NEBRASKA PUBLIC POWER DISTRICT

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

July 1, 1991 through December 31, 1991

Nebraska Public Power District

GENERAL OFFICE
P.O. BOX 499, COLUMBUS, NEBRASKA 68602-0499
TELEPHONE (402) 564-8561
FAX (402) 563-5551

NSD920230
February 24, 1992

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

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

Gentlemen:

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, 1991, through December 31, 1991.

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.

Sincerely,

Guy R. Horn
Nuclear Power Group Manager

GRH/dls
Enclosures

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

NRC Senior Resident Inspector
Cooper Nuclear Station

NEBRASKA PUBLIC POWER DISTRICT

COOPER NUCLEAR STATION

SEMIANNUAL OPERATING REPORT

RADIOACTIVE EFFLUENTS

JULY 1, 1991 THROUGH DECEMBER 31, 1991

USNRC DOCKET 50-298

Contents

INTRODUCTION

This report summarizes meteorological data and doses from radioactive effluents for the Cooper Nuclear Station for the period July through December 1991. 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.

APPENDIX A

SOURCE TERMS

EFFLUENT AND WASTE DISPOSAL REPORTS

SUPPLEMENTAL INFORMATION

EFFLUENT AND WASTE DISPOSAL
July - December 1991

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 2×10^{-4} μCi/ml total activity.

b. The dose tc 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 radicnuclide 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: 93

2. Total time period for batch releases: 2.32 E+04 minutes

3. Maximum time period for batch release: 4.21 E+02 minutes

4. Average time period for batch releases: 2.50 E+02 minutes

5. Minimum time period for a batch release: 1.47 E+02 minutes

6. Average stream flow during periods of release of effluent into a flowing stream: 5.36 E+07 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

	Unit	3rd Quarter	4th Quarter	EST. TOTAL ERROR %
A. Fission and activation gases				
1. Total release	Ci	3.56 E+00	1.01 E+01	2.0 E+01
2. Average release rate for period	μCi/sec	4.48 E-01	1.27 E+00	
B. Iodines				
1. Total iodine 131	Ci	1.11 E-05	3.71 E-05	3.0 E+01
2. Average release rate for period	μCi/sec	1.40 E-06	4.67 E-06	
C. Particulates				
1. Particulates with half-lives >8 days	Ci	0.00 E+00	4.74 E-04	5.0 E+01
2. Average release rate for period	μCi/sec	0.00 E+00	5.96 E-05	
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

			CONTINUOUS MODE		*BATCH
	NUCLIDES RELEASED	UNIT	3rd QUARTER	4th QUARTER	
1.	Fission gases.				
	krypton-83m	Ci	0.00 E+00	8.40 E-02	
	krypton-85m	Ci	0.00 E+00	1.50 E-01	
	krypton-85	Ci	0.00 E+00	4.70 E-01	
	krypton-87	Ci	0.00 E+00	5.00 E-01	
	krypton-88	Ci	0.00 E+00	5.00 E-01	
	krypton-89	Ci	0.00 E+00	2.30 E+00	
	xenon-133m	Ci	0.00 E+00	7.00 E-03	
	xenon-133	Ci	0.00 E+00	3.50 E-01	
	xenon-135m	Ci	0.00 E+00	1.70 E-01	
	xenon-135	Ci	0.00 E+00	6.20 E-01	
	xenon-137	Ci	0.00 E+00	7.80 E+00	
	xenon-138	Ci	0.00 E+00	2.10 E+00	
	Total for period	Ci	0.00 E+00	1.01 E+01	
2.	Iodines.				
	iodine-131	Ci	1.11 E-05	3.71 E-05	
	Total for period	Ci	1.11 E-05	3.71 E-05	

* No batch discharges were made

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

		CONTINUOUS MODE		*BATCH
NUCLIDES RELEASED	UNIT	3rd QUARTER	4th QUARTER	
3. Particulates.				
Rubidium-88	Ci	0.00 E+00	9.66 E-06	
Total for period	Ci	0.00 E+00	9.66 E-06	

*No batch discharges were made.

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

	NUCLIDES RELEASED	UNIT	3rd QUARTER	4th QUARTER
1.	Fission gases.			
	krypton-85m	Ci	4.10 E-02	0.00 E+00
	krypton-87	Ci	7.60 E-02	0.00 E+00
	krypton-88	Ci	1.30 E-01	0.00 E+00
	xenon-133	Ci	1.50 E+00	0.00 E+00
	xenon-135m	Ci	4.00 E-01	0.00 E+00
	xenon-135	Ci	6.10 E-01	0.00 E+00
	xenon-138	Ci	8.00 E-01	0.00 E+00
	Total for period	Ci	3.56 E+00	0.00 E+00
2.	Iodines.			
	Total for period	Ci	0.00 E+00	0.00 E+00
3.	Particulates.			
	Manganese-54	Ci	0.00 E+00	1.66 E-04
	Cobalt-60	Ci	0.00 E+00	2.98 E-04
	Total for period	Ci	0.00 E+00	4.64 E-04

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	1.92 E-01	1.95 E+00	2.0 E+01
2. Average diluted concentration during period	µCi/ml	1.28 E-08	1.67 E-07	
B. Tritium.				
1. Total release	Ci	1.99 E+00	4.06 E+00	2.0 E+01
2. Average diluted concentration during period	µCi/ml	1.33 E-07	3.47 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	0.0C E+00	0.00 E+00	
D. Gross alpha radioactivity.				
1. Total release	Ci	0.00 E+00	0.00 E+00	5.0 E+01
E. Volume of waste released (prior to dilution).	liters	1.81 E+06	4.42 E+06	1.0 E+01
F. Volume of dilution water used during period.	liters	1.50 E+10	1.17 E+10	1.0 E+01

TABLE 2B
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
LIQUID EFFLUENTS

		CONTINUOUS MODE*	BATCH MODE
NUCLIDES RELEASED	UNIT	3rd QUARTER	4th QUARTER
chromium-51	Ci	2.24 E-02	1.25 E-01
manganese-54	Ci	4.31 E-02	5.05 E-01
iron-55	Ci	2.03 E-03	2.32 E-02
cobalt-57	Ci	0.00 E+00	3.37 E-05
cobalt-58	Ci	9.72 E-03	1.99 E-01
cobalt-60	Ci	7.84 E-02	1.02 E+00
strontium-89	Ci	3.64 E-03	1.28 E-03
cesium-134	Ci	7.39 E-03	1.11 E-02
cesium-137	Ci	2.01 E-02	3.38 E-02
sodium-24	Ci	2.43 E-04	4.39 E-04
silver-110m	Ci	5.02 E-03	1.08 E-02
cesium-136	Ci	1.24 E-04	0.00 E+00
iron-59	Ci	0.00 E+00	1.06 E-03
zinc-65	Ci	0.00 E+00	1.57 E-02
Total for period above	Ci	1.92 E-01	1.95 E+00
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

TABLE 3
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
PERIOD July 1, 1991 TO December 31, 1991

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^3	4.38 E+01	
	Ci	3.95 E+02	1.5 E+01
b. Dry compressible waste, contaminated equip, etc.	m^3	1.14 E+02	
	Ci	5.18 E+01	2.5 E+01
c. Irradiated components, control rods, etc.	m^3		
	Ci		
d. Other.	m^3		
	Ci		

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

a. chromium-51	1.22 E+01
cobalt-60	4.38 E+01
cobalt-58	5.12 E+00
manganese-54	2.18 E+01
zinc-65	9.73 E-01
silver-110m	1.07 E+00
cesium-137	1.47 E+00
cesium-134	6.49 E-01
iron-55	1.12 E+01
iron-59	5.40 E-01
carbon-14	3.47 E-01
technetium-99	4.36 E-04
tritium	3.50 E-03
plutonium-241	5.78 E-04
curium-242	4.54 E-06
nickel-59	7.55 E-03
nickel-63	7.55 E-01
strontium-90	2.36 E-03

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

b.

chromium-51	4.29 E+00
cobalt-60	1.46 E+01
cobalt-58	4.46 E+00
manganese-54	6.88 E+01
cesium-137	1.31 E-03
cesium-134	3.01 E-04
antimony-125	1.48 E-03
iron-55	3.38 E+00
iron-59	4.12 E+00
carbon-14	3.09 E-02
cobalt-57	1.17 E-04
tritium	9.14 E-05
plutonium-241	3.11 E-05
curium-242	1.60 E-07
nickel-59	1.43 E-01
nickel-63	1.60 E-01
strontium-90	5.53 E-06

3. Solid Waste Disposition

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
13	Exclusive Use Vehicle	Richland, WA
2	Exclusive Use Vehicle	Barnwell, SC

4. Solidification Agent

All waste requiring solidification for burial was solidified with cement.

B. IRRADIATED FUEL SHIPMENTS (Disposition)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0	N/A	N/A

GASEOUS RADIOACTIVE WASTES

CUMULATIVE DOSE DATA

		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Annual
A. Maximum gamma air dose						
Site boundary (0.69 miles North-Northwest)				(0.67 miles North)		
1. Total	mrad	2.38E-5	2.49E-4	4.79E-3	5.15E-5	4.54E-3
2. Percent of Technical Specification Limit	%	0.00	0.00	0.10	0.00	0.05
Most Exposed Resident			(0.9 miles Northwest)			
1. Total	mrad	5.82E-5	2.05E-4	1.34E-3	8.68E-5	1.34E-3
2. Percent of Technical Specification Limit	%	0.00	0.00	0.03	0.00	0.01
B. Maximum beta air dose						
Site boundary (0.69 miles North-Northwest)				(0.67 miles North)		
1. Total	mrad	2.32E-5	2.41E-4	3.64E-3	4.14E-5	3.55E-3
2. Percent of Technical Specification Limit	%	0.00	0.00	0.04	0.00	0.02
Most Exposed Resident			(0.9 miles Northwest)			
1. Total	mrad	5.36E-5	1.81E-4	1.04E-3	8.07E-5	1.10E-3
2. Percent of Technical Specification Limit	%	0.00	0.00	0.01	0.00	0.01
C. Maximum organ dose due to I-131, I-133, and particulates (>8 day half lives)						
Site boundary (0.69 miles North-Northwest)				(0.67 miles North)		
1. Total	mrem	3.64E-4	2.84E-3	6.87E-4	2.37E-3	6.70E-3
2. Percent of Technical Specification Limit	%	0.00	0.04	0.01	0.03	0.04
3. Organ		Thyroid	Thyroid	Thyroid	GI-Tract	Thyroid
4. Exposed Individual		Infant	Infant	Infant	Teen	Infant
Most Exposed Resident			(0.9 miles Northwest)			
1. Total	mrem	5.73E-4	1.85E-3	3.49E-4	6.11E-4	3.68E-3
2. Percent of Technical Specification Limit	%	0.01	0.02	0.00	0.01	0.02
3. Organ		Thyroid	Thyroid	Thyroid	Thyroid	Thyroid
4. Exposed Individual		Infant	Infant	Infant	Infant	Infant

D. Maximum organ dose rate due to I-131, I-133, tritium, and particulates (>8 day half-lives) was 6.70 E-03 mrem/year which was 0.04 % 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 total body (500 mrem/yr) and the 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	7.08E-4	2.01E-3	5.08E-3	2.95E-2	3.73E-2
	2. Percent of Technical Specification Limit	%	0.05	0.13	0.34	1.97	1.24
B.	Maximum organ dose						
	1. Total	mrem	1.43E-3	2.79E-3	7.01E-3	1.36E-1	1.42E-1
	2. Percent of Technical Specification Limit	%	0.03	0.06	0.14	2.72	1.42

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:

See Following Pages.

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

See Following Pages.

District Initiated Changes to the Offsite Dose Assessment Manual

Several changes were made to the Cooper Nuclear Station Offsite Dose Assessment Manual (ODAM) during this period. These changes were to the active environmental sampling stations contained in Appendix C to the ODAM.

Per Cooper Nuclear Station Technical Specification 6.7.2, the following district initiated changes to the ODAM are included in the Semi-Annual Report. This includes a description of the changes with their justification. A copy of the revised ODAM pages with revision bars in the right hand margin added for clarity is also included. These changes have been reviewed and approved by the Station Operations Review Committee (SORC) as required by plant Technical Specification 6.7.2.B.

List of Effective Pages

Change: Change the effective date of the following pages:

	Page	Old Effective Date	New Effective Date
Appendix C:	C-2	8/30/90	10/31/91
	C-7	8/30/90	10/31/91
	C-10	8/30/90	10/31/91

Justification: SORC approved revisions to the pages listed above during SORC Meeting S91-079 on October 31, 1991.

Page C-2

Change:

1) Clarify the location description of Sample Station No. 2, by replacing the phrase "former Jefferson Broady Farmstead," with "South portion of the CNS Site."

2) Broadleaf Vegetation Sampling has been deleted from the types of samples gathered at Station No. 6.

Justification:

1) This change is editorial in nature. It does not involve a change to the physical location of the sample station.

2) Following review of wind directions and predicted annual average ground level D/Q for 1990, it was decided to reactivate Sample Station No. 96 in order to obtain broadleaf vegetation samples and to delete the collection of broadleaf vegetation at Sample Station No. 6. The resultant active Sample Stations meet the requirements of Table 3.21.F.1 in the Plant Technical Specifications for Broadleaf Vegetation Sampling.

Page C-7

Change:

1) Broadleaf Vegetation Sampling being reestablished at Sampling Station No. 96.

2) Delete Sampling Station No. 95 (Milk Product) and replace it with Sampling Station No. 99.

Justification:

1) See justification given for Page C-2.

2) Commercial milk generation at Sampling Station No. 95 became inactive during 1990 and a replacement commercial milk sampling location was established at Station No. 99.

Page C-10

Change: Delete Sample Station No. 95 and add Sample Station No.'s 96 and 99 to Figure C-2.

Justification: Sample Station No. 95 has been placed on inactive status and Sample Stations No. 96 and 99 have been activated per the justifications given above. Figure C-2 on Page C-10 has been revised to reflect this.

District Initiated Changes to the Process Control Program

During this period, there were no changes to the Cooper Nuclear Station Process Control Program

COOPER NUCLEAR STATION
OFFSITE DOSE ASSESSMENT MANUAL
-ODAM-
LIST OF EFFECTIVE PAGES
as of October 31, 1991

PAGE	DATE
i	12/29/88
ii	1/27/89
1	Original
2	Original
3	Original
4	Original
5	Original
6	1/27/89
7	12/06/90
8	Original
9	1/27/89
10	Original
11	12/29/88
12	1/27/89
13	12/29/88
14	12/29/88
15	12/29/88
16	12/29/88
17	Original
18	Original
19	Original
20	Original
21	Original
22	Original
23	Original
24	Original
25	Original
26	1/27/89
27	12/29/88
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36	12/29/88
37	1/27/89
38	12/29/88
39	12/29/88
40	12/29/88
41	12/29/88
42	Original
43	Original
44	Original
45	Original
46	Original
47	Original
48	Original
49	Original
50	Original
51	12/29/88
52	Original
53	Original
54	Original
55	Original
56	Original
57	Original
Appendix A:	
(Deleted)	1/27/89
Appendix B:	
Pages B-1 through B-7	Original
Appendix C:	
C-1	Original
C-2	10/31/91
C-3	8/30/90
Appendix C (Cont.)	
C-4	8/30/90
C-5	8/30/90
C-6	8/30/90
C-7	10/31/91
C-8	8/30/90
C-9	12/29/88
C-10	10/31/91

NOTE: Original refers to page in effect on July 1, 1986 when the ODAM was implemented.

SAMPLE DESCRIPTION - TYPE LOCATION
SAMPLE TYPES AND SAMPLE LOCATIONS[a]

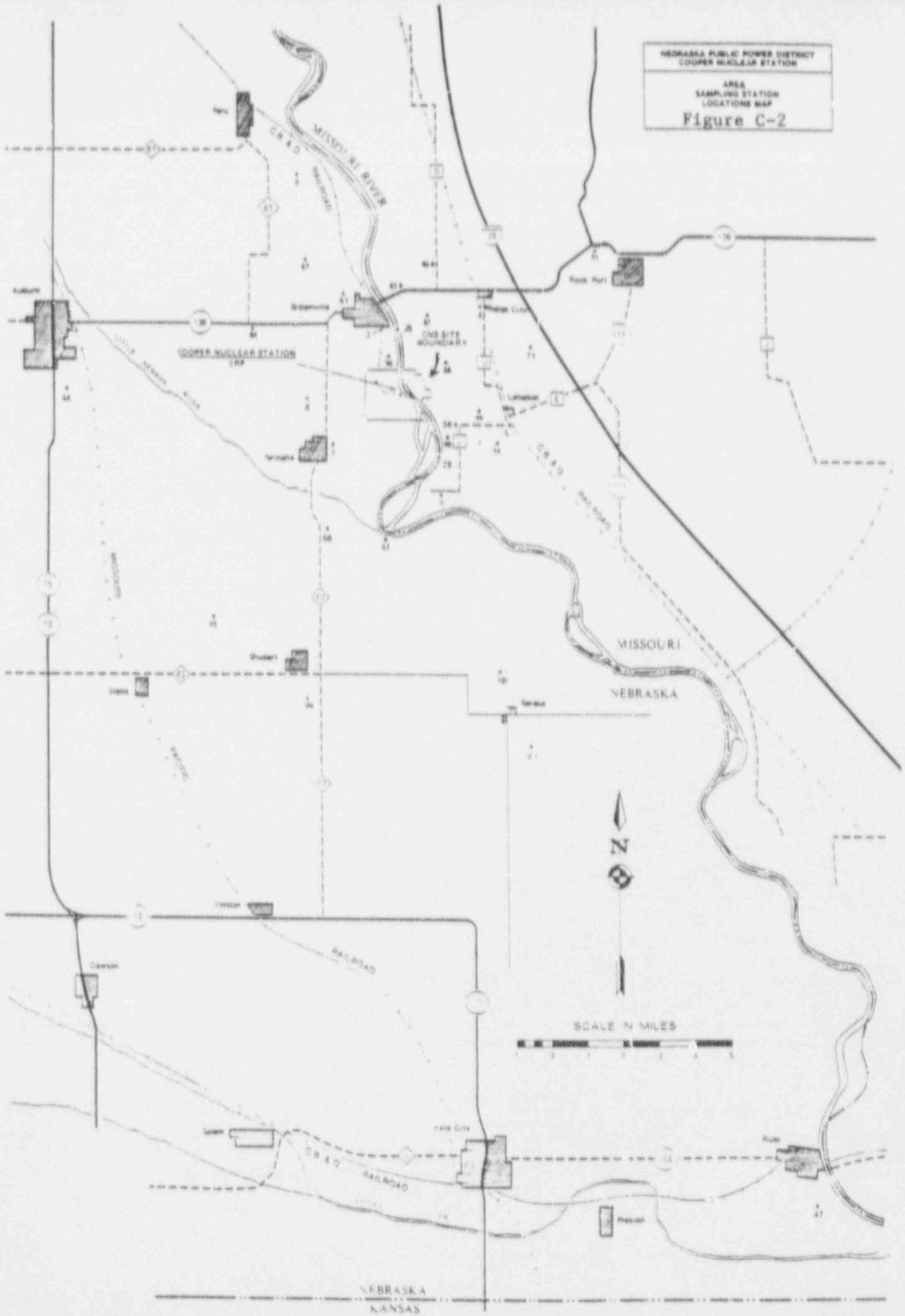
(See Sample Station Locations Map - Figures C-1 and C-2)

Sample Station	Sample Description - Type and Location
No. 1	Type: (1) Air Particulate and Charcoal Filters (2) Environmental Thermoluminescent Dosimetry
	Location: Sample (1) is taken on top of the Material Storage Warehouse on site. Sample (2) is taken approximately 130 feet south of the Materials Warehouse, NW¼, S32, T5N, R16E, Nemaha County, Nebraska.
No. 2	Type: (1) Air Particulate and Charcoal Filters (2) Environmental Thermoluminescent Dosimetry
	Location: On north side of county road access to the south portion of the CNS site approximately 275 feet west of the former Jefferson Broady farmstead, SW¼, S32, T5N, R16E, Nemaha County, Nebraska.
No. 3	Type: (1) Air Particulate and Charcoal Filters (2) Environmental Thermoluminescent Dosimetry
	Location: Located on the north side of the Brownville State Recreation Park access road near water gauging station, SE¼, S18, T5N, R16E, Nemaha County, Nebraska.
No. 4	Type: (1) Air Particulate and Charcoal Filters (2) Environmental Thermoluminescent Dosimetry
	Location: Located ¼ mile south of Phelps City, Missouri, on west side of Highway "U," NE¼, S2, T64N, R42W, Atchison County, Missouri.
No. 5	Type: (1) Air Particulate and Charcoal Filters (2) Environmental Thermoluminescent Dosimetry
	Location: One-fourth mile south and one-fourth mile east of Langdon, Missouri, on north side of road, west of railroad tracks, SW¼, S18, T64N, R41W, Atchison County, Missouri.
No. 6	Type: (1) Air Particulate and Charcoal Filters (2) Environmental Thermoluminescent Dosimetry
	Location: One mile west of the end of Missouri State Highway "U," south side of road, SW corner of the intersection, NW¼, S34, T64N, R42W, Atchison County, Missouri.

Sample Station	Sample Description - Type and Location	
No. 89	Type: (1)	Environmental Thermoluminescent Dosimetry
	Location:	2¼ miles south of Phelps City, Missouri, on Highway "U", then ¼ mile west in the southeast corner of the county road intersection. Gertrude Rosenbohm, (NE¼, Section 14, T64N, R42W) Atchison County, Missouri.
No. 90	Type: (1)	Environmental Thermoluminescent Dosimetry
	Location:	1¼ miles west and 3/4 mile south of Langdon, Missouri, on Highway "U", then ¼ mile west. Garth Green, (SW¼, Section 23, T64N, R42W) Atchison County, Missouri.
No. 91	Type: (1)	Environmental Thermoluminescent Dosimetry
	Location:	¼ mile west of Rock Port, Missouri, on the south side of the intersection of U.S. Highway 136 and U.S. Highway 275 at the water tower. Mildred Cook, (NW¼, Section 28, T65N, R41W) Atchison County, Missouri.
No. 94	Type: (1)	Environmental Thermoluminescent Dosimetry
	Location:	¼ mile south of Langdon, Missouri, on the west side of the road. Max Peeler, (NE¼, Section 24, T64N, R42W) Atchison County, Missouri.
No. 96	Type: (1)	Food Products - Broadleaf Vegetation
	Location:	1 mile south of Brownville, Nebraska, along paved road in the road ditch in Sector R. (SE¼, Section 19, T5N, R16E), Nemaha County, Nebraska.
No. 99	Type: (1)	Milk Products (Other Producer)
	Location:	1¼ miles south of Shubert, Nebraska, on the west side of Highway 67. James Zentner dairy. (NE¼, S24, T3N, R15E), Richardson County, Nebraska.

NOTES:

(a) Numbers missing from sequences of Sample Station Numbers are discontinued Sample Stations.


NEBRASKA PUBLIC POWER DISTRICT
COOPER NUCLEAR STATION
AREA
SAMPLING STATION
LOCATIONS MAP
Figure C-2
MISSOURI RIVER
CB&Q RAILROAD
ON SITE BOUNDARY
COOPER NUCLEAR STATION
MISSOURI
NEBRASKA
N
SCALE IN MILES
NEBRASKA
KANSAS

APPENDIX B

METEOROLOGY

CONTENTS

METEOROLOGICAL DATA SUMMARIES

Meteorological data collected onsite for the period July 1, 1991, through December 31, 1991, 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.

July 1 - September 30, 1991 (Q3)	≥ 87.1%
October 1 - December 31, 1991 (Q4)	≥ 80.3%
Second Semiannual Period - July 1 - December 31, 1991 (SEM2)	≥ 83.7%
Annual Period - January 1 - December 31, 1991	≥ 80.7%

WIND AT 100-METER LEVEL AND 10-METER LEVEL

	Predominant Wind Direction at 100m Level		Predominant Wind Direction at 10m Level	
Q3	South	14.3%	South	14.9%
Q4	Northwest	25.7%	South	14.4%
Sem2	Northwest	14.3%	South	14.7%
ANN	South	12.4%	South	14.4%

	Mean Wind Speed at 100m Level	Mean Wind Speed at 10m Level
Q3	11.5 MPH	6.0 MPH
Q4	12.7 MPH	7.8 MPH
SEM2	12.1 MPH	6.9 MPH
ANN	12.8 MPH	7.4 MPH

	Maximum Hourly Average Wind Speed/(Date at 100m Level)	Maximum Hourly Average Wind Speed/(Date at 10m Level)
Q3	27.4 MPH/(91/09/21)	20.3 MPH/(91/09/25)
Q4	32.2 MPH/(91/11/29)	24.2 MPH/(91/11/23)
SEM2	32.2 MPH/(91/11/29)	24.2 MPH/(91/11/23)
ANN	43.7 MPH/(91/04/26)	33.6 MPH/(91/03/27)

TEMPERATURE AT 10-METER LEVEL

	Mean Hourly Average Temperature	Average Daily Maximum	Average Daily Minimum
Q3	22.3 Degrees Celsius	27.9 Degrees Celsius	17.4 Degrees Celsius
Q4	4.4 Degrees Celsius	9.4 Degrees Celsius	0.4 Degrees Celsius
SEM2	13.1 Degrees Celsius	18.6 Degrees Celsius	8.9 Degrees Celsius
ANN	12.5 Degrees Celsius	17.2 Degrees Celsius	7.8 Degrees Celsius

	Maximum Temperature (Date)	Minimum Temperature (Date)
Q3	36.9 Degrees Celsius (91/07/06)	0.4 Degrees Celsius (91/09/19)
Q4	30.2 Degrees Celsius (91/10/23)	-16.7 Degrees Celsius (91/11/08)
SEM2	36.9 Degrees Celsius (91/07/06)	-16.7 Degrees Celsius (91/11/08)
ANN	36.9 Degrees Celsius (91/07/06)	-20.0 Degrees Celsius (91/01/30)

PRECIPITATION

	Total Precipitation	Maximum Daily Precipitation Total/(Date)	Maximum Hourly Precipitation Total/(Date)
Q3	9.70 Inches	1.54 Inches (91/09/07)	1.20 Inches (91/07/22)
Q4	8.65 Inches	1.64 Inches (91/10/31)	.90 Inches (91/10/04)
SEM2	18.35 Inches	1.64 Inches (91/10/31)	1.20 Inches (91/07/22)
ANN	38.89 Inches	3.00 Inches (91/05/16)	1.42 Inches (91/06/21)

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.

	Unstable Conditions Classes A-C	Neutral Conditions Class D	Stable Conditions Classes E-G
Q3	9%	32%	59%
Q4	4%	37%	59%
SEM2	6%	35%	59%
ANN	9%	41%	50%

Table 1. Meteorological Data Recovery

Data Recovery (% of total Observations)

	July-September 1991	October-December 1991	July-December 1991	January-December 1991
100m wind speed	99.3	95.1	97.2	98.3
100m wind direction	98.7	95.1	96.9	98.2
100m ambient temperature	99.1	94.4	96.8	97.3
60m wind speed	99.3	95.1	97.2	98.3
60m wind direction	98.7	95.1	96.9	98.2
60m ambient temperature	99.2	82.1	90.7	94.2
10m wind speed	98.4	95.1	96.7	98.1
10m direction	98.3	95.1	96.7	98.1
10m ambient temperature	87.2	92.7	90.0	83.9
10m dew point	98.2	92.3	95.2	96.5
100m-10m delta T	87.2	92.7	90.0	83.9
100m-60m delta T	99.1	82.0	90.6	94.1
60m-10m delta T	87.2	80.3	83.8	80.8
Precipitation	99.9	100.0	100.0	100.0
100m JFD	87.1	92.7	89.9	83.8
10m JFD	87.1	80.3	83.7	80.7

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

MONTHLY SUMMARY TABLES OF HOURLY METEORLOGICAL 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, 1991. 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: METTEMP
VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JULY-SEPT 1991

MONTHLY HOUR AVERAGES FOR THE PERIOD 7/ 1/91 TO 9/30/91

JULY

10.0 METERS LEVEL

	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
HOUR	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	28.	22.5	31.	15.9	28.	66.0	28.	13.1	28.	18.2
2	28.	22.1	31.	15.8	28.	66.6	28.	13.0	28.	18.0
3	28.	21.6	31.	15.7	28.	67.6	28.	12.8	28.	17.7
4	28.	21.1	31.	15.5	28.	68.5	28.	12.6	28.	17.4
5	28.	20.7	31.	15.5	28.	69.5	28.	12.6	28.	17.2
6	28.	20.3	31.	15.3	28.	71.3	28.	12.6	28.	17.0
7	28.	20.8	31.	15.5	28.	70.5	28.	12.8	28.	17.4
8	28.	22.3	31.	15.9	28.	66.2	28.	13.1	28.	18.2
9	25.	23.7	31.	16.2	25.	62.4	25.	13.5	25.	19.0
10	24.	25.3	31.	16.3	24.	57.4	24.	13.5	24.	19.6
11	24.	26.6	31.	16.5	24.	53.8	24.	13.7	24.	20.1
12	24.	27.6	31.	16.4	24.	50.6	24.	13.5	24.	20.4
13	25.	28.0	31.	16.4	25.	49.3	25.	13.5	25.	20.5
14	26.	28.5	30.	16.5	26.	49.0	26.	13.7	26.	20.8
15	27.	28.9	31.	16.4	27.	47.9	27.	13.7	27.	20.9
16	27.	29.1	31.	16.6	27.	47.6	27.	13.8	27.	21.0
17	26.	28.9	30.	16.6	26.	47.8	26.	13.7	26.	20.8
18	28.	28.9	30.	16.6	28.	47.7	28.	13.6	28.	20.9
19	29.	28.0	30.	16.9	29.	51.3	29.	14.0	29.	20.8
20	29.	26.4	30.	17.2	29.	57.3	29.	14.3	29.	20.4
21	29.	24.9	31.	16.7	29.	60.3	29.	13.9	29.	19.7
22	29.	24.1	31.	16.4	29.	62.0	29.	13.6	29.	19.2
23	29.	23.7	31.	16.0	29.	62.5	29.	13.3	29.	18.8
24	29.	23.1	31.	15.8	29.	63.6	29.	13.0	29.	18.4
HOURLY MEAN		24.8		16.2		58.2		13.4		19.2
AVG DAILY MAX		29.6		18.8		75.0		15.6		21.7
AVG DAILY MIN		20.1		13.9		44.6		11.7		16.8
ABSOLUTE MAX		36.9		27.5		87.4		20.9		25.7
ABSOLUTE MIN		14.3		9.1		31.2		8.7		11.7
TOTAL OBS	654		739		654		654		654	

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NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE S... . JULY-SEP: 1991

MONTHLY HOUR AVERAGES FOR THE PERIOD 7/ 1/91 TO 9/30/91

AUGUST

10.0 METERS LEVEL

	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
HOUR	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	27.	20.9	30.	15.5	27.	71.0	27.	13.0	27.	17.6
2	27.	20.3	30.	15.2	27.	72.2	27.	12.8	27.	17.2
3	27.	20.0	30.	15.1	27.	72.8	27.	12.7	27.	17.0
4	25.	19.7	30.	14.8	25.	73.2	25.	12.5	25.	16.7
5	24.	19.4	30.	14.7	24.	73.4	24.	12.4	24.	16.5
6	25.	18.9	30.	14.4	25.	74.9	25.	12.2	25.	16.1
7	25.	19.0	30.	14.4	25.	74.5	25.	12.2	25.	16.2
8	26.	20.3	30.	15.1	26.	72.2	26.	12.7	26.	17.1
9	25.	22.1	29.	15.6	25.	67.3	25.	13.2	25.	18.2
10	26.	23.9	29.	15.9	26.	61.7	26.	13.4	26.	19.0
11	26.	25.5	29.	16.2	26.	57.3	26.	13.5	26.	19.6
12	26.	26.5	29.	16.1	26.	54.5	26.	13.6	26.	20.1
13	26.	27.5	29.	15.7	26.	50.3	26.	13.1	26.	20.1
14	27.	28.1	29.	15.7	26.	47.9	26.	13.0	26.	20.3
15	29.	28.6	29.	15.5	28.	46.0	28.	12.7	28.	20.3
16	29.	28.7	29.	15.6	28.	45.7	28.	12.8	28.	20.3
17	29.	28.4	29.	16.0	29.	48.3	29.	13.3	29.	20.5
18	30.	27.7	30.	16.5	30.	51.6	30.	13.6	30.	20.5
19	30.	26.6	30.	16.9	30.	56.1	30.	14.1	30.	20.4
20	29.	24.9	30.	16.7	29.	61.1	29.	14.1	29.	19.8
21	28.	23.7	30.	16.3	28.	63.7	28.	13.7	28.	19.1
22	28.	22.8	30.	15.8	28.	65.0	28.	13.3	28.	18.5
23	29.	22.0	30.	15.6	28.	67.2	28.	13.1	28.	18.1
24	27.	21.3	30.	15.6	27.	70.0	27.	13.1	27.	17.6
HOURLY MEAN		23.7		15.6		62.1		13.1		18.7
AVG DAILY MAX		28.6		17.9		78.3		15.0		20.9
AVG DAILY MIN		18.8		13.5		46.2		11.5		16.2
ABSOLUTE MAX		36.2		22.5		89.4		19.5		25.1
ABSOLUTE MIN		13.2		7.7		29.9		7.9		10.5
TOTAL OBS	649		711		646		646		646	

PROGRAM: WETTEMP
VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JULY-SEPT 1991

MONTHLY HOUR AVERAGES FOR THE PERIOD 7/ 1/91 TO 9/30/91

SEPTEMBER

10.0 METERS LEVEL

	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
HOUR	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	30.	16.3	30.	7.8	30.	57.7	30.	8.6	30.	11.9
2	30.	15.8	30.	7.7	30.	58.0	30.	8.5	30.	11.6
3	30.	15.4	30.	7.7	30.	60.6	30.	8.6	30.	11.4
4	30.	15.0	30.	7.5	30.	61.5	30.	8.5	30.	11.1
5	30.	14.6	30.	7.4	30.	62.5	30.	8.5	30.	11.0
6	30.	14.4	30.	7.4	30.	63.0	30.	8.5	30.	10.9
7	30.	14.3	30.	7.5	30.	63.3	30.	8.6	30.	10.9
8	30.	15.5	30.	7.7	30.	60.5	30.	8.7	30.	11.6
9	29.	18.0	29.	7.7	29.	54.0	29.	9.0	29.	12.9
10	18.	18.5	30.	7.8	18.	52.1	18.	9.1	18.	13.1
11	18.	19.8	30.	7.9	18.	48.4	18.	9.1	18.	13.7
12	17.	20.5	30.	7.8	17.	44.7	17.	8.7	17.	13.7
13	17.	21.5	30.	8.3	17.	41.8	17.	8.4	17.	14.0
14	16.	22.1	30.	8.3	16.	40.2	16.	8.5	16.	14.3
15	17.	23.0	30.	7.3	17.	36.2	17.	8.7	17.	14.8
16	18.	23.9	30.	8.3	18.	39.3	18.	9.1	18.	15.6
17	27.	24.0	30.	8.0	27.	37.1	27.	8.6	27.	15.2
18	30.	23.6	30.	8.1	30.	38.8	30.	8.8	30.	15.2
19	29.	21.6	30.	8.0	29.	41.8	29.	8.4	29.	14.2
20	29.	19.6	30.	7.9	29.	46.5	29.	8.4	29.	13.3
21	29.	18.5	30.	7.8	29.	49.4	29.	8.4	29.	12.8
22	29.	18.0	29.	7.9	29.	52.5	29.	8.6	29.	12.7
23	30.	17.0	30.	7.6	30.	54.4	30.	8.5	30.	12.1
24	30.	16.2	30.	7.4	30.	56.5	30.	8.4	30.	11.7
HOURLY MEAN		18.2		7.8		52.2		8.6		12.7
AVG DAILY MAX		25.4		10.7		67.4		10.0		16.3
AVG DAILY MIN		13.1		3.4		34.0		7.0		9.3
ABSOLUTE MAX		33.6		20.0		83.1		16.8		23.3
ABSOLUTE MIN		0.4		-27.3		19.0		0.5		-1.6
TOTAL OBS	623		718		623		623		623	

PROGRAM: WETTEMP
VERSION: 3F

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JULY-SEPT 1991

HOUR AVERAGES FOR THE PERIOD 7/ 1/91 TO 9/30/91

10.0 METERS LEVEL

	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
HOUR	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	85.	19.8	91.	13.1	85.	64.7	85.	11.5	85.	15.8
2	85.	19.3	91.	12.9	85.	65.7	85.	11.4	85.	15.5
3	85.	18.9	91.	12.8	85.	66.8	85.	11.3	85.	15.3
4	83.	18.5	91.	12.6	83.	67.4	83.	11.1	83.	14.9
5	82.	18.1	91.	12.6	82.	68.1	82.	11.0	82.	14.7
6	83.	17.7	91.	12.4	83.	69.4	83.	11.0	83.	14.5
7	83.	17.9	91.	12.5	83.	69.3	83.	11.1	83.	14.7
8	84.	18.2	91.	12.9	84.	66.0	84.	11.4	84.	15.5
9	79.	21.1	89.	13.2	79.	60.9	79.	11.7	79.	16.5
10	68.	23.0	90.	13.3	68.	57.6	68.	12.3	68.	17.6
11	68.	24.4	90.	13.5	68.	53.7	68.	12.4	68.	18.2
12	67.	25.4	90.	13.5	67.	50.6	67.	12.3	67.	18.6
13	68.	26.2	90.	13.5	68.	47.8	68.	12.1	68.	18.7
14	69.	26.8	89.	13.5	68.	46.5	68.	12.2	68.	19.1
15	73.	27.4	90.	13.2	72.	45.1	72.	12.1	72.	19.2
16	74.	27.7	90.	13.5	73.	44.8	73.	12.2	73.	19.4
17	82.	27.1	89.	13.5	82.	44.5	82.	11.9	82.	18.9
18	88.	26.7	90.	13.7	88.	46.0	88.	12.0	88.	18.8
19	88.	25.4	90.	13.9	88.	49.8	88.	12.2	88.	18.5
20	87.	23.6	90.	13.8	87.	55.0	87.	12.3	87.	17.8
21	86.	22.4	91.	13.6	86.	57.7	86.	12.0	86.	17.1
22	86.	21.7	90.	13.5	86.	59.8	86.	11.8	86.	16.8
23	87.	20.8	91.	13.1	87.	61.3	87.	11.6	87.	16.3
24	86.	20.1	91.	13.0	86.	63.1	86.	11.4	86.	15.9
HOURLY MEAN		22.3		13.2		57.9		11.7		16.9
AVG DAILY MAX		27.9		15.9		73.6		13.5		19.7
AVG DAILY MIN		17.4		10.3		41.6		10.1		14.1
ABSOLUTE MAX		36.9		27.5		89.4		20.9		25.7
ABSOLUTE MIN		0.4		-27.3		19.0		0.5		-1.6
TOTAL OBS	1926		2168		1923		1923		1923	

PROGRAM: WETTEMP
VERSION: 22

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY OCT-DEC 199:

MONTHL. HOUR AVERAGES FOR THE PERIOD 10/ 1/91 TO 12/31/91

OCTOBER

10.0 METERS LEVEL

HOUR	TEMPERATURE NUMBER OBS	TEMPERATURE (DEG C)	DEW POINT NUMBER OBS	DEW POINT (DEG C)	RELATIVE HUM NUMBER OBS	RELATIVE HUM (%)	ABSOLUTE HUM NUMBER OBS	ABSOLUTE HUM (GM/M3)	WET BULB NUMBER OBS	WET BULB (DEG C)
1	28.	9.3	26.	1.7	28.	61.5	28.	5.7	28.	6.0
2	27.	8.7	27.	1.3	27.	62.3	27.	5.5	27.	5.4
3	28.	8.4	28.	1.5	28.	64.2	28.	5.6	28.	5.4
4	28.	7.9	28.	1.4	28.	65.4	28.	5.5	28.	5.0
5	28.	7.6	28.	1.4	28.	66.8	28.	5.5	28.	4.9
6	28.	7.5	28.	1.4	28.	67.1	28.	5.5	28.	4.8
7	28.	7.1	28.	1.5	28.	69.0	28.	5.6	28.	4.7
8	28.	7.5	28.	1.8	28.	68.8	28.	5.7	28.	5.0
9	28.	9.0	28.	2.3	28.	64.7	28.	5.9	28.	6.0
10	27.	10.5	28.	2.5	27.	59.4	27.	5.9	27.	6.8
11	26.	11.7	27.	2.3	26.	54.8	26.	5.8	26.	7.3
12	27.	13.5	28.	2.7	27.	50.9	27.	6.0	27.	8.3
13	28.	14.8	29.	2.6	28.	46.9	28.	6.0	28.	8.9
14	28.	15.7	29.	2.4	28.	44.3	28.	5.9	28.	9.2
15	29.	16.7	30.	2.6	29.	42.5	29.	5.9	29.	9.7
16	31.	17.7	31.	2.6	31.	40.7	31.	6.0	31.	10.2
17	30.	17.1	30.	2.1	30.	40.8	30.	5.7	30.	9.7
18	30.	15.9	30.	2.3	30.	43.9	30.	5.8	30.	9.3
19	30.	14.2	30.	2.5	30.	48.5	30.	5.9	30.	8.6
20	30.	13.2	30.	2.4	30.	50.9	30.	5.9	30.	8.2
21	30.	12.4	30.	2.4	30.	53.2	30.	5.9	30.	7.8
22	30.	11.4	30.	2.1	30.	55.5	30.	5.8	30.	7.1
23	30.	10.	30.	1.9	30.	57.2	30.	5.7	30.	6.7
24	28.	[illegible]	28.	1.8	28.	60.5	28.	5.7	28.	6.1
HOURLY MEAN		11.7		2.1		55.6		5.8		7.2
AVG DAILY MAX		16.3		5.5		72.5		7.2		10.9
AVG DAILY MIN		6.6		-0.8		37.7		4.7		4.0
ABSOLUTE MAX		30.2		16.5		91.6		13.8		19.1
ABSOLUTE MIN		-5.1		-9.8		19.0		2.2		-6.3
TOTAL OBS	685		691		685		685		685	

PROGRAM: WETTEMP
VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY OCT-DEC 1991

MONTHLY HOUR AVERAGES FOR THE PERIOD 10/ 1/91 TO 12/31/91

NOVEMBER

10.0 METERS LEVEL

	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
HOUR	NUMBER OBS	(DEG C)	NUMBER OES	(DEG C)	NUMBER GBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	28.	-0.7	28.	-4.1	28.	78.2	28.	4.0	28.	-1.9
2	28.	-0.9	28.	-4.2	28.	78.9	28.	4.0	28.	-2.1
3	28.	-1.2	28.	-4.4	28.	79.1	28.	3.9	28.	-2.3
4	27.	-1.5	27.	-4.5	27.	80.6	27.	4.0	27.	-2.5
5	27.	-1.6	27.	-4.5	27.	80.8	27.	3.9	27.	-2.6
6	27.	-1.7	27.	-4.7	27.	80.7	27.	3.9	27.	-2.7
7	27.	-1.7	27.	-4.7	27.	80.8	27.	3.9	27.	-2.7
8	27.	-1.7	27.	-4.6	27.	81.1	27.	3.9	27.	-2.6
9	27.	-1.2	27.	-4.3	27.	79.7	27.	4.0	27.	-2.2
10	27.	-0.3	27.	-3.9	27.	77.2	27.	4.1	27.	-1.5
11	28.	0.8	28.	-3.5	28.	74.0	28.	4.2	28.	-0.7
12	28.	1.6	28.	-3.1	28.	72.4	28.	4.3	28.	-0.1
13	28.	2.3	28.	-2.7	28.	70.6	28.	4.4	28.	0.5
14	28.	2.9	28.	-2.5	28.	69.2	28.	4.5	28.	0.9
15	27.	3.6	27.	-1.9	27.	69.0	27.	4.6	27.	1.4
16	28.	3.3	28.	-2.6	28.	67.4	28.	4.4	28.	1.0
17	29.	3.0	29.	-2.4	29.	69.1	29.	4.5	29.	1.0
18	29.	2.4	29.	-2.4	29.	71.6	29.	4.5	29.	0.6
19	28.	1.7	28.	-2.8	28.	72.9	28.	4.4	28.	0.1
20	28.	1.2	28.	-2.9	28.	75.1	28.	4.4	28.	-0.3
21	28.	0.8	28.	-3.0	28.	76.0	28.	4.4	28.	-0.5
22	28.	0.5	28.	-3.1	28.	77.7	28.	4.3	28.	-0.8
23	28.	0.2	28.	-3.2	28.	78.2	28.	4.3	28.	-1.0
24	28.	0.0	28.	-3.4	28.	78.6	28.	4.3	28.	-1.2
HOURLY MEAN		0.5		-3.5		75.7		4.2		-0.9
AVG DAILY MAX		4.5		-0.3		87.3		5.2		2.3
AVG DAILY MIN		-3.0		-6.2		63.8		3.5		-4.0
ABSOLUTE MAX		17.2		12.6		99.3		11.6		13.6
ABSOLUTE MIN		-16.7		-21.9		32.3		0.9		-17.0
TOTAL OBS	666		666		666		665		666	

PROGRAM: WETTEMP
VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY OCT-DEC 1991

MONTHLY HOUR AVERAGES FOR THE PERIOD 10/ 1/91 TO 12/31/91

DECEMBER

10.0 METERS LEVEL

	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
HOUR	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	28.	-0.3	28.	-4.0	28.	76.8	28.	3.8	28.	-1.6
2	28.	-0.3	28.	-4.1	28.	76.8	28.	3.8	28.	-1.6
3	28.	-0.5	28.	-4.1	28.	77.5	28.	3.8	28.	-1.7
4	28.	-0.9	28.	-4.3	28.	78.7	28.	3.7	28.	-2.1
5	28.	-1.1	28.	-4.6	28.	78.3	28.	3.7	28.	-2.2
6	28.	-1.2	28.	-4.6	28.	78.4	28.	3.7	28.	-2.3
7	28.	-1.4	28.	-4.8	28.	78.6	28.	3.6	28.	-2.5
8	28.	-1.6	28.	-4.9	28.	78.9	28.	3.6	28.	-2.7
9	29.	-0.9	29.	-4.2	29.	79.2	29.	3.8	29.	-2.1
10	30.	0.1	28.	-4.0	28.	75.2	28.	3.9	28.	-1.3
11	30.	1.0	28.	-4.0	28.	70.4	28.	3.9	28.	-0.7
12	30.	2.0	28.	-3.9	28.	66.0	28.	3.9	28.	0.0
13	30.	3.0	28.	-3.7	28.	62.4	28.	4.0	28.	0.7
14	30.	3.8	28.	-3.5	28.	59.9	28.	4.0	28.	1.2
15	30.	4.3	28.	-3.4	28.	57.9	28.	4.0	28.	1.5
16	30.	4.5	28.	-3.4	28.	57.4	28.	4.0	28.	1.7
17	30.	4.1	29.	-3.1	29.	60.6	29.	4.1	29.	1.4
18	29.	3.2	29.	-3.2	29.	64.2	29.	4.0	29.	0.8
19	29.	2.4	29.	-3.2	29.	67.7	29.	4.0	29.	0.3
20	29.	1.7	29.	-3.2	29.	70.9	29.	4.0	29.	-0.1
21	29.	1.1	29.	-3.2	29.	73.4	29.	4.0	29.	-0.4
22	29.	0.8	29.	-3.2	29.	75.3	29.	4.0	29.	-0.6
23	29.	0.5	29.	-3.2	29.	77.1	29.	4.1	29.	-0.8
24	29.	0.3	29.	-3.2	29.	77.9	29.	4.0	29.	-0.9
HOURLY MEAN		1.1		-3.8		71.6		3.9		-0.7
AVG DAILY MAX		5.1		-0.3		85.5		4.9		2.5
AVG DAILY MIN		-2.5		-6.2		57.4		3.2		-3.5
ABSOLUTE MAX		15.6		9.9		97.8		9.3		11.4
ABSOLUTE MIN		-13.0		-18.3		32.1		1.2		-13.9
TOTAL OBS	696		681		681		681		681	

PROGRAM: WETTEMP
VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY OCT-DEC 1991

HOUR AVERAGES FOR THE PERIOD 10/ 1/91 TO 12/31/91

10.0 METERS LEVEL

	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
HOUR	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	84.	2.8	84.	-2.1	84.	72.2	84.	4.5	84.	0.8
2	83.	2.4	83.	-2.4	83.	72.8	83.	4.4	83.	0.5
3	84.	2.2	84.	-2.4	84.	73.6	84.	4.4	84.	0.5
4	83.	1.9	83.	-2.5	83.	74.8	83.	4.4	83.	0.2
5	83.	1.7	83.	-2.5	83.	75.2	83.	4.4	83.	0.1
6	83.	1.6	83.	-2.6	83.	75.3	83.	4.4	83.	0.0
7	83.	1.4	83.	-2.5	83.	76.1	83.	4.4	83.	-0.1
8	83.	1.4	83.	-2.5	83.	76.2	83.	4.4	83.	-0.1
9	84.	2.3	84.	-2.1	84.	74.5	84.	4.6	84.	0.6
10	84.	3.3	83.	-1.8	82.	70.6	82.	4.6	82.	1.3
11	84.	4.3	83.	-1.8	82.	66.7	82.	4.6	82.	1.8
12	85.	5.5	84.	-1.4	83.	63.3	83.	4.7	83.	2.6
13	86.	6.6	85.	-1.2	84.	60.0	84.	4.8	84.	3.3
14	86.	7.4	85.	-1.1	84.	57.8	84.	4.8	84.	3.8
15	86.	8.3	85.	-0.8	84.	56.1	84.	4.8	84.	4.3
16	89.	8.7	87.	-1.0	87.	54.7	87.	4.8	87.	4.5
17	89.	8.1	88.	-1.1	88.	56.7	88.	4.8	88.	4.1
18	88.	7.3	88.	-1.1	87.	59.7	88.	4.8	88.	3.6
19	87.	6.3	87.	-1.1	87.	62.7	87.	4.8	87.	3.1
20	87.	5.5	87.	-1.1	87.	65.4	87.	4.8	87.	2.7
21	87.	4.9	87.	-1.2	87.	67.3	87.	4.8	87.	2.4
22	87.	4.3	87.	-1.3	87.	69.2	87.	4.7	87.	2.0
23	87.	3.9	87.	-1.4	87.	70.6	87.	4.7	87.	1.7
24	85.	3.3	85.	-1.6	85.	72.4	85.	4.7	85.	1.3
HOURLY MEAN		4.4		-1.7		67.6		4.6		1.9
AVG DAILY MAX		9.4		1.7		81.7		5.8		5.?
AVG DAILY MIN		0.4		-4.4		52.8		3.8		-1.1
ABSOLUTE MAX		30.2		16.5		99.3		13.8		19.1
ABSOLUTE MIN		-16.7		-21.0		19.0		0.9		-17.0
TOTAL OBS	2047		2038		2032		2032		2032	

PROGRAM: WETTEMP
VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JULY-DEC 1991

HOUR AVERAGES FOR THE PERIOD 7/ '/91 TO 12/31/91

10.0 METERS LEVEL

	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
HOUR	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	169.	11.3	175.	5.8	169.	68.4	169.	8.0	169.	8.3
2	168.	11.0	174.	5.6	168.	69.2	168.	7.9	168.	8.1
3	169.	10.6	175.	5.6	169.	70.2	169.	7.9	169.	7.9
4	166.	10.2	174.	5.4	166.	71.1	166.	7.8	166.	7.6
5	165.	9.9	17[illegible].	5.4	165.	71.7	165.	7.7	165.	7.3
6	166.	9.7	174.	5.2	166.	72.4	166.	7.7	166.	7.2
7	166.	9.6	174.	5.3	166.	72.7	166.	7.7	166.	7.3
8	167.	10.4	174.	5.[illegible]	167.	71.1	167.	7.9	167.	7.7
9	163.	11.4	173.	[illegible].8	163.	67.9	163.	8.0	163.	8.3
10	152.	12.1	173.	6.1	150.	64.7	150.	8.1	150.	8.7
11	152.	13.3	173.	6.2	150.	60.8	150.	8.1	150.	9.3
12	152.	14.3	174.	6.3	150.	57.6	150.	8.1	150.	9.8
13	154.	15.3	175.	6.3	152.	54.5	152.	8.0	152.	10.2
14	155.	16.1	174.	6.3	152.	52.8	152.	8.1	152.	10.6
15	159.	17.0	175.	6.4	156.	51.0	156.	8.2	156.	11.2
16	163.	17.3	177.	6.4	160.	50.2	160.	8.2	160.	11.3
17	171.	17.2	177.	6.2	170.	50.8	170.	8.2	170.	11.2
18	176.	17.0	178.	6.4	176.	52.9	176.	8.4	176.	11.2
19	175.	15.9	177.	6.5	175.	56.2	175.	8.5	175.	10.8
20	174.	14.6	177.	6.5	174.	60.2	174.	8.5	174.	10.3
21	173.	13.6	178.	6.4	173.	62.5	173.	8.3	173.	9.7
22	173.	12.9	177.	6.2	173.	64.5	173.	8.3	173.	9.3
23	174.	12.4	178.	6.0	174.	65.8	174.	8.1	174.	9.0
24	171.	11.7	176.	5.9	171.	67.7	171.	8.1	171.	8.6
HOURLY MEAN		13.1		6.0		62.9		8.1		9.2
AVG DAILY MAX		18.6		8.6		77.7		9.7		12.5
AVG DAILY MIN		8.9		3.0		47.2		6.9		6.5
ABSOLUTE MAX		36.9		27.5		99.3		20.9		25.7
ABSOLUTE MIN		-16.7		-27.3		19.0		0.5		-17.0
TOTAL OBS	3973		4206		3955		3955		3955	

PROGRAM: WETTEMP
VERSION: 3F

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY JAN-DEC 1991

ANNUAL HOUR AVERAGES FOR THE PERIOD 1/ 1/91 TO 12/31/91

10.0 METERS LEVEL

	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
HOUR	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	309.	10.4	353.	4.7	309.	67.9	309.	7.8	309.	7.6
2	302.	10.2	351.	4.6	302.	69.0	302.	7.8	302.	7.5
3	305.	9.8	352.	4.6	305.	70.0	305.	7.7	305.	7.3
4	298.	9.5	351.	4.4	298.	70.8	298.	7.7	298.	7.0
5	295.	9.2	351.	4.3	295.	71.3	295.	7.6	295.	6.8
6	295.	9.0	351.	4.2	295.	72.0	295.	7.6	295.	6.7
7	288.	9.1	350.	4.2	288.	72.2	288.	7.7	288.	6.8
8	293.	9.8	351.	4.4	293.	70.4	293.	7.9	293.	7.3
9	293.	10.9	350.	4.6	293.	67.0	293.	8.0	293.	7.8
10	287.	11.7	350.	4.7	284.	63.2	284.	7.8	284.	8.2
11	286.	12.7	349.	4.8	283.	58.2	283.	7.9	283.	8.6
12	294.	13.6	350.	4.8	291.	56.0	291.	7.8	291.	9.0
13	298.	14.5	350.	4.9	295.	53.4	295.	7.7	295.	9.5
14	298.	15.2	348.	5.0	294.	51.6	294.	7.7	294.	9.8
15	305.	16.0	353.	5.1	302.	50.1	302.	7.8	302.	10.3
16	311.	16.3	355.	5.1	308.	49.3	308.	7.8	308.	10.4
17	323.	16.4	355.	5.0	322.	49.9	322.	7.8	322.	10.5
18	331.	16.1	356.	5.1	331.	51.3	331.	7.9	331.	10.4
19	327.	15.1	354.	5.1	327.	54.3	327.	8.0	327.	10.0
20	324.	14.0	354.	5.2	324.	58.1	324.	8.1	324.	9.6
21	322.	12.9	355.	5.1	322.	61.0	322.	8.0	322.	9.0
22	323.	12.2	354.	5.0	323.	63.4	323.	8.0	323.	8.6
23	325.	11.6	355.	4.9	325.	65.1	325.	7.9	325.	8.4
24	318.	11.1	352.	4.9	317.	66.7	317.	7.9	317.	8.1
HOURLY MEAN		12.5		4.8		61.7		7.8		8.6
AVG DAILY MAX		17.2		7.6		76.5		8.1		11.2
AVG DAILY MIN		7.8		1.8		46.9		6.6		5.6
ABSOLUTE MAX		36.9		27.5		99.3		20.9		25.7
ABSOLUTE MIN		-20.0		-27.3		19.0		0.5		-20.5
TOTAL OBS	7351		8450		7326		7326		7326	

Wind Direction Frequencies

10-Meter Level

NPPD-COOPER STATION 10-M WIND DIRECTION JULY-SEPT 1991

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	0.0	3.2	0.0	0.0	6.5	6.5	16.1	22.6	6.5	0.0	3.2	6.5	0.0	9.7	12.9	0.0	100.
2	9.7	3.2	3.2	0.0	0.0	3.2	9.7	3.2	32.3	22.6	0.0	3.2	0.0	3.2	6.5	0.0	0.0	100.
3	3.2	3.2	0.0	0.0	3.2	6.5	6.5	12.9	22.6	12.9	6.5	0.0	3.2	0.0	6.5	12.9	0.0	100.
4	9.7	3.2	0.0	6.5	0.0	3.2	6.5	25.8	9.7	6.5	6.5	0.0	6.5	0.0	6.5	6.5	3.2	100.
5	9.7	3.2	0.0	0.0	3.2	3.2	9.7	12.9	25.8	3.2	0.0	16.1	0.0	3.2	0.0	9.7	0.0	100.
6	6.5	0.0	0.0	6.5	0.0	6.5	0.0	16.1	25.8	9.7	3.2	9.7	0.0	0.0	6.5	9.7	0.0	100.
7	12.9	0.0	6.5	0.0	3.2	3.2	6.5	16.1	19.4	6.5	6.5	0.0	0.0	3.2	6.5	9.7	0.0	100.
8	9.7	6.5	0.0	0.0	0.0	6.5	9.7	6.5	19.4	22.6	0.0	0.0	0.0	0.0	9.7	9.7	0.0	100.
9	3.2	9.7	6.5	0.0	3.2	6.5	6.5	6.5	19.4	9.7	12.9	6.5	0.0	0.0	6.5	3.2	0.0	100.
10	6.5	0.0	3.2	6.5	6.5	9.7	3.2	9.7	16.1	6.5	3.2	6.5	12.9	3.2	3.2	3.2	0.0	100.
11	9.7	6.5	3.2	0.0	0.0	9.7	12.9	6.5	12.9	12.9	0.0	0.5	6.5	3.2	6.5	3.2	0.0	100.
12	9.7	3.2	3.2	3.2	3.2	6.5	12.9	3.2	19.4	6.5	3.2	3.2	6.5	6.5	3.2	6.5	0.0	100.
13	9.7	3.2	3.2	3.2	0.0	6.5	12.9	6.5	9.7	12.9	6.5	0.0	9.7	6.5	3.2	6.5	0.0	100.
14	13.3	6.7	0.0	0.0	0.0	10.0	10.0	10.0	10.0	3.3	6.7	10.0	3.3	10.0	0.0	6.7	0.0	100.
15	9.7	6.5	3.2	0.0	3.2	6.5	12.9	16.1	3.2	3.2	6.5	0.0	3.2	3.2	9.7	12.9	0.0	100.
16	16.1	6.5	3.2	0.0	6.5	0.0	12.9	16.1	3.2	6.5	0.0	3.2	3.2	3.2	6.5	12.9	0.0	100.
17	10.0	13.3	3.3	0.0	6.7	0.0	23.3	10.0	0.0	3.3	3.3	3.3	0.0	3.3	6.7	13.3	0.0	100.
18	13.3	10.0	6.7	0.0	13.3	0.0	23.3	10.0	3.3	0.0	0.0	0.0	0.0	0.0	10.0	6.7	0.0	100.
19	16.7	10.0	3.3	3.3	0.0	13.3	23.3	13.3	0.0	0.0	0.0	0.0	0.0	0.0	6.7	10.0	0.0	100.
20	13.3	6.7	0.0	3.3	6.7	3.3	13.3	13.3	6.7	0.0	0.0	0.0	3.3	0.0	16.7	13.3	0.0	100.
21	12.9	6.5	0.0	3.2	3.2	3.2	25.8	3.2	3.2	3.2	0.0	0.0	6.5	3.2	9.7	16.1	0.0	100.
22	9.7	3.2	9.7	3.2	0.0	0.0	19.4	12.9	0.0	9.7	0.0	3.2	6.5	0.0	9.7	12.9	0.0	100.
23	12.9	3.2	6.5	0.0	0.0	3.2	16.1	6.5	12.9	16.1	0.0	3.2	3.2	0.0	0.0	16.1	0.0	100.
24	22.6	0.0	3.2	0.0	0.0	3.2	19.4	9.7	9.7	9.7	6.5	0.0	0.0	0.0	9.7	6.5	0.0	100.
ALL	10.7	4.7	3.0	1.6	2.6	5.0	12.6	11.0	12.9	8.1	3.0	3.2	3.5	2.2	6.6	9.2	0.1	100.

NUMBER OF OBS = 739

NPPD-COOPER STATION 10-M WIND DIRECTION JULY-SEPT 1991

PROGRAM: WINPER
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	23.3	6.7	0.0	0.0	0.0	6.7	10.0	16.7	10.0	6.7	0.0	3.3	0.0	0.0	3.3	13.3	0.0	100.
2	13.3	3.3	0.0	0.0	0.0	0.0	13.3	16.7	13.3	6.7	6.7	0.0	0.0	3.3	6.7	13.3	3.3	100.
3	16.7	6.7	3.3	0.0	0.0	3.3	10.0	20.0	6.7	6.7	0.0	0.0	0.0	6.7	3.3	13.3	3.3	100.
4	20.0	3.3	0.0	0.0	3.3	0.0	0.0	23.3	20.0	6.7	3.3	0.0	0.0	6.7	3.3	6.7	3.3	100.
5	6.7	0.0	6.7	0.0	0.0	6.7	3.3	30.0	6.7	10.0	0.0	0.0	0.0	0.0	3.3	23.3	3.3	100.
6	3.3	3.3	6.7	3.3	3.3	3.3	6.7	13.3	20.0	13.3	0.0	0.0	3.3	0.0	6.7	13.3	0.0	100.
7	13.3	3.3	3.3	3.3	3.3	3.3	3.3	16.7	16.7	6.7	6.7	3.3	0.0	0.0	0.0	13.3	3.3	100.
8	20.0	10.0	0.0	0.0	6.7	3.3	6.7	13.3	13.3	6.7	3.3	0.0	3.3	0.0	3.3	6.7	3.3	100.
9	13.3	13.3	0.0	3.3	3.3	6.7	3.3	16.7	10.0	13.3	3.3	0.0	0.0	0.0	0.0	13.3	0.0	100.
10	3.4	10.3	10.3	3.4	3.4	3.4	6.9	10.3	10.3	17.2	6.9	3.4	0.0	0.0	0.0	10.3	0.0	100.
11	13.8	13.8	3.4	0.0	10.3	6.9	0.0	10.3	6.9	20.7	3.4	0.0	0.0	0.0	0.0	10.3	0.0	100.
12	13.8	6.9	3.4	0.0	10.3	3.4	6.9	10.3	10.3	13.8	3.4	0.0	0.0	0.0	0.0	17.2	0.0	100.
13	17.2	10.3	3.4	3.4	6.9	3.4	10.3	3.4	10.3	13.8	10.3	0.0	0.0	0.0	0.0	6.9	0.0	100.
14	13.8	17.2	0.0	6.9	3.4	0.0	6.9	10.3	13.8	13.8	3.4	3.4	0.0	0.0	0.0	6.9	0.0	100.
15	20.7	10.3	6.9	3.4	3.4	0.0	17.2	6.9	17.2	6.9	3.4	0.0	0.0	0.0	0.0	3.4	0.0	100.
16	13.3	10.0	10.0	3.3	6.7	10.0	10.0	13.3	6.7	3.3	6.7	0.0	0.0	0.0	0.0	6.7	0.0	100.
17	6.7	6.7	10.0	13.3	3.3	6.7	10.0	3.3	20.0	6.7	0.0	0.0	0.0	0.0	3.3	10.0	0.0	100.
18	3.3	13.3	3.3	13.3	0.0	13.3	10.0	10.0	10.0	6.7	0.0	0.0	0.0	3.3	0.0	13.3	0.0	100.
19	13.3	3.3	3.3	3.3	6.7	6.7	20.0	6.7	6.7	3.3	3.3	0.0	0.0	3.3	3.3	16.7	0.0	100.
20	10.0	6.7	6.7	0.0	6.7	6.7	10.0	10.0	10.0	3.3	6.7	0.0	0.0	3.3	3.3	16.7	0.0	100.
21	16.7	3.3	0.0	3.3	6.7	0.0	10.0	16.7	10.0	0.0	3.3	0.0	0.0	6.7	3.3	20.0	0.0	100.
22	10.0	3.3	3.3	0.0	3.3	3.3	6.7	10.0	10.0	10.0	6.7	0.0	0.0	3.3	6.7	23.3	0.0	100.
23	13.3	0.0	3.3	0.0	3.3	10.0	10.0	10.0	16.7	0.0	3.3	0.0	3.3	0.0	3.3	23.3	0.0	100.
24	10.0	6.7	0.0	3.3	3.3	3.3	16.7	6.7	10.0	3.3	3.3	0.0	3.3	6.7	3.3	20.0	0.0	100.
ALL	12.9	7.1	3.6	2.8	4.1	4.6	8.7	12.7	11.9	8.3	3.6	0.6	0.5	1.8	2.4	13.4	0.8	100.

NUMBER OF OBS = 714

NPPD-COOPER STATION 10-M WIND DIRECTION JULY-SEPT 1991

PROGRAM: WINPER
VERSION: ZP

HOURLY WIND ROSES (PERCENT)

SEPTEMBER

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	6.7	0.0	6.7	6.7	6.7	0.0	3.3	20.0	16.7	10.0	0.0	3.3	3.3	3.3	0.0	13.3	0.0	100.
2	3.3	6.7	0.0	0.0	3.3	6.7	6.7	30.0	23.3	0.0	0.0	0.0	3.3	0.0	3.3	13.3	0.0	100.
3	3.3	3.3	3.3	0.0	3.3	0.0	13.3	10.0	36.7	3.3	10.0	3.3	3.3	0.0	0.0	6.7	0.0	100.
4	10.0	0.0	0.0	6.7	0.0	0.0	10.0	16.7	20.0	20.0	0.0	3.3	6.7	0.0	0.0	6.7	0.0	100.
5	3.3	0.0	3.3	0.0	0.0	0.0	10.0	16.7	16.7	23.3	3.3	0.0	3.3	0.0	3.3	16.7	0.0	100.
6	10.0	0.0	0.0	3.3	0.0	0.0	6.7	26.7	20.0	10.0	0.0	6.7	3.3	0.0	3.3	10.0	0.0	100.
7	3.3	3.3	0.0	3.3	0.0	0.0	10.0	26.7	23.3	3.3	6.7	6.7	0.0	3.3	3.3	6.7	0.0	100.
8	3.3	3.3	3.3	3.3	0.0	0.0	10.0	23.3	16.7	16.7	6.7	0.0	3.3	3.3	3.3	3.3	0.0	100.
9	3.4	0.0	0.0	6.9	6.9	3.4	6.9	17.2	13.8	13.8	10.3	3.4	0.0	3.4	6.9	3.4	0.0	100.
10	0.0	0.0	6.7	3.3	0.0	6.7	6.7	10.0	23.3	13.3	6.7	0.0	3.3	10.0	3.3	6.7	0.0	100.
11	0.0	3.3	3.3	6.7	3.3	0.0	10.0	3.3	20.0	16.7	6.7	3.3	0.0	3.3	6.7	13.3	0.0	100.
12	6.7	0.0	3.3	3.3	6.7	0.0	10.0	6.7	20.0	13.3	10.0	0.0	0.0	3.3	3.3	13.3	0.0	100.
13	6.7	0.0	0.0	6.7	0.0	6.7	6.7	10.0	20.0	16.7	6.7	0.0	0.0	3.3	6.7	10.0	0.0	100.
14	10.0	3.3	3.3	3.3	3.3	0.0	10.0	6.7	23.3	13.3	3.3	0.0	3.3	3.3	3.3	10.0	0.0	100.
15	6.7	6.7	3.3	3.3	0.0	3.3	6.7	16.7	16.7	10.0	3.3	3.3	0.0	6.7	3.3	10.0	0.0	100.
16	10.0	3.3	0.0	6.7	3.3	0.0	10.0	10.0	23.3	3.3	3.3	0.0	3.3	6.7	0.0	16.7	0.0	100.
17	3.3	3.3	3.3	3.3	0.0	10.0	6.7	6.7	20.0	3.3	3.3	0.0	6.7	3.3	6.7	20.0	0.0	100.
18	10.0	3.3	3.3	6.7	0.0	0.0	13.3	6.7	16.7	3.3	3.3	0.0	3.3	6.7	6.7	16.7	0.0	100.
19	3.3	10.0	6.7	3.3	0.0	3.3	6.7	10.0	26.7	0.0	0.0	0.0	0.0	0.0	10.0	20.0	0.0	100.
20	13.3	16.7	3.3	3.3	0.0	3.2	6.7	13.3	16.7	0.0	0.0	0.0	0.0	3.3	3.3	16.7	0.0	100.
21	16.7	6.7	3.3	3.3	0.0	0.0	13.3	16.7	13.3	3.3	0.0	0.0	0.0	3.3	6.7	13.3	0.0	100.
22	17.2	6.9	0.0	0.0	3.4	3.4	6.9	20.7	17.2	10.3	0.0	0.0	0.0	0.0	6.9	6.9	0.0	100.
23	10.0	0.0	6.7	0.0	3.3	10.0	6.7	16.7	20.0	3.3	3.3	0.0	0.0	3.3	6.7	10.0	0.0	100.
24	3.3	0.0	3.3	3.3	3.3	0.0	10.0	16.7	13.3	13.3	6.7	3.3	6.7	3.3	6.7	6.7	0.0	100.
ALL	6.8	3.3	2.8	3.6	1.9	2.4	8.6	14.9	19.9	9.3	3.9	1.5	2.2	3.1	4.3	11.3	0.0	100.

