $\sigma_z$  - vertical plume spread without volumetric building wake correction;
- $D_z$  - maximum adjacent building height either upwind or downwind of the release point (44.5 meters for ground-level releases);  
and
- $h_e$  - effective plume height;

The term  $\Sigma_{zk}$  given in Equations 1 and 2 is used for ground-level release ( $h = 0$ ) within the building wake cavity. For an elevated release, no volumetric building wake correction needs to be considered, i.e.,  $\Sigma_{zk} = \sigma_{zk}$ . For all building wake determinations, the reactor building was considered to be the dominating structure in the modification of air flows within the building complex.

Since the model does not directly consider the effects of spatial and temporal variation in airflow due to terrain, appropriate adjustments were made to the calculated  $X/Q$  values, using the default values of Regulatory Guide 1.111, Rev. 0.

APPENDIX C  
DOSE CALCULATIONS

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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 LADTAP II computer program. The LADTAP II program implements the radiological dose models of Regulatory Guide 1.109 for determining the radiation exposure to man from three principal exposure pathways in the aquatic environment -- potable water, aquatic foods, and recreational water use. Doses to both the maximum individual and 0 to 50 mile population are calculated as a function of age group and pathway for significant body organs, and are presented in Tables 1 and 3, respectively, for the second semiannual period. Tables 2 and 4 present, respectively, summaries of maximum individual and population doses for the entire year of 1993.

Assumptions and data sources used for input to the LADTAP II code are described in a separate section of this appendix (see page C23).



Table 1. Doses to Maximum Individual at the Site Boundary, Resulting From Exposure to Radioactivity Discharged in Liquid Effluents, July-December 1993, Cooper Nuclear Station

-----								
Dose to Individual, mrem								
-----								
Period and Pathway	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-LLI
-----								
3rd Quarter								
Eating Fish		3.75E-04	5.41E-04	3.63E-04	0.00E+00	1.80E-04	5.91E-05	1.21E-04
Drinking Water		1.76E-03	1.00E-03	1.02E-03	0.00E+00	2.64E-04	1.02E-04	3.48E-03
Shoreline	1.10E-05	9.35E-06	9.35E-06	9.35E-06	9.35E-06	9.35E-06	9.35E-06	9.35E-06
Totals	1.10E-05	2.14E-03	1.55E-03	1.39E-03	9.35E-06	4.53E-04	1.70E-04	3.61E-03
4th Quarter								
Eating Fish		4.65E-04	7.09E-04	4.88E-04	0.00E+00	2.37E-04	7.69E-05	1.64E-04
Drinking Water		6.08E-04	9.84E-04	9.87E-04	0.00E+00	2.49E-04	8.56E-05	5.03E-03
Shoreline	3.18E-05	2.70E-05	2.70E-05	2.70E-05	2.70E-05	2.70E-05	2.70E-05	2.70E-05
Totals	3.18E-05	1.10E-03	1.72E-03	1.50E-03	2.70E-05	5.13E-04	1.90E-04	5.22E-03
Totals for 3rd & 4th Quarters								
	4.28E-05	3.24E-03	3.27E-03	2.89E-03	3.64E-05	9.66E-04	3.60E-04	8.83E-03
Calculated doses are based on the following periods of exposures:								
Fishing	:				from April through November			
Drinking water and shoreline	:				from January through December			

Table 2. Summary of Doses to Maximum individual at the Site Boundary, Resulting From Exposure to Radioactivity Discharged in Liquid Effluents, January - December 1993, Cooper Nuclear Station

Period	Dose, mrem							
	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-LLI
1st Quarter	1.83E-04	1.26E-01	7.54E-03	3.71E-02	1.55E-04	2.02E-03	7.62E-04	3.76E-02
2nd Quarter	6.75E-05	1.53E-03	4.79E-03	4.48E-03	5.74E-05	9.62E-04	4.23E-04	3.28E-02
3rd Quarter	1.10E-05	2.14E-03	1.55E-03	1.39E-03	9.35E-06	4.53E-04	1.70E-04	3.61E-03
4th Quarter	3.18E-05	1.10E-03	1.72E-03	1.50E-03	2.70E-05	5.13E-04	1.90E-04	5.22E-03
Totals For 1993	2.93E-04	1.31E-01	1.56E-02	4.45E-02	2.49E-04	3.95E-03	1.55E-03	7.92E-02

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Table 3. Doses to Population Within a 50-Mile Radius, Resulting From Exposure to Radioactivity Discharged in Liquid Effluents, July-December 1993, Cooper Nuclear Station

-----								
Dose to Population, manrem								
-----								
Period and Pathway	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-LLI
-----								
3rd Quarter								
Eating Fish		2.62 E-05	3.52 E-05	1.96 E-05	0.00 E+00	1.17 E-05	3.96 E-06	6.52 E-06
Drinking Water		1.12 E-03	5.96 E-04	5.45 E-04	0.00 E+00	1.56 E-04	6.38 E-05	1.56 E-03
Shoreline	5.82 E-04	4.95 E-04	4.95 E-04	4.95 E-04	4.95 E-04	4.95 E-04	4.95 E-04	4.95 E-04
Swimming		3.21 E-06	3.21 E-06	3.21 E-06	3.21 E-06	3.21 E-06	3.21 E-06	3.21 E-06
Boating		1.17 E-05	1.17 E-05	1.17 E-05	1.17 E-05	1.17 E-05	1.17 E-05	1.17 E-05
Totals	5.82 E-04	1.66 E-03	1.14 E-03	1.07 E-03	5.10 E-04	6.78 E-04	5.78 E-04	2.08 E-03
4th Quarter								
Eating Fish		3.26 E-05	4.61 E-05	2.63 E-05	0.00 E+00	1.53 E-05	5.16 E-06	8.95 E-06
Drinking Water		8.44 E-04	1.18 E-03	1.08 E-03	0.00 E+00	2.98 E-04	1.08 E-04	4.56 E-03
Shoreline	1.68 E-03	1.43 E-03	1.43 E-03	1.43 E-03	1.43 E-03	1.43 E-03	1.43 E-03	1.43 E-03
Boating		2.29 E-05	2.29 E-05	2.29 E-05	2.29 E-05	2.29 E-05	2.29 E-05	2.29 E-05
Totals	1.68 E-03	2.33 E-03	2.68 E-03	2.56 E-03	1.45 E-03	1.76 E-03	1.56 E-03	6.02 E-03
Totals for 3rd & 4th Quarters	2.26 E-03	3.99 E-03	3.82 E-03	3.63 E-03	1.96 E-03	2.44 E-03	2.14 E-03	8.10 E-03
-----								

Calculated doses are based on the following periods of exposures:

Fishing and Boating : from April through November  
 Drinking Water and Shoreline : from January through December  
 Swimming : from June through 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 4. Summary of Doses to Population Within a 50-Mile Radius, Resulting From Exposure to Radioactivity Discharged in Liquid Effluents, January - December 1993, Cooper Nuclear Station