NUMBER OF OBS = 718

NPPD-COOPER STATION 10-M WIND DIRECTION JULY-SEPT 1991

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	12.1	2.2	3.3	2.2	2.2	4.4	6.6	17.6	16.5	7.7	0.0	3.3	3.3	1.1	4.4	13.2	0.0	100.
2	6.8	4.4	1.1	0.0	1.1	3.3	9.9	16.5	23.1	9.9	2.2	1.1	1.1	2.2	5.5	8.8	1.1	100.
3	7.7	4.4	2.2	0.0	2.2	3.3	9.9	14.3	22.0	7.7	5.5	1.1	2.2	2.2	3.3	11.0	1.1	100.
4	13.2	2.2	0.0	4.4	1.1	1.1	5.5	22.0	16.5	11.0	3.3	1.1	4.4	2.2	3.3	6.6	2.2	100.
5	6.6	1.1	3.3	0.0	1.1	3.3	7.7	19.8	16.5	12.1	1.1	5.5	1.1	1.1	2.2	16.5	1.1	100.
6	6.6	1.1	2.2	4.4	1.1	3.3	4.4	18.7	22.0	11.0	1.1	5.5	2.2	0.0	5.5	11.0	0.0	100.
7	9.9	2.2	3.3	2.2	2.2	2.2	6.6	19.8	19.8	5.5	6.6	3.3	0.0	2.2	3.3	9.9	1.1	100.
8	11.0	6.6	1.1	1.1	2.2	3.3	8.8	14.3	16.5	15.4	3.3	0.0	2.2	1.1	5.5	6.6	1.1	100.
9	6.7	7.8	2.2	3.3	4.4	5.6	5.6	13.3	14.4	12.2	8.9	3.3	0.0	1.1	4.4	6.7	0.0	100.
10	3.3	3.3	3.3	4.4	3.3	6.7	5.6	10.0	16.7	12.2	5.6	3.3	5.6	4.4	2.2	6.7	0.0	100.
11	7.8	7.8	3.3	2.2	4.4	5.6	7.8	6.7	13.3	16.7	3.3	3.3	2.2	2.2	4.4	8.9	0.0	100.
12	10.0	3.3	3.3	2.2	6.7	3.3	10.0	6.7	16.7	11.1	5.6	1.1	2.2	3.3	2.2	12.2	0.0	100.
13	11.1	4.4	2.2	4.4	2.2	5.6	10.0	6.7	13.3	14.4	7.8	0.0	3.3	3.3	3.3	7.8	0.0	100.
14	12.4	9.0	1.1	3.4	2.2	3.4	9.0	9.0	15.7	10.1	4.5	4.5	2.2	4.5	1.1	7.9	0.0	100.
15	12.2	7.8	4.4	2.2	2.2	3.3	12.2	13.3	12.2	5.7	4.4	1.1	1.1	3.3	4.4	8.9	0.0	100.
16	13.2	6.6	4.4	3.3	5.5	3.3	11.0	13.2	11.0	4.4	3.3	1.1	2.2	3.3	2.2	12.1	0.0	100.
17	6.7	7.8	5.6	5.6	3.3	5.6	13.3	6.7	13.3	4.4	2.2	1.1	2.2	2.2	5.6	14.4	0.0	100.
18	8.9	8.9	4.4	6.7	4.4	4.4	15.6	8.9	10.0	3.3	1.1	0.0	2.2	3.3	5.6	12.2	0.0	100.
19	11.1	7.8	4.4	3.3	2.2	7.8	16.7	10.0	11.1	1.1	1.1	0.0	0.0	1.1	6.7	15.6	0.0	100.
20	11.2	10.0	3.3	2.2	4.4	4.4	10.0	12.2	11.1	1.1	2.2	0.0	1.1	2.2	7.8	15.6	0.0	100.
21	14.4	5.5	1.1	3.3	3.3	1.1	16.5	12.1	8.8	2.2	1.1	0.0	2.2	4.4	6.6	16.5	0.0	100.
22	12.2	4.4	4.4	1.1	2.2	2.2	11.1	14.4	8.8	10.0	2.2	1.1	2.2	1.1	7.8	14.4	0.0	100.
23	12.1	1.1	5.5	0.0	2.2	7.7	11.0	11.0	16.5	6.6	2.2	1.1	2.2	1.1	3.3	16.5	0.0	100.
24	12.1	2.2	2.2	2.2	2.2	2.2	15.4	11.0	11.0	8.8	5.5	1.1	3.3	3.3	6.6	11.0	0.0	100.
ALL	10.1	5.1	3.1	2.7	2.9	4.0	10.0	12.9	14.9	8.6	3.5	1.8	2.1	2.3	4.5	11.3	0.3	100.

NUMBER OF OBS = 2171

NPPD-COOPER STATION 10-M WIND DIRECTION OCT-DEC 1991

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

OCTOBER

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	3.9	13.8	0.0	0.0	3.4	3.4	3.4	13.8	10.3	6.9	3.4	3.4	0.0	13.8	6.9	10.3	0.0	100.
2	7.1	14.3	0.0	0.0	0.0	3.6	7.1	7.1	17.9	7.	0.0	3.6	0.0	14.3	7.1	10.7	0.0	100.
3	0.9	10.3	3.4	3.4	0.0	6.9	3.4	6.9	17.2	3.4	0.0	3.4	3.4	6.9	10.3	13.8	0.0	100.
4	6.	10.3	6.9	0.0	0.0	3.4	13.8	6.9	13.8	3.4	0.0	0.0	3.4	3.4	6.9	20.7	0.0	100.
5	10.3	6.9	10.3	3.4	3.4	3.4	3.4	10.3	10.3	10.3	0.0	0.0	3.4	3.4	10.3	10.3	0.0	100.
6	0.0	13.8	6.9	3.4	3.4	3.4	3.4	0.0	27.6	3.4	0.0	0.0	0.0	10.3	10.3	13.8	0.0	100.
7	10.3	13.8	0.0	0.0	0.0	6.9	3.4	20.7	10.3	3.4	0.0	3.4	3.4	6.9	6.9	10.3	0.0	100.
8	17.2	6.9	3.4	0.0	0.0	3.4	3.4	17.2	20.7	0.0	0.0	3.4	3.4	3.4	13.8	3.4	0.0	100.
9	13.8	10.3	6.9	0.0	3.4	6.9	3.4	3.4	20.7	10.3	0.0	0.0	0.0	6.9	6.9	6.9	0.0	100.
10	17.2	10.3	6.9	6.9	0.0	6.9	3.4	0.0	10.3	17.2	3.4	0.0	0.0	3.4	10.3	3.4	0.0	100.
11	17.9	14.3	7.1	3.6	0.0	0.0	10.7	0.0	3.6	17.9	3.6	0.0	0.0	0.0	14.3	7.1	0.0	100.
12	6.9	13.8	3.4	6.9	3.4	0.0	6.9	0.0	6.9	13.8	6.9	0.0	3.4	10.3	6.9	10.3	0.0	100.
13	20.0	3.3	6.7	0.0	0.0	0.0	6.7	3.3	10.0	13.3	3.3	3.3	3.3	10.0	6.7	10.0	0.0	100.
14	6.7	10.0	3.3	0.0	0.0	0.0	3.3	3.3	13.3	10.0	3.3	0.0	6.7	10.0	13.3	16.7	0.0	100.
15	13.3	3.3	13.3	0.0	0.0	0.0	3.3	3.3	13.3	6.7	6.7	3.3	3.3	6.7	13.3	10.0	0.0	100.
16	16.1	6.5	6.5	0.0	0.0	0.0	3.2	0.0	19.4	9.7	3.2	3.2	3.2	6.5	6.5	16.1	0.0	100.
17	10.0	3.3	3.3	10.0	0.0	0.0	6.7	3.3	13.3	13.3	0.0	6.7	0.0	6.7	6.7	16.7	0.0	100.
18	13.3	3.3	3.3	3.3	3.3	3.3	6.7	3.3	16.7	10.0	0.0	0.0	0.0	0.0	10.7	16.7	0.0	100.
19	20.0	6.7	3.3	0.0	0.0	0.0	6.7	10.0	20.0	3.3	0.0	0.0	0.0	0.0	10.0	20.0	0.0	100.
20	16.7	10.0	3.3	0.0	0.0	3.3	0.0	13.3	16.7	6.7	3.3	0.0	0.0	0.0	13.3	13.3	0.0	100.
21	13.3	16.7	3.3	0.0	0.0	6.7	0.0	20.0	6.7	3.3	6.7	0.0	0.0	0.0	13.3	10.0	0.0	100.
22	16.7	3.3	10.0	0.0	3.3	3.3	3.3	13.3	10.0	3.3	3.3	0.0	0.0	6.7	13.3	10.0	0.0	100.
23	20.0	6.7	6.7	0.0	0.0	3.3	3.3	6.7	16.7	0.0	3.3	3.3	3.3	10.0	10.0	6.7	0.0	100.
24	20.7	10.3	3.4	0.0	3.4	3.4	3.4	6.9	13.8	3.4	0.0	3.4	0.0	13.8	10.3	3.4	0.0	100.
ALL	12.9	9.2	5.1	1.7	1.1	3.0	4.7	7.2	14.2	7.5	2.1	1.7	1.7	6.4	10.2	11.3	0.0	100.

NUMBER OF OBS = 706

NPPD-COOPER STATION 10-M WIND DIRECTION OCT-DEC 199?

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	14.3	3.6	3.6	3.6	3.6	3.6	3.6	0.0	10.7	14.3	3.6	0.0	17.9	3.6	10.7	3.6	0.0	100.
2	17.9	3.6	3.6	3.6	0.0	3.6	3.6	3.6	14.3	10.7	0.0	3.6	7.1	10.7	7.1	7.1	0.0	100.
3	14.3	7.1	3.6	0.0	0.0	3.6	3.6	3.6	14.3	14.3	0.0	3.6	7.1	7.1	10.7	7.1	0.0	100.
4	11.1	7.4	0.0	0.0	0.0	3.7	3.7	7.4	22.2	7.4	0.0	0.0	7.4	3.7	18.5	7.4	0.0	100.
5	14.8	3.7	3.7	0.0	0.0	3.7	3.7	11.1	11.1	11.1	0.0	0.0	7.4	3.7	11.1	14.8	0.0	100.
6	11.1	3.7	7.4	0.0	0.0	3.7	3.7	7.4	18.5	3.7	3.7	3.7	3.7	7.4	7.4	14.8	0.0	100.
7	3.7	3.7	7.4	0.0	0.0	0.0	7.4	7.4	18.5	11.1	3.7	0.0	3.7	11.1	7.4	18.5	0.0	100.
8	3.7	3.7	7.4	0.0	0.0	0.0	3.7	14.8	18.5	7.4	3.7	0.0	7.4	7.4	7.4	14.8	0.0	100.
9	11.1	3.7	7.4	3.7	3.7	0.0	0.0	18.5	14.8	11.1	0.0	0.0	3.7	11.1	7.4	3.7	0.0	100.
10	11.1	7.4	3.7	3.7	0.0	0.0	7.4	14.8	18.5	3.7	7.4	0.0	0.0	11.1	7.4	3.7	0.0	100.
11	7.1	7.1	7.1	3.6	0.0	0.0	7.1	3.6	28.6	3.6	10.7	0.0	0.0	7.1	10.7	3.6	0.0	100.
12	3.6	3.6	3.6	3.6	3.6	7.1	0.0	3.6	25.0	7.1	10.7	3.6	0.0	10.7	7.1	7.1	0.0	100.
13	7.1	0.0	3.6	3.6	3.6	7.1	0.0	7.1	21.4	10.7	3.6	0.0	7.1	10.7	7.1	7.1	0.0	100.
14	14.3	3.6	0.0	3.6	3.6	3.6	0.0	7.1	14.3	17.9	0.0	0.0	3.6	14.3	7.1	7.1	0.0	100.
15	11.1	0.0	3.7	3.7	0.0	3.7	3.7	11.8	7.4	7.4	11.1	3.7	0.0	14.8	7.4	7.4	0.0	100.
16	17.9	7.1	0.0	3.6	0.0	7.1	0.0	7.1	21.4	0.0	10.7	0.0	0.0	14.3	7.1	3.6	0.0	100.
17	10.3	6.9	3.4	3.4	0.0	0.0	3.4	10.3	10.3	3.4	10.3	3.4	0.0	13.8	6.9	13.8	0.0	100.
18	6.9	10.3	3.4	3.4	0.0	0.0	3.4	13.8	6.9	6.9	3.4	6.9	0.0	10.3	13.8	10.3	0.0	100.
19	7.1	7.1	0.0	7.1	3.6	3.6	3.6	7.1	10.7	10.7	3.6	3.6	3.6	14.3	7.1	7.1	0.0	100.
20	17.9	0.0	3.6	3.6	3.6	3.6	7.1	3.6	14.3	3.6	7.1	7.1	7.1	10.7	3.6	3.6	0.0	100.
21	14.3	3.6	0.0	3.6	3.6	0.0	3.6	10.7	7.1	7.1	10.7	0.0	14.3	10.7	7.1	3.6	0.0	100.
22	7.1	7.1	3.6	0.0	7.1	0.0	3.6	7.1	14.3	10.7	10.7	7.1	3.6	3.6	7.1	7.1	0.0	100.
23	10.7	7.1	0.0	3.6	3.6	0.0	0.0	14.3	3.6	17.9	3.6	10.7	10.7	0.0	10.7	3.6	0.0	100.
24	7.1	7.1	0.0	3.6	3.6	0.0	3.6	3.6	10.7	21.4	3.6	0.0	17.9	3.6	10.7	3.6	0.0	100.
ALL	10.7	5.0	3.3	2.7	1.8	2.4	3.3	8.4	14.9	9.3	5.1	2.4	5.6	9.0	8.6	7.7	0.0	100.

NUMBER OF OBS = 666

NPPD-COOPER STATION 10-M WIND DIRECTION OCT-DEC 1991

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	13.8	0.0	0.0	3.4	0.0	6.9	6.9	13.8	17.2	6.9	3.4	10.3	3.4	0.0	10.3	3.4	0.0	100.
2	3.4	0.0	0.0	3.4	6.9	0.0	10.3	10.3	13.8	10.3	0.0	3.4	6.9	0.0	20.7	10.3	0.0	100.
3	6.9	3.4	0.0	3.4	6.9	0.0	6.9	17.2	10.3	10.3	0.0	6.9	0.0	3.4	6.9	17.2	0.0	100.
4	10.3	3.4	0.0	3.4	3.4	3.4	10.3	17.2	10.3	3.4	3.4	6.9	3.4	6.9	6.9	6.9	0.0	100.
5	10.3	3.4	0.0	0.0	6.9	3.4	10.3	10.3	13.8	6.9	3.4	3.4	10.3	3.4	6.9	6.9	0.0	100.
6	13.8	0.0	3.4	3.4	0.0	10.3	6.9	13.8	10.3	3.4	3.4	10.3	0.0	3.4	10.3	6.9	0.0	100.
7	6.9	3.4	3.4	6.9	6.9	3.4	10.3	6.9	13.8	3.4	6.9	6.9	0.0	0.0	20.7	0.0	0.0	100.
8	3.4	0.0	6.9	0.0	3.4	10.3	10.3	20.7	10.3	0.0	0.0	3.4	3.4	6.9	10.3	10.3	0.0	100.
9	0.0	3.3	6.7	0.0	3.3	10.0	6.7	16.7	20.0	3.3	0.0	3.3	3.3	16.7	0.0	6.7	0.0	100.
10	6.5	0.0	3.2	3.2	3.2	6.5	9.7	9.7	12.9	16.1	0.0	3.2	6.5	9.7	6.5	3.2	0.0	100.
11	3.2	0.0	0.0	6.5	3.2	9.7	9.7	9.7	16.1	6.5	3.2	0.0	6.5	6.5	12.9	6.5	0.0	100.
12	3.2	0.0	0.0	3.2	0.0	12.9	12.9	3.2	12.9	9.7	9.7	0.0	3.2	9.7	16.1	3.2	0.0	100.
13	3.2	3.2	0.0	6.5	0.0	12.9	6.5	0.0	19.4	9.7	6.5	9.2	3.2	3.2	16.1	6.5	0.0	100.
14	3.2	3.2	0.0	6.5	6.5	6.5	6.5	3.2	12.9	9.7	3.2	6.7	0.0	12.9	12.9	3.2	0.0	100.
15	0.7	0.0	0.0	6.5	6.5	6.5	3.2	3.2	16.1	3.2	9.7	3.2	6.5	12.9	9.7	3.2	0.0	100.
16	3.2	0.0	0.0	6.5	6.5	6.5	3.2	12.9	6.5	3.2	6.5	3.2	9.7	9.7	12.9	9.7	0.0	100.
17	0.0	0.0	3.2	0.0	12.9	3.2	6.5	6.5	9.7	12.9	6.5	0.0	3.2	6.5	19.4	9.7	0.0	100.
18	3.2	3.2	6.5	0.0	9.7	3.2	3.2	12.9	9.7	9.7	3.2	3.2	3.2	0.0	25.8	3.2	0.0	100.
19	3.2	3.2	3.2	0.0	12.9	6.5	0.0	12.9	16.1	6.5	0.0	0.0	3.2	3.2	25.8	3.2	0.0	100.
20	9.7	0.0	0.0	0.0	6.5	6.5	9.7	12.9	12.9	6.5	0.0	3.2	0.0	3.2	12.9	16.1	0.0	100.
21	12.9	0.0	0.0	6.5	3.2	6.5	12.9	6.5	16.1	9.7	3.2	0.0	0.0	3.2	16.1	3.2	0.0	100.
22	12.9	3.2	0.0	3.2	3.2	3.2	12.9	9.7	19.4	9.7	0.0	0.0	0.0	0.0	9.7	12.9	0.0	100.
23	12.9	3.2	0.0	0.0	3.2	6.5	16.1	9.7	16.1	16.1	0.0	0.0	3.2	0.0	9.7	3.2	0.0	100.
24	6.5	0.0	0.0	3.2	3.2	3.2	16.1	9.7	25.8	9.7	6.5	0.0	0.0	0.0	9.7	6.5	0.0	100.
ALL	6.7	1.5	1.5	3.2	5.0	6.2	8.7	10.3	14.3	7.8	3.3	3.4	3.3	5.1	12.9	6.7	0.0	100.

NUMBER OF OBS = 727

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

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	11.6	5.8	1.2	2.3	2.3	4.7	4.7	9.3	12.8	9.3	3.5	4.7	7.0	5.8	9.3	5.8	0.0	100.
2	9.4	5.9	1.2	2.4	2.4	2.4	7.1	7.1	15.3	9.4	0.0	3.5	4.7	8.2	11.8	9.4	0.0	100.
3	9.3	7.0	2.3	2.3	2.3	3.5	4.7	9.3	14.0	9.3	0.0	4.7	3.5	5.8	9.3	12.8	0.0	100.
4	9.4	7.1	2.4	1.2	1.2	3.5	9.4	10.6	15.3	4.7	1.2	2.4	4.7	4.7	10.6	11.8	0.0	100.
5	11.8	4.7	4.7	1.2	3.5	3.5	5.9	10.6	11.8	9.4	1.2	1.2	7.1	3.5	9.4	10.6	0.0	100.
6	8.2	5.9	5.9	2.4	1.2	5.9	4.7	7.1	18.8	3.5	2.4	4.7	1.2	7.1	9.4	11.8	0.0	100.
7	7.1	7.1	3.5	2.4	2.4	3.5	7.1	11.8	14.1	5.9	3.5	3.5	2.4	5.9	10.6	9.4	0.0	100.
8	8.2	3.5	5.9	0.0	1.2	4.7	5.9	17.6	16.5	2.4	1.2	2.4	4.7	5.9	10.6	9.4	0.0	100.
9	8.1	5.8	7.0	1.2	3.5	5.8	3.5	12.8	18.6	8.1	0.0	1.2	2.3	11.6	4.7	5.8	0.0	100.
10	11.5	5.7	4.6	4.6	1.1	4.6	6.9	8.0	13.8	12.6	3.4	1.1	2.3	8.0	8.0	3.4	0.0	100.
11	9.2	6.9	4.6	4.6	1.1	3.4	9.2	4.6	16.1	9.2	5.7	0.0	2.3	4.6	12.6	5.7	0.0	100.
12	4.5	5.7	3.3	4.5	2.3	6.8	6.8	2.3	14.8	10.2	9.1	1.1	2.3	10.2	10.2	6.8	0.0	100.
13	10.1	2.2	3.4	3.4	1.1	6.7	4.5	3.4	16.9	11.2	4.5	2.2	4.5	7.9	10.1	7.9	0.0	100.
14	7.9	5.6	1.1	3.4	3.4	3.4	3.4	4.5	13.5	12.4	2.2	3.4	3.4	12.4	11.2	9.0	0.0	100.
15	11.4	1.1	5.7	3.4	2.3	3.4	3.4	6.8	12.5	5.7	9.1	3.4	3.4	11.4	10.2	6.8	0.0	100.
16	12.2	4.4	2.2	3.3	2.2	4.4	2.2	6.7	15.6	4.4	6.7	2.2	4.4	10.0	8.9	10.0	0.0	100.
17	6.7	3.3	3.3	4.4	4.4	1.1	5.6	6.7	11.1	10.0	5.6	3.3	1.1	8.9	11.1	13.3	0.0	100.
18	7.8	5.6	4.4	2.2	4.4	2.2	4.4	10.0	11.1	8.9	2.2	3.3	1.1	3.3	18.9	10.0	0.0	100.
19	10.1	5.6	2.2	2.2	5.6	3.4	3.4	10.1	15.7	6.7	1.1	1.1	2.2	5.5	14.6	10.1	0.0	100.
20	14.6	3.4	2.2	1.1	3.4	4.5	5.6	10.1	14.6	5.6	3.4	3.4	2.2	4.5	10.1	11.2	0.0	100.
21	13.5	6.7	1.1	3.4	2.2	4.5	5.6	12.4	10.1	6.7	6.7	0.0	4.5	4.5	12.4	5.6	0.0	100.
22	12.4	4.5	4.5	1.1	4.5	2.2	6.7	10.1	14.6	7.9	4.5	2.2	1.1	3.4	10.1	10.1	0.0	100.
23	14.6	5.6	2.2	1.1	2.2	3.4	6.7	10.1	12.4	11.2	2.2	4.5	5.6	3.4	10.1	4.5	0.0	100.
24	11.4	5.7	1.1	2.3	3.4	2.3	8.0	6.8	17.0	11.4	3.4	1.1	5.7	5.7	10.2	4.5	0.0	100.
ALL	10.1	5.2	3.3	2.5	2.7	3.9	5.6	8.7	14.4	8.2	3.5	2.5	3.5	6.8	10.6	8.6	0.0	100.

NUMBER OF OBS = 2099

NPPD-COOPER STATION 10-M WIND DIRECTION JULY-DEC 1991

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	11.9	4.0	2.3	2.3	2.3	4.5	5.6	13.6	14.7	8.5	1.7	4.0	5.1	3.4	6.8	9.6	0.0	100.
2	9.1	5.1	1.1	1.1	1.7	2.8	8.5	11.9	19.3	9.7	1.1	2.3	2.8	5.1	8.5	9.1	0.6	100.
3	8.5	5.6	2.3	1.1	2.3	3.4	7.3	11.9	18.1	8.5	2.8	2.8	2.8	4.0	6.2	11.9	0.6	100.
4	11.4	4.5	1.1	2.8	1.1	2.3	7.4	16.5	15.9	8.0	2.3	1.7	4.5	3.4	6.8	9.1	1.1	100.
5	9.1	2.8	4.0	0.6	2.3	3.4	6.8	15.3	14.2	10.8	1.1	3.4	4.0	2.3	5.7	13.6	0.6	100.
6	7.4	3.4	4.0	3.4	1.1	4.5	4.5	13.1	20.5	7.4	1.7	5.1	1.7	3.4	7.4	11.4	0.0	100.
7	8.5	4.5	3.4	2.3	2.3	2.8	6.8	15.9	17.0	5.7	5.1	3.4	1.1	4.0	6.8	9.7	0.6	100.
8	9.7	5.1	3.4	0.6	1.7	4.0	7.4	15.9	16.5	9.1	2.3	1.1	3.4	3.4	8.0	8.0	0.6	100.
9	7.4	6.8	4.5	2.3	4.0	5.7	4.5	13.1	16.5	10.2	4.5	2.3	1.1	6.2	4.5	6.2	0.0	100.
10	7.3	4.5	5.5	4.5	2.3	5.6	6.2	9.0	15.3	12.4	4.5	2.3	4.0	6.2	5.1	5.1	0.0	100.
11	8.5	7.3	4.0	3.4	2.8	4.5	8.5	5.6	14.7	13.0	4.5	1.7	2.3	3.4	8.5	7.3	0.0	100.
12	7.3	4.5	2.8	3.4	4.5	5.1	8.4	4.5	15.7	10.7	7.3	1.1	2.2	6.7	6.2	9.6	0.0	100.
13	10.6	3.4	2.8	3.9	1.7	6.1	7.3	5.0	15.1	12.8	6.1	1.1	3.9	5.6	6.7	7.8	0.6	100.
14	10.1	7.3	1.1	3.4	2.8	3.4	6.2	6.7	14.6	11.2	3.4	3.9	2.8	8.4	6.2	8.4	0.0	100.
15	11.8	4.5	5.1	2.8	2.2	3.4	7.9	10.1	12.4	6.2	6.7	2.2	2.2	7.3	7.3	7.9	0.0	100.
16	12.7	5.5	3.3	3.3	3.9	3.9	6.6	9.9	13.3	4.4	5.0	1.7	3.3	6.6	5.5	11.0	0.0	100.
17	6.7	5.6	4.4	5.0	3.9	3.3	9.4	6.7	12.2	7.2	3.9	2.2	1.7	5.6	8.3	13.9	0.0	100.
18	8.3	7.2	4.4	4.4	4.4	3.3	10.0	9.4	10.6	6.1	1.7	1.7	1.7	3.3	12.2	11.1	0.0	100.
19	10.6	6.7	3.4	2.8	3.9	5.6	10.1	10.1	13.4	3.9	1.1	0.6	1.1	3.4	10.6	12.8	0.0	100.
20	13.4	6.7	2.8	1.7	3.9	4.5	7.8	11.2	12.8	3.4	2.8	1.7	1.7	3.4	8.9	13.4	0.0	100.
21	14.4	6.1	1.1	3.3	2.8	2.8	11.3	12.2	9.4	4.5	3.9	0.0	3.3	4.4	9.4	11.1	0.0	100.
22	12.3	4.5	4.5	1.1	3.4	2.2	8.9	12.3	11.7	8.9	3.4	1.7	1.7	2.2	8.9	12.3	0.0	100.
23	13.3	3.3	3.9	0.6	2.2	5.6	8.9	10.6	14.4	8.9	2.2	2.8	3.9	2.2	6.7	10.6	0.0	100.
24	11.7	3.9	1.7	2.2	2.8	2.2	11.7	8.9	14.0	10.1	4.5	1.1	3.5	4.5	8.4	7.8	0.0	100.
ALL	10.1	5.1	3.2	2.6	2.8	4.0	7.8	10.8	14.7	8.4	3.5	2.2	2.8	4.5	7.5	10.0	0.2	100.

NUMBER OF OBS = 4270

NPPD-COOPER STATION 10-M WIND DIRECTION JAN-DEC 1991

PROGRAM: WINPER
VERSION: 2F

HOURLY WIND ROSES (PERCENT)

ANNUAL

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	10.6	3.1	2.5	4.2	3.4	5.0	5.6	13.1	15.6	7.5	2.8	3.1	3.9	2.5	6.7	9.2	1.1	100.
2	10.1	3.4	3.6	2.0	3.4	4.2	8.1	12.0	17.6	7.8	1.4	3.1	2.5	3.9	6.7	8.4	1.7	100.
3	10.1	5.6	4.2	1.1	3.4	4.2	7.5	12.6	14.8	8.4	2.5	3.1	2.0	3.1	5.9	10.3	1.4	100.
4	10.4	5.0	1.7	3.9	2.0	2.5	10.4	13.2	4.0	8.1	2.8	2.0	3.1	2.8	7.3	9.2	1.7	100.
5	9.0	4.5	3.6	2.8	2.8	3.4	8.4	12.6	13.4	8.4	2.5	2.5	4.2	1.7	7.6	11.2	1.4	100.
6	8.4	3.4	3.9	4.2	1.4	3.4	7.8	13.2	17.1	8.4	2.0	3.1	2.5	3.1	7.0	10.4	0.8	100.
7	8.4	3.9	3.4	2.5	3.1	3.1	9.8	12.9	15.4	7.0	4.8	2.0	1.7	3.9	5.9	9.8	2.2	100.
8	9.5	4.8	3.4	1.1	2.2	4.5	8.1	13.4	16.5	8.4	2.8	2.2	2.8	3.9	6.2	7.6	2.5	100.
9	7.6	6.7	3.4	3.4	3.9	5.9	7.0	12.0	14.3	10.6	3.9	2.0	1.1	5.8	4.2	7.6	0.6	100.
10	7.8	4.5	4.5	3.9	3.1	6.4	6.2	11.2	15.7	10.4	4.5	2.5	3.1	5.3	4.5	5.3	1.1	100.
11	8.1	5.3	3.9	2.8	3.7	4.8	7.3	7.6	15.7	12.6	5.1	1.7	1.7	4.8	6.7	7.9	0.3	100.
12	7.9	3.7	2.2	3.1	4.5	5.9	6.5	8.4	14.9	11.2	6.7	2.2	2.5	5.6	5.6	9.0	0.0	100.
13	9.0	3.4	2.5	3.4	3.1	5.3	7.8	8.1	14.6	10.6	5.6	2.8	3.1	5.3	5.9	8.7	0.8	100.
14	9.0	5.4	2.0	3.1	2.8	4.2	6.5	9.6	13.8	8.7	5.9	2.8	3.9	5.6	6.2	9.6	0.8	100.
15	11.1	3.6	3.6	2.8	1.9	4.2	7.2	10.6	13.4	7.8	5.6	3.3	2.8	5.8	7.0	8.4	0.8	100.
16	12.7	5.2	2.8	2.5	3.3	4.1	6.6	11.0	13.3	6.6	4.7	2.8	3.3	5.2	6.1	8.8	0.8	100.
17	8.9	5.5	2.8	3.6	3.3	3.6	7.2	8.9	13.9	7.5	5.0	3.0	2.2	4.7	7.2	11.6	1.1	100.
18	9.1	6.6	3.0	3.3	3.0	3.9	10.2	8.6	13.6	6.1	3.6	2.2	2.2	3.9	8.6	10.8	1.1	100.
19	11.4	5.3	3.1	2.5	3.9	5.3	10.3	11.7	12.8	4.2	1.9	1.1	1.4	4.5	7.0	11.4	2.2	100.
20	14.2	5.8	2.8	2.5	3.6	4.7	9.2	12.3	13.6	3.9	2.2	2.2	1.4	2.5	6.4	10.6	1.4	100.
21	13.3	5.8	2.2	2.5	3.3	4.2	10.3	13.6	9.7	5.8	2.8	2.2	3.6	2.8	6.7	9.7	1.4	100.
22	11.4	4.5	2.8	2.5	2.5	4.5	10.0	12.3	12.5	8.9	2.8	2.2	1.4	1.9	7.0	11.1	1.7	100.
23	11.7	3.3	3.1	1.1	3.1	5.0	8.6	12.5	15.0	8.9	1.9	2.2	2.2	3.3	6.9	9.7	1.4	100.
24	10.3	3.3	2.2	2.8	3.3	4.7	8.6	11.7	13.9	8.9	5.0	0.8	2.8	4.2	6.7	8.9	1.7	100.
ALL	10.0	4.7	3.0	2.8	3.1	4.5	8.1	11.4	14.4	8.2	3.7	2.4	2.6	4.0	6.5	9.4	1.3	100.

NUMBER OF OBS = 8594

Wind Direction Frequencies

100-Meter Level

NPPD-COOPER STATION 100-M WIND DIRECTION JULY-SEPT 1991

PROGRAM: WINPER
VERSION: 2P

HOURL 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	6.5	9.7	0.0	0.0	6.5	9.7	12.9	12.9	19.4	0.0	0.0	3.2	3.2	3.2	6.5	0.0	100.
2	6.5	6.5	3.2	3.2	3.2	0.0	16.1	9.7	12.9	19.4	3.2	0.0	6.5	0.0	6.5	3.2	0.0	100.
3	6.5	3.2	3.2	3.2	3.2	3.2	12.9	9.7	16.1	16.1	3.2	0.0	9.7	0.0	3.2	6.5	0.0	100.
4	3.2	6.5	9.7	3.2	0.0	3.2	9.7	12.9	16.1	9.7	6.5	3.2	6.5	0.0	6.5	3.2	0.0	100.
5	3.2	6.5	3.2	3.2	0.0	9.7	9.7	6.5	12.9	19.4	3.2	3.2	6.5	0.0	9.7	3.2	0.0	100.
6	9.7	3.2	3.2	0.0	3.2	9.7	3.2	6.5	19.4	22.6	0.0	3.2	3.2	3.2	6.5	3.2	0.0	100.
7	6.5	9.7	0.0	0.0	3.2	3.2	9.7	6.5	16.1	22.6	3.2	3.2	0.0	3.2	6.5	6.5	0.0	100.
8	6.5	3.2	9.7	3.2	0.0	3.2	16.1	3.2	16.1	1	9.7	0.0	0.0	3.2	3.2	6.5	0.0	100.
9	3.2	3.2	6.5	3.2	3.2	9.7	6.5	3.2	16.1	16.1	9.7	9.7	0.0	0.0	6.5	3.2	0.0	100.
10	3.2	3.2	0.0	9.7	3.2	9.7	9.7	6.5	9.7	12.9	3.2	6.5	9.7	6.5	3.2	3.2	0.0	100.
11	12.9	3.2	0.0	3.2	0.0	12.9	9.7	6.5	9.7	12.9	3.2	6.5	3.2	6.5	6.5	3.2	0.0	100.
12	9.7	3.2	3.2	3.2	0.0	12.9	9.7	3.2	16.1	9.7	0.0	6.5	9.7	3.2	0.0	9.7	0.0	100.
13	12.9	3.2	3.2	0.0	3.2	9.7	6.5	3.2	19.4	9.7	3.2	3.2	6.5	9.7	3.2	3.2	0.0	100.
14	16.7	6.7	0.0	0.0	0.0	10.0	10.0	6.7	10.0	6.7	10.0	6.7	3.3	6.7	3.3	3.3	0.0	100.
15	9.7	9.7	0.0	3.2	0.0	9.7	9.7	9.7	12.9	6.5	3.2	0.0	3.2	3.2	9.7	9.7	0.0	100.
16	6.5	12.9	3.2	3.2	3.2	3.2	12.9	12.9	3.2	9.7	0.0	3.2	3.2	0.0	9.7	12.9	0.0	100.
17	6.7	13.3	10.0	0.0	6.7	0.0	16.7	13.3	3.3	3.3	3.3	3.3	3.3	0.0	10.0	6.7	0.0	100.
18	10.0	10.0	10.0	0.0	3.3	6.7	23.3	6.7	10.0	0.0	0.0	0.0	0.0	6.7	6.7	6.7	0.0	100.
19	13.3	13.3	6.7	0.0	3.3	6.7	26.7	13.3	3.3	0.0	0.0	0.0	0.0	0.0	3.3	10.0	0.0	100.
20	10.0	6.7	6.7	3.3	6.7	10.0	20.0	13.3	6.7	0.0	0.0	0.0	0.0	0.0	6.7	10.0	0.0	100.
21	9.7	9.7	9.7	3.2	0.0	12.9	22.6	9.7	6.5	3.2	0.0	0.0	0.0	0.0	9.7	3.2	0.0	100.
22	9.7	6.5	9.7	6.5	6.5	3.2	16.1	12.9	9.7	6.5	0.0	0.0	3.2	0.0	3.2	6.5	0.0	100.
23	16.1	6.5	6.5	9.7	6.5	3.2	9.7	22.6	9.7	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.
24	19.4	3.2	6.5	3.2	3.2	9.7	12.9	12.9	12.9	9.7	0.0	0.0	3.2	0.0	0.0	3.2	0.0	100.
ALL	9.1	6.6	5.1	2.6	2.6	7.0	12.9	9.3	11.8	10.8	2.7	2.6	3.5	2.3	5.1	5.5	0.0	100.

NUMBER OF OBS = 739

NPPD-COOPER STATION 100-M WIND DIRECTION JULY-SEPT 1991

PROGRAM: WINPER
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	16.7	6.7	10.0	6.7	0.0	6.7	3.3	16.7	13.3	6.7	6.7	0.0	0.0	3.3	0.0	3.3	0.0	100.
2	13.3	6.7	6.7	6.7	6.7	6.7	3.3	13.3	20.0	3.3	3.3	3.3	0.0	3.3	0.0	3.3	0.0	100.
3	10.0	13.3	3.3	3.3	6.7	6.7	3.3	6.7	20.0	10.0	3.3	3.3	0.0	3.3	3.3	3.3	0.0	100.
4	20.0	3.3	0.0	0.0	10.0	6.7	6.7	3.3	20.0	10.0	6.7	3.3	0.0	3.3	0.0	6.7	0.0	100.
5	10.0	10.0	0.0	3.3	6.7	6.7	0.0	13.3	20.0	6.7	10.0	3.3	0.0	0.0	0.0	10.0	0.0	100.
6	13.3	10.0	0.0	3.3	3.3	10.0	0.0	16.7	13.3	10.0	10.0	3.3	0.0	0.0	3.3	3.3	0.0	100.
7	10.0	13.3	0.0	3.3	3.3	10.0	3.3	10.0	20.0	6.7	10.0	0.0	3.3	0.0	0.0	6.7	0.0	100.
8	10.0	3.3	10.0	0.0	6.7	10.0	6.7	6.7	16.7	10.0	10.0	0.0	0.0	0.0	0.0	10.0	0.0	100.
9	10.0	6.7	3.3	6.7	3.3	13.3	3.3	6.7	10.0	13.3	10.0	3.3	0.0	0.0	3.3	6.7	0.0	100.
10	10.3	6.9	3.4	3.4	6.9	6.9	6.9	3.4	13.8	13.8	13.8	0.0	0.0	0.0	0.0	10.3	0.0	100.
11	20.7	6.9	6.9	3.4	6.9	3.4	6.9	6.9	10.3	13.8	10.3	0.0	0.0	0.0	0.0	3.4	0.0	100.
12	17.2	10.3	6.9	0.0	6.9	3.4	6.9	13.8	6.9	13.8	6.9	0.0	0.0	0.0	0.0	6.9	0.0	100.
13	13.8	10.3	6.9	0.0	10.3	6.9	3.4	6.9	10.3	17.2	6.9	0.0	0.0	0.0	0.0	6.9	0.0	100.
14	17.2	6.9	6.9	3.4	6.9	3.4	6.9	6.9	13.8	13.8	3.4	3.4	0.0	0.0	0.0	6.9	0.0	100.
15	10.0	13.3	3.3	3.3	10.0	0.0	16.7	6.7	13.3	10.0	6.7	0.0	0.0	0.0	0.0	6.7	0.0	100.
16	9.7	6.5	6.5	6.5	6.5	9.7	12.9	6.5	12.9	3.2	6.5	3.2	0.0	0.0	0.0	9.7	0.0	100.
17	3.2	9.7	9.7	3.2	6.5	16.1	9.7	6.5	16.1	3.2	3.2	0.0	0.0	0.0	3.2	9.7	0.0	100.
18	0.0	6.5	9.7	6.5	3.2	19.4	12.9	6.5	6.5	9.7	3.2	0.0	0.0	0.0	3.2	12.9	0.0	100.
19	6.5	9.7	6.5	3.2	6.5	16.1	16.1	12.9	0.0	6.5	0.0	6.5	0.0	0.0	0.0	9.7	0.0	100.
20	9.7	12.9	3.2	6.5	6.5	3.2	16.1	16.1	6.5	6.5	0.0	6.5	0.0	0.0	0.0	6.5	0.0	100.
21	9.7	6.5	6.5	6.5	6.5	6.5	12.9	16.1	9.7	3.2	6.5	0.0	3.2	0.0	0.0	6.5	0.0	100.
22	9.7	0.0	12.9	0.0	9.7	3.2	19.4	3.2	19.4	6.5	6.5	0.0	0.0	3.2	3.2	3.2	0.0	100.
23	13.3	3.3	6.7	6.7	6.7	6.7	10.0	10.0	10.0	10.0	6.7	3.3	0.0	0.0	3.3	3.3	0.0	100.
24	20.0	6.7	3.3	6.7	3.3	6.7	3.3	13.3	16.7	3.3	6.7	0.0	3.3	0.0	3.3	3.3	0.0	100.
ALL	11.8	7.9	5.5	3.9	6.2	7.9	8.0	9.6	13.3	8.7	6.5	1.8	0.4	0.7	1.1	6.6	0.0	100.

NUMBER OF OBS = 722

NPPD-COOPER STATION 100-M WIND DIRECTION JULY-SEPT 1991

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	NNW	CALM	TOTAL
1	10.0	3.3	0.0	3.3	3.3	6.7	6.7	10.0	26.7	20.0	0.0	0.0	0.0	3.3	0.0	6.7	0.0	100.
2	6.7	6.7	3.3	0.0	3.3	6.7	3.3	10.0	23.3	23.3	0.0	0.0	0.0	6.7	0.0	6.7	0.0	100.
3	0.0	6.7	6.7	0.0	3.3	6.7	3.3	6.7	20.0	30.0	3.3	0.0	0.0	3.3	3.3	6.7	0.0	100.
4	0.0	6.7	3.3	0.0	0.0	10.0	6.7	6.7	20.0	16.7	16.7	0.0	0.0	3.3	3.3	6.7	0.0	100.
5	3.3	6.7	3.3	0.0	3.3	0.0	6.7	13.3	10.0	26.7	13.3	0.0	0.0	3.3	6.7	3.3	0.0	100.
6	0.0	6.7	3.3	0.0	3.3	0.0	6.7	10.0	16.7	16.7	13.3	0.0	3.3	6.7	3.3	10.0	0.0	100.
7	0.0	3.3	3.3	3.3	3.3	0.0	6.7	10.0	20.0	13.3	10.0	3.3	6.7	0.0	3.3	13.3	0.0	100.
8	0.0	3.3	3.3	3.3	3.3	0.0	3.3	13.3	13.3	20.0	13.3	3.3	0.0	6.7	6.7	6.7	0.0	100.
9	0.0	3.4	3.4	3.4	6.9	0.0	0.0	13.8	13.8	20.7	13.8	3.4	3.4	3.4	6.9	3.4	0.0	100.
10	0.0	0.0	3.3	6.7	0.0	3.3	6.7	10.0	13.3	20.0	10.0	0.0	3.3	10.0	3.3	6.7	3.3	100.
11	0.0	3.3	3.3	3.3	6.7	0.0	0.0	6.7	20.0	16.7	10.0	3.3	0.0	3.3	3.3	16.7	3.3	100.
12	3.3	0.0	3.3	0.0	10.0	0.0	0.0	6.7	20.0	16.7	13.3	0.0	0.0	3.3	3.3	16.7	3.3	100.
13	3.3	0.0	0.0	6.7	0.0	6.7	0.0	10.0	13.3	16.7	16.7	0.0	0.0	3.3	3.3	16.7	3.3	100.
14	10.0	3.3	3.3	0.0	6.7	0.0	3.3	10.0	23.3	16.7	0.0	3.3	3.3	3.3	3.3	6.7	3.3	100.
15	6.7	3.3	0.0	3.3	6.7	3.3	6.7	3.3	23.3	13.3	3.3	3.3	0.0	6.7	3.3	10.0	3.3	100.
16	10.0	3.3	0.0	3.3	3.3	3.3	6.7	10.0	20.0	10.0	3.3	0.0	3.3	6.7	0.0	16.7	0.0	100.
17	6.7	3.3	0.0	3.3	6.7	3.3	6.7	6.7	16.7	10.0	3.3	0.0	3.3	6.7	6.7	16.7	0.0	100.
18	10.0	3.3	0.0	6.7	3.3	3.3	3.3	10.0	16.7	6.7	3.3	3.3	3.3	3.3	6.7	16.7	0.0	100.
19	10.0	6.7	0.0	10.0	3.3	3.3	3.3	13.3	20.0	6.7	0.0	3.3	0.0	0.0	6.7	13.3	0.0	100.
20	13.3	6.7	3.3	3.3	6.7	6.7	10.0	16.7	10.0	10.0	0.0	0.0	0.0	0.0	3.3	10.0	0.0	100.
21	13.3	6.7	3.3	0.0	6.7	13.3	3.3	26.7	10.0	6.7	0.0	0.0	0.0	0.0	3.3	6.7	0.0	100.
22	3.4	10.3	6.9	0.0	3.4	10.3	3.4	20.7	20.7	6.9	0.0	0.0	0.0	0.0	3.4	10.3	0.0	100.
23	3.3	6.7	3.3	3.3	3.3	10.0	3.3	20.0	20.0	13.3	0.0	0.0	0.0	0.0	3.3	10.0	0.0	100.
24	6.7	3.3	0.0	3.3	3.3	6.7	6.7	13.3	20.0	23.3	0.0	0.0	0.0	0.0	3.3	10.0	0.0	100.
ALL	5.0	4.5	2.5	2.8	4.2	4.3	4.5	11.6	18.0	15.9	6.1	1.1	1.3	3.5	3.8	10.3	0.8	100.

NUMBER OF OBS = 718

NPPD-COOPER STATION 100-M WIND DIRECTION JULY-SEPT 1991

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

	WIND DIRECTION																
HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	11.0	5.5	6.6	3.3	1.1	6.6	6.6	13.2	17.6	15.4	2.2	0.0	1.1	3.3	1.1	5.5	0.0	100.
2	8.8	6.6	4.4	3.3	4.4	4.4	7.7	11.0	18.7	15.4	2.2	1.1	2.2	3.3	2.2	4.4	0.0	100.
3	5.5	7.7	4.4	2.2	4.4	5.5	6.6	7.7	18.7	18.7	3.3	1.1	3.3	2.2	3.3	5.5	0.0	100.
4	7.7	5.5	4.4	1.1	3.3	6.6	7.7	7.7	18.7	12.1	9.9	2.2	2.2	2.2	3.3	5.5	0.0	100.
5	5.5	7.7	2.2	2.2	3.3	5.5	5.5	11.0	14.3	17.6	8.8	2.2	2.2	1.1	5.5	5.5	0.0	100.
6	7.7	6.6	2.2	1.1	3.3	6.6	3.3	11.0	16.5	16.5	7.7	2.2	2.2	3.3	4.4	5.5	0.0	100.
7	5.5	8.8	1.1	2.2	3.3	4.4	6.6	8.8	18.7	14.3	7.7	2.2	3.3	1.1	3.3	8.8	0.0	100.
8	5.5	3.3	7.7	2.2	3.3	4.4	8.8	7.7	15.4	15.4	11.0	1.1	0.0	3.3	3.3	7.7	0.0	100.
9	4.4	4.4	4.4	4.4	4.4	7.8	3.3	7.8	13.3	16.7	11.1	5.6	1.1	1.1	5.6	4.4	0.0	100.
10	4.4	3.3	2.2	6.7	3.3	6.7	7.8	6.7	12.2	15.6	8.9	2.2	4.4	5.6	2.2	6.7	1.1	100.
11	11.1	4.4	3.3	3.3	4.4	5.6	5.8	6.7	13.3	14.4	7.8	3.3	1.1	3.3	3.3	7.8	1.1	100.
12	10.0	4.4	4.4	1.1	5.6	5.6	5.6	7.8	14.4	13.3	6.7	2.2	3.3	2.2	1.1	11.1	1.1	100.
13	10.0	4.4	3.3	2.2	4.4	7.8	3.3	6.7	14.4	14.4	8.9	1.1	2.2	4.4	2.2	8.9	1.1	100.
14	14.6	5.6	3.4	1.1	4.5	4.5	6.7	7.9	15.7	12.4	4.5	4.5	2.2	3.4	2.2	5.6	1.1	100.
15	8.8	8.8	1.1	3.3	5.5	4.4	11.0	6.6	16.5	9.9	4.4	1.1	1.1	3.3	4.4	8.8	1.1	100.
16	9.7	7.6	3.3	4.3	4.3	5.4	10.9	9.8	12.0	7.6	3.3	2.2	2.2	2.2	3.3	13.0	0.0	100.
17	5.5	8.8	6.6	2.2	6.6	6.6	11.0	8.8	12.1	5.5	3.3	1.1	2.2	2.2	6.6	11.0	0.0	100.
18	6.6	6.6	6.6	4.4	3.3	9.9	13.2	7.7	11.0	5.5	2.2	1.1	1.1	3.3	5.5	12.1	0.0	100.
19	9.8	9.9	4.4	4.4	4.4	8.8	15.4	13.2	7.7	4.4	0.0	3.3	0.0	0.0	3.3	11.0	0.0	100.
20	11.0	8.8	4.4	4.4	6.6	6.6	15.4	15.4	7.7	5.5	0.0	2.2	0.0	0.0	3.3	8.8	0.0	100.
21	10.9	7.6	6.5	3.3	4.3	10.9	13.0	17.4	8.7	4.3	2.2	0.0	1.1	0.0	4.3	5.4	0.0	100.
22	7.7	5.5	3.9	2.2	6.6	5.5	13.2	12.1	16.5	6.6	2.2	0.0	1.1	1.1	3.3	6.6	0.0	100.
23	11.0	5.5	5.5	6.6	5.5	6.6	7.7	17.6	13.2	9.9	2.2	2.2	0.0	0.0	2.2	4.4	0.0	100.
24	15.4	4.4	3.3	4.4	3.3	7.7	7.7	13.2	16.5	12.1	2.2	0.0	2.2	0.0	2.2	5.5	0.0	100.
ALL	8.6	6.3	4.4	3.2	4.3	6.4	8.5	10.1	14.3	11.8	5.1	1.8	1.7	2.2	3.4	7.5	0.3	100.

NUMBER OF OBS = 2179

NPPD-COOPER STATION 100-M WIND DIRECTION OCT-DEC 1991

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

OCTOBER

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	3.4	17.2	10.3	0.0	0.0	3.4	10.3	3.4	10.3	10.3	0.0	3.4	0.0	6.9	10.3	10.3	0.0	100.
2	7.1	10.7	10.7	0.0	3.6	3.6	3.6	3.6	14.3	10.7	0.0	0.0	3.6	3.6	7.1	17.9	0.0	100.
3	10.3	6.9	10.3	0.0	0.0	3.4	0.0	3.4	17.2	10.3	0.0	3.4	3.4	3.4	10.3	13.8	0.0	100.
4	10.3	6.9	6.9	3.4	0.0	3.4	3.4	3.4	17.2	10.3	0.0	0.0	3.4	10.3	6.9	13.8	0.0	100.
5	17.2	6.9	3.4	6.9	0.0	6.9	0.0	3.4	17.2	10.3	0.0	0.0	3.4	6.9	13.8	3.4	0.0	100.
6	13.8	10.3	0.0	6.9	3.4	6.9	0.0	3.4	17.2	10.3	0.0	0.0	0.0	10.3	10.3	6.9	0.0	100.
7	13.8	3.4	10.3	0.0	3.4	6.9	0.0	3.4	20.7	3.4	3.4	0.0	0.0	10.3	6.9	13.8	0.0	100.
8	10.3	13.8	10.3	0.0	0.0	6.9	0.0	3.4	17.2	6.9	3.4	0.0	0.0	6.9	10.3	10.3	0.0	100.
9	13.8	6.9	13.8	0.0	0.0	3.4	6.9	3.4	6.9	17.2	0.0	0.0	0.0	3.4	10.3	10.3	3.4	100.
10	17.2	6.9	13.8	3.4	0.0	0.0	6.9	3.4	6.9	13.8	10.3	0.0	0.0	3.4	13.8	0.0	0.0	100.
11	21.4	7.1	3.6	3.6	0.0	0.0	10.7	3.6	3.6	7.1	17.9	0.0	0.0	0.0	14.3	3.6	3.6	100.
12	17.2	10.3	0.0	3.4	0.0	3.4	6.9	0.0	6.9	10.3	10.3	0.0	0.0	3.4	17.2	3.4	6.9	100.
13	10.0	13.3	0.0	0.0	0.0	0.0	6.7	3.3	6.7	16.7	3.3	0.0	6.7	3.3	13.3	10.0	6.7	100.
14	6.7	6.7	6.7	0.0	0.0	0.0	3.3	3.3	13.3	6.7	6.7	0.0	6.7	10.0	13.3	10.0	6.7	100.
15	10.0	3.3	6.7	6.7	0.0	0.0	3.3	3.3	13.3	6.7	6.7	0.0	6.7	6.7	13.3	10.0	3.3	100.
16	9.7	3.2	12.9	0.0	0.0	0.0	3.2	0.0	12.9	12.9	6.5	3.2	0.0	9.7	6.5	16.1	3.2	100.
17	10.0	0.0	3.3	10.0	0.0	0.0	6.7	0.0	16.7	13.3	0.0	3.3	3.3	6.7	6.7	16.7	3.3	100.
18	10.0	3.3	3.3	0.0	3.3	3.3	6.7	6.7	10.0	13.3	3.3	3.3	0.0	0.0	10.0	20.0	3.3	100.
19	10.0	6.7	0.0	6.7	0.0	6.7	3.3	6.7	16.7	6.7	3.3	0.0	0.0	0.0	13.3	16.7	3.3	100.
20	13.3	6.7	3.3	3.3	0.0	0.0	10.0	6.7	16.7	3.3	10.0	0.0	0.0	0.0	6.7	16.7	3.3	100.
21	6.7	10.0	3.3	6.7	0.0	0.0	6.7	6.7	20.0	6.7	0.0	3.3	0.0	0.0	10.0	16.7	3.3	100.
22	10.0	3.3	3.3	6.7	3.3	0.0	6.7	6.7	13.3	10.0	3.3	0.0	0.0	3.3	6.7	20.0	3.3	100.
23	13.3	3.3	3.3	3.3	3.3	6.7	6.7	0.0	20.0	6.7	0.0	3.3	0.0	0.0	13.3	13.3	3.3	100.
24	10.3	10.3	3.4	3.4	3.4	3.4	6.9	3.4	13.8	6.9	0.0	3.4	0.0	3.4	17.2	6.9	3.4	100.
ALL	11.5	7.4	5.9	3.1	1.0	3.0	5.0	3.5	13.7	9.6	3.7	1.1	1.6	4.7	10.9	11.8	2.5	100.

NUMBER OF OBS = 706

NPPD-COOPER STATION 100-M WIND DIRECTION OCT DEC 1991

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	3.6	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	3.6	7.1	0.0	17.9	28.6	32.1	0.0	3.6	100.
2	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0	3.6	0.0	7.1	0.0	14.3	28.6	39.3	0.0	3.6	100.
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1	0.0	3.6	3.6	17.9	25.0	35.7	3.6	3.6	100.
4	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	3.7	3.7	18.5	33.3	25.9	3.7	3.7	100.
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	3.7	3.7	14.8	29.6	29.6	3.7	7.4	100.
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	3.7	7.4	11.1	29.6	29.6	3.7	7.4	100.
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	3.7	0.0	3.7	7.4	37.0	29.6	3.7	7.4	100.
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	3.7	0.0	3.7	7.4	33.3	33.3	3.7	3.7	100.
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	3.7	3.7	3.7	7.4	33.3	33.3	3.7	3.7	100.
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	0.0	0.0	0.0	14.8	3.7	33.3	37.0	0.0	3.7	100.
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1	0.0	0.0	0.0	7.1	10.7	39.3	32.1	0.0	3.6	100.
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1	0.0	0.0	0.0	7.1	7.1	32.1	39.3	3.6	3.6	100.
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.6	0.0	7.1	10.7	28.6	42.9	0.0	3.6	100.
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1	0.0	0.0	3.6	17.9	28.6	39.3	0.0	3.6	100.
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	0.0	0.0	3.7	18.5	29.6	37.0	0.0	3.7	100.
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.6	0.0	3.6	17.9	32.1	35.7	0.0	3.6	100.
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	6.9	0.0	24.1	20.7	41.4	0.0	3.4	100.
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	3.4	0.0	0.0	3.4	17.2	31.0	31.0	6.9	3.4	100.
19	3.6	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.6	0.0	0.0	7.1	7.1	35.7	35.7	0.0	3.6	100.
20	3.6	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.6	0.0	0.0	7.1	7.1	35.7	32.1	3.6	3.6	100.
21	3.6	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.6	0.0	3.6	3.6	7.1	35.7	28.6	7.1	3.6	100.
22	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1	0.0	0.0	7.1	3.6	35.7	35.7	7.1	0.0	100.
23	3.6	3.6	0.0	0.0	0.0	0.0	0.0	0.0	7.1	0.0	0.0	3.6	10.7	35.7	32.1	3.6	0.0	100.
24	3.6	0.0	0.0	3.6	0.0	0.0	0.0	0.0	3.6	3.6	0.0	3.6	17.9	28.6	28.6	7.1	0.0	100.
ALL	1.1	0.3	0.0	0.3	0.0	0.0	0.2	1.5	3.9	1.8	1.8	4.7	12.5	31.7	34.1	2.7	3.6	100.

NUMBER OF OBS = 666

NPPD-COOPER STATION 100-M WIND DIRECTION OCT-DEC 1991

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	0.0	3.4	0.0	3.4	0.0	3.4	3.4	0.0	3.4	3.4	3.4	0.0	10.3	31.0	34.5	0.0	0.0	100.
2	0.0	0.0	3.4	0.0	3.4	3.4	3.4	0.0	0.0	6.9	3.4	3.4	10.3	31.0	31.0	0.0	0.0	100.
3	0.0	0.0	0.0	0.0	3.4	6.9	3.4	0.0	0.0	3.4	6.9	3.4	10.3	24.1	34.5	3.4	0.0	100.
4	3.4	0.0	0.0	0.0	3.4	6.9	0.0	0.0	6.9	0.0	3.4	10.3	6.9	24.1	31.0	3.4	0.0	100.
5	3.0	0.0	0.0	0.0	0.0	10.3	3.4	3.4	0.0	3.4	0.0	3.4	10.3	24.1	37.9	3.4	0.0	100.
6	0.0	0.0	0.0	0.0	3.4	6.9	0.0	0.0	0.0	3.4	3.4	10.3	3.4	31.0	31.0	6.9	0.0	100.
7	0.0	0.0	0.0	0.0	3.4	6.9	0.0	0.0	0.0	3.4	6.9	6.9	3.4	31.0	31.0	6.9	0.0	100.
8	0.0	0.0	0.0	0.0	3.4	6.9	0.0	3.4	3.4	3.4	0.0	3.4	6.9	31.0	34.5	3.4	0.0	100.
9	3.3	0.0	0.0	0.0	0.0	10.0	3.3	0.0	3.3	0.0	0.0	10.0	3.3	30.0	33.3	3.3	0.0	100.
10	0.0	3.2	0.0	0.0	0.0	6.5	6.5	0.0	3.2	0.0	0.0	0.0	12.9	35.5	32.3	0.0	0.0	10..
11	0.0	0.0	0.0	0.0	0.0	6.5	6.5	3.2	0.0	0.0	0.0	6.5	12.9	38.7	25.8	0.0	0.0	100.
12	0.0	0.0	0.0	0.0	0.0	6.5	3.2	3.2	3.2	0.0	0.0	6.5	9.7	35.5	32.3	0.0	0.0	100.
13	0.0	0.0	0.0	0.0	0.0	6.5	3.2	0.0	0.0	0.0	6.5	0.0	12.9	41.9	29.0	0.0	0.0	100.
14	0.0	0.0	0.0	0.0	0.0	6.5	3.2	3.2	0.0	0.0	0.0	3.2	6.5	41.9	35.5	0.0	0.0	100.
15	3.2	0.0	0.0	0.0	0.0	6.5	3.2	0.0	3.2	0.0	0.0	0.0	9.7	38.7	35.5	0.0	0.0	100.
16	3.2	0.0	0.0	0.0	0.0	6.5	3.2	0.0	0.0	3.2	0.0	0.0	12.9	32.3	35.5	3.2	0.0	100.
17	0.0	0.0	3.2	0.0	3.2	3.2	3.2	0.0	0.0	0.0	3.2	0.0	3.2	45.2	32.3	3.2	0.0	100.
18	0.0	0.0	0.0	3.2	3.2	3.2	3.2	0.0	0.0	0.0	0.0	9.7	12.9	29.0	29.0	6.5	0.0	100.
19	3.2	0.0	0.0	3.2	3.2	3.2	3.2	0.0	0.0	0.0	6.5	3.2	12.9	32.3	29.0	0.0	0.0	100.
20	3.2	0.0	0.0	0.0	3.2	9.7	0.0	0.0	0.0	0.0	3.2	3.2	16.1	29.0	29.0	3.2	0.0	100.
21	3.2	0.0	0.0	0.0	3.2	9.7	0.0	0.0	0.0	0.0	3.2	3.2	12.9	32.3	29.0	3.2	0.0	100.
22	0.0	0.0	0.0	3.2	3.2	6.5	3.2	0.0	0.0	0.0	3.2	0.0	19.4	25.8	35.5	0.0	0.0	100.
23	0.0	0.0	0.0	0.0	3.2	6.5	3.2	0.0	0.0	3.2	3.2	0.0	12.9	35.5	32.3	0.0	0.0	100.
24	0.0	0.0	0.0	0.0	3.2	3.2	6.5	0.0	0.0	0.0	6.5	0.0	12.9	29.0	35.5	3.2	0.0	100.
ALL	1.0	0.3	0.3	0.6	1.9	6.3	2.9	0.7	1.1	1.4	4.3	3.6	10.3	32.6	32.3	2.2	0.0	100.

NUMBER OF OBS = 727

NPPD-COOPER STATION 100-M WIND DIRECTION OCT-DEC 1991

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

	WIND DIRECTION																	
HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	2.3	7.0	3.5	2.3	0.0	2.3	4.7	1.2	4.7	5.8	3.5	1.2	9.3	22.1	25.6	3.5	1.2	100.
2	2.4	3.5	4.7	0.0	2.4	2.4	3.5	1.2	5.9	5.9	3.5	1.2	9.4	21.2	25.9	5.9	1.2	100.
3	3.5	2.3	3.5	0.0	1.2	4.7	1.2	1.2	8.1	4.7	3.5	3.5	10.5	17.4	26.7	7.0	1.2	100.
4	4.7	3.5	2.4	1.2	1.2	3.5	1.2	1.2	8.2	4.7	2.4	4.7	9.4	22.4	21.2	7.1	1.2	100.
5	5.9	2.4	1.2	2.4	0.0	5.9	1.2	2.4	5.9	7.1	1.2	2.4	9.4	20.0	27.1	3.5	2.4	100.
6	4.7	3.5	0.0	2.4	2.4	4.7	0.0	1.2	5.9	7.1	2.4	5.9	4.7	23.5	23.5	5.9	2.4	100.
7	4.7	1.2	3.5	0.0	2.4	4.7	0.0	1.2	9.4	3.5	3.5	3.5	3.5	25.9	22.4	8.2	2.4	100.
8	3.5	4.7	3.5	0.0	1.2	4.7	0.0	2.4	10.6	4.7	1.2	2.4	4.7	23.5	25.9	5.9	1.2	100.
9	5.8	2.3	4.7	0.0	0.0	4.7	3.5	1.2	5.8	7.0	1.2	4.7	3.5	22.1	25.6	5.8	2.3	100.
10	5.7	3.4	4.6	1.1	0.0	2.3	4.6	3.4	3.4	4.6	3.4	4.6	5.7	24.1	27.6	0.0	1.1	100.
11	6.9	2.3	1.1	1.1	0.0	2.3	5.7	4.6	1.1	2.3	5.7	4.6	8.0	26.4	24.1	1.1	2.3	100.
12	5.7	3.4	0.0	1.1	0.0	3.4	3.4	3.4	3.4	3.4	3.4	4.5	5.7	23.9	29.5	2.3	3.4	100.
13	3.4	4.5	0.0	0.0	0.0	2.2	3.4	1.1	3.4	6.7	3.4	2.2	10.1	24.7	28.1	3.4	3.4	100.
14	2.2	2.2	2.2	0.0	0.0	2.2	2.2	2.2	6.7	2.2	2.2	2.2	10.1	27.0	29.2	3.4	3.4	100.
15	4.5	1.1	2.3	2.3	0.0	2.3	2.3	1.1	8.0	2.3	2.3	1.1	11.4	25.0	28.4	3.4	2.3	100.
16	4.4	1.1	4.4	0.0	0.0	2.2	2.2	0.0	5.6	6.7	2.2	2.2	10.0	24.4	25.6	6.7	2.2	100.
17	3.3	0.0	2.2	3.3	1.1	1.1	3.3	0.0	6.7	4.4	3.3	1.1	20.0	24.4	26.7	6.7	2.2	100.
18	3.3	1.1	1.1	1.1	2.2	2.2	3.3	3.3	4.4	4.4	1.1	5.6	10.0	20.0	23.3	11.1	2.2	100.
19	5.6	2.2	0.0	3.4	1.1	3.4	2.2	3.4	6.7	2.2	3.4	3.4	6.7	22.5	25.8	5.6	2.2	100.
20	6.7	2.2	1.1	1.1	1.1	3.4	3.4	3.4	6.7	1.1	4.5	3.4	7.9	21.3	22.5	7.9	2.2	100.
21	4.5	3.4	1.1	2.2	1.1	3.4	2.2	3.4	7.9	2.2	2.2	3.4	6.7	22.5	22.5	9.0	2.2	100.
22	4.5	1.1	1.1	3.4	2.2	2.2	3.4	2.2	6.7	3.4	2.2	2.2	7.9	21.3	25.8	9.0	1.1	100.
23	5.6	2.2	1.1	1.1	2.2	4.5	3.4	0.0	9.0	3.4	1.1	2.2	7.9	23.6	25.8	5.6	1.1	100.
24	4.5	3.4	1.1	2.3	2.3	2.3	4.5	1.1	5.7	3.4	2.3	2.3	10.2	20.5	27.3	5.7	1.1	100.
ALL	4.5	2.7	2.1	1.3	1.0	3.2	2.7	1.9	6.2	4.3	2.7	3.1	8.1	22.9	25.7	5.6	2.0	100.

NUMBER OF OBS = 2099

NPPD-COOPER STATION 100-M WIND DIRECTION JULY-DEC 1991

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	6.8	6.2	5.1	2.8	0.6	4.5	5.6	7.3	11.3	10.7	2.8	0.6	5.1	12.4	13.0	4.5	0.6	100.
2	5.7	5.1	4.5	1.7	3.4	3.4	5.7	6.2	12.5	10.6	2.8	1.1	5.7	11.9	13.6	5.1	0.6	100.
3	4.5	5.1	4.0	1.1	2.8	5.1	4.0	4.5	13.6	11.9	3.4	2.3	6.8	9.6	14.7	6.2	0.6	100.
4	6.2	4.5	3.4	1.1	2.3	5.1	4.5	4.5	13.6	8.5	6.2	3.4	5.7	11.9	11.9	6.2	0.6	100.
5	5.7	5.1	1.7	2.3	1.7	5.7	3.4	6.8	10.2	12.5	5.1	2.3	5.7	10.2	15.9	4.5	1.1	100.
6	6.2	5.1	1.1	1.7	2.8	5.7	1.7	6.2	11.4	11.9	5.1	4.0	3.4	13.1	13.6	5.7	1.1	100.
7	5.1	5.1	2.3	1.1	2.8	4.5	3.4	5.1	14.2	9.1	5.7	2.8	3.4	13.1	12.5	8.5	1.1	100.
8	4.5	4.0	5.7	1.1	2.3	4.5	4.5	5.1	13.1	10.2	6.2	1.7	2.3	13.1	14.2	6.8	0.6	100.
9	5.1	3.4	4.5	2.3	2.3	6.2	3.4	4.5	9.7	11.9	6.2	5.1	2.3	11.4	15.3	5.1	1.1	100.
10	5.1	3.4	3.4	4.0	1.7	4.5	6.2	5.1	7.9	10.2	6.2	3.4	5.1	14.7	14.7	3.4	1.1	100.
11	9.0	3.4	2.3	2.3	2.3	4.0	5.6	5.6	7.3	8.5	6.8	4.0	4.5	14.7	13.6	4.5	1.7	100.
12	7.9	3.9	2.2	1.1	2.8	4.5	4.5	5.6	9.0	8.4	5.1	3.4	4.5	12.9	15.2	6.7	2.2	100.
13	6.7	4.5	1.7	1.1	2.2	5.0	3.4	3.9	8.9	10.6	6.1	1.7	6.1	14.5	15.1	6.1	2.2	100.
14	8.4	3.9	2.8	0.6	2.2	3.4	4.5	5.1	11.2	7.3	3.4	3.4	6.2	15.2	15.7	4.5	2.2	100.
15	6.7	5.0	1.7	2.8	2.8	3.4	6.7	3.9	12.3	6.1	3.4	1.1	6.1	14.0	16.2	6.1	1.7	100.
16	6.6	4.4	3.8	2.2	2.2	3.8	6.6	4.8	8.8	7.1	2.7	2.2	6.0	13.2	14.3	9.9	1.1	100.
17	4.4	4.4	4.4	2.8	3.3	3.9	7.2	4.4	9.4	5.0	3.3	1.1	6.1	13.3	16.6	8.8	1.1	100.
18	5.0	3.9	3.9	2.8	2.8	6.1	8.3	5.5	7.7	5.0	1.7	3.3	5.5	11.6	14.4	11.6	1.1	100.
19	7.8	6.1	2.2	3.9	2.8	6.1	8.9	8.3	7.2	3.3	1.7	3.3	3.3	11.1	14.4	8.3	1.1	100.
20	8.9	5.6	2.8	2.8	3.9	5.0	9.4	9.4	7.2	3.3	2.2	2.8	3.9	10.6	12.8	8.3	1.1	100.
21	7.7	5.5	3.9	2.8	2.8	7.2	7.7	10.5	8.3	3.3	2.2	1.7	3.9	11.0	13.3	7.2	1.1	100.
22	6.1	3.3	5.6	2.8	4.4	3.9	6.3	7.2	11.7	5.0	2.2	1.1	4.4	11.1	14.4	7.8	0.6	100.
23	8.3	3.9	3.3	3.9	3.9	5.6	5.6	8.9	11.1	6.7	1.7	2.2	3.9	11.7	13.9	5.0	0.6	100.
24	10.1	3.9	2.2	3.4	2.8	5.0	6.1	7.3	11.2	7.8	2.2	1.1	6.1	10.1	14.5	5.6	0.6	100.
ALL	6.6	4.5	3.3	2.3	2.7	4.8	5.7	6.1	10.4	8.1	3.9	2.5	4.8	12.3	14.3	6.5	1.1	100.

NUMBER OF OBS = 4278

NPPD-COOPER STATION 100-M WIND DIRECTION JAN-DEC 1991

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

ANNUAL

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	8.4	4.5	3.6	3.1	2.2	5.9	5.9	8.4	12.3	10.6	4.7	2.5	3.6	7.5	9.8	6.7	0.3	100.
2	7.8	3.4	3.3	1.1	3.6	5.0	5.6	9.0	13.7	9.8	[illegible]	2.5	4.5	7.8	9.5	6.7	0.3	100.
3	8.4	4.5	4.7	1.7	3.4	5.0	5.3	7.3	13.7	9.8	[illegible]	2.8	5.6	7.0	9.2	8.1	0.3	100.
4	7.8	4.2	3.9	1.7	3.9	5.0	5.0	6.4	13.7	9.0	[illegible]	2.8	5.0	8.4	8.1	7.3	0.3	100.
5	7.6	4.5	2.8	1.7	3.6	5.6	5.0	7.0	12.0	10.9	6.2	2.5	5.3	7.6	10.9	6.2	0.6	100.
6	8.1	4.2	2.5	2.2	4.2	4.8	4.8	6.7	12.9	9.8	6.2	4.8	3.1	7.8	10.6	6.7	0.6	100.
7	7.0	5.1	3.1	1.4	2.5	5.9	5.9	7.3	14.0	8.1	5.9	3.7	3.4	8.1	9.8	8.1	0.6	100.
8	6.7	4.5	5.0	1.4	3.1	4.5	5.9	7.6	13.7	10.1	5.6	2.2	3.6	8.7	10.4	6.7	0.3	100.
9	7.3	4.5	4.5	2.0	2.5	6.4	5.0	7.0	11.2	11.5	6.4	3.9	2.2	8.4	9.5	7.0	0.6	100.
10	6.4	4.2	3.4	3.4	2.5	5.6	6.2	6.7	11.2	10.9	7.0	2.5	3.9	10.9	9.8	4.8	0.6	100.
11	8.1	4.5	2.2	2.0	2.2	7.3	5.1	5.6	11.5	11.5	7.3	2.5	3.7	10.1	9.[illegible]	5.6	0.8	100.
12	9.0	3.7	2.2	1.4	2.8	5.6	5.9	7.6	11.5	9.3	6.5	3.4	3.7	9.3	10.1	7.0	1.1	100.
13	8.7	3.9	1.7	1.7	2.5	6.2	5.0	7.6	10.9	9.2	6.4	3.4	4.2	10.9	10.1	6.4	1.1	100.
14	9.9	3.4	3.1	1.7	2.5	3.7	5.6	7.0	13.8	7.0	5.6	2.8	4.8	10.7	11.8	5.4	1.1	100.
15	9.2	4.4	2.2	2.5	2.2	4.4	6.4	6.4	14.4	6.7	5.0	2.8	5.0	10.0	11.1	6.4	0.8	100.
16	8.5	4.7	3.6	1.9	2.5	4.1	7.4	6.6	12.1	6.9	5.0	3.3	5.0	8.3	11.6	8.0	0.6	100.
17	8.6	4.7	3.3	1.9	3.3	4.4	6.1	7.7	12.2	5.8	5.2	3.3	4.4	8.3	12.4	7.7	0.6	100.
18	7.5	4.7	2.8	2.8	2.5	6.1	7.2	8.0	11.3	5.2	3.6	5.2	4.7	7.5	9.7	10.8	0.6	100.
19	10.0	5.8	1.7	3.6	3.1	6.7	8.9	8.6	10.8	4.7	3.1	4.2	2.2	8.6	9.4	8.1	0.6	100.
20	11.[illegible]	5.0	2.8	2.8	3.9	6.7	8.6	11.1	10.3	4.7	3.1	3.1	3.3	6.4	8.[illegible]	8.3	0.6	100.
21	8.0	6.1	3.9	2.2	3.6	7.5	8.6	11.1	10.0	5.3	3.3	2.8	3.6	6.6	8.6	7.8	0.6	100.
22	9.4	3.1	4.7	2.5	3.6	4.7	9.7	8.6	13.6	6.7	2.5	2.2	3.6	7.8	10.0	6.9	0.3	100.
23	9.4	3.3	3.9	3.1	2.8	6.4	6.9	8.6	14.7	8.1	3.3	1.9	2.8	8.3	10.0	6.1	0.3	100.
24	10.6	2.8	3.3	1.9	3.6	6.7	6.1	8.4	12.3	9.5	5.0	0.8	4.2	7.0	10.3	7.2	0.3	100.
ALL	8.4	4.3	3.3	2.2	3.0	5.6	6.3	7.8	12.4	8.4	5.1	3.0	4.0	8.4	10.0	7.1	0.6	100.

NUMBER OF OBS = 8602

Precipitation

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JULY-SEPT 1991 RAIN VERSION # 2P

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
91	7	1	0.00	0.00	0.00	0.16	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	0.16
91	7	2	0.00	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	0.07
91	7	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
91	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	0.00	0.00	0.00	0.00
91	7	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
91	7	6	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	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	0.00	0.00	0.00	0.00	0.00
91	7	9	0.10	0.10	0.60	0.13	0.10	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	1.13
91	7	10	0.00	0.00	0.00	0.00	0.00	0.10	0.00	.00	0.00	0.00	0.00	0.00	
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
91	7	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	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	0.11
91	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
91	7	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
91	7	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
91	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
91	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	0.00	0.00	0.00	0.00	0.00
91	7	17	0.00	0.00	0.00	.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			0.00	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 JULY-SEPT 1991 RAIN VERSION # 2P

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
91	7	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
91	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
91	7	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
91	7	21	0.00	0.00	0.30	0.50	0.29	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	1.29
91	7	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	1.20	0.18	0.00	0.00	0.00	0.00	0.00	1.38
91	7	23	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	0.00	0.02
91	7	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
91	7	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
91	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	0.00	0.00	0.00	0.00
91	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
91	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
91	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
91	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	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
91	7	31	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JULY-SEPT 1991 RAIN VERSION # 2P

MONTH OF JULY

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 19
TOTAL DAYS WITH PRECIPITATION - 10
TOTAL AMOUNT OF PRECIPITATION - 4.79 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 1.20 INCHES
MAXIMUM DAILY PRECIPITATION - 1.38 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 22 HOUR 18 - 1.20 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 22 HOUR 18 - 1.38 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 22 HOUR 18 - 1.40 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 22 HOUR 18 - 1.40 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 22 HOUR 18 - 1.40 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

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JULY-SEPT 1991 RAIN VERSION # 2P

MONTH OF JULY

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS) 1	6	12	18	24
0.01	19	68	116	158	196
0.02	19	68	116	158	196
0.03	18	62	110	152	190
0.04	18	62	110	152	190
0.05	18	62	110	152	190
0.07	18	62	110	152	190
0.10	16	50	86	122	155
0.15	9	35	58	83	106
0.20	7	30	55	79	103
0.25	6	27	51	75	97
0.30	5	27	51	75	97
0.35	4	25	49	73	95
0.40	4	25	49	73	95
0.45	4	25	49	73	95
0.50	3	18	36	60	84
0.60	2	18	36	54	72
0.70	1	18	36	54	72
0.80	1	18	36	54	72
0.90	1	16	34	52	70
1.00	1	13	31	49	67
1.10	1	9	27	45	63
1.20	1	9	21	33	45
1.30	0	5	11	17	23
1.40	0	0	5	11	17
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

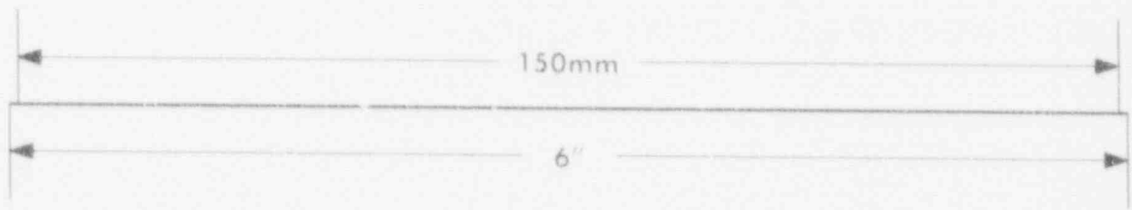
ENTRIES INDICATE NUMBER OF DURATION PERIODS WITH RAINFALL GREATER THAN OR EQUAL TO AMOUNT SHOWN

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JULY-SEPT 1991 RAIN VERSION # 2P

YR	MON	DAY	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	12N	
			1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	12MDNT	TOTAL
91	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
91	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
91	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
91	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
91	8	5	0.00	0.00	0.00	0.00	0.00	0.13	0.30	0.30	0.00	0.00	0.10	0.00	
			0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93
91	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
91	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
91	8	8	0.00	0.10	0.12	0.30	0.12	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	0.74
91	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
91	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
91	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	0.00
91	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
91	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	0.00
91	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
91	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
91	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	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48
91	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

2

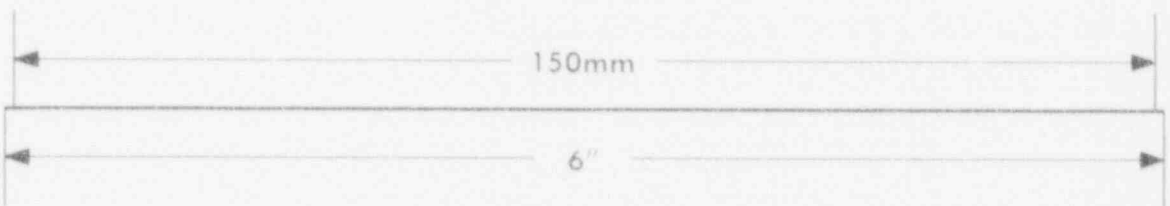
IMAGE EVALUATION
TEST TARGET (MT-3)



PHOTOGRAPHIC SCIENCES CORPORATION
770 BASKET ROAD
P.O. BOX 338
WEBSTER, NEW YORK 14580
(716) 265-1600

2

IMAGE EVALUATION
TEST TARGET (MT-3)



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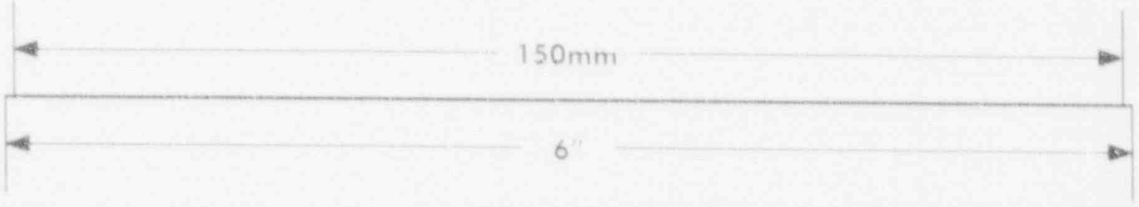
770 BASKET ROAD
P.O. BOX 338
WEBSTER, NEW YORK 14580
(716) 265-1600

2

IMAGE EVALUATION TEST TARGET (MT-3)



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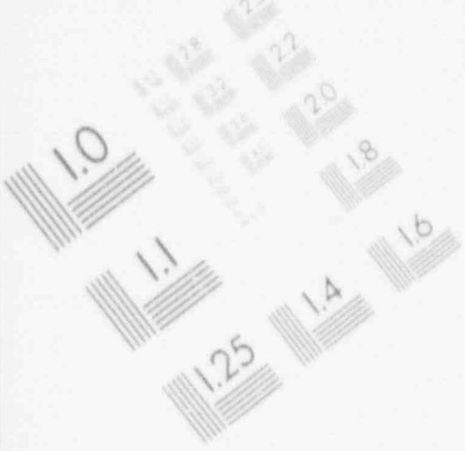
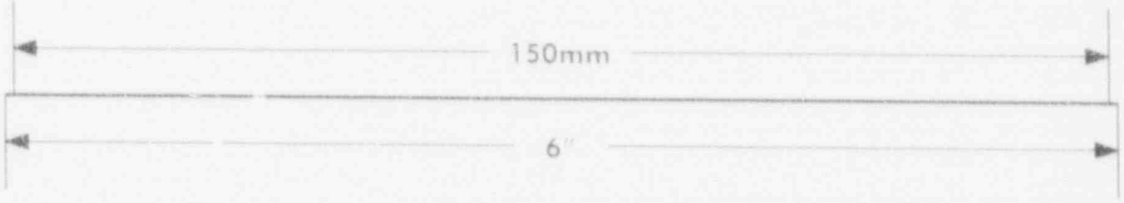
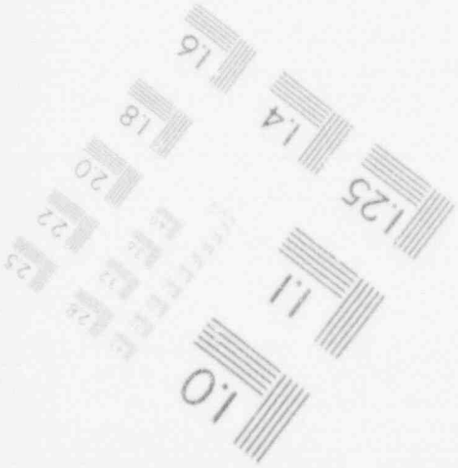
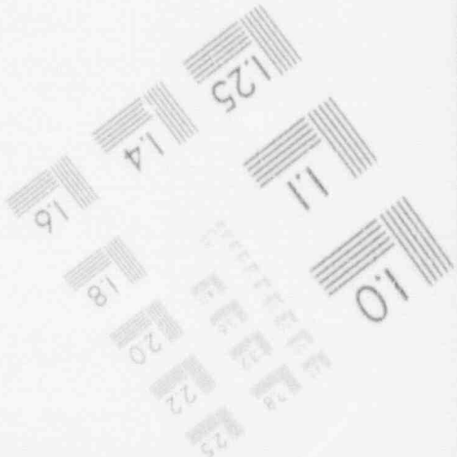
2

IMAGE EVALUATION
TEST TARGET (MT-3)









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P.O. BOX 338
WEBSTER, NEW YORK 14580
(716) 265-1600

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JULY-SEPT 1991 RAIN VERSION # 2P

YR	MON	DAY	1AM	2AM	3AM	[illegible]	5AM	6AM	7AM	8AM	9AM	10AM	11AM	12N	
			1PM	2PM	[illegible]	[illegible]	5PM	6PM	7PM	8PM	9PM	10PM	11PM	MIDNT	TOTAL
91	8	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	8	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
91	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
91	8	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
91	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
91	8	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.02
91	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
91	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
91	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
91	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	0.00	0.00	0.00	0.00
91	8	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
91	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
91	8	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
91	8	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JULY-SEPT 1991 RAIN VERSION # 2P

MONTH OF AUGUST

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 13
TOTAL DAYS WITH PRECIPITATION - 5
TOTAL AMOUNT OF PRECIPITATION - 2.23 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 0.48 INCHES
MAXIMUM DAILY PRECIPITATION - 0.93 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 16 HOUR 15 - 0.48 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 5 HOUR 6 - 0.83 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 5 HOUR 6 - 0.93 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 5 HOUR 6 - 0.93 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 5 HOUR 6 - 0.93 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

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JULY-SEPT 1991 RAIN VERSION # 2P

MONTH OF AUGUST

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS) 1	6	12	18	24
0.01	13	41	71	96	120
0.02	13	41	71	96	120
0.03	12	35	59	78	96
0.04	12	35	59	78	96
0.05	12	35	59	78	96
0.07	11	29	47	65	83
0.10	11	29	47	65	83
0.15	4	24	42	60	78
0.20	4	24	42	60	78
0.25	4	19	37	55	73
0.30	4	19	37	55	73
0.35	1	19	37	55	73
0.40	1	19	37	55	73
0.45	1	18	36	54	72
0.50	0	12	24	36	48
0.60	0	9	21	33	45
0.70	0	7	19	31	43
0.80	0	1	8	14	20
0.90	0	0	5	11	17
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

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JULY-SEPT 1991 RAIN VERSION # 2P

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 12MDN.	TOTAL
91	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
91	9	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
91	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	
			0.30	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42
91	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	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	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
91	9	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	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	0.20	0.50	0.70	0.14	0.00	0.00	0.00	1.54
91	9	8	0.13	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	0.00	0.00	0.00	0.00	0.00	0.43
91	9	9	0.11	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	0.11
91	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
91	9	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
91	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
91	9	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	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.11
91	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	0.00
91	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
91	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
91	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	
			0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JULY-SEPT 1991 RAIN VERSION # 2F

YR	MON	DAY	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	12N	
			1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	12MDNT	TOTAL
91	9	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
91	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
91	9	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
91	9	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	9	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
91	9	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
91	9	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
91	9	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
91	9	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
91	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
91	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
91	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
91	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 JULY-SEPT 1991 RAIN VERSION # 2P

MONTH OF SEPTEMBER

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 720
NUMBER OF MISSING HOURS - 2
TOTAL HOURS OF PRECIPITATION - 13
TOTAL DAYS WITH PRECIPITATION - 8
TOTAL AMOUNT OF PRECIPITATION - 2.68 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 0.70 INCHES
MAXIMUM DAILY PRECIPITATION - 1.54 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 7 HOUR 20 - 0.70 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 7 HOUR 18 - 1.54 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 7 HOUR 18 - 1.97 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 7 HOUR 18 - 1.97 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 7 HOUR 18 - 1.97 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

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JULY-SEPT 1991 RAIN VERSION # 2P

[illegible]TH OF SEPTEMBER

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS) 1	6	12	18	24
0.01	13	51	93	135	175
0.02	11	39	69	99	123
0.03	11	39	69	99	128
0.04	11	39	69	99	128
0.05	11	39	69	99	128
0.07	10	33	57	81	104
0.10	10	33	57	81	104
0.15	5	20	32	44	56
0.20	5	20	32	44	56
0.25	4	19	31	43	55
0.30	4	19	31	43	55
0.35	2	17	29	41	54
0.40	2	17	29	41	54
0.45	2	8	14	20	26
0.50	2	8	14	20	26
0.60	1	7	13	19	25
0.70	1	7	13	19	25
0.80	0	6	12	18	24
0.90	0	6	12	18	24
1.00	0	5	12	18	24
1.10	0	5	12	18	24
1.20	0	5	12	18	24
1.30	0	5	11	17	23
1.40	0	4	11	17	23
1.50	0	3	10	16	22
1.60	0	0	6	12	18
1.70	0	0	5	11	17
1.80	0	0	4	10	16
1.90	0	0	4	10	16
2.00	0	0	0	0	0

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

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JULY-SEPT 1991 RAIN VERSION # 2P

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 2208
NUMBER OF MISSING HOURS - 2
TOTAL HOURS OF PRECIPITATION - 45
TOTAL DAYS WITH PRECIPITATION - 23
TOTAL AMOUNT OF PRECIPITATION - 9.70 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 1.20 INCHES
MAXIMUM DAILY PRECIPITATION - 1.54 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 7 DAY 22 HOUR 18 - 1.20 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 9 DAY 7 HOUR 18 - 1.54 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 9 DAY 7 HOUR 18 - 1.97 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 9 DAY 7 HOUR 18 - 1.97 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 9 DAY 7 HOUR 18 - 1.97 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

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JULY-SEPT 1991 RAIN VERSION # 2"

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS) 1	6	12	18	24
0.01	45	160	280	394	504
0.02	43	148	256	358	457
0.03	41	136	238	334	427
0.04	41	136	238	334	427
0.05	41	136	238	334	427
0.07	39	124	214	298	379
0.10	37	112	190	268	344
0.15	18	79	133	187	242
0.20	16	74	129	183	239
0.25	14	65	119	173	227
0.30	13	65	119	173	227
0.35	7	61	115	169	224
0.40	7	61	115	169	224
0.45	7	51	99	147	195
0.50	5	38	74	116	158
0.60	3	34	70	1 o	142
0.70	2	32	68	104	140
0.80	1	25	56	86	116
0.90	1	22	51	81	111
1.00	1	18	43	67	91
1.10	1	14	39	63	87
1.20	1	14	33	51	69
1.30	0	10	22	34	46
1.40	0	4	16	28	40
1.50	0	3	10	16	22
1.60	0	0	6	12	18
1.70	0	0	5	11	17
1.80	0	0	4	10	16
1.90	0	0	4	10	16
2.00	0	0	0	0	0

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1991 RAIN VERSION # 2P

YR	MON	DAY	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	12N	
			1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	12MDNT	TOTAL
91	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
91	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
91	10	3	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	0.00	0.00	0.05
91	10	4	0.00	0.07	0.90	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	0.06	0.00	0.00	0.00	0.00	1.23
91	10	5	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
91	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
91	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
91	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
91	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	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	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
91	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
91	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
91	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	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	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
91	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
91	10	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
91	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

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1991 RAIN VERSION # 2P

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
91	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	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
91	10	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
91	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
91	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
91	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
91	10	24	0.00	0.00	0.00	0.00	0.00	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	0.14
91	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	0.11	0.00	0.00	0.00	0.11
91	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
91	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
91	10	28	0.00	0.00	0.00	0.00	0.00	0.07	0.10	0.30	0.00	0.20	0.10	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	0.84
91	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
91	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
91	10	31	0.00	0.00	0.00	0.00	0.00	0.07	0.10	0.20	0.10	0.00	0.10	0.20	
			0.00	0.10	0.10	0.00	0.20	0.20	0.10	0.00	0.10	0.00	0.07	0.00	1.64

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1991 RAIN VERSION # 2P

MONTH OF OCTOBER

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 27
TOTAL DAYS WITH PRECIPITATION - 7
TOTAL AMOUNT OF PRECIPITATION - 4.11 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 0.90 INCHES
MAXIMUM DAILY PRECIPITATION - 1.64 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 4 HOUR 3 - 0.90 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 4 HOUR 2 - 1.17 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 31 HOUR 8 - 1.30 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 31 HOUR 6 - 1.64 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 31 HOUR 1 - 1.64 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 - 6
TOTAL DAYS WITH PRECIPITATION - 1
TOTAL AMOUNT OF PRECIPITATION - 0.77 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 0.20 INCHES
MAXIMUM DAILY PRECIPITATION - 0.77 INCHES

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1991 RAIN VERSION # 2P

MONTH OF OCTOBER

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS) 1	6	12	18	24
0.01	27	69	111	145	169
0.02	27	69	111	145	169
0.03	27	69	111	145	169
0.04	27	69	111	145	169
0.05	27	69	111	145	169
0.07	25	57	87	117	147
0.10	20	53	83	114	144
0.15	8	35	47	62	80
0.20	8	32	44	56	68
0.25	2	31	43	56	68
0.30	2	30	43	55	67
0.35	1	30	43	55	67
0.40	1	27	40	52	64
0.45	1	27	40	52	64
0.50	1	22	36	48	60
0.60	1	18	35	47	59
0.70	1	10	33	45	57
0.80	1	6	29	41	53
0.90	1	6	21	28	34
1.00	0	5	18	26	32
1.10	0	5	17	25	31
1.20	0	0	2	8	20
1.30	0	0	2	7	7
1.40	0	0	0	6	6
1.50	0	0	0	4	4
1.60	0	0	0	1	2
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

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1991 RAIN VERSION # 2P

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
91	11	1	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00	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	0.53
91	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
91	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
91	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
91	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	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
91	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	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
91	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
91	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
91	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	0.0	0.00
91	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
91	11	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
91	11	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
91	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
91	11	14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.01
91	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
91	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	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.03
91	11	17	0.00	0.12	0.00	0.00	0.00	0.00	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	0.13	0.00	0.00	0.37

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1991 RAIN VERSION # 2P

YR	MON	DAY	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	12N	
			1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	12MDNT	TOTAL
91	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	0.10	0.00	0.00	0.00	0.09	0.00	0.00	0.19
91	11	19	0.00	0.00	0.00	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	0.13
91	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
91	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
91	11	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	
			0.00	0.00	0.00	0.16	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.47
91	11	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
91	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	0.00
91	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
91	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	0.07	0.07	0.00	0.00	0.00	0.00	0.14
91	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	0.00
91	11	28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
91	11	29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.46
91	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

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1991 RAIN VERSION # 2P

MONTH OF NOVEMBER

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 720
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 23
TOTAL DAYS WITH PRECIPITATION - 14
TOTAL AMOUNT OF PRECIPITATION - 2.71 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 0.46 INCHES
MAXIMUM DAILY PRECIPITATION - 0.53 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 29 HOUR 12 - 0.46 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 29 HOUR 12 - 0.46 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 1 HOUR 4 - 0.53 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 1 HOUR 4 - 0.53 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 1 HOUR 4 - 0.53 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 290
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 7
TOTAL DAYS WITH PRECIPITATION - 5
TOTAL AMOUNT OF PRECIPITATION - 1.09 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 0.27 INCHES
MAXIMUM DAILY PRECIPITATION - 0.53 INCHES

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1991 RAIN VERSION # 2F

MONTH OF NOVEMBER

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS) 1	6	12	18	24
0.01	23	114	193	259	715
0.02	19	104	177	237	287
0.03	19	100	176	236	286
0.04	17	87	148	196	234
0.05	17	87	148	196	234
0.07	16	81	136	178	216
0.10	13	75	132	176	214
0.15	7	36	70	113	149
0.20	3	22	41	71	103
0.25	3	22	35	63	93
0.30	1	12	28	44	66
0.35	1	6	22	34	54
0.40	1	6	22	34	46
0.45	1	6	22	34	46
0.50	0	0	4	4	4
0.60	0	0	0	0	0
0.70	0	0	0	0	0
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
1.20	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

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1991 RAIN VERSION # 2P

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
91	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
91	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
91	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
91	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
91	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
91	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
91	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
91	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
91	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
91	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
91	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	0.19	0.20
91	12	12	0.00	0.14	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.15	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	0.43
91	12	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
91	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	
			0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	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
91	12	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
91	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	
			0.00	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 OCT-DEC 1991 RAIN VERSION # 2P

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
91	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
91	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	0.10	0.00	0.10	0.10	0.30
91	12	20	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.26	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	0.52
91	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	0.19	0.00	0.00	0.00	0.00	0.00	0.19
91	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
91	12	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
91	12	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
91	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
91	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
91	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
91	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	0.00	0.00
91	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
91	12	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
91	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

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1991 RAIN VERSION # 2P

MONTH OF DECEMBER

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 13
TOTAL DAYS WITH PRECIPITATION - 7
TOTAL AMOUNT OF PRECIPITATION - 1.83 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 0.26 INCHES
MAXIMUM DAILY PRECIPITATION - 0.52 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 20 HOUR 8 - 0.26 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 19 HOUR 21 - 0.56 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 19 HOUR 21 - 0.82 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 19 HOUR 21 - 0.82 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY 19 HOUR 21 - 0.82 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 269
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 1
TOTAL DAYS WITH PRECIPITATION - 1
TOTAL AMOUNT OF PRECIPITATION - 0.19 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 0.19 INCHES
MAXIMUM DAILY PRECIPITATION - 0.19 INCHES

B64

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1991 RAIN VERSION # 2P

MONTH OF DECEMBER

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS) 1	6	12	18	24
0.01	13	53	83	113	143
0.02	13	53	83	113	143
0.03	13	53	83	113	143
0.04	13	53	83	113	143
0.05	13	53	83	113	143
0.07	12	47	71	95	119
0.10	12	47	71	95	119
0.15	4	35	55	73	91
0.20	2	24	38	50	62
0.25	2	20	35	47	59
0.30	0	9	26	38	50
0.35	0	5	21	33	45
0.40	0	3	21	33	45
0.45	0	3	19	31	43
0.50	0	1	14	26	38
0.60	0	0	4	16	28
0.70	0	0	3	9	15
0.80	0	0	1	7	13
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

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1991 RAIN VERSION # 2P

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 2208
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 63
TOTAL DAYS WITH PRECIPITATION - 28
TOTAL AMOUNT OF PRECIPITATION - 8.65 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 0.90 INCHES
MAXIMUM DAILY PRECIPITATION - 1.64 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 10 DAY 4 HOUR 3 - 0.90 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 10 DAY 4 HOUR 2 - 1.17 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 10 DAY 31 HOUR 8 - 1.30 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 10 DAY 31 HOUR 6 - 1.64 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 10 DAY 31 HOUR 6 - 1.90 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FAHRENHEIT

TOTAL NUMBER OF HOURS - 610
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 14
TOTAL DAYS WITH PRECIPITATION - 7
TOTAL AMOUNT OF PRECIPITATION - 2.05 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 0.27 INCHES
MAXIMUM DAILY PRECIPITATION - 0.77 INCHES

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR OCT-DEC 1991 RAIN VERSION # 2P

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS) 1	6	12	18	24
0.01	63	241	398	534	650
0.02	59	231	382	512	622
0.03	59	227	381	511	621
0.04	57	214	353	471	563
0.05	57	214	353	471	569
0.07	53	190	305	407	505
0.10	45	179	297	402	500
0.15	19	110	183	265	343
0.20	13	80	134	194	256
0.25	7	75	124	183	243
0.30	3	52	108	154	206
0.35	2	41	95	139	189
0.40	2	36	92	136	178
0.45	2	36	88	134	176
0.50	1	23	61	95	125
0.60	1	18	44	79	109
0.70	1	10	40	68	92
0.80	1	6	32	60	84
0.90	1	6	22	39	51
1.00	0	5	18	35	49
1.10	0	5	17	32	47
1.20	0	0	2	12	36
1.30	0	0	2	10	21
1.40	0	0	0	8	19
1.50	0	0	0	4	13
1.60	0	0	0	1	10
1.70	0	0	0	0	4
1.80	0	0	0	0	3
1.90	0	0	0	0	2
2.00	0	0	0	0	0

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JULY-DEC 1991 RAIN VERSION # 2P

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 4416
NUMBER OF MISSING HOURS - 2
TOTAL HOURS OF PRECIPITATION - 108
TOTAL DAYS WITH PRECIPITATION - 51
TOTAL AMOUNT OF PRECIPITATION - 18.35 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 1.20 INCHES
MAXIMUM DAILY PRECIPITATION - 1.64 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 7 DAY 22 HOUR 18 - 1.20 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 9 DAY 7 HOUR 18 - 1.54 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 9 DAY 7 HOUR 18 - 1.97 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 9 DAY 7 HOUR 18 - 1.97 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 9 DAY 7 HOUR 18 - 1.97 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 610
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 14
TOTAL DAYS WITH PRECIPITATION - 7
TOTAL AMOUNT OF PRECIPITATION - 2.05 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 0.27 INCHES
MAXIMUM DAILY PRECIPITATION - 0.77 INCHES

868

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JULY-DEC 1991 RAIN VERSION # 2P

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS) 1	6	12	18	24
0.01	108	401	678	928	1154
0.02	102	379	638	870	1079
0.03	100	363	619	845	1048
0.04	98	350	591	805	996
0.05	98	350	591	805	996
0.07	92	314	519	705	884
0.10	82	291	487	670	844
0.15	37	189	316	452	585
0.20	29	154	263	377	495
0.25	21	140	243	356	470
0.30	16	117	227	327	433
0.35	9	102	210	308	413
0.40	9	97	207	305	402
0.45	9	87	187	281	371
0.50	6	61	135	211	283
0.60	4	52	114	185	251
0.70	3	42	108	172	232
0.80	2	31	88	146	200
0.90	2	28	73	120	162
1.00	1	23	61	102	140
1.10	1	19	56	95	134
1.20	1	14	35	63	105
1.30	0	10	24	44	67
1.40	0	4	16	36	59
1.50	0	3	10	20	35
60	0	0	6	13	28
1.70	0	0	5	11	21
1.80	0	0	4	10	19
1.90	0	0	4	10	18
2.00	0	0	0	0	0

NPPD COOPER NUCLEAR STATION PRECIPITATION DATA FOR JAN-DEC 1991 RAIN VERSION # 2P

ANNUAL INDEX

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 8760
NUMBER OF MISSING HOURS - 2
TOTAL HOURS OF PRECIPITATION - 202
TOTAL DAYS WITH PRECIPITATION - 100
TOTAL AMOUNT OF PRECIPITATION - 38.69 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 1.42 INCHES
MAXIMUM DAILY PRECIPITATION - 3.00 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 6 DAY 21 HOUR 18 - 1.42 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 5 DAY 16 HOUR 20 - 3.00 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 5 DAY 16 HOUR 20 - 3.00 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 5 DAY 16 HOUR 20 - 3.00 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH 5 DAY 16 HOUR 20 - 3.00 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 1216
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 17
TOTAL DAYS WITH PRECIPITATION - 10
TOTAL AMOUNT OF PRECIPITATION - 2.11 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 0.27 INCHES
MAXIMUM DAILY PRECIPITATION - 0.77 INCHES

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JAN-DEC 1991 RAIN VERSION # 2P

ANNUAL INDEX

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS) 1	6	12	18	24
0.01	202	762	1311	1814	2272
0.02	192	726	1245	1718	2147
0.03	183	678	1170	1613	2014
0.04	179	654	1125	1550	1933
0.05	176	632	1085	1492	1863
0.07	166	577	976	1337	1678
0.10	136	525	908	1256	1583
0.15	73	379	667	953	1227
0.20	60	312	551	804	1046
0.25	49	276	499	740	977
0.30	38	243	466	683	905
0.35	27	196	[illegible]	592	791
0.40	25	178	[illegible]	547	727
0.45	22	161	[illegible]	500	670
0.50	19	129	272	417	566
0.60	13	103	226	358	490
0.70	11	92	213	331	446
0.80	8	77	190	302	411
0.90	6	59	143	233	320
1.00	2	50	117	192	270
1.10	2	42	107	176	248
1.20	2	33	81	139	213
1.30	1	28	60	98	140
1.40	1	22	52	90	132
1.50	0	19	45	73	106
1.60	0	16	41	66	99
1.70	0	16	40	64	92
1.80	0	15	37	61	88
1.90	0	14	36	60	86
2.00	0	12	30	48	66

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 Regualtory 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 1991

PROGRAM: JFD VERSION: 5F
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JULY-SEPT 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 9/30/91

*** JULY-SEPT 1991 ***

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	1	0	0	1	0	2	0	0	0	0	0	0	4
3.51- 7.50	5	2	4	6	7	7	16	5	11	8	4	0	0	1	0	1	77
7.51-12.50	5	2	2	1	0	4	15	21	22	9	2	0	1	1	0	4	89
12.51-18.50	0	0	0	0	0	0	0	1	1	2	0	0	0	1	2	7	14
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	10	4	6	7	8	11	31	28	34	21	6	0	1	3	3	14	187

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	0	1	0	0	0	1	0	0	0	0	2	0	0	1	0	6
3.51- 7.50	15	10	5	12	5	5	6	5	6	7	7	3	4	5	0	6	100
7.51-12.50	6	1	0	3	2	1	5	2	11	5	2	1	1	3	4	16	63
12.51-18.50	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	3	5
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	22	11	6	14	7	6	12	8	18	12	9	6	5	8	5	26	175

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JULY-SEPT 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 9/30/91

*** JULY-SEPT 1991 ***

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																	3
1.01- 3.50	2	3	2	1	1	0	0	1	1	1	1	2	1	0	1	1	18
3.51- 7.50	24	10	7	5	3	5	[illegible]	7	2	6	2	2	5	3	4	4	92
7.51-12.50	1	2	1	1	1	1	3	2	1	2	2	1	1	1	1	13	34
12.51-18.50	1	0	0	0	0	0	0	1	1	1	0	1	0	0	0	4	9
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	28	15	10	7	5	6	6	11	5	10	5	[illegible]	7	4	6	22	153

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																	1
1.01- 3.50	8	10	2	1	2	2	9	4	3	2	0	3	1	0	0	3	50
3.51- 7.50	28	18	7	11	6	16	23	14	16	21	4	2	4	5	5	9	189
7.51-12.50	5	8	3	0	1	2	16	24	12	9	3	1	3	3	12	16	118
12.51-18.50	0	0	0	0	0	0	1	2	5	0	1	0	0	0	2	10	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	41	36	12	12	9	20	49	44	36	32	8	6	8	8	19	38	379

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JULY-SEPT 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 9/30/91

*** JULY-SEPT 1991 ***

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																	2
1.01- 3.50	24	11	4	4	0	1	15	24	23	7	3	2	4	5	9	25	161
3.51- 7.50	52	10	10	10	6	7	48	66	51	30	12	3	2	5	9	37	358
7.51-12.50	4	4	0	0	0	0	9	8	33	12	3	2	0	3	6	2	86
12.51-18.50	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	2	7
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	80	25	14	14	6	8	72	98	110	51	18	7	6	13	24	66	614

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	NN-	TOTAL
CALM																	4
1.01- 3.50	13	5	4	1	2	5	5	19	29	13	7	6	5	4	14	28	160
3.51- 7.50	1	0	0	0	0	0	2	15	23	21	2	1	2	2	4	11	84
7.51-12.50	0	0	0	0	0	0	0	1	0	3	0	1	1	1	0	0	7
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	14	5	4	1	2	5	7	35	52	39	9	8	8	7	18	39	257

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JULY-SEPT 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 9/30/91

*** JULY-SEPT 1991 ***

STABILITY CLASS G

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	11	6	3	2	1	4	8	22	15	11	8	5	5	1	14	28	144
3.51- 7.50	1	0	0	0	0	0	0	5	2	1	0	0	1	1	2	0	13
7.51-12.50	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	12	6	3	2	1	4	8	28	17	12	8	5	6	2	16	28	158

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																	7
1.01- 3.50	59	35	16	9	7	12	38	71	71	36	19	20	16	10	39	85	543
3.51- 7.50	126	50	33	43	27	40	98	117	111	94	31	11	18	22	24	68	913
7.51-12.50	21	17	6	5	4	8	48	59	79	40	12	6	7	12	23	51	398
12.51-18.50	1	0	0	0	0	0	1	5	11	7	1	1	0	1	4	26	58
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	207	102	55	57	38	60	185	252	272	177	63	38	41	45	91	233	1923

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JULY-SEPT 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 9/30/91

*** JULY-SEPT 1991 ***

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: 1923

TOTAL NUMBER OF MISSING OBSERVATIONS: 285

PERCENT DATA RECOVERY FOR THIS PERIOD: 87.1 %

MEAN WIND SPEED FOR THIS PERIOD: 9.7 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
9.72	9.10	7.96	19.71	31.93	13.36	8.22

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	10	4	6	7	8	11	31	28	34	21	6	0	1	3	3	14	0
B	22	11	6	14	7	6	12	8	18	12	7	6	5	8	5	26	0
C	28	15	10	7	5	6	6	11	5	10	5	6	7	4	6	22	0
D	41	36	12	12	9	20	49	44	36	32	8	8	8	8	19	38	1
E	80	25	14	14	6	8	72	98	110	51	18	7	6	13	24	66	2
F	14	5	4	1	2	5	7	35	52	39	9	8	8	7	18	39	4
G	12	6	3	2	1	4	8	28	17	12	8	5	6	2	16	28	0
TOTAL	207	102	55	57	38	60	185	252	272	177	53	38	41	45	91	233	7

JFDs of 10-Meter Wind vs. Delta T

October-December 1991

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T OCT-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 10/ 1/91 - 12/31/91

*** OCT-DEC 1991 ***

STABILITY CLASS A

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3.51- 7.50	0	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0	5
7.51-12.50	1	1	0	0	0	0	2	3	10	17	2	1	0	3	1	0	41
12.51-18.50	4	2	0	0	0	0	1	0	5	0	0	0	0	0	4	1	17
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	5	3	0	0	0	1	3	4	18	18	3	1	1	3	5	1	66

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	2	0	0	0	0	0	2
3.51- 7.50	1	2	0	3	0	1	0	1	1	1	1	0	3	2	1	1	18
7.51-12.50	0	0	0	0	0	0	0	1	2	6	1	1	2	2	6	3	24
12.51-18.50	2	0	0	0	0	0	3	0	2	0	0	0	0	3	3	1	14
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	5
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	2	0	3	0	1	3	2	5	7	4	1	5	9	13	5	63

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T OCT-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 10/ 1/91 - 12/31/91

*** OCT-DEC 1991 ***

STABILITY CLASS C

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3
3.51- 7.50	3	4	1	1	1	2	1	1	1	4	0	0	2	3	1	2	27
7.51-12.50	1	0	0	0	0	2	2	2	4	3	6	1	0	6	3	2	32
12.51-18.50	1	1	0	0	0	0	1	0	3	1	0	0	0	7	9	1	24
18.51-24.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	0	5
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	5	7	[illegible]	1	1	4	4	3	9	8	7	1	2	16	17	5	91

STABILITY CLASS D

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	5	4	6	3	1	1	3	2	2	0	1	1	1	0	3	3	34
3.51- 7.50	26	15	12	8	11	10	5	4	17	5	6	3	5	6	8	13	154
7.51-12.50	42	34	11	7	2	8	20	18	25	13	9	6	9	32	23	25	284
12.51-18.50	6	3	0	0	1	2	3	2	9	3	2	0	1	19	38	25	114
18.51-24.00	0	0	0	0	0	0	0	0	1	0	0	0	0	2	6	2	11
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL	79	56	29	18	15	21	31	26	54	21	18	10	16	59	77	68	598

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T OCT-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 10/ 1/91 - 12/31/91

*** OCT-DEC 1991 ***

STABILITY CLASS E

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	4	6	2	2	1	3	0	6	8	2	1	2	5	3	4	6	55
3.51- 7.50	31	11	17	6	8	3	12	18	21	33	9	2	11	8	21	17	228
7.51-12.50	16	6	4	2	1	10	20	37	35	15	2	3	14	23	24	25	249
12.51-18.50	3	0	0	0	2	3	0	2	3	0	0	1	0	9	21	11	55
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	54	23	23	10	12	19	32	63	67	50	19	13	30	43	70	62	590

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	1	0	0	0	0	0	17	24	9	2	3	3	2	3	4	77
3.51- 7.50	11	2	0	0	0	1	1	16	38	18	1	4	2	2	11	9	116
7.51-12.50	3	1	0	0	0	0	0	1	13	12	5	5	5	1	1	0	47
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
18.51-24.00	0	0	0	0	0	0	0	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	23	4	0	0	0	1	1	34	75	39	8	12	10	5	16	13	241

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T OCT-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 10/ 1/91 - 12/31/91

*** OCT-DEC 1991 ***

STABILITY CLASS G

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	11	3	1	2	2	3	6	20	23	9	3	3	3	3	1	8	101
3.51- 7.50	2	0	0	1	0	0	2	5	8	3	0	0	0	0	1	1	23
7.51-12.50	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	13	3	1	3	2	3	8	25	31	13	3	3	3	3	2	9	125

STABILITY CLASS ALL

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	29	16	9	7	4	8	9	45	57	20	10	9	12	8	9	21	273
3.51- 7.50	74	34	30	19	20	17	21	46	87	65	18	9	24	21	43	43	571
7.51-12.50	63	42	15	9	3	20	44	62	89	67	32	22	30	67	58	55	678
12.51-18.50	16	6	0	0	3	5	8	4	22	4	2	1	1	38	76	39	225
18.51-24.00	0	0	0	0	0	0	0	0	4	0	0	0	0	4	13	5	26
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL	182	98	54	35	30	50	82	157	259	156	62	41	67	138	200	163	1774

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T OCT-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 10/ 1/91 - 12/31/91

*** OCT-DEC 1991 ***

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: 1774

TOTAL NUMBER OF MISSING OBSERVATIONS: 434

PERCENT DATA RECOVERY FOR THIS PERIOD: 80.3 %

MEAN WIND SPEED FOR THIS PERIOD: 6.1 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
3.72	3.55	5.13	33.71	33.26	13.58	7.05

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	5	3	0	0	0	1	3	4	18	18	3	1	1	3	5	1	0
B	3	2	0	3	0	1	3	2	5	7	4	1	5	9	13	5	0
C	5	7	1	1	1	4	4	3	9	8	7	1	2	16	17	5	0
D	79	56	29	18	15	21	31	26	54	21	18	10	16	59	77	68	0
E	54	23	23	10	12	19	32	63	67	50	19	13	30	43	70	62	0
F	23	4	0	0	0	1	1	34	75	39	8	12	10	5	16	13	0
G	13	3	1	3	2	3	8	25	31	13	3	3	3	3	2	9	0
TOTAL	182	98	54	35	30	50	82	157	259	156	62	41	67	138	200	163	0

JFDs of 10-Meter Wind vs. Delta T

July-December 1991

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLE STATION JFD: 10M WIND VS 60-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

*** JULY-DEC 1991 ***

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	1	1	0	1	0	2	0	0	0	0	0	0	5
3.51- 7.50	5	2	4	6	7	7	16	6	12	9	5	0	1	1	0	1	82
7.51-12.50	6	3	2	1	0	4	17	24	32	26	4	1	1	4	1	4	130
12.51-18.50	4	2	0	0	0	0	1	1	6	2	0	0	0	1	6	8	31
18.51-24.00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	2	5
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	15	7	6	7	8	12	34	32	52	39	9	1	2	6	8	15	253

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	0	1	0	0	0	1	0	0	0	2	2	0	0	1	0	8
3.51- 7.50	16	12	5	14	5	6	6	6	7	8	8	3	7	7	1	7	118
7.51-12.50	6	1	0	3	2	1	5	3	13	11	3	2	3	5	10	19	87
12.51-18.50	2	0	0	0	0	0	3	1	3	0	0	0	0	3	3	4	19
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	1	6
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	25	13	6	17	7	7	15	10	23	19	13	7	10	17	18	31	238

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

*** JULY-DEC 1991 ***

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	2	5	2	1	1	0	0	1	1	1	2	2	1	0	1	1	21
3.51- 7.50	27	14	8	6	4	7	4	8	3	10	2	2	7	6	5	6	119
7.51-12.50	2	2	1	1	1	3	5	4	5	5	8	2	1	7	4	15	66
12.51-18.50	2	1	0	0	0	0	1	1	4	2	0	1	0	7	9	5	33
18.51-24.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	0	5
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	33	22	11	8	6	10	10	14	14	18	12	7	9	20	23	27	244

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	TOTA
CALM																	1
1.01- 3.50	13	14	8	4	3	3	12	6	5	2	1	4	2	0	1	6	84
3.51- 7.50	54	33	19	19	17	26	28	18	33	26	10	5	9	11	13	22	343
7.51-12.50	47	42	14	7	3	10	36	42	37	22	12	7	12	35	35	41	402
12.51-18.50	6	3	0	0	1	2	4	4	14	3	3	0	1	19	40	35	135
18.51-24.00	0	0	0	0	0	0	0	0	1	0	0	0	0	2	6	2	11
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL	120	92	41	30	24	41	80	70	90	53	26	16	24	67	96	106	977

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

*** JULY-DEC 1991 ***

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																	2
1.01- 3.50	28	17	6	6	1	4	15	30	31	9	4	4	9	8	13	31	216
3.51- 7.50	83	21	27	16	14	10	60	84	72	63	21	5	13	13	30	54	586
7.51-12.50	20	10	4	2	1	10	29	45	68	27	12	10	14	26	30	27	335
12.51-18.50	3	0	0	0	2	3	0	2	6	2	0	1	0	9	21	13	62
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	134	48	37	24	18	27	104	171	177	101	37	20	36	56	94	128	1204

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																	4
1.01- 3.50	22	6	4	1	2	5	5	36	53	22	9	9	8	6	17	32	237
3.51- 7.50	12	2	0	0	0	1	3	31	61	39	3	5	4	4	15	20	200
7.51-12.50	3	1	0	0	0	0	0	2	13	15	5	6	6	2	1	0	54
12.51-18.50	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	3
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	37	9	4	1	2	6	8	69	127	78	17	20	18	12	34	52	498

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

*** JULY-DEC 1991 ***

STABILITY CLASS G

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	22	9	4	4	3	7	14	42	38	20	11	8	8	4	15	36	245
3.51- 7.50	3	0	0	1	0	0	2	10	10	4	0	0	1	1	3	1	36
7.51-12.50	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	25	9	4	5	3	7	16	53	48	25	11	8	9	5	18	37	283

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																	7
1.01- 3.50	88	51	25	16	11	20	47	116	128	56	29	29	28	16	48	106	816
3.51- 7.50	200	84	63	62	47	57	119	163	198	159	49	20	42	43	67	111	1484
7.51-12.50	84	59	21	14	7	28	92	121	168	107	44	28	37	79	81	106	1076
12.51-18.50	17	6	0	0	3	5	9	9	33	11	3	2	1	39	80	65	283
18.51-24.00	0	0	0	0	0	0	0	0	4	0	0	0	0	4	14	8	30
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL	389	200	109	92	68	170	267	409	531	333	125	79	108	183	291	396	3697

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

*** JULY-DEC 1991 ***

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: 3697

TOTAL NUMBER OF MISSING OBSERVATIONS: 719

PERCENT DATA RECOVERY FOR THIS PERIOD: 83.7 %

MEAN WIND SPEED FOR THIS PERIOD: 6.8 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
6.84	6.44	5.60	26.43	32.57	13.47	7.65

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	15	7	6	7	8	12	34	32	52	39	9	1	2	6	8	15	0
B	25	13	6	17	7	7	15	10	23	19	15	7	10	17	18	31	0
C	35	22	11	8	6	10	15	14	14	18	12	7	9	20	23	27	0
D	120	92	41	30	24	41	80	70	90	53	26	16	24	67	96	106	1
E	134	48	37	24	18	27	104	161	177	102	37	20	36	56	94	128	2
F	37	8	4	1	2	6	8	69	127	78	17	20	18	12	34	52	4
G	25	3	4	5	3	7	16	53	48	25	11	8	9	5	18	37	0
TOTAL	389	200	109	92	68	110	267	409	531	333	125	79	108	183	291	396	7

JFDs of 10-Meter Wind vs Delta T
January-December 1991

PROGRAM: JFD VERSION: 3P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JAN-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 1/ 1/91 - 12/31/91

*** JAN-DEC 1991 ***

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	2	0	1	1	1	2	1	0	2	0	0	0	0	0	0	10
3.51- 7.50	15	5	7	6	12	19	23	13	16	16	6	1	1	1	1	4	140
7.51-12.50	27	5	4	2	1	17	44	86	88	35	9	3	2	5	7	13	348
12.51-18.50	11	2	1	0	2	0	6	38	44	10	3	4	0	8	8	20	157
18.51-24.00	0	0	0	0	0	0	0	0	5	0	2	0	0	2	2	3	14
>24.00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	3	1	6
TOTAL	53	14	12	9	16	37	75	138	155	57	20	8	3	16	21	41	675

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	2	1	3	2	0	1	2	3	0	0	2	2	0	0	1	1	20
3.51- 7.50	29	17	11	17	8	13	13	16	12	16	13	6	8	10	4	15	208
7.51-12.50	19	11	4	4	6	7	13	17	32	22	14	5	9	12	15	23	213
12.51-18.50	2	0	0	0	0	1	9	6	11	6	1	0	4	11	11	8	70
18.51-24.00	0	0	0	0	0	0	0	0	0	2	1	1	1	3	3	5	16
>24.00	0	0	0	0	0	0	0	0	2	1	0	0	0	0	1	3	7
TOTAL	52	29	18	23	14	22	37	42	57	47	31	14	22	36	35	55	534

PROGRAM: J\ VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JAN-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 1/ 1/91 - 12/31/91

*** JAN-DEC 1991 ***

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																	2
1.01- 3.50	5	7	4	2	3	0	3	1	2	4	2	3	2	1	1	2	42
3.51- 7.50	41	24	14	21	14	15	9	22	8	21	5	5	10	8	13	18	248
7.51-12.50	23	9	3	7	9	16	20	11	24	17	18	7	7	14	10	32	227
12.51-18.50	3	2	0	0	0	1	5	5	9	9	0	3	3	11	17	9	77
18.51-24.00	0	0	0	0	0	0	0	0	5	3	0	2	1	1	4	2	18
>24.00	0	0	0	0	0	0	0	0	1	1	0	0	0	5	0	1	8
TOTAL	72	42	21	30	26	32	37	39	49	55	25	20	23	40	45	64	622

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																	11
1.01- 3.50	28	27	17	12	9	13	25	18	18	8	10	9	7	3	12	18	235
3.51- 7.50	123	69	37	48	39	59	88	56	61	61	33	15	18	21	25	48	801
7.51-12.50	90	62	20	17	27	45	91	100	84	41	32	20	22	47	55	65	818
12.51-18.50	7	4	0	0	2	10	25	14	41	16	7	7	6	25	53	64	281
18.51-24.00	0	0	0	0	0	3	1	0	5	1	1	2	3	8	15	13	52
>24.00	0	0	0	0	0	0	1	1	4	0	1	0	0	1	1	3	12
TOTAL	249	162	74	77	77	130	231	189	213	127	84	53	56	105	161	211	2210

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JAN-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 1/ 1/91 - 12/31/91

*** JAN-DEC 1991 ***

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																	18
1.01- 3.50	42	17	13	10	1	9	30	63	61	33	9	11	12	11	23	42	397
3.51- 7.50	114	40	30	25	21	21	88	138	174	98	32	12	21	19	42	62	873
7.51-12.50	26	10	4	2	1	10	36	72	104	57	19	15	23	41	37	35	492
12.51-18.50	3	0	0	0	2	3	2	6	13	10	2	5	0	9	22	16	93
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	185	63	47	37	25	43	156	280	302	198	62	43	56	81	124	158	1876

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																	20
1.01- 3.50	42	9	6	5	6	5	13	59	70	36	15	14	11	8	28	38	366
3.51- 7.50	15	3	1	1	0	2	11	43	89	60	6	6	5	5	16	21	284
7.51-12.50	3	1	0	0	0	0	0	2	16	18	6	9	9	5	3	0	72
12.51-18.50	0	0	0	0	0	0	0	0	0	2	9	0	0	0	1	0	3
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	60	13	7	6	6	8	24	104	175	116	27	29	25	18	48	59	745

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JAN-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 1/ 1/91 - 12/31/91

*** JAN-DEC 1991 ***

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																	9
1.01- 3.50	29	16	10	8	5	9	26	68	52	23	14	11	8	5	15	43	342
3.51- 7.50	3	0	1	1	0	0	2	10	17	8	1	2	1	1	4	2	53
7.51-12.50	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	32	16	11	9	5	9	28	79	69	32	15	13	9	6	19	45	406

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																	60
1.01- 3.50	149	89	53	40	25	39	101	213	203	106	52	50	40	28	80	144	1412
3.51- 7.50	340	144	101	119	94	129	234	298	327	274	96	47	64	65	105	170	2607
7.51-12.50	188	98	35	32	44	95	204	289	348	191	98	59	72	124	127	168	2172
12.51-18.50	26	8	1	0	6	15	47	69	118	53	13	19	13	64	112	117	681
18.51-24.00	0	0	0	0	0	3	1	1	15	6	4	5	5	15	24	26	105
>24.00	0	0	0	0	0	0	1	1	9	2	1	0	0	6	5	8	33
TOTAL	703	339	190	191	169	281	588	871	1020	632	264	180	194	302	453	633	7070

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JAN-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 1/ 1/91 - 12/31/91

*** JAN-DEC 1991 ***

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: 7070

TOTAL NUMBER OF MISSING OBSERVATIONS: 1690

PERCENT DATA RECOVERY FOR THIS PERIOD: 80.7 %

MEAN WIND SPEED FOR THIS PERIOD: 7.4 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
9.55	7.55	8.80	31.25	26.56	10.54	5.74

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	53	14	12	9	16	37	75	138	155	57	20	8	3	16	21	41	0
B	52	29	18	23	14	22	37	42	57	47	31	14	22	36	35	55	0
C	72	42	21	30	26	32	27	39	49	55	25	20	23	40	45	64	2
D	249	162	74	77	77	130	231	189	213	127	84	53	56	105	161	211	11
E	185	63	47	37	25	43	156	280	302	198	62	43	56	81	124	158	18
F	60	13	7	6	6	8	24	104	175	116	27	29	25	18	48	59	20
G	32	16	11	9	5	9	28	79	69	32	15	13	9	6	19	45	9
TOTAL	703	339	190	191	169	281	588	871	1020	632	264	180	194	302	453	633	60

Stability Class by Hour of Day

10-Meter Wind vs. Delta T

July-December 1991

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

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
91	7	1	G	F	E	E	B	E	E	D	B	B	B	C	C	C	B	C	D	D	E	F	E	E	E	E
91	7	2	F	F	E	F	F	E	D	D	D	C	C	B	B	B	B	C	D	E	E	G	G	G	G	G
91	7	3	G	G	G	G	F	F	E	D	D	D	B	A	B	B	D	D	D	E	F	F	G	G	G	G
91	7	4	G	G	G	G	G	F	E	B	B	C	B	B	B	D	D	D	D	D	E	F	G	G	F	G
91	7	5	F	G	G	G	G	G	F	D	-	-	-	-	-	-	-	-	-	D	E	E	F	E	E	E
91	7	6	E	E	E	E	E	E	E	D	D	D	D	D	D	C	C	D	E	D	E	F	F	E	E	E
91	7	7	E	E	E	E	E	E	E	D	D	D	E	E	E	D	D	D	D	D	E	E	E	E	E	E
91	7	8	E	E	E	E	E	E	D	C	C	B	B	A	A	B	D	D	D	E	E	E	D	D	E	D
91	7	9	-	-	-	-	-	-	-	-	-	-	-	-	B	B	B	C	B	D	C	C	C	C	B	-
91	7	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91	7	11	-	-	-	-	-	-	-	-	-	-	-	-	-	A	A	B	C	D	D	E	E	F	E	D
91	7	12	E	E	C	C	C	D	E	C	A	B	C	B	D	D	D	D	D	D	E	G	G	G	E	E
91	7	13	F	F	F	F	E	E	D	C	B	B	A	A	A	A	B	C	C	D	D	E	F	E	E	F
91	7	14	E	E	E	E	D	D	D	C	A	A	A	A	A	A	A	A	A	A	C	E	E	F	F	E
91	7	15	E	E	E	E	E	E	D	B	-	-	-	-	-	-	-	-	-	-	D	D	E	E	E	E
91	7	16	E	E	E	E	E	E	D	B	A	A	A	B	C	B	A	A	A	A	D	E	E	E	E	E
91	7	17	E	E	E	E	F	E	E	B	B	A	A	A	A	A	A	A	A	B	D	E	E	E	F	E
91	7	18	E	F	E	F	F	F	F	E	D	D	C	A	A	A	A	A	B	D	D	E	F	F	E	E
91	7	19	E	E	E	E	E	F	F	E	B	A	A	A	A	A	A	A	A	C	D	E	E	E	E	E
91	7	20	E	E	E	E	E	E	F	E	D	A	B	D	D	D	E	E	D	D	E	E	F	F	E	E
91	7	21	E	E	E	D	E	D	D	E	E	D	A	A	E	E	E	E	D	D	E	E	F	F	F	E
91	7	22	E	F	F	F	E	E	E	D	C	B	A	A	B	C	C	D	-	-	-	-	-	-	-	B
91	7	23	A	D	D	D	D	D	D	D	D	C	C	B	C	C	B	C	D	D	E	F	E	E	E	E
91	7	24	E	D	E	E	E	E	D	D	C	B	A	B	B	C	C	D	D	D	E	E	G	G	G	G
91	7	25	G	G	F	E	E	E	E	D	C	B	A	A	A	B	B	C	D	D	D	E	E	F	F	F
91	7	26	F	E	F	F	F	F	E	D	B	A	A	A	A	-	A	A	B	D	D	E	E	E	E	E
91	7	27	E	E	E	E	E	E	D	C	B	-	-	-	-	-	-	-	-	B	D	D	D	E	E	E
91	7	28	E	E	D	D	D	D	C	B	B	C	C	B	B	B	C	C	D	D	D	E	F	E	E	D
91	7	29	E	E	E	E	E	E	E	C	C	B	C	B	B	A	B	C	D	C	D	F	G	G	F	F
91	7	30	F	E	E	E	E	E	D	C	-	-	-	-	-	E	E	E	C	C	D	E	E	E	E	E
91	7	31	F	F	G	F	F	E	E	D	C	C	B	B	A	B	B	C	D	D	D	F	G	G	G	G
91	8	1	G	G	F	F	F	G	G	E	E	C	A	A	A	A	A	A	A	C	E	F	F	F	F	F
91	8	2	F	E	E	F	F	F	F	E	D	D	D	D	D	D	D	A	D	D	D	E	E	E	E	E
91	8	3	D	E	D	B	A	B	C	B	B	C	D	C	C	C	D	D	E	E	E	E	E	F	E	F
91	8	4	F	E	E	E	E	E	D	C	C	B	C	B	C	d	B	C	-	D	D	D	E	F	F	E
91	8	5	E	D	D	-	-	-	-	-	-	-	-	-	-	-	B	B	B	B	C	-	-	-	-	-
91	8	6	-	-	-	-	-	-	-	-	-	A	A	A	A	A	A	A	A	C	D	D	D	D	E	E
91	8	7	E	E	E	E	E	F	F	D	C	B	B	B	C	D	D	D	D	E	E	F	F	E	E	-
91	8	8	-	-	-	-	-	-	-	-	-	-	-	B	B	C	C	B	B	B	B	B	-	-	-	-
91	8	9	-	-	-	-	-	-	-	A	B	C	C	B	D	A	D	C	D	D	E	E	F	F	G	F
91	8	10	E	E	E	E	-	D	D	C	D	C	C	D	C	C	C	B	D	E	F	G	G	G	G	G
91	8	11	G	F	F	F	F	F	F	E	D	B	C	A	B	B	C	B	D	D	E	E	E	E	E	E
91	8	12	F	E	E	E	E	E	E	E	D	D	D	D	D	C	C	D	D	E	E	F	F	F	E	F
91	8	13	G	F	F	-	-	-	-	-	D	B	B	B	B	B	C	D	D	D	F	G	G	G	G	G
91	8	14	G	G	F	G	F	F	E	D	C	A	A	A	A	A	A	C	D	D	-	E	E	F	F	F

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

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
91	8	15	F	F	F	F	E	F	F	E	C	B	A	A	B	B	C	D	D	E	F	F	G	F	F	F
91	8	16	F	F	F	F	F	F	E	D	D	E	E	-	-	-	-	-	D	D	E	E	F	F	E	D
91	8	17	D	E	E	E	E	E	E	D	C	C	B	B	B	C	C	D	D	E	-	G	G	G	G	G
91	8	18	F	E	E	F	F	F	E	E	D	B	D	C	C	C	B	C	D	D	E	E	E	E	E	E
91	8	19	E	E	E	E	E	E	F	D	C	B	A	B	B	B	C	B	D	D	E	F	F	F	F	F
91	8	20	E	E	E	E	E	F	E	D	-	-	-	-	-	-	A	C	D	E	E	E	F	F	F	F
91	8	21	F	E	E	E	E	E	E	D	C	A	A	A	A	A	A	B	D	D	F	G	G	G	G	G
91	8	22	G	F	F	E	E	E	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91	8	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	D	D	E	E	E	E	E	E	E
91	8	24	E	E	E	E	F	F	F	E	B	A	A	A	A	A	A	A	B	D	D	E	E	E	E	E
91	8	25	E	E	E	E	E	E	E	C	B	A	A	A	A	A	A	B	D	D	E	F	F	F	E	E
91	8	26	F	F	G	F	F	F	F	E	C	B	A	A	A	A	A	B	D	D	E	F	G	F	F	G
91	8	27	F	G	F	F	F	F	F	D	B	A	A	A	A	A	A	A	B	D	E	E	E	E	E	E
91	8	28	E	E	E	E	F	E	E	E	B	A	A	A	A	D	A	B	C	D	E	E	E	E	E	E
91	8	29	E	E	E	E	E	E	E	D	D	A	A	A	A	A	B	C	C	D	E	E	E	E	E	E
91	8	30	E	F	F	F	F	F	E	D	C	B	D	D	D	C	C	C	D	D	D	E	E	F	F	F
91	8	31	F	E	E	E	-	E	E	D	C	B	B	B	C	C	C	D	D	E	E	E	E	E	E	E
91	9	1	E	E	E	E	E	E	D	D	D	B	B	B	B	B	B	C	D	D	D	D	D	D	D	D
91	9	2	D	D	D	D	D	D	D	D	C	B	A	A	A	A	A	B	C	C	D	D	E	E	D	D
91	9	3	E	E	E	E	E	E	E	D	B	B	C	B	D	D	D	D	D	E	E	E	E	E	E	E
91	9	4	E	E	E	E	E	E	F	D	D	B	A	A	A	A	A	B	D	D	E	G	G	G	G	G
91	9	5	G	G	G	G	G	G	F	E	D	-	-	-	-	-	-	-	B	D	E	G	G	F	F	F
91	9	6	F	F	F	G	G	G	F	E	C	-	-	-	-	-	-	-	-	D	E	F	F	F	F	F
91	9	7	F	E	E	E	E	E	E	D	D	-	-	-	-	-	-	D	D	E	-	-	-	D	D	D
91	9	8	D	D	D	D	D	D	D	D	D	D	C	A	-	-	B	A	D	D	E	E	E	E	E	F
91	9	9	F	E	E	E	E	E	E	D	B	B	C	-	-	-	-	-	C	D	E	F	E	E	E	E
91	9	10	E	E	E	E	E	E	E	D	C	C	B	C	B	B	B	D	D	D	E	E	E	D	E	E
91	9	11	E	D	D	D	D	D	D	D	D	B	-	-	-	-	-	-	-	C	E	E	F	F	E	E	E
91	9	12	E	E	E	E	E	E	F	E	E	C	-	-	-	-	-	-	-	-	D	F	F	F	F	F	E
91	9	13	E	E	E	F	F	E	E	D	B	-	-	-	-	-	-	-	D	F	E	E	E	E	E	E
91	9	14	E	E	E	E	E	E	E	E	D	A	A	A	B	A	D	D	D	D	E	D	D	D	D	E
91	9	15	E	E	E	E	D	E	D	C	B	A	A	B	A	A	A	D	D	E	E	F	G	E	E	F
91	9	16	F	G	F	F	F	E	E	D	C	-	-	-	-	-	-	-	B	D	G	G	G	G	G	G
91	9	17	G	G	G	F	G	F	E	E	C	-	-	-	D	E	E	E	D	D	D	E	E	F	E	E
91	9	18	E	E	E	D	D	D	D	D	C	-	-	-	-	-	-	-	C	D	F	E	E	E	E	F
91	9	19	F	F	F	G	G	F	F	E	D	C	A	A	A	A	A	B	D	D	F	G	G	G	G	G
91	9	20	G	G	F	G	F	F	F	E	-	-	-	-	-	-	-	-	B	D	E	F	E	E	E	F
91	9	21	E	E	D	D	D	D	D	D	C	-	-	-	-	-	-	-	B	D	D	D	D	D	D	D
91	9	22	E	E	E	F	E	E	D	D	C	A	A	A	A	A	A	B	D	D	F	G	G	G	G	G
91	9	23	G	G	G	G	G	G	G	G	D	C	B	A	A	A	A	B	D	D	E	E	E	-	E	E
91	9	24	E	E	F	F	E	E	D	D	D	D	C	D	D	C	C	A	C	D	E	F	F	G	G	G
91	9	25	G	G	F	F	E	E	E	D	C	A	A	A	A	A	A	B	D	E	E	G	F	F	F	F
91	9	26	G	G	G	G	G	G	G	F	D	D	D	D	D	D	D	B	C	E	G	G	G	G	G	G
91	9	27	G	G	G	G	G	G	G	F	E	E	E	E	D	-	-	-	D	E	E	D	E	E	E	E
91	9	28	E	E	E	E	E	E	E	D	C	B	A	A	A	A	A	B	D	E	F	F	E	F	G	G

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

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
91	9	29	F	F	F	E	E	E	E	E	C	-	-	-	-	-	-	-	-	D	E	E	E	E	E	E
91	9	30	E	E	E	E	E	E	E	E	B	B	B	A	A	B	B	D	D	E	E	E	E	E	F	F
91	10	1	G	G	G	G	G	G	F	E	C	-	-	-	-	-	-	B	D	E	F	F	F	E	E	-
91	10	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	D	E	D	D	E	E	E	E	F	F
91	10	3	F	F	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	D	D	D	D	D
91	10	4	D	D	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	E	E	E	E	E	E
91	10	5	E	E	E	E	E	E	E	D	D	D	B	A	C	B	C	D	D	D	E	E	E	E	E	F
91	10	6	F	E	E	F	E	E	E	D	C	B	A	A	A	A	B	B	D	E	G	G	G	G	G	G
91	10	7	G	G	F	G	G	G	F	E	D	A	A	A	A	A	A	A	D	E	F	F	F	F	F	F
91	10	8	F	F	F	F	F	F	F	E	D	A	A	A	A	A	A	B	D	G	G	G	G	G	G	G
91	10	9	G	G	G	F	E	E	G	F	E	D	D	C	C	B	B	C	D	E	E	E	E	E	F	F
91	10	10	G	G	G	G	G	G	G	G	E	D	D	B	B	A	A	C	D	E	G	G	F	F	F	F
91	10	11	F	E	F	F	E	E	F	E	D	D	C	C	B	B	B	D	D	E	E	F	F	F	F	F
91	10	12	F	F	G	F	F	F	F	F	D	D	D	C	D	C	C	D	D	E	G	G	F	E	E	E
91	10	13	E	E	E	E	E	E	E	D	D	C	B	C	D	D	D	D	D	D	E	E	E	E	E	E
91	10	14	E	D	D	E	E	E	F	E	D	C	B	B	B	C	C	D	D	D	D	E	E	E	E	F
91	10	15	F	E	E	F	E	E	E	E	D	C	B	B	C	B	B	C	D	E	F	F	F	F	F	-
91	10	16	-	-	-	-	-	-	-	-	-	-	-	-	A	A	A	C	D	E	E	E	E	E	E	E
91	10	17	E	E	E	E	E	E	E	E	D	B	A	A	B	B	B	D	D	E	E	E	E	E	E	D
91	10	18	D	D	D	D	D	D	D	D	D	D	D	C	C	A	A	D	D	D	D	E	E	E	E	E
91	10	19	E	F	G	G	F	F	E	E	D	C	A	A	A	A	C	B	D	D	E	F	F	F	F	F
91	10	20	F	E	E	F	F	F	F	F	D	C	B	A	A	A	A	B	D	E	F	F	F	F	F	G
91	10	21	F	G	F	F	F	F	F	E	D	C	A	A	A	A	A	C	D	E	F	F	E	E	E	E
91	10	22	E	E	E	E	E	E	E	E	D	C	-	-	-	-	-	B	-	-	-	-	-	-	-	-
91	10	23	-	-	-	-	-	-	-	-	-	-	-	A	A	A	A	D	D	E	F	F	E	E	E	D
91	10	24	D	D	D	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E
91	10	25	E	E	E	E	E	E	E	D	D	C	B	B	C	B	C	D	D	D	E	E	D	D	D	D
91	10	26	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E
91	10	27	E	-	E	E	E	E	E	E	E	D	C	B	B	B	A	C	D	D	D	D	D	D	D	D
91	10	28	D	D	D	E	E	E	E	E	E	E	E	E	D	D	D	D	E	E	F	E	E	D	D	D
91	10	29	D	D	D	D	D	D	D	D	D	C	B	A	A	A	A	B	D	D	D	D	D	D	D	D
91	10	30	D	D	D	D	D	D	D	D	D	A	A	A	A	A	B	B	D	D	D	D	D	D	D	D
91	10	31	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	D	D	D	D	D
91	11	1	D	D	E	D	E	D	D	E	E	F	E	E	D	E	D	B	B	D	D	D	D	D	D	D
91	11	2	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	B	C	D	D	D	D	D	E	E
91	11	3	E	E	E	E	D	D	E	D	E	D	D	C	C	C	D	D	D	D	D	E	F	G	F	G
91	11	4	G	G	F	G	G	G	F	F	E	D	A	A	A	A	A	B	D	E	E	E	E	E	E	E
91	11	5	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	F
91	11	6	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
91	11	7	D	D	D	D	E	E	E	D	D	D	C	B	A	B	-	C	D	E	E	F	F	F	G	G
91	11	8	G	G	F	F	G	G	F	F	E	D	C	C	A	B	C	D	D	E	E	E	E	E	E	E
91	11	9	E	E	E	E	E	E	E	E	D	D	D	D	C	D	D	D	E	E	E	E	E	E	E	E
91	11	10	E	E	E	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
91	11	11	D	D	D	D	D	D	D	D	D	D	D	D	-	D	D	D	D	E	E	E	E	E	E	E
91	11	12	E	E	E	E	E	D	D	D	E	E	D	D	A	B	D	D	E	F	F	F	F	F	E	E

B100

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/9 - 12/31/91

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
91	11	13	E	F	F	E	E	F	F	E	E	D	C	C	E	B	C	D	E	E	G	G	G	G	G	F
91	11	14	F	E	F	E	E	E	E	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E	E
91	11	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	D	D	-	-	-	-	-	-
91	11	16	-	-	-	-	-	-	-	-	D	D	D	D	D	D	D	D	D	E	E	D	D	E	E	D
91	11	17	E	E	E	E	E	E	E	E	E	D	D	D	C	C	D	E	E	E	E	E	E	E	E	E
91	11	18	E	E	E	E	E	E	E	E	D	D	C	B	C	D	D	D	E	E	E	E	E	E	E	E
91	11	19	E	E	D	E	E	E	D	E	E	E	D	D	D	D	D	D	D	E	E	E	E	E	E	E
91	11	20	E	E	E	E	F	F	E	F	E	-	C	B	C	C	D	D	E	F	G	G	F	F	F	F
91	11	21	F	F	F	F	F	E	E	E	D	D	D	D	C	D	C	D	D	E	F	F	F	F	F	E
91	11	22	F	F	E	E	E	E	D	D	D	D	D	E	E	E	E	E	E	E	E	E	D	C	B	D
91	11	23	D	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
91	11	24	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	F	G	G	G	G	G
91	11	25	G	G	G	G	E	E	E	E	D	D	D	C	D	C	C	C	D	D	D	D	E	E	E	E
91	11	26	E	E	E	E	E	D	E	E	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E	E
91	11	27	F	F	E	F	E	F	E	E	E	E	E	D	D	D	D	D	E	E	E	E	E	E	E	E
91	11	28	E	E	E	E	E	E	E	E	E	E	E	E	F	F	F	F	-	-	-	-	-	-	-	-
91	11	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91	11	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91	12	1	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	D	D	D	-	-
91	12	2	-	-	-	-	-	-	-	D	D	D	D	D	D	D	D	D	D	D	E	F	F	F	F	E
91	12	3	E	E	D	D	D	D	D	D	D	C	B	B	B	B	C	C	D	D	D	D	D	D	D	D
91	12	4	D	D	D	D	D	D	D	D	D	D	B	A	A	A	B	D	D	D	E	E	E	E	E	E
91	12	5	E	E	F	F	F	G	E	E	E	D	D	C	C	D	D	D	E	E	F	G	G	G	G	G
91	12	6	G	G	F	G	G	G	G	G	G	E	D	D	D	D	D	E	E	E	F	F	F	E	F	F
91	12	7	F	F	G	G	-	-	-	-	-	-	-	-	-	D	D	D	E	F	F	-	-	-	-	-
91	12	8	-	-	-	-	-	-	-	-	-	-	-	-	D	C	D	D	E	F	F	F	G	G	G	G
91	12	9	G	G	G	G	F	F	F	E	E	D	D	C	C	C	D	D	E	F	G	G	G	G	G	G
91	12	10	F	F	G	G	F	F	F	F	F	E	D	C	C	D	D	D	E	E	F	E	E	E	E	E
91	12	11	E	E	F	F	F	F	F	F	F	E	D	D	B	D	D	D	D	E	E	E	D	E	-	-
91	12	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	E	E	E	F	F	G	G	G
91	12	13	G	G	G	G	G	G	G	G	F	E	E	E	E	E	D	E	E	E	E	E	E	E	E	E
91	12	14	D	D	D	E	E	E	E	E	D	D	D	C	C	C	D	D	E	E	F	F	E	E	E	E
91	12	15	E	F	E	E	E	E	E	E	E	D	C	B	B	C	D	D	D	F	F	F	F	F	F	F
91	12	16	F	F	E	E	E	E	E	F	E	E	D	D	C	C	D	D	E	F	F	F	F	F	F	F
91	12	17	F	E	E	E	E	E	E	E	E	D	D	C	C	C	D	D	D	E	F	F	F	F	G	G
91	12	18	G	G	G	F	F	E	F	E	E	D	D	C	B	C	D	D	D	E	E	E	E	E	D	D
91	12	19	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	-	-	-	-	-	-
91	12	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91	12	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91	12	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91	12	23	-	-	-	-	-	-	-	-	-	-	-	-	D	C	D	D	E	E	F	F	F	G	G	F
91	12	24	G	F	G	F	F	F	F	F	F	D	D	D	D	D	D	D	E	F	F	F	F	F	F	F
91	12	25	F	F	-	-	-	-	-	-	-	-	-	E	D	D	D	D	E	E	F	E	E	F	F	F
91	12	26	-	-	-	-	-	-	-	-	E	E	D	D	D	D	D	E	E	F	F	-	-	-	-	-
91	12	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