Period	Dose, arem							
	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-LLI
1st Quarter	9.67E-03	1.25E-01	1.55E-02	4.23E-02	8.23E-03	1.01E-02	8.86E-03	3.62E-02
2nd Quarter	3.58E-03	3.70E-03	4.86E-03	4.89E-03	3.12E-03	3.42E-03	3.26E-03	1.33E-02
3rd Quarter	5.82E-04	1.66E-03	1.14E-03	1.07E-03	5.10E-04	6.78E-04	5.78E-04	2.08E-03
4th Quarter	1.68E-03	2.33E-03	2.68E-03	2.56E-03	1.45E-03	1.76E-03	1.56E-03	6.02E-03
Totals For 1993	1.55E-02	1.33E-01	2.42E-02	5.08E-02	1.33E-02	1.60E-02	1.43E-02	5.76E-02

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## GASEOUS EFFLUENT DOSE CALCULATIONS

Doses to the maximum individual and 0 to 50 mile population resulting from the release of radioactive material in gaseous effluents from the Cooper Nuclear Station were calculated using the GASPARG computer code. Four sites were selected for individual dose calculations: the site boundary, the nearest residence, the nearest garden, and the nearest cow. GASPARG implements the radiological dose models of Regulatory Guide 1.109 for determining the radiation exposure to man from four principal atmospheric exposure pathways: plume, ground, inhalation, and ingestion. Doses to the maximum individual and the population are calculated as a function of age group and pathway for significant body organs.

Tables 5 and 6 present maximum individual doses for the third and fourth quarters; population doses for the same period are given in Tables 7 and 8. Individual and population doses for the second semiannual period are contained in Tables 9 and 10, respectively. Tables 11 and 12 present, respectively, individual and population doses for the entire year of 1993. In addition, 0 to 50 mile distributions of gamma and beta air doses are presented in Tables 13, 14, 15, and 16 for the third quarter, fourth quarter, second semiannual period, and the entire year of 1993, respectively.

Because of differences in the amount of valid meteorological data recovered, dose contributions from the third and fourth quarters of 1993 cannot be summed to provide semiannual doses.

Assumptions and data used for input to the GASPARG code are described in a separate section of this appendix (see page C23).

TABLE 5. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 1993

COOPER NUCLEAR STATION JULY-SEPTEMBER 1993  
 SPECIAL LOCATION # 1 SITE BOUNDARY  
 AT 0.67 MILES N

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	6.35E-05	6.33E-05	6.35E-05	6.37E-05	6.41E-05	2.51E-04	6.40E-05	1.53E-04
TEEN	6.36E-05	6.33E-05	6.38E-05	6.40E-05	6.47E-05	3.23E-04	6.40E-05	1.53E-04
CHILD	6.40E-05	6.33E-05	6.46E-05	6.46E-05	6.56E-05	5.59E-04	6.40E-05	1.53E-04
INFANT	6.45E-05	6.33E-05	6.59E-05	6.63E-05	6.69E-05	1.11E-03	6.40E-05	1.53E-04

COOPER NUCLEAR STATION JULY-SEPTEMBER 1993  
 SPECIAL LOCATION # 2 NEAR RESIDENCE  
 AT 0.90 MILES NW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	1.11E-04	1.11E-04	1.11E-04	1.12E-04	1.12E-04	2.79E-04	1.12E-04	2.56E-04
TEEN	1.11E-04	1.11E-04	1.12E-04	1.12E-04	1.12E-04	3.44E-04	1.12E-04	2.56E-04
CHILD	1.12E-04	1.11E-04	1.12E-04	1.12E-04	1.13E-04	5.55E-04	1.12E-04	2.56E-04
INFANT	1.12E-04	1.11E-04	1.13E-04	1.14E-04	1.14E-04	1.05E-03	1.12E-04	2.56E-04

TABLE 5. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 1993 (CONTINUED)

COOPER NUCLEAR STATION JULY-SEPTEMBER 1993  
 SPECIAL LOCATION # 3 NEAREST COW  
 AT 3.50 MILESNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	1.57E-05	1.57E-05	1.57E-05	1.57E-05	1.58E-05	2.87E-05	1.59E-05	3.21E-05
TEEN	1.57E-05	1.57E-05	1.57E-05	1.58E-05	1.58E-05	3.38E-05	1.59E-05	3.21E-05
CHILD	1.58E-05	1.57E-05	1.58E-05	1.58E-05	1.59E-05	4.94E-05	1.59E-05	3.21E-05
INFANT	1.58E-05	1.57E-05	1.59E-05	1.59E-05	1.60E-05	6.64E-05	1.59E-05	3.21E-05

COOPER NUCLEAR STATION JULY-SEPTEMBER 1993  
 SPECIAL LOCATION # 4 NEAREST GARDEN  
 AT 2.00 MILESNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	3.83E-05	3.82E-05	3.83E-05	3.83E-05	3.84E-05	7.51E-05	3.86E-05	7.98E-05
TEEN	3.83E-05	3.82E-05	3.83E-05	3.84E-05	3.85E-05	8.93E-05	3.86E-05	7.98E-05
CHILD	3.84E-05	3.82E-05	3.85E-05	3.85E-05	3.87E-05	1.35E-04	3.86E-05	7.98E-05
INFANT	3.85E-05	3.82E-05	3.87E-05	3.88E-05	3.89E-05	2.42E-04	3.86E-05	7.98E-05



TABLE 6. DOSES TO MAXIMUM INDIVIDUAL (MREM), COOPER-DECEMBER 1993

COOPER NUCLEAR STATION OCTOBER-DECEMBER 1993  
 SPECIAL LOCATION # 1 SITE BOUNDARY  
 AT 0.67 MILES N

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	1.58E-05	1.58E-05	1.58E-05	1.59E-05	1.60E-05	6.57E-05	1.60E-05	3.98E-05
TEEN	1.58E-05	1.58E-05	1.59E-05	1.59E-05	1.61E-05	8.51E-05	1.60E-05	3.98E-05
CHILD	1.59E-05	1.57E-05	1.61E-05	1.61E-05	1.64E-05	1.47E-04	1.60E-05	3.98E-05
INFANT	1.61E-05	1.57E-05	1.64E-05	1.66E-05	1.67E-05	2.97E-04	1.60E-05	3.98E-05

COOPER NUCLEAR STATION OCTOBER-DECEMBER 1993  
 SPECIAL LOCATION # 2 NEAR RESIDENCE  
 AT 0.90 MILES NW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	2.67E-05	2.67E-05	2.67E-05	2.68E-05	2.69E-05	7.75E-05	2.69E-05	6.29E-05
TEEN	2.67E-05	2.67E-05	2.68E-05	2.69E-05	2.70E-05	9.74E-05	2.69E-05	6.29E-05
CHILD	2.68E-05	2.66E-05	2.70E-05	2.70E-05	2.73E-05	1.61E-04	2.69E-05	6.29E-05
INFANT	2.70E-05	2.66E-05	2.73E-05	2.75E-05	2.76E-05	3.11E-04	2.69E-05	6.29E-05