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
91	12	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91	12	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91	12	30	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	D	-	-	-	-	-	-	-
91	12	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

B102

JFDs of 100-Meter Wind vs. Delta T

July-September 1991

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JULY-SEPT 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 9/30/91

*** JULY-SEPT 1991 ***

STABILITY CLASS A

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

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

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

STABILITY CLASS B

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

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS 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	1	3	0	1	0	0	0	0	0	0	0	5
7.51-12.50	0	0	1	1	0	2	6	7	9	5	2	0	0	1	0	0	34
12.51-18.50	1	0	0	0	0	0	0	1	9	0	0	0	0	0	0	0	11
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
TOTAL	1	0	1	1	0	3	9	8	19	5	2	0	0	1	0	8	58

PROGRAM: JFD VERSION: 3P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JULY-SEPT 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 9/30/91

*** JULY-SEPT 1991 ***

STABILITY CLASS C

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	3	4	2	0	1	4	1	0	1	3	2	0	0	0	0	1	22
7.51-12.50	10	1	2	2	2	3	3	5	8	6	6	0	0	0	0	2	50
12.51-18.50	4	0	1	0	0	1	3	3	9	4	0	0	0	4	0	5	34
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	1	0	0	0	0	0	0	2	3
TOTAL	17	5	5	2	3	8	7	8	19	13	8	0	0	4	0	11	110

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																	6
1.01- 3.50	1	3	3	2	0	3	3	0	1	1	1	0	0	0	0	0	18
3.51- 7.50	23	10	14	12	13	18	15	6	4	19	8	8	8	7	5	5	175
7.51-12.50	28	23	9	15	14	15	7	9	18	22	19	5	5	12	14	24	239
12.51-18.50	9	16	8	3	2	5	17	14	16	10	2	2	2	3	9	25	143
18.51-24.00	6	2	0	0	0	0	1	7	3	1	1	1	0	0	1	10	33
>24.00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	2	5
TOTAL	67	54	34	32	29	41	43	36	45	53	31	16	15	22	29	66	619

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JULY-SEPT 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 9/30/91

*** JULY-SEPT 1991 ***

STABILITY CLASS E

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	1	1	1	0	0	1	1	0	1	0	0	0	0	0	0	6
3.51- 7.50	7	11	6	4	5	8	2	1	3	7	4	1	1	1	2	7	70
7.51-12.50	25	26	23	8	10	16	15	24	43	44	19	7	5	2	4	18	289
12.51-18.50	38	16	7	5	6	7	30	59	67	45	4	4	1	2	6	16	313
18.51-24.00	2	3	0	0	0	0	13	5	18	3	2	1	1	1	3	2	54
>24.00	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	4
TOTAL	72	57	37	18	21	31	61	90	132	101	31	13	8	6	15	43	736

STABILITY CLASS F

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	1	2	0	2	1	0	0	0	1	0	0	0	0	0	0	7
3.51- 7.50	2	4	5	2	5	6	2	2	2	11	2	1	0	0	1	4	49
7.51-12.50	9	5	3	2	6	11	14	16	15	17	9	2	0	0	6	4	119
12.51-18.50	1	0	1	1	2	0	7	24	14	16	6	0	2	4	4	6	88
18.51-24.00	0	0	0	0	0	0	2	2	2	3	2	2	0	6	1	1	21
>24.00	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
TOTAL	12	10	11	5	15	18	25	45	33	48	20	5	2	10	12	15	286

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JULY-SEPT 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 9/30/91

*** JULY-SEPT 1991 ***

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	2	0	2	1	1	3	0	0	0	0	0	0	0	0	0	0	9
3.51- 7.50	1	4	0	2	0	2	0	0	3	5	6	0	5	1	6	6	41
7.51-12.50	2	0	0	0	2	2	6	4	4	14	2	1	1	1	4	9	52
12.51-18.50	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	2	5
18.51-24.00	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	1	4
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	5	4	2	3	3	7	6	4	9	19	10	2	6	3	10	18	111

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																	6
1.01- 3.50	3	5	8	4	3	7	4	1	1	3	1	0	0	0	0	0	40
3.51- 7.50	36	33	27	20	24	39	23	9	14	45	22	10	14	9	14	23	362
7.51-12.50	74	55	38	28	34	49	51	85	97	110	57	15	11	16	28	57	785
12.51-18.50	53	32	17	9	10	13	57	102	118	75	12	7	5	13	19	54	596
18.51-24.00	8	5	0	0	0	0	16	14	23	7	7	4	1	8	5	21	119
>24.00	0	0	0	0	0	0	0	1	5	1	3	0	0	0	0	6	16
TOTAL	174	130	90	61	71	108	151	192	258	241	102	36	31	46	66	161	1924

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JULY-SEPT 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 9/30/91

*** JULY-SEPT 1991 ***

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: 1924

TOTAL NUMBER OF MISSING OBSERVATIONS: 284

PERCENT DATA RECOVERY FOR THIS PERIOD: 87.1 %

MEAN WIND SPEED FOR THIS PERIOD: 11.4 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

B108

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
0.21	3.01	5.72	32.17	38.25	14.86	5.77

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	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0
B	1	0	1	1	0	3	9	8	19	5	2	0	0	1	0	8	0
C	17	5	5	2	3	8	7	8	19	13	8	0	0	4	0	11	0
D	67	54	34	32	29	41	43	36	45	53	31	16	15	22	29	66	8
E	72	57	37	18	21	31	61	90	132	101	31	13	8	6	15	43	0
F	12	10	11	5	15	18	25	45	33	48	20	5	2	10	12	15	0
G	5	4	2	3	3	7	6	4	9	19	10	2	6	3	10	18	0
TOTAL	174	130	90	61	71	108	151	192	258	241	102	36	31	46	66	161	6

JFDs of 100-Meter Wind vs. Delta T

October-December 1991

PROGRAM: JFD VERSION: 5P
NPPD COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T OCT-DEC 1991
SITE IDENTIFIER: KPPD
DATA PERIOD EXAMINED: 10/ 1/91 - 12/31/91

*** OCT - DEC 1991 ***

STABILITY CLASS A

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

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

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

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	1	0	0	0	0	0	0	0	1
3.51- 7.50	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
7.51-12.50	0	0	0	0	0	0	0	1	0	2	1	0	0	2	1	0	9
12.51-18.50	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
18.51-24.00	2	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	6
>24.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL	3	0	0	0	0	0	0	0	7	2	2	0	0	3	1	0	21

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T OCT-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 10/ 1/91 - 12/31/91

*** OCT - DEC 1991 ***

STABILITY CLASS C

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3
3.51- 7.50	0	0	1	0	0	0	0	0	0	0	0	0	1	2	1	0	5
7.51-12.50	0	0	0	0	0	0	1	2	0	7	2	0	2	3	6	1	24
12.51-18.50	0	0	0	0	0	0	0	0	1	1	1	0	3	0	6	2	14
18.51-24.00	1	1	0	0	0	0	1	0	1	0	1	0	0	0	3	0	8
>24.00	0	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0	4
TOTAL	1	3	1	0	0	0	2	4	5	8	4	0	6	5	16	3	58

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																	7
1.01- 3.50	2	0	4	0	0	0	0	4	2	0	3	0	1	22	6	1	45
3.51- 7.50	8	5	3	5	0	1	5	3	1	3	3	3	3	77	28	5	153
7.51-12.50	5	2	3	4	1	16	13	2	2	7	1	1	4	52	32	5	150
12.51-18.50	18	14	14	2	0	1	4	0	6	4	1	3	57	36	67	17	264
18.51-24.00	13	13	0	1	0	1	8	2	8	11	9	8	5	2	20	7	108
>24.00	2	3	0	1	0	0	1	6	7	2	3	0	0	0	0	1	26
TOTAL	48	37	24	13	1	19	31	17	26	27	20	15	70	189	173	36	753

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T OCT-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 10/ 1/91 - 12/31/91

*** OCT - DEC 1991 **

STABILITY CLASS E

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	26
1.01- 3.50	0	0	0	1	0	0	0	3	4	8	2	0	0	10	1	2	31
3.51- 7.50	3	2	1	2	7	5	2	2	0	1	0	0	2	54	9	4	94
7.51-12.50	8	1	5	9	5	7	1	1	5	9	0	1	4	76	72	6	210
12.51-18.50	4	2	3	2	1	0	3	4	13	15	1	5	54	35	114	26	282
18.51-24.00	10	4	1	0	0	5	5	1	24	4	6	28	11	18	40	12	169
>24.00	3	1	0	1	0	0	2	1	7	3	2	1	0	1	1	2	25
TOTAL	28	10	10	15	13	17	13	12	53	40	11	35	71	194	237	52	837

STABILITY CLASS F

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	4
1.01- 3.50	0	0	0	0	1	0	0	0	2	0	0	1	1	5	2	2	14
3.51- 7.50	0	1	1	0	0	0	1	0	0	3	2	0	1	18	4	1	32
7.51-12.50	3	0	0	1	2	2	0	2	5	6	0	0	1	26	33	5	86
12.51-18.50	1	0	2	0	0	0	2	3	12	5	2	1	7	18	38	14	105
18.51-24.00	7	0	0	0	0	0	3	0	0	0	3	12	3	2	5	5	40
>24.00	0	1	1	0	0	2	0	0	1	0	0	0	0	1	0	0	6
TOTAL	11	2	4	1	3	4	6	5	20	14	7	14	13	70	82	27	287

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T OCT-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 10/ 1/91 - 12/31/91

*** OCT - DEC 1991 ***

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																	1
1.01- 3.50	0	1	0	1	0	0	0	0	0	0	1	0	0	2	0	1	6
3.51- 7.50	1	0	0	0	1	0	0	1	1	2	0	0	0	16	4	0	26
7.51-12.50	1	2	0	1	0	0	1	0	4	0	0	0	1	9	17	3	39
12.51-18.50	0	1	1	0	0	0	0	0	2	0	0	0	0	0	6	1	11
18.51-24.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	2	4	1	2	1	0	1	1	7	2	2	0	1	27	27	5	84

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																	38
1.01- 3.50	2	1	4	2	1	0	0	8	11	8	6	1	2	39	9	6	100
3.51- 7.50	12	8	6	7	8	6	8	6	2	9	6	3	7	168	45	10	312
7.51-12.50	17	5	8	15	8	25	16	7	16	34	7	2	12	168	161	20	521
12.51-18.50	24	17	20	4	1	1	9	7	36	25	5	9	121	89	251	60	679
18.51-24.00	35	18	1	1	0	6	17	3	38	15	20	48	19	22	68	24	335
>24.00	5	7	1	2	0	2	3	8	17	5	5	1	0	2	1	3	62
TOTAL	95	56	40	31	18	40	53	39	120	96	49	64	161	488	536	123	2047

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T OCT-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 10/ 1/91 - 12/31/91

*** OCT - DEC 1991 ***

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: 2047

TOTAL NUMBER OF MISSING OBSERVATIONS: 161

PERCENT DATA RECOVERY FOR THIS PERIOD: 92.7 %

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
0.34	1.03	2.83	36.79	40.89	14.02	4.10

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	2	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0
B	3	0	0	0	0	0	0	0	7	2	5	0	0	3	1	0	0
C	1	3	1	0	0	0	2	4	5	8	4	0	6	5	16	3	0
D	48	37	24	13	1	19	31	17	26	27	20	15	70	189	173	36	7
E	28	10	10	15	13	17	13	12	53	40	11	35	71	194	237	52	26
F	11	2	4	1	3	4	6	5	20	14	7	14	13	70	82	27	4
G	2	4	1	2	1	0	1	1	7	2	2	0	1	27	27	5	1
TOTAL	95	56	40	31	18	40	53	39	120	96	49	64	161	488	536	123	38

JFDs of 100-Meter Wind vs. Delta T

July-December 1991

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

*** JULY-DEC 1991 ***

STABILITY CLASS A

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

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

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

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	1	0	0	0	0	0	0	0	1
3.51- 7.50	0	0	0	0	0	1	3	0	1	0	1	0	0	1	0	0	7
7.51-12.50	0	0	1	1	0	2	6	7	9	7	6	0	0	3	1	0	43
12.51-18.50	2	0	0	0	0	0	0	1	10	0	0	0	0	0	0	0	13
18.51-24.00	2	0	0	0	0	0	0	0	4	0	0	0	0	0	0	6	12
>24.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	3
TOTAL		0	1	1	0	3	9	8	26	7	7	0	0	4	1	8	79

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

*** JULY-DEC 1991 ***

STABILITY CLASS C

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3
3.51- 7.50	3	4	3	0	1	4	1	0	1	3	2	0	1	2	1	1	27
7.51-12.50	10	1	2	2	2	3	4	7	8	13	8	0	2	3	6	3	74
12.51-18.50	4	0	1	0	0	1	3	3	10	5	1	0	3	4	6	7	48
18.51-24.00	1	1	0	0	0	0	1	0	1	0	1	0	0	0	3	1	9
>24.00	0	2	0	0	0	0	0	1	2	0	0	[illegible]	0	0	0	2	7
TOTAL	18	8	6	2	3	[illegible]	9	12	24	21	12	[illegible]	6	9	16	14	168

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																	13
1.01- 3.50	3	3	7	2	0	3	5	4	3	1	4	0	1	22	6	1	63
3.51- 7.50	31	15	17	17	13	19	20	9	5	22	11	11	11	84	33	10	328
7.51-12.50	33	25	12	19	15	31	20	11	20	29	20	6	9	64	46	29	389
12.51-18.50	27	30	22	5	2	6	21	14	22	14	3	5	59	39	96	42	407
18.51-24.00	19	15	0	1	0	1	9	9	11	12	10	9	5	2	21	17	141
>24.00	2	3	0	1	0	0	1	6	10	2	3	0	0	0	0	3	31
TOTAL	115	91	58	45	30	60	74	53	71	80	51	31	85	211	202	102	1372

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

*** JULY-DEC 1991 ***

STABILITY CLASS E

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	26
1.01- 3.50	0	1	1	2	0	0	1	4	4	9	2	0	0	10	1	2	37
3.51- 7.50	10	13	7	5	12	13	4	3	3	8	4	1	3	55	11	11	164
7.51-12.50	33	27	28	17	15	23	16	25	48	53	19	8	9	78	76	24	499
12.51-18.50	42	18	10	7	7	7	33	63	80	60	5	9	55	37	120	42	595
18.51-24.00	12	7	1	0	0	5	13	6	42	7	8	29	12	19	43	14	223
>24.00	3	1	0	1	0	0	2	1	8	4	4	1	0	1	1	2	29
TOTAL	100	67	47	33	34	48	74	102	185	141	42	48	79	200	252	95	1573

STABILITY CLASS F

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	4
1.01- 3.50	0	1	2	0	3	1	0	0	2	1	0	1	1	5	2	2	21
3.51- 7.50	2	5	6	2	5	6	3	2	2	14	4	1	1	18	5	5	81
7.51-12.50	12	5	3	3	8	13	14	18	20	23	9	2	1	29	39	9	205
12.51-18.50	2	0	3	1	2	0	9	27	26	21	8	1	9	22	42	20	193
18.51-24.00	2	0	0	0	0	0	5	2	2	3	5	14	3	8	6	6	61
>24.00	0	1	1	0	0	2	0	1	1	0	1	0	0	1	0	0	8
TOTAL	23	12	15	6	18	22	31	50	53	62	27	19	15	80	94	42	573

PROGRAM: JFD VERSION: 5?
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

*** JULY-DEC 1991 ***

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																	
1.01- 3.50	2	1	2	2	1	3	0	0	0	0	1	0	0	2	0	1	15
3.51- 7.50	2	4	0	2	1	2	0	1	4	7	6	0	[illegible]	17	10	6	67
7.51-12.50	3	2	0	1	2	2	7	4	8	14	2	1	2	10	21	12	91
12.51-18.50	0	1	1	0	0	0	0	0	4	0	0	1	0	0	6	3	16
18.51-24.00	0	0	0	0	0	0	0	0	0	0	3	0	0	1	0	1	5
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	7	8	3	5	4	7	7	5	16	21	12	2	7	30	37	23	195

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																	44
1.01- 3.50	5	6	12	6	4	7	4	9	12	11	7	1	2	39	9	6	140
3.51- 7.50	48	41	33	27	31	45	31	15	16	54	28	13	21	177	60	33	[illegible]
7.51-12.50	91	60	46	43	42	74	67	72	113	144	64	17	23	184	189	77	1300
12.51-18.50	77	49	37	13	11	14	66	109	154	100	17	16	126	102	270	314	1275
18.51-24.00	43	23	1	1	0	6	33	17	61	22	27	52	20	30	73	45	454
>24.00	5	7	1	2	0	2	3	9	22	6	8	1	0	2	1	9	78
TOTAL	269	186	130	92	89	148	204	231	378	337	151	100	192	534	602	284	3971

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

*** JULY-DEC 1991 ***

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: 3971

TOTAL NUMBER OF MISSING OBSERVATIONS: 445

PERCENT DATA RECOVERY FOR THIS PERIOD: 89.9 %

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
0.28	1.26	4.23	34.55	39.61	14.43	4.91

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	2	0	0	0	0	0	0	1	3	5	0	0	0	0	0	0	0
B	4	0	1	1	0	3	9	8	26	7	7	0	0	4	1	8	0
C	18	8	6	2	3	8	9	12	24	21	12	0	6	9	16	14	0
D	115	91	58	45	30	60	74	53	71	80	51	31	85	211	202	102	13
E	100	67	47	33	34	48	74	102	185	141	42	48	79	200	252	95	26
F	23	12	15	6	18	22	31	50	53	62	27	19	15	80	94	42	4
G	7	8	3	5	4	7	7	5	16	21	12	2	7	30	37	23	1
TOTAL	269	186	130	92	89	148	204	231	378	337	151	100	192	534	602	284	44

JFDs of 100-Meter Wind vs. Delta T
January-December 1991

PROGRAM: JFD VERSION: 5F
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JAN-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 1/ 1/91 - 12/31/91

*** JAN-DEC 1991 ***

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	1	0	0	0	0	0	0	0	0	0	1
7.51-12.50	0	0	0	0	0	0	1	1	0	5	0	0	0	0	0	0	7
12.51-18.50	1	0	0	0	0	0	5	8	8	0	0	0	0	0	0	0	22
18.51-24.00	2	0	0	0	0	0	0	2	4	0	2	0	0	0	0	1	11
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL	3	0	0	0	0	0	7	11	12	5	2	0	0	0	1	1	42

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	1	0	0	0	0	0	0	0	1
3.51- 7.50	0	0	0	0	0	1	3	0	1	0	1	0	0	1	0	0	7
7.51-12.50	4	0	1	1	0	3	11	17	14	9	6	0	0	3	1	0	70
12.51-18.50	8	0	0	0	0	2	2	16	29	1	1	3	0	2	0	3	70
18.51-24.00	3	0	0	0	0	0	0	4	15	0	1	0	0	1	0	9	33
>24.00	0	0	0	0	0	0	0	1	4	0	1	0	0	1	1	3	11
TOTAL	16	0	1	1	0	6	16	40	64	10	10	3	0	8	2	15	192

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JAN-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 1/ 1/91 - 12/31/91

*** JAN-DEC 1991 ***

STABILITY CLASS C

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3
3.51- 7.50	9	7	3	1	1	5	4	0	2	3	2	1	1	2	1	2	44
7.51-12.50	20	2	3	4	2	4	12	19	27	16	13	4	5	5	7	5	148
12.51-18.50	10	3	3	1	0	6	6	17	29	9	8	2	5	12	12	9	132
18.51-24.00	8	1	0	0	2	0	2	7	13	1	2	0	0	2	8	5	51
>24.00	0	2	0	0	0	0	1	2	6	4	0	2	1	0	4	6	28
TOTAL	47	15	9	6	5	15	25	46	79	33	25	9	12	21	32	27	406

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																	13
1.01- 3.50	6	8	11	4	4	8	6	7	6	3	4	1	3	23	7	9	110
3.51- 7.50	54	30	31	27	35	57	38	22	16	50	30	21	23	97	43	22	596
7.51-12.50	88	47	28	33	40	74	58	48	53	71	60	19	26	80	64	51	840
12.51-18.50	112	50	40	24	19	49	61	75	75	46	34	16	71	66	139	71	948
18.51-24.00	48	27	1	2	2	18	35	27	60	26	10	12	17	5	46	51	389
>24.00	6	6	0	1	0	10	6	10	36	6	7	4	7	14	12	28	153
TOTAL	314	168	111	91	100	216	204	189	246	204	145	73	147	285	311	232	3049

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JAN-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 1/ 1/91 - 12/31/91

*** JAN-DEC 1991 ***

STABILITY CLASS E

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	26
1.01- 3.50	4	3	4	5	3	0	1	6	5	10	2	0	0	11	2	6	62
3.51- 7.50	22	15	12	11	16	22	10	11	9	25	10	11	3	57	17	16	267
7.51-12.50	63	46	45	24	29	34	26	73	97	106	36	17	16	86	81	36	815
12.51-18.50	67	28	15	10	10	17	64	126	161	109	38	24	66	46	129	51	961
18.51-24.00	14	8	1	0	0	9	30	15	76	16	15	35	21	34	48	19	341
>24.00	3	1	0	1	0	3	9	4	14	6	6	2	2	7	2	2	62
TOTAL	173	101	77	51	58	85	140	235	362	272	107	89	108	241	279	130	2534

STABILITY CLASS F

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	4
1.01- 3.50	1	4	4	0	3	2	2	1	6	1	0	1	1	7	2	4	39
3.51- 7.50	8	6	8	2	6	10	6	6	4	25	5	3	5	19	7	7	127
7.51-12.50	15	7	6	4	9	17	23	28	37	39	32	18	4	31	40	16	326
12.51-18.50	2	0	3	1	3	2	14	31	41	33	17	10	12	25	43	20	257
18.51-24.00	7	2	0	0	0	0	6	3	7	4	8	16	6	9	10	7	85
>24.00	0	1	1	0	0	2	0	1	1	0	1	0	0	2	0	0	10
TOTAL	33	20	22	7	21	33	51	70	96	102	63	48	28	94	102	54	848

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JAN-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 1/ 1/91 - 12/31/91

*** JAN-DEC 1991 ***

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																	1
1.01- 3.50	2	1	2	2	1	3	0	0	0	0	1	0	0	3	0	1	16
3.51- 7.50	4	5	0	2	1	3	1	1	7	12	8	4	8	18	10	7	91
7.51-12.50	6	2	0	1	2	2	8	7	8	24	7	3	2	11	23	14	119
12.51-18.50	0	1	1	0	0	0	0	3	7	3	3	7	0	1	8	3	37
18.51-24.00	0	0	0	0	0	0	0	0	1	0	3	0	1	3	0	1	9
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	12	9	3	5	4	8	9	11	23	38	22	14	11	36	41	26	273

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																	44
1.01- 3.50	13	16	21	11	11	13	9	15	20	14	7	2	4	44	11	20	231
3.51- 7.50	97	63	54	43	59	98	63	40	39	115	56	40	40	194	78	54	1133
7.51-12.50	196	104	83	67	82	134	139	193	236	269	154	61	53	216	216	122	2325
12.51-18.50	201	82	62	36	32	76	152	278	350	201	101	62	154	152	331	157	2427
18.51-24.00	82	38	2	2	4	27	73	58	176	49	41	63	45	54	112	93	319
>24.00	9	10	1	2	0	15	16	18	61	16	15	8	10	25	20	39	265
TOTAL	598	313	223	161	188	363	452	602	882	664	374	236	306	685	768	485	7344

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JAN-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 1/ 1/91 - 12/31/91

*** JAN-DEC 1991 ***

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: 7344

TOTAL NUMBER OF MISSING OBSERVATIONS: 1416

PERCENT DATA RECOVERY FOR THIS PERIOD: 83.8 %

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
0.57	2.61	5.53	41.52	34.50	11.55	3.72

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	7	11	12	5	2	0	0	0	1	1	0
B	16	0	1	1	0	6	16	40	64	10	10	3	0	8	2	15	0
C	47	15	9	6	5	15	25	46	79	33	25	9	12	21	32	27	0
D	314	168	111	91	100	116	204	189	246	204	145	73	147	285	311	232	13
E	173	101	77	51	58	85	140	235	362	272	107	89	108	241	279	130	26
F	33	20	22	7	21	33	51	70	96	102	63	48	28	94	102	54	4
G	12	9	3	5	4	8	9	11	23	38	22	14	11	36	41	26	1
TOTAL	598	313	223	161	188	363	452	602	882	664	374	236	306	685	768	485	44

Stability Classes by Hour of Day

100-Meter Wind vs. Delta T

July-December 1991

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

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
91	7	1	F	E	E	E	E	F	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
91	7	2	F	F	E	F	F	E	E	D	D	D	D	D	D	D	D	D	D	E	E	F	G	G	G	G
91	7	3	G	G	G	G	G	F	E	D	D	D	D	C	D	D	D	D	D	E	E	E	F	F	G	G
91	7	4	G	G	G	G	G	G	F	D	D	D	D	D	D	D	D	D	D	D	E	E	F	F	F	F
91	7	5	F	G	G	G	G	G	F	D	-	-	-	-	-	-	-	-	-	D	E	E	E	E	E	E
91	7	6	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	F	F	E	E	E
91	7	7	E	E	E	E	E	E	E	D	D	D	E	E	E	D	D	D	D	D	E	E	E	E	E	E
91	7	8	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	E	D	D	E	E
91	7	9	-	-	-	-	-	-	-	-	-	-	-	-	D	D	D	D	D	D	D	D	D	D	D	-
91	7	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91	7	11	-	-	-	-	-	-	-	-	-	-	-	-	-	D	D	D	D	D	D	E	E	E	E	E
91	7	12	F	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	E	F	G	G	E	E
91	7	13	F	F	F	F	E	E	D	D	D	D	B	C	C	C	D	D	D	D	D	E	E	E	E	F
91	7	14	E	E	E	E	E	E	E	D	D	D	D	C	B	B	D	D	D	D	F	E	F	F	F	E
91	7	15	F	F	E	E	E	E	E	D	-	-	-	-	-	-	-	-	-	-	D	E	E	E	E	E
91	7	16	E	E	E	E	E	E	D	D	D	C	C	D	D	D	B	C	D	D	D	E	E	E	E	E
91	7	17	E	E	E	E	E	E	E	D	D	C	C	B	B	C	C	C	D	D	D	E	E	F	F	F
91	7	18	F	F	E	F	F	F	F	E	D	D	D	C	B	C	B	C	D	D	E	E	E	E	E	E
91	7	19	E	E	E	E	E	F	F	E	D	C	B	B	B	C	C	C	D	E	E	E	E	E	E	E
91	7	20	E	E	E	E	E	E	E	E	D	D	D	D	D	E	E	E	E	D	E	F	F	F	E	E
91	7	21	E	E	E	E	E	E	E	E	E	D	C	C	D	E	E	E	E	E	E	E	F	F	E	E
91	7	22	E	E	E	E	E	E	E	D	D	D	D	C	D	D	D	D	-	-	-	-	-	-	-	E
91	7	23	D	E	D	D	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
91	7	24	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	G	G	G
91	7	25	G	F	F	E	E	E	E	D	D	D	D	C	C	C	D	D	D	D	E	E	F	F	F	F
91	7	26	F	E	E	E	F	F	E	D	D	D	D	C	B	-	D	D	D	D	D	E	E	E	E	E
91	7	27	E	E	E	E	E	E	E	D	D	-	-	-	-	-	-	-	-	D	D	E	E	E	E	E
91	7	28	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
91	7	29	E	E	E	E	E	E	E	D	D	D	D	D	D	C	D	D	D	D	D	E	F	F	F	F
91	7	30	F	F	F	F	F	E	E	D	-	-	-	-	-	E	E	E	D	D	E	E	E	E	E	E
91	7	31	F	F	F	F	F	E	E	E	D	D	D	C	C	C	D	D	D	D	D	E	F	G	F	G
91	8	1	F	F	F	F	F	F	F	E	E	D	D	B	B	B	B	C	D	D	E	F	F	F	F	F
91	8	2	F	E	E	E	F	F	F	F	E	D	D	D	D	D	D	D	D	E	E	D	E	E	E	E
91	8	3	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	F	F
91	8	4	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	-	D	D	D	E	E	E	E
91	8	5	E	E	E	-	-	-	-	-	-	-	-	-	-	-	D	D	D	D	D	-	-	-	-	-
91	8	6	-	-	-	-	-	-	-	-	-	D	D	C	B	B	B	C	C	D	D	E	E	E	E	E
91	8	7	E	E	E	E	E	F	E	E	D	D	D	D	D	D	D	D	D	E	E	F	F	E	E	-
91	8	8	-	-	-	-	-	-	-	-	-	-	-	D	B	D	D	D	D	D	D	D	-	-	-	-
91	8	9	-	-	-	-	-	-	-	D	D	D	D	D	D	C	D	D	D	D	E	E	F	F	F	F
91	8	10	F	E	E	E	-	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	G	G	G	G
91	8	11	G	G	F	F	F	F	G	F	D	D	D	D	D	D	D	D	D	D	E	E	F	F	E	F
91	8	12	F	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	F	F	F
91	8	13	F	F	F	-	-	-	-	-	D	D	D	C	C	C	D	D	D	D	E	F	G	G	G	G
91	8	14	F	G	F	F	F	F	E	E	D	D	D	C	C	C	C	D	D	D	D	E	E	E	F	F

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

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
91	8	15	F	F	F	F	F	F	F	E	D	C	C	C	C	D	D	D	D	E	E	F	F	F	F	F
91	8	16	F	F	E	E	E	E	E	D	D	E	E	-	-	-	-	-	D	D	E	E	F	F	E	E
91	8	17	E	F	F	E	E	E	E	D	D	D	D	D	C	D	D	D	D	E	E	F	G	G	G	G
91	8	18	F	E	F	G	F	F	F	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
91	8	19	E	E	E	E	E	E	F	D	D	D	D	D	C	C	D	D	D	D	E	E	F	F	F	F
91	8	20	E	E	E	F	F	F	E	D	-	-	-	-	-	-	C	D	D	E	E	E	F	F	F	F
91	8	21	F	F	F	F	E	E	E	D	D	C	B	A	A	C	C	D	D	D	F	G	G	G	G	G
91	8	22	F	F	F	E	E	E	E	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91	8	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	D	D	E	E	E	E	E	E	E
91	8	24	E	E	E	E	F	F	F	E	D	C	B	B	B	B	B	D	D	D	E	E	E	E	E	E
91	8	25	E	E	E	E	E	E	E	D	D	C	B	B	B	B	C	D	D	E	E	F	F	F	E	E
91	8	26	F	F	F	F	F	F	F	E	D	C	C	B	B	B	C	D	D	E	E	F	F	F	F	F
91	8	27	F	F	F	F	E	F	E	D	D	C	C	B	B	C	C	C	D	D	E	E	F	E	E	F
91	8	28	E	E	E	E	E	E	E	E	D	C	B	B	B	B	B	D	D	D	E	E	E	E	E	E
91	8	29	E	E	E	E	E	E	E	E	D	D	C	B	B	C	D	D	)	D	E	D	E	E	E	E
91	8	30	E	E	F	F	F	F	F	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	F	F
91	8	31	F	E	E	E	E	F	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
91	9	1	E	E	E	E	E	E	E	D	D	D	D	D	D	D	C	D	D	D	D	D	D	E	E	E
91	9	2	E	E	E	E	E	E	E	E	D	D	D	C	A	B	B	D	D	D	D	E	E	E	E	E
91	9	3	E	E	E	E	E	E	E	D	D	D	D	C	D	D	D	D	D	D	E	E	E	E	E	E
91	9	4	E	E	E	E	E	E	E	E	D	D	-	-	C	B	B	C	D	D	E	F	G	F	G	G
91	9	5	G	G	G	G	G	G	F	E	D	-	-	-	-	-	-	-	D	D	E	F	F	F	F	F
91	9	6	F	F	F	G	G	G	F	E	D	-	-	-	-	-	-	-	-	D	E	F	F	F	F	F
91	9	7	E	E	E	E	E	E	E	D	-	-	-	-	-	-	D	E	E	-	-	-	E	E	E	E
91	9	8	E	E	E	E	E	E	E	E	E	E	D	-	-	D	C	D	D	E	E	E	E	E	E	E
91	9	9	F	E	E	E	E	E	E	D	D	D	-	-	-	-	-	D	D	E	E	E	E	E	E	E
91	9	10	E	E	E	E	E	E	E	E	D	D	D	-	-	D	D	D	D	D	E	E	E	D	E	E
91	9	11	E	D	D	D	E	E	E	E	D	-	-	-	-	-	-	-	D	E	E	F	F	E	E	E
91	9	12	E	E	E	E	E	E	E	E	D	-	-	-	-	-	-	-	-	D	F	F	F	F	F	E
91	9	13	E	E	E	F	F	E	E	E	D	-	-	-	-	-	-	-	D	F	E	E	E	E	E	E
91	9	14	E	E	E	E	E	E	E	E	D	D	C	C	C	C	D	D	D	D	E	D	D	E	E	E
91	9	15	E	E	E	E	E	E	E	D	D	D	C	C	B	B	C	D	D	D	E	F	F	E	E	F
91	9	16	F	G	F	F	F	E	F	D	D	-	-	-	-	-	-	-	C	D	F	G	G	G	G	G
91	9	17	G	G	G	F	G	G	F	E	D	-	-	-	D	E	E	E	D	D	D	E	E	E	E	E
91	9	18	E	E	E	D	D	D	D	D	)	-	-	-	-	-	-	-	D	D	E	E	E	E	E	F
91	9	19	F	E	E	F	F	F	F	-	-	D	C	C	C	C	C	C	D	D	E	F	F	F	F	F
91	9	20	G	G	G	F	F	F	F	-	-	-	-	-	-	-	-	-	D	D	E	E	E	E	E	F
91	9	21	E	E	D	E	D	D	D	D	D	-	-	-	-	-	-	-	D	D	D	D	D	D	D	D
91	9	22	E	E	E	F	E	E	D	D	D	C	B	B	B	B	B	C	D	D	E	F	F	G	G	G
91	9	23	G	G	G	G	G	G	G	G	E	D	D	-	A	B	B	C	D	D	E	E	E	-	E	E
91	9	24	E	E	F	F	E	E	D	D	D	D	D	D	D	D	D	C	D	D	E	E	F	F	G	G
91	9	25	G	G	F	F	F	E	E	D	D	C	C	B	B	B	C	C	D	D	E	F	F	F	F	F
91	9	26	F	G	G	G	G	G	G	E	D	D	D	D	D	D	D	D	D	D	F	G	G	G	G	G
91	9	27	G	G	G	G	G	G	G	F	F	F	F	F	E	-	-	-	D	E	E	D	E	D	D	D
91	9	28	E	E	E	E	E	E	E	D	D	D	D	C	C	C	B	C	D	E	E	F	E	F	F	F

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

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
91	9	29	E	E	E	E	E	E	E	E	D	-	-	-	-	-	-	-	-	D	E	E	E	E	E	E
91	9	30	E	E	E	E	E	E	E	E	D	C	C	C	C	C	C	D	D	D	E	E	E	E	F	F
91	10	1	F	G	G	G	G	F	F	E	D	-	-	-	-	-	-	-	D	D	E	E	E	E	E	-
91	10	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	D	D	D	D	E	E	E	E	F	F
91	10	3	F	F	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	D	D	D	D	D
91	10	4	D	D	E	E	E	E	E	E	E	E	E	E	D	E	D	D	D	D	E	E	E	E	E	E
91	10	5	E	E	E	E	E	E	E	D	D	D	D	C	D	D	D	D	D	D	E	E	E	E	E	F
91	10	6	F	E	E	F	F	E	E	D	D	C	C	C	B	B	C	C	D	E	F	G	G	G	G	G
91	10	7	G	G	F	F	F	F	F	E	D	C	A	A	B	A	B	C	D	E	F	F	F	F	E	E
91	10	8	F	E	E	E	E	F	E	E	D	C	B	B	A	B	B	D	D	F	G	G	G	G	G	G
91	10	9	G	G	G	E	E	E	F	F	E	D	D	D	D	C	D	D	D	E	E	E	E	E	E	F
91	10	10	F	G	G	G	G	G	G	G	E	D	D	D	C	C	C	D	D	E	F	G	F	F	F	F
91	10	11	F	F	F	F	E	E	F	E	D	D	D	D	C	D	C	D	D	E	E	F	E	F	F	F
91	10	12	F	F	G	F	F	F	F	F	E	D	D	D	D	D	D	D	D	E	F	F	F	F	E	E
91	10	13	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
91	10	14	E	D	D	E	E	E	F	E	D	D	C	C	C	D	D	D	D	D	D	D	E	E	E	F
91	10	15	F	E	E	E	E	E	E	E	D	D	D	C	D	D	D	D	D	E	F	F	F	F	F	-
91	10	16	-	-	-	-	-	-	-	-	-	-	-	-	B	B	B	D	D	E	E	E	E	E	E	E
91	10	17	E	E	E	E	E	E	E	E	D	D	C	B	C	D	D	D	D	E	E	E	E	E	E	D
91	10	18	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	D	D	D	D	D	D	D	E	E
91	10	19	E	F	F	F	F	F	F	E	D	D	D	C	C	C	D	D	D	D	E	E	F	F	F	F
91	10	20	E	E	E	F	F	F	F	F	E	D	D	C	C	C	C	D	D	E	E	F	E	F	F	F
91	10	21	F	F	F	F	F	F	E	E	D	D	C	B	C	C	C	D	D	E	E	F	E	E	E	E
91	10	22	E	E	E	E	E	E	D	D	D	D	-	-	-	-	-	D	-	-	-	-	-	-	-	-
91	10	23	-	-	-	-	-	-	-	-	-	-	-	B	A	B	C	D	D	E	E	F	E	E	E	E
91	10	24	E	D	D	D	D	E	D	D	D	D	D	D	D	D	E	E	D	D	D	D	D	E	E	E
91	10	25	E	E	E	E	E	E	E	D	D	D	D	D	C	D	D	D	D	E	E	E	D	D	D	E
91	10	26	E	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	E	E	E	E	E	E
91	10	27	E	-	E	E	E	E	E	E	E	E	D	D	D	D	C	D	D	D	D	D	D	D	E	D
91	10	28	D	D	E	E	E	E	E	F	F	F	F	F	E	D	D	D	E	E	E	E	E	E	D	D
91	10	29	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	D	D	D	D	D	D	D	D	D
91	10	30	D	D	D	D	D	D	D	D	D	D	C	B	A	A	B	B	C	D	D	D	D	D	D	D
91	10	31	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E	E	E	E
91	11	1	E	E	E	E	E	E	E	E	F	F	E	E	E	E	D	D	D	D	D	D	D	D	D	D
91	11	2	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E
91	11	3	E	E	E	E	E	D	E	E	D	D	D	D	D	D	D	D	D	D	D	E	E	F	F	F
91	11	4	F	F	G	G	F	G	F	F	F	D	D	C	B	C	C	D	D	E	E	E	E	E	E	E
91	11	5	E	E	E	E	E	E	E	E	D	E	E	E	D	D	D	D	D	D	D	E	E	E	E	E
91	11	6	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
91	11	7	D	D	D	D	D	D	E	D	D	D	D	D	B	D	-	D	D	E	E	E	F	F	G	G
91	11	8	G	G	G	G	G	G	F	F	E	D	D	D	C	D	D	D	D	E	E	E	E	E	E	E
91	11	9	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E
91	11	10	E	E	E	D	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
91	11	11	D	E	E	E	E	E	E	E	E	E	E	D	D	D	D	E	E	E	E	E	E	E	E	E
91	11	12	E	E	E	E	E	E	E	E	E	E	E	E	E	B	C	D	D	E	E	F	F	F	E	E	E

B130

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

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
91	11	13	E	E	E	E	E	F	E	E	E	D	D	D	C	D	D	D	D	E	F	G	G	G	G	F
91	11	14	F	E	F	E	E	E	E	E	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E	E
91	11	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	E	E	-	-	-	-	-	-
91	11	16	-	-	-	-	-	-	-	-	-	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
91	11	17	E	E	E	E	F	F	F	F	F	F	F	E	D	D	D	D	E	E	E	E	E	E	E	E
91	11	18	E	E	E	E	E	E	E	F	E	D	D	D	D	D	D	D	D	E	E	E	E	E	F	E
91	11	19	E	E	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	E	E	E	E	E	E	E
91	11	20	E	E	E	E	E	F	E	F	E	-	D	D	D	D	D	D	E	E	F	F	F	F	F	F
91	11	21	F	F	F	F	F	E	E	E	D	D	D	D	D	D	D	D	D	E	F	F	F	F	F	E
91	11	22	E	E	E	E	E	E	E	E	E	E	E	F	F	F	F	F	E	E	E	F	F	E	E	F
91	11	23	F	E	F	F	E	E	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
91	11	24	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	F	F	G	G	G	G
91	11	25	G	G	G	G	F	F	E	E	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E
91	11	26	E	E	E	E	E	E	E	E	D	D	D	D	D	E	E	E	E	E	F	F	F	F	E	F
91	11	27	F	F	F	F	E	F	F	E	E	E	E	E	E	D	D	E	E	E	E	E	E	E	E	F
91	11	28	F	F	F	F	F	F	F	F	F	F	F	F	E	E	E	E	E	E	E	E	E	E	E	E
91	11	29	E	E	E	E	E	E	E	E	E	E	E	E	F	F	G	G	G	G	F	G	F	F	F	E
91	11	30	D	E	E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91	12	1	D	E	D	E	E	E	E	E	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
91	12	2	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E
91	12	3	E	E	D	D	D	D	D	D	D	D	D	C	C	C	D	D	D	D	D	D	D	D	D	D
91	12	4	D	D	D	D	D	D	D	D	D	D	D	C	E	C	D	D	D	D	E	E	E	D	D	D
91	12	5	E	E	E	E	F	F	E	E	E	D	D	D	D	D	D	D	E	E	E	F	F	G	F	F
91	12	6	F	F	F	F	F	F	F	E	F	E	D	D	D	C	D	D	E	E	F	E	E	E	E	E
91	12	7	E	F	F	F	F	F	G	G	G	F	F	E	D	D	D	D	E	E	F	F	F	F	F	F
91	12	8	G	G	G	G	G	F	E	E	E	E	E	D	D	D	D	D	E	E	E	F	F	G	G	G
91	12	9	G	G	G	G	G	F	F	F	E	D	D	D	D	D	D	D	D	F	F	G	G	G	G	G
91	12	10	G	F	F	F	F	F	F	F	E	E	D	D	D	D	D	D	E	E	F	E	E	E	E	E
91	12	11	E	E	E	E	E	E	E	F	F	E	D	D	D	D	D	D	E	E	E	D	D	E	E	E
91	12	12	-	-	-	-	-	-	-	-	F	E	E	E	E	E	D	D	E	E	E	F	F	F	F	F
91	12	13	G	F	G	G	F	F	F	F	E	D	D	D	D	D	D	D	D	E	E	D	D	D	D	D
91	12	14	D	D	D	D	E	D	D	E	D	D	D	D	D	D	D	D	D	E	F	F	E	E	E	E
91	12	15	E	F	E	E	E	E	E	D	D	D	D	D	C	D	D	D	D	E	E	F	F	F	F	E
91	12	16	F	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	E	F	E	F	E	E	F	F
91	12	17	E	E	E	E	E	E	E	E	E	D	D	D	D	D	D	D	D	E	E	F	F	F	F	F
91	12	18	G	F	F	F	E	E	E	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	D	D
91	12	19	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
91	12	20	E	E	E	E	E	E	E	E	E	E	E	C	E	E	E	E	E	E	E	F	E	E	E	E
91	12	21	E	E	E	F	F	F	F	F	F	E	D	E	E	E	E	E	E	E	E	E	E	E	E	E
91	12	22	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	F	F	E	E
91	12	23	E	E	E	E	E	E	E	E	E	D	D	D	C	C	D	D	D	E	E	E	E	F	F	E
91	12	24	F	F	F	F	F	E	F	E	E	D	D	D	D	D	D	D	E	E	F	F	E	E	E	F
91	12	25	E	E	E	E	E	E	E	F	E	E	D	D	D	D	D	D	E	E	E	E	E	E	E	F
91	12	26	-	-	-	-	-	-	-	-	-	E	D	D	D	D	D	D	D	E	E	E	E	E	E	E
91	12	27	E	E	E	E	D	D	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA T JULY-DEC 1991
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 7/ 1/91 - 12/31/91

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
91	12	28	E	E	E	E	E	E	E	D	E	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E
91	12	29	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
91	12	30	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	-	-	-	-	-	-	-
91	12	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ATMOSPHERIC DIFFUSION ESTIMATES

The tables of atmospheric difiusion 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 1991.

Atmospheric Diffusion Estimates

Ground Level Releases

July-September 1991

VENTS GROUND LEVEL RELEASES - JULY-SEPT 1991
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	7.008E-05	2.326E-05	1.242E-05	6.213E-06	2.492E-06	1.349E-06	8.556E-07	5.976E-07	4.453E-07	3.476E-07	2.809E-07
SSW	3.453E-05	1.149E-05	6.058E-06	3.008E-06	1.197E-06	6.447E-07	4.071E-07	2.834E-07	2.106E-07	1.640E-07	1.322E-07
SW	1.753E-05	5.671E-06	2.989E-06	1.488E-06	5.957E-07	3.222E-07	2.042E-07	1.425E-07	1.062E-07	8.291E-08	6.699E-08
WSW	1.307E-05	4.355E-06	2.276E-06	1.121E-06	4.414E-07	2.362E-07	1.485E-07	1.031E-07	7.641E-08	5.940E-08	4.782E-08
W	8.432E-06	2.703E-06	1.411E-06	6.982E-07	2.760E-07	1.480E-07	9.324E-08	6.479E-08	4.809E-08	3.741E-08	3.014E-08
WNW	1.809E-05	5.720E-06	2.992E-06	1.494E-06	6.061E-07	3.307E-07	2.109E-07	1.480E-07	1.107E-07	8.668E-08	7.023E-08
NW	4.972E-05	1.632E-05	8.987E-06	4.491E-06	1.800E-06	9.738E-07	6.170E-07	4.306E-07	3.207E-07	2.501E-07	2.020E-07
NNW	9.681E-05	3.103E-05	1.649E-05	8.298E-06	3.411E-06	1.877E-06	1.204E-06	8.488E-07	6.374E-07	5.008E-07	4.069E-07
N	9.561E-05	3.058E-05	1.655E-05	8.408E-06	3.445E-06	1.891E-06	1.211E-06	8.522E-07	6.390E-07	5.014E-07	4.069E-07
NNE	5.752E-05	1.813E-05	9.683E-06	4.894E-06	2.007E-06	1.102E-06	7.060E-07	4.972E-07	3.730E-07	2.928E-07	2.377E-07
NE	2.601E-05	8.020E-06	4.184E-06	2.098E-06	8.698E-07	4.815E-07	3.105E-07	2.197E-07	1.656E-07	1.304E-07	1.063E-07
ENE	1.898E-05	5.852E-06	3.055E-06	1.530E-06	6.277E-07	3.451E-07	2.214E-07	1.561E-07	1.172E-07	9.210E-08	7.485E-08
E	1.895E-05	5.860E-06	3.060E-06	1.532E-06	6.313E-07	3.480E-07	2.236E-07	1.579E-07	1.187E-07	9.336E-08	7.594E-08
ESE	1.339E-05	4.356E-06	2.359E-06	1.192E-06	4.804E-07	2.608E-07	1.657E-07	1.159E-07	8.649E-08	6.758E-08	5.465E-08
SE	4.702E-05	1.449E-05	7.598E-06	3.826E-06	1.594E-06	8.850E-07	5.716E-07	4.051E-07	3.055E-07	2.409E-07	1.963E-07
SSE	1.018E-04	3.188E-05	1.684E-05	8.485E-06	3.509E-06	1.939E-06	1.248E-06	8.818E-07	6.635E-07	5.222E-07	4.249E-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	2.332E-07	1.214E-07	7.940E-08	4.621E-08	3.166E-08	2.366E-08	1.867E-08	1.530E-08	1.288E-08	1.108E-08	9.678E-09
SSW	1.096E-07	5.666E-08	3.691E-08	2.137E-08	1.460E-08	1.089E-08	8.586E-09	7.028E-09	5.913E-09	5.080E-09	4.437E-09
SW	5.563E-08	2.901E-08	1.901E-08	1.111E-08	7.642E-09	5.731E-09	4.536E-09	3.726E-09	3.144E-09	2.708E-09	2.371E-09
WSW	3.962E-08	2.051E-08	1.338E-08	7.765E-09	5.319E-09	3.976E-09	3.139E-09	2.573E-09	2.168E-09	1.864E-09	1.630E-09
W	2.497E-08	1.292E-08	8.439E-09	4.903E-09	3.364E-09	2.518E-09	1.990E-09	1.633E-09	1.377E-09	1.185E-09	1.037E-09
WNW	5.846E-08	3.072E-08	2.024E-08	1.189E-08	8.198E-09	6.158E-09	4.881E-09	4.014E-09	3.391E-09	2.923E-09	2.561E-09
NW	1.676E-07	8.695E-08	5.675E-08	3.288E-08	2.242E-08	1.670E-08	1.314E-08	1.074E-08	9.029E-09	7.749E-09	6.761E-09
NNW	3.393E-07	1.795E-07	1.187E-07	7.008E-08	4.840E-08	3.639E-08	2.886E-08	2.374E-08	2.006E-08	1.730E-08	1.516E-08
N	3.391E-07	1.787E-07	1.179E-07	6.929E-08	4.770E-08	3.577E-08	2.831E-08	2.324E-08	1.961E-08	1.688E-08	1.477E-08
NNE	1.982E-07	1.047E-07	6.916E-08	4.076E-08	2.813E-08	2.114E-08	1.676E-08	1.378E-08	1.164E-08	1.004E-08	8.791E-09
NE	8.885E-08	4.750E-08	3.165E-08	1.888E-08	1.314E-08	9.935E-09	7.916E-09	6.539E-09	5.543E-09	4.794E-09	4.212E-09
ENE	6.248E-08	3.321E-08	2.204E-08	1.308E-08	9.087E-09	6.862E-09	5.462E-09	4.507E-09	3.818E-09	3.300E-09	2.897E-09
E	6.341E-08	3.373E-08	2.240E-08	1.331E-08	9.249E-09	6.988E-09	5.563E-09	4.592E-09	3.891E-09	3.363E-09	2.953E-09
ESE	4.542E-08	2.373E-08	1.557E-08	9.082E-09	6.227E-09	4.655E-09	3.675E-09	3.012E-09	2.536E-09	2.180E-09	1.905E-09
SE	1.642E-07	8.781E-08	5.851E-08	3.488E-08	2.426E-08	1.833E-08	1.460E-08	1.206E-08	1.022E-08	8.833E-09	7.757E-09
SSE	3.549E-07	1.889E-07	1.254E-07	7.441E-08	5.159E-08	3.890E-08	3.093E-08	2.549E-08	2.157E-08	1.863E-08	1.634E-08

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	1.207E-05	2.811E-06	8.841E-07	4.516E-07	2.830E-07	1.276E-07	4.712E-08	2.380E-08	1.534E-08	1.109E-08
SSW	5.909E-06	1.354E-06	4.210E-07	2.136E-07	1.332E-07	5.964E-08	2.182E-08	1.096E-08	7.048E-09	5.088E-09
SW	2.918E-06	6.725E-07	2.110E-07	1.077E-07	6.750E-08	3.048E-08	1.132E-08	5.763E-09	3.736E-09	2.712E-09
WSW	2.225E-06	5.012E-07	1.537E-07	7.754E-08	4.821E-08	2.159E-08	7.926E-09	4.000E-09	2.580E-09	1.868E-09
W	1.381E-06	3.130E-07	9.647E-08	4.879E-08	3.038E-08	1.361E-08	5.005E-09	2.532E-09	1.637E-09	1.187E-09
WNW	2.932E-06	6.809E-07	2.177E-07	1.122E-07	7.074E-08	3.223E-08	1.210E-08	6.191E-09	4.024E-09	2.927E-09
NW	8.729E-06	2.031E-06	6.376E-07	3.252E-07	2.035E-07	9.144E-08	3.354E-08	1.680E-08	1.078E-08	7.762E-09
NNW	1.608E-05	3.815E-06	1.241E-06	6.458E-07	4.097E-07	1.880E-07	7.126E-08	3.658E-08	2.380E-08	1.732E-08
N	1.605E-05	3.857E-06	1.249E-06	6.475E-07	4.098E-07	1.873E-07	7.050E-08	3.596E-08	2.330E-08	1.691E-08
NNE	9.432E-06	2.246E-06	7.281E-07	3.779E-07	2.394E-07	1.097E-07	4.146E-08	2.125E-08	1.382E-08	1.005E-08
NE	4.109E-06	9.701E-07	3.198E-07	1.677E-07	1.070E-07	4.965E-08	1.916E-08	9.981E-09	6.553E-09	4.800E-09
ENE	2.999E-06	7.026E-07	2.282E-07	1.187E-07	7.538E-08	3.475E-08	1.330E-08	6.895E-09	4.517E-09	3.304E-09
E	3.003E-06	7.056E-07	2.305E-07	1.202E-07	7.646E-08	3.529E-08	1.353E-08	7.021E-09	4.602E-09	3.368E-09
ESE	2.284E-06	5.410E-07	1.712E-07	8.769E-08	5.586E-08	2.492E-08	9.654E-09	4.682E-09	3.020E-09	2.184E-09
SE	7.452E-06	1.775E-06	5.886E-07	3.093E-07	1.976E-07	9.177E-08	3.541E-08	1.842E-08	1.208E-08	8.845E-09
SSE	1.647E-05	3.917E-06	1.286E-06	6.721E-07	4.278E-07	1.976E-07	7.560E-08	3.910E-08	2.555E-08	1.866E-08

VENTS GROUND LEVEL RELEASES - JULY-SEPT 1991
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	6.999E-05	2.320E-05	1.237E-05	6.181E-06	2.473E-06	1.335E-06	8.444E-07	5.882E-07	4.371E-07	3.403E-07	2.742E-07
SSW	3.448E-05	1.145E-05	6.033E-06	2.992E-06	1.187E-06	6.376E-07	4.014E-07	2.787E-07	2.065E-07	1.603E-07	1.289E-07
SW	1.751E-05	5.656E-06	2.977E-06	1.480E-06	5.909E-07	3.187E-07	2.014E-07	1.402E-07	1.042E-07	8.111E-08	6.536E-08
WSW	1.306E-05	4.345E-06	2.268E-06	1.116E-06	4.384E-07	2.340E-07	1.468E-07	1.016E-07	7.516E-08	5.828E-08	4.681E-08
W	8.422E-06	2.696E-06	1.405E-06	6.949E-07	2.740E-07	1.466E-07	9.208E-08	6.382E-08	4.725E-08	3.666E-08	2.946E-08
WNW	1.807E-05	5.706E-06	2.980E-06	1.486E-06	6.013E-07	3.272E-07	2.081E-07	1.456E-07	1.086E-07	8.483E-08	6.855E-08
NW	4.966E-05	1.678E-05	8.955E-06	4.470E-06	1.787E-06	9.646E-07	6.097E-07	4.245E-07	3.154E-07	2.454E-07	1.977E-07
NNW	9.669E-05	3.095E-05	1.642E-05	8.256E-06	3.385E-06	1.858E-06	1.189E-06	8.359E-07	6.261E-07	4.906E-07	3.976E-07
N	9.548E-05	3.050E-05	1.649E-05	8.365E-06	3.418E-06	1.871E-06	1.195E-06	8.388E-07	6.273E-07	4.909E-07	3.974E-07
NNE	5.745E-05	1.809E-05	9.650E-06	4.872E-06	1.993E-06	1.092E-06	6.977E-07	4.901E-07	3.668E-07	2.872E-07	2.327E-07
NE	2.597E-05	7.998E-06	4.167E-06	2.086E-06	8.627E-07	4.763E-07	3.062E-07	2.161E-07	1.624E-07	1.276E-07	1.036E-07
ENE	1.895E-05	5.834E-06	3.041E-06	1.521E-06	6.220E-07	3.409E-07	2.180E-07	1.532E-07	1.147E-07	8.989E-08	7.284E-08
E	1.892E-05	5.843E-06	3.047E-06	1.524E-06	6.259E-07	3.440E-07	2.204E-07	1.552E-07	1.163E-07	9.123E-08	7.399E-08
ESE	1.338E-05	4.345E-06	2.350E-06	1.186E-06	4.767E-07	2.581E-07	1.635E-07	1.141E-07	8.490E-08	6.616E-08	5.336E-08
SE	4.605E-05	1.444E-05	7.566E-06	3.804E-06	1.580E-06	8.749E-07	5.634E-07	3.981E-07	2.994E-07	2.354E-07	1.913E-07
SSE	1.016E-04	3.179E-05	1.677E-05	8.437E-06	3.479E-06	1.917E-06	1.230E-06	8.667E-07	6.503E-07	5.103E-07	4.140E-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	2.271E-07	1.166E-07	7.527E-08	4.266E-08	2.847E-08	2.073E-08	1.595E-08	1.274E-08	1.046E-08	8.769E-09	7.474E-09
SSW	1.065E-07	5.432E-08	3.489E-08	1.965E-08	1.306E-08	9.482E-09	7.275E-09	5.797E-09	4.750E-09	3.975E-09	3.382E-09
SW	5.412E-08	2.784E-08	1.799E-08	1.022E-08	6.847E-09	4.999E-09	3.853E-09	3.083E-09	2.534E-09	2.127E-09	1.815E-09
WSW	3.869E-08	1.979E-08	1.275E-08	7.227E-09	4.835E-09	3.530E-09	2.723E-09	2.181E-09	1.795E-09	1.509E-09	1.290E-09
W	2.435E-08	1.245E-08	8.020E-09	4.544E-09	3.041E-09	2.220E-09	1.713E-09	1.372E-09	1.130E-09	9.498E-10	8.118E-10
WNW	5.689E-08	2.949E-08	1.916E-08	1.095E-08	7.351E-09	5.375E-09	4.148E-09	3.323E-09	2.734E-09	2.297E-09	1.961E-09
NW	1.636E-07	8.387E-08	5.408E-08	3.059E-08	2.037E-08	1.482E-08	1.139E-08	9.100E-09	7.473E-09	6.268E-09	5.346E-09
NNW	3.308E-07	1.727E-07	1.128E-07	6.490E-08	4.370E-08	3.205E-08	2.479E-08	1.990E-08	1.641E-08	1.381E-08	1.181E-08
N	3.302E-07	1.718E-07	1.118E-07	6.404E-08	4.296E-08	3.141E-08	2.426E-08	1.941E-08	1.598E-08	1.342E-08	1.147E-08
NNE	1.935E-07	1.010E-07	6.591E-08	3.792E-08	2.556E-08	1.876E-08	1.453E-08	1.167E-08	9.636E-09	8.119E-09	6.953E-09
NE	8.641E-08	4.556E-08	2.994E-08	1.737E-08	1.176E-08	8.654E-09	6.712E-09	5.397E-09	4.456E-09	3.753E-09	3.211E-09
ENE	6.061E-08	3.173E-08	2.075E-08	1.196E-08	8.065E-09	5.917E-09	4.577E-09	3.671E-09	3.023E-09	2.541E-09	2.170E-09
E	6.161E-08	3.230E-08	2.115E-08	1.221E-08	8.254E-09	6.068E-09	4.699E-09	3.775E-09	3.113E-09	2.620E-09	2.241E-09
ESE	4.423E-08	2.281E-08	1.476E-08	8.393E-09	5.609E-09	4.090E-09	3.150E-09	2.519E-09	2.071E-09	1.738E-09	1.484E-09
SE	1.595E-07	8.409E-08	5.522E-08	3.199E-08	2.163E-08	1.590E-08	1.232E-08	9.892E-09	8.157E-09	6.863E-09	5.867E-09
SSE	3.448E-07	1.809E-07	1.184E-07	6.827E-08	4.602E-08	3.374E-08	2.609E-08	2.092E-08	1.723E-08	1.448E-08	1.237E-08

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

DIRECTION FROM SITE	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
	SEGMENT BOUNDARIES IN MILES									
S	1.203E-05	2.791E-06	8.728E-07	4.434E-07	2.763E-07	1.228E-07	4.360E-08	2.088E-08	1.279E-08	8.790E-09
SSW	5.886E-06	1.344E-06	4.153E-07	2.095E-07	1.299E-07	5.729E-08	2.011E-08	9.553E-09	5.820E-09	3.985E-09
SW	2.907E-06	6.676E-07	2.082E-07	1.057E-07	6.587E-08	2.930E-08	1.045E-08	5.034E-09	3.094E-09	2.132E-09
WSW	2.218E-06	4.981E-07	1.520E-07	7.629E-08	4.720E-08	2.086E-08	7.392E-09	3.555E-09	2.189E-09	1.513E-09
W	1.377E-06	3.109E-07	9.531E-08	4.795E-08	2.970E-08	1.313E-08	4.648E-09	2.236E-09	1.377E-09	9.520E-10
WNW	2.922E-06	6.761E-07	2.149E-07	1.101E-07	6.906E-08	3.099E-08	1.118E-08	5.411E-09	3.334E-09	2.302E-09
NW	8.700E-06	2.018E-06	6.303E-07	3.199E-07	1.992E-07	8.835E-08	3.127E-08	1.493E-08	9.135E-09	6.283E-09
NNW	1.602E-05	3.789E-06	1.226E-06	6.344E-07	4.004E-07	1.812E-07	6.612E-08	3.225E-08	1.997E-08	1.384E-08
N	1.599E-05	3.830E-06	1.233E-06	6.358E-07	4.002E-07	1.804E-07	6.530E-08	3.162E-08	1.948E-08	1.346E-08
NNE	9.402E-06	2.232E-06	7.197E-07	3.717E-07	2.343E-07	1.059E-07	3.864E-08	1.888E-08	1.171E-08	8.137E-09
NE	4.094E-06	9.629E-07	3.155E-07	1.645E-07	1.043E-07	4.770E-08	1.767E-08	8.706E-09	5.414E-09	3.769E-09
ENE	2.986E-06	6.968E-07	2.249E-07	1.163E-07	7.336E-08	3.327E-08	1.218E-08	5.954E-09	3.683E-09	2.546E-09
E	2.991E-06	7.001E-07	2.273E-07	1.179E-07	7.451E-08	3.386E-08	1.244E-08	6.102E-09	3.787E-09	2.626E-09
ESE	2.276E-06	5.372E-07	1.699E-07	8.611E-08	5.377E-08	2.397E-08	8.571E-09	4.119E-09	2.528E-09	1.742E-09
SE	7.422E-06	1.761E-06	5.804E-07	3.032E-07	1.926E-07	8.803E-08	3.255E-08	1.599E-08	9.923E-09	6.877E-09
SSE	1.640E-05	3.886E-06	1.268E-06	6.588E-07	4.169E-07	1.895E-07	6.952E-08	3.396E-08	2.099E-08	1.451E-08

VENTS GROUND LEVEL RELEASES - JULY-SEPT 1991
8.000 DAY DECAY, DEPLETED
CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

SECTOR	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	6.630E-05	2.123E-05	1.106E-05	5.431E-06	2.112E-06	1.114E-06	6.905E-07	4.725E-07	3.457E-07	2.652E-07	2.109E-07
SSW	3.266E-05	1.048E-05	5.392E-06	2.629E-06	1.014E-06	5.322E-07	3.284E-07	2.240E-07	1.634E-07	1.251E-07	9.926E-08
SW	1.659E-05	5.175E-06	2.661E-06	1.301E-06	5.048E-07	2.660E-07	1.647E-07	1.127E-07	8.244E-08	6.325E-08	5.030E-08
WSW	1.237E-05	3.974E-06	2.026E-06	9.801E-07	3.741E-07	1.950E-07	1.199E-07	8.153E-08	5.935E-08	4.535E-08	3.594E-08
W	7.977E-06	2.467E-06	1.256E-06	6.104E-07	2.339E-07	1.222E-07	7.526E-08	5.124E-08	3.734E-08	2.855E-08	2.264E-08
WNW	1.712E-05	5.220E-06	2.663E-06	1.305E-06	5.136E-07	2.730E-07	1.702E-07	1.170E-07	8.591E-08	6.613E-08	5.274E-08
NW	4.704E-05	1.535E-05	8.000E-06	3.926E-06	1.526E-06	8.042E-07	4.981E-07	3.406E-07	2.490E-07	1.910E-07	1.518E-07
NNW	9.159E-05	2.831E-05	1.468E-05	7.253E-06	2.890E-06	1.549E-06	9.718E-07	6.713E-07	4.949E-07	3.822E-07	3.056E-07
N	9.045E-05	2.791E-05	1.473E-05	7.349E-06	2.919E-06	1.561E-06	9.771E-07	6.739E-07	4.960E-07	3.824E-07	3.056E-07
NNE	5.442E-05	1.655E-05	8.620E-06	4.279E-06	1.701E-06	9.100E-07	5.700E-07	3.933E-07	2.897E-07	2.235E-07	1.786E-07
NE	2.461E-05	7.318E-06	3.724E-06	1.833E-06	7.370E-07	3.975E-07	2.505E-07	1.737E-07	1.285E-07	9.950E-08	7.977E-08
ENE	1.795E-05	5.339E-06	2.719E-06	1.337E-06	5.317E-07	2.848E-07	1.786E-07	1.233E-07	9.091E-08	7.022E-08	5.616E-08
E	1.792E-05	5.347E-06	2.723E-06	1.339E-06	5.348E-07	2.872E-07	1.804E-07	1.248E-07	9.209E-08	7.120E-08	5.699E-08
ESE	1.267E-05	3.975E-06	2.100E-06	1.042E-06	4.071E-07	2.153E-07	1.337E-07	9.166E-08	6.714E-08	5.157E-08	4.104E-08
SE	4.448E-05	1.322E-05	6.763E-06	3.343E-06	1.351E-06	7.304E-07	4.612E-07	3.202E-07	2.370E-07	1.837E-07	1.474E-07
SSE	9.627E-05	2.909E-05	1.499E-05	7.415E-06	2.973E-06	1.600E-06	1.007E-06	6.970E-07	5.148E-07	3.982E-07	3.189E-07

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

BEARING	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	1.725E-07	8.459E-08	5.254E-08	2.808E-08	1.793E-08	1.260E-08	9.408E-09	7.323E-09	5.878E-09	4.830E-09	4.042E-09
SSW	8.103E-08	3.947E-08	2.440E-08	1.297E-08	8.259E-09	5.791E-09	4.316E-09	3.355E-09	2.690E-09	2.208E-09	1.846E-09
SW	4.115E-08	2.021E-08	1.257E-08	6.744E-09	4.324E-09	3.048E-09	2.282E-09	1.780E-09	1.432E-09	1.178E-09	9.876E-10
WSW	2.933E-08	1.432E-08	8.867E-09	4.731E-09	3.023E-09	2.126E-09	1.589E-09	1.238E-09	9.952E-10	8.187E-10	6.861E-10
W	1.848E-08	9.020E-09	5.588E-09	2.983E-09	1.908E-09	1.343E-09	1.005E-09	7.834E-10	6.299E-10	5.184E-10	4.345E-10
WNW	4.324E-08	2.141E-08	1.339E-08	7.222E-09	4.640E-09	3.276E-09	2.456E-09	1.918E-09	1.544E-09	1.272E-09	1.067E-09
NW	1.241E-07	6.067E-08	3.760E-08	2.003E-08	1.274E-08	8.927E-09	6.651E-09	5.169E-09	4.143E-09	3.401E-09	2.844E-09
NNW	2.511E-07	1.252E-07	7.862E-08	4.263E-08	2.745E-08	1.941E-08	1.457E-08	1.139E-08	9.175E-09	7.563E-09	6.348E-09
N	2.509E-07	1.246E-07	7.803E-08	4.212E-08	2.703E-08	1.906E-08	1.427E-08	1.113E-08	8.952E-09	7.368E-09	6.175E-09
NNE	1.467E-07	7.303E-08	4.583E-08	2.482E-08	1.598E-08	1.130E-08	8.480E-09	6.630E-09	5.342E-09	4.404E-09	3.697E-09
NE	6.571E-08	3.309E-08	2.093E-08	1.146E-08	7.432E-09	5.283E-09	3.981E-09	3.123E-09	2.523E-09	2.085E-09	1.753E-09
ENE	4.617E-08	2.311E-08	1.455E-08	7.928E-09	5.128E-09	3.638E-09	2.737E-09	2.144E-09	1.730E-09	1.428E-09	1.200E-09
E	4.688E-08	2.349E-08	1.481E-08	8.075E-09	5.228E-09	3.712E-09	2.794E-09	2.190E-09	1.768E-09	1.460E-09	1.228E-09
ESE	3.360E-08	1.654E-08	1.030E-08	5.520E-09	3.528E-09	2.481E-09	1.853E-09	1.443E-09	1.158E-09	9.519E-10	7.969E-10
SE	1.214E-07	6.115E-08	3.867E-08	2.116E-08	1.371E-08	9.737E-09	7.332E-09	5.747E-09	4.641E-09	3.832E-09	3.222E-09
SSE	2.624E-07	1.315E-07	8.288E-08	4.514E-08	2.916E-08	2.066E-08	1.553E-08	1.215E-08	9.800E-09	8.084E-09	6.789E-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	1.082E-05	2.406E-06	7.162E-07	3.513E-07	2.128E-07	8.988E-08	2.901E-08	1.275E-08	7.368E-09	4.849E-09
SSW	5.295E-06	1.159E-06	3.410E-07	1.661E-07	1.002E-07	4.201E-08	1.342E-08	5.859E-09	3.376E-09	2.217E-09
SW	2.615E-06	5.755E-07	1.709E-07	8.378E-08	5.075E-08	2.147E-08	6.964E-09	3.082E-09	1.791E-09	1.183E-09
WSW	1.994E-06	4.292E-07	1.246E-07	6.035E-08	3.628E-08	1.523E-08	4.891E-09	2.150E-09	1.246E-09	8.219E-10
W	1.238E-06	2.679E-07	7.818E-08	3.796E-08	2.285E-08	9.597E-09	3.084E-09	1.358E-09	7.881E-10	5.204E-10
WNW	2.628E-06	5.826E-07	1.763E-07	8.726E-08	5.319E-08	2.269E-08	7.444E-09	3.312E-09	1.929E-09	1.277E-09
NW	7.822E-06	1.739E-06	5.167E-07	2.531E-07	1.531E-07	6.451E-08	2.069E-08	9.033E-09	5.202E-09	3.415E-09
NNW	1.441E-05	3.264E-06	1.006E-06	5.024E-07	3.081E-07	1.325E-07	4.388E-08	1.962E-08	1.145E-08	7.591E-09
N	1.438E-05	3.300E-06	1.012E-06	5.036E-07	3.081E-07	1.320E-07	4.339E-08	1.927E-08	1.120E-08	7.396E-09
NNE	8.452E-06	1.922E-06	5.900E-07	2.941E-07	1.801E-07	7.732E-08	2.556E-08	1.142E-08	6.668E-09	4.420E-09
NE	3.682E-06	8.297E-07	2.590E-07	1.304E-07	8.041E-08	3.494E-08	1.177E-08	5.335E-09	3.140E-09	2.092E-09
ENE	2.687E-06	6.009E-07	1.848E-07	9.229E-08	5.663E-08	2.443E-08	8.156E-09	3.675E-09	2.156E-09	1.433E-09
E	2.691E-06	6.035E-07	1.866E-07	9.347E-08	5.746E-08	2.483E-08	8.305E-09	3.749E-09	2.202E-09	1.465E-09
ESE	2.047E-06	4.630E-07	1.387E-07	6.321E-08	4.140E-08	1.756E-08	5.697E-09	2.509E-09	1.451E-09	9.556E-10
SE	6.677E-06	1.518E-06	4.766E-07	2.405E-07	1.485E-07	6.455E-08	2.174E-08	9.833E-09	5.778E-09	3.846E-09
SSE	1.476E-05	3.350E-06	1.041E-06	5.225E-07	3.215E-07	1.390E-07	4.642E-08	2.087E-08	1.222E-08	8.113E-09