TABLE 6. DOSES TO MAXIMUM INDIVIDUAL (MREM), OCTOBER-DECEMBER 1993

(CONTINUED)

COOPER NUCLEAR STATION OCTOBER-DECEMBER 1993  
 SPECIAL LOCATION # 3 NEAREST COW  
 AT 3.50 MILESNNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	7.91E-06	7.90E-06	7.91E-06	7.92E-06	7.93E-06	1.28E-05	7.99E-06	1.62E-05
TEEN	7.91E-06	7.91E-06	7.92E-06	7.92E-06	7.94E-06	1.47E-05	7.99E-06	1.62E-05
CHILD	7.92E-06	7.90E-06	7.94E-06	7.94E-06	7.96E-06	2.06E-05	7.99E-06	1.62E-05
INFANT	7.94E-06	7.90E-06	7.97E-06	7.98E-06	7.99E-06	3.43E-05	7.99E-06	1.62E-05

COOPER NUCLEAR STATION OCTOBER-DECEMBER 1993  
 SPECIAL LOCATION # 4 NEAREST GARDEN  
 AT 2.00 MILESNNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.02E-05	3.27E-05	2.03E-05	4.50E-05
TEEN	2.01E-05	2.01E-05	2.01E-05	2.02E-05	2.02E-05	3.75E-05	2.03E-05	4.50E-05
CHILD	2.02E-05	2.01E-05	2.02E-05	2.02E-05	2.03E-05	5.29E-05	2.03E-05	4.50E-05
INFANT	2.02E-05	2.01E-05	2.03E-05	2.03E-05	2.03E-05	8.90E-05	2.03E-05	4.50E-05

TABLE 7. DOSES TO POPULATION WITHIN 50 MILES, JULY-SEPTEMBER 1993

COOPER NUCLEAR STATION JULY-SEPTEMBER 1993  
 ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (MANREM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	2.85E-05	2.85E-05	2.85E-05	2.85E-05	2.85E-05	2.85E-05	2.90E-05	7.13E-05
GROUND	9.98E-09	9.98E-09	9.98E-09	9.98E-09	9.98E-09	9.98E-09	9.98E-09	1.21E-08
INHAL	7.12E-09	1.81E-09	9.70E-09	1.26E-08	2.13E-08	4.14E-06	0.00E+00	0.00E+00
VEGET	9.37E-08	3.12E-08	1.34E-07	1.65E-07	2.79E-07	5.36E-05	0.00E+00	0.00E+00
COW MILK	1.23E-07	3.82E-08	1.82E-07	2.18E-07	3.68E-07	7.07E-05	0.00E+00	0.00E+00
MEAT	2.71E-09	1.06E-09	3.62E-09	4.77E-09	8.11E-09	1.55E-06	0.00E+00	0.00E+00
*TOTAL*	2.87E-05	2.85E-05	2.88E-05	2.89E-05	2.91E-05	1.58E-04	2.90E-05	7.13E-05

TABLE 8. DOSES TO POPULATION WITHIN 50 MILES, OCTOBER-DECEMBER 1993

COOPER NUCLEAR STATION OCTOBER-DECEMBER 1993  
 ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (MANREH)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.91E-05	1.91E-05	1.91E-05	1.91E-05	1.91E-05	1.91E-05	1.94E-05	4.83E-05
GROUND	6.96E-09	6.96E-09	6.96E-09	6.96E-09	6.96E-09	6.96E-09	6.96E-09	8.45E-09
INHAL	5.64E-09	1.43E-09	7.69E-09	9.96E-09	1.69E-08	3.28E-06	0.00E+00	0.00E+00
VEGET	6.59E-08	2.20E-08	9.46E-08	1.16E-07	1.96E-07	3.77E-05	0.00E+00	0.00E+00
COW MILK	8.51E-08	2.63E-08	1.26E-07	1.51E-07	2.53E-07	4.87E-05	0.00E+00	0.00E+00
MEAT	1.82E-09	7.11E-10	2.43E-09	3.20E-09	5.44E-09	1.04E-06	0.00E+00	0.00E+00
*TOTAL*	1.92E-05	1.91E-05	1.93E-05	1.94E-05	1.96E-05	1.10E-04	1.94E-05	4.83E-05

TABLE 9. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 1993

COOPER NUCLEAR STATION JULY-DECEMBER 1993  
 SPECIAL LOCATION # 1 SITE BOUNDARY  
 AT 0.67 MILES N

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	7.40E-05	7.38E-05	7.41E-05	7.43E-05	7.48E-05	2.92E-04	7.47E-05	1.81E-04
TEEN	7.42E-05	7.38E-05	7.44E-05	7.47E-05	7.54E-05	3.78E-04	7.47E-05	1.81E-04
CHILD	7.46E-05	7.38E-05	7.54E-05	7.54E-05	7.65E-05	6.52E-04	7.47E-05	1.81E-04
INFANT	7.53E-05	7.38E-05	7.68E-05	7.74E-05	7.80E-05	1.30E-03	7.47E-05	1.81E-04

COOPER NUCLEAR STATION JULY-DECEMBER 1993  
 SPECIAL LOCATION # 2 NEAR RESIDENCE  
 AT 0.90 MILES NW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	1.14E-04	1.14E-04	1.14E-04	1.15E-04	1.15E-04	3.18E-04	1.15E-04	2.61E-04
TEEN	1.15E-04	1.14E-04	1.15E-04	1.15E-04	1.16E-04	3.97E-04	1.15E-04	2.61E-04
CHILD	1.15E-04	1.14E-04	1.16E-04	1.16E-04	1.17E-04	6.51E-04	1.15E-04	2.61E-04
INFANT	1.16E-04	1.14E-04	1.17E-04	1.17E-04	1.18E-04	1.26E-03	1.15E-04	2.61E-04

TABLE 9. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 1993

(CONTINUED)

COOPER NUCLEAR STATION JULY-DECEMBER 1993  
 SPECIAL LOCATION # 3 NEAREST COW  
 AT 3.50 MILESNNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	2.26E-05	2.26E-05	2.26E-05	2.27E-05	2.27E-05	3.96E-05	2.29E-05	4.63E-05
TEEN	2.26E-05	2.26E-05	2.27E-05	2.27E-05	2.27E-05	4.60E-05	2.29E-05	4.63E-05
CHILD	2.27E-05	2.26E-05	2.27E-05	2.27E-05	2.28E-05	6.64E-05	2.29E-05	4.63E-05
INFANT	2.27E-05	2.26E-05	2.28E-05	2.29E-05	2.29E-05	1.14E-04	2.29E-05	4.63E-05

COOPER NUCLEAR STATION JULY-DECEMBER 1993  
 SPECIAL LOCATION # 4 NEAREST GARDEN  
 AT 2.00 MILESNNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	5.39E-05	5.38E-05	5.39E-05	5.40E-05	5.41E-05	1.00E-04	5.44E-05	1.14E-04
TEEN	5.39E-05	5.39E-05	5.40E-05	5.40E-05	5.42E-05	1.18E-04	5.44E-05	1.14E-04
CHILD	5.40E-05	5.38E-05	5.42E-05	5.42E-05	5.44E-05	1.75E-04	5.44E-05	1.14E-04
INFANT	5.41E-05	5.38E-05	5.45E-05	5.46E-05	5.47E-05	3.09E-04	5.44E-05	1.14E-04

TABLE 10. DOSES TO POPULATION WITHIN 50 MILES, JULY-DECEMBER 1993

COOPER NUCLEAR STATION JULY-DECEMBER 1993  
 ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (MANREM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	4.64E-05	4.64E-05	4.64E-05	4.64E-05	4.64E-05	4.64E-05	4.72E-05	1.16E-04
GROUND	1.68E-08	1.68E-08	1.68E-08	1.68E-08	1.68E-08	1.68E-08	1.68E-08	2.03E-08
INHAL	1.28E-08	3.25E-09	1.74E-08	2.25E-08	3.82E-08	7.42E-06	0.00E+00	0.00E+00
VEGET	1.58E-07	5.27E-08	2.27E-07	2.79E-07	4.71E-07	9.04E-05	0.00E+00	0.00E+00
COW MILK	2.06E-07	6.38E-08	3.04E-07	3.65E-07	6.13E-07	1.18E-04	0.00E+00	0.00E+00
MEAT	4.47E-09	1.75E-09	5.97E-09	7.85E-09	1.34E-08	2.55E-06	0.00E+00	0.00E+00
*TOTAL*	4.68E-05	4.65E-05	4.69E-05	4.71E-05	4.75E-05	2.65E-04	4.72E-05	1.17E-04

TABLE 11. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-DECEMBER 1993

COOPER NUCLEAR STATION JANUARY-DECEMBER 1993  
 SPECIAL LOCATION # 1 SITE BOUNDARY  
 AT 0.67 MILES N

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	5.83E-03	6.73E-03	5.71E-03	5.76E-03	5.71E-03	5.91E-03	6.05E-03	6.80E-03
TEEN	5.88E-03	6.70E-03	5.71E-03	5.79E-03	5.71E-03	5.98E-03	6.21E-03	6.80E-03
CHILD	6.04E-03	6.33E-03	5.71E-03	5.82E-03	5.71E-03	6.23E-03	6.11E-03	6.80E-03
INFANT	5.74E-03	5.74E-03	5.71E-03	5.73E-03	5.71E-03	6.81E-03	5.97E-03	6.80E-03

COOPER NUCLEAR STATION JANUARY-DECEMBER 1993  
 SPECIAL LOCATION # 2 NEAR RESIDENCE  
 AT 0.90 MILES NW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	2.15E-03	2.47E-03	2.11E-03	2.13E-03	2.11E-03	2.33E-03	2.19E-03	2.61E-03
TEEN	2.17E-03	2.45E-03	2.11E-03	2.13E-03	2.11E-03	2.41E-03	2.23E-03	2.61E-03
CHILD	2.22E-03	2.33E-03	2.11E-03	2.15E-03	2.11E-03	2.69E-03	2.20E-03	2.61E-03
INFANT	2.12E-03	2.12E-03	2.11E-03	2.12E-03	2.11E-03	3.34E-03	2.17E-03	2.61E-03



TABLE 11. DOSES TO MAXIMUM INDIVIDUAL (MR:HM), JANUARY-DECEMBER 1993 (CONTINUED)

COOPER NUCLEAR STATION JANUARY-DECEMBER 1993  
 SPECIAL LOCATION # 3 NEAREST COW  
 AT 3.50 MILESNNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	1.03E-04	1.16E-04	1.01E-04	1.02E-04	1.01E-04	1.18E-04	1.08E-04	1.35E-04
TEEN	1.04E-04	1.15E-04	1.01E-04	1.02E-04	1.01E-04	1.24E-04	1.12E-04	1.35E-04
CHILD	1.06E-04	1.10E-04	1.01E-04	1.03E-04	1.01E-04	1.44E-04	1.10E-04	1.35E-04
INFANT	1.02E-04	1.01E-04	1.01E-04	1.01E-04	1.01E-04	1.91E-04	1.07E-04	1.35E-04

COOPER NUCLEAR STATION JANUARY-DECEMBER 1993  
 SPECIAL LOCATION # 4 NEAREST GARDEN  
 AT 2.00 MILESNNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	3.54E-04	4.03E-04	3.48E-04	3.51E-04	3.48E-04	3.94E-04	3.71E-04	4.54E-04
TEEN	3.57E-04	4.01E-04	3.48E-04	3.52E-04	3.48E-04	4.11E-04	3.82E-04	4.54E-04
CHILD	3.66E-04	3.82E-04	3.48E-04	3.54E-04	3.49E-04	4.68E-04	3.75E-04	4.54E-04
INFANT	3.50E-04	3.50E-04	3.49E-04	3.49E-04	3.49E-04	6.00E-04	3.66E-04	4.54E-04

TABLE 12. DOSES TO POPULATION WITHIN 50 MILES, JANUARY-DECEMBER 1993

COOPER NUCLEAR STATION JANUARY-DECEMBER 1993  
 ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (MANREM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	4.75E-05	4.75E-05	4.75E-05	4.75E-05	4.75E-05	4.75E-05	4.83E-05	1.19E-04
GROUND	2.66E-04	2.66E-04	2.66E-04	2.66E-04	2.66E-04	2.66E-04	2.66E-04	3.13E-04
INHAL	1.20E-07	1.55E-06	2.09E-08	1.03E-07	4.59E-08	8.91E-06	4.03E-05	0.00E+00
VEGET	1.08E-05	5.79E-05	2.61E-07	4.62E-06	5.42E-07	1.04E-04	0.00E+00	0.00E+00
COW MILK	1.60E-06	6.75E-06	3.48E-07	9.57E-07	7.03E-07	1.35E-04	0.00E+00	0.00E+00
MEAT	3.11E-06	2.11E-05	6.83E-09	1.34E-06	1.53E-08	2.92E-06	0.00E+00	0.00E+00
*TOTAL*	3.29E-04	4.01E-04	3.14E-04	3.20E-04	3.15E-04	5.64E-04	3.55E-04	4.32E-04