VENTS GROUND LEVEL RELEASES - JULY-SEP 1991
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	2.503E-07	8.[illegible]E-08	4.345E-08	2.066E-08	7.420E-09	3.680E-09	2.167E-09	1.419E-09	9.983E-10	7.398E-10	5.701E-10
SSW	1.23[illegible]E-07	4.173E-08	2.143E-08	1.019E-08	3.659E-09	1.815E-09	1.068E-09	6.996E-10	4.923E-10	3.648E-10	2.811E-10
SW	6.647E-08	2.248E-08	1.154E-08	5.487E-09	1.971E-09	9.774E-10	5.755E-10	3.768E-10	2.652E-10	1.965E-10	1.514E-10
WSW	6.87[illegible]E-08	2.325E-08	1.194[illegible]-08	5.676E-09	2.039E-09	1.011E-09	5.[illegible]E-10	3.890E-10	2.743E-10	2.033E-10	1.567E-10
W	4.588E-08	1.551E-08	7.9[illegible]5E-09	3.787E-09	1.360E-09	6.746E-10	3.9[illegible]E-10	2.601E-10	1.830E-10	1.356E-10	1.045E-10
WNW	7.248E-08	2.451E-08	1.258[illegible]-08	5.983E-09	2.149E-09	1.066E-09	6.275E-10	4.109E-10	2.891E-10	2.143E-10	1.651E-10
NW	2.234E-07	7.555E-08	3.879E-08	1.844E-08	6.624E-09	3.285E-09	1.934E-09	1.267E-09	8.912E-10	6.605E-10	5.090E-10
NNW	3.045E-07	1.030E-07	5.287E-08	2.514E-08	9.029E-09	4.478E-09	2.637E-09	1.725E-09	1.215E-09	9.003E-10	6.938E-10
N	3.289E-07	1.112E-07	5.710E-08	2.715E-08	9.751E-09	4.836E-09	2.847E-09	1.865E-09	1.312E-09	9.723E-10	7.493E-10
NNE	2.137E-07	7.227E-08	3.711E-08	1.764E-08	6.337E-09	3.143E-09	1.850E-09	1.212E-09	8.526E-10	6.319E-10	4.869E-10
NE	7.613E-08	2.574E-08	1.322E-08	6.284E-09	2.257E-09	1.119E-09	6.592E-10	4.316E-10	3.037E-10	2.251E-10	1.734E-10
ENE	4.605E-08	1.557E-08	7.995E-09	3.801E-09	1.365E-09	6.771E-10	3.987E-10	2.611E-10	1.837E-10	1.361E-10	1.049E-10
E	4.961E-08	1.678E-08	8.614E-09	4.095E-09	1.471E-09	7.295E-10	4.296E-10	2.813E-10	1.979E-10	1.467E-10	1.130E-10
ESE	5.439E-08	1.839E-08	9.444E-09	4.490E-09	1.613E-09	7.998E-10	4.709E-10	3.084E-10	2.170E-10	1.608E-10	1.239E-10
SE	1.102E-07	3.725E-08	1.913E-08	9.093E-09	3.266E-09	1.620E-09	9.537E-10	6.245E-10	4.394E-10	3.257E-10	2.510E-10
SSE	2.819E-07	9.533E-08	4.895E-08	2.327E-08	8.359E-09	4.145E-09	2.441E-09	1.598E-09	1.125E-09	8.334E-10	6.423E-10

DIRECTION FROM SITE	DISTANCES IN MILES 5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
S	4.529E-10	2.012E-10	1.219E-10	6.161E-11	3.729E-11	2.500E-11	1.791E-11	1.345E-11	1.046E-11	8.354E-12	6.819E-12
SSW	2.233E-10	9.922E-11	6.010E-11	3.038E-11	1.839E-11	1.233E-11	8.834E-12	6.633E-12	5.157E-12	4.120E-12	3.363E-12
SW	1.203E-10	5.344E-11	3.237E-11	1.636E-11	9.904E-12	6.640E-12	4.758E-12	3.573E-12	2.778E-12	2.219E-12	1.811E-12
WSW	1.245E-10	5.529E-11	3.349E-11	1.693E-11	1.025E-11	6.869E-12	4.922E-12	3.696E-12	2.874E-12	2.296E-12	1.874E-12
W	8.303E-11	3.688E-11	2.234E-11	1.129E-11	6.855E-12	4.583E-12	3.284E-12	2.466E-12	1.917E-12	1.532E-12	1.250E-12
WNW	1.312E-10	5.827E-11	3.530E-11	1.784E-11	1.080E-11	7.240E-12	5.188E-12	3.896E-12	3.029E-12	2.420E-12	1.975E-12
NW	4.043E-10	1.796E-10	1.088E-10	5.500E-11	3.329E-11	2.232E-11	1.599E-11	1.201E-11	9.337E-12	7.458E-12	6.088E-12
NNW	5.512E-10	2.449E-10	1.483E-10	7.497E-11	4.537E-11	3.042E-11	2.180E-11	1.637E-11	1.273E-11	1.017E-11	8.298E-12
N	5.952E-10	2.644E-10	1.602E-10	8.096E-11	4.900E-11	3.286E-11	2.354E-11	1.768E-11	1.374E-11	1.098E-11	8.962E-12
NNE	3.868E-10	1.718E-10	1.041E-10	5.261E-11	3.184E-11	2.1[illegible]5E-11	1.530E-11	1.149E-11	8.932E-12	7.135E-12	5.824E-12
NE	1.378E-10	6.121E-11	3.708E-11	1.874E-11	1.134E-11	7.606E-12	5.450E-12	4.092E-12	3.182E-12	2.542E-12	2.075E-12
ENE	8.334E-11	3.702E-11	2.243E-11	1.134E-11	6.861E-12	4.60[illegible]E-12	3.296E-12	2.475E-12	1.925E-12	1.537E-12	1.255E-12
E	8.980E-11	3.989E-11	2.416E-11	1.221E-11	7.392E-12	4.95[illegible]-12	3.552E-12	2.667E-12	2.074E-12	1.656E-12	1.352E-12
ESE	9.844E-11	4.373E-11	2.649E-11	1.339E-11	8.104E-12	5.434E-12	3.894E-12	2.924E-12	2.273E-12	1.816E-12	1.482E-12
SE	1.994E-10	8.857E-11	5.365E-11	2.712E-11	1.641E-11	1.100E-11	7.885E-12	5.921E-12	4.604E-12	3.677E-12	3.002E-12
SSE	5.102E-10	2.267E-10	1.373E-10	6.940E-11	4.200E-11	2.816E-11	2.018E-11	1.515E-11	1.178E-11	9.411E-12	7.682E-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	4.247E-08	8.699E-09	2.271E-09	1.020E-09	5.770E-10	2.219E-10	6.419E-11	2.544E-11	1.359E-11	8.409E-12
SSW	2.094E-08	4.290E-09	1.120E-09	5.030E-10	2.845E-10	1.094E-10	3.165E-11	1.255E-11	6.700E-12	4.147E-12
SW	1.128E-08	2.311E-09	6.032E-10	2.709E-10	1.537E-10	5.894E-11	1.705E-11	6.758E-12	3.609E-12	2.234E-12
WSW	1.167E-08	2.390E-09	6.240E-10	2.803E-10	1.585E-10	6.097E-11	1.764E-11	6.991E-12	3.733E-12	2.311E-12
W	7.785E-09	1.595E-09	4.163E-10	1.870E-10	1.058E-10	4.069E-11	1.177E-11	4.664E-12	2.491E-12	1.542E-12
WNW	1.230E-08	2.519E-09	6.577E-10	2.954E-10	1.671E-10	6.426E-11	1.859E-11	7.368E-12	3.935E-12	2.435E-12
NW	3.791E-08	7.766E-09	2.027E-09	9.105E-10	5.151E-10	1.981E-10	5.731E-11	2.271E-11	1.213E-11	7.507E-12
NNW	5.168E-08	1.059E-08	2.764E-09	1.241E-09	7.022E-10	2.700E-10	7.812E-11	3.096E-11	1.653E-11	1.023E-11
N	5.581E-08	1.143E-08	2.985E-09	1.340E-09	7.583E-10	2.916E-10	8.436E-11	3.344E-11	1.786E-11	1.105E-11
NNE	3.627E-08	7.429E-09	1.939E-09	8.711E-10	4.928E-10	1.895E-10	5.482E-11	2.173E-11	1.160E-11	7.182E-12
NE	1.292E-08	2.646E-09	5.909E-10	3.103E-10	1.755E-10	6.750E-11	1.953E-11	7.740E-12	4.133E-12	2.558E-12
ENE	7.815E-09	1.601E-09	4.179E-10	1.877E-10	1.062E-10	4.083E-11	1.181E-11	4.682E-12	2.500E-12	1.547E-12
E	8.420E-09	1.725E-09	4.502E-10	2.022E-10	1.144E-10	4.399E-11	1.273E-11	5.044E-12	2.694E-12	1.667E-12
ESE	9.231E-09	1.891E-09	4.936E-10	2.217E-10	1.254E-10	4.823E-11	1.395E-11	5.530E-12	2.953E-12	1.828E-12
SE	1.869E-08	3.829E-09	9.996E-10	4.490E-10	2.540E-10	9.767E-11	2.826E-11	1.120E-11	5.980E-12	3.702E-12
SSE	4.784E-08	9.800E-09	2.558E-09	1.149E-09	6.500E-10	2.500E-10	7.231E-11	2.866E-11	1.530E-11	9.473E-12

VENTS GROUND LEVEL RELEASES - JULY-SEPT 1991
CORRECTED FOR OPEN TERRAIN RECIRCULATION
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE (MILES)	DISTANCE (METERS)	X/Q (SEC/CUB.METER) NO DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 2.260 DAY DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 8.000 DAY DECAY DEPLETED	D/Q (PER SQ.METER)
A	SITE BOUNDARY	S	0.80	1287.	1.067E-05	1.062E-05	9.460E-06	3.695E-08
A	SITE BOUNDARY	SSW	0.82	1327.	4.813E-06	4.791E-06	4.259E-06	1.681E-08
A	SITE BOUNDARY	SW	0.98	1569.	1.578E-06	1.570E-06	1.382E-06	5.855E-09
A	SITE BOUNDARY	WSW	0.93	1489.	1.353E-06	1.347E-06	1.189E-06	6.936E-09
A	SITE BOUNDARY	W	0.91	1468.	8.709E-07	8.671E-07	7.660E-07	4.801E-09
A	SITE BOUNDARY	WNW	0.94	1509.	1.737E-06	1.729E-06	1.525E-06	7.062E-09
A	SITE BOUNDARY	NW	0.81	1307.	7.427E-06	7.394E-06	6.581E-06	3.168E-08
A	SITE BOUNDARY	NNW	0.69	1106.	1.884E-05	1.878E-05	1.686E-05	6.123E-08
A	SITE BOUNDARY	N	0.67	1086.	1.936E-05	1.929E-05	1.734E-05	6.819E-08
A	SITE BOUNDARY	NNE	0.60	965.	1.363E-05	1.359E-05	1.229E-05	5.370E-08
A	SITE BOUNDARY	NE	0.62	1005.	5.572E-06	5.554E-06	5.010E-06	1.798E-08
A	SITE BOUNDARY	ENE	0.59	945.	4.499E-06	4.484E-06	4.063E-06	1.198E-08
A	SITE BOUNDARY	E	0.53	845.	5.391E-06	5.376E-06	4.904E-06	1.549E-08
A	SITE BOUNDARY	ESE	0.54	865.	3.875E-06	3.864E-06	3.520E-06	1.635E-08
A	SITE BOUNDARY	SE	0.65	1046.	9.477E-06	9.442E-06	8.502E-06	2.432E-08
A	SITE BOUNDARY	SSE	0.81	1307.	1.394E-05	1.388E-05	1.235E-05	3.997E-08
A	NEAR. RESIDENCE	SW	1.40	2253.	6.931E-07	6.879E-07	5.907E-07	2.338E-09
A	NEAR. RESIDENCE	WSW	1.30	2092.	6.091E-07	6.055E-07	5.223E-07	2.911E-09
A	NEAR. RESIDENCE	W	1.00	1609.	6.982E-07	6.949E-07	6.104E-07	3.787E-09
A	NEAR. RESIDENCE	WNW	1.60	2575.	5.279E-07	5.235E-07	4.449E-07	1.833E-09
A	NEAR. RESIDENCE	NW	0.90	1448.	5.777E-06	5.753E-06	5.086E-06	2.423E-08
A	NEAR. RESIDENCE	NNW	1.90	3058.	2.083E-06	2.063E-06	1.729E-06	5.067E-09
A	NEAR. RESIDENCE	N	3.00	4828.	8.522E-07	8.388E-07	6.739E-07	1.865E-09
A	NEAR. RESIDENCE	NNE	2.70	4345.	6.081E-07	6.003E-07	4.868E-07	1.546E-09
A	NEAR. RESIDENCE	ENE	1.70	2736.	4.823E-07	4.773E-07	4.041E-07	1.004E-09
A	NEAR. RESIDENCE	E	1.80	2897.	4.314E-07	4.270E-07	3.596E-07	9.411E-10
A	NEAR. RESIDENCE	ESE	2.00	3219.	2.608E-07	2.581E-07	2.153E-07	7.998E-10
A	NEAR. RESIDENCE	SE	2.20	3541.	7.327E-07	7.234E-07	5.990E-07	1.290E-09
A	NEAREST COW	NNW	3.50	5634.	6.371E-07	6.258E-07	4.946E-07	1.214E-09
A	NEAREST GARDEN	SW	1.40	2253.	6.931E-07	6.879E-07	5.907E-07	2.338E-09
A	NEAREST GARDEN	WSW	1.30	2092.	6.091E-07	6.055E-07	5.223E-07	2.911E-09
A	NEAREST GARDEN	W	1.00	1609.	6.982E-07	6.949E-07	6.104E-07	3.787E-09
A	NEAREST GARDEN	WNW	1.60	2575.	5.279E-07	5.235E-07	4.449E-07	1.833E-09
A	NEAREST GARDEN	NW	2.70	4345.	5.294E-07	5.226E-07	4.238E-07	1.616E-09
A	NEAREST GARDEN	NNW	1.90	3058.	2.083E-06	2.063E-06	1.729E-06	5.067E-09
A	NEAREST GARDEN	N	3.00	4828.	8.522E-07	8.388E-07	6.739E-07	1.865E-09
A	NEAREST GARDEN	NNE	2.70	4345.	6.081E-07	6.003E-07	4.868E-07	1.546E-09
A	NEAREST GARDEN	ENE	1.70	2736.	4.823E-07	4.773E-07	4.041E-07	1.004E-09
A	NEAREST GARDEN	E	1.80	2897.	4.314E-07	4.270E-07	3.596E-07	9.411E-10
A	NEAREST GARDEN	ESE	2.40	3863.	1.798E-07	1.775E-07	1.457E-07	5.182E-10
A	NEAREST GARDEN	SE	2.20	3541.	7.327E-07	7.234E-07	5.990E-07	1.290E-09

Atmospheric Diffusion Estimates

Ground Level Releases

October-December 1991

VENTS GROUND LEVEL RELEASES - OCT-DEC 1991
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	5.667E-05	1.843E-05	9.780E-06	4.910E-06	1.999E-06	1.092E-06	6.973E-07	4.895E-07	3.662E-07	2.868E-07	2.324E-07
SSW	2.377E-05	8.167E-06	4.341E-06	2.156E-06	8.509E-07	4.552E-07	2.859E-07	1.981E-07	1.467E-07	1.138E-07	9.150E-08
SW	1.393E-05	5.022E-06	2.709E-06	1.349E-06	5.279E-07	2.806E-07	1.753E-07	1.209E-07	8.914E-08	6.892E-08	5.522E-08
WSW	1.071E-05	3.634E-06	1.893E-06	9.369E-07	3.740E-07	2.018E-07	1.276E-07	8.889E-08	6.610E-08	5.150E-08	4.155E-08
W	8.916E-06	3.044E-06	1.600E-06	7.930E-07	3.177E-07	1.718E-07	1.088E-07	7.589E-08	5.649E-08	4.405E-08	3.556E-08
WNW	1.307E-05	4.384E-06	2.296E-06	1.137E-06	4.570E-07	2.477E-07	1.571E-07	1.098E-07	8.186E-08	6.391E-08	5.165E-08
NW	2.150E-05	7.047E-06	3.641E-06	1.800E-06	7.345E-07	4.023E-07	2.573E-07	1.809E-07	1.356E-07	1.064E-07	8.630E-08
NNW	7.292E-05	2.252E-05	1.182E-05	5.959E-06	2.491E-06	1.386E-06	8.961E-07	6.356E-07	4.797E-07	3.785E-07	3.086E-07
N	1.032E-04	3.176E-05	1.683E-05	8.522E-06	3.550E-06	1.969E-06	1.271E-06	9.002E-07	6.785E-07	5.347E-07	4.356E-07
NNE	4.910E-05	1.536E-05	8.198E-06	4.150E-06	1.714E-06	9.459E-07	6.082E-07	4.295E-07	3.230E-07	2.540E-07	2.066E-07
NE	1.606E-05	5.210E-06	2.745E-06	1.369E-06	5.513E-07	2.994E-07	1.903E-07	1.331E-07	9.937E-08	7.767E-08	6.284E-08
ENE	1.463E-05	4.619E-06	2.471E-06	1.252E-06	5.157E-07	2.840E-07	1.823E-07	1.286E-07	9.658E-08	7.588E-08	6.165E-08
E	1.987E-05	6.587E-06	3.548E-06	1.787E-06	7.225E-07	3.931E-07	2.502E-07	1.752E-07	1.308E-07	1.0[illegible]E-07	8.279E-08
ESE	2.274E-05	7.708E-06	4.106E-06	2.075E-06	8.122E-07	4.365E-07	2.752E-07	1.913E-07	1.420E-07	1.1[illegible]E-07	8.894E-08
SE	3.117E-05	1.069E-05	5.834E-06	2.939E-06	1.165E-06	6.253E-07	3.936E-07	2.732E-07	2.026E-07	1.574E-07	1.266E-07
SSE	4.135E-05	1.367E-05	7.264E-06	3.638E-06	1.475E-06	8.036E-07	5.119E-07	3.588E-07	2.681E-07	2.097E-07	1.698E-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	1.934E-07	1.014E-07	6.662E-08	3.897E-08	2.676E-08	2.003E-08	1.583E-08	1.298E-08	1.094E-08	9.415E-09	8.235E-09
SSW	7.560E-08	3.859E-08	2.491E-08	1.424E-08	9.622E-09	7.121E-09	5.577E-09	4.540E-09	3.802E-09	3.253E-09	2.830E-09
SW	4.547E-08	2.291E-08	1.463E-08	8.222E-09	5.484E-09	4.013E-09	3.114E-09	2.515E-09	2.091E-09	1.778E-09	1.538E-09
WSW	3.445E-08	1.783E-08	1.163E-08	6.728E-09	4.587E-09	3.416E-09	2.658E-09	2.198E-09	1.840E-09	1.587E-09	1.385E-09
W	2.948E-08	1.526E-08	9.939E-09	5.747E-09	3.916E-09	2.914E-09	2.293E-09	1.874E-09	1.575E-09	1.351E-09	1.179E-09
WNW	4.288E-08	2.230E-08	1.456E-08	8.479E-09	5.804E-09	4.335E-09	3.423E-09	2.802E-09	2.360E-09	2.029E-09	1.773E-09
NW	7.189E-08	3.788E-08	2.499E-08	1.471E-08	1.015E-08	7.623E-09	6.044E-09	4.972E-09	4.201E-09	3.622E-09	3.174E-09
NNW	2.582E-07	1.382E-07	9.212E-08	5.492E-08	3.818E-08	2.885E-08	2.297E-08	1.896E-08	1.607E-08	1.389E-08	1.220E-08
N	3.641E-07	1.942E-07	1.292E-07	7.677E-08	5.326E-08	4.018E-08	3.195E-08	2.635E-08	2.230E-08	1.926E-08	1.690E-08
NNE	1.725E-07	9.153E-08	6.068E-08	3.591E-08	2.485E-08	1.871E-08	1.486E-08	1.223E-08	1.034E-08	8.926E-09	7.825E-09
NE	5.224E-08	2.734E-08	1.796E-08	1.051E-08	7.228E-09	5.419E-09	4.288E-09	3.521E-09	2.971E-09	2.559E-09	2.239E-09
ENE	5.142E-08	2.719E-08	1.798E-08	1.060E-08	7.315E-09	5.496E-09	4.356E-09	3.581E-09	3.025E-09	2.607E-09	2.283E-09
E	6.881E-08	3.595E-08	2.357E-08	1.374E-08	9.412E-09	7.031E-09	5.547E-09	4.543E-09	3.824E-09	3.296E-09	2.871E-09
ESE	7.363E-08	3.790E-08	2.460E-08	1.417E-08	9.635E-09	7.161E-09	5.627E-09	4.594E-09	3.856E-09	3.306E-09	2.882E-09
SE	1.047E-07	5.366E-08	3.470E-08	1.985E-08	1.342E-08	9.929E-09	7.770E-09	6.320E-09	5.288E-09	4.521E-09	3.931E-09
SSE	1.412E-07	7.379E-08	4.841E-08	2.825E-08	1.936E-08	1.447E-08	1.143E-08	9.366E-09	7.888E-09	6.783E-09	5.928E-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	9.537E-06	2.243E-06	7.195E-07	3.712E-07	2.341E-07	1.064E-07	3.969E-08	2.014E-08	1.302E-08	9.431E-09
SSW	4.220E-06	9.650E-07	2.960E-07	1.489E-07	9.223E-08	4.073E-08	1.455E-08	7.170E-09	4.555E-09	3.259E-09
SW	2.619E-06	6.004E-07	1.816E-07	9.052E-08	5.567E-08	2.425E-08	8.430E-09	4.046E-09	2.524E-09	1.782E-09
WSW	1.857E-06	4.225E-07	1.319E-07	6.705E-08	4.187E-08	1.877E-08	6.865E-09	3.437E-09	2.205E-09	1.589E-09
W	1.562E-06	3.585E-07	1.124E-07	5.729E-08	3.582E-08	1.605E-08	5.865E-09	2.933E-09	1.880E-09	1.354E-09
WNW	2.245E-06	5.151E-07	1.623E-07	8.300E-08	5.203E-08	2.344E-08	8.646E-09	4.361E-09	2.810E-09	2.032E-09
NW	3.579E-06	8.236E-07	2.654E-07	1.374E-07	8.690E-08	3.971E-08	1.497E-08	7.664E-09	4.984E-09	3.628E-09
NNW	1.159E-05	2.771E-06	9.225E-07	4.857E-07	3.107E-07	1.444E-07	5.575E-08	2.899E-08	1.901E-08	1.391E-08
N	1.646E-05	3.952E-06	1.309E-06	6.871E-07	4.385E-07	2.031E-07	7.796E-08	4.038E-08	2.641E-08	1.929E-08
NNE	7.991E-06	1.914E-06	6.268E-07	3.271E-07	2.080E-07	9.580E-08	3.650E-08	1.881E-08	1.226E-08	8.939E-09
NE	2.681E-06	6.210E-07	1.965E-07	1.008E-07	6.331E-08	2.870E-08	1.071E-08	5.449E-09	3.531E-09	2.563E-09
ENE	2.406E-06	5.763E-07	1.880E-07	9.784E-08	6.208E-08	2.848E-08	1.078E-08	5.525E-09	3.590E-09	2.611E-09
E	3.441E-06	8.126E-07	2.583E-07	1.326E-07	8.340E-08	3.775E-08	1.400E-08	7.072E-09	4.556E-09	3.292E-09
ESE	3.991E-06	9.192E-07	2.846E-07	1.440E-07	8.964E-08	3.993E-08	1.447E-08	7.207E-09	4.608E-09	3.312E-09
SE	5.626E-06	1.319E-06	4.072E-07	2.055E-07	1.276E-07	5.658E-08	2.030E-08	9.997E-09	6.341E-09	4.529E-09
SSE	7.076E-06	1.657E-06	5.284E-07	2.718E-07	1.719E-07	7.748E-08	2.878E-08	1.456E-08	9.392E-09	6.794E-09

VENTS GROUND LEVEL RELEASES - OCT-DEC 1991
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	5.661E-05	1.839E-05	9.753E-06	4.891E-06	1.988E-06	1.084E-06	6.905E-07	4.837E-07	3.612E-07	2.823E-07	2.283E-07
SSW	2.374E-05	8.152E-06	4.329E-06	2.148E-06	8.462E-07	4.519E-07	2.833E-07	1.959E-07	1.448E-07	1.121E-07	8.995E-08
SW	1.392E-05	5.013E-06	2.702E-06	1.344E-06	5.252E-07	2.787E-07	1.738E-07	1.197E-07	8.806E-08	6.796E-08	5.435E-08
WSW	1.069E-05	3.627E-06	1.892E-06	9.333E-07	3.718E-07	2.002E-07	1.263E-07	8.783E-08	6.518E-08	5.068E-08	4.080E-08
W	8.908E-06	3.038E-06	1.596E-06	7.902E-07	3.160E-07	1.705E-07	1.078E-07	7.505E-08	5.575E-08	4.339E-08	3.495E-08
WNW	1.305E-05	4.376E-06	2.290E-06	1.133E-06	4.545E-07	2.458E-07	1.556E-07	1.085E-07	8.075E-08	6.292E-08	5.075E-08
NW	2.148E-05	7.034E-06	3.632E-06	1.794E-06	7.307E-07	3.995E-07	2.550E-07	1.790E-07	1.339E-07	1.048E-07	8.488E-08
NNW	7.284E-05	2.247E-05	1.179E-05	5.934E-06	2.475E-06	1.373E-06	8.862E-07	6.271E-07	4.722E-07	3.717E-07	3.024E-07
N	1.031E-04	3.170E-05	1.678E-05	8.487E-06	3.528E-06	1.953E-06	1.258E-06	8.889E-07	6.685E-07	5.257E-07	4.273E-07
NNE	4.906E-05	1.534E-05	8.176E-06	4.135E-06	1.705E-06	9.390E-07	6.026E-07	4.247E-07	3.188E-07	2.502E-07	2.031E-07
NE	1.604E-05	5.200E-06	2.738E-06	1.364E-06	5.484E-07	2.972E-07	1.885E-07	1.317E-07	9.808E-08	7.651E-08	6.178E-08
ENE	1.462E-05	4.609E-06	2.463E-06	1.247E-06	5.126E-07	2.817E-07	1.835E-07	1.270E-07	9.519E-08	7.462E-08	6.051E-08
E	1.985E-05	6.574E-06	3.538E-06	1.780E-06	7.184E-07	3.901E-07	2.477E-07	1.731E-07	1.290E-07	1.007E-07	8.132E-08
ESE	2.272E-05	7.697E-06	4.097E-06	2.040E-06	8.086E-07	4.339E-07	2.731E-07	1.895E-07	1.404E-07	1.090E-07	8.769E-08
SE	3.115E-05	1.068E-05	5.823E-06	2.931E-06	1.161E-06	6.220E-07	3.910E-07	2.711E-07	2.007E-07	1.557E-07	1.251E-07
SSE	4.132E-05	1.364E-05	7.245E-06	3.626E-06	1.467E-06	7.978E-07	5.072E-07	3.548E-07	2.646E-07	2.066E-07	1.669E-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	1.896E-07	9.833E-08	6.396E-08	3.664E-08	2.463E-08	1.804E-08	1.396E-08	1.121E-08	9.250E-09	7.791E-09	6.670E-09
SSW	7.417E-08	3.749E-08	2.395E-08	1.341E-08	8.885E-09	6.443E-09	4.943E-09	3.942E-09	3.234E-09	2.711E-09	2.311E-09
SW	4.468E-08	2.231E-08	1.413E-08	7.796E-09	5.107E-09	3.672E-09	2.798E-09	2.219E-09	1.813E-09	1.514E-09	1.287E-09
WSW	3.375E-08	1.729E-08	1.116E-08	6.321E-09	4.218E-09	3.075E-09	2.370E-09	1.897E-09	1.561E-09	1.312E-09	1.121E-09
W	2.892E-08	1.482E-08	9.555E-09	5.412E-09	3.611E-09	2.632E-09	2.027E-09	1.622E-09	1.334E-09	1.121E-09	9.572E-10
WNW	4.204E-08	2.164E-08	1.400E-08	7.971E-09	5.341E-09	3.904E-09	3.015E-09	2.417E-09	1.992E-09	1.676E-09	1.433E-09
NW	7.057E-08	3.682E-08	2.406E-08	1.388E-08	9.381E-09	6.907E-09	5.366E-09	4.325E-09	3.581E-09	3.025E-09	2.598E-09
NNW	2.524E-07	1.335E-07	8.798E-08	5.124E-08	3.480E-08	2.569E-08	1.998E-08	1.611E-08	1.334E-08	1.126E-08	9.661E-09
N	3.564E-07	1.881E-07	1.237E-07	7.193E-08	4.882E-08	3.603E-08	2.803E-08	2.261E-08	1.873E-08	1.582E-08	1.359E-08
NNE	1.692E-07	8.895E-08	5.839E-08	3.389E-08	2.299E-08	1.698E-08	1.322E-08	1.067E-08	8.849E-09	7.487E-09	6.437E-09
NE	5.126E-08	2.656E-08	1.727E-08	9.907E-09	6.677E-09	4.905E-09	3.803E-09	3.060E-09	2.529E-09	2.134E-09	1.830E-09
ENE	5.036E-08	2.635E-08	1.723E-08	9.944E-09	6.714E-09	4.936E-09	3.828E-09	3.080E-09	2.545E-09	2.147E-09	1.840E-09
E	6.746E-08	3.488E-08	2.264E-08	1.293E-08	8.673E-09	6.346E-09	4.903E-09	3.934E-09	3.243E-09	2.730E-09	2.336E-09
ESE	7.247E-08	3.699E-08	2.381E-08	1.347E-08	9.002E-09	6.573E-09	5.074E-09	4.070E-09	3.356E-09	2.827E-09	2.421E-09
SE	1.033E-07	5.257E-08	3.376E-08	1.904E-08	1.269E-08	9.257E-09	7.142E-09	5.728E-09	4.726E-09	3.984E-09	3.415E-09
SSE	1.385E-07	7.169E-08	4.657E-08	2.663E-08	1.788E-08	1.310E-08	1.013E-08	8.136E-09	6.713E-09	5.656E-09	4.843E-09

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

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES .S-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	9.512E-06	2.231E-06	7.128E-07	3.662E-07	2.300E-07	1.033E-07	3.737E-08	1.817E-08	1.125E-08	7.808E-09
SSW	4.209E-06	9.602E-07	2.933E-07	1.469E-07	9.067E-08	3.962E-08	1.374E-08	6.494E-09	3.958E-09	2.718E-09
SW	2.612E-06	5.976E-07	1.801E-07	8.943E-08	5.481E-08	2.364E-08	8.008E-09	3.705E-09	2.230E-09	1.518E-09
WSW	1.852E-06	4.203E-07	1.306E-07	6.613E-08	4.112E-08	1.822E-08	6.461E-09	3.098E-09	1.904E-09	1.315E-09
W	1.558E-06	3.567E-07	1.114E-07	5.655E-08	3.522E-08	1.561E-08	5.532E-09	2.651E-09	1.628E-09	1.123E-09
WNW	2.239E-06	5.126E-07	1.608E-07	8.190E-08	5.113E-08	2.278E-08	8.142E-09	3.932E-09	2.426E-09	1.680E-09
NW	3.571E-06	8.197E-07	2.631E-07	1.357E-07	8.548E-08	3.865E-08	1.414E-08	6.951E-09	4.339E-09	3.031E-09
NNW	1.156E-05	2.754E-06	9.125E-07	4.782E-07	3.044E-07	1.397E-07	5.210E-08	2.584E-08	1.616E-08	1.128E-08
N	1.641E-05	3.930E-06	1.296E-06	6.771E-07	4.302E-07	1.969E-07	7.317E-08	3.624E-08	2.268E-08	1.586E-08
NNE	7.971E-06	1.904E-06	6.212E-07	3.229E-07	2.045E-07	9.321E-08	3.449E-08	1.708E-08	1.070E-08	7.502E-09
NE	2.674E-06	6.180E-07	1.947E-07	9.945E-08	6.225E-08	2.792E-08	1.011E-08	4.937E-09	3.070E-09	2.139E-09
ENE	2.399E-06	5.731E-07	1.861E-07	9.644E-08	6.093E-08	2.763E-08	1.013E-08	4.967E-09	3.090E-09	2.151E-09
E	3.431E-06	8.084E-07	2.559E-07	1.308E-07	8.193E-08	3.668E-08	1.320E-08	6.389E-09	3.948E-09	2.736E-09
ESE	3.985E-06	9.156E-07	2.825E-07	1.425E-07	8.838E-08	3.902E-08	1.378E-08	6.621E-09	4.085E-09	2.833E-09
SE	5.616E-06	1.315E-06	4.046E-07	2.036E-07	1.261E-07	5.549E-08	1.949E-08	9.328E-09	5.756E-09	3.993E-09
SSE	7.058E-06	1.649E-06	5.237E-07	2.683E-07	1.682E-07	7.537E-08	2.717E-08	1.319E-08	8.164E-09	5.668E-09

VENTS GROUND LEVEL RELEASES - OCT-DEC 1991
8.000 DAY DECAY, DEPLETED
CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

SECTOR	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	5.362E-05	1.682E-05	8.709E-06	4.293E-06	1.695E-06	9.026E-07	5.633E-07	3.875E-07	2.847E-07	2.192E-07	1.748E-07
SSW	2.249E-05	7.454E-06	3.865E-06	1.885E-06	7.215E-07	3.762E-07	2.310E-07	1.569E-07	1.140E-07	8.701E-08	6.885E-08
SW	1.318E-05	4.584E-06	2.413E-06	1.180E-06	4.477E-07	2.319E-07	1.417E-07	9.576E-08	6.932E-08	5.270E-08	4.156E-08
WSW	1.013E-05	3.317E-06	1.690E-06	8.192E-07	3.171E-07	1.667E-07	1.030E-07	7.036E-08	5.138E-08	3.936E-08	3.125E-08
W	8.436E-06	2.788E-06	1.425E-06	6.934E-07	2.694E-07	1.420E-07	8.790E-08	6.009E-08	4.392E-08	3.367E-08	2.675E-08
WNW	1.236E-05	4.001E-06	2.045E-06	9.945E-07	3.875E-07	2.046E-07	1.269E-07	8.693E-08	6.363E-08	4.884E-08	3.886E-08
NW	2.034E-05	6.432E-06	3.242E-06	1.574E-06	6.229E-07	3.325E-07	2.079E-07	1.433E-07	1.054E-07	8.131E-08	6.494E-08
NNW	6.899E-05	2.055E-05	1.053E-05	5.210E-06	2.112E-06	1.144E-06	7.236E-07	5.030E-07	3.727E-07	2.891E-07	2.320E-07
N	9.763E-05	2.899E-05	1.498E-05	7.451E-06	3.009E-06	1.627E-06	1.027E-06	7.125E-07	5.272E-07	4.085E-07	3.276E-07
NNE	4.646E-05	1.402E-05	7.300E-06	3.629E-06	1.453E-06	7.816E-07	4.914E-07	3.401E-07	2.511E-07	1.942E-07	1.555E-07
NE	1.519E-05	4.755E-06	2.444E-06	1.197E-06	4.675E-07	2.474E-07	1.537E-07	1.054E-07	7.725E-08	5.937E-08	4.728E-08
ENE	1.385E-05	4.215E-06	2.200E-06	1.094E-06	4.372E-07	2.347E-07	1.473E-07	1.018E-07	7.505E-08	5.797E-08	4.637E-08
E	1.880E-05	6.012E-06	3.159E-06	1.562E-06	6.126E-07	3.248E-07	2.021E-07	1.387E-07	1.017E-07	7.819E-08	6.228E-08
ESE	2.152E-05	7.036E-06	3.657E-06	1.789E-06	6.889E-07	3.608E-07	2.224E-07	1.515E-07	1.104E-07	8.446E-08	6.698E-08
SE	2.949E-05	9.759E-06	5.196E-06	2.570E-06	9.885E-07	5.170E-07	3.182E-07	2.165E-07	1.576E-07	1.204E-07	9.541E-08
SSE	3.913E-05	1.248E-05	6.469E-06	3.182E-06	1.251E-06	6.641E-07	4.136E-07	2.841E-07	2.084E-07	1.603E-07	1.278E-07

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

BEARING	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	1.433E-07	7.084E-08	4.424E-08	2.381E-08	1.526E-08	1.076E-08	8.055E-09	6.286E-09	5.058E-09	4.165E-09	3.494E-09
SSW	5.605E-08	2.699E-08	1.655E-08	8.698E-09	5.493E-09	3.830E-09	2.842E-09	2.202E-09	1.760E-09	1.442E-09	1.203E-09
SW	3.373E-08	1.603E-08	9.734E-09	5.036E-09	3.139E-09	2.165E-09	1.593E-09	1.225E-09	9.734E-10	7.928E-10	6.585E-10
WSW	2.553E-08	1.246E-08	7.720E-09	4.110E-09	2.616E-09	1.834E-09	1.368E-09	1.064E-09	8.540E-10	7.018E-10	5.875E-10
W	2.186E-08	1.067E-08	6.603E-09	3.514E-09	2.235E-09	1.567E-09	1.168E-09	9.080E-10	7.283E-10	5.982E-10	5.006E-10
WNW	3.178E-08	1.559E-08	9.684E-09	5.181E-09	3.310E-09	2.328E-09	1.740E-09	1.357E-09	1.090E-09	8.970E-10	7.518E-10
NW	5.331E-08	2.649E-08	1.661E-08	8.997E-09	5.795E-09	4.102E-09	3.081E-09	2.412E-09	1.946E-09	1.606E-09	1.350E-09
NNW	1.913E-07	9.648E-08	6.109E-08	3.349E-08	2.172E-08	1.545E-08	1.165E-08	9.141E-09	7.390E-09	6.110E-09	5.143E-09
N	2.698E-07	1.357E-07	8.572E-08	4.686E-08	3.035E-08	2.156E-08	1.624E-08	1.274E-08	1.029E-08	8.505E-09	7.156E-09
NNE	1.279E-07	6.401E-08	4.032E-08	2.197E-08	1.420E-08	1.007E-08	7.579E-09	5.941E-09	4.797E-09	3.964E-09	3.334E-09
NE	3.873E-08	1.912E-08	1.193E-08	6.426E-09	4.127E-09	2.915E-09	2.185E-09	1.708E-09	1.376E-09	1.134E-09	9.524E-10
ENE	3.810E-08	1.900E-08	1.194E-08	6.474E-09	4.169E-09	2.949E-09	2.214E-09	1.732E-09	1.396E-09	1.152E-09	9.672E-10
E	5.101E-08	2.513E-08	1.566E-08	8.400E-09	5.371E-09	3.779E-09	2.825E-09	2.201E-09	1.769E-09	1.455E-09	1.219E-09
ESE	5.464E-08	2.654E-08	1.638E-08	8.683E-09	5.519E-09	3.867E-09	2.881E-09	2.240E-09	1.797E-09	1.476E-09	1.235E-09
SE	7.776E-08	3.761E-08	2.313E-08	1.220E-08	7.716E-09	5.385E-09	4.000E-09	3.102E-09	2.483E-09	2.036E-09	1.701E-09
SSE	1.047E-07	5.160E-08	3.217E-08	1.728E-08	1.106E-08	7.785E-09	5.824E-09	4.542E-09	3.653E-09	3.007E-09	2.521E-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	8.548E-06	1.920E-06	5.834E-07	2.891E-07	1.763E-07	7.513E-08	2.455E-08	1.088E-08	6.324E-09	4.181E-09
SSW	3.783E-06	8.266E-07	2.401E-07	1.160E-07	6.949E-08	2.881E-08	9.018E-09	3.878E-09	2.216E-09	1.448E-09
SW	2.347E-06	5.144E-07	1.474E-07	7.054E-08	4.190E-08	1.716E-08	5.237E-09	2.196E-09	1.234E-09	7.966E-10
WSW	1.664E-06	3.618E-07	1.070E-07	5.222E-08	3.153E-08	1.326E-08	4.248E-09	1.856E-09	1.071E-09	7.046E-10
W	1.401E-06	3.070E-07	9.119E-08	4.463E-08	2.699E-08	1.135E-08	3.632E-09	1.585E-09	9.137E-10	6.006E-10
WNW	2.013E-06	4.411E-07	1.317E-07	6.465E-08	3.920E-08	1.656E-08	5.358E-09	2.355E-09	1.365E-09	9.005E-10
NW	3.209E-06	7.052E-07	2.153E-07	1.071E-07	6.548E-08	2.806E-08	9.266E-09	4.145E-09	2.426E-09	1.612E-09
NNW	1.059E-05	2.370E-06	7.476E-07	3.780E-07	2.338E-07	1.018E-07	3.439E-08	1.560E-08	9.190E-09	6.131E-09
N	1.475E-05	3.382E-06	1.061E-06	5.349E-07	3.301E-07	1.433E-07	4.816E-08	2.177E-08	1.280E-08	8.534E-09
NNE	7.162E-06	1.638E-06	5.083E-07	2.548E-07	1.567E-07	6.767E-08	2.259E-08	1.017E-08	5.973E-09	3.978E-09
NE	2.404E-06	5.318E-07	1.594E-07	7.849E-08	4.770E-08	2.028E-08	6.628E-09	2.968E-09	1.718E-09	1.138E-09
ENE	2.156E-06	4.932E-07	1.524E-07	7.618E-08	4.675E-08	2.011E-08	6.663E-09	2.981E-09	1.742E-09	1.156E-09
E	3.083E-06	6.957E-07	2.095E-07	1.033E-07	6.282E-08	2.667E-08	8.666E-09	3.822E-09	2.215E-09	1.461E-09
ESE	3.578E-06	7.875E-07	2.310E-07	1.123E-07	6.754E-08	2.827E-08	8.986E-09	3.913E-09	2.254E-09	1.482E-09
SE	5.043E-06	1.130E-06	3.306E-07	1.603E-07	9.629E-08	4.010E-08	1.264E-08	5.453E-09	3.123E-09	2.044E-09
SSE	6.343E-06	1.419E-06	4.286E-07	2.117E-07	1.289E-07	5.476E-08	1.782E-08	7.873E-09	4.570E-09	3.018E-09

VENTS GROUND LEVEL RELEASES - OCT-DEC 1991
CORRECTED FOR OPEN TERRAIN RECIRCULATION

********** RELATIVE DEPOSITI N 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	2.376E-07	8.035E-08	4.125E-08	1.961E-08	7.045E-09	3.494E-09	2.057E-09	1.347E-09	9.479E-10	7.024E-10	5.413E-10
SSW	1.279E-07	4.326E-08	2.221E-08	1.056E-08	3.794E-09	1.881E-09	1.108E-09	7.253E-10	5.104E-10	3.782E-10	2.915E-10
SW	7.050E-08	2.384E-08	1.224E-08	5.819E-09	2.090E-09	1.037E-09	6.104E-10	3.997E-10	2.812E-10	2.084E-10	1.606E-10
WSW	4.569E-08	1.545E-08	7.934E-09	3.772E-09	1.355E-09	6.719E-10	3.956E-10	2.591E-10	1.823E-10	1.351E-10	1.041E-10
W	3.917E-08	1.324E-08	6.800E-09	3.233E-09	1.161E-09	5.759E-10	3.391E-10	2.220E-10	1.562E-10	1.158E-10	8.923E-11
WNW	6.528E-08	2.207E-08	1.133E-08	5.388E-09	1.935E-09	9.598E-10	5.652E-10	3.701E-10	2.604E-10	1.930E-10	1.487E-10
NW	1.071E-07	3.620E-08	1.859E-08	8.837E-09	3.174E-09	1.574E-09	9.269E-10	6.069E-10	4.271E-10	3.165E-10	2.439E-10
NNW	2.950E-07	6.931E-08	3.559E-08	1.692E-08	6.077E-09	3.014E-09	1.775E-09	1.162E-09	8.177E-10	6.060E-10	4.670E-10
N	3.381E-07	1.143E-07	5.871E-08	2.791E-08	1.003E-08	4.972E-09	2.928E-09	1.917E-09	1.349E-09	9.996E-10	7.703E-10
NNE	2.037E-07	6.887E-08	3.536E-08	1.681E-08	6.039E-09	2.995E-09	1.763E-09	1.155E-09	8.124E-10	6.021E-10	4.640E-10
NE	8.094E-08	2.737E-08	1.405E-08	6.681E-09	2.400E-09	1.190E-09	7.008E-10	4.589E-10	3.229E-10	2.393E-10	1.844E-10
ENE	5.353E-08	1.810E-08	9.294E-09	4.418E-09	1.587E-09	7.871E-10	4.634E-10	3.035E-10	2.135E-10	1.582E-10	1.219E-10
E	8.747E-08	2.958E-08	1.519E-08	7.226E-09	2.594E-09	1.286E-09	7.573E-10	4.959E-10	3.489E-10	2.586E-10	1.993E-10
ESE	1.802E-07	6.092E-08	3.128E-08	1.487E-08	5.342E-09	2.649E-09	1.560E-09	1.021E-09	7.187E-10	5.326E-10	4.105E-10
SE	2.611E-07	8.830E-08	4.534E-08	2.155E-08	7.742E-09	3.839E-09	2.261E-09	1.480E-09	1.042E-09	7.719E-10	5.949E-10
SSE	2.128E-07	7.196E-08	3.695E-08	1.757E-08	6.310E-09	3.129E-09	1.842E-09	1.206E-09	8.489E-10	6.291E-10	4.848E-10

DIRECTION FROM SITE	DISTANCES IN MILES 5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
S	4.300E-10	1.910E-10	1.157E-10	5.849E-11	3.540E-11	2.374E-11	1.701E-11	1.277E-11	9.930E-12	7.932E-12	6.475E-12
SSW	2.316E-10	1.029E-10	6.231E-11	3.150E-11	1.906E-11	1.278E-11	9.159E-12	6.877E-12	5.347E-12	4.271E-12	3.486E-12
SW	1.276E-10	5.668E-11	3.434E-11	1.736E-11	1.050E-11	7.043E-12	5.047E-12	3.789E-12	2.946E-12	2.354E-12	1.921E-12
WSW	8.270E-11	3.674E-11	2.225E-11	1.125E-11	6.808E-12	4.565E-12	3.271E-12	2.456E-12	1.910E-12	1.525E-12	1.245E-12
W	7.089E-11	3.149E-11	1.908E-11	9.642E-12	5.836E-12	3.913E-12	2.804E-12	2.105E-12	1.637E-12	1.308E-12	1.067E-12
WNW	1.181E-10	5.248E-11	3.179E-11	1.607E-11	9.726E-12	6.521E-12	4.673E-12	3.509E-12	2.728E-12	2.179E-12	1.779E-12
NW	1.938E-10	8.607E-11	5.214E-11	2.635E-11	1.595E-11	1.069E-11	7.663E-12	5.754E-12	4.474E-12	3.574E-12	2.917E-12
NNW	3.710E-10	1.648E-10	9.983E-11	5.046E-11	3.054E-11	2.048E-11	1.467E-11	1.102E-11	8.566E-12	6.843E-12	5.585E-12
N	6.120E-10	2.719E-10	1.647E-10	8.324E-11	5.038E-11	3.378E-11	2.420E-11	1.818E-11	1.413E-11	1.129E-11	9.214E-12
NNE	3.686E-10	1.638E-10	9.919E-11	5.014E-11	3.035E-11	2.035E-11	1.458E-11	1.095E-11	8.512E-12	6.799E-12	5.550E-12
NE	1.465E-10	6.508E-11	3.942E-11	1.993E-11	1.206E-11	8.086E-12	5.794E-12	4.351E-12	3.383E-12	2.702E-12	2.206E-12
ENE	9.688E-11	4.304E-11	2.607E-11	1.318E-11	7.975E-12	5.347E-12	3.832E-12	2.877E-12	2.237E-12	1.787E-12	1.459E-12
E	1.583E-10	7.033E-11	4.260E-11	2.153E-11	1.303E-11	8.738E-12	6.261E-12	4.702E-12	3.656E-12	2.920E-12	2.384E-12
ESE	3.261E-10	1.449E-10	8.775E-11	4.435E-11	2.684E-11	1.800E-11	1.290E-11	9.684E-12	7.530E-12	6.015E-12	4.909E-12
SE	4.726E-10	2.099E-10	1.272E-10	6.428E-11	3.890E-11	2.608E-11	1.869E-11	1.403E-11	1.091E-11	8.717E-12	7.115E-12
SSE	3.852E-10	1.711E-10	1.036E-10	5.239E-11	3.171E-11	2.126E-11	1.523E-11	1.144E-11	8.894E-12	7.104E-12	5.797E-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	4.032E-08	8.260E-09	2.156E-09	9.684E-10	5.479E-10	2.107E-10	6.095E-11	2.416E-11	1.290E-11	7.984E-12
SSW	2.171E-08	4.448E-09	1.161E-09	5.215E-10	2.950E-10	1.134E-10	3.282E-11	1.301E-11	6.946E-12	4.299E-12
SW	1.196E-08	2.451E-09	6.398E-10	2.873E-10	1.625E-10	6.251E-11	1.808E-11	7.167E-12	3.827E-12	2.369E-12
WSW	7.755E-09	1.588E-09	4.147E-10	1.862E-10	1.054E-10	4.052E-11	1.172E-11	4.645E-12	2.481E-12	1.535E-12
W	6.647E-09	1.361E-09	3.554E-10	1.596E-10	9.030E-11	3.473E-11	1.005E-11	3.982E-12	2.126E-12	1.316E-12
WNW	1.108E-08	2.269E-09	5.924E-10	2.661E-10	1.505E-10	5.788E-11	1.674E-11	6.636E-12	3.544E-12	2.194E-12
NW	1.817E-08	3.721E-09	9.715E-10	4.363E-10	2.468E-10	9.492E-11	2.746E-11	1.088E-11	5.812E-12	3.597E-12
NNW	3.478E-08	7.125E-09	1.860E-09	8.354E-10	4.726E-10	1.817E-10	5.258E-11	2.084E-11	1.113E-11	6.888E-12
N	5.738E-08	1.175E-08	3.069E-09	1.378E-09	7.796E-10	2.998E-10	8.673E-11	3.438E-11	1.836E-11	1.136E-11
NNE	3.456E-08	7.080E-09	1.848E-09	8.301E-10	4.696E-10	1.806E-10	5.225E-11	2.071E-11	1.106E-11	6.844E-12
NE	1.374E-08	2.814E-09	7.345E-10	3.299E-10	1.866E-10	7.177E-11	2.076E-11	8.229E-12	4.394E-12	2.720E-12
ENE	9.084E-09	1.861E-09	4.857E-10	2.182E-10	1.234E-10	4.746E-11	1.373E-11	5.442E-12	2.906E-12	1.799E-12
E	1.484E-08	3.041E-09	7.938E-10	3.565E-10	2.017E-10	7.756E-11	2.244E-11	8.893E-12	4.749E-12	2.939E-12
ESE	3.058E-08	6.263E-09	1.635E-09	7.343E-10	4.154E-10	1.597E-10	4.621E-11	1.832E-11	9.781E-12	6.054E-12
SE	4.431E-08	9.077E-09	2.370E-09	1.064E-09	6.020E-10	2.315E-10	6.698E-11	2.655E-11	1.418E-11	8.774E-12
SSE	3.611E-08	7.397E-09	1.931E-09	8.673E-10	4.907E-10	1.887E-10	5.459E-11	2.163E-11	1.155E-11	7.151E-12

VENTS GROUND LEVEL RELEASES - OCT-DEC 1991
CORRECTED FOR OPEN TERRAIN RECIRCULATION
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE (MILES)	DISTANCE (METERS)	X/Q (SEC/CUB.METER) NO DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 2.260 DAY DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 8.000 DAY DECAY DEPLETED	D/Q (PER SQ.METER)
A	SITE BOUNDARY	S	0.80	1287.	8.405E-06	8.380E-06	7.455E-06	3.508E-08
A	SITE BOUNDARY	SSW	0.82	1327.	3.450E-06	3.440E-06	3.055E-06	1.743E-08
A	SITE BOUNDARY	SW	0.98	1569.	1.432E-06	1.427E-06	1.255E-06	6.210E-09
A	SITE BOUNDARY	WSW	0.93	1489.	1.129E-06	1.125E-06	9.925E-07	4.609E-09
A	SITE BOUNDARY	W	0.91	1468.	9.887E-07	9.856E-07	8.699E-07	4.099E-09
A	SITE BOUNDARY	WNW	0.94	1509.	1.325E-06	1.321E-06	1.164E-06	6.360E-09
A	SITE BOUNDARY	NW	0.81	1307.	2.996E-06	2.988E-06	2.656E-06	1.518E-08
A	SITE BOUNDARY	NNW	0.69	1106.	1.352E-05	1.348E-05	1.210E-05	4.121E-08
A	SITE BOUNDARY	N	0.67	1086.	1.974E-05	1.969E-05	1.768E-05	7.011E-08
A	SITE BOUNDARY	NNE	0.60	965.	1.155E-05	1.152E-05	1.042E-05	5.117E-08
A	SITE BOUNDARY	NE	0.62	1005.	3.653E-06	3.645E-06	3.286E-06	1.911E-08
A	SITE BOUNDARY	ENE	0.59	945.	3.585E-06	3.576E-06	3.238E-06	1.392E-08
A	SITE BOUNDARY	E	0.53	845.	6.095E-06	6.082E-06	5.546E-06	2.731E-08
A	SITE BOUNDARY	ESE	0.54	865.	6.876E-06	6.866E-06	6.249E-06	5.415E-08
A	SITE BOUNDARY	SE	0.65	1046.	7.225E-06	7.213E-06	6.486E-06	5.766E-08
A	SITE BOUNDARY	SSE	0.81	1307.	6.007E-06	5.989E-06	5.323E-06	3.017E-08
A	NEAR. RESIDENCE	SW	1.40	2253.	6.167E-07	6.137E-07	5.259E-07	2.480E-09
A	NEAR. RESIDENCE	WSW	1.30	2092.	5.137E-07	5.111E-07	4.407E-07	1.935E-09
A	NEAR. RESIDENCE	W	1.00	1609.	7.930E-07	7.902E-07	6.934E-07	3.233E-09
A	NEAR. RESIDENCE	WNW	1.60	2575.	3.974E-07	3.951E-07	3.352E-07	1.651E-09
A	NEAR. RESIDENCE	NW	0.90	1448.	2.320E-06	2.312E-06	2.043E-06	1.161E-08
A	NEAR. RESIDENCE	NNW	1.90	3058.	1.535E-06	1.522E-06	1.274E-06	3.410E-09
A	NEAR. RESIDENCE	N	3.00	4828.	9.002E-07	8.889E-07	7.125E-07	1.917E-09
A	NEAR. RESIDENCE	NNE	2.70	4345.	5.245E-07	5.192E-07	4.202E-07	1.473E-09
A	NEAR. RESIDENCE	ENE	1.70	2736.	3.966E-07	3.938E-07	3.326E-07	1.167E-09
A	NEAR. RESIDENCE	E	1.80	2897.	4.897E-07	4.863E-07	4.087E-07	1.659E-09
A	NEAR. RESIDENCE	ESE	2.00	3219.	4.365E-07	4.339E-07	3.608E-07	2.649E-09
A	NEAR. RESIDENCE	SE	2.20	3541.	5.119E-07	5.090E-07	4.194E-07	3.057E-09
A	NEAREST COW	NNW	3.50	5634.	4.795E-07	4.720E-07	3.725E-07	8.173E-10
A	NEAREST GARDEN	SW	1.40	2253.	6.167E-07	6.137E-07	5.259E-07	2.480E-09
A	NEAREST GARDEN	WSW	1.30	2092.	5.137E-07	5.111E-07	4.407E-07	1.935E-09
A	NEAREST GARDEN	W	1.00	1609.	7.930E-07	7.902E-07	6.934E-07	3.233E-09
A	NEAREST GARDEN	WNW	1.60	2575.	3.974E-07	3.951E-07	3.352E-07	1.651E-09
A	NEAREST GARDEN	NW	2.70	4345.	2.215E-07	2.193E-07	1.775E-07	7.745E-10
A	NEAREST GARDEN	NNW	1.90	3058.	1.535E-06	1.522E-06	1.274E-06	3.410E-09
A	NEAREST GARDEN	N	3.00	4828.	9.002E-07	8.889E-07	7.125E-07	1.917E-09
A	NEAREST GARDEN	NNE	2.70	4345.	5.245E-07	5.192E-07	4.202E-07	1.473E-09
A	NEAREST GARDEN	ENE	1.70	2736.	3.966E-07	3.938E-07	3.326E-07	1.167E-09
A	NEAREST GARDEN	E	1.80	2897.	4.897E-07	4.863E-07	4.087E-07	1.659E-09
A	NEAREST GARDEN	ESE	2.40	3863.	2.989E-07	2.968E-07	2.427E-07	1.717E-09
A	NEAREST GARDEN	SE	2.20	3541.	5.119E-07	5.090E-07	4.194E-07	3.057E-09

Atmospheric Diffusion Estimates

Ground Level Releases

July-December 1991

VENTS GROUND LEVEL RELEASES - JULY-DEC 1991
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	6.368E-05	2.095E-05	1.116E-05	5.590E-06	2.257E-06	1.227E-06	7.801E-07	5.460E-07	4.076E-07	3.187E-07	2.578E-07
SSW	2.931E-05	9.876E-06	5.224E-06	2.594E-06	1.029E-06	5.527E-07	3.483E-07	2.420E-07	1.796E-07	1.396E-07	1.125E-07
SW	1.580E-05	5.364E-06	2.857E-06	1.422E-06	5.632E-07	3.021E-07	1.902E-07	1.321E-07	9.795E-08	7.613E-08	6.128E-08
WSW	1.196E-05	4.018E-06	2.099E-06	1.035E-06	4.098E-07	2.200E-07	1.387E-07	9.640E-08	7.157E-08	5.569E-08	4.487E-08
W	8.639E-06	2.860E-06	1.498E-06	7.416E-07	2.952E-07	1.590E-07	1.004E-07	6.989E-08	5.195E-08	4.046E-08	3.263E-08
WNW	1.563E-05	5.065E-06	2.650E-06	1.318E-06	5.327E-07	2.898E-07	1.844E-07	1.292E-07	9.648E-08	7.546E-08	6.108E-08
NW	3.599E-05	1.207E-05	6.387E-06	3.182E-06	1.282E-06	6.958E-07	4.420E-07	3.091E-07	2.306E-07	1.802E-07	1.457E-07
NNW	8.559E-05	2.701E-05	1.429E-05	7.196E-06	2.978E-06	1.646E-06	1.059E-06	7.487E-07	5.634E-07	4.434E-07	3.608E-07
N	9.959E-05	3.125E-05	1.674E-05	8.493E-06	3.508E-06	1.936E-06	1.244E-06	8.784E-07	6.604E-07	5.193E-07	4.222E-07
NNE	5.355E-05	1.682E-05	8.982E-06	4.543E-06	1.869E-06	1.029E-06	6.601E-07	4.654E-07	3.495E-07	2.748E-07	2.231E-07
NE	2.120E-05	6.662E-06	3.488E-06	1.745E-06	7.157E-07	3.934E-07	2.523E-07	1.778E-07	1.335E-07	1.049E-07	8.525E-08
ENE	1.690E-05	5.262E-06	2.776E-06	1.397E-06	5.743E-07	3.160E-07	2.028E-07	1.430E-07	1.074E-07	8.437E-08	6.856E-08
E	1.946E-05	6.232E-06	3.307E-06	1.661E-06	6.777E-07	3.711E-07	2.373E-07	1.668E-07	1.250E-07	9.803E-08	7.953E-08
ESE	1.790E-05	5.971E-06	3.201E-06	1.604E-06	6.403E-07	3.455E-07	2.185E-07	1.522E-07	1.132E-07	8.824E-08	7.119E-08
SE	3.931E-05	1.264E-05	6.735E-06	3.391E-06	1.385E-06	7.582E-07	4.848E-07	3.408E-07	2.554E-07	2.002E-07	1.624E-07
SSE	7.243E-05	2.304E-05	1.219E-05	6.129E-06	2.520E-06	1.387E-06	8.901E-07	6.276E-07	4.714E-07	3.704E-07	3.010E-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	2.142E-07	1.119E-07	7.332E-08	4.277E-08	2.933E-08	2.194E-08	1.732E-08	1.420E-08	1.196E-08	1.029E-08	8.994E-09
SSW	9.309E-08	4.790E-08	3.109E-08	1.791E-08	1.219E-08	9.066E-09	7.128E-09	5.823E-09	4.891E-09	4.195E-09	3.659E-09
SW	5.070E-08	2.604E-08	1.688E-08	9.702E-09	6.591E-09	4.895E-09	3.844E-09	3.136E-09	2.631E-09	2.255E-09	1.965E-09
WSW	3.718E-08	1.925E-08	1.255E-08	7.273E-09	4.971E-09	3.709E-09	2.924E-09	2.396E-09	2.015E-09	1.732E-09	1.513E-09
W	2.705E-08	1.400E-08	9.126E-09	5.289E-09	3.615E-09	2.698E-09	2.127E-09	1.742E-09	1.466E-09	1.260E-09	1.101E-09
WNW	5.078E-08	2.657E-08	1.745E-08	1.021E-08	7.019E-09	5.260E-09	4.162E-09	3.417E-09	2.883E-09	2.483E-09	2.173E-09
NW	1.210E-07	6.307E-08	4.129E-08	2.404E-08	1.645E-08	1.228E-08	9.688E-09	7.935E-09	6.679E-09	5.740E-09	5.015E-09
NNW	3.013E-07	1.602E-07	1.063E-07	6.299E-08	4.362E-08	3.287E-08	2.611E-08	2.151E-08	1.820E-08	1.571E-08	1.378E-08
N	3.524E-07	1.868E-07	1.238E-07	7.315E-08	5.055E-08	3.802E-08	3.017E-08	2.482E-08	2.098E-08	1.809E-08	1.585E-08
NNE	1.861E-07	9.852E-08	6.519E-08	3.849E-08	2.660E-08	2.001E-08	1.587E-08	1.306E-08	1.104E-08	9.519E-09	8.341E-09
NE	7.114E-08	3.775E-08	2.503E-08	1.483E-08	1.028E-08	7.752E-09	6.162E-09	5.080E-09	4.300E-09	3.714E-09	3.258E-09
ENE	5.721E-08	3.034E-08	2.010E-08	1.190E-08	8.242E-09	6.211E-09	4.934E-09	4.066E-09	3.440E-09	2.969E-09	2.604E-09
E	6.625E-08	3.493E-08	2.305E-08	1.357E-08	9.360E-09	7.032E-09	5.574E-09	4.584E-09	3.871E-09	3.337E-09	2.923E-09
ESE	5.902E-08	3.057E-08	1.992E-08	1.153E-08	7.871E-09	5.864E-09	4.617E-09	3.775E-09	3.173E-09	2.723E-09	2.377E-09
SE	1.353E-07	7.121E-08	4.694E-08	2.758E-08	1.900E-08	1.426E-08	1.129E-08	9.274E-09	7.827E-09	6.742E-09	5.902E-09
SSE	2.511E-07	1.330E-07	8.801E-08	5.200E-08	3.594E-08	2.704E-08	2.146E-08	1.766E-08	1.493E-08	1.288E-08	1.129E-08

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	1.086E-05	2.540E-06	8.056E-07	4.133E-07	2.597E-07	1.175E-07	4.359E-08	2.206E-08	1.424E-08	1.031E-08
SSW	5.089E-06	1.165E-06	3.603E-07	1.822E-07	1.133E-07	5.047E-08	1.830E-08	9.124E-09	5.841E-09	4.203E-09
SW	2.776E-06	6.380E-07	1.968E-07	9.939E-08	6.176E-08	2.745E-08	9.915E-09	4.927E-09	3.146E-09	2.259E-09
WSW	2.052E-06	4.644E-07	1.435E-07	7.262E-08	4.523E-08	2.026E-08	7.422E-09	3.732E-09	2.401E-09	1.735E-09
W	1.464E-06	3.338E-07	1.033E-07	5.270E-08	3.288E-08	1.473E-08	5.398E-09	2.714E-09	1.747E-09	1.262E-09
WNW	2.595E-06	5.993E-07	1.904E-07	9.781E-08	6.152E-08	2.790E-08	1.040E-08	5.290E-09	3.427E-09	2.487E-09
NW	6.225E-06	1.444E-06	4.565E-07	2.338E-07	1.468E-07	6.627E-08	2.450E-08	1.236E-08	7.957E-09	5.750E-09
NNW	1.396E-05	3.323E-06	1.091E-06	5.706E-07	3.632E-07	1.676E-07	6.400E-08	3.303E-08	2.156E-08	1.573E-08
N	1.630E-05	3.917E-06	1.282E-06	6.689E-07	4.251E-07	1.956E-07	7.435E-08	3.822E-08	2.488E-08	1.812E-08
NNE	8.752E-06	2.090E-06	6.805E-07	3.541E-07	2.247E-07	1.032E-07	3.914E-08	2.011E-08	1.309E-08	9.533E-09
NE	3.419E-06	8.012E-07	2.601E-07	1.353E-07	8.585E-08	3.952E-08	1.507E-08	7.790E-09	5.092E-09	3.719E-09
ENE	2.716E-06	6.423E-07	2.090E-07	1.088E-07	6.904E-08	3.176E-08	1.210E-08	6.242E-09	4.075E-09	2.974E-09
E	3.226E-06	7.600E-07	2.448E-07	1.267E-07	8.009E-08	3.661E-08	1.380E-08	7.070E-09	4.595E-09	3.342E-09
ESE	3.107E-06	7.233E-07	2.259E-07	1.149E-07	7.173E-08	3.216E-08	1.177E-08	5.900E-09	3.786E-09	2.728E-09
SE	6.560E-06	1.552E-06	5.001E-07	2.588E-07	1.636E-07	7.466E-08	2.807E-08	1.433E-08	9.298E-09	6.753E-09
SSE	1.191E-05	2.818E-06	9.176E-07	4.775E-07	3.030E-07	1.392E-07	5.286E-08	2.718E-08	1.771E-08	1.290E-08

VENTS GROUND LEVEL RELEASES - JULY-DEC 1991
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	6.361E-05	2.090E-05	1.112E-05	5.565E-06	2.241E-06	1.215E-06	7.710E-07	5.384E-07	4.010E-07	3.127E-07	2.523E-07
SSW	2.927E-05	9.853E-06	5.206E-06	2.582E-06	1.022E-06	5.475E-07	3.441E-07	2.385E-07	1.766E-07	1.370E-07	1.100E-07
SW	1.578E-05	5.352E-06	2.847E-06	1.416E-06	5.594E-07	2.994E-07	1.881E-07	1.303E-07	9.639E-08	7.474E-08	6.002E-08
WSW	1.194E-05	4.009E-06	2.092E-06	1.030E-06	4.072E-07	2.181E-07	1.372E-07	9.514E-08	7.047E-08	5.470E-08	4.398E-08
W	8.630E-06	2.854E-06	1.493E-06	7.386E-07	2.933E-07	1.576E-07	9.932E-08	6.900E-08	5.117E-08	3.977E-08	3.200E-08
WNW	1.561E-05	5.054E-06	2.641E-06	1.312E-06	5.291E-07	2.871E-07	1.823E-07	1.274E-07	9.491E-08	7.405E-08	5.979E-08
NW	3.595E-05	1.204E-05	6.367E-06	3.169E-06	1.274E-06	6.898E-07	4.372E-07	3.051E-07	2.271E-07	1.771E-07	1.429E-07
NNW	8.548E-05	2.695E-05	1.424E-05	7.161E-06	2.956E-06	1.630E-06	1.046E-06	7.377E-07	5.533E-07	4.347E-07	3.529E-07
N	9.947E-05	3.118E-05	1.668E-05	8.453E-06	3.483E-06	1.917E-06	1.229E-06	8.658E-07	6.493E-07	5.093E-07	4.131E-07
NNE	5.350E-05	1.679E-05	8.953E-06	4.524E-06	1.857E-06	1.020E-06	6.530E-07	4.594E-07	3.442E-07	2.699E-07	2.188E-07
NE	2.117E-05	6.646E-06	3.476E-06	1.737E-06	7.106E-07	3.896E-07	2.493E-07	1.753E-07	1.313E-07	1.029E-07	8.340E-08
ENE	1.688E-05	5.249E-06	2.765E-06	1.390E-06	5.698E-07	3.127E-07	2.001E-07	1.407E-07	1.054E-07	8.261E-08	6.696E-08
E	1.943E-05	6.217E-06	3.295E-06	1.653E-06	6.728E-07	3.675E-07	2.344E-07	1.644E-07	1.229E-07	9.611E-08	7.778E-08
ESE	1.788E-05	5.960E-06	3.192E-06	1.598E-06	6.367E-07	3.428E-07	2.163E-07	1.504E-07	1.117E-07	8.683E-08	6.991E-08
SE	3.926E-05	1.261E-05	6.713E-06	3.376E-06	1.375E-06	7.515E-07	4.794E-07	3.362E-07	2.513E-07	1.966E-07	1.591E-07
SSE	7.234E-05	2.298E-05	1.214E-05	6.098E-06	2.501E-06	1.373E-06	8.789E-07	6.181E-07	4.630E-07	3.628E-07	2.941E-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	2.092E-07	1.079E-07	6.989E-08	3.979E-08	2.664E-08	1.945E-08	1.500E-08	1.201E-08	9.883E-09	8.303E-09	7.091E-09
SSW	9.085E-08	4.617E-08	2.960E-08	1.663E-08	1.104E-08	8.014E-09	6.149E-09	4.903E-09	4.019E-09	3.366E-09	2.866E-09
SW	4.955E-08	2.515E-08	1.611E-08	9.045E-09	6.003E-09	4.356E-09	3.342E-09	2.665E-09	2.185E-09	1.831E-09	1.560E-09
WSW	3.636E-08	1.861E-08	1.200E-08	6.796E-09	4.541E-09	3.313E-09	2.554E-09	2.045E-09	1.683E-09	1.415E-09	1.209E-09
W	2.646E-08	1.355E-08	8.732E-09	4.947E-09	3.306E-09	2.412E-09	1.860E-09	1.489E-09	1.226E-09	1.030E-09	8.804E-10
WNW	4.959E-08	2.563E-08	1.663E-08	9.493E-09	6.368E-09	4.657E-09	3.596E-09	2.882E-09	2.373E-09	1.995E-09	1.705E-09
NW	1.184E-07	6.102E-08	3.951E-08	2.249E-08	1.505E-08	1.099E-08	8.479E-09	6.793E-09	5.593E-09	4.703E-09	4.020E-09
NNW	2.939E-07	1.543E-07	1.011E-07	5.847E-08	3.951E-08	2.905E-08	2.252E-08	1.811E-08	1.495E-08	1.260E-08	1.079E-08
N	3.439E-07	1.802E-07	1.179E-07	6.801E-08	4.588E-08	3.370E-08	2.611E-08	2.098E-08	1.732E-08	1.460E-08	1.250E-08
NNE	1.821E-07	9.533E-08	6.238E-08	3.603E-08	2.435E-08	1.792E-08	1.391E-08	1.120E-08	9.265E-09	7.821E-09	6.709E-09
NE	6.942E-08	3.638E-08	2.382E-08	1.377E-08	9.308E-09	6.847E-09	5.310E-09	4.271E-09	3.528E-09	2.974E-09	2.546E-09
ENE	5.572E-08	2.916E-08	1.907E-08	1.100E-08	7.420E-09	5.448E-09	4.219E-09	3.388E-09	2.795E-09	2.353E-09	2.012E-09
E	6.463E-08	3.365E-08	2.193E-08	1.259E-08	8.475E-09	6.213E-09	4.806E-09	3.857E-09	3.180E-09	2.676E-09	2.289E-09
ESE	5.784E-08	2.964E-08	1.912E-08	1.084E-08	7.242E-09	5.285E-09	4.075E-09	3.265E-09	2.689E-09	2.261E-09	1.934E-09
SE	1.322E-07	6.879E-08	4.481E-08	2.572E-08	1.731E-08	1.269E-08	9.817E-09	7.882E-09	6.502E-09	5.475E-09	4.685E-09
SSE	2.447E-07	1.279E-07	8.357E-08	4.811E-08	3.241E-08	2.377E-08	1.838E-08	1.475E-08	1.216E-08	1.023E-08	8.741E-09

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

DIRECTION FROM SITE	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
	SEGMENT BOUNDARIES IN MILES									
S	1.082E-05	2.524E-06	7.964E-07	4.066E-07	2.542E-07	1.135E-07	4.063E-08	1.959E-08	1.205E-08	8.322E-09
SSW	5.073E-06	1.158E-06	3.561E-07	1.792E-07	1.109E-07	4.872E-08	1.703E-08	8.076E-09	4.922E-09	3.374E-09
SW	2.768E-06	6.341E-07	1.946E-07	9.783E-08	6.050E-08	2.656E-08	9.264E-09	4.390E-09	2.676E-09	1.835E-09
WSW	2.046E-06	4.617E-07	1.419E-07	7.151E-08	4.434E-08	1.962E-08	6.949E-09	3.337E-09	2.053E-09	1.418E-09
W	1.460E-06	3.320E-07	1.027E-07	5.192E-08	3.225E-08	1.428E-08	5.059E-09	2.430E-09	1.495E-09	1.033E-09
WNW	2.587E-06	5.956E-07	1.883E-07	9.624E-08	6.024E-08	2.695E-08	9.690E-09	4.689E-09	2.892E-09	2.000E-09
NW	6.207E-06	1.435E-06	4.518E-07	2.304E-07	1.439E-07	6.421E-08	2.296E-08	1.107E-08	6.817E-09	4.714E-09
NNW	1.392E-05	3.301E-06	1.079E-06	5.610E-07	3.553E-07	1.617E-07	5.952E-08	2.923E-08	1.817E-08	1.263E-08
N	1.625E-05	3.891E-06	1.267E-06	6.578E-07	4.166E-07	1.889E-07	6.926E-08	3.391E-08	2.105E-08	1.463E-08
NNE	8.726E-06	2.078E-06	6.734E-07	3.488E-07	2.203E-07	9.996E-08	3.669E-08	1.803E-08	1.124E-08	7.837E-09
NE	3.408E-06	7.960E-07	2.571E-07	1.330E-07	8.400E-08	3.814E-08	1.402E-08	6.888E-09	4.285E-09	2.980E-09
ENE	2.706E-06	6.378E-07	2.064E-07	1.068E-07	6.744E-08	3.058E-08	1.120E-08	5.482E-09	3.400E-09	2.357E-09
E	3.215E-06	7.550E-07	2.419E-07	1.245E-07	7.834E-08	3.533E-08	1.284E-08	6.253E-09	3.870E-09	2.682E-09
ESE	3.098E-06	7.196E-07	2.237E-07	1.133E-07	7.045E-08	3.123E-08	1.108E-08	5.323E-09	3.277E-09	2.267E-09
SE	6.540E-06	1.543E-06	4.947E-07	2.547E-07	1.603E-07	7.223E-08	2.622E-08	1.277E-08	7.909E-09	5.487E-09
SSE	1.186E-05	2.799E-06	9.063E-07	4.692E-07	2.962E-07	1.342E-07	4.901E-08	2.392E-08	1.480E-08	1.025E-08

VENTS GROUND LEVEL RELEASES - JULY-DEC 1991
8.000 DAY DECAY, DEPLETED
CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

SECTOR	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	6.025E-05	1.912E-05	9.933E-06	4.887E-06	1.913E-06	1.013E-06	6.298E-07	4.320E-07	3.166E-07	2.433E-07	1.937E-07
SSW	2.773E-05	9.013E-06	4.651E-06	2.268E-06	8.723E-07	4.565E-07	2.812E-07	1.914E-07	1.395E-07	1.066E-07	8.451E-08
SW	1.495E-05	4.895E-06	2.543E-06	1.243E-06	4.774E-07	2.495E-07	1.536E-07	1.045E-07	7.608E-08	5.814E-08	4.606E-08
WSW	1.131E-05	3.667E-06	1.869E-06	9.047E-07	3.474E-07	1.818E-07	1.120E-07	7.629E-08	5.560E-08	4.253E-08	3.373E-08
W	8.173E-06	2.610E-06	1.333E-06	6.484E-07	2.502E-07	1.313E-07	8.107E-08	5.531E-08	4.036E-08	3.091E-08	2.453E-08
WNW	1.478E-05	4.622E-06	2.359E-06	1.152E-06	4.515E-07	2.393E-07	1.489E-07	1.022E-07	7.493E-08	5.762E-08	4.590E-08
NW	3.405E-05	1.101E-05	5.687E-06	2.782E-06	1.087E-06	5.748E-07	3.569E-07	2.446E-07	1.792E-07	1.376E-07	1.095E-07
NNW	8.097E-05	2.465E-05	1.272E-05	6.290E-06	2.524E-06	1.359E-06	8.551E-07	5.922E-07	4.375E-07	3.385E-07	2.711E-07
N	9.422E-05	2.852E-05	1.490E-05	7.425E-06	2.973E-06	1.598E-06	1.004E-06	6.949E-07	5.128E-07	3.964E-07	3.173E-07
NNE	5.067E-05	1.535E-05	7.997E-06	3.972E-06	1.584E-06	8.496E-07	5.331E-07	3.683E-07	2.716E-07	2.098E-07	1.678E-07
NE	2.006E-05	6.080E-06	3.105E-06	1.525E-06	6.066E-07	3.249E-07	2.037E-07	1.407E-07	1.037E-07	8.009E-08	6.406E-08
ENE	1.509E-05	4.802E-06	2.471E-06	1.221E-06	4.866E-07	2.609E-07	1.636E-07	1.131E-07	8.335E-08	6.438E-08	5.149E-08
E	1.841E-05	5.687E-06	2.944E-06	1.452E-06	5.744E-07	3.064E-07	1.915E-07	1.320E-07	9.707E-08	7.483E-08	5.975E-08
ESE	1.693E-05	5.450E-06	2.850E-06	1.402E-06	5.429E-07	2.855E-07	1.765E-07	1.205E-07	8.801E-08	6.743E-08	5.355E-08
SE	3.719E-05	1.153E-05	5.996E-06	2.965E-06	1.174E-06	6.263E-07	3.915E-07	2.697E-07	1.984E-07	1.529E-07	1.221E-07
SSE	6.853E-05	2.102E-05	1.085E-05	5.357E-06	2.136E-06	1.145E-06	7.184E-07	4.964E-07	3.660E-07	2.827E-07	2.261E-07

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

BEARING	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	1.586E-07	7.805E-08	4.859E-08	2.605E-08	1.666E-08	1.173E-08	8.765E-09	6.831E-09	5.489E-09	4.514E-09	3.782E-09
SSW	6.892E-08	3.342E-08	2.060E-08	1.090E-08	6.920E-09	4.842E-09	3.603E-09	2.797E-09	2.240E-09	1.838E-09	1.536E-09
SW	3.755E-08	1.818E-08	1.119E-08	5.913E-09	3.748E-09	2.619E-09	1.947E-09	1.511E-09	1.209E-09	9.911E-10	8.279E-10
WSW	2.754E-08	1.344E-08	8.324E-09	4.436E-09	2.829E-09	1.987E-09	1.483E-09	1.155E-09	9.277E-10	7.627E-10	6.389E-10
W	2.004E-08	9.777E-09	6.055E-09	3.227E-09	2.058E-09	1.446E-09	1.079E-09	8.406E-10	6.751E-10	5.551E-10	4.649E-10
WNW	3.760E-08	1.854E-08	1.156E-08	6.218E-09	3.987E-09	2.811E-09	2.105E-09	1.643E-09	1.322E-09	1.088E-09	9.127E-10
NW	8.965E-08	4.405E-08	2.740E-08	1.467E-08	9.365E-09	6.583E-09	4.917E-09	3.831E-09	3.077E-09	2.530E-09	2.120E-09
NNW	2.230E-07	1.117E-07	7.040E-08	3.835E-08	2.476E-08	1.755E-08	1.320E-08	1.033E-08	8.338E-09	6.881E-09	5.783E-09
N	2.609E-07	1.304E-07	8.200E-08	4.455E-08	2.871E-08	2.032E-08	1.526E-08	1.194E-08	9.622E-09	7.935E-09	6.664E-09
NNE	1.379E-07	6.881E-08	4.325E-08	2.349E-08	1.515E-08	1.073E-08	8.058E-09	6.307E-09	5.087E-09	4.198E-09	3.527E-09
NE	5.266E-08	2.634E-08	1.658E-08	9.028E-09	5.835E-09	4.139E-09	3.114E-09	2.440E-09	1.969E-09	1.626E-09	1.367E-09
ENE	4.233E-08	2.115E-08	1.331E-08	7.235E-09	4.671E-09	3.310E-09	2.488E-09	1.947E-09	1.571E-09	1.296E-09	1.089E-09
E	4.904E-08	2.436E-08	1.527E-08	8.258E-09	5.313E-09	3.755E-09	2.817E-09	2.202E-09	1.773E-09	1.462E-09	1.227E-09
ESE	4.374E-08	2.136E-08	1.323E-08	7.045E-09	4.488E-09	3.149E-09	2.348E-09	1.827E-09	1.466E-09	1.204E-09	1.003E-09
SE	1.002E-07	4.971E-08	3.112E-08	1.681E-08	1.080E-08	7.628E-09	5.718E-09	4.467E-09	3.596E-09	2.963E-09	2.486E-09
SSE	1.858E-07	9.271E-08	5.826E-08	3.162E-08	2.038E-08	1.442E-08	1.083E-08	8.467E-09	6.823E-09	5.626E-09	4.723E-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	9.732E-06	2.174E-06	6.529E-07	3.216E-07	1.744E-07	8.286E-08	2.689E-08	1.186E-08	6.872E-09	4.532E-09
SSW	4.561E-06	9.976E-07	2.920E-07	1.418E-07	8.528E-08	3.561E-08	1.129E-08	4.900E-09	2.815E-09	1.853E-09
SW	2.488E-06	5.463E-07	1.595E-07	7.737E-08	4.649E-08	1.938E-08	6.124E-09	2.651E-09	1.520E-09	9.952E-10
WSW	1.840E-06	3.976E-07	1.163E-07	5.653E-08	3.405E-08	1.430E-08	4.586E-09	2.010E-09	1.162E-09	7.657E-10
W	1.313E-06	2.870E-07	8.416E-08	4.103E-08	2.476E-08	1.040E-08	3.336E-09	1.463E-09	8.458E-10	5.572E-10
WNW	2.325E-06	5.130E-07	1.543E-07	7.612E-08	4.630E-08	1.967E-08	6.414E-09	2.842E-09	1.652E-09	1.092E-09
NW	5.580E-06	1.236E-06	3.701E-07	1.821E-07	1.105E-07	4.678E-08	1.514E-08	6.659E-09	3.854E-09	2.540E-09
NNW	1.251E-05	2.843E-06	8.843E-07	4.440E-07	2.732E-07	1.181E-07	3.943E-08	1.773E-08	1.039E-08	6.906E-09
N	1.461E-05	3.351E-06	1.039E-06	5.205E-07	3.198E-07	1.379E-07	4.583E-08	2.053E-08	1.200E-08	7.964E-09
NNE	7.843E-06	1.788E-06	5.516E-07	2.757E-07	1.691E-07	7.280E-08	2.417E-08	1.084E-08	6.343E-09	4.213E-09
NE	3.064E-06	6.856E-07	2.108E-07	1.053E-07	6.459E-08	2.785E-08	9.287E-09	4.181E-09	2.453E-09	1.632E-09
ENE	2.434E-06	5.495E-07	1.693E-07	8.461E-08	5.192E-08	2.237E-08	7.444E-09	3.344E-09	1.958E-09	1.301E-09
E	2.891E-06	6.504E-07	1.983E-07	9.856E-08	6.025E-08	2.580E-08	8.506E-09	3.795E-09	2.214E-09	1.467E-09
ESE	2.784E-06	6.194E-07	1.832E-07	8.946E-08	5.403E-08	2.272E-08	7.283E-09	3.186E-09	1.838E-09	1.209E-09
SE	5.879E-06	1.328E-06	4.054E-07	2.014E-07	1.231E-07	5.266E-08	1.732E-08	7.710E-09	4.493E-09	2.974E-09
SSE	1.067E-05	2.411E-06	7.434E-07	3.715E-07	2.279E-07	9.808E-08	3.254E-08	1.457E-08	8.514E-09	5.646E-09

VENTS GROUND LEVEL RELEASES

CORRECTED FOR OPEN TERRAIN RECI

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

DISTANCES IN MILES

DIRECTION FROM SITE	0.25	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
[illegible]	.442E-07	8.257E-08	4.[illegible]E-08	2.0[illegible]E-08	7.240E-09	3.591E-09	2.114E-09	1.384E-09	9.741E-10	[illegible].219E-10	5.563E-10
SSW	.256E-07	4.246E-08	2.1[illegible]E-08	1.036E-08	3.723E-09	1.846E-09	1.087E-09	7.118E-10	5.009E-10	3.712E-10	2.860E-10
SW	6.842E-08	2.314E-08	1.1[illegible]E-08	5.648E-09	2.029E-09	1.006E-09	5.924E-10	3.879E-10	2.729E-10	2.023E-10	1.559E-10
WSW	5.771E-08	1.951E-08	1.00[illegible]E-08	4.764E-09	1.711E-09	8.486E-10	4.997E-10	3.272E-10	2.302E-10	1.706E-10	1.315E-10
W	4.265E-08	1.442E-08	7.405E-09	3.520E-09	1.265E-09	6.271E-10	3.693E-10	2.418E-10	1.701E-10	1.261E-10	9.716E-11
WNW	6.901E-08	2.334E-08	1.198E-08	5.696E-09	2.046E-09	1.015E-09	5.975E-10	3.912E-10	2.753E-10	2.040E-10	1.572E-10
NW	1.675E-07	5.664E-08	2.908E-08	1.383E-08	4.966E-09	2.463E-09	1.450E-09	9.496E-10	6.682E-10	4.952E-10	3.816E-10
NNW	2.568E-07	8.685E-08	4.459E-08	2.120E-08	7.615E-09	3.776E-09	2.224E-09	1.456E-09	1.025E-09	7.593E-10	5.851E-10
N	3.334E-07	1.128E-07	5.789E-08	2.752E-08	9.886E-09	4.903E-09	2.887E-09	1.890E-09	1.330E-09	9.857E-10	7.596E-10
NNE	2.089E-07	7.064E-08	3.627E-08	1.724E-08	6.194E-09	3.072E-09	1.809E-09	1.184E-09	8.334E-10	6.176E-10	4.759E-10
NE	7.843E-08	2.652E-08	1.362E-08	6.474E-09	2.326E-09	1.153E-09	6.791E-10	4.447E-10	3.129E-10	2.319E-10	1.787E-10
ENE	4.964E-08	1.679E-08	8.619E-09	4.097E-09	1.472E-09	7.299E-10	4.298E-10	2.814E-10	1.980E-10	1.467E-10	1.131E-10
E	6.781E-08	2.293E-08	1.177E-08	5.597E-09	2.011E-09	9.971E-10	5.871E-10	3.844E-10	2.705E-10	2.005E-10	1.545E-10
ESE	1.148E-07	3.880E-08	1.992E-08	9.472E-09	3.402E-09	1.687E-09	9.935E-10	6.506E-10	4.578E-10	3.392E-10	2.614E-10
SE	1.826E-07	6.173E-08	3.170E-08	1.507E-08	5.413E-09	2.684E-09	1.581E-09	1.035E-09	7.283E-10	5.397E-10	4.159E-10
SSE	2.486E-07	8.408E-08	4.317E-08	2.052E-08	7.372E-09	3.656E-09	2.153E-09	1.410E-09	9.919E-10	7.351E-10	5.665E-10

DISTANCES IN MILES

DIRECTION FROM SITE	5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
S	4.420E-10	1.963E-10	1.189E-10	6.011E-11	3.638E-11	2.439E-11	1.748E-11	1.313E-11	1.021E-11	8.152E-12	6.654E-12
SSW	2.272E-10	1.010E-10	6.115E-11	3.091E-11	1.871E-11	1.254E-11	8.988E-12	6.749E-12	5.247E-12	4.192E-12	3.421E-12
SW	1.238E-10	5.501E-11	3.332E-11	1.684E-11	1.019E-11	6.835E-12	4.898E-12	3.678E-12	2.859E-12	2.284E-12	1.864E-12
WSW	1.044E-10	4.640E-11	2.811E-11	1.421E-11	8.599E-12	5.765E-12	4.131E-12	3.102E-12	2.412E-12	1.927E-12	1.573E-12
W	7.719E-11	3.429E-11	2.077E-11	1.050E-11	6.355E-12	4.261E-12	3.053E-12	2.292E-12	1.782E-12	1.424E-12	1.162E-12
WNW	1.249E-10	5.548E-11	3.361E-11	1.699E-11	1.028E-11	6.894E-12	4.940E-12	3.709E-12	2.884E-12	2.304E-12	1.880E-12
NW	3.031E-10	1.347E-10	8.158E-11	4.123E-11	2.496E-11	1.673E-11	1.199E-11	9.003E-12	7.000E-12	5.592E-12	4.564E-12
NNW	4.648E-10	2.065E-10	1.251E-10	6.322E-11	3.827E-11	2.566E-11	1.838E-11	1.380E-11	1.073E-11	8.574E-12	6.998E-12
N	6.035E-10	2.681E-10	1.624E-10	8.208E-11	4.968E-11	3.331E-11	2.387E-11	1.792E-11	1.393E-11	1.113E-11	9.086E-12
NNE	3.781E-10	1.680E-10	1.017E-10	5.143E-11	3.113E-11	2.087E-11	1.495E-11	1.123E-11	8.731E-12	6.974E-12	5.693E-12
NE	1.420E-10	6.306E-11	3.820E-11	1.931E-11	1.169E-11	7.835E-12	5.614E-12	4.216E-12	3.278E-12	2.618E-12	2.137E-12
ENE	8.984E-11	3.991E-11	2.418E-11	1.222E-11	7.396E-12	4.959E-12	3.553E-12	2.668E-12	2.075E-12	1.657E-12	1.353E-12
E	1.227E-10	5.452E-11	3.303E-11	1.669E-11	1.010E-11	6.774E-12	4.854E-12	3.645E-12	2.834E-12	2.264E-12	1.848E-12
ESE	2.077E-10	9.226E-11	5.589E-11	2.825E-11	1.710E-11	1.146E-11	8.214E-12	6.168E-12	4.796E-12	3.831E-12	3.127E-12
SE	3.304E-10	1.468E-10	8.892E-11	4.494E-11	2.720E-11	1.824E-11	1.307E-11	9.813E-12	7.630E-12	6.095E-12	4.975E-12
SSE	4.500E-10	1.999E-10	1.211E-10	6.121E-11	3.705E-11	2.484E-11	1.780E-11	1.336E-11	1.039E-11	8.301E-12	6.775E-12

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

SEGMENT BOUNDARIES IN MILES

DIRECTION FROM SITE	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	4.144E-08	8.488E-09	2.216E-09	9.952E-10	5.630E-10	2.165E-10	6.264E-11	2.483E-11	1.326E-11	8.205E-12
SSW	2.131E-08	4.365E-09	1.139E-09	5.117E-10	2.895E-10	1.113E-10	3.221E-11	1.276E-11	6.817E-12	4.219E-12
SW	1.161E-08	2.378E-09	6.209E-10	2.789E-10	1.578E-10	6.067E-11	1.755E-11	6.956E-12	3.715E-12	2.299E-12
WSW	9.794E-09	2.006E-09	5.237E-10	2.352E-10	1.331E-10	5.117E-11	1.480E-11	5.867E-12	3.133E-12	1.939E-12
W	7.238E-09	1.483E-09	3.870E-10	1.738E-10	9.833E-11	3.782E-11	1.094E-11	4.336E-12	2.315E-12	1.433E-12
WNW	1.171E-08	2.399E-09	6.262E-10	2.813E-10	1.591E-10	6.119E-11	1.770E-11	7.016E-12	3.747E-12	2.319E-12
NW	2.843E-08	5.822E-09	1.520E-09	6.827E-10	3.862E-10	1.485E-10	4.296E-11	1.703E-11	9.093E-12	5.628E-12
NNW	4.358E-08	8.928E-09	2.331E-09	1.047E-09	5.922E-10	2.277E-10	6.588E-11	2.611E-11	1.394E-11	8.630E-12
N	5.659E-08	1.159E-08	3.026E-09	1.359E-09	7.688E-10	2.956E-10	8.553E-11	3.390E-11	1.810E-11	1.120E-11
NNE	3.545E-08	7.262E-09	1.896E-09	8.515E-10	4.817E-10	1.852E-10	5.359E-11	2.124E-11	1.134E-11	7.020E-12
NE	1.331E-08	2.726E-09	7.118E-10	3.197E-10	1.808E-10	6.954E-11	2.012E-11	7.974E-12	4.258E-12	2.636E-12
ENE	8.424E-09	1.726E-09	4.505E-10	2.023E-10	1.145E-10	4.401E-11	1.273E-11	5.047E-12	2.695E-12	1.668E-12
E	1.151E-08	2.357E-09	6.154E-10	2.764E-10	1.563E-10	6.012E-11	1.739E-11	6.894E-12	3.681E-12	2.279E-12
ESE	1.947E-08	3.989E-09	1.041E-09	4.677E-10	2.646E-10	1.017E-10	2.944E-11	1.167E-11	6.230E-12	3.856E-12
SE	3.098E-08	6.346E-09	1.657E-09	7.441E-10	4.209E-10	1.619E-10	4.683E-11	1.856E-11	9.911E-12	6.135E-12
SSE	4.220E-08	8.643E-09	2.256E-09	1.013E-09	5.733E-10	2.205E-10	6.378E-11	2.528E-11	1.350E-11	8.355E-12

VENTS GROUND LEVEL RELEASES - JULY-DEC 1991
CORRECTED FOR OPEN TERRAIN RECIRCULATION
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE (MILES)	DISTANCE (METERS)	X/Q (SEC/CUB.METER) NO DECAY	X/Q (SEC/CUB.METER) 2.260 DAY DECAY	X/Q (SEC/CUB.METER) 8.000 DAY DECAY	D/Q (PER SQ.METER)
					UNDEPLETED	UNDEPLETED	DEPLETED	
A	SITE BOUNDARY	S	0.80	1287.	9.586E-06	9.551E-06	8.502E-06	3.606E-08
A	SITE BOUNDARY	SSW	0.82	1327.	4.151E-06	4.135E-06	3.675E-06	1.711E-08
A	SITE BOUNDARY	SW	0.98	1569.	1.509E-06	1.502E-06	1.321E-06	6.027E-09
A	SITE BOUNDARY	WSW	0.93	1489.	1.248E-06	1.243E-06	1.097E-06	5.821E-09
A	SITE BOUNDARY	W	0.91	1468.	9.249E-07	9.215E-07	8.137E-07	4.463E-09
A	SITE BOUNDARY	WNW	0.94	1509.	1.534E-06	1.528E-06	1.347E-06	6.724E-09
A	SITE BOUNDARY	NW	0.81	1307.	5.273E-06	5.255E-06	4.672E-06	2.375E-08
A	SITE BOUNDARY	NNW	0.69	1106.	1.633E-05	1.628E-05	1.461E-05	5.164E-08
A	SITE BOUNDARY	N	0.67	1086.	1.961E-05	1.955E-05	1.756E-05	6.913E-08
A	SITE BOUNDARY	NNE	0.60	965.	1.264E-05	1.261E-05	1.141E-05	5.249E-08
A	SITE BOUNDARY	NE	0.62	1005.	4.645E-06	4.631E-06	4.177E-06	1.852E-08
A	SITE BOUNDARY	ENE	0.59	945.	4.062E-06	4.050E-06	3.669E-06	1.291E-08
A	SITE BOUNDARY	E	0.53	845.	5.751E-06	5.736E-06	5.232E-06	2.117E-08
A	SITE BOUNDARY	ESE	0.54	865.	5.321E-06	5.310E-06	4.834E-06	3.449E-08
A	SITE BOUNDARY	SE	0.65	1046.	8.376E-06	8.353E-06	7.517E-06	4.031E-08
A	SITE BOUNDARY	SSE	0.81	1307.	1.009E-05	1.004E-05	8.935E-06	3.525E-08
A	NEAR. RESIDENCE	SW	1.40	2253.	6.565E-07	6.523E-07	5.596E-07	2.407E-09
A	NEAR. RESIDENCE	WSW	1.30	2092.	5.644E-07	5.613E-07	4.840E-07	2.443E-09
A	NEAR. RESIDENCE	W	1.00	1609.	7.416E-07	7.386E-07	6.484E-07	3.520E-09
A	NEAR. RESIDENCE	WNW	1.60	2575.	4.637E-07	4.603E-07	3.909E-07	1.746E-09
A	NEAR. RESIDENCE	NW	0.90	1448.	4.096E-06	4.080E-06	3.606E-06	1.817E-08
A	NEAR. RESIDENCE	NNW	1.90	3058.	1.826E-06	1.809E-06	1.515E-06	4.273E-09
A	NEAR. RESIDENCE	N	3.00	4828.	8.784E-07	8.658E-07	6.949E-07	1.890E-09
A	NEAR. RESIDENCE	NNE	2.70	4345.	5.688E-07	5.622E-07	4.555E-07	1.511E-09
A	NEAR. RESIDENCE	ENE	1.70	2736.	4.414E-07	4.375E-07	3.700E-07	1.082E-09
A	NEAR. RESIDENCE	E	1.80	2897.	4.612E-07	4.572E-07	3.847E-07	1.286E-09
A	NEAR. RESIDENCE	ESE	2.00	3219.	3.455E-07	3.428E-07	2.855E-07	1.687E-09
A	NEAR. RESIDENCE	SE	2.20	3541.	6.250E-07	6.189E-07	5.114E-07	2.137E-09
A	NEAREST COW	NNW	3.50	5634.	5.631E-07	5.535E-07	4.373E-07	1.024E-09
A	NEAREST GARDEN	SW	1.40	2253.	6.565E-07	6.523E-07	5.596E-07	2.407E-09
A	NEAREST GARDEN	WSW	1.30	2092.	5.644E-07	5.613E-07	4.840E-07	2.443E-09
A	NEAREST GARDEN	W	1.00	1609.	7.416E-07	7.386E-07	6.484E-07	3.520E-09
A	NEAREST GARDEN	WNW	1.60	2575.	4.637E-07	4.603E-07	3.909E-07	1.746E-09
A	NEAREST GARDEN	NW	2.70	4345.	3.796E-07	3.752E-07	3.040E-07	1.212E-09
A	NEAREST GARDEN	NNW	1.90	3058.	1.826E-06	1.809E-06	1.515E-06	4.273E-09
A	NEAREST GARDEN	N	3.00	4828.	8.784E-07	8.658E-07	6.949E-07	1.890E-09
A	NEAREST GARDEN	NNE	2.70	4345.	5.688E-07	5.622E-07	4.555E-07	1.511E-09
A	NEAREST GARDEN	ENE	1.70	2736.	4.414E-07	4.375E-07	3.700E-07	1.082E-09
A	NEAREST GARDEN	E	1.80	2897.	4.612E-07	4.572E-07	3.847E-07	1.286E-09
A	NEAREST GARDEN	ESE	2.40	3863.	2.372E-07	2.350E-07	1.924E-07	1.093E-09
A	NEAREST GARDEN	SE	2.20	3541.	6.250E-07	6.189E-07	5.114E-07	2.137E-09

Atmospheric Diffusion Estimates

Ground Level Releases

January-December 1991

VENTS GROUND LEVEL RELEASES - JAN-DEC 1991
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	5.877E-05	1.97[illegible]E-05	1.032E-05	5.173E-06	2.078E-06	1.125E-06	7.134E-07	4.982E-07	3.712E-07	2.897E-07	2.340E-07
SSW	2.809E-05	9.424E-06	4.960E-06	2.[illegible]38E-06	9.750E-07	5.237E-07	3.30[illegible]07	2.293E-07	1.702E-07	1.323E-07	1.066E-07
SW	1.690E-05	5.638E-06	2.963E-06	1.469E-06	5.845E-07	3.147E-07	1.98[illegible]07	1.383E-07	1.028E-07	8.003E-08	6.453E-08
WSW	1.478E-05	4.931E-06	2.582E-06	1.276E-06 [illegible]9E-07	2.707E-07	1.704E-07	1.184E-07	8.778E-08	6.824E-08	5.495E-08
W	1.081E-05	3.574E-06	1.873E-06	9.267E-07 [illegible]4E-07	1.955E-07	1.228E-07	8.512E-08	6.304E-08	4.894E-08	3.936E-08
WNW	1.688E-05	5.631E-06	2.954E-06	1.462E-06 [illegible]794E-07	3.109E-07	1.958E-07	1.360E-07	1.009E-07	7.841E-08	6.313E-08
NW	4.131E-05	1.377E-05	7.274E-06	3.621E-06	1.453E-06	7.865E-07	4.985E-07	3.481E-07	2.593E-07	2.023E-07	1.634E-07
NNW	8.523E-05	2.715E-05	1.437E-05	7.223E-06	2.969E-06	1.634E-06	1.048E-06	7.391E-07	5.551E-07	4.361E-07	3.543E-07
N	8.831E-05	2.811E-05	1.506E-05	7.615E-06	3.123E-06	1.715E-06	1.099E-06	7.737E-07	5.804E-07	4.555E-07	3.698E-07
NNE	5.076E-05	1.634E-05	8.794E-06	4.445E-06	1.807E-06	9.864E-07	6.292E-07	4.415E-07	3.303E-07	2.586E-07	2.095E-07
NE	2.116E-05	6.813E-06	3.597E-06	1.800E-06	7.284E-07	3.967E-07	2.527E-07	1.771E-07	1.323E-07	1.035E-07	8.384E-08
ENE	1.723E-05	5.499E-06	2.915E-06	1.464E-06	5.956E-07	3.254E-07	2.077E-07	1.458E-07	1.091E-07	8.548E-08	6.928E-08
E	1.568E-05	5.120E-06	2.735E-06	1.373E-06	5.532E-07	3.003E-07	1.907E-07	1.334E-07	9.952E-08	7.795E-08	6.287E-08
ESE	1.478E-05	4.947E-06	2.649E-06	1.325E-06	5.263E-07	2.829E-07	1.784E-07	1.241E-07	9.213E-08	7.168E-08	5.775E-08
SE	3.248E-05	1.058E-05	5.682E-06	2.864E-06	1.158E-06	6.301E-07	4.009E-07	2.807E-07	2.096E-07	1.639E-07	1.326E-07
SSE	5.519E-05	1.771E-05	9.354E-06	4.688E-06	1.913E-06	1.047E-06	6.695E-07	4.706E-07	3.526E-07	2.765E-07	2.243E-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	1.942E-07	1.009E-07	6.595E-08	3.831E-08	2.620E-08	1.955E-08	1.542E-08	1.262E-08	1.062E-08	9.125E-09	7.970E-09
SSW	8.824E-08	4.543E-08	2.950E-08	1.701E-08	1.158E-08	8.621E-09	6.782E-09	5.543E-09	4.657E-09	3.997E-09	3.487E-09
SW	5.347E-08	2.765E-08	1.801E-08	1.043E-08	7.120E-09	5.310E-09	4.184E-09	3.424E-09	2.880E-09	2.474E-09	2.161E-09
WSW	4.549E-08	2.344E-08	1.523E-08	8.795E-09	6.001E-09	4.472E-09	3.522E-09	2.881E-09	2.423E-09	2.081E-09	1.817E-09
W	3.254E-08	1.668E-08	1.080E-08	6.206E-09	4.225E-09	3.143E-09	2.472E-09	2.020E-09	1.698E-09	1.457E-09	1.271E-09
WNW	5.275E-08	2.688E-08	1.745E-08	1.005E-08	6.837E-09	5.085E-09	3.999E-09	3.267E-09	2.744E-09	2.355E-09	2.054E-09
NW	1.356E-07	7.044E-08	4.601E-08	2.671E-08	1.825E-08	1.362E-08	1.073E-08	8.785E-09	7.391E-09	6.350E-09	5.546E-09
NNW	2.956E-07	1.565E-07	1.035E-07	6.114E-08	4.224E-08	3.177E-08	2.521E-08	2.074E-08	1.753E-08	1.512E-08	1.325E-08
N	3.082E-07	1.626E-07	1.074E-07	6.320E-08	4.356E-08	3.270E-08	2.590E-08	2.129E-08	1.797E-08	1.548E-08	1.356E-08
NNE	1.744E-07	9.144E-08	6.012E-08	3.520E-08	2.419E-08	1.812E-08	1.433E-08	1.176E-08	9.913E-09	8.531E-09	7.462E-09
NE	6.974E-08	3.657E-08	2.404E-08	1.409E-08	9.690E-09	7.264E-09	5.748E-09	4.721E-09	3.983E-09	3.430E-09	3.002E-09
ENE	5.767E-08	3.031E-08	1.996E-08	1.172E-08	8.073E-09	6.058E-09	4.798E-09	3.943E-09	3.328E-09	2.868E-09	2.511E-09
E	5.223E-08	2.724E-08	1.784E-08	1.040E-08	7.132E-09	5.333E-09	4.211E-09	3.452E-09	2.908E-09	2.501E-09	2.186E-09
ESE	4.783E-08	2.468E-08	1.604E-08	9.258E-09	6.306E-09	4.692E-09	3.690E-09	3.015E-09	2.532E-09	2.172E-09	1.894E-09
SE	1.102E-07	5.752E-08	3.770E-08	2.198E-08	1.506E-08	1.125E-08	8.884E-09	7.280E-09	6.150E-09	5.270E-09	4.605E-09
SSE	1.868E-07	9.841E-08	6.491E-08	3.818E-08	2.633E-08	1.977E-08	1.567E-08	1.288E-08	1.088E-08	9.377E-09	8.213E-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	1.004E-05	2.342E-06	7.371E-07	3.765E-07	2.358E-07	1.061E-07	3.907E-08	1.967E-08	1.266E-08	9.140E-09
SSW	4.840E-06	1.104E-06	3.414E-07	1.727E-07	1.074E-07	4.786E-08	1.737E-08	8.676E-09	5.560E-09	4.004E-09
SW	2.893E-06	6.611E-07	2.055E-07	1.043E-07	6.503E-08	2.911E-08	1.064E-08	5.342E-09	3.434E-09	2.479E-09
WSW	2.524E-06	5.723E-07	1.764E-07	8.907E-08	5.538E-08	2.469E-08	8.984E-09	4.500E-09	2.890E-09	2.085E-09
W	1.830E-06	4.146E-07	1.271E-07	6.398E-08	3.967E-08	1.759E-08	6.346E-09	3.163E-09	2.027E-09	1.459E-09
WNW	2.886E-06	6.563E-07	2.026E-07	1.023E-07	6.363E-08	2.832E-08	1.026E-08	5.118E-09	3.277E-09	2.359E-09
NW	7.094E-06	1.639E-06	5.151E-07	2.630E-07	1.647E-07	7.407E-08	2.724E-08	1.370E-08	8.811E-09	6.361E-09
NNW	1.403E-05	3.321E-06	1.081E-06	5.623E-07	3.568E-07	1.638E-07	6.216E-08	3.194E-08	2.080E-08	1.514E-08
N	1.465E-05	3.496E-06	1.133E-06	5.881E-07	3.724E-07	1.704E-07	6.429E-08	3.288E-08	2.134E-08	1.551E-08
NNE	8.538E-06	2.028E-06	6.494E-07	3.348E-07	2.111E-07	9.595E-08	3.585E-08	1.822E-08	1.179E-08	8.544E-09
NE	3.513E-06	8.190E-07	2.608E-07	1.342E-07	8.446E-08	3.837E-08	1.434E-08	7.305E-09	4.733E-09	3.435E-09
ENE	2.845E-06	6.686E-07	2.143E-07	1.106E-07	6.978E-08	3.179E-08	1.193E-08	6.091E-09	3.956E-09	2.872E-09
E	2.660E-06	6.230E-07	1.970E-07	1.009E-07	6.334E-08	2.862E-08	1.060E-08	5.364E-09	3.462E-09	2.505E-09
ESE	2.571E-06	5.956E-07	1.846E-07	9.347E-08	5.821E-08	2.599E-08	9.454E-09	4.722E-09	3.024E-09	2.176E-09
SE	5.518E-06	1.303E-06	4.139E-07	2.125E-07	1.335E-07	6.041E-08	2.240E-08	1.132E-08	7.300E-09	5.278E-09
SSE	9.137E-06	2.145E-06	6.907E-07	3.573E-07	2.259E-07	1.032E-07	3.885E-08	1.988E-08	1.292E-08	9.391E-09

VENTS GROUND LEVEL RELEASES - JAN-DEC 1991
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	5.867E-05	1.928E-05	1.027E-05	5.141E-06	2.058E-06	1.111E-06	7.021E-07	4.887E-07	3.630E-07	2.823E-07	2.273E-07
SSW	2.805E-05	9.394E-06	4.936E-06	2.442E-06	9.654E-07	5.168E-07	3.246E-07	2.248E-07	1.662E-07	1.289E-07	1.034E-07
SW	1.688E-05	5.620E-06	2.949E-06	1.459E-06	5.788E-07	3.106E-07	1.955E-07	1.356E-07	1.004E-07	7.794E-08	6.263E-08
WSW	1.476E-05	4.916E-06	2.571E-06	1.269E-06	5.003E-07	2.675E-07	1.678E-07	1.162E-07	8.590E-08	6.657E-08	5.343E-08
W	1.080E-05	3.564E-06	1.865E-06	9.216E-07	3.624E-07	1.933E-07	1.211E-07	8.367E-08	6.178E-08	4.782E-08	3.834E-08
WNW	1.686E-05	5.616E-06	2.942E-06	1.454E-06	5.745E-07	3.074E-07	1.930E-07	1.336E-07	9.883E-08	7.660E-08	6.149E-08
NW	4.125E-05	1.373E-05	7.243E-06	3.601E-06	1.440E-06	7.774E-07	4.913E-07	3.420E-07	2.540E-07	1.976E-07	1.591E-07
NNW	8.508E-05	2.706E-05	1.430E-05	7.175E-06	2.940E-06	1.612E-06	1.031E-06	7.244E-07	5.422E-07	4.246E-07	3.438E-07
N	8.817E-05	2.802E-05	1.499E-05	7.568E-06	3.094E-06	1.694E-06	1.082E-06	7.592E-07	5.677E-07	4.441E-07	3.594E-07
NNE	5.069E-05	1.629E-05	8.757E-06	4.420E-06	1.791E-06	9.751E-07	6.202E-07	4.339E-07	3.237E-07	2.527E-07	2.041E-07
NE	2.113E-05	6.793E-06	3.580E-06	1.789E-06	7.216E-07	3.918E-07	2.487E-07	1.737E-07	1.294E-07	1.009E-07	8.145E-08
ENE	1.720E-05	5.480E-06	2.901E-06	1.454E-06	5.895E-07	3.210E-07	2.041E-07	1.428E-07	1.065E-07	8.316E-08	6.717E-08
E	1.566E-05	5.105E-06	2.723E-06	1.365E-06	5.580E-07	2.965E-07	1.877E-07	1.309E-07	9.732E-08	7.578E-08	6.108E-08
ESE	1.476E-05	4.934E-06	2.639E-06	1.318E-06	5.223E-07	2.800E-07	1.761E-07	1.221E-07	9.045E-08	7.018E-08	5.639E-08
SE	3.243E-05	1.055E-05	5.656E-06	2.847E-06	1.147E-06	6.222E-07	3.946E-07	2.754E-07	2.050E-07	1.597E-07	1.288E-07
SSE	5.510E-05	1.765E-05	9.308E-06	4.657E-06	1.893E-06	1.033E-06	6.582E-07	4.611E-07	3.443E-07	2.690E-07	2.175E-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	1.880E-07	9.614E-08	6.181E-08	3.479E-08	2.306E-08	1.670E-08	1.278E-08	1.017E-08	8.315E-09	6.948E-09	5.905E-09
SSW	8.533E-08	4.320E-08	2.759E-08	1.539E-08	1.015E-08	7.323E-09	5.587E-09	4.431E-09	3.615E-09	3.014E-09	2.556E-09
SW	5.173E-08	2.631E-08	1.686E-08	9.451E-09	6.256E-09	4.524E-09	3.459E-09	2.749E-09	2.247E-09	1.876E-09	1.594E-09
WSW	4.029E-08	2.236E-08	1.431E-08	8.010E-09	5.304E-09	3.838E-09	2.937E-09	2.336E-09	1.911E-09	1.597E-09	1.358E-09
W	3.161E-08	1.596E-08	1.018E-08	5.682E-09	3.758E-09	2.718E-09	2.080E-09	1.654E-09	1.353E-09	1.132E-09	9.623E-10
WNW	5.074E-08	2.571E-08	1.644E-08	9.195E-09	6.080E-09	4.396E-09	3.363E-09	2.674E-09	2.187E-09	1.828E-09	1.555E-09
NW	1.317E-07	6.736E-08	4.335E-08	2.444E-08	1.623E-08	1.177E-08	9.022E-09	7.187E-09	5.888E-09	4.928E-09	4.195E-09
NNW	2.858E-07	1.488E-07	9.685E-08	5.536E-08	3.706E-08	2.703E-08	2.081E-08	1.662E-08	1.365E-08	1.144E-08	9.751E-09
N	2.986E-07	1.551E-07	1.008E-07	5.757E-08	3.852E-08	2.809E-08	2.163E-08	1.729E-08	1.421E-08	1.192E-08	1.017E-08
NNE	1.694E-07	8.754E-08	5.674E-08	3.230E-08	2.160E-08	1.575E-08	1.213E-08	9.704E-09	7.979E-09	6.701E-09	5.721E-09
NE	6.753E-08	3.484E-08	2.254E-08	1.280E-08	8.537E-09	6.211E-09	4.772E-09	3.808E-09	3.123E-09	2.616E-09	2.229E-09
ENE	5.572E-08	2.879E-08	1.864E-08	1.059E-08	7.063E-09	5.137E-09	3.945E-09	3.146E-09	2.579E-09	2.159E-09	1.838E-09
E	5.058E-08	2.596E-08	1.674E-08	9.458E-09	6.292E-09	4.568E-09	3.505E-09	2.793E-09	2.289E-09	1.916E-09	1.631E-09
ESE	4.658E-08	2.371E-08	1.521E-08	8.545E-09	5.673E-09	4.116E-09	3.158E-09	2.519E-09	2.066E-09	1.732E-09	1.477E-09
SE	1.067E-07	5.481E-08	3.534E-08	1.998E-08	1.328E-08	9.637E-09	7.389E-09	5.886E-09	4.821E-09	4.034E-09	3.433E-09
SSE	1.805E-07	9.347E-08	6.061E-08	3.448E-08	2.301E-08	1.674E-08	1.286E-08	1.026E-08	8.407E-09	7.036E-09	5.988E-09

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

DIRECTION FROM SITE	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
	SEGMENT BOUNDARIES IN MILES									
S	9.995E-06	2.322E-06	7.258E-07	3.682E-07	2.291E-07	1.013E-07	3.558E-08	1.683E-08	1.021E-08	6.967E-09
SSW	4.818E-06	1.094E-06	3.359E-07	1.687E-07	1.043E-07	4.563E-08	1.577E-08	7.383E-09	4.451E-09	3.023E-09
SW	2.881E-06	6.553E-07	2.022E-07	1.019E-07	6.313E-08	2.776E-08	9.678E-09	4.560E-09	2.761E-09	1.881E-09
WSW	2.517E-06	5.676E-07	1.737E-07	8.719E-08	5.386E-08	2.361E-08	8.207E-09	3.869E-09	2.346E-09	1.602E-09
W	1.823E-06	4.115E-07	1.254E-07	6.272E-08	3.866E-08	1.687E-08	5.827E-09	2.740E-09	1.661E-09	1.135E-09
WNW	2.875E-06	6.513E-07	1.998E-07	1.003E-07	6.198E-08	2.715E-08	9.421E-09	4.432E-09	2.685E-09	1.833E-09
NW	7.066E-06	1.626E-06	5.079E-07	2.577E-07	1.604E-07	7.098E-08	2.499E-08	1.186E-08	7.217E-09	4.941E-09
NNW	1.397E-05	3.291E-06	1.063E-06	5.495E-07	3.463E-07	1.562E-07	5.645E-08	2.722E-08	1.668E-08	1.147E-08
N	1.459E-05	3.466E-06	1.116E-06	5.753E-07	3.620E-07	1.629E-07	5.872E-08	2.829E-08	1.736E-08	1.195E-08
NNE	8.504E-06	2.013E-06	6.403E-07	3.281E-07	2.056E-07	9.203E-08	3.297E-08	1.586E-08	9.740E-09	6.717E-09
NE	3.498E-06	8.121E-07	2.568E-07	1.312E-07	8.207E-08	3.664E-08	1.307E-08	6.256E-09	3.823E-09	2.623E-09
ENE	2.833E-06	6.624E-07	2.108E-07	1.080E-07	6.767E-08	3.026E-08	1.081E-08	5.174E-09	3.159E-09	2.165E-09
E	2.648E-06	6.177E-07	1.940E-07	9.879E-08	6.155E-08	2.733E-08	9.668E-09	4.602E-09	2.804E-09	1.921E-09
ESE	2.562E-06	5.915E-07	1.823E-07	9.178E-08	5.684E-08	2.501E-08	8.749E-09	4.148E-09	2.529E-09	1.737E-09
SE	5.494E-06	1.292E-06	4.076E-07	2.078E-07	1.298E-07	5.770E-08	2.042E-08	9.709E-09	5.910E-09	4.045E-09
SSE	9.095E-06	2.125E-06	6.794E-07	3.490E-07	2.191E-07	9.821E-08	3.519E-08	1.686E-08	1.030E-08	7.054E-09

VENTS GROUND LEVEL RELEASES - JAN-DEC 1991
8.000 DAY DECAY, DEPLETED
CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

SECTOR	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	.500
					DISTANCE IN MILES						
S	5.559E-05	1.765E-05	9.186E-06	4.520E-06	1.760E-06	9.283E-07	5.753E-07	3.936E-07	2.879E-07	2.208E-07	1.755E-07
SSW	2.657E-05	8.598E-06	4.414E-06	2.147E-06	8.257E-07	4.320E-07	2.660E-07	1.811E-07	1.319E-07	1.008E-07	7.990E-08
SW	1.599E-05	5.144E-06	2.637E-06	1.283E-06	4.950E-07	2.596E-07	1.602E-07	1.092E-07	7.967E-08	6.097E-08	4.837E-08
WSW	1.399E-05	4.499E-06	2.298E-06	1.115E-06	4.277E-07	2.234E-07	1.375E-07	9.352E-08	6.808E-08	5.202E-08	4.121E-08
W	1.023E-05	3.261E-06	1.667E-06	8.099E-07	3.096E-07	1.613E-07	9.907E-08	6.728E-08	4.891E-08	3.732E-08	2.954E-08
WNW	1.597E-05	5.139E-06	2.629E-06	1.278E-06	4.909E-07	2.566E-07	1.579E-07	1.075E-07	7.825E-08	5.979E-08	4.737E-08
NW	3.908E-05	1.256E-05	6.474E-06	3.165E-06	1.231E-06	6.491E-07	4.022E-07	2.751E-07	2.012E-07	1.543E-07	1.226E-07
NNW	8.062E-05	2.477E-05	1.279E-05	6.311E-06	2.515E-06	1.348E-06	8.452E-07	5.837E-07	4.302E-07	3.322E-07	2.656E-07
N	8.354E-05	2.565E-05	1.340E-05	6.654E-06	2.645E-06	1.415E-06	8.861E-07	6.112E-07	4.500E-07	3.472E-07	2.773E-07
NNE	4.802E-05	1.491E-05	7.827E-06	3.885E-06	1.531E-06	8.141E-07	5.076E-07	3.490E-07	2.562E-07	1.972E-07	1.573E-07
NE	2.002E-05	6.217E-06	3.201E-06	1.573E-06	6.170E-07	3.273E-07	2.037E-07	1.399E-07	1.026E-07	7.891E-08	6.287E-08
ENE	1.630E-05	5.016E-06	2.594E-06	1.279E-06	5.044E-07	2.684E-07	1.674E-07	1.151E-07	8.456E-08	6.510E-08	5.192E-08
E	1.484E-05	4.672E-06	2.434E-06	1.200E-06	4.686E-07	2.478E-07	1.538E-07	1.054E-07	7.716E-08	5.925E-08	4.714E-08
ESE	1.398E-05	4.514E-06	2.358E-06	1.158E-06	4.460E-07	2.336E-07	1.440E-07	9.812E-08	7.151E-08	5.469E-08	4.337E-08
SE	3.073E-05	9.552E-06	5.057E-06	2.503E-06	9.811E-07	5.199E-07	3.233E-07	2.217E-07	1.625E-07	1.249E-07	9.942E-08
SSE	5.221E-05	1.616E-05	8.324E-06	4.096E-06	1.620E-06	8.638E-07	5.397E-07	3.717E-07	2.733E-07	2.106E-07	1.681E-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
						DISTANCE IN MILES					
S	1.435E-07	7.017E-08	4.349E-08	2.316E-08	1.474E-08	1.032E-08	7.486E-09	5.968E-09	4.779E-09	3.918E-09	3.272E-09
SSW	6.515E-08	3.157E-08	1.944E-08	1.027E-08	6.507E-09	4.544E-09	3.375E-09	2.615E-09	2.091E-09	1.712E-09	1.428E-09
SW	3.949E-08	1.922E-08	1.187E-08	6.300E-09	4.003E-09	2.802E-09	2.084E-09	1.618E-09	1.295E-09	1.061E-09	8.864E-10
WSW	3.361E-08	1.630E-08	1.005E-08	5.322E-09	3.380E-09	2.365E-09	1.759E-09	1.365E-09	1.093E-09	8.961E-10	7.484E-10
W	2.405E-08	1.161E-08	7.132E-09	3.761E-09	2.384E-09	1.666E-09	1.238E-09	9.601E-10	7.682E-10	6.294E-10	5.255E-10
WNW	3.862E-08	1.871E-08	1.152E-08	6.088E-09	3.857E-09	2.694E-09	2.002E-09	1.552E-09	1.242E-09	1.017E-09	8.491E-10
NW	1.002E-07	4.902E-08	3.038E-08	1.618E-08	1.030E-08	7.215E-09	5.374E-09	4.174E-09	3.344E-09	2.743E-09	2.293E-09
NNW	2.182E-07	1.087E-07	6.823E-08	3.693E-08	2.374E-08	1.676E-08	1.255E-08	9.795E-09	7.878E-09	6.482E-09	5.432E-09
N	2.277E-07	1.131E-07	7.084E-08	3.824E-08	2.453E-08	1.730E-08	1.294E-08	1.009E-08	8.111E-09	6.671E-09	5.588E-09
NNE	1.289E-07	6.366E-08	3.972E-08	2.135E-08	1.366E-08	9.617E-09	7.188E-09	5.600E-09	4.498E-09	3.698E-09	3.096E-09
NE	5.151E-08	2.542E-08	1.586E-08	8.517E-09	5.451E-09	3.836E-09	2.867E-09	2.233E-09	1.793E-09	1.474E-09	1.234E-09
ENE	4.257E-08	2.105E-08	1.315E-08	7.074E-09	4.532E-09	3.192E-09	2.386E-09	1.859E-09	1.493E-09	1.227E-09	1.027E-09
E	3.857E-08	1.894E-08	1.177E-08	6.290E-09	4.014E-09	2.818E-09	2.102E-09	1.634E-09	1.310E-09	1.076E-09	8.992E-10
ESE	3.539E-08	1.720E-08	1.061E-08	5.623E-09	3.569E-09	2.496E-09	1.857E-09	1.441E-09	1.153E-09	9.454E-10	7.896E-10
SE	8.138E-08	3.999E-08	2.486E-08	1.329E-08	8.474E-09	5.946E-09	4.432E-09	3.445E-09	2.761E-09	2.265E-09	1.893E-09
SSE	1.379E-07	6.836E-08	4.275E-08	2.305E-08	1.478E-08	1.041E-08	7.796E-09	6.071E-09	4.877E-09	4.009E-09	3.357E-09

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

DIRECTION FROM SITE	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
					SEGMENT BOUNDARIES IN MILES					
S	8.993E-06	2.004E-06	5.968E-07	2.925E-07	1.770E-07	7.460E-08	2.393E-08	1.044E-08	6.006E-09	3.934E-09
SSW	4.336E-06	9.444E-07	2.763E-07	1.341E-07	8.064E-08	3.364E-08	1.064E-08	4.600E-09	2.633E-09	1.719E-09
SW	2.593E-06	5.656E-07	1.663E-07	8.100E-08	4.882E-08	2.046E-08	6.518E-09	2.835E-09	1.628E-09	1.066E-09
WSW	2.262E-06	4.897E-07	1.428E-07	6.923E-08	4.160E-08	1.737E-08	5.510E-09	2.393E-09	1.374E-09	8.998E-10
W	1.640E-06	3.549E-07	1.030E-07	4.974E-08	2.981E-08	1.239E-08	3.898E-09	1.686E-09	9.664E-10	6.320E-10
WNW	2.586E-06	5.617E-07	1.641E-07	7.957E-08	4.781E-08	1.994E-08	6.304E-09	2.728E-09	1.563E-09	1.022E-09
NW	6.357E-06	1.402E-06	4.172E-07	2.044E-07	1.237E-07	5.212E-08	1.672E-08	7.300E-09	4.201E-09	2.755E-09
NNW	1.257E-05	2.840E-06	8.746E-07	4.368E-07	2.678E-07	1.151E-07	3.802E-08	1.654E-08	9.852E-09	6.507E-09
N	1.312E-05	2.989E-06	9.172E-07	4.569E-07	2.796E-07	1.198E-07	3.939E-08	1.740E-08	1.015E-08	6.697E-09
NNE	7.649E-06	1.735E-06	5.259E-07	2.603E-07	1.586E-07	6.752E-08	2.201E-08	9.724E-09	5.634E-09	3.712E-09
NE	3.147E-06	7.006E-07	2.112E-07	1.042E-07	6.342E-08	2.697E-08	8.785E-09	3.879E-09	2.247E-09	1.479E-09
ENE	2.548E-06	5.717E-07	1.734E-07	8.588E-08	5.236E-08	2.232E-08	7.294E-09	3.227E-09	1.870E-09	1.232E-09
E	2.383E-06	5.329E-07	1.595E-07	7.840E-08	4.756E-08	2.011E-08	6.496E-09	2.850E-09	1.644E-09	1.080E-09
ESE	2.304E-06	5.098E-07	1.445E-07	7.271E-08	4.377E-08	1.831E-08	5.819E-09	2.527E-09	1.450E-09	9.493E-10
SE	4.943E-06	1.114E-06	3.351E-07	1.651E-07	1.003E-07	4.246E-08	1.372E-08	6.015E-09	3.467E-09	2.275E-09
SSE	8.186E-06	1.834E-06	5.589E-07	2.775E-07	1.695E-07	7.243E-08	2.375E-08	1.053E-08	6.107E-09	4.025E-09

VENTS GROUND LEVEL RELEASES - JAN-DEC 1991
CORRECTED FOR OPEN TERRAIN RECIRCULATION

********** RELATIVE DEPOSITION PER UNIT AREA (M**-2) AT FIXED PO[illegible] 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	2.324E-07	7.860E-08	4.036E-08	1.915E-08	6.892E-09	3.418E-09	2.012E-09	1.318E-09	9.272E-10	6.872E-10	5.295E-10
SSW	1.123E-07	3.797E-08	1.949E-08	9.268E-09	3.329E-09	1.651E-09	9.721E-10	6.365E-10	4.479E-10	3.319E-10	2.558E-10
SW	6.295E-08	2.129E-08	1.093E-08	5.196E-09	1.867E-09	9.256E-10	5.450E-10	3.569E-10	2.511E-10	1.861E-10	1.434E-10
WSW	6.309E-08	2.133E-08	1.095E-08	5.208E-09	1.871E-09	9.277E-10	5.462E-10	3.577E-10	2.517E-10	1.865E-10	1.437E-10
W	5.571E-08	1.884E-08	9.673E-09	4.599E-09	1.652E-09	8.192E-10	4.824E-10	3.158E-10	2.222E-10	1.647E-10	1.269E-10
WNW	9.257E-08	3.130E-08	1.607E-08	7.641E-09	2.745E-09	1.361E-09	8.015E-10	5.248E-10	3.693E-10	2.737E-10	2.109E-10
NW	1.940E-07	6.559E-08	3.368E-08	1.601E-08	5.751E-09	2.852E-09	1.679E-09	1.100E-09	7.737E-10	5.734E-10	4.419E-10
NNW	2.882E-07	9.746E-08	5.004E-08	2.379E-08	8.545E-09	4.238E-09	2.495E-09	1.634E-09	1.150E-09	8.520E-10	6.566E-10
N	3.371E-07	1.140E-07	5.852E-08	2.782E-08	9.994E-09	4.956E-09	2.918E-09	1.911E-09	1.345E-09	9.964E-10	7.679E-10
NNE	2.086E-07	7.052E-08	3.621E-08	1.721E-08	6.184E-09	3.067E-09	1.806E-09	1.182E-09	8.319E-10	6.165E-10	4.751E-10
NE	8.719E-08	2.948E-08	1.514E-08	7.197E-09	2.585E-09	1.282E-09	7.549E-10	4.943E-10	3.478E-10	2.578E-10	1.986E-10
ENE	5.966E-08	2.017E-08	1.036E-08	4.925E-09	1.769E-09	8.772E-10	5.165E-10	3.382E-10	2.380E-10	1.764E-10	1.359E-10
E	6.413E-08	2.169E-08	1.114E-08	5.294E-09	1.902E-09	9.430E-10	5.553E-10	3.636E-10	2.558E-10	1.896E-10	1.461E-10
ESE	9.934E-08	3.359E-08	1.725E-08	8.200E-09	2.945E-09	1.461E-09	8.601E-10	5.632E-10	3.963E-10	2.937E-10	2.263E-10
SE	1.496E-07	5.058E-08	2.597E-08	1.235E-08	4.435E-09	2.199E-09	1.295E-09	8.479E-10	5.966E-10	4.422E-10	3.407E-10
SSE	2.093E-07	7.079E-08	3.635E-08	1.728E-08	6.207E-09	3.078E-09	1.813E-09	1.187E-09	8.351E-10	6.189E-10	4.769E-10

DIRECTION FROM SITE	DISTANCES IN MILES 5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
S	4.207E-10	1.869E-10	1.132E-10	5.722E-11	3.463E-11	2.322E-11	1.664E-11	1.249E-11	9.714E-12	7.760E-12	6.334E-12
SSW	2.032E-10	9.027E-11	5.468E-11	2.764E-11	1.673E-11	1.122E-11	8.037E-12	6.035E-12	4.692E-12	3.748E-12	3.059E-12
SW	1.139E-10	5.061E-11	3.066E-11	1.550E-11	9.380E-12	6.289E-12	4.506E-12	3.384E-12	2.631E-12	2.102E-12	1.715E-12
WSW	1.142E-10	5.073E-11	3.073E-11	1.553E-11	9.400E-12	6.303E-12	4.516E-12	3.391E-12	2.637E-12	2.106E-12	1.719E-12
W	1.008E-10	4.479E-11	2.713E-11	1.371E-11	8.301E-12	5.566E-12	3.988E-12	2.995E-12	2.328E-12	1.860E-12	1.518E-12
WNW	1.675E-10	7.443E-11	4.508E-11	2.279E-11	1.379E-11	9.248E-12	6.626E-12	4.976E-12	3.869E-12	3.090E-12	2.522E-12
NW	3.510E-10	1.559E-10	9.446E-11	4.775E-11	2.890E-11	1.938E-11	1.388E-11	1.043E-11	8.106E-12	6.475E-12	5.285E-12
NNW	5.216E-10	2.317E-10	1.404E-10	7.095E-11	4.294E-11	2.879E-11	2.063E-11	1.549E-11	1.204E-11	9.621E-12	7.853E-12
N	6.100E-10	2.710E-10	1.642E-10	8.297E-11	5.022E-11	3.367E-11	2.413E-11	1.812E-11	1.409E-11	1.125E-11	9.184E-12
NNE	3.775E-10	1.677E-10	1.016E-10	5.134E-11	3.107E-11	2.083E-11	1.493E-11	1.121E-11	8.716E-12	6.962E-12	5.684E-12
NE	1.578E-10	7.010E-11	4.246E-11	2.146E-11	1.299E-11	8.710E-12	6.241E-12	4.687E-12	3.644E-12	2.911E-12	2.376E-12
ENE	1.080E-10	4.797E-11	2.906E-11	1.469E-11	8.889E-12	5.960E-12	4.271E-12	3.207E-12	2.493E-12	1.992E-12	1.626E-12
E	1.161E-10	5.157E-11	3.124E-11	1.579E-11	9.556E-12	6.407E-12	4.591E-12	3.447E-12	2.680E-12	2.141E-12	1.748E-12
ESE	1.798E-10	7.987E-11	4.838E-11	2.446E-11	1.480E-11	9.924E-12	7.111E-12	5.340E-12	4.152E-12	3.316E-12	2.707E-12
SE	2.707E-10	1.203E-10	7.285E-11	3.682E-11	2.229E-11	1.494E-11	1.071E-11	8.039E-12	6.251E-12	4.993E-12	4.076E-12
SSE	3.789E-10	1.683E-10	1.020E-10	5.153E-11	3.119E-11	2.091E-11	1.499E-11	1.125E-11	8.749E-12	6.989E-12	5.704E-12

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

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES .5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	3.945E-08	8.080E-09	2.109E-09	9.474E-10	5.359E-10	2.061E-10	5.962E-11	2.363E-11	1.262E-11	7.811E-12
SSW	1.905E-08	3.903E-09	1.019E-09	4.576E-10	2.589E-10	9.955E-11	2.880E-11	1.141E-11	6.095E-12	3.773E-12
SW	1.068E-08	2.188E-09	5.713E-10	2.566E-10	1.451E-10	5.582E-11	1.615E-11	6.400E-12	3.418E-12	2.115E-12
WSW	1.071E-08	2.193E-09	5.725E-10	2.571E-10	1.455E-10	5.594E-11	1.618E-11	6.414E-12	3.425E-12	2.120E-12
W	9.455E-09	1.937E-09	5.056E-10	2.271E-10	1.285E-10	4.940E-11	1.429E-11	5.664E-12	3.025E-12	1.872E-12
WNW	1.571E-08	3.218E-09	8.401E-10	3.773E-10	2.134E-10	8.208E-11	2.374E-11	9.411E-12	5.026E-12	3.111E-12
NW	3.292E-08	6.742E-09	1.760E-09	7.905E-10	4.472E-10	1.720E-10	4.975E-11	1.972E-11	1.053E-11	6.517E-12
NNW	4.891E-08	1.002E-08	2.615E-09	1.175E-09	6.645E-10	2.555E-10	7.393E-11	2.930E-11	1.565E-11	9.684E-12
N	5.720E-08	1.172E-08	3.059E-09	1.374E-09	7.771E-10	2.989E-10	8.646E-11	3.427E-11	1.830E-11	1.133E-11
NNE	3.539E-08	7.250E-09	1.893E-09	8.500E-10	4.809E-10	1.849E-10	5.350E-11	2.120E-11	1.132E-11	7.008E-12
NE	1.480E-08	3.031E-09	7.912E-10	3.554E-10	2.010E-10	7.731E-11	2.237E-11	8.864E-12	4.734E-12	2.930E-12
ENE	1.012E-08	2.074E-09	5.414E-10	2.432E-10	1.376E-10	5.290E-11	1.530E-11	6.065E-12	3.239E-12	2.005E-12
E	1.088E-08	2.229E-09	5.820E-10	2.614E-10	1.479E-10	5.687E-11	1.645E-11	6.520E-12	3.482E-12	2.155E-12
ESE	1.686E-08	3.453E-09	9.015E-10	4.049E-10	2.291E-10	8.808E-11	2.548E-11	1.010E-11	5.393E-12	3.338E-12
SE	2.538E-08	5.199E-09	1.357E-09	6.096E-10	3.449E-10	1.326E-10	3.837E-11	1.521E-11	8.120E-12	5.026E-12
SSE	3.553E-08	7.277E-09	1.900E-09	8.532E-10	4.827E-10	1.856E-10	5.370E-11	2.128E-11	1.137E-11	7.035E-12

VENTS GROUND LEVEL RELEASES - JAN-DEC 1991
CORRECTED FOR OPEN TERRAIN RECIRCULATION
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE (MILES)	DISTANCE (METERS)	X/Q (SEC/CUB.METER) NO DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 2.260 DAY DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 8.000 DAY DECAY DEPLETED	D/Q (PER SQ.METER)
A	SITE BOUNDARY	S	0.80	1287.	8.870E-06	8.826E-06	7.864E-06	3.432E-08
A	SITE BOUNDARY	SSW	0.82	1327.	3.938E-06	3.917E-06	3.484E-06	1.530E-08
A	SITE BOUNDARY	SW	0.98	1569.	1.558E-06	1.548E-06	1.364E-06	5.545E-09
A	SITE BOUNDARY	WSW	0.93	1489.	1.539E-06	1.530E-06	1.352E-06	6.364E-09
A	SITE BOUNDARY	W	0.91	1468.	1.157E-06	1.151E-06	1.017E-06	5.831E-09
A	SITE BOUNDARY	WNW	0.94	1509.	1.706E-06	1.697E-06	1.497E-06	9.019E-09
A	SITE BOUNDARY	NW	0.81	1307.	6.004E-06	5.976E-06	5.318E-06	2.750E-08
A	SITE BOUNDARY	NNW	0.69	1106.	1.643E-05	1.636E-05	1.469E-05	5.795E-08
A	SITE BOUNDARY	N	0.67	1086.	1.765E-05	1.758E-05	1.580E-05	6.988E-08
A	SITE BOUNDARY	NNE	0.60	965.	1.233E-05	1.229E-05	1.112E-05	5.240E-08
A	SITE BOUNDARY	NE	0.62	1005.	4.777E-06	4.759E-06	4.295E-06	2.059E-08
A	SITE BOUNDARY	ENE	0.59	945.	4.258E-06	4.242E-06	3.845E-06	1.551E-08
A	SITE BOUNDARY	E	0.53	845.	4.729E-06	4.714E-06	4.302E-06	2.003E-08
A	SITE BOUNDARY	ESE	0.54	865.	4.408E-06	4.396E-06	4.004E-06	2.986E-08
A	SITE BOUNDARY	SE	0.65	1046.	7.053E-06	7.025E-06	6.327E-06	3.303E-08
A	SITE BOUNDARY	SSE	0.81	1307.	7.733E-06	7.692E-06	6.849E-06	2.9 -08
A	NEAR. RESIDENCE	SW	1.40	2253.	6.808E-07	6.746E-07	5.799E-07	2.214E-09
A	NEAR. RESIDENCE	WSW	1.30	2092.	6.957E-07	6.903E-07	5.962E-07	2.671E-09
A	NEAR. RESIDENCE	W	1.00	1609.	9.267E-07	9.216E-07	8.099E-07	4.599E-09
A	NEAR. RESIDENCE	WNW	1.60	2575.	5.027E-07	4.982E-07	4.236E-07	2.342E-09
A	NEAR. RESIDENCE	NW	0.90	1448.	4.663E-06	4.639E-06	4.104E-06	2.104E-08
A	NEAR. RESIDENCE	NNW	1.90	3058.	1.814E-06	1.791E-06	1.504E-06	4.795E-09
A	NEAR. RESIDENCE	N	3.00	4828.	7.737E-07	7.592E-07	6.112E-07	1.911E-09
A	NEAR. RESIDENCE	NNE	2.70	4345.	5.411E-07	5.327E-07	4.329E-07	1.509E-09
A	NEAR. RESIDENCE	ENE	1.70	2736.	4.563E-07	4.511E-07	3.822E-07	1.301E-09
A	NEAR. RESIDENCE	E	1.80	2897.	3.744E-07	3.702E-07	3.120E-07	1.216E-09
A	NEAR. RESIDENCE	ESE	2.00	3219.	2.829E-07	2.800E-07	2.336E-07	1.461E-09
A	NEAR. RESIDENCE	SE	2.20	3541.	5.183E-07	5.111E-07	4.236E-07	1.751E-09
A	NEAREST COW	NNW	3.50	5634.	5.548E-07	5.420E-07	4.300E-07	1.149E-09
A	NEAREST GARDEN	SW	1.40	2253.	6.808E-07	6.746E-07	5.799E-07	2.214E-09
A	NEAREST GARDEN	WSW	1.30	2092.	6.957E-07	6.903E-07	5.962E-07	2.671E-09
A	NEAREST GARDEN	W	1.00	1609.	9.267E-07	9.216E-07	8.099E-07	4.599E-09
A	NEAREST GARDEN	WNW	1.60	2575.	5.027E-07	4.982E-07	4.236E-07	2.342E-09
A	NEAREST GARDEN	NW	2.70	4345.	4.278E-07	4.211E-07	3.422E-07	1.403E-09
A	NEAREST GARDEN	NNW	1.90	3058.	1.814E-06	1.791E-06	1.504E-06	4.795E-09
A	NEAREST GARDEN	N	3.00	4828.	7.737E-07	7.592E-07	6.112E-07	1.911E-09
A	NEAREST GARDEN	NNE	2.70	4345.	5.411E-07	5.327E-07	4.329E-07	1.509E-09
A	NEAREST GARDEN	ENE	1.70	2736.	4.563E-07	4.511E-07	3.822E-07	1.301E-09
A	NEAREST GARDEN	E	1.80	2897.	3.744E-07	3.702E-07	3.120E-07	1.216E-09
A	NEAREST GARDEN	ESE	2.40	3863.	1.938E-07	1.914E-07	1.571E-07	9.465E-10
A	NEAREST GARDEN	SE	2.20	3541.	5.183E-07	5.111E-07	4.236E-07	1.751E-09