TABLE 13. GAMMA AND BETA AIR DOSES, JULY-SEPTEMBER 1993

COOPER NUCLEAR STATION JULY-SEPTEMBER 1993  
 INDIVIDUAL ANNUAL GAMMA AIR DOSE (MILLIRADS)  
 DISTANCE IN MILES

DIR	0.0-1.	1.-2.	2.-3.	3.-4.	4.-5.	5.-10.	10.-20.	20.-30.	30.-40.	40.-50.
N	1.213E-04	3.692E-05	1.605E-05	9.000E-06	5.579E-06	2.217E-06	7.913E-07	2.979E-07	1.280E-07	6.467E-08
NNE	5.458E-05	1.566E-05	8.405E-06	5.029E-06	3.473E-06	3.586E-06	9.086E-07	2.964E-07	1.308E-07	6.711E-08
NE	5.220E-05	1.070E-05	4.492E-06	2.630E-06	1.692E-06	1.989E-06	5.029E-07	1.727E-07	7.974E-08	4.215E-08
ENE	2.525E-05	8.937E-06	4.433E-06	2.449E-06	1.594E-06	1.247E-06	3.163E-07	1.116E-07	5.269E-08	2.851E-08
E	1.363E-05	7.305E-06	3.528E-06	1.804E-06	1.138E-06	1.021E-06	2.632E-07	8.891E-08	3.986E-08	2.156E-08
ESE	2.110E-05	1.162E-05	5.037E-06	2.710E-06	1.743E-06	1.309E-06	3.369E-07	1.079E-07	4.575E-08	2.260E-08
SE	1.520E-05	1.551E-05	7.738E-06	4.555E-06	2.909E-06	1.227E-06	4.916E-07	2.047E-07	1.067E-07	5.933E-08
SSE	3.703E-05	3.669E-05	1.480E-05	8.030E-06	1.044E-05	3.721E-06	8.819E-07	2.725E-07	1.133E-07	5.544E-08
S	4.312E-05	2.540E-05	1.083E-05	5.702E-06	5.237E-06	2.022E-06	4.870E-07	1.600E-07	6.947E-08	3.554E-08
SSW	3.437E-05	1.609E-05	7.397E-06	6.202E-06	4.062E-06	1.896E-06	4.727E-07	1.645E-07	7.332E-08	3.799E-08
SW	3.151E-05	4.196E-05	1.368E-05	6.566E-06	3.764E-06	1.974E-06	5.113E-07	1.955E-07	9.193E-08	4.890E-08
WSW	1.843E-05	5.300E-05	1.631E-05	7.374E-06	4.116E-06	1.512E-06	3.740E-07	1.140E-07	4.742E-08	2.338E-08
W	4.347E-05	6.271E-05	1.727E-05	7.931E-06	4.480E-06	1.490E-06	4.081E-07	1.295E-07	5.362E-08	2.630E-08
WNW	9.862E-05	9.446E-05	2.582E-05	1.219E-05	6.721E-06	2.322E-06	5.961E-07	1.902E-07	8.138E-08	4.048E-08
NW	1.224E-04	1.494E-04	4.056E-05	1.844E-05	1.005E-05	3.363E-06	8.557E-07	2.742E-07	1.174E-07	5.848E-08
NNW	1.069E-04	8.350E-05	4.499E-05	2.345E-05	1.269E-05	4.158E-06	1.012E-06	3.291E-07	1.449E-07	7.479E-08

INDIVIDUAL ANNUAL BETA AIR DOSE (MILLIRADS)  
 DISTANCE IN MILES

DIR	0.0-1.	1.-2.	2.-3.	3.-4.	4.-5.	5.-10.	10.-20.	20.-30.	30.-40.	40.-50.
N	1.191E-04	3.100E-05	1.181E-05	6.407E-06	3.975E-06	1.640E-06	6.156E-07	2.683E-07	1.399E-07	8.711E-08
NNE	5.382E-05	1.240E-05	6.056E-06	3.575E-06	2.497E-06	2.735E-06	7.206E-07	2.632E-07	1.370E-07	8.512E-08
NE	4.922E-05	8.058E-06	3.190E-06	1.893E-06	1.242E-06	1.508E-06	3.952E-07	1.475E-07	7.761E-08	4.812E-08
ENE	2.395E-05	6.799E-06	3.165E-06	1.749E-06	1.155E-06	9.377E-07	2.465E-07	9.235E-08	4.879E-08	3.005E-08
E	1.261E-05	5.794E-06	2.609E-06	1.281E-06	8.142E-07	7.775E-07	2.088E-07	7.872E-08	4.160E-08	2.728E-08
ESE	2.024E-05	9.294E-06	3.620E-06	1.930E-06	1.258E-06	1.001E-06	2.717E-07	1.026E-07	5.485E-08	3.491E-08
SE	1.459E-05	1.255E-05	5.596E-06	3.234E-06	2.092E-06	9.181E-07	3.811E-07	1.657E-07	9.294E-08	5.719E-08
SSE	3.591E-05	3.078E-05	1.070E-05	5.704E-06	7.619E-06	2.851E-06	7.136E-07	2.590E-07	1.349E-07	8.428E-08
S	4.083E-05	1.946E-05	7.707E-06	4.084E-06	3.844E-06	1.543E-06	3.866E-07	1.417E-07	7.223E-08	4.442E-08
SSW	3.278E-05	1.254E-05	5.267E-06	4.434E-06	2.958E-06	1.440E-06	3.721E-07	1.413E-07	7.226E-08	4.421E-08
SW	2.880E-05	3.260E-05	9.795E-06	4.670E-06	2.720E-06	1.484E-06	3.992E-07	1.643E-07	8.770E-08	5.434E-08
WSW	1.787E-05	4.025E-05	1.159E-05	5.300E-06	3.026E-06	1.157E-06	3.017E-07	1.066E-07	5.445E-08	3.352E-08
W	4.159E-05	4.995E-05	1.228E-05	5.689E-06	3.285E-06	1.138E-06	3.291E-07	1.225E-07	6.295E-08	3.893E-08
WNW	9.593E-05	7.341E-05	1.834E-05	8.802E-06	4.969E-06	1.779E-06	4.818E-07	1.787E-07	9.413E-08	5.864E-08
NW	1.158E-04	1.153E-04	2.887E-05	1.320E-05	7.355E-06	2.565E-06	6.871E-07	2.520E-07	1.328E-07	8.270E-08
NNW	1.043E-04	6.747E-05	3.232E-05	1.678E-05	9.263E-06	3.159E-06	7.988E-07	2.868E-07	1.471E-07	9.071E-08