VENTS GROUND LEVEL RELEASES - JAN-DEC 1991
CORRECTED FOR OPEN TERRAIN RECIRCULATION
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE (MILES)	DISTANCE (METERS)	X/Q (SEC/CUB.METER) NO DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 2.260 DAY DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 8.000 DAY DECAY DEPLETED	D/Q (PER SQ.METER)
A	SITE BOUNDARY	S	0.80	1287.	8.870E-06	8.826E-06	7.864E-06	3.432E-08
A	SITE BOUNDARY	SSW	0.82	1327.	3.938E-06	3.917E-06	3.484E-06	1.530E-08
A	SITE BOUNDARY	SW	0.98	1569.	1.558E-06	1.548E-06	1.364E-06	5.545E-09
A	SITE BOUNDARY	WSW	0.93	1489.	1.539E-06	1.530E-06	1.352E-06	6.364E-09
A	SITE BOUNDARY	W	0.91	1468.	1.157E-06	1.151E-06	1.017E-06	3.831E-09
A	SITE BOUNDARY	WNW	0.94	1509.	1.706E-06	1.697E-06	1.497E-06	9.019E-09
A	SITE BOUNDARY	NW	0.81	1307.	6.004E-06	5.976E-06	5.318E-06	2.750E-08
A	SITE BOUNDARY	NNW	0.69	1106.	1.643E-05	1.636E-05	1.469E-05	5.795E-08
A	SITE BOUNDARY	N	0.67	1086.	1.765E-05	1.758E-05	1.580E-05	6.988E-08
A	SITE BOUNDARY	NNE	0.60	965.	1.233E-05	1.229E-05	1.112E-05	5.240E-08
A	SITE BOUNDARY	NE	0.62	1005.	4.777E-06	4.759E-06	4.295E-06	2.059E-08
A	SITE BOUNDARY	ENE	0.59	945.	4.258E-06	4.242E-06	3.845E-06	1.551E-08
A	SITE BOUNDARY	E	0.53	845.	4.729E-06	4.714E-06	4.302E-06	2.003E-08
A	SITE BOUNDARY	ESE	0.54	865.	4.408E-06	4.396E-06	4.004E-06	2.986E-08
A	SITE BOUNDARY	SE	0.65	1046.	7.053E-06	7.025E-06	6.327E-06	3.303E-08
A	SITE BOUNDARY	SSE	0.81	1307.	7.733E-06	7.692E-06	6.849E-06	2.968E-08
A	NEAR. RESIDENCE	SW	1.40	2253.	6.808E-07	6.746E-07	5.799E-07	2.214E-09
A	NEAR. RESIDENCE	WSW	1.30	2092.	6.957E-07	6.903E-07	5.962E-07	2.671E-09
A	NEAR. RESIDENCE	W	1.00	1609.	9.267E-07	9.216E-07	8.099E-07	4.599E-09
A	NEAR. RESIDENCE	WNW	1.60	2575.	5.027E-07	4.982E-07	4.236E-07	2.342E-09
A	NEAR. RESIDENCE	NW	0.90	1448.	4.663E-06	4.639E-06	4.104E-06	2.104E-08
A	NEAR. RESIDENCE	NNW	1.90	3058.	1.814E-06	1.791E-06	1.504E-06	4.795E-09
A	NEAR. RESIDENCE	N	3.00	4828.	7.737E-07	7.592E-07	6.112E-07	1.911E-09
A	NEAR. RESIDENCE	NNE	2.70	4345.	5.411E-07	5.327E-07	4.329E-07	1.509E-09
A	NEAR. RESIDENCE	ENE	1.70	2736.	4.563E-07	4.511E-07	3.822E-07	1.301E-09
A	NEAR. RESIDENCE	E	1.80	2897.	3.744E-07	3.702E-07	3.120E-07	1.216E-09
A	NEAR. RESIDENCE	ESE	2.00	3219.	2.829E-07	2.800E-07	2.336E-07	1.461E-09
A	NEAR. RESIDENCE	SE	2.20	3541.	5.183E-07	5.111E-07	4.236E-07	1.751E-09
A	NEAREST COW	NNW	3.50	5634.	5.548E-07	5.420E-07	4.300E-07	1.149E-09
A	NEAREST GARDEN	SW	1.40	2253.	6.808E-07	6.746E-07	5.799E-07	2.214E-09
A	NEAREST GARDEN	WSW	1.30	2092.	6.957E-07	6.903E-07	5.962E-07	2.671E-09
A	NEAREST GARDEN	W	1.00	1609.	9.267E-07	9.216E-07	8.099E-07	4.599E-09
A	NEAREST GARDEN	WNW	1.60	2575.	5.027E-07	4.982E-07	4.236E-07	2.342E-09
A	NEARES. GARDEN	NW	2.70	4345.	4.278E-07	4.211E-07	3.422E-07	1.403E-09
A	NEAREST GARDEN	NNW	1.90	3058.	1.814E-06	1.791E-06	1.504E-06	4.795E-09
A	NEAREST GARDEN	N	3.00	4828.	7.737E-07	7.592E-07	6.112E-07	1.911E-09
A	NEAREST GARDEN	NNE	2.70	4345.	5.411E-07	5.327E-07	4.329E-07	1.509E-09
A	NEAREST GARDEN	ENE	1.70	2736.	4.563E-07	4.511E-07	3.822E-07	1.301E-09
A	NEAREST GARDEN	E	1.80	2897.	3.744E-07	3.702E-07	3.120E-07	1.216E-09
A	NEAREST GARDEN	ESE	2.40	3863.	1.938E-07	1.914E-07	1.571E-07	9.465E-10
A	NEAREST GARDEN	SE	2.20	3541.	5.183E-07	5.111E-07	4.236E-07	1.751E-09

Atmospheric Diffusion Estimates

Elevated Releases

July-September 1991

ERP ELEVATED STACK RELEASE - JULY-SEPT 1991
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	2.188E-09	5.114E-08	9.180E-08	9.291E-08	8.448E-08	7.142E-08	5.945E-08	4.979E-08	4.225E-08	5.058E-08	5.684E-08
SSW	1.843E-10	1.945E-08	4.556E-08	5.485E-08	5.865E-08	5.336E-08	4.647E-08	5.428E-08	5.897E-08	5.281E-08	4.767E-08
SW	2.327E-09	2.225E-08	5.926E-08	1.031E-07	1.729E-07	1.216E-07	9.034E-08	7.024E-08	5.658E-08	4.685E-08	3.966E-08
WSW	2.221E-09	1.243E-08	4.646E-08	1.049E-07	1.742E-07	1.108E-07	7.735E-08	5.761E-08	4.497E-08	3.635E-08	3.018E-08
W	9.038E-10	5.287E-08	1.631E-07	1.973E-07	1.931E-07	1.247E-07	8.800E-08	6.610E-08	5.194E-08	4.223E-08	3.523E-08
WNW	1.210E-08	8.031E-08	1.805E-07	2.575E-07	3.271E-07	2.073E-07	1.452E-07	1.156E-07	9.581E-08	7.738E-08	6.425E-08
NW	2.193E-08	9.100E-08	1.386E-07	2.304E-07	4.217E-07	2.557E-07	1.734E-07	1.298E-07	1.017E-07	8.100E-08	6.644E-08
NNW	2.339E-08	7.138E-08	8.446E-08	9.154E-08	1.321E-07	1.457E-07	1.467E-07	1.363E-07	1.232E-07	9.724E-08	7.923E-08
N	4.346E-08	1.542E-07	1.461E-07	1.044E-07	7.466E-08	6.352E-08	5.530E-08	4.737E-08	4.105E-08	3.599E-08	3.189E-08
NNE	3.089E-08	7.472E-08	9.312E-08	8.515E-08	7.701E-08	6.764E-08	5.838E-08	5.044E-08	4.393E-08	3.865E-08	3.437E-08
NE	4.593E-09	3.736E-08	5.428E-08	5.000E-08	4.236E-08	3.516E-08	2.919E-08	2.453E-08	2.093E-08	1.812E-08	1.590E-08
ENE	1.889E-16	2.921E-10	5.494E-09	1.139E-08	1.548E-08	1.448E-08	1.250E-08	1.063E-08	9.090E-09	7.849E-09	6.856E-09
E	1.626E-16	2.781E-10	5.290E-09	1.092E-08	1.453E-08	1.334E-08	1.133E-08	9.517E-09	8.041E-09	6.872E-09	5.947E-09
ESE	2.276E-09	1.429E-08	2.181E-08	2.357E-08	2.239E-08	1.854E-08	1.499E-08	1.223E-08	1.014E-08	8.558E-09	7.340E-09
SE	4.922E-16	5.304E-10	8.876E-09	1.726E-08	2.207E-08	2.003E-08	1.699E-08	1.431E-08	1.216E-08	1.046E-08	9.120E-09
SSE	9.605E-09	4.770E-08	6.523E-08	6.372E-08	5.715E-08	4.785E-08	3.957E-08	3.301E-08	2.794E-08	4.191E-08	6.507E-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	5.110E-08	3.575E-08	2.341E-08	1.357E-08	9.658E-09	7.388E-09	5.781E-09	4.702E-09	3.977E-09	3.425E-09	2.977E-09
SSW	4.479E-08	3.477E-08	2.266E-08	1.304E-08	9.202E-09	6.885E-09	5.364E-09	4.347E-09	3.630E-09	3.096E-09	2.685E-09
SW	3.697E-08	2.893E-08	1.918E-08	1.126E-08	8.073E-09	6.201E-09	5.023E-09	4.086E-09	3.419E-09	2.922E-09	2.539E-09
WSW	2.667E-08	1.758E-08	1.265E-08	7.946E-09	5.355E-09	3.950E-09	3.088E-09	2.507E-09	2.096E-09	1.790E-09	1.554E-09
W	3.001E-08	1.842E-08	1.255E-08	8.528E-09	6.437E-09	4.804E-09	3.767E-09	3.070E-09	2.573E-09	2.203E-09	1.919E-09
WNW	5.345E-08	3.306E-08	2.330E-08	1.486E-08	1.046E-08	7.954E-09	6.388E-09	5.276E-09	4.446E-09	3.813E-09	3.323E-09
NW	5.645E-08	3.159E-08	2.145E-08	1.289E-08	8.703E-09	6.427E-09	5.089E-09	4.144E-09	3.462E-09	2.955E-09	2.566E-09
NNW	6.743E-08	3.770E-08	2.454E-08	1.415E-08	9.613E-09	7.135E-09	5.626E-09	4.604E-09	3.893E-09	3.339E-09	2.904E-09
N	2.861E-08	1.898E-08	1.642E-08	1.353E-08	1.136E-08	9.346E-09	7.372E-09	6.015E-09	5.039E-09	4.313E-09	3.754E-09
NNE	3.986E-08	6.720E-08	4.391E-08	2.547E-08	1.739E-08	1.296E-08	1.020E-08	8.343E-09	7.013E-09	6.019E-09	5.252E-09
NE	1.759E-08	2.904E-08	1.900E-08	1.104E-08	7.549E-09	5.632E-09	4.513E-09	3.728E-09	3.150E-09	2.703E-09	2.358E-09
ENE	7.188E-09	8.044E-09	5.222E-09	2.992E-09	2.020E-09	1.491E-09	1.194E-09	9.841E-10	8.206E-10	6.995E-10	6.066E-10
E	6.031E-09	9.445E-09	6.359E-09	3.825E-09	2.669E-09	2.021E-09	1.611E-09	1.331E-09	1.190E-09	1.069E-09	9.363E-10
ESE	7.259E-09	7.685E-09	5.059E-09	2.952E-09	2.019E-09	1.506E-09	1.185E-09	9.691E-10	8.142E-10	6.986E-10	6.093E-10
SE	8.043E-09	5.035E-09	4.050E-09	3.336E-09	2.709E-09	2.362E-09	2.144E-09	1.985E-09	1.695E-09	1.475E-09	1.302E-09
SSE	5.770E-08	3.708E-08	2.427E-08	1.413E-08	9.671E-09	7.225E-09	5.701E-09	4.671E-09	3.933E-09	3.381E-09	2.955E-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	8.326E-08	8.055E-08	5.878E-08	4.758E-08	5.286E-08	3.368E-08	1.402E-08	7.351E-09	4.734E-09	3.422E-09
SSW	4.389E-08	5.545E-08	5.143E-08	5.528E-08	4.813E-08	3.161E-08	1.347E-08	6.894E-09	4.364E-09	3.102E-09
SW	7.050E-08	1.346E-07	9.063E-08	5.677E-08	4.079E-08	2.638E-08	1.160E-08	6.229E-09	4.100E-09	2.927E-09
WSW	6.488E-08	1.307E-07	7.838E-08	4.530E-08	3.071E-08	1.741E-08	7.841E-09	3.980E-09	2.516E-09	1.793E-09
W	1.538E-07	1.636E-07	8.902E-08	5.228E-08	3.537E-08	1.789E-08	8.493E-09	4.825E-09	3.080E-09	2.207E-09
WNW	1.924E-07	2.284E-07	1.499E-07	9.445E-08	6.488E-08	3.369E-08	1.478E-08	7.994E-09	5.277E-09	3.819E-09
NW	1.688E-07	3.054E-07	1.779E-07	1.018E-07	6.705E-08	3.261E-08	1.293E-08	6.499E-09	4.154E-09	2.961E-09
NNW	8.470E-08	1.291E-07	1.423E-07	1.171E-07	8.020E-08	3.846E-08	1.444E-08	7.192E-09	4.625E-09	3.342E-09
N	1.294E-07	2.[illegible]E-08	5.432E-08	4.093E-08	3.189E-08	1.998E-08	1.320E-08	9.093E-09	6.031E-09	4.321E-09
NNE	8.549E-[illegible]	7.[illegible]-08	5.767E-08	4.378E-08	3.767E-08	5.077E-08	2.598E-08	1.304E-08	8.368E-09	6.030E-09
NE	4.862E-[illegible]	[illegible]-08	2.892E-08	2.089E-08	1.718E-08	2.203E-08	1.126E-08	5.695E-09	3.732E-09	2.707E-09
ENE	6.960E-09	[illegible]E-08	1.228E-08	9.058E-09	7.273E-09	6.599E-09	3.056E-09	1.513E-09	9.818E-10	7.010E-10
E	6.677E-09	1.320E-08	1.114E-08	8.017E-09	6.252E-09	7.315E-09	3.874E-09	2.030E-09	1.357E-09	1.056E-09
ESE	2.092E-08	2.094E-08	1.483E-08	1.013E-08	7.671E-09	6.423E-09	3.005E-09	1.515E-09	9.719E-10	6.998E-10
SE	1.073E-08	2.010E-08	1.673E-08	1.213E-08	9.119E-09	5.766E-09	3.216E-09	2.367E-09	1.920E-09	1.476E-09
SSE	6.066E-08	5.448E-08	3.916E-08	3.471E-08	5.548E-08	3.597E-08	1.440E-08	7.268E-09	4.684E-09	3.387E-09

ERP ELEVATED STACK RELEASE - JULY-SEPT 1991
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	2.188E-09	5.111E-08	9.170E-08	9.276E-08	8.427E-08	7.117E-08	5.918E-08	4.952E-08	4.197E-08	5.019E-08	5.634E-08
SSW	1.842E-10	1.943E-08	4.550E-08	5.474E-08	5.847E-08	5.313E-08	4.619E-08	5.385E-08	5.838E-08	5.218E-08	4.701E-08
SW	2.327E-09	2.223E-08	5.917E-08	1.028E-07	1.722E-07	1.209E-07	8.966E-08	6.955E-08	5.589E-08	4.617E-08	3.899E-08
WSW	2.221E-09	1.242E-08	4.640E-08	1.047E-07	1.736E-07	1.102E-07	7.676E-08	5.705E-08	4.443E-08	3.582E-08	2.968E-08
W	9.035E-10	5.28[illegible]E-08	1.629E-07	1.970E-07	1.925E-07	1.242E-07	8.754E-08	6.568E-08	5.155E-08	4.185E-08	3.487E-08
WNW	1.209E-08	8.023E-08	1.802E-07	2.569E-07	3.259E-07	2.062E-07	1.441E-07	1.145E-07	9.470E-08	7.632E-08	6.323E-08
NW	2.192E-08	9.092E-08	1.384E-07	2.299E-07	4.204E-07	2.545E-07	1.724E-07	1.288E-07	1.008E-07	8.010E-08	6.559E-08
NNW	2.339E-08	7.133E-08	8.438E-08	9.143E-08	1.318E-07	1.453E-07	1.463E-07	1.358E-07	1.227E-07	9.675E-08	7.878E-08
N	4.344E-08	1.541E-07	1.460E-07	1.043E-07	7.451E-08	6.335E-08	5.511E-08	4.716E-08	4.084E-08	3.577E-08	3.166E-08
NNE	3.088E-08	7.467E-08	9.301E-08	9.501E-08	7.681E-08	6.740E-08	5.811E-08	5.016E-08	4.364E-08	3.835E-08	3.407E-08
NE	4.592E-09	3.733E-08	5.422E-08	6.091E-08	4.224E-08	3.503E-08	2.905E-08	2.438E-08	2.077E-08	1.795E-08	1.573E-08
ENE	1.889E-16	2.918E-10	5.487E-09	1.137E-08	1.543E-08	1.443E-08	1.244E-08	1.058E-08	9.035E-09	7.794E-09	6.802E-09
E	1.625E-16	2.778E-10	5.282E-09	1.090E-08	1.449E-08	1.329E-08	1.128E-08	9.464E-09	7.990E-09	6.822E-09	5.898E-09
ESE	2.276E-09	1.429E-08	2.179E-08	2.353E-08	2.234E-08	1.848E-08	1.493E-08	1.217E-08	1.008E-08	8.502E-09	7.287E-09
SE	4.920E-16	5.300E-10	8.807E-09	1.724E-08	2.203E-08	1.997E-08	1.693E-08	1.425E-08	1.210E-08	1.040E-08	9.061E-09
SSE	9.603E-09	4.768E-08	6.518E-08	6.365E-08	5.704E-08	4.774E-08	3.945E-08	3.288E-08	2.782E-08	4.169E-08	6.464E-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	5.059E-08	3.514E-08	2.286E-08	1.309E-08	9.193E-09	6.938E-09	5.362E-09	4.309E-09	3.598E-09	3.060E-09	2.628E-09
SSW	4.407E-08	3.390E-08	2.190E-08	1.240E-08	8.615E-09	6.351E-09	4.879E-09	3.901E-09	3.213E-09	2.705E-09	2.317E-09
SW	3.626E-08	2.802E-08	1.836E-08	1.055E-08	7.399E-09	5.565E-09	4.414E-09	3.520E-09	2.889E-09	2.422E-09	2.067E-09
WSW	2.616E-08	1.705E-08	1.214E-08	7.463E-09	4.932E-09	3.571E-09	2.741E-09	2.186E-09	1.796E-09	1.508E-09	1.288E-09
W	2.967E-08	1.662E-08	1.225E-08	8.193E-09	6.086E-09	4.477E-09	3.460E-09	2.780E-09	2.297E-09	1.939E-09	1.665E-09
WNW	5.445E-08	3.212E-08	2.241E-08	1.401E-08	9.676E-09	7.227E-09	5.701E-09	4.626E-09	3.830E-09	3.230E-09	2.769E-09
NW	5.564E-08	3.089E-08	2.082E-08	1.234E-08	8.230E-09	6.008E-09	4.707E-09	3.792E-09	3.137E-09	2.652E-09	2.282E-09
NNW	6.701E-08	3.734E-08	2.423E-08	1.388E-08	9.375E-09	6.916E-09	5.420E-09	4.407E-09	3.704E-09	3.157E-09	2.730E-09
N	2.838E-08	1.875E-08	1.615E-08	1.321E-08	1.101E-08	8.992E-09	7.042E-09	5.705E-09	4.747E-09	4.035E-09	3.488E-09
NNE	3.947E-08	6.623E-08	4.306E-08	2.475E-08	1.674E-08	1.236E-08	9.644E-09	7.816E-09	6.512E-09	5.541E-09	4.793E-09
NE	1.739E-08	2.856E-08	1.858E-08	1.068E-08	7.229E-09	5.341E-09	4.238E-09	3.468E-09	2.903E-09	2.468E-09	2.133E-09
ENE	7.127E-09	7.950E-09	5.142E-09	2.924E-09	1.959E-09	1.436E-09	1.141E-09	9.339E-10	7.731E-10	6.542E-10	5.633E-10
E	5.977E-09	9.310E-09	6.237E-09	3.714E-09	2.566E-09	1.924E-09	1.518E-09	1.242E-09	1.099E-09	9.770E-10	8.472E-10
ESE	7.201E-09	7.603E-09	4.987E-09	2.889E-09	1.963E-09	1.453E-09	1.137E-09	9.227E-10	7.700E-10	6.561E-10	5.683E-10
SE	7.985E-09	4.981E-09	3.993E-09	3.263E-09	2.628E-09	2.272E-09	2.043E-09	1.874E-09	1.587E-09	1.369E-09	1.198E-09
SSE	5.727E-08	3.665E-08	2.390E-08	1.380E-08	9.373E-09	6.947E-09	5.438E-09	4.420E-09	3.692E-09	3.149E-09	2.730E-09

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

DIRECTION FROM SITE	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
	SEGMENT BOUNDARIES IN MILES									
S	8.315E-08	8.033E-08	5.851E-08	4.726E-08	5.239E-08	3.312E-08	1.353E-08	6.909E-09	4.339E-09	3.059E-09
SSW	4.381E-08	5.527E-08	5.111E-08	5.473E-08	4.745E-08	3.083E-08	1.283E-08	6.366E-09	3.919E-09	2.712E-09
SW	7.037E-08	1.340E-07	8.996E-08	5.609E-08	4.011E-08	2.556E-08	1.088E-08	5.594E-09	3.535E-09	2.429E-09
WSW	6.476E-08	1.301E-07	7.780E-08	4.476E-08	3.020E-08	1.689E-08	7.377E-09	3.602E-09	2.196E-09	1.512E-09
W	1.536E-07	1.631E-07	8.857E-08	5.189E-08	3.501E-08	1.758E-08	8.157E-09	4.499E-09	2.790E-09	1.943E-09
WNW	1.921E-07	2.574E-07	1.488E-07	9.336E-08	6.386E-08	3.277E-08	1.395E-08	7.269E-09	4.630E-09	3.237E-09
NW	1.685E-07	3.044E-07	1.768E-07	1.009E-07	6.620E-08	3.191E-08	1.240E-08	6.080E-09	3.804E-09	2.659E-09
NNW	8.461E-08	1.289E-07	1.416E-07	1.166E-07	7.975E-08	3.811E-08	1.418E-08	6.973E-09	4.429E-09	3.151E-09
N	1.292E-07	7.617E-08	5.413E-08	4.071E-08	3.167E-08	1.973E-08	1.289E-08	8.750E-09	5.722E-09	4.043E-09
NNE	8.538E-08	7.445E-08	5.741E-08	4.349E-08	3.734E-08	4.999E-08	2.526E-08	1.244E-08	7.841E-09	5.552E-09
NE	4.855E-08	4.074E-08	2.877E-08	2.073E-08	1.700E-08	2.164E-08	1.090E-08	5.403E-09	3.473E-09	2.473E-09
ENE	6.949E-09	1.408E-08	1.222E-08	9.003E-09	7.216E-09	6.519E-09	2.988E-09	1.453E-09	9.319E-10	6.557E-10
E	6.665E-09	1.316E-08	1.109E-08	7.966E-09	6.201E-09	7.203E-09	3.765E-09	1.933E-09	1.266E-09	9.651E-10
ESE	2.090E-08	2.089E-08	1.477E-08	1.008E-08	7.615E-09	6.351E-09	2.944E-09	1.463E-09	9.256E-10	6.573E-10
SE	1.071E-08	2.005E-08	1.667E-08	1.207E-08	9.960E-09	5.210E-09	3.143E-09	2.276E-09	1.813E-09	1.370E-09
SSE	6.061E-08	5.437E-08	3.903E-08	3.455E-08	5.511E-08	3.556E-08	1.408E-08	6.990E-09	4.434E-09	3.155E-09

ERP ELEVATED STACK RELEASE - JULY-SEPT 1991
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	2.188E-09	5.068E-08	9.007E-08	9.111E-08	8.268E-08	6.960E-08	5.765E-08	4.806E-08	4.059E-08	4.870E-08	5.483E-08
SSW	1.843E-10	1.928E-08	4.484E-08	5.406E-08	5.767E-08	5.221E-08	4.524E-08	5.277E-08	5.726E-08	5.111E-08	4.601E-08
SW	2.327E-09	2.205E-08	5.844E-08	1.022E-07	1.708E-07	1.193E-07	8.816E-08	6.822E-08	5.471E-08	4.512E-08	3.806E-08
WSW	2.221E-09	1.232E-08	4.609E-08	1.045E-07	1.719E-07	1.084E-07	7.509E-08	5.557E-08	4.313E-08	3.469E-08	2.867E-08
W	9.037E-10	5.223E-08	1.613E-07	1.943E-07	1.891E-07	1.215E-07	8.540E-08	6.395E-08	5.011E-08	4.064E-08	3.383E-08
WNW	1.210E-08	7.961E-08	1.784E-07	2.543E-07	3.217E-07	2.024E-07	1.410E-07	1.119E-07	9.251E-08	7.435E-08	6.140E-08
NW	2.192E-08	9.016E-08	1.364E-07	2.280E-07	4.168E-07	2.510E-07	1.694E-07	1.262E-07	9.865E-08	7.816E-08	6.375E-08
NNW	2.339E-08	7.073E-08	8.284E-08	9.010E-08	1.306E-07	1.440E-07	1.450E-07	1.347E-07	1.217E-07	9.576E-08	7.768E-08
N	4.345E-08	1.528E-07	1.428E-07	1.015E-07	7.258E-08	6.184E-08	5.384E-08	4.607E-08	3.989E-08	3.493E-08	3.091E-08
NNE	3.099E-08	7.404E-08	9.125E-08	8.338E-08	7.538E-08	6.605E-08	5.683E-08	4.896E-08	4.252E-08	3.732E-08	3.311E-08
NE	4.[illegible]E-09	3.702E-08	5.319E-08	4.892E-08	4.136E-08	3.420E-08	2.827E-08	2.365E-08	2.009E-08	1.732E-08	1.515E-08
ENE	1.889E-16	2.920E-10	5.492E-09	1.139E-08	1.533E-08	1.423E-08	1.219E-08	1.031E-08	8.762E-09	7.527E-09	6.544E-09
E	1.626E-16	2.730E-10	5.288E-09	1.091E-08	1.439E-08	1.309E-08	1.104E-08	9.200E-09	7.722E-09	6.558E-09	5.643E-09
ESE	2.276E-09	1.417E-08	2.146E-08	2.323E-08	2.199E-08	1.808E-08	1.450E-08	1.174E-08	9.672E-09	8.109E-09	6.914E-09
SE	4.921E-16	5.303E-10	8.813E-09	1.725E-08	2.187E-08	1.967E-08	1.656E-08	1.385E-08	1.170E-08	1.002E-08	8.688E-09
SSE	9.604E-09	4.727E-08	6.406E-08	6.263E-08	5.604E-08	4.671E-08	3.843E-08	3.190E-08	2.689E-08	4.061E-08	6.357E-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	4.920E-08	3.380E-08	2.139E-08	1.157E-08	7.618E-09	5.462E-09	4.077E-09	3.178E-09	2.586E-09	2.157E-09	1.820E-09
SSW	4.316E-08	3.291E-08	2.071E-08	1.109E-08	7.264E-09	5.205E-09	3.904E-09	3.056E-09	2.471E-09	2.046E-09	1.725E-09
SW	3.543E-08	2.731E-08	1.747E-08	9.540E-09	6.303E-09	4.517E-09	3.498E-09	2.740E-09	2.213E-09	1.831E-09	1.542E-09
WSW	2.526E-08	1.627E-08	1.135E-08	6.741E-09	4.329E-09	3.063E-09	2.306E-09	1.809E-09	1.465E-09	1.215E-09	1.026E-09
W	2.877E-08	1.609E-08	1.181E-08	7.537E-09	5.325E-09	3.818E-09	2.887E-09	2.277E-09	1.852E-09	1.542E-09	1.308E-09
WNW	5.270E-08	3.044E-08	2.073E-08	1.229E-08	7.945E-09	5.651E-09	4.332E-09	3.443E-09	2.800E-09	2.323E-09	1.962E-09
NW	5.385E-08	2.915E-08	1.912E-08	1.075E-08	6.889E-09	4.867E-09	3.712E-09	2.922E-09	2.367E-09	1.963E-09	1.659E-09
NNW	6.578E-08	3.561E-08	2.236E-08	1.195E-08	7.432E-09	5.121E-09	3.797E-09	2.972E-09	2.430E-09	2.020E-09	1.708E-09
N	2.769E-08	1.827E-08	1.580E-08	1.302E-08	1.063E-08	8.306E-09	6.353E-09	5.041E-09	4.116E-09	3.441E-09	2.929E-09
NNE	3.853E-08	6.503E-08	4.103E-08	2.238E-08	1.441E-08	1.022E-08	7.710E-09	6.065E-09	4.920E-09	4.087E-09	3.459E-09
NE	1.680E-08	2.791E-08	1.763E-08	9.619E-09	6.183E-09	4.377E-09	3.367E-09	2.691E-09	2.205E-09	1.840E-09	1.563E-09
ENE	6.857E-09	7.666E-09	4.815E-09	2.581E-09	1.617E-09	1.120E-09	8.485E-10	6.703E-10	5.420E-10	4.490E-10	3.790E-10
E	5.710E-09	9.053E-09	5.897E-09	3.312E-09	2.135E-09	1.511E-09	1.135E-09	8.892E-10	7.560E-10	6.485E-10	5.458E-10
ESE	6.821E-09	7.248E-09	4.625E-09	2.536E-09	1.618E-09	1.137E-09	8.490E-10	6.617E-10	5.320E-10	4.382E-10	3.677E-10
SE	7.629E-09	4.702E-09	3.764E-09	3.109E-09	2.525E-09	2.207E-09	2.007E-09	1.857E-09	1.552E-09	1.325E-09	1.148E-09
SSE	5.610E-08	3.500E-08	2.210E-08	1.206E-08	7.755E-09	5.494E-09	4.138E-09	3.252E-09	2.635E-09	2.187E-09	1.849E-09

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

DIRECTION FROM SITE	.5-1	1-2	2-3	SEGMENT BOUNDARIES IN MILES 3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	8.178E-08	7.874E-08	5.700E-08	4.581E-08	5.093E-08	3.171E-08	1.200E-08	5.483E-09	3.209E-09	2.159E-09
SSW	4.326E-08	5.444E-08	5.011E-08	5.363E-08	4.647E-08	2.976E-08	1.153E-08	5.234E-09	3.076E-09	2.053E-09
SW	6.980E-08	1.327E-07	8.850E-08	5.492E-08	3.918E-08	2.474E-08	9.864E-09	4.586E-09	2.756E-09	1.837E-09
WSW	6.453E-08	1.287E-07	7.617E-08	4.347E-08	2.919E-08	1.608E-08	6.694E-09	3.098E-09	1.820E-09	1.219E-09
W	1.517E-07	1.602E-07	8.644E-08	5.145E-08	3.397E-08	1.701E-08	7.503E-09	3.847E-09	2.290E-09	1.547E-09
WNW	1.902E-07	2.537E-07	1.457E-07	9.114E-08	6.201E-08	3.107E-08	1.223E-08	5.735E-09	3.452E-09	2.331E-09
NW	1.668E-07	3.012E-07	1.739E-07	9.873E-08	6.435E-08	3.018E-08	1.089E-08	4.944E-09	2.936E-09	1.970E-09
NNW	8.337E-08	1.275E-07	1.406E-07	1.156E-07	7.863E-08	3.643E-08	1.226E-08	5.207E-09	3.001E-09	2.026E-09
N	1.267E-07	7.425E-08	5.287E-08	3.976E-08	3.091E-08	1.926E-08	1.257E-08	8.145E-09	5.064E-09	3.451E-09
NNE	8.393E-08	7.301E-08	5.614E-08	4.238E-08	3.637E-08	4.848E-08	2.299E-08	1.034E-08	6.099E-09	4.101E-09
NE	4.770E-08	3.986E-08	2.800E-08	2.005E-08	1.640E-08	2.087E-08	9.872E-09	4.455E-09	2.699E-09	1.845E-09
ENE	6.957E-09	1.397E-08	1.198E-08	8.733E-09	6.951E-09	6.219E-09	2.649E-09	1.144E-09	6.724E-10	4.506E-10
E	6.674E-09	1.304E-08	1.085E-08	7.701E-09	5.939E-09	6.907E-09	3.364E-09	1.527E-09	9.088E-10	6.423E-10
ESE	2.062E-08	2.053E-08	1.435E-08	9.668E-09	7.234E-09	5.988E-09	2.592E-09	1.150E-09	6.658E-10	4.399E-10
SE	1.072E-08	1.987E-08	1.631E-08	1.167E-08	8.689E-09	4.935E-09	2.995E-09	2.212E-09	1.784E-09	1.327E-09
SSE	5.969E-08	5.336E-08	3.803E-08	3.355E-08	5.400E-08	3.396E-08	1.238E-08	5.554E-09	3.270E-09	2.195E-09

ERP ELEVATED STACK RELEASE - JULY-SEPT 1991
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	5.349E-09	4.364E-09	3.728E-09	2.585E-09	1.268E-09	7.799E-10	5.281E-10	3.796E-10	2.844E-10	2.234E-10	2.060E-10
SSW	1.541E-09	1.540E-09	1.733E-09	1.449E-09	8.031E-10	5.190E-10	3.603E-10	2.623E-10	2.437E-10	1.844E-10	1.444E-10
SW	1.802E-09	1.568E-09	1.484E-09	1.112E-09	9.697E-10	5.287E-10	3.288E-10	2.239E-10	1.622E-10	1.228E-10	9.623E-11
WSW	9.238E-10	9.203E-10	1.033E-09	1.446E-09	8.740E-10	4.740E-10	2.931E-10	1.980E-10	1.436E-10	1.085E-10	8.494E-11
W	9.183E-10	3.274E-09	2.767E-09	1.707E-09	7.794E-10	4.215E-10	2.602E-10	1.762E-10	1.272E-10	9.611E-11	7.521E-11
WNW	3.270E-09	2.675E-09	3.603E-09	2.828E-09	1.507E-09	7.794E-10	4.736E-10	3.245E-10	2.553E-10	2.025E-10	1.699E-10
NW	4.731E-09	3.736E-09	3.010E-09	3.292E-09	1.904E-09	9.591E-10	5.791E-10	3.975E-10	3.010E-10	2.460E-10	2.130E-10
NNW	5.011E-09	3.873E-09	2.991E-09	1.893E-09	1.328E-09	7.080E-10	4.347E-10	3.786E-10	2.995E-10	2.572E-10	2.339E-10
N	1.144E-08	8.549E-09	6.147E-09	3.602E-09	1.497E-09	8.520E-10	5.524E-10	3.878E-10	2.870E-10	2.206E-10	1.746E-10
NNE	5.911E-09	4.655E-09	3.730E-09	2.445E-09	1.142E-09	6.876E-10	4.603E-10	3.289E-10	2.457E-10	1.896E-10	1.501E-10
NE	2.963E-09	2.370E-09	1.955E-09	1.316E-09	6.287E-10	3.827E-10	2.576E-10	1.846E-10	1.381E-10	1.067E-10	8.444E-11
ENE	2.405E-11	1.443E-10	3.073E-10	3.183E-10	1.988E-10	1.333E-10	9.415E-11	6.916E-11	5.238E-11	4.066E-11	3.220E-11
E	2.255E-11	1.353E-10	2.881E-10	2.984E-10	1.864E-10	1.250E-10	8.827E-11	6.484E-11	4.911E-11	3.812E-11	3.019E-11
ESE	1.491E-09	1.242E-09	1.099E-09	7.838E-10	3.931E-10	2.441E-10	1.661E-10	1.197E-10	8.979E-11	6.942E-11	5.496E-11
SE	4.360E-11	2.615E-10	5.569E-10	5.769E-10	3.603E-10	2.416E-10	1.707E-10	1.254E-10	9.495E-11	7.369E-11	5.836E-11
SSE	5.639E-09	4.561E-09	3.838E-09	2.628E-09	1.275E-09	7.809E-10	5.275E-10	3.787E-10	2.836E-10	2.619E-10	2.702E-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	1.658E-10	1.564E-10	1.140E-10	6.987E-11	4.495E-11	2.736E-11	1.959E-11	1.469E-11	1.177E-11	9.369E-12	7.648E-12
SSW	1.172E-10	1.178E-10	8.663E-11	5.330E-11	3.064E-11	2.105E-11	1.509E-11	1.133E-11	8.894E-12	7.105E-12	5.800E-12
SW	7.850E-11	8.133E-11	6.017E-11	3.723E-11	2.395E-11	1.460E-11	1.027E-11	7.821E-12	6.081E-12	4.859E-12	3.966E-12
WSW	6.831E-11	5.441E-11	3.827E-11	2.381E-11	1.441E-11	9.664E-12	7.016E-12	5.269E-12	4.096E-12	3.273E-12	2.672E-12
W	6.048E-11	2.716E-11	4.516E-11	2.960E-11	1.736E-11	1.164E-11	8.342E-12	6.264E-12	4.870E-12	3.890E-12	3.176E-12
WNW	1.492E-10	9.492E-11	6.941E-11	4.266E-11	2.718E-11	1.697E-11	1.205E-11	9.052E-12	7.120E-12	5.688E-12	4.643E-12
NW	1.926E-10	1.330E-10	1.007E-10	5.758E-11	3.506E-11	2.356E-11	1.728E-11	1.298E-11	1.017E-11	8.127E-12	6.634E-12
NNW	2.210E-10	1.699E-10	1.338E-10	8.664E-11	5.629E-11	3.741E-11	2.303E-11	1.590E-11	1.243E-11	9.930E-12	8.105E-12
N	1.414E-10	6.797E-11	4.211E-11	2.306E-11	8.828E-11	4.705E-11	3.371E-11	2.532E-11	1.969E-11	1.573E-11	1.284E-11
NNE	1.213E-10	2.972E-10	1.854E-10	9.712E-11	5.948E-11	3.983E-11	2.845E-11	2.128E-11	1.650E-11	1.315E-11	1.071E-11
NE	6.821E-11	1.235E-10	7.743E-11	4.079E-11	2.504E-11	1.677E-11	1.177E-11	8.838E-12	6.901E-12	5.513E-12	4.500E-12
ENE	2.593E-11	3.270E-11	2.411E-11	1.484E-11	9.481E-12	6.274E-12	4.399E-12	2.872E-12	2.239E-12	1.793E-12	1.467E-12
E	2.431E-11	2.812E-11	2.043E-11	1.243E-11	7.920E-12	5.245E-12	3.682E-12	2.700E-12	2.059E-12	1.612E-12	1.310E-12
ESE	4.437E-11	4.147E-11	2.914E-11	1.735E-11	1.109E-11	7.442E-12	5.301E-12	3.946E-12	3.044E-12	2.423E-12	1.972E-12
SE	4.700E-11	2.225E-11	1.356E-11	7.131E-12	4.354E-12	3.029E-12	2.320E-12	6.625E-12	5.070E-12	4.004E-12	3.246E-12
SSE	2.341E-10	1.929E-10	1.206E-10	6.327E-11	3.874E-11	2.592E-11	1.850E-11	1.382E-11	1.070E-11	8.519E-12	6.933E-12

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

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES .5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	3.362E-09	1.344E-09	5.358E-10	2.883E-10	1.963E-10	1.396E-10	6.860E-11	2.894E-11	1.498E-11	9.443E-12
SSW	1.560E-09	8.184E-10	3.634E-10	2.265E-10	1.462E-10	1.038E-10	5.064E-11	2.122E-11	1.148E-11	7.152E-12
SW	1.337E-09	8.052E-10	3.402E-10	1.648E-10	9.754E-11	7.130E-11	3.642E-11	1.536E-11	7.859E-12	4.890E-12
WSW	1.192E-09	8.233E-10	3.036E-10	1.460E-10	8.577E-11	5.032E-11	2.284E-11	9.870E-12	5.321E-12	3.294E-12
W	2.409E-09	8.264E-10	2.696E-10	1.294E-10	7.595E-11	4.257E-11	2.762E-11	1.185E-11	6.327E-12	3.916E-12
WNW	3.052E-09	1.477E-09	4.955E-10	2.549E-10	1.719E-10	9.566E-11	4.172E-11	1.773E-11	9.173E-12	5.725E-12
NW	3.297E-09	1.793E-09	6.078E-10	3.076E-10	2.152E-10	1.319E-10	5.714E-11	2.411E-11	1.314E-11	8.180E-12
NNW	2.699E-09	1.178E-09	4.851E-10	3.060E-10	2.360E-10	1.652E-10	8.362E-11	3.669E-11	1.662E-11	9.995E-12
N	5.550E-09	1.678E-09	5.664E-10	2.905E-10	1.760E-10	7.280E-11	5.628E-11	5.271E-11	2.557E-11	1.583E-11
NNE	3.365E-09	1.230E-09	4.684E-10	2.481E-10	1.511E-10	2.084E-10	1.200E-10	4.052E-11	2.151E-11	1.324E-11
NE	1.763E-09	6.720E-10	2.618E-10	1.394E-10	8.501E-11	9.074E-11	4.193E-11	1.698E-11	8.937E-12	5.549E-12
ENE	2.759E-10	1.962E-10	9.460E-11	5.271E-11	3.238E-11	2.738E-11	1.452E-11	6.379E-12	3.067E-12	1.804E-12
E	2.587E-10	1.840E-10	8.868E-11	4.942E-11	3.036E-11	2.386E-11	1.220E-11	5.333E-12	2.736E-12	1.633E-12
ESE	9.907E-10	4.137E-10	1.683E-10	9.057E-11	5.532E-11	3.663E-11	1.719E-11	7.559E-12	3.990E-12	2.440E-12
SE	5.001E-10	3.557E-10	1.715E-10	9.554E-11	5.870E-11	2.389E-11	7.326E-12	3.099E-12	4.803E-12	4.039E-12
SSE	3.461E-09	1.356E-09	5.356E-10	3.025E-10	2.544E-10	1.699E-10	6.512E-11	2.637E-11	1.397E-11	8.578E-12

ERP ELEVATED STACK RELEASE - JULY-SEPT 1991
CORRECTED FOR OPEN TERRAIN RECIRCULATION
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE (MILES)	DISTANCE (METERS)	X/Q (SEC/CUB.METER) NO DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 2.260 DAY DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 8.000 DAY DECAY DEPLETED	D/Q (PER SQ.METER)
A	SITE BOUNDARY	S	0.80	1287.	9.296E-08	9.284E-08	9.115E-08	3.476E-09
A	SITE BOUNDARY	SSW	0.82	1327.	4.913E-08	4.907E-08	4.837E-08	1.675E-09
A	SITE BOUNDARY	SW	0.98	1569.	9.845E-08	9.825E-08	9.757E-08	1.156E-09
A	SITE BOUNDARY	WSW	0.93	1489.	8.729E-08	8.713E-08	8.690E-08	1.071E-09
A	SITE BOUNDARY	W	0.91	1468.	1.909E-07	1.905E-07	1.882E-07	2.006E-09
A	SITE BOUNDARY	WNW	0.94	1509.	2.408E-07	2.403E-07	2.379E-07	3.195E-09
A	SITE BOUNDARY	NW	0.81	1307.	1.552E-07	1.550E-07	1.531E-07	2.713E-09
A	SITE BOUNDARY	NNW	0.69	1106.	8.039E-08	8.032E-08	7.893E-08	3.161E-09
A	SITE BOUNDARY	N	0.67	1086.	1.509E-07	1.508E-07	1.480E-07	6.737E-09
A	SITE BOUNDARY	NNE	0.60	965.	8.349E-08	8.342E-08	8.225E-08	4.205E-09
A	SITE BOUNDARY	NE	0.62	1005.	4.748E-08	4.743E-08	4.672E-08	2.121E-09
A	SITE BOUNDARY	ENE	0.59	945.	1.274E-09	1.273E-09	1.274E-09	1.999E-10
A	SITE BOUNDARY	E	0.53	845.	4.580E-10	4.576E-10	4.579E-10	1.506E-10
A	SITE BOUNDARY	ESE	0.54	865.	1.539E-08	1.538E-08	1.522E-08	1.209E-09
A	SITE BOUNDARY	SE	0.65	1046.	4.283E-09	4.279E-09	4.282E-09	4.373E-10
A	SITE BOUNDARY	SSE	0.81	1307.	6.504E-08	6.498E-08	6.385E-08	3.500E-09
A	NEAR. RESIDENCE	SW	1.40	2253.	1.647E-07	1.641E-07	1.629E-07	1.116E-09
A	NEAR. RESIDENCE	WSW	1.30	2092.	1.587E-07	1.582E-07	1.571E-07	1.166E-09
A	NEAR. RESIDENCE	W	1.00	1609.	1.973E-07	1.970E-07	1.943E-07	1.707E-09
A	NEAR. RESIDENCE	WNW	1.60	2575.	2.956E-07	2.944E-07	2.902E-07	1.299E-09
A	NEAR. RESIDENCE	NW	0.90	1448.	1.865E-07	1.861E-07	1.843E-07	3.421E-09
A	NEAR. RESIDENCE	NNW	1.90	3058.	1.442E-07	1.439E-07	1.425E-07	7.930E-10
A	NEAR. RESIDENCE	N	3.00	4828.	4.737E-08	4.716E-08	4.607E-08	3.878E-10
A	NEAR. RESIDENCE	NNE	2.70	4345.	5.503E-08	5.476E-08	5.351E-08	3.999E-10
A	NEAR. RESIDENCE	ENE	1.70	2736.	1.535E-08	1.530E-08	1.516E-08	1.682E-10
A	NEAR. RESIDENCE	E	1.80	2897.	1.403E-08	1.398E-08	1.382E-08	1.456E-10
A	NEAR. RESIDENCE	ESE	2.00	3219.	1.854E-08	1.848E-08	1.808E-08	2.441E-10
A	NEAR. RESIDENCE	SE	2.20	3541.	1.881E-08	1.875E-08	1.842E-08	2.091E-10
A	NEAREST COW	NNW	3.50	5634.	1.232E-07	1.226E-07	1.217E-07	2.994E-10
A	NEAREST GARDEN	SW	1.40	2253.	1.647E-07	1.641E-07	1.629E-07	1.116E-09
A	NEAREST GARDEN	WSW	1.30	2092.	1.587E-07	1.582E-07	1.571E-07	1.166E-09
A	NEAREST GARDEN	W	1.00	1609.	1.973E-07	1.970E-07	1.943E-07	1.707E-09
A	NEAREST GARDEN	WNW	1.60	2575.	2.956E-07	2.944E-07	2.902E-07	1.299E-09
A	NEAREST GARDEN	NW	2.70	4345.	1.536E-07	1.524E-07	1.496E-07	4.918E-10
A	NEAREST GARDEN	NNW	1.90	3058.	1.442E-07	1.439E-07	1.425E-07	7.930E-10
A	NEAREST GARDEN	N	3.00	4828.	4.737E-08	4.716E-08	4.607E-08	3.878E-10
A	NEAREST GARDEN	NNE	2.70	4345.	5.503E-08	5.476E-08	5.351E-08	3.999E-10
A	NEAREST GARDEN	ENE	1.70	2736.	1.535E-08	1.530E-08	1.516E-08	1.682E-10
A	NEAREST GARDEN	E	1.80	2897.	1.403E-08	1.398E-08	1.382E-08	1.456E-10
A	NEAREST GARDEN	ESE	2.40	3863.	1.563E-08	1.557E-08	1.515E-08	1.784E-10
A	NEAREST GARDEN	SE	2.20	3541.	1.881E-08	1.875E-08	1.842E-08	2.091E-10

Atmospheric Diffusion Estimates

Elevated Releases

October-December 1991

ERP ELEVATED STACK RELEASE - OCT-DEC 1991
NO DECAY, UNDEPLETED
CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

SECTOR	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	1.284E-08	1.478E-08	2.084E-08	2.807E-08	3.283E-08	2.977E-08	2.542E-08	2.154E-08	1.858E-08	2.184E-08	2.432E-08
SSW	7.156E-11	4.042E-09	1.308E-08	1.895E-08	2.078E-08	1.783E-08	1.464E-08	1.519E-08	1.485E-08	1.274E-08	1.115E-08
SW	3.417E-11	4.100E-09	2.185E-08	4.686E-08	7.399E-08	5.044E-08	3.657E-08	2.788E-08	2.210E-08	1.804E-08	1.508E-08
WSW	1.753E-16	2.210E-10	1.155E-08	3.876E-08	9.651E-08	6.469E-08	4.638E-08	3.512E-08	2.773E-08	2.261E-08	1.891E-08
W	6.549E-15	9.493E-10	1.245E-08	3.172E-08	5.301E-08	3.763E-08	2.810E-08	2.193E-08	1.772E-08	1.471E-08	1.248E-08
WNW	6.152E-15	2.473E-09	3.761E-08	7.567E-08	1.026E-07	6.236E-08	4.203E-08	3.164E-08	2.479E-08	1.952E-08	1.586E-08
NW	6.259E-11	4.337E-09	3.652E-08	8.648E-08	1.271E-07	7.360E-08	4.830E-08	3.503E-08	2.679E-08	2.101E-08	1.702E-08
NNW	1.040E-10	1.102E-08	3.014E-08	4.162E-08	7.268E-08	8.750E-08	8.926E-08	8.201E-08	7.315E-08	5.809E-08	4.753E-08
N	2.024E-08	5.619E-08	6.121E-08	4.729E-08	3.701E-08	3.464E-08	3.278E-08	2.987E-08	2.716E-08	2.474E-08	2.260E-08
NNE	3.209E-08	4.031E-08	4.473E-08	3.764E-08	3.615E-08	3.779E-08	3.773E-08	3.624E-08	3.409E-08	3.176E-08	2.951E-08
NE	1.095E-08	4.322E-08	3.908E-08	2.900E-08	2.309E-08	2.053E-08	1.838E-08	1.640E-08	1.468E-08	1.319E-08	1.192E-08
ENE	2.931E-16	2.224E-10	3.600E-09	7.396E-09	1.070E-08	1.064E-08	9.638E-09	8.529E-09	7.539E-09	6.703E-09	6.010E-09
E	2.008E-10	1.496E-09	3.669E-08	4.570E-08	4.848E-08	4.306E-08	3.668E-08	3.115E-08	2.668E-08	2.311E-08	2.026E-08
ESE	6.968E-09	4.058E-08	9.702E-08	1.547E-07	2.119E-07	2.133E-07	1.965E-07	1.763E-07	1.573E-07	1.407E-07	1.265E-07
SE	2.534E-09	4.175E-08	9.645E-08	1.272E-07	1.482E-07	1.391E-07	1.227E-07	1.069E-07	9.341E-08	8.220E-08	7.297E-08
SSE	9.890E-11	6.488E-09	1.734E-08	2.415E-08	3.033E-08	3.042E-08	2.834E-08	2.576E-08	2.330E-08	4.579E-08	7.165E-08

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

BEARING	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	2.177E-08	1.447E-08	9.397E-09	5.373E-09	3.723E-09	2.790E-09	2.168E-09	1.753E-09	1.465E-09	1.254E-09	1.085E-09
SSW	1.031E-08	1.019E-08	6.810E-09	4.051E-09	3.153E-09	2.484E-09	1.958E-09	1.603E-09	1.359E-09	1.167E-09	1.020E-09
SW	1.355E-08	8.866E-09	5.728E-09	3.238E-09	2.200E-09	1.623E-09	1.265E-09	1.017E-09	8.420E-10	7.126E-10	6.133E-10
WSW	1.694E-08	1.190E-08	8.926E-09	5.937E-09	4.051E-09	3.018E-09	2.389E-09	1.951E-09	1.638E-09	1.404E-09	1.224E-09
W	1.078E-08	6.352E-09	4.861E-09	3.380E-09	2.573E-09	1.935E-09	1.522E-09	1.243E-09	1.044E-09	8.950E-10	7.804E-10
WNW	1.331E-08	7.095E-09	4.546E-09	2.672E-09	1.789E-09	1.311E-09	1.018E-09	8.210E-10	6.812E-10	5.779E-10	4.990E-10
NW	1.426E-08	7.599E-09	5.012E-09	2.913E-09	1.940E-09	1.419E-09	1.111E-09	8.978E-10	7.438E-10	6.335E-10	5.478E-10
NNW	4.045E-08	2.249E-08	1.459E-08	8.337E-09	5.616E-09	4.137E-09	3.237E-09	2.631E-09	2.212E-09	1.891E-09	1.637E-09
N	2.079E-08	1.492E-08	1.382E-08	1.217E-08	1.038E-08	8.584E-09	6.784E-09	5.546E-09	4.645E-09	3.974E-09	3.458E-09
NNE	3.712E-08	5.210E-08	3.382E-08	1.939E-08	1.311E-08	9.685E-09	7.570E-09	6.150E-09	5.140E-09	4.388E-09	3.811E-09
NE	1.387E-08	2.085E-08	1.367E-08	7.938E-09	5.411E-09	4.025E-09	3.219E-09	2.659E-09	2.259E-09	1.938E-09	1.686E-09
ENE	6.941E-09	1.057E-08	6.968E-09	4.068E-09	2.780E-09	2.070E-09	1.664E-09	1.376E-09	1.152E-09	9.852E-10	8.569E-10
E	2.161E-08	2.388E-08	1.548E-08	8.857E-09	5.974E-09	4.407E-09	3.439E-09	2.790E-09	2.357E-09	2.027E-09	1.757E-09
ESE	1.380E-07	1.757E-07	1.174E-07	6.953E-08	4.784E-08	3.578E-08	2.822E-08	2.301E-08	1.941E-08	1.666E-08	1.453E-08
SE	6.534E-08	4.288E-08	3.534E-08	2.757E-08	2.092E-08	1.690E-08	1.421E-08	1.227E-08	1.034E-08	8.889E-09	7.768E-09
SSE	6.631E-08	4.153E-09	2.724E-08	1.585E-08	1.083E-08	8.070E-09	6.352E-09	5.192E-09	4.362E-09	3.742E-09	3.264E-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	2.271E-08	3.041E-08	2.503E-08	2.060E-08	2.264E-08	1.384E-08	5.534E-09	2.790E-09	1.763E-09	1.255E-09
SSW	1.368E-08	1.906E-08	1.571E-08	1.414E-08	1.131E-08	8.714E-09	4.268E-09	2.452E-09	1.611E-09	1.169E-09
SW	2.902E-08	5.749E-08	3.680E-08	2.220E-08	1.539E-08	8.513E-09	3.330E-09	1.633E-09	1.021E-09	7.142E-10
WSW	2.113E-08	6.954E-08	4.676E-08	2.789E-08	1.928E-08	1.170E-08	5.763E-09	3.042E-09	1.937E-09	1.407E-09
W	1.846E-08	4.144E-08	2.817E-08	1.778E-08	1.251E-08	6.674E-09	3.351E-09	1.940E-09	1.247E-09	8.966E-10
WNW	4.672E-08	7.874E-08	4.330E-08	2.474E-08	1.600E-08	7.388E-09	2.718E-09	1.321E-09	8.240E-10	5.793E-10
NW	5.157E-08	9.429E-08	4.974E-08	2.694E-08	1.718E-08	7.930E-09	2.947E-09	1.435E-09	9.007E-10	6.350E-10
NNW	3.099E-08	7.237E-08	8.589E-08	6.995E-08	4.804E-08	2.297E-08	8.517E-09	4.171E-09	2.644E-09	1.892E-09
N	5.391E-08	3.824E-08	3.211E-08	2.701E-08	2.256E-08	1.574E-08	1.174E-08	8.344E-09	5.557E-09	3.982E-09
NNE	4.060E-08	3.721E-08	3.715E-08	3.382E-08	3.300E-08	4.065E-08	1.980E-08	9.752E-09	6.171E-09	4.397E-09
NE	3.552E-08	2.326E-08	1.815E-08	1.460E-08	1.302E-08	1.611E-08	8.089E-09	4.073E-09	2.667E-09	1.940E-09
ENE	4.537E-09	9.942E-09	9.463E-09	7.503E-09	6.560E-09	8.174E-09	4.140E-09	2.097E-09	1.373E-09	9.871E-10
E	3.587E-08	4.545E-08	3.617E-08	2.659E-08	2.160E-08	1.964E-08	9.048E-09	4.438E-09	2.811E-09	2.025E-09
ESE	1.101E-07	1.998E-07	1.929E-07	1.564E-07	1.350E-07	1.414E-07	7.053E-08	3.598E-08	2.316E-08	1.669E-08
SE	9.795E-08	1.395E-07	1.208E-07	9.301E-08	7.288E-08	4.452E-08	2.634E-08	1.689E-08	1.209E-08	8.903E-09
SSE	1.795E-08	2.900E-08	2.786E-08	3.257E-08	6.317E-08	4.069E-08	1.615E-08	8.119E-09	5.207E-09	3.749E-09

ERP ELEVATED STACK RELEASE - OCT-DEC 1991
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	1.283E-08	1.478E-08	2.083E-08	2.803E-08	3.274E-08	2.965E-08	2.529E-08	2.140E-08	1.824E-08	2.164E-08	2.406E-08
SSW	7.155E-11	4.041E-09	1.308E-08	1.893E-08	2.074E-08	1.779E-08	1.459E-08	1.513E-08	1.479E-08	1.267E-08	1.108E-08
SW	3.415E-11	4.096E-09	2.182E-08	4.674E-08	7.366E-08	5.011E-08	3.624E-08	2.755E-08	2.177E-08	1.771E-08	1.476E-08
WSW	1.753E-16	2.208E-10	1.154E-08	3.864E-08	9.550E-08	6.367E-08	4.542E-08	3.421E-08	2.687E-08	2.180E-08	1.814E-08
W	6.547E-15	9.486E-10	1.243E-08	3.166E-08	5.275E-08	3.734E-08	2.779E-08	2.162E-08	1.740E-08	1.440E-08	1.218E-08
WNW	6.150E-15	2.472E-09	3.757E-08	7.556E-08	1.024E-07	6.218E-08	4.188E-08	3.150E-08	2.467E-08	1.941E-08	1.576E-08
NW	6.257E-11	4.334E-09	3.648E-08	8.636E-08	1.268E-07	7.339E-08	4.814E-08	3.489E-08	2.666E-08	2.089E-08	1.691E-08
NNW	1.040E-10	1.100E-08	3.006E-08	4.144E-08	7.171E-08	8.545E-08	8.633E-08	7.865E-08	6.959E-08	5.485E-08	4.455E-08
N	2.023E-08	5.610E-08	6.104E-08	4.712E-08	3.674E-08	3.418E-08	3.211E-08	2.905E-08	2.623E-08	2.371E-08	2.151E-08
NNE	3.208E-08	4.028E-08	4.469E-08	3.758E-08	3.587E-08	3.714E-08	3.671E-08	3.494E-08	3.257E-08	3.008E-08	2.771E-08
NE	1.095E-08	4.319E-08	3.904E-08	2.894E-08	2.296E-08	2.029E-08	1.801E-08	1.597E-08	1.418E-08	1.265E-08	1.134E-08
ENE	2.930E-16	2.223E-10	3.597E-09	7.387E-09	1.068E-08	1.062E-08	9.610E-09	8.499E-09	7.506E-09	6.668E-09	5.973E-09
E	2.007E-10	1.495E-08	3.666E-08	4.565E-08	4.839E-08	4.295E-08	3.656E-08	3.102E-08	2.655E-08	2.298E-08	2.013E-08
ESE	6.965E-09	4.054E-08	9.687E-08	1.543E-07	2.109E-07	2.115E-07	1.941E-07	1.734E-07	1.541E-07	1.372E-07	1.228E-07
SE	2.533E-09	4.173E-08	9.635E-08	1.270E-07	1.478E-07	1.385E-07	1.221E-07	1.062E-07	9.265E-08	8.139E-08	7.213E-08
SSE	9.888E-11	6.485E-09	1.732E-08	2.411E-08	3.021E-08	3.019E-08	2.800E-08	2.535E-08	2.282E-08	4.441E-08	7.231E-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	2.151E-08	1.421E-08	9.167E-09	5.179E-09	3.550E-09	2.633E-09	2.025E-09	1.622E-09	1.346E-09	1.140E-09	9.781E-10
SSW	1.022E-08	9.857E-09	6.496E-09	3.768E-09	2.816E-09	2.139E-09	1.640E-09	1.307E-09	1.076E-09	9.020E-10	7.694E-10
SW	1.323E-08	8.530E-09	5.437E-09	2.997E-09	1.990E-09	1.438E-09	1.098E-09	8.662E-10	7.046E-10	5.865E-10	4.973E-10
WSW	1.616E-08	1.104E-08	8.054E-09	5.066E-09	3.291E-09	2.339E-09	1.767E-09	1.383E-09	1.115E-09	9.200E-10	7.733E-10
W	1.048E-08	6.069E-09	4.555E-09	3.052E-09	2.241E-09	1.632E-09	1.246E-09	9.893E-10	8.089E-10	6.763E-10	5.756E-10
WNW	1.321E-08	7.015E-09	4.577E-09	2.613E-09	1.736E-09	1.263E-09	9.731E-10	7.791E-10	6.416E-10	5.403E-10	4.631E-10
NW	1.416E-08	7.520E-09	4.943E-09	2.853E-09	1.887E-09	1.370E-09	1.066E-09	8.555E-10	7.058E-10	5.955E-10	5.114E-10
NNW	3.762E-08	2.017E-08	1.263E-08	6.737E-09	4.252E-09	2.944E-09	2.173E-09	1.672E-09	1.335E-09	1.087E-09	8.982E-10
N	1.965E-08	1.364E-08	1.222E-08	1.017E-08	8.301E-09	6.583E-09	4.981E-09	3.909E-09	3.153E-09	2.604E-09	2.193E-09
NNE	3.448E-08	4.662E-08	2.920E-08	1.564E-08	9.911E-09	6.890E-09	5.084E-09	3.913E-09	3.107E-09	2.529E-09	2.099E-09
NE	1.306E-08	1.889E-08	1.199E-08	6.544E-09	4.205E-09	2.957E-09	2.241E-09	1.758E-09	1.420E-09	1.163E-09	9.688E-10
ENE	6.878E-09	1.019E-08	6.623E-09	3.767E-09	2.511E-09	1.826E-09	1.431E-09	1.156E-09	9.482E-10	7.957E-10	6.797E-10
E	2.143E-08	2.331E-08	1.499E-08	8.429E-09	5.594E-09	4.063E-09	3.124E-09	2.500E-09	2.081E-09	1.765E-09	1.511E-09
ESE	1.331E-07	1.652E-07	1.082E-07	6.163E-08	4.089E-08	2.956E-08	2.258E-08	1.793E-08	1.465E-08	1.224E-08	1.041E-08
SE	6.448E-08	4.196E-08	3.428E-08	2.630E-08	1.965E-08	1.565E-08	1.299E-08	1.108E-08	9.228E-09	7.847E-09	6.783E-09
SSE	6.349E-08	3.880E-08	2.489E-08	1.388E-08	9.105E-09	6.533E-09	4.962E-09	3.922E-09	3.192E-09	2.658E-09	2.254E-09

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

DIRECTION FROM SITE	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
	SEGMENT BOUNDARIES IN MILES									
S	2.268E-08	3.032E-08	2.490E-08	2.044E-08	2.240E-08	1.359E-08	5.341E-09	2.635E-09	1.632E-09	1.141E-09
SSW	1.367E-08	1.903E-08	1.566E-08	1.408E-08	1.123E-08	8.444E-09	3.951E-09	2.120E-09	1.314E-09	9.045E-10
SW	2.896E-08	5.721E-08	3.646E-08	2.188E-08	1.507E-08	8.199E-09	3.091E-09	1.449E-09	8.709E-10	5.885E-10
WSW	2.107E-08	6.872E-08	4.580E-08	2.704E-08	1.849E-08	1.085E-08	4.941E-09	2.364E-09	1.391E-09	9.234E-10
W	1.842E-08	4.121E-08	2.787E-08	1.746E-08	1.221E-08	6.377E-09	3.026E-09	1.640E-09	9.939E-10	6.783E-10
WNW	4.666E-08	7.856E-08	4.314E-08	2.461E-08	1.590E-08	7.309E-09	2.659E-09	1.273E-09	7.821E-10	5.417E-10
NW	5.151E-08	9.408E-08	4.957E-08	2.681E-08	1.707E-08	7.851E-09	2.888E-09	1.386E-09	8.585E-10	5.971E-10
NNW	3.038E-08	7.109E-08	8.302E-08	6.656E-08	4.504E-08	2.070E-08	6.941E-09	2.984E-09	1.687E-09	1.090E-09
N	5.375E-08	3.791E-08	3.144E-08	2.607E-08	2.147E-08	1.434E-08	9.796E-09	6.400E-09	3.927E-09	2.614E-09
NNE	4.055E-08	3.681E-08	3.612E-08	3.230E-08	3.092E-08	3.618E-08	1.611E-08	6.973E-09	3.941E-09	2.541E-09
NE	3.547E-08	2.310E-08	1.780E-08	1.411E-08	1.236E-08	1.453E-08	6.715E-09	3.004E-09	1.768E-09	1.167E-09
ENE	4.531E-09	9.922E-09	9.435E-09	7.470E-09	6.514E-09	7.868E-09	3.843E-09	1.851E-09	1.155E-09	7.979E-10
E	3.583E-08	4.537E-08	3.605E-08	2.647E-08	2.145E-08	1.919E-08	8.627E-09	4.096E-09	2.519E-09	1.765E-09
ESE	1.099E-07	1.986E-07	1.905E-07	1.532E-07	1.309E-07	1.328E-07	6.276E-08	2.979E-08	1.801E-08	1.228E-08
SE	9.783E-08	1.391E-07	1.291E-07	9.224E-08	7.204E-08	4.356E-08	2.512E-08	1.565E-08	1.092E-08	7.862E-09
SSE	1.793E-08	2.885E-08	2.752E-08	3.177E-08	6.078E-08	3.810E-08	1.420E-08	6.590E-09	3.941E-09	2.667E-09

ERP ELEVATED STACK RELEASE - OCT-DEC 1991
8.000 DAY DECAY, D[illegible]LETED
CORRECTED FOR OPEN TERRA[illegible] RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/[illegible]ETER CUBED)

SECTOR	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	1.284E-08	1.466E-08	2.062E-08	2.788E-08	3.244E-08	2.919E-08	2.475E-08	2.082E-08	1.766E-08	2.097E-08	2.334E-08
SSW	7.156E-11	4.010E-09	1.297E-08	1.883E-08	2.052E-08	1.747E-08	1.422E-08	1.467E-08	1.429E-08	1.218E-08	1.062E-08
SW	3.416E-11	4.065E-09	2.166E-08	4.663E-08	7.302E-08	4.930E-08	3.543E-08	2.680E-08	2.108E-08	1.709E-08	1.420E-08
WSW	1.753E-16	2.210E-10	1.155E-08	3.869E-08	9.559E-08	6.372E-08	4.549E-08	3.431E-08	2.700E-08	2.195E-08	1.831E-08
W	6.548E-15	9.491E-10	1.242E-08	3.164E-08	5.285E-08	3.748E-08	2.796E-08	2.179E-08	1.759E-08	1.459E-08	1.236E-08
WNW	6.151E-15	2.473E-09	3.756E-08	7.502E-08	1.012E-07	6.101E-08	4.089E-08	3.065E-08	2.394E-08	1.876E-08	1.516E-08
NW	6.258E-11	4.302E-09	3.633E-08	8.591E-08	1.250E-07	7.161E-08	4.660E-08	3.358E-08	2.554E-08	1.990E-08	1.602E-08
NNW	1.040E-10	1.092E-08	2.957E-08	4.093E-08	7.159E-08	8.593E-08	8.733E-08	7.995E-08	7.107E-08	5.610E-08	4.559E-08
N	2.023E-08	5.566E-08	5.981E-08	4.594E-08	3.593E-08	3.368E-08	3.187E-08	2.900E-08	2.632E-08	2.392E-08	2.180E-08
NNE	3.209E-08	3.994E-08	4.379E-08	3.675E-08	3.535E-08	3.597E-08	3.687E-08	3.535E-08	3.318E-08	3.084E-08	2.859E-08
NE	1.095E-08	4.282E-08	3.823E-08	2.828E-08	2.251E-08	1.996E-08	1.778E-08	1.581E-08	1.408E-08	1.260E-08	1.134E-08
ENE	2.931E-16	2.224E-10	3.599E-09	7.393E-09	1.062E-08	1.050E-08	9.470E-09	8.350E-09	7.358E-09	6.525E-09	5.838E-09
E	2.008E-10	1.483E-08	3.619E-08	4.518E-08	4.776E-08	4.220E-08	3.576E-08	3.023E-08	2.578E-08	2.225E-08	1.944E-08
ESE	6.967E-09	4.023E-08	9.606E-08	1.537E-07	2.095E-07	2.095E-07	1.918E-07	1.712E-07	1.520E-07	1.353E-07	1.212E-07
SE	2.533E-09	4.139E-08	9.518E-08	1.259E-07	1.462E-07	1.365E-07	1.199E-07	1.040E-07	9.051E-08	7.937E-08	7.023E-08
SSE	9.889E-11	6.433E-09	1.713E-08	2.393E-08	2.996E-08	2.991E-08	2.774E-08	2.513E-08	2.266E-08	4.473E-08	7.353E-08

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

BEARING	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	2.084E-08	1.355E-08	8.505E-09	4.551E-09	2.934E-09	2.074E-09	1.545E-09	1.203E-09	9.741E-10	8.078E-10	6.798E-10
SSW	9.793E-09	9.600E-09	6.191E-09	3.430E-09	2.453E-09	1.829E-09	1.380E-09	1.085E-09	8.848E-10	7.339E-10	6.200E-10
SW	1.270E-08	8.093E-09	5.049E-09	2.674E-09	1.699E-09	1.185E-09	8.871E-10	6.866E-10	5.490E-10	4.497E-10	3.755E-10
WSW	1.636E-08	1.126E-08	8.123E-09	5.011E-09	3.193E-09	2.258E-09	1.703E-09	1.331E-09	1.072E-09	8.840E-10	7.426E-10
W	1.067E-08	6.251E-09	4.723E-09	3.044E-09	2.130E-09	1.528E-09	1.152E-09	9.049E-10	7.330E-10	6.077E-10	5.131E-10
WNW	1.265E-08	6.524E-09	4.128E-09	2.215E-09	1.373E-09	9.509E-10	7.092E-10	5.527E-10	4.443E-10	3.660E-10	3.074E-10
NW	1.334E-08	6.885E-09	4.398E-09	2.408E-09	1.518E-09	1.059E-09	7.989E-10	6.250E-10	5.037E-10	4.161E-10	3.505E-10
NNW	3.850E-08	2.052E-08	1.272E-08	6.632E-09	4.034E-09	2.720E-09	1.968E-09	1.491E-09	1.178E-09	9.539E-10	7.888E-10
N	2.001E-08	1.420E-08	1.305E-08	1.131E-08	9.387E-09	7.269E-09	5.448E-09	4.254E-09	3.429E-09	2.829E-09	2.378E-09
NNE	3.595E-08	4.967E-08	3.081E-08	1.612E-08	9.871E-09	6.700E-09	4.856E-09	3.684E-09	2.889E-09	2.325E-09	1.909E-09
NE	1.319E-08	1.965E-08	1.233E-08	6.569E-09	4.080E-09	2.801E-09	2.087E-09	1.625E-09	1.312E-09	1.077E-09	8.984E-10
ENE	6.753E-09	1.022E-08	6.483E-09	3.497E-09	2.182E-09	1.505E-09	1.129E-09	8.879E-10	7.105E-10	5.832E-10	4.880E-10
E	2.074E-08	2.279E-08	1.427E-08	7.599E-09	4.729E-09	3.258E-09	2.394E-09	1.839E-09	1.477E-09	1.216E-09	1.018E-09
ESE	1.320E-07	1.676E-07	1.086E-07	6.045E-08	3.886E-08	2.740E-08	2.049E-08	1.597E-08	1.281E-08	1.051E-08	8.784E-09
SE	6.270E-08	4.070E-08	3.339E-08	2.592E-08	1.953E-08	1.569E-08	1.314E-08	1.125E-08	9.194E-09	7.690E-09	6.545E-09
SSE	6.453E-08	3.891E-08	2.447E-08	1.315E-08	8.274E-09	5.749E-09	4.254E-09	3.288E-09	2.624E-09	2.146E-09	1.789E-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	2.252E-08	2.998E-08	2.436E-08	1.982E-08	2.171E-08	1.293E-08	4.711E-09	2.092E-09	1.213E-09	8.097E-10
SSW	1.358E-08	1.879E-08	1.527E-08	1.359E-08	1.078E-08	8.128E-09	3.609E-09	1.815E-09	1.093E-09	7.364E-10
SW	2.885E-08	5.661E-08	3.568E-08	2.120E-08	1.450E-08	7.763E-09	2.768E-09	1.203E-09	6.915E-10	4.516E-10
WSW	2.110E-08	6.879E-08	4.588E-08	2.717E-08	1.867E-08	1.100E-08	4.895E-09	2.285E-09	1.339E-09	8.874E-10
W	1.841E-08	4.131E-08	2.803E-08	1.765E-08	1.239E-08	6.554E-09	3.011E-09	1.538E-09	9.099E-10	6.098E-10
WNW	4.641E-08	7.750E-08	4.216E-08	2.388E-08	1.527E-08	6.820E-09	2.266E-09	9.668E-10	5.561E-10	3.675E-10
NW	5.125E-08	9.259E-08	4.806E-08	2.569E-08	1.618E-08	7.214E-09	2.455E-09	1.077E-09	6.285E-10	4.178E-10
NNW	3.048E-08	7.115E-08	8.401E-08	6.790E-08	4.608E-08	2.105E-08	6.831E-09	2.770E-09	1.508E-09	9.591E-10
N	5.272E-08	3.715E-08	3.121E-08	2.617E-08	2.177E-08	1.498E-08	1.084E-08	7.105E-09	4.281E-09	2.840E-09
NNE	3.980E-08	3.438E-08	3.629E-08	3.291E-08	3.198E-08	3.824E-08	1.661E-08	6.808E-09	3.716E-09	2.378E-09
NE	3.483E-08	2.266E-08	1.757E-08	1.401E-08	1.240E-08	1.496E-08	6.744E-09	2.857E-09	1.638E-09	1.081E-09
ENE	4.535E-09	9.853E-09	9.298E-09	7.324E-09	6.380E-09	7.788E-09	3.576E-09	1.535E-09	8.889E-10	5.856E-10
E	3.544E-08	4.471E-08	3.527E-08	2.570E-08	2.075E-08	1.855E-08	7.806E-09	3.304E-09	1.860E-09	1.220E-09
ESE	1.093E-07	1.971E-07	1.883E-07	1.511E-07	1.294E-07	1.335E-07	6.156E-08	2.769E-08	1.606E-08	1.055E-08
SE	9.687E-08	1.374E-07	1.180E-07	9.013E-08	7.015E-08	4.234E-08	2.474E-08	1.569E-08	1.100E-08	7.711E-09
SSE	1.778E-08	2.860E-08	2.728E-08	3.177E-08	6.166E-08	3.818E-08	1.350E-08	5.825E-09	3.311E-09	2.155E-09