TABLE 14. GAMMA AND BETA AIR DOSES, OCTOBER-DECEMBER 1993

COOPER NUCLEAR STATION OCTOBER-DECEMBER 1993										
INDIVIDUAL ANNUAL GAMMA AIR DOSE (MILLIRADS)										
DISTANCE IN MILES										
DIR	0.0-1.	1.-2.	2.-3.	3.-4.	4.-5.	5.-10.	10.-20.	20.-30.	30.-40.	40.-50.
N	1.784E-05	1.590E-05	8.536E-06	4.800E-06	3.049E-06	1.230E-06	4.891E-07	2.169E-07	1.065E-07	5.936E-08
NNE	2.914E-05	1.370E-05	7.083E-06	4.254E-06	2.792E-06	3.163E-06	8.006E-07	2.706E-07	1.213E-07	6.351E-08
NE	1.667E-05	1.523E-05	8.438E-06	4.954E-06	3.322E-06	3.448E-06	8.761E-07	5.235E-07	1.579E-07	8.720E-08
ENE	7.695E-06	7.525E-06	4.384E-06	2.459E-06	1.606E-06	1.517E-06	3.975E-07	1.438E-07	7.069E-08	3.849E-08
E	1.356E-06	4.919E-06	3.188E-06	1.902E-06	1.223E-06	1.296E-06	3.457E-07	1.322E-07	6.725E-08	4.967E-08
ESE	3.798E-06	1.243E-05	6.239E-06	3.477E-06	2.217E-06	1.519E-06	3.876E-07	1.323E-07	6.002E-08	3.150E-08
SE	6.256E-06	2.339E-05	1.135E-05	6.389E-06	3.984E-06	1.506E-06	5.115E-07	2.087E-07	1.085E-07	6.130E-08
SSE	1.718E-05	3.498E-05	1.668E-05	8.863E-06	1.020E-05	3.530E-06	8.698E-07	2.926E-07	1.318E-07	6.930E-08
S	9.319E-06	1.111E-05	5.894E-06	3.390E-06	3.864E-06	1.800E-06	4.435E-07	1.463E-07	6.152E-08	3.134E-08
SSW	1.636E-06	8.975E-06	4.654E-06	3.792E-06	2.382E-06	1.140E-06	2.600E-07	7.937E-08	3.188E-08	1.536E-08
SW	4.009E-06	1.707E-05	6.137E-06	3.000E-06	1.779E-06	9.802E-07	2.305E-07	7.331E-08	2.993E-08	1.436E-08
WSW	1.442E-07	1.657E-05	5.022E-06	2.319E-06	1.309E-06	4.751E-07	1.135E-07	3.376E-08	1.362E-08	6.613E-09
W	4.049E-06	1.012E-05	2.981E-06	1.362E-06	7.921E-07	2.834E-07	8.941E-08	2.936E-08	1.180E-08	5.716E-09
WNW	1.312E-06	2.357E-05	7.617E-06	3.811E-06	2.136E-06	7.959E-07	2.119E-07	6.523E-08	2.688E-08	1.315E-08
NW	1.783E-05	4.636E-05	1.332E-05	6.397E-06	3.660E-06	1.435E-06	4.172E-07	1.255E-07	5.335E-08	2.625E-08
NNW	3.939E-06	3.208E-05	2.030E-05	1.178E-05	6.468E-06	2.185E-06	5.441E-07	1.934E-07	9.183E-08	5.023E-08

INDIVIDUAL ANNUAL BETA AIR DOSE (MILLIRADS)										
DISTANCE IN MILES										
DIR	0.0-1.	1.-2.	2.-3.	3.-4.	4.-5.	5.-10.	10.-20.	20.-30.	30.-40.	40.-50.
N	1.790E-05	1.394E-05	6.551E-06	3.465E-06	2.188E-06	9.200E-07	3.841E-07	1.771E-07	9.259E-08	5.642E-08
NNE	2.865E-05	1.093E-05	5.161E-06	3.049E-06	2.028E-06	2.448E-06	6.487E-07	2.442E-07	1.264E-07	8.048E-08
NE	1.635E-05	1.281E-05	6.466E-06	3.597E-06	2.382E-06	2.594E-06	6.915E-07	2.678E-07	1.424E-07	8.811E-08
ENE	7.673E-06	6.393E-06	3.377E-06	1.772E-06	1.153E-06	1.151E-06	3.151E-07	1.209E-07	6.603E-08	4.085E-08
E	1.260E-06	3.934E-06	2.405E-06	1.372E-06	8.774E-07	9.621E-07	2.699E-07	1.067E-07	5.700E-08	3.700E-08
ESE	3.785E-06	1.041E-05	4.616E-06	2.492E-06	1.599E-06	1.163E-06	3.105E-07	1.159E-07	6.051E-08	3.757E-08
SE	6.176E-06	2.062E-05	8.746E-06	4.658E-06	2.856E-06	1.113E-06	3.996E-07	1.688E-07	9.303E-08	5.684E-08
SSE	1.721E-05	3.101E-05	1.296E-05	6.419E-06	7.425E-06	2.703E-06	6.949E-07	2.533E-07	1.297E-07	7.952E-08
S	9.042E-06	8.483E-06	4.224E-06	2.477E-06	2.913E-06	1.409E-06	3.694E-07	1.434E-07	7.483E-08	4.742E-08
SSW	1.546E-06	6.935E-06	3.335E-06	2.781E-06	1.803E-06	8.972E-07	2.226E-07	8.427E-08	4.387E-08	2.735E-08
SW	3.971E-06	1.258E-05	4.419E-06	2.227E-06	1.354E-06	7.774E-07	2.052E-07	8.640E-08	4.835E-08	3.084E-08
WSW	1.374E-07	1.218E-05	3.626E-06	1.720E-06	9.931E-07	3.732E-07	9.570E-08	3.389E-08	1.724E-08	1.058E-08
W	3.890E-06	7.806E-06	2.140E-06	1.013E-06	6.043E-07	2.241E-07	7.885E-08	3.350E-08	1.798E-08	1.146E-08
WNW	1.268E-06	1.754E-05	5.461E-06	2.810E-06	1.618E-06	6.252E-07	1.818E-07	7.023E-08	3.832E-08	2.439E-08
NW	1.789E-05	3.484E-05	9.573E-06	4.753E-06	2.788E-06	1.132E-06	3.635E-07	1.386E-07	7.894E-08	5.071E-08
NNW	3.932E-06	2.665E-05	1.523E-05	8.449E-06	4.658E-06	1.650E-06	4.305E-07	1.617E-07	8.441E-08	5.239E-08

TABLE 15. GAMMA AND BETA AIR DOSES, JULY-DECEMBER 1993

COOPER NUCLEAR STATION JULY-DECEMBER 1993  
 INDIVIDUAL ANNUAL GAMMA AIR DOSE (MILLIRADS)  
 DISTANCE IN MILES

DIR	0.0-1.	1.-2.	2.-3.	3.-4.	4.-5.	5.-10.	10.-20.	20.-30.	30.-40.	40.-50.
N	9.910E-05	4.755E-05	2.432E-05	1.351E-05	8.620E-06	3.346E-06	1.257E-06	5.039E-07	2.270E-07	1.192E-07
NNE	7.822E-05	3.022E-05	1.560E-05	9.504E-06	6.284E-06	6.929E-06	1.764E-06	5.856E-07	2.597E-07	1.346E-07
NE	6.260E-05	2.737E-05	1.417E-05	8.237E-06	5.543E-06	6.007E-06	1.546E-06	5.514E-07	2.640E-07	1.436E-07
ENE	3.231E-05	1.766E-05	9.209E-06	5.019E-06	3.412E-06	2.965E-06	7.634E-07	2.722E-07	1.334E-07	7.233E-08
E	1.588E-05	1.216E-05	6.582E-06	3.732E-06	2.458E-06	2.430E-06	6.390E-07	2.346E-07	1.119E-07	6.506E-08
ESE	2.592E-05	2.522E-05	1.151E-05	6.639E-06	4.253E-06	3.016E-06	7.650E-07	2.540E-07	1.108E-07	5.684E-08
SE	2.296E-05	4.097E-05	2.055E-05	1.152E-05	7.361E-06	2.921E-06	1.050E-06	4.326E-07	2.255E-07	1.261E-07
SSE	5.143E-05	7.383E-05	3.342E-05	1.802E-05	2.142E-05	7.440E-06	1.794E-06	5.851E-07	2.529E-07	1.289E-07
S	4.404E-05	3.446E-05	1.622E-05	8.821E-06	9.123E-06	3.928E-06	9.565E-07	3.150E-07	1.338E-07	6.748E-08
SSW	2.827E-05	2.490E-05	1.209E-05	9.934E-06	6.284E-06	2.943E-06	7.041E-07	2.269E-07	9.521E-08	4.685E-08
SW	3.077E-05	5.486E-05	1.845E-05	8.883E-06	5.152E-06	2.714E-06	6.820E-07	2.326E-07	9.989E-08	4.955E-08
WSW	1.496E-05	6.302E-05	1.944E-05	8.795E-06	4.988E-06	1.819E-06	4.462E-07	1.346E-07	5.581E-08	2.722E-08
W	4.223E-05	5.544E-05	1.793E-05	8.152E-06	4.505E-06	1.544E-06	4.404E-07	1.400E-07	5.709E-08	2.797E-08
WNW	7.580E-05	1.045E-04	3.038E-05	1.471E-05	8.169E-06	2.841E-06	7.498E-07	2.346E-07	9.791E-08	4.838E-08
NW	1.239E-04	1.775E-04	4.757E-05	2.264E-05	1.272E-05	4.480E-06	1.207E-06	3.746E-07	1.585E-07	7.814E-08
NNW	8.614E-05	1.151E-04	5.852E-05	3.374E-05	1.816E-05	6.062E-06	1.501E-06	5.088E-07	2.311E-07	1.224E-07

INDIVIDUAL ANNUAL BETA AIR DOSE (MILLIRADS)  
 DISTANCE IN MILES

DIR	0.0-1.	1.-2.	2.-3.	3.-4.	4.-5.	5.-10.	10.-20.	20.-30.	30.-40.	40.-50.
N	9.423E-05	3.989E-05	1.832E-05	9.681E-06	6.150E-06	2.488E-06	9.817E-07	4.312E-07	2.226E-07	1.371E-07
NNE	7.645E-05	2.402E-05	1.127E-05	6.777E-06	4.541E-06	5.316E-06	1.410E-06	5.222E-07	2.726E-07	1.701E-07
NE	5.974E-05	2.189E-05	1.043E-05	5.875E-06	3.962E-06	4.515E-06	1.209E-06	4.564E-07	2.411E-07	1.490E-07
ENE	3.163E-05	1.449E-05	6.813E-06	3.577E-06	2.445E-06	2.233E-06	5.987E-07	2.266E-07	1.231E-07	7.589E-08
E	1.553E-05	9.675E-06	4.846E-06	2.661E-06	1.759E-06	1.826E-06	5.000E-07	1.935E-07	1.014E-07	6.615E-08
ESE	2.587E-05	2.069E-05	8.320E-06	4.732E-06	3.059E-06	2.301E-06	6.111E-07	2.280E-07	1.193E-07	7.489E-08
SE	2.283E-05	3.464E-05	1.539E-05	8.241E-06	5.255E-06	2.163E-06	8.149E-07	3.482E-07	1.933E-07	1.181E-07
SSE	5.050E-05	6.372E-05	2.515E-05	1.289E-05	1.558E-05	5.697E-06	1.436E-06	5.238E-07	2.691E-07	1.665E-07
S	4.151E-05	2.630E-05	1.157E-05	6.384E-06	6.787E-06	3.034E-06	7.777E-07	2.949E-07	1.523E-07	9.516E-08
SSW	2.679E-05	1.945E-05	8.634E-06	7.173E-06	4.663E-06	2.275E-06	5.750E-07	2.161E-07	1.115E-07	6.885E-08
SW	2.869E-05	4.140E-05	1.315E-05	6.438E-06	3.825E-06	2.101E-06	5.617E-07	2.300E-07	1.257E-07	7.941E-08
WSW	1.459E-05	4.709E-05	1.386E-05	6.402E-06	3.710E-06	1.406E-06	3.658E-07	1.293E-07	6.616E-08	4.060E-08
W	4.105E-05	4.189E-05	1.279E-05	5.899E-06	3.354E-06	1.193E-06	3.646E-07	1.408E-07	7.337E-08	4.596E-08
WNW	7.323E-05	7.968E-05	2.165E-05	1.070E-05	6.091E-06	2.201E-06	6.195E-07	2.327E-07	1.239E-07	7.802E-08
NW	1.196E-04	1.353E-04	3.392E-05	1.646E-05	9.459E-06	3.468E-06	1.005E-06	3.752E-07	2.053E-07	1.301E-07
NNW	8.383E-05	9.619E-05	4.216E-05	2.409E-05	1.320E-05	4.606E-06	1.186E-06	4.345E-07	2.242E-07	1.387E-07

TABLE 16. GAMMA AND BETA AIR DOSES, JANUARY-DECEMBER 1993

COOPER NUCLEAR STATION JANUARY-DECEMBER 1993  
 INDIVIDUAL ANNUAL GAMMA AIR DOSE (MILLIRADS)  
 DISTANCE IN MILES

DIR	0.0-1.	1.-2.	2.-3.	3.-4.	4.-5.	5.-10.	10.-20.	20.-30.	30.-40.	40.-50.
N	9.825E-05	3.936E-05	1.954E-05	1.095E-05	7.042E-06	2.791E-06	1.159E-06	5.436E-07	2.507E-07	1.343E-07
NNE	5.336E-05	2.577E-05	1.326E-05	7.978E-06	5.307E-06	6.401E-06	1.617E-06	5.335E-07	2.353E-07	1.210E-07
NE	4.370E-05	2.227E-05	1.143E-05	6.711E-06	4.324E-06	5.430E-06	1.412E-06	5.146E-07	2.508E-07	1.385E-07
ENE	1.455E-05	1.356E-05	7.246E-06	4.388E-06	2.852E-06	2.927E-06	7.691E-07	2.749E-07	1.343E-07	7.262E-08
E	7.506E-06	1.122E-05	6.541E-06	3.935E-06	2.496E-06	2.604E-06	6.741E-07	2.453E-07	1.187E-07	6.828E-08
ESE	1.337E-05	2.498E-05	1.307E-05	7.421E-06	4.597E-06	3.366E-06	8.799E-07	3.081E-07	1.410E-07	7.534E-08
SE	1.293E-05	3.686E-05	2.051E-05	1.165E-05	7.380E-06	3.019E-06	1.087E-06	4.360E-07	2.206E-07	1.215E-07
SSE	5.945E-05	6.255E-05	3.068E-05	1.687E-05	2.328E-05	8.012E-06	2.011E-06	6.779E-07	3.078E-07	1.621E-07
S	5.503E-05	3.896E-05	1.975E-05	1.124E-05	1.246E-05	5.257E-06	1.300E-06	4.548E-07	2.020E-07	1.055E-07
SSW	2.696E-05	2.405E-05	1.244E-05	1.116E-05	7.348E-06	3.639E-06	8.725E-07	2.831E-07	1.194E-07	5.987E-08
SW	2.205E-05	6.060E-05	2.247E-05	1.104E-05	6.500E-06	3.126E-06	7.866E-07	2.626E-07	1.124E-07	5.569E-08
WSW	1.689E-05	7.698E-05	2.343E-05	1.071E-05	5.967E-06	2.286E-06	5.670E-07	1.713E-07	7.073E-08	3.488E-08
W	4.860E-05	8.065E-05	2.271E-05	1.058E-05	5.884E-06	1.977E-06	5.629E-07	1.789E-07	7.338E-08	3.574E-08
WNW	4.762E-05	1.445E-04	4.172E-05	2.087E-05	1.169E-05	4.033E-06	1.067E-06	3.443E-07	1.484E-07	7.428E-08
NW	9.471E-05	1.984E-04	5.725E-05	2.675E-05	1.479E-05	5.113E-06	1.388E-06	4.472E-07	1.946E-07	9.871E-08
NNW	7.329E-05	8.811E-05	4.920E-05	2.809E-05	1.540E-05	5.121E-06	1.278E-06	4.356E-07	1.986E-07	1.062E-07

INDIVIDUAL ANNUAL BETA AIR DOSE (MILLIRADS)  
 DISTANCE IN MILES

DIR	0.0-1.	1.-2.	2.-3.	3.-4.	4.-5.	5.-10.	10.-20.	20.-30.	30.-40.	40.-50.
N	9.789E-05	3.278E-05	1.445E-05	7.811E-06	5.041E-06	2.089E-06	9.074E-07	4.602E-07	2.402E-07	1.488E-07
NNE	5.248E-05	2.022E-05	9.476E-06	5.731E-06	3.892E-06	4.928E-06	1.302E-06	4.852E-07	2.548E-07	1.595E-07
NE	4.183E-05	1.771E-05	8.310E-06	4.783E-06	3.120E-06	4.084E-06	1.105E-06	4.243E-07	2.266E-07	1.408E-07
ENE	1.350E-05	1.072E-05	5.210E-06	3.133E-06	2.071E-06	2.217E-06	6.051E-07	2.309E-07	1.262E-07	7.812E-08
E	7.045E-06	8.827E-06	4.748E-06	2.805E-06	1.804E-06	1.956E-06	5.280E-07	2.030E-07	1.073E-07	6.945E-08
ESE	1.296E-05	2.047E-05	9.612E-06	5.291E-06	3.308E-06	2.544E-06	6.919E-07	2.599E-07	1.344E-07	8.325E-08
SE	1.251E-05	3.073E-05	1.535E-05	8.321E-06	5.035E-06	2.249E-06	8.483E-07	3.561E-07	1.951E-07	1.194E-07
SSE	5.874E-05	5.320E-05	2.308E-05	1.206E-05	1.679E-05	6.082E-06	1.585E-06	5.777E-07	2.973E-07	1.826E-07
S	5.342E-05	3.041E-05	1.419E-05	8.041E-06	9.096E-06	4.014E-06	1.035E-06	3.966E-07	2.034E-07	1.259E-07
SSW	2.545E-05	1.836E-05	8.866E-06	8.125E-06	5.188E-06	2.815E-06	7.145E-07	2.709E-07	1.404E-07	8.741E-08
SW	2.112E-05	4.508E-05	1.601E-05	7.986E-06	4.844E-06	2.416E-06	6.418E-07	2.523E-07	1.350E-07	8.444E-08
WSW	1.657E-05	5.764E-05	1.671E-05	7.803E-06	4.457E-06	1.766E-06	4.648E-07	1.647E-07	8.438E-08	5.209E-08
W	4.684E-05	6.215E-05	1.619E-05	7.691E-06	4.391E-06	1.531E-06	4.646E-07	1.783E-07	9.270E-08	5.777E-08
WNW	4.584E-05	1.113E-04	2.974E-05	1.508E-05	8.639E-06	3.105E-06	8.638E-07	3.209E-07	1.687E-07	1.049E-07
NW	9.113E-05	1.534E-04	4.095E-05	1.920E-05	1.085E-05	3.923E-06	1.119E-06	4.113E-07	2.189E-07	1.370E-07
NNW	7.217E-05	7.091E-05	3.541E-05	2.009E-05	1.120E-05	3.899E-06	1.011E-06	3.728E-07	1.932E-07	1.203E-07



## DOSE CALCULATION MODELS

To evaluate the radiological consequences of the routine release of liquid and gaseous effluents from the Cooper Nuclear Station, two computer codes were used: LADTAP II for liquid doses and GASPAR for gaseous doses. Both of these computer codes implement the dose calculational methodologies of U.S. NRC Regulatory Guide 1.109, Revision 1.

Source terms for each quarter are combined with station-specific demographic data and either hydrological dilution factors, for liquid dose calculation, 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 17. Other inputs not specifically listed in this table are taken from Regulatory Guide 1.109, Revision 1. Semiannual doses are obtained by summing the contributions from the appropriate quarters.

For gaseous dose calculations, atmospheric diffusion estimates are obtained from the reduction and processing of onsite meteorological data, as described in Appendix B. Source terms for the semiannual period are obtained by summing source terms for the appropriate quarters. Additional input to GASPAR includes the following station-supplied data:

- 0 to 50 mile population distribution
- 0 to 50 mile meat, milk, and vegetable distributions
- Absolute humidity at Cooper Nuclear Station ( $14.61 \text{ g/m}^3$ )
- The fraction of the year that the vegetables are grown (0.5)
- The fraction of the daily feed intake derived from pasture for milk and meat animals (0.5)

Other values used for input to GASPAR are default values from Regulatory Guide 1.109, Rev. 1.

Table 17. Values of Parameters used to Make Dose Estimates Resulting from Liquid Discharges at Cooper Nuclear Station July-December 1993

Parameter	Values Assigned	
	Individual	Population
Cooling flow rate (cfs) *	1110.6; 1014.6	1110.6; 1014.6
Dilution factor	1	75.76; 37.35
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 **

\* Third and Fourth quarter station data for 1993, 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.



#### References

- 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", Revision 0, 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 Release of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR 50, Appendix I", Revision 1, 1977.