ERP ELEVATED STACK RELEASE - OCT-DEC 1991
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	1.713E-09	1.587E-09	1.635E-09	1.294E-09	6.992E-10	4.469E-10	3.085E-10	2.240E-10	1.687E-10	1.399E-10	1.242E-10
SSW	8.744E-10	9.022E-10	1.049E-09	8.870E-10	4.996E-10	3.240E-10	2.253E-10	1.642E-10	1.550E-10	1.171E-10	9.164E-11
SW	3.088E-10	4.049E-10	5.716E-10	5.254E-10	5.425E-10	3.011E-10	1.893E-10	1.297E-10	9.431E-11	7.156E-11	5.610E-11
WSW	1.837E-11	1.102E-10	2.346E-10	4.875E-10	3.010E-10	1.637E-10	1.013E-10	6.867E-11	4.958E-11	3.747E-11	2.931E-11
W	1.413E-12	7.807E-11	7.543E-11	4.858E-11	2.280E-11	1.240E-11	7.672E-12	5.202E-12	3.756E-12	2.838E-12	2.220E-12
WNW	2.685E-11	1.611E-10	1.383E-09	9.280E-10	6.077E-10	3.034E-10	1.796E-10	1.165E-10	8.935E-11	7.031E-11	5.8[illegible]E-11
NW	5.919E-10	6.551E-10	8.139E-10	1.655E-09	1.061E-09	5.273E-10	3.104E-10	2.045E-10	1.464E-10	1.118E-10	9.000E-11
NNW	1.121E-09	9.341E-10	8.267E-10	5.897E-10	4.516E-10	2.493E-10	1.667E-10	1.295E-10	9.711E-11	7.678E-11	6.406E-11
N	3.874E-09	2.970E-09	2.255E-09	1.403E-09	6.223E-10	3.661E-10	2.419E-10	1.716E-10	1.277E-10	9.8[illegible]E-11	7.790E-11
NNE	3.601E-09	2.779E-09	2.140E-09	1.351E-09	6.079E-10	3.600E-10	2.388E-10	1.698E-10	1.265E-10	9.752E-11	7.719E-11
NE	2.495E-09	1.939E-09	1.514E-09	9.683E-10	4.416E-10	2.632E-10	1.752E-10	1.248E-10	9.303E-11	7.175E-11	5.680E-11
ENE	2.119E-11	1.272E-10	2.707E-10	2.804E-10	1.752E-10	1.175E-10	8.296E-11	6.095E-11	4.616E-11	3.585E-11	2.837E-11
E	1.743E-09	1.772E-09	2.029E-09	1.702E-09	9.543E-10	6.179E-10	4.293E-10	3.128E-10	2.359E-10	1.828E-10	1.[illegible]43E-10
ESE	2.464E-09	3.201E-09	4.490E-09	4.118E-09	2.427E-09	1.598E-09	1.119E-09	8.188E-10	6.188E-10	4.799E-10	3.800E-10
SE	4.905E-09	4.809E-09	5.301E-09	4.358E-09	2.414E-09	1.556E-09	1.079E-09	7.853E-10	5.920E-10	4.586E-10	3.632E-10
SSE	8.732E-10	8.950E-10	1.034E-09	8.712E-10	4.897E-10	3.174E-10	2.206E-10	1.608E-10	1.213E-10	1.142E-10	1.538E-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	9.990E-11	8.019E-11	5.651E-11	3.364E-11	2.145E-11	1.412E-11	1.010E-11	7.577E-12	6.012E-12	4.804E-12	3.922E-12
SSW	7.369E-11	4.703E-11	3.125E-11	1.767E-11	1.234E-11	8.477E-12	6.074E-12	4.561E-12	3.546E-12	2.833E-12	2.312E-12
SW	4.646E-11	3.380E-11	2.322E-11	1.351E-11	8.561E-12	5.832E-12	4.210E-12	3.294E-12	2.561E-12	2.046E-12	1.671E-12
WSW	2.449E-11	2.609E-11	2.009E-11	1.211E-11	7.353E-12	4.873E-12	3.492E-12	2.622E-12	2.039E-12	1.628E-12	1.329E-12
W	1.785E-12	7.983E-13	1.280E-11	9.329E-12	4.449E-12	2.962E-12	2.123E-12	1.594E-12	1.239E-12	9.899E-13	8.080E-13
WNW	5.147E-11	3.266E-11	2.386E-11	1.458E-11	8.798E-12	6.158E-12	4.222E-12	3.170E-12	2.465E-12	1.969E-12	1.607E-12
NW	7.614E-11	4.297E-11	2.967E-11	1.885E-11	1.148E-11	7.685E-12	5.573E-12	4.185E-12	3.254E-12	2.599E-12	2.121E-12
NNW	5.588E-11	3.472E-11	2.509E-11	1.527E-11	9.801E-12	6.555E-12	4.581E-12	3.359E-12	2.550E-12	2.001E-12	1.638E-12
N	6.301E-11	3.017E-11	1.862E-11	1.010E-11	3.817E-11	2.195E-11	1.550E-11	1.150E-11	8.953E-12	7.165E-12	5.857E-12
NNE	6.242E-11	1.156E-10	7.453E-11	4.037E-11	2.493E-11	1.663E-11	1.181E-11	8.777E-12	6.765E-12	5.363E-12	4.348E-12
NE	4.592E-11	5.595E-11	3.528E-11	1.871E-11	1.151E-11	7.707E-12	5.488E-12	4.048E-12	3.184E-12	2.544E-12	2.077E-12
ENE	2.285E-11	5.531E-11	4.399E-11	2.859E-11	1.848E-11	1.218E-11	8.489E-12	5.162E-12	4.011E-12	3.203E-12	2.614E-12
E	1.167E-10	1.374E-10	1.005E-10	6.161E-11	3.942E-11	2.619E-11	1.844E-11	1.356E-11	1.036E-11	8.207E-12	6.697E-12
ESE	3.062E-10	4.209E-10	3.151E-10	1.963E-10	1.259E-10	8.343E-11	5.854E-11	4.288E-11	3.267E-11	2.566E-11	2.065E-11
SE	2.928E-10	1.390E-10	8.502E-11	4.509E-11	2.798E-11	1.987E-11	1.564E-11	6.460E-11	4.903E-11	3.838E-11	3.080E-11
SSE	1.438E-10	1.446E-10	9.014E-11	4.710E-11	2.880E-11	1.926E-11	1.374E-11	1.027E-11	7.952E-12	6.331E-12	5.152E-12

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

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES .5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	1.473E-09	7.192E-10	3.116E-10	1.735E-10	1.199E-10	7.404E-11	3.330E-11	1.447E-11	7.703E-12	4.835E-12
SSW	9.445E-10	5.076E-10	2.272E-10	1.432E-10	9.254E-11	4.594E-11	1.832E-11	8.545E-12	4.607E-12	2.851E-12
SW	5.140E-10	4.314E-10	1.953E-10	9.576E-11	5.711E-11	3.191E-11	1.347E-11	5.911E-12	3.276E-12	2.060E-12
WSW	3.194E-10	2.814E-10	1.949E-10	5.042E-11	2.994E-11	2.307E-11	1.177E-11	4.982E-12	2.648E-12	1.639E-12
W	6.408E-11	2.391E-11	7.945E-12	3.819E-12	2.242E-12	6.352E-12	7.932E-12	3.023E-12	1.610E-12	9.964E-13
WNW	9.091E-10	5.436E-10	1.885E-10	9.066E-11	5.945E-11	3.293E-11	1.407E-11	6.088E-12	3.202E-12	1.982E-12
NW	1.152E-09	9.559E-10	3.259E-10	1.498E-10	9.131E-11	4.443E-11	1.798E-11	7.851E-12	4.226E-12	2.616E-12
NNW	7.453E-10	3.924E-10	1.739E-10	9.862E-11	6.480E-11	3.514E-11	1.502E-11	6.631E-12	3.400E-12	2.029E-12
N	2.035E-09	6.819E-10	2.469E-10	1.291E-10	7.846E-11	3.254E-11	2.447E-11	2.370E-11	1.167E-11	7.210E-12
NNE	1.931E-09	6.628E-10	2.435E-10	1.278E-10	7.774E-11	8.554E-11	4.110E-11	1.691E-11	8.877E-12	5.402E-12
NE	1.366E-09	4.793E-10	1.785E-10	9.399E-11	5.720E-11	4.453E-11	1.919E-11	7.833E-12	4.130E-12	2.561E-12
ENE	2.431E-10	1.729E-10	8.335E-11	4.645E-11	2.854E-11	4.307E-11	2.752E-11	1.238E-11	5.674E-12	3.265E-12
E	1.827E-09	9.710E-10	4.330E-10	2.376E-10	1.456E-10	1.164E-10	6.040E-11	2.662E-11	1.374E-11	8.285E-12
ESE	4.038E-09	2.435E-09	1.127E-09	6.230E-10	3.823E-10	3.484E-10	1.914E-10	8.480E-11	4.346E-11	2.588E-11
SE	4.773E-09	2.465E-09	1.089E-09	5.964E-10	3.654E-10	1.492E-10	4.636E-11	2.034E-11	4.468E-11	3.873E-11
SSE	9.308E-10	4.979E-10	2.225E-10	1.298E-10	1.384E-10	1.202E-10	4.853E-11	1.960E-11	1.038E-11	6.375E-12

ERP ELEVATED STACK RELEASE - OCT-DEC 1991
CORRECTED FOR OPEN TERRAIN RECIRCULATION
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE (MILES)	DISTANCE (METERS)	X/Q (SEC/CUB.METER) NO DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 2.260 DAY DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 8.000 DAY DECAY DEPLETED	D/Q (PER SQ.METER)
A	SITE BOUNDARY	S	0.80	1287.	2.238E-08	2.236E-08	2.216E-08	1.578E-09
A	SITE BOUNDARY	SSW	0.82	1327.	1.528E-08	1.527E-08	1.516E-08	1.021E-09
A	SITE BOUNDARY	SW	0.98	1569.	4.447E-08	4.437E-08	4.425E-08	5.415E-10
A	SITE BOUNDARY	WSW	0.93	1489.	2.953E-08	2.946E-08	2.951E-08	4.068E-10
A	SITE BOUNDARY	W	0.91	1468.	2.524E-08	2.520E-08	2.518E-08	5.649E-11
A	SITE BOUNDARY	WNW	0.94	1509.	6.748E-08	6.739E-08	6.700E-08	1.032E-09
A	SITE BOUNDARY	NW	0.81	1307.	4.938E-08	4.933E-08	4.918E-08	8.052E-10
A	SITE BOUNDARY	NNW	0.69	1106.	2.537E-08	2.531E-08	2.492E-08	8.420E-10
A	SITE BOUNDARY	N	0.67	1086.	6.099E-08	6.084E-08	5.979E-08	2.425E-09
A	SITE BOUNDARY	NNE	0.60	965.	4.277E-08	4.274E-08	4.213E-08	2.476E-09
A	SITE BOUNDARY	NE	0.62	1005.	4.163E-08	4.160E-08	4.094E-08	1.692E-09
A	SITE BOUNDARY	ENE	0.59	945.	8.955E-10	8.949E-10	8.953E-10	1.761E-10
A	SITE BOUNDARY	E	0.53	845.	1.696E-08	1.697E-08	1.682E-08	1.787E-09
A	SITE BOUNDARY	ESE	0.54	865.	4.515E-08	4.510E-08	4.468E-08	3.368E-09
A	SITE BOUNDARY	SE	0.65	1046.	7.213E-08	7.208E-08	7.118E-08	5.035E-09
A	SITE BOUNDARY	SSE	0.81	1307.	1.932E-08	1.930E-08	1.911E-08	1.010E-09
A	NEAR. RESIDENCE	SW	1.40	2253.	7.214E-08	7.185E-08	7.132E-08	6.209E-10
A	NEAR. RESIDENCE	WSW	1.30	2092.	7.794E-08	7.737E-08	7.736E-08	3.996E-10
A	NEAR. RESIDENCE	W	1.00	1609.	3.172E-08	3.166E-08	3.164E-08	4.858E-11
A	NEAR. RESIDENCE	WNW	1.60	2575.	9.198E-08	9.176E-08	9.050E-08	5.196E-10
A	NEAR. RESIDENCE	NW	0.90	1448.	6.753E-08	6.745E-08	6.724E-08	1.791E-09
A	NEAR. RESIDENCE	NNW	1.90	3058.	8.575E-08	8.391E-08	8.427E-08	2.776E-10
A	NEAR. RESIDENCE	N	3.00	4828.	2.987E-08	2.905E-08	2.900E-08	1.716E-10
A	NEAR. RESIDENCE	NNE	2.70	4345.	3.725E-08	3.612E-08	3.638E-08	2.070E-10
A	NEAR. RESIDENCE	ENE	1.70	2736.	1.090E-08	1.088E-08	1.079E-08	1.482E-10
A	NEAR. RESIDENCE	E	1.80	2897.	4.556E-08	4.547E-08	4.475E-08	7.205E-10
A	NEAR. RESIDENCE	ESE	2.00	3219.	2.133E-07	2.115E-07	2.095E-07	1.598E-09
A	NEAR. RESIDENCE	SE	2.20	3541.	1.327E-07	1.322E-07	1.300E-07	1.335E-09
A	NEAREST COW	NNW	3.50	5634.	7.312E-08	6.956E-08	7.103E-08	9.706E-11
A	NEAREST GARDEN	SW	1.40	2253.	7.214E-08	7.185E-08	7.132E-08	6.209E-10
A	NEAREST GARDEN	WSW	1.30	2092.	7.794E-08	7.737E-08	7.736E-08	3.996E-10
A	NEAREST GARDEN	W	1.00	1609.	3.172E-08	3.166E-08	3.164E-08	4.858E-11
A	NEAREST GARDEN	WNW	1.60	2575.	9.198E-08	9.176E-08	9.050E-08	5.196E-10
A	NEAREST GARDEN	NW	2.70	4345.	4.216E-08	4.201E-08	4.057E-08	2.598E-10
A	NEAREST GARDEN	NNW	1.90	3058.	8.575E-08	8.391E-08	8.427E-08	2.776E-10
A	NEAREST GARDEN	N	3.00	4828.	2.987E-08	2.905E-08	2.900E-08	1.716E-10
A	NEAREST GARDEN	NNE	2.70	4345.	3.725E-08	3.612E-08	3.638E-08	2.070E-10
A	NEAREST GARDEN	ENE	1.70	2736.	1.090E-08	1.088E-08	1.079E-08	1.482E-10
A	NEAREST GARDEN	E	1.80	2897.	4.556E-08	4.547E-08	4.475E-08	7.205E-10
A	NEAREST GARDEN	ESE	2.40	3863.	2.004E-07	1.981E-07	1.959E-07	1.197E-09
A	NEAREST GARDEN	SE	2.20	3541.	1.327E-07	1.322E-07	1.300E-07	1.335E-09

Atmospheric Diffusion Estimates

Elevated Releases

July-December 1991

ERP ELEVATED STACK RELEASE - JULY-DEC 1991
NO DECAY, UNDEPLETED
CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

SECTOR	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	7.678E-09	3.240E-08	5.522E-08	5.948E-08	5.785E-08	4.994E-08	4.190E-08	3.522E-08	2.993E-08	3.575E-08	4.008E-08
SSW	1.262E-10	1.151E-08	2.882E-08	3.638E-08	3.541E-08	3.557E-08	3.071E-08	3.536E-08	3.805E-08	3.396E-08	3.061E-08
SW	1.145E-09	1.289E-08	3.999E-08	7.456E-08	1.271E-07	8.983E-08	6.691E-08	5.209E-08	4.199E-08	3.479E-08	2.946E-08
WSW	1.076E-09	6.134E-09	2.848E-08	7.154E-08	1.412E-07	9.231E-08	6.532E-08	4.902E-08	3.847E-08	3.121E-08	2.599E-08
W	4.379E-10	2.610E-08	8.545E-08	1.120E-07	1.221E-07	8.123E-08	5.850E-08	4.460E-08	3.544E-08	2.907E-08	2.444E-08
WNW	5.861E-09	4.018E-08	1.068E-07	1.637E-07	2.121E-07	1.331E-07	9.250E-08	7.295E-08	5.896E-08	4.823E-08	3.992E-08
NW	1.066E-08	4.632E-08	8.600E-08	1.579E-07	2.839E-07	1.710E-07	1.152E-07	8.567E-08	6.680E-08	5.299E-08	4.334E-08
NNW	1.139E-08	4.026E-08	5.644E-08	6.591E-08	1.026E-07	1.178E-07	1.197E-07	1.110E-07	9.987E-08	7.906E-08	6.456E-08
N	3.149E-08	1.037E-07	1.023E-07	7.494E-08	5.501E-08	4.814E-08	4.302E-08	3.761E-08	3.315E-08	2.946E-08	2.639E-08
NNE	3.151E-08	5.698E-08	6.818E-08	6.064E-08	5.578E-08	5.190E-08	4.727E-08	4.261E-08	3.834E-08	3.459E-08	3.138E-08
NE	7.870E-09	4.038E-08	4.665E-08	3.916E-08	3.231E-08	2.739E-08	2.332E-08	2.003E-08	1.739E-08	1.526E-08	1.355E-08
ENE	2.426E-16	2.562E-10	4.213E-09	9.333E-09	1.302E-08	1.250E-08	1.102E-08	9.543E-09	8.282E-09	7.247E-09	6.406E-09
E	1.035E-10	7.847E-09	2.148E-08	2.885E-08	3.203E-08	2.867E-08	2.441E-08	2.068E-08	1.767E-08	1.526E-08	1.334E-08
ESE	4.695E-09	2.784E-08	6.058E-08	9.107E-08	1.106E-07	1.180E-07	1.075E-07	9.568E-08	8.491E-08	7.563E-08	6.780E-08
SE	1.306E-09	2.178E-08	5.399E-08	7.391E-08	8.704E-08	8.132E-08	7.146E-08	6.203E-08	5.403E-08	4.743E-08	4.203E-08
SSE	4.705E-09	2.646E-08	4.054E-08	4.331E-08	4.321E-08	3.864E-08	3.350E-08	2.896E-08	2.523E-08	4.291E-08	6.790E-08

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

BEARING	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	3.601E-08	2.509E-08	1.643E-08	9.516E-09	6.763E-09	5.169E-09	4.042E-09	3.286E-09	2.778E-09	2.397E-09	2.078E-09
SSW	2.880E-08	2.348E-08	1.538E-08	8.912E-09	6.405E-09	4.842E-09	3.783E-09	3.074E-09	2.575E-09	2.200E-09	1.911E-09
SW	2.742E-08	2.124E-08	1.407E-08	8.252E-09	5.902E-09	4.527E-09	3.672E-09	2.988E-09	2.498E-09	2.134E-09	1.853E-09
WSW	2.308E-08	1.549E-08	1.127E-08	7.201E-09	4.875E-09	3.610E-09	2.835E-09	2.307E-09	1.931E-09	1.652E-09	1.436E-09
W	2.095E-08	1.207E-08	9.126E-09	6.332E-09	4.850E-09	3.645E-09	2.863E-09	2.336E-09	1.961E-09	1.681E-09	1.465E-09
WNW	3.434E-08	2.026E-08	1.422E-08	9.045E-09	6.361E-09	4.839E-09	3.889E-09	3.215E-09	2.715E-09	2.328E-09	2.028E-09
NW	3.670E-08	2.031E-08	1.370E-08	8.178E-09	5.508E-09	4.062E-09	3.210E-09	2.611E-09	2.179E-09	1.859E-09	1.613E-09
NNW	5.496E-08	3.069E-08	1.995E-08	1.147E-08	7.765E-09	5.746E-09	4.516E-09	3.685E-09	3.109E-09	2.663E-09	2.312E-09
N	2.390E-08	1.634E-08	1.452E-08	1.230E-08	1.041E-08	8.584E-09	6.776E-09	5.534E-09	4.635E-09	3.967E-09	3.452E-09
NNE	3.784E-08	5.910E-08	3.851E-08	2.224E-08	1.512E-08	1.123E-08	8.816E-09	7.190E-09	6.030E-09	5.164E-09	4.498E-09
NE	1.527E-08	2.379E-08	1.556E-08	9.021E-09	6.153E-09	4.581E-09	3.661E-09	3.020E-09	2.553E-09	2.188E-09	1.906E-09
ENE	7.025E-09	9.071E-09	5.930E-09	3.428E-09	2.327E-09	1.725E-09	1.383E-09	1.140E-09	9.526E-10	8.133E-10	7.063E-10
E	1.406E-08	1.665E-08	1.090E-08	6.318E-09	4.301E-09	3.195E-09	2.509E-09	2.046E-09	1.759E-09	1.534E-09	1.334E-09
ESE	7.333E-08	9.108E-08	6.075E-08	3.587E-08	2.464E-08	1.841E-08	1.450E-08	1.186E-08	9.958E-09	8.539E-09	7.443E-09
SE	3.758E-08	2.454E-08	2.014E-08	1.573E-08	1.200E-08	9.767E-09	8.282E-09	7.210E-09	6.085E-09	5.240E-09	4.584E-09
SSE	5.994E-08	3.772E-08	2.668E-08	1.434E-08	9.797E-09	7.304E-09	5.752E-09	4.704E-09	3.955E-09	3.395E-09	2.963E-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	5.205E-08	5.470E-08	4.137E-08	3.366E-08	3.729E-08	2.367E-08	9.828E-09	5.143E-09	3.308E-09	2.390E-09
SSW	2.833E-08	3.703E-08	3.387E-08	3.572E-08	3.093E-08	2.106E-08	9.234E-09	4.835E-09	3.086E-09	2.204E-09
SW	4.933E-08	9.885E-08	6.709E-08	4.213E-08	3.028E-08	1.943E-08	8.501E-09	4.552E-09	2.997E-09	2.138E-09
WSW	4.265E-08	1.040E-07	6.600E-08	3.872E-08	2.646E-08	1.530E-08	7.072E-09	3.638E-09	2.315E-09	1.655E-09
W	8.407E-08	1.017E-07	5.900E-08	3.563E-08	2.452E-08	1.273E-08	6.294E-09	3.253E-09	2.344E-09	1.684E-09
WNW	1.173E-07	1.662E-07	9.552E-08	5.920E-08	4.031E-08	2.071E-08	9.003E-09	4.865E-09	3.217E-09	2.332E-09
NW	1.091E-07	2.057E-07	1.183E-07	6.693E-08	4.374E-08	2.102E-08	8.219E-09	4.107E-09	2.617E-09	1.863E-09
NNW	5.706E-08	1.012E-07	1.157E-07	9.511E-08	6.530E-08	3.131E-08	1.171E-08	5.792E-09	3.703E-09	2.665E-09
N	9.046E-08	5.639E-08	4.222E-08	3.302E-08	2.638E-08	1.721E-08	1.195E-08	8.347E-09	5.546E-09	3.974E-09
NNE	6.234E-08	5.513E-08	4.664E-08	3.813E-08	3.472E-08	4.523E-08	2.269E-08	1.130E-08	7.213E-09	5.174E-09
NE	4.186E-08	3.165E-08	2.309E-08	1.733E-08	1.470E-08	1.824E-08	9.199E-09	4.632E-09	3.025E-09	2.192E-09
ENE	5.711E-09	1.197E-08	1.082E-08	8.248E-09	6.884E-09	7.220E-09	3.495E-09	1.749E-09	1.138E-09	8.150E-10
E	2.173E-08	2.983E-08	2.406E-08	1.761E-08	1.418E-08	1.352E-08	6.440E-09	3.216E-09	2.069E-09	1.527E-09
ESE	6.686E-08	1.125E-07	1.056E-07	8.445E-08	7.217E-08	7.365E-08	3.641E-08	1.851E-08	1.189E-08	8.554E-09
SE	5.569E-08	8.158E-08	7.032E-08	5.380E-08	4.198E-08	2.548E-08	1.505E-08	9.769E-09	7.083E-09	5.248E-09
SSE	3.864E-08	4.120E-08	3.305E-08	3.303E-08	5.755E-08	3.686E-08	1.462E-08	7.348E-09	4.718E-09	3.401E-09

ERP ELEVATED STACK RELEASE - JULY-DEC 1991
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	7.676E-09	3.238E-08	5.517E-08	5.939E-08	5.771E-08	4.977E-08	4.170E-08	3.501E-08	2.972E-08	3.546E-08	3.970E-08
SSW	1.261E-10	1.150E-08	2.878E-08	3.631E-08	3.930E-08	3.541E-08	3.051E-08	3.503E-08	3.758E-08	3.344E-08	3.006E-08
SW	1.145E-09	1.288E-08	3.993E-08	7.438E-08	1.264E-07	8.909E-08	6.614E-08	5.132E-08	4.122E-08	3.402E-08	2.870E-08
WSW	1.076E-09	6.130E-09	2.845E-08	7.136E-08	1.401E-07	9.123E-08	6.429E-08	4.807E-08	3.756E-08	3.035E-08	2.517E-08
W	4.377E-10	2.608E-08	8.534E-08	1.118E-07	1.217E-07	8.076E-08	5.803E-08	4.414E-08	3.499E-08	2.863E-08	2.401E-08
WNW	5.859E-09	4.015E-08	1.067E-07	1.634E-07	2.113E-07	1.325E-07	9.188E-08	7.231E-08	5.929E-08	4.759E-08	3.931E-08
NW	1.065E-08	4.629E-08	8.590E-08	1.575E-07	2.826E-07	1.699E-07	1.143E-07	8.476E-08	6.595E-08	5.221E-08	4.261E-08
NNW	1.138E-08	4.023E-08	5.638E-08	6.576E-08	1.019E-07	1.165E-07	1.178E-07	1.088E-07	9.756E-08	7.696E-08	6.262E-08
N	3.148E-08	1.036E-07	1.022E-07	7.479E-08	5.481E-08	4.784E-08	4.262E-08	3.714E-08	3.262E-08	2.889E-08	2.580E-08
NNE	3.150E-08	5.694E-08	6.810E-08	6.054E-08	5.554E-08	5.147E-08	4.665E-08	4.184E-08	3.746E-08	3.363E-08	3.035E-08
NE	7.867E-09	4.035E-08	4.639E-08	3.905E-08	3.219E-08	2.722E-08	2.309E-08	1.975E-08	1.708E-08	1.494E-08	1.320E-08
ENE	2.426E-16	2.560E-10	4.512E-09	9.318E-09	1.299E-08	1.246E-08	1.098E-08	9.501E-09	8.239E-09	7.203E-09	6.362E-09
E	1.035E-10	7.842E-09	2.146E-08	2.881E-08	3.197E-08	2.859E-08	2.433E-08	2.059E-08	1.757E-08	1.517E-08	1.325E-08
ESE	4.693E-09	2.782E-08	6.049E-08	9.087E-08	1.190E-07	1.171E-07	1.062E-07	9.424E-08	8.329E-08	7.388E-08	6.595E-08
SE	1.306E-09	2.177E-08	5.394E-08	7.381E-08	8.683E-08	8.103E-08	7.110E-08	6.164E-08	5.360E-08	4.699E-08	4.157E-08
SSE	4.704E-09	2.644E-08	4.051E-08	4.326E-08	4.310E-08	3.848E-08	3.328E-08	2.871E-08	2.495E-08	4.219E-08	6.648E-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	3.563E-08	2.460E-08	1.599E-08	9.129E-09	6.382E-09	4.799E-09	3.700E-09	2.966E-09	2.471E-09	2.097E-09	1.799E-09
SSW	2.820E-08	2.264E-08	1.465E-08	8.290E-09	5.818E-09	4.299E-09	3.291E-09	2.622E-09	2.153E-09	1.807E-09	1.543E-09
SW	2.660E-08	2.016E-08	1.311E-08	7.422E-09	5.125E-09	3.800E-09	2.977E-09	2.350E-09	1.910E-09	1.587E-09	1.343E-09
WSW	2.226E-08	1.464E-08	1.045E-08	6.425E-09	4.201E-09	3.010E-09	2.289E-09	1.808E-09	1.471E-09	1.224E-09	1.037E-09
W	2.053E-08	1.167E-08	8.698E-09	5.855E-09	4.347E-09	3.179E-09	2.436E-09	1.942E-09	1.593E-09	1.336E-09	1.140E-09
WNW	3.373E-08	1.967E-08	1.364E-08	8.455E-09	5.807E-09	4.316E-09	3.389E-09	2.739E-09	2.262E-09	1.901E-09	1.625E-09
NW	3.602E-08	1.974E-08	1.320E-08	7.745E-09	5.135E-09	3.732E-09	2.909E-09	2.336E-09	1.926E-09	1.624E-09	1.394E-09
NNW	5.313E-08	2.917E-08	1.867E-08	1.041E-08	6.861E-09	4.951E-09	3.803E-09	3.038E-09	2.513E-09	2.112E-09	1.803E-09
N	2.328E-08	1.566E-08	1.369E-08	1.129E-08	9.346E-09	7.555E-09	5.844E-09	4.681E-09	3.853E-09	3.243E-09	2.779E-09
NNE	3.636E-08	5.586E-08	3.577E-08	1.998E-08	1.318E-08	9.518E-09	7.280E-09	5.795E-09	4.750E-09	3.984E-09	3.401E-09
NE	1.480E-08	2.273E-08	1.465E-08	8.263E-09	5.494E-09	3.994E-09	3.123E-09	2.523E-09	2.089E-09	1.757E-09	1.504E-09
ENE	6.967E-09	8.875E-09	5.757E-09	3.278E-09	2.193E-09	1.603E-09	1.266E-09	1.029E-09	8.494E-10	7.165E-10	6.151E-10
E	1.394E-08	1.634E-08	1.062E-08	6.076E-09	4.084E-09	2.997E-09	2.326E-09	1.875E-09	1.593E-09	1.374E-09	1.182E-09
ESE	7.094E-08	8.620E-08	5.646E-08	3.222E-08	2.143E-08	1.554E-08	1.190E-08	9.477E-09	7.765E-09	6.505E-09	5.546E-09
SE	3.711E-08	2.404E-08	1.957E-08	1.507E-08	1.135E-08	9.122E-09	7.648E-09	6.589E-09	5.503E-09	4.690E-09	4.063E-09
SSE	5.854E-08	3.639E-08	2.354E-08	1.338E-08	8.953E-09	6.545E-09	5.060E-09	4.067E-09	3.363E-09	2.842E-09	2.443E-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	5.198E-08	5.455E-08	4.118E-08	3.342E-08	3.693E-08	2.322E-08	9.433E-09	4.781E-09	2.987E-09	2.097E-09
SSW	2.829E-08	3.691E-08	3.363E-08	3.528E-08	3.037E-08	2.032E-08	8.604E-09	4.301E-09	2.634E-09	1.812E-09
SW	4.923E-08	9.826E-08	6.633E-08	4.136E-08	2.950E-08	1.846E-08	7.666E-09	3.824E-09	2.361E-09	1.592E-09
WSW	4.256E-08	1.031E-07	6.499E-08	3.782E-08	2.563E-08	1.447E-08	6.331E-09	3.039E-09	1.817E-09	1.228E-09
W	8.393E-08	1.013E-07	5.854E-08	3.518E-08	2.409E-08	1.232E-08	5.816E-09	3.193E-09	1.950E-09	1.340E-09
WNW	1.171E-07	1.656E-07	9.488E-08	5.855E-08	3.970E-08	2.011E-08	9.429E-09	4.343E-09	2.743E-09	1.906E-09
NW	1.089E-07	2.047E-07	1.173E-07	7.609E-08	4.302E-08	2.045E-08	7.797E-09	3.777E-09	2.343E-09	1.628E-09
NNW	5.696E-08	1.004E-07	1.139E-07	9.292E-08	6.335E-08	2.983E-08	1.067E-08	5.001E-09	3.056E-09	2.116E-09
N	9.032E-08	5.615E-08	4.182E-08	3.249E-08	2.578E-08	1.648E-08	1.096E-08	7.349E-09	4.698E-09	3.252E-09
NNE	6.226E-08	5.484E-08	4.601E-08	3.725E-08	3.355E-08	4.260E-08	2.047E-08	9.600E-09	5.821E-09	3.995E-09
NE	4.180E-08	3.151E-08	2.285E-08	1.703E-08	1.431E-08	1.737E-08	8.451E-09	4.046E-09	2.529E-09	1.761E-09
ENE	5.702E-09	1.194E-08	1.078E-08	8.205E-09	6.835E-09	7.065E-09	3.346E-09	1.625E-09	1.028E-09	7.183E-10
E	2.170E-08	2.976E-08	2.397E-08	1.752E-08	1.407E-08	1.327E-08	6.201E-09	3.018E-09	1.897E-09	1.368E-09
ESE	6.673E-08	1.119E-07	1.043E-07	8.283E-08	7.015E-08	6.959E-08	3.281E-08	1.566E-08	9.518E-09	6.523E-09
SE	5.562E-08	8.136E-08	6.996E-08	5.338E-08	4.152E-08	2.496E-08	1.442E-08	9.126E-09	6.478E-09	4.699E-09
SSE	3.860E-08	4.108E-08	3.284E-08	3.259E-08	5.634E-08	3.560E-08	1.367E-08	6.593E-09	4.083E-09	2.848E-09

ERP ELEVATED STACK RELEASE - JULY-DEC 1991
8.000 DAY DECAY, DEPLETED
CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

SECTOR	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	7.677E-09	3.211E-08	5.427E-08	5.852E-08	5.678E-08	4.876E-08	4.068E-08	3.401E-08	2.876E-08	3.438E-08	3.860E-08
SSW	1.262E-10	1.141E-08	2.841E-08	3.593E-08	3.880E-08	3.482E-08	2.989E-08	3.434E-08	3.690E-08	3.282E-08	2.950E-08
SW	1.145E-09	1.278E-08	3.949E-08	7.401E-08	1.255E-07	8.807E-08	6.519E-08	5.046E-08	4.050E-08	3.340E-08	2.816E-08
WSW	1.076E-09	6.081E-09	2.830E-08	7.128E-08	1.395E-07	9.056E-08	6.370E-08	4.758E-08	3.716E-08	3.003E-08	2.492E-08
W	4.379E-10	2.579E-08	8.458E-08	1.105E-07	1.201E-07	7.958E-08	5.714E-08	4.345E-08	3.446E-08	2.821E-08	2.367E-08
WNW	5.861E-09	3.985E-08	1.058E-07	1.619E-07	2.086E-07	1.301E-07	8.990E-08	7.067E-08	5.793E-08	4.638E-08	3.819E-08
NW	1.065E-08	4.590E-08	8.485E-08	1.564E-07	2.803E-07	1.676E-07	1.123E-07	8.315E-08	6.460E-08	5.100E-08	4.148E-08
NNW	1.139E-08	3.990E-08	5.538E-08	6.485E-08	1.013E-07	1.161E-07	1.178E-07	1.091E-07	9.800E-08	7.724E-08	6.272E-08
N	3.148E-08	1.027E-07	1.000E-07	7.286E-08	5.345E-08	4.683E-08	4.186E-08	3.655E-08	3.217E-08	2.854E-08	2.553E-08
NNE	3.151E-08	5.646E-08	6.679E-08	5.932E-08	5.457E-08	5.072E-08	4.609E-08	4.145E-08	3.720E-08	3.349E-08	3.031E-08
NE	7.869E-09	4.001E-08	4.548E-08	3.826E-08	3.153E-08	2.664E-08	2.258E-08	1.930E-08	1.668E-08	1.458E-08	1.289E-08
ENE	2.426E-16	2.561E-10	4.516E-09	9.329E-09	1.291E-08	1.231E-08	1.079E-08	9.293E-09	8.030E-09	6.999E-09	6.166E-09
E	1.035E-10	7.781E-09	2.122E-08	2.857E-08	3.159E-08	2.811E-08	2.380E-08	2.006E-08	1.705E-08	1.466E-08	1.277E-08
ESE	4.694E-09	2.760E-08	5.991E-08	9.041E-08	1.181E-07	1.158E-07	1.048E-07	9.280E-08	8.193E-08	7.263E-08	6.482E-08
SE	1.306E-09	2.159E-08	5.333E-08	7.324E-08	8.592E-08	7.984E-08	6.979E-08	6.030E-08	5.230E-08	4.575E-08	4.039E-08
SSE	4.704E-09	2.622E-08	3.987E-08	4.267E-08	4.248E-08	3.785E-08	3.264E-08	2.810E-08	2.439E-08	4.175E-08	6.641E-08

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

BEARING	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	3.461E-08	2.365E-08	1.496E-08	8.092E-09	5.319E-09	3.811E-09	2.842E-09	2.214E-09	1.800E-09	1.499E-09	1.263E-09
SSW	2.771E-08	2.222E-08	1.403E-08	7.550E-09	5.012E-09	3.606E-09	2.705E-09	2.117E-09	1.712E-09	1.416E-09	1.193E-09
SW	2.616E-08	1.993E-08	1.272E-08	6.908E-09	4.537E-09	3.235E-09	2.491E-09	1.943E-09	1.562E-09	1.285E-09	1.078E-09
WSW	2.207E-08	1.451E-08	1.019E-08	6.090E-09	3.880E-09	2.740E-09	2.061E-09	1.612E-09	1.301E-09	1.075E-09	9.046E-10
W	2.026E-08	1.158E-08	8.657E-09	5.614E-09	3.987E-09	2.864E-09	2.161E-09	1.700E-09	1.378E-09	1.144E-09	9.673E-10
WNW	3.267E-08	1.870E-08	1.268E-08	7.479E-09	4.822E-09	3.424E-09	2.617E-09	2.076E-09	1.688E-09	1.397E-09	1.178E-09
NW	3.494E-08	1.873E-08	1.220E-08	6.801E-09	4.327E-09	3.040E-09	2.306E-09	1.810E-09	1.463E-09	1.211E-09	1.021E-09
NNW	5.307E-08	2.857E-08	1.785E-08	9.449E-09	5.824E-09	3.979E-09	2.922E-09	2.259E-09	1.823E-09	1.501E-09	1.259E-09
N	2.308E-08	1.565E-08	1.386E-08	1.167E-08	9.604E-09	7.479E-09	5.674E-09	4.474E-09	3.634E-09	3.022E-09	2.560E-09
NNE	3.662E-08	5.683E-08	3.560E-08	1.908E-08	1.203E-08	8.381E-09	6.221E-09	4.825E-09	3.864E-09	3.172E-09	2.655E-09
NE	1.455E-08	2.268E-08	1.428E-08	7.712E-09	4.892E-09	3.424E-09	2.602E-09	2.060E-09	1.678E-09	1.392E-09	1.176E-09
ENE	6.769E-09	8.719E-09	5.503E-09	2.958E-09	1.849E-09	1.278E-09	9.621E-10	7.580E-10	6.102E-10	5.034E-10	4.233E-10
E	1.346E-08	1.591E-08	1.007E-08	5.440E-09	3.421E-09	2.377E-09	1.759E-09	1.360E-09	1.112E-09	9.286E-10	7.789E-10
ESE	7.004E-08	8.675E-08	5.607E-08	3.108E-08	1.990E-08	1.399E-08	1.044E-08	8.124E-09	6.507E-09	5.338E-09	4.457E-09
SE	3.600E-08	2.323E-08	1.898E-08	1.477E-08	1.120E-08	9.076E-09	7.670E-09	6.632E-09	5.437E-09	4.561E-09	3.892E-09
SSE	5.833E-08	3.549E-08	2.235E-08	1.210E-08	7.702E-09	5.409E-09	4.042E-09	3.153E-09	2.539E-09	2.094E-09	1.760E-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	5.123E-08	5.360E-08	4.017E-08	3.240E-08	3.587E-08	2.223E-08	8.387E-09	3.826E-09	2.236E-09	1.501E-09
SSW	2.798E-08	3.639E-08	3.299E-08	3.462E-08	2.982E-08	1.980E-08	7.863E-09	3.621E-09	2.131E-09	1.421E-09
SW	4.890E-08	9.743E-08	6.541E-08	4.065E-08	2.897E-08	1.811E-08	7.145E-09	3.285E-09	1.954E-09	1.290E-09
WSW	4.246E-08	1.026E-07	6.442E-08	3.742E-08	2.538E-08	1.427E-08	6.019E-09	2.772E-09	1.622E-09	1.079E-09
W	8.306E-08	9.996E-08	5.765E-08	3.465E-08	2.376E-08	1.221E-08	5.567E-09	2.882E-09	1.709E-09	1.148E-09
WNW	1.161E-07	1.633E-07	9.293E-08	5.717E-08	3.858E-08	1.913E-08	7.453E-09	3.474E-09	2.083E-09	1.402E-09
NW	1.980E-07	2.627E-07	1.154E-07	6.472E-08	4.188E-08	1.943E-08	6.901E-09	3.090E-09	1.820E-09	1.215E-09
NNW	5.615E-08	9.979E-08	1.139E-07	9.325E-08	6.345E-08	2.925E-08	9.706E-09	4.048E-09	2.282E-09	1.507E-09
N	8.855E-08	5.482E-08	4.106E-08	3.204E-08	2.551E-08	1.651E-08	1.124E-08	7.323E-09	4.497E-09	3.032E-09
NNE	6.117E-08	5.391E-08	4.547E-08	3.700E-08	3.359E-08	4.290E-08	1.962E-08	8.490E-09	4.858E-09	3.185E-09
NE	4.106E-08	3.085E-08	2.235E-08	1.663E-08	1.401E-08	1.714E-08	7.918E-09	3.487E-09	2.069E-09	1.397E-09
ENE	5.709E-09	1.185E-08	1.059E-08	7.998E-09	6.636E-09	6.856E-09	3.030E-09	1.304E-09	7.600E-10	5.054E-10
E	2.150E-08	2.937E-08	2.345E-08	1.700E-08	1.358E-08	1.277E-08	5.571E-09	2.408E-09	1.380E-09	9.276E-10
ESE	6.629E-08	1.109E-07	1.029E-07	8.149E-08	6.907E-08	6.940E-08	3.167E-08	1.415E-08	8.171E-09	5.358E-09
SE	5.513E-08	8.040E-08	6.867E-08	5.209E-08	4.035E-08	2.418E-08	1.412E-08	9.080E-09	6.473E-09	4.573E-09
SSE	3.808E-08	4.045E-08	3.221E-08	3.207E-08	5.611E-08	3.473E-08	1.242E-08	5.474E-09	3.173E-09	2.102E-09

ERP ELEVATED STACK RELEASE - JULY-DEC 1991
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	3.475E-09	2.932E-09	2.649E-09	1.919E-09	9.744E-10	6.081E-10	4.148E-10	2.993E-10	2.247E-10	1.803E-10	1.638E-10
SSW	1.197E-09	1.209E-09	1.3[illegible]E-09	1.151E-09	6.443E-10	4.170E-10	2.896E-10	2.110E-10	1.974E-10	1.493E-10	1.168E-10
SW	1.032E-09	9.677E-10	1.012E-09	8.077E-10	7.484E-10	4.107E-10	2.5[illegible]4E-10	1.[illegible]50E-10	1.269E-10	9.618E-11	7.537E-11
WSW	4.569E-10	5.018E-10	6.192E-10	9.494E-10	5.[illegible]71E-10	3.130E-10	1.[illegible]55E-10	1.312E-10	9.471E-11	7.159E-11	5.602E-11
W	4.457E-10	1.627E-09	1.380E-09	8.520E-10	3.894E-10	2.106E-10	1.300E-10	8.806E-11	6.355E-11	4.803E-11	3.758E-11
WNW	1.598E-09	1.377E-09	2.455E-09	1.845E-09	1.041E-09	5.325E-10	3.210E-10	2.179E-10	1.691E-10	1.339E-10	1.122E-10
NW	2.597E-09	2.146E-09	1.874E-09	2.444E-09	1.467E-09	7.350E-10	4.395E-10	2.972E-10	2.207E-10	1.763E-10	1.492E-10
NNW	3.006E-09	2.359E-09	1.877E-09	1.223E-09	8.774E-10	4.723E-10	2.971E-10	2.506E-10	1.956E-10	1.646E-10	1.467E-10
N	7.[illegible]39E-09	5.673E-09	4.141E-09	2.468E-09	1.046E-09	6.014E-10	3.923E-10	2.763E-10	2.048E-10	1.576E-10	1.247E-10
NNE	4.720E-09	3.688E-09	2.909E-09	1.880E-09	8.657E-10	5.182E-10	3.458E-10	2.466E-10	1.840E-10	1.420E-10	1.124E-10
NE	2.722E-09	2.148E-09	1.728E-09	1.137E-09	5.324E-10	3.212E-10	2.152E-10	1.538E-10	1.149E-10	8.869E-11	7.021E-11
ENE	2.258E-11	1.355E-10	2.884E-10	2.988E-10	1.866E-10	1.251E-10	8.839E-11	6.493E-11	4.917E-11	3.817E-11	3.023E-11
E	9.097E-10	9.791E-10	1.186E-09	1.022E-09	5.825E-10	3.793E-10	2.642E-10	1.928E-10	1.455E-10	1.128E-10	8.929E-11
ESE	1.993E-09	2.257E-09	2.858E-09	2.513E-09	1.448E-09	9.466E-10	6.607E-10	4.824E-10	3.643E-10	2.824E-10	2.236E-10
SE	2.550E-09	2.607E-09	3.005E-09	2.529E-09	1.421E-09	9.205E-10	6.398E-10	4.662E-10	3.517E-10	2.725E-10	2.158E-10
SSE	3.182E-09	2.671E-09	2.393E-09	1.723E-09	8.705E-10	5.422E-10	3.695E-10	2.665E-10	2.000E-10	1.858E-10	2.102E-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	1.318E-10	1.171E-10	8.441E-11	5.123E-11	3.285E-11	2.055E-11	1.471E-11	1.103E-11	8.808E-12	7.019E-12	5.730E-12
SSW	9.448E-11	8.154E-11	5.830E-11	3.509E-11	2.131E-11	1.461E-11	1.047E-11	7.865E-12	6.155E-12	4.917E-12	4.014E-12
SW	6.184E-11	5.731E-11	4.155E-11	2.530E-11	1.621E-11	1.021E-11	7.209E-12	5.534E-12	4.302E-12	3.437E-12	2.806E-12
WSW	4.552E-11	3.970E-11	2.905E-11	1.789E-11	1.085E-11	7.225E-12	5.221E-12	3.921E-12	3.048E-12	2.435E-12	1.988E-12
W	3.022E-11	1.357E-11	2.848E-11	1.925E-11	1.077E-11	7.198E-12	5.158E-12	3.873E-12	3.011E-12	2.405E-12	1.963E-12
WNW	9.854E-11	6.278E-11	4.600E-11	2.825E-11	1.774E-11	1.142E-11	8.032E-12	6.026E-12	4.725E-12	3.774E-12	3.081E-12
NW	1.323E-10	8.674E-11	6.425E-11	3.776E-11	2.299E-11	1.544E-11	1.128E-11	8.463E-12	6.620E-12	5.288E-12	4.317E-12
NNW	1.362E-10	1.004E-10	7.791E-11	4.995E-11	3.239E-11	2.155E-11	1.555E-11	9.458E-12	7.354E-12	5.853E-12	4.780E-12
N	1.010E-10	4.848E-11	3.000E-11	1.638E-11	6.244E-11	3.401E-11	2.425E-11	1.815E-11	1.412E-11	1.129E-11	9.219E-12
NNE	9.084E-11	2.034E-10	1.287E-10	6.780E-11	4.163E-11	2.784E-11	1.985E-11	1.482E-11	1.147E-11	9.125E-12	7.423E-12
NE	5.674E-11	8.852E-11	5.557E-11	2.932E-11	1.800E-11	1.206E-11	8.503E-12	6.348E-12	4.974E-12	3.973E-12	3.244E-12
ENE	2.434E-11	4.431E-11	3.433E-11	2.190E-11	1.410E-11	9.310E-12	6.500E-12	4.047E-12	3.148E-12	2.517E-12	2.056E-12
E	7.198E-11	8.445E-11	6.170E-11	3.776E-11	2.415E-11	1.603E-11	1.129E-11	8.295E-12	6.335E-12	5.009E-12	4.085E-12
ESE	1.802E-10	2.375E-10	1.768E-10	1.097E-10	7.037E-11	4.666E-11	3.278E-11	2.404E-11	1.833E-11	1.441E-11	1.161E-11
SE	1.739E-10	8.257E-11	5.047E-11	2.673E-11	1.655E-11	1.173E-11	9.194E-12	3.652E-11	2.774E-11	2.173E-11	1.745E-11
SSE	1.874E-10	1.678E-10	1.047E-10	5.480E-11	3.352E-11	2.243E-11	1.600E-11	1.196E-11	9.262E-12	7.374E-12	6.001E-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	2.388E-09	1.022E-09	4.202E-10	2.291E-10	1.568E-10	1.059E-10	5.044E-11	2.149E-11	1.124E-11	7.072E-12
SSW	1.239E-09	6.560E-10	2.921E-10	1.829E-10	1.182E-10	7.409E-11	3.413E-11	1.474E-11	7.959E-12	4.949E-12
SW	9.113E-10	6.115E-10	2.650E-10	1.289E-10	7.653E-11	5.132E-11	2.487E-11	1.061E-11	5.543E-12	3.460E-12
WSW	7.399E-10	5.425E-10	2.004E-10	9.632E-11	5.674E-11	3.626E-11	1.724E-11	7.389E-12	3.960E-12	2.451E-12
W	1.200E-09	4.127E-10	1.347E-10	6.464E-11	3.795E-11	2.390E-11	1.753E-11	7.335E-12	3.912E-12	2.421E-12
WNW	1.944E-09	9.937E-10	3.362E-10	1.696[illegible]-10	1.136E-10	6.327E-11	2.752E-11	1.175E-11	6.103E-12	3.799E-12
NW	2.188E-09	1.359E-09	4.614E-10	2.257E-10	1.510E-10	8.687E-11	3.708E-11	1.579E-11	8.567E-12	5.323E-12
NNW	1.694E-09	7.742E-10	3.253E-10	1.995E-10	1.481E-10	9.835E-11	4.836E-11	2.124E-11	9.826E-12	5.901E-12
N	3.738E-09	1.164E-09	4.017E-10	2.073E-10	1.257E-10	5.193E-11	3.988E-11	3.769E-11	1.836E-11	1.136E-11
NNE	2.625E-09	9.366E-10	3.521E-10	1.859E-10	1.132E-10	1.450E-10	6.958E-11	2.832E-11	1.498E-11	9.189E-12
NE	1.558E-09	5.728E-10	2.189E-10	1.160E-10	7.070E-11	6.681E-11	3.012E-11	1.222E-11	6.449E-12	4.000E-12
ENE	2.590E-10	1.842E-10	8.880E-11	4.948E-11	3.040E-11	3.544E-11	2.120E-11	9.464E-12	4.405E-12	2.533E-12
E	1.067E-09	5.900E-10	2.663E-10	1.465E-10	8.983E-11	7.157E-11	3.703E-11	1.630E-11	8.403E-12	5.060E-12
ESE	2.571E-09	1.462E-09	6.656E-10	3.668E-10	2.250E-10	1.978E-10	1.071E-10	4.743E-11	2.436E-11	1.453E-11
SE	2.705E-09	1.445E-09	6.452E-10	3.542E-10	2.171E-10	8.861E-11	2.748E-11	1.200E-11	2.537E-11	2.192E-11
SSE	2.157E-09	9.140E-10	3.743E-10	2.136E-10	1.945E-10	1.441E-10	5.644E-11	2.282E-11	1.209E-11	7.425E-12

ERP ELEVATED STACK RELEASE - JULY-DEC 1991
CORRECTED FOR OPEN TERRAIN RECIRCULATION
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE (MILES)	DISTANCE (METERS)	X/Q (SEC/CUB.METER) NO DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 2.260 DAY DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 8.000 DAY DECAY DEPLETED	D/Q (PER SQ.METER)
A	SITE BOUNDARY	S	0.80	1287.	5.658E-08	5.651E-08	5.559E-08	2.497E-09
A	SITE BOUNDARY	SSW	0.82	1327.	3.170E-08	3.165E-08	3.125E-08	1.334E-09
A	SITE BOUNDARY	SW	0.98	1569.	7.100E-08	7.083E-08	7.045E-08	8.376E-10
A	SITE BOUNDARY	WSW	0.93	1489.	5.785E-08	5.773E-08	5.764E-08	7.262E-10
A	SITE BOUNDARY	W	0.91	1468.	1.055E-07	1.053E-07	1.042E-07	1.001E-09
A	SITE BOUNDARY	WNW	0.94	1509.	1.514E-07	1.512E-07	1.498E-07	2.076E-09
A	SITE BOUNDARY	NW	0.81	1307.	1.008E-07	1.007E-07	9.965E-08	1.726E-09
A	SITE BOUNDARY	NNW	0.69	1106.	5.203E-08	5.196E-08	5.108E-08	1.967E-09
A	SITE BOUNDARY	N	0.67	1086.	1.046E-07	1.044E-07	1.025E-07	4.514E-09
A	SITE BOUNDARY	NNE	0.60	965.	6.250E-08	6.245E-08	6.157E-08	3.313E-09
A	SITE BOUNDARY	NE	0.62	1005.	4.447E-08	4.442E-08	4.374E-08	1.900E-09
A	SITE BOUNDARY	ENE	0.59	945.	1.079E-09	1.078E-09	1.079E-09	1.876E-10
A	SITE BOUNDARY	E	0.52	845.	8.976E-09	8.970E-09	8.890E-09	9.939E-10
A	SITE BOUNDARY	ESE	0.54	865.	3.073E-08	3.070E-08	3.041E-08	2.328E-09
A	SITE BOUNDARY	SE	0.65	1046.	3.926E-08	3.923E-08	3.877E-08	2.810E-09
A	SITE BOUNDARY	SSE	0.81	1307.	4.147E-08	4.143E-08	4.079E-08	2.217E-09
A	NEAR. RESIDENCE	SW	1.40	2253.	1.210E-07	1.204E-07	1.197E-07	8.596E-10
A	NEAR. RESIDENCE	WSW	1.30	2092.	1.213E-07	1.206E-07	1.202E-07	7.691E-10
A	NEAR. RESIDENCE	W	1.00	1609.	1.120E-07	1.118E-07	1.105E-07	8.520E-10
A	NEAR. RESIDENCE	WNW	1.60	2575.	1.913E-07	1.906E-07	1.879E-07	8.953E-10
A	NEAR. RESIDENCE	NW	0.90	1448.	1.257E-07	1.255E-07	1.245E-07	2.577E-09
A	NEAR. RESIDENCE	NNW	1.90	3058.	1.160E-07	1.148E-07	1.144E-07	5.282E-10
A	NEAR. RESIDENCE	N	3.00	4828.	3.761E-08	3.714E-08	3.655E-08	2.763E-10
A	NEAR. RESIDENCE	NNE	2.70	4345.	4.538E-08	4.469E-08	4.420E-08	3.001E-10
A	NEAR. RESIDENCE	ENE	1.70	2736.	1.306E-08	1.302E-08	1.291E-08	1.579E-10
A	NEAR. RESIDENCE	E	1.80	2897.	3.029E-08	3.022E-08	2.977E-08	4.422E-10
A	NEAR. RESIDENCE	ESE	2.00	3219.	1.180E-07	1.171E-07	1.158E-07	9.466E-10
A	NEAR. RESIDENCE	SE	2.20	3541.	7.748E-08	7.716E-08	7.590E-08	7.904E-10
A	NEAREST COW	NNW	3.50	5634.	9.982E-08	9.752E-08	9.795E-08	1.955E-10
A	NEAREST GARDEN	SW	1.40	2253.	1.210E-07	1.204E-07	1.197E-07	8.596E-10
A	NEAREST GARDEN	WSW	1.30	2092.	1.213E-07	1.206E-07	1.202E-07	7.691E-10
A	NEAREST GARDEN	W	1.00	1609.	1.120E-07	1.118E-07	1.105E-07	8.520E-10
A	NEAREST GARDEN	WNW	1.60	2575.	1.913E-07	1.906E-07	1.879E-07	8.953E-10
A	NEAREST GARDEN	NW	2.70	4345.	1.017E-07	1.007E-07	9.893E-08	3.713E-10
A	NEAREST GARDEN	NNW	1.90	3058.	1.160E-07	1.148E-07	1.144E-07	5.282E-10
A	NEAREST GARDEN	N	3.00	4828.	3.761E-08	3.714E-08	3.655E-08	2.763E-10
A	NEAREST GARDEN	NNE	2.70	4345.	4.538E-08	4.469E-08	4.420E-08	3.001E-10
A	NEAREST GARDEN	ENE	1.70	2736.	1.306E-08	1.302E-08	1.291E-08	1.579E-10
A	NEAREST GARDEN	E	1.80	2897.	3.029E-08	3.022E-08	2.977E-08	4.422E-10
A	NEAREST GARDEN	ESE	2.40	3863.	1.098E-07	1.086E-07	1.072E-07	7.069E-10
A	NEAREST GARDEN	SE	2.20	3541.	7.748E-08	7.716E-08	7.590E-08	7.904E-10

Atmospheric Diffusion Estimates

Elevated Releases

January-December 1991

ERP ELEVATED STACK RELEASE - JAN-DEC 1991
NO DECAY, UNDEPLETED
CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

SECTOR	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	1.154E-08	5.310E-08	8.170E-08	8.352E-08	7.709E-08	6.504E-08	5.392E-08	4.499E-08	3.805E-08	4.489E-08	4.970E-08
SSW	1.331E-10	1.181E-08	2.930E-08	3.698E-08	3.989E-08	3.570E-08	3.057E-08	3.457E-08	3.672E-08	3.263E-08	2.929E-08
SW	6.468E-10	8.875E-09	3.444E-08	7.068E-08	1.237E-07	8.714E-08	6.455E-08	4.996E-08	4.036E-08	3.303E-08	2.784E-08
WSW	6.206E-10	6.453E-09	3.144E-08	7.308E-08	1.342E-07	8.648E-08	6.053E-08	4.504E-08	3.507E-08	2.826E-08	2.340E-08
W	3.420E-10	3.077E-08	1.252E-07	1.634E-07	1.616E-07	1.033E-07	7.214E-08	5.366E-08	4.180E-08	3.371E-08	2.793E-08
WNW	5.465E-09	3.882E-08	1.482E-07	2.370E-07	2.730E-07	1.658E-07	1.123E-07	8.563E-08	6.826E-08	5.418E-08	4.433E-08
NW	2.507E-08	5.213E-08	1.106E-07	2.005E-07	3.170E-07	1.878E-07	1.252E-07	9.220E-08	7.137E-08	5.638E-08	4.595E-08
NNW	3.764E-08	8.589E-08	1.061E-07	1.136E-07	1.452E-07	1.468E-07	1.377E-07	1.219E-07	1.066E-07	8.385E-08	6.812E-08
N	4.640E-08	1.312E-07	1.354E-07	1.035E-07	7.625E-08	6.358E-08	5.417E-08	4.573E-08	3.922E-08	3.412E-08	3.004E-08
NNE	1.867E-08	4.150E-08	5.726E-08	5.907E-08	5.975E-08	5.480E-08	4.839E-08	4.238E-08	3.723E-08	3.294E-08	2.940E-08
NE	7.895E-09	3.288E-08	4.468E-08	4.374E-08	4.005E-08	3.406E-08	2.848E-08	2.396E-08	2.042E-08	1.764E-08	1.544E-08
ENE	1.305E-09	9.095E-09	1.567E-08	1.807E-08	1.902E-08	1.707E-08	1.467E-08	1.256E-08	1.084E-08	9.453E-09	8.340E-09
E	1.102E-10	7.848E-09	2.081E-08	2.770E-08	3.034E-08	2.679E-08	2.257E-08	1.896E-08	1.608E-08	1.381E-08	1.202E-08
ESE	4.040E-09	2.513E-08	4.873E-08	6.621E-08	8.019E-08	7.611E-08	6.750E-08	5.895E-08	5.155E-08	4.537E-08	4.029E-08
SE	2.137E-09	1.986E-08	4.589E-08	5.969E-08	6.644E-08	6.016E-08	5.179E-08	4.429E-08	3.813E-08	3.316E-08	2.916E-08
SSE	6.347E-09	2.785E-08	4.310E-08	4.769E-08	4.847E-08	4.302E-08	3.689E-08	3.157E-08	2.725E-08	4.289E-08	6.135E-08

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

BEARING	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	4.440E-08	2.960E-08	1.923E-08	1.103E-08	7.707E-09	5.817E-09	4.531E-09	3.672E-09	3.087E-09	2.646E-09	2.294E-09
SSW	2.742E-08	2.134E-08	1.390E-08	7.995E-09	5.663E-09	4.250E-09	3.312E-09	2.684E-09	2.243E-09	1.913E-09	1.660E-09
SW	2.570E-08	1.885E-08	1.238E-08	7.184E-09	5.055E-09	3.832E-09	3.072E-09	2.493E-09	2.079E-09	1.772E-09	1.536E-09
WSW	2.053E-08	1.296E-08	9.115E-09	5.611E-09	3.771E-09	2.776E-09	2.168E-09	1.758E-09	1.466E-09	1.250E-09	1.084E-09
W	2.364E-08	1.300E-08	9.248E-09	5.918E-09	4.295E-09	3.182E-09	2.478E-09	2.007E-09	1.674E-09	1.426E-09	1.237E-09
WNW	3.758E-08	2.097E-08	1.420E-08	8.606E-09	5.912E-09	4.421E-09	3.499E-09	2.861E-09	2.397E-09	2.044E-09	1.773E-09
NW	3.876E-08	2.116E-08	1.417E-08	8.379E-09	5.627E-09	4.140E-09	3.264E-09	2.652E-09	2.211E-09	1.884E-09	1.633E-09
NNW	5.764E-08	3.161E-08	2.044E-08	1.167E-08	7.873E-09	5.812E-09	4.559E-09	3.714E-09	3.127E-09	2.675E-09	2.321E-09
N	2.682E-08	1.754E-08	1.503E-08	1.228E-08	1.016E-08	8.272E-09	6.514E-09	5.311E-09	4.444E-09	3.799E-09	3.304E-09
NNE	3.398E-08	4.960E-08	3.224E-08	1.856E-08	1.260E-08	9.343E-09	7.328E-09	5.972E-09	5.006E-09	4.286E-09	3.731E-09
NE	1.692E-08	2.385E-08	1.550E-08	8.918E-09	6.056E-09	4.494E-09	3.574E-09	2.938E-09	2.474E-09	2.118E-09	1.843E-09
ENE	9.125E-09	1.293E-08	8.512E-09	4.973E-09	3.404E-09	2.540E-09	2.069E-09	1.727E-09	1.447E-09	1.240E-09	1.080E-09
E	1.249E-08	1.431E-08	9.340E-09	5.393E-09	3.662E-09	2.716E-09	2.129E-09	1.735E-09	1.489E-09	1.297E-09	1.127E-09
ESE	4.287E-08	5.205E-08	3.465E-08	2.044E-08	1.404E-08	1.049E-08	8.273E-09	6.767E-09	5.678E-09	4.880E-09	4.256E-09
SE	2.590E-08	1.654E-08	1.328E-08	1.008E-08	7.598E-09	6.126E-09	5.157E-09	4.463E-09	3.760E-09	3.233E-09	2.825E-09
SSE	5.348E-08	3.223E-08	2.094E-08	1.203E-08	8.155E-09	6.042E-09	4.734E-09	3.855E-09	3.229E-09	2.763E-09	2.404E-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	7.615E-08	7.316E-08	5.331E-08	4.264E-08	4.631E-08	2.828E-08	1.338E-08	5.807E-09	3.695E-09	2.646E-09
SSW	2.883E-08	3.738E-08	3.353E-08	3.454E-08	2.959E-08	1.938E-08	8.270E-09	4.251E-09	2.696E-09	1.917E-09
SW	4.487E-08	9.567E-08	6.474E-08	4.021E-08	2.858E-08	1.750E-08	7.393E-09	3.854E-09	2.501E-09	1.776E-09
WSW	4.440E-08	9.939E-08	6.125E-08	3.532E-08	2.378E-08	1.293E-08	5.572E-09	2.798E-09	1.764E-09	1.253E-09
W	1.212E-07	1.361E-07	7.305E-08	4.211E-08	2.806E-08	1.370E-08	5.937E-09	3.197E-09	2.014E-09	1.430E-09
WNW	1.633E-07	2.174E-07	1.159E-07	6.782E-08	4.475E-08	2.165E-08	8.653E-09	4.450E-09	2.867E-09	2.048E-09
NW	1.376E-07	2.337E-07	1.287E-07	7.161E-08	4.638E-08	2.196E-08	8.442E-09	4.186E-09	2.658E-09	1.888E-09
NNW	1.050E-07	1.389E-07	1.338E-07	1.023E-07	6.890E-08	3.243E-08	1.193E-08	5.860E-09	3.731E-09	2.678E-09
N	1.203E-07	7.666E-08	5.330E-08	3.914E-08	3.006E-08	1.849E-08	1.195E-08	8.072E-09	5.324E-09	3.807E-09
NNE	5.456E-08	5.740E-08	4.769E-08	3.707E-08	3.214E-08	3.841E-08	1.895E-08	9.404E-09	5.991E-09	4.294E-09
NE	4.164E-08	3.821E-08	2.816E-08	2.038E-08	1.664E-08	1.860E-08	9.108E-09	4.543E-09	2.943E-09	2.121E-09
ENE	1.527E-08	1.794E-08	1.447E-08	1.080E-08	8.961E-09	1.012E-08	5.062E-09	2.582E-09	1.718E-09	1.242E-09
E	2.099E-08	2.818E-08	2.225E-08	1.604E-08	1.272E-08	1.170E-08	5.501E-09	2.734E-09	1.754E-09	1.291E-09
ESE	5.125E-08	7.527E-08	6.638E-08	5.13 E-08	4.275E-08	4.227E-08	2.075E-08	1.055E-08	6.786E-09	4.888E-09
SE	4.624E-08	6.215E-08	5.102E-08	3.800E-08	2.914E-08	1.717E-08	9.690E-09	6.131E-09	4.394E-09	3.238E-09
SSE	4.175E-08	4.588E-08	3.640E-08	3.444E-08	5.296E-08	3.193E-08	1.229E-08	6.082E-09	3.868E-09	2.768E-09

ERP ELEVATED STACK RELEASE - JAN-DEC 1991
2.260 DAY DECAY, UNDEPLETED
CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED) DISTANCE IN MILES

SECTOR	0.2[illegible]	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	1.154 -08	5.307E-08	8.162E-08	8.339E-08	7.689E-08	6.479E-08	5.363E-08	4.467E-08	3.772E-08	4.437E-08	4.997E-08
SSW	1.330E-10	1.180E-08	2.926E-08	3.692E-08	3.976E-08	3.553E-08	3.036E-08	3.423E-08	3.624E-08	3.210E-08	2.874E-08
SW	6.466E-10	8.868E-09	3.439E-08	7.052E-08	1.230E-07	8.640E-08	6.379E-08	4.922E-08	3.933E-08	3.231E-08	2.715E-08
WSW	6.204E-10	6.448E-09	3.140E-08	7.290E-08	1.332E-07	8.554E-08	5.965E-08	4.422E-08	3.430E-08	2.754E-08	2.272E-08
W	3.419E-10	3.074E-08	1.250E-07	1.629E-07	1.606E-07	1.024E-07	7.132E-08	5.291E-08	4.109E-08	3.304E-08	2.730E-08
WNW	5.463E-09	3.879E-08	1.480E-07	2.365E-07	2.722E-07	1.651E-07	1.117E-07	8.498E-08	6.761E-08	5.358E-08	4.376E-08
NW	2.506E-08	5.209E-08	1.105E-07	2.002E-07	3.159E-07	1.869E-07	1.245E-07	9.149E-08	7.071E-08	5.577E-08	4.538E-08
NNW	3.763E-08	8.585E-08	1.060E-07	1.135E-07	1.447E-07	1.459E-07	1.365E-07	1.205E-07	1.051E-07	8.249E-08	6.686E-08
N	4.639E-08	1.311E-07	1.352E-07	1.033E-07	7.606E-08	6.334E-08	5.388E-08	4.541E-08	3.888E-08	3.375E-08	2.967E-08
NNE	1.866E-08	4.148E-08	5.720E-08	5.898E-08	5.957E-08	5.452E-08	4.803E-08	4.196E-08	3.677E-08	3.245E-08	2.888E-08
NE	7.893E-09	3.256E-08	4.463E-08	4.367E-08	3.995E-08	3.393E-08	2.832E-08	2.379E-08	2.024E-08	1.745E-08	1.525E-08
ENE	1.305E-09	9.090E-09	1.565E-08	1.804E-08	1.897E-08	1.701E-08	1.461E-08	1.250E-08	1.077E-08	9.388E-09	8.276E-09
E	1.102E-10	7.843E-09	2.079E-08	2.767E-08	3.027E-08	2.671E-08	2.248E-08	1.886E-08	1.598E-08	1.372E-08	1.192E-08
ESE	4.039E-09	2.511E-08	4.867E-08	6.608E-08	7.988E-08	7.564E-08	6.692E-08	5.828E-08	5.081E-08	4.459E-08	3.948E-08
SE	2.136E-09	1.985E-08	4.585E-08	5.961E-08	6.628E-08	5.996E-08	5.155E-08	4.403E-08	3.786E-08	3.288E-08	2.887E-08
SSE	6.346E-09	2.783E-08	4.307E-08	4.763E-08	4.833E-08	4.282E-08	3.662E-08	3.126E-08	2.691E-08	4.210E-08	5.995E-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	4.365E-08	2.877E-08	1.851E-08	1.042E-08	7.139E-09	5.289E-09	4.051E-09	3.230E-09	2.672E-09	2.255E-09	1.926E-09
SSW	2.681E-08	2.052E-08	1.319E-08	7.397E-09	5.108E-09	3.742E-09	2.851E-09	2.263E-09	1.852E-09	1.548E-09	1.318E-09
SW	2.496E-08	1.795E-08	1.159E-08	6.506E-09	4.431E-09	3.255E-09	2.528E-09	1.994E-09	1.619E-09	1.345E-09	1.138E-09
WSW	1.986E-08	1.229E-08	8.483E-09	5.034E-09	3.272E-09	2.333E-09	1.767E-09	1.392E-09	1.130E-09	9.381E-10	7.936E-10
W	2.304E-08	1.249E-08	8.750E-09	5.438E-09	3.833E-09	2.764E-09	2.100E-09	1.661E-09	1.354E-09	1.130E-09	9.593E-10
WNW	3.703E-08	2.047E-08	1.373E-08	8.153E-09	5.495E-09	4.032E-09	3.132E-09	2.515E-09	2.068E-09	1.735E-09	1.481E-09
NW	3.822E-08	2.071E-08	1.376E-08	8.019E-09	5.313E-09	3.859E-09	3.004E-09	2.411E-09	1.987E-09	1.674E-09	1.436E-09
NNW	5.646E-08	3.064E-08	1.961E-08	1.098E-08	7.277E-09	5.282E-09	4.079E-09	3.274E-09	2.719E-09	2.294E-09	1.966E-09
N	2.643E-08	1.713E-08	1.453E-08	1.164E-08	9.464E-09	7.584E-09	5.884E-09	4.729E-09	3.905E-09	3.296E-09	2.832E-09
NNE	3.326E-08	4.805E-08	3.092E-08	1.747E-08	1.165E-08	8.496E-09	6.5[illegible]E-09	5.267E-09	4.352E-09	3.676E-09	3.159E-09
NE	1.667E-08	2.331E-08	1.503E-08	8.524E-09	5.708E-09	4.181E-09	3.283E-09	2.664E-09	2.216E-09	1.875E-09	1.614E-09
ENE	9.046E-09	1.274E-08	8.347E-09	4.830E-09	3.275E-09	2.421E-09	1.954E-09	1.616E-09	1.343E-09	1.140E-09	9.844E-10
E	1.238E-08	1.408E-08	9.140E-09	5.220E-09	3.507E-09	2.575E-09	1.998E-09	1.612E-09	1.370E-09	1.181E-09	1.017E-09
ESE	4.184E-08	4.994E-08	3.279E-08	1.884E-08	1.263E-08	9.218E-09	[illegible].108E-09	5.693E-09	4.689E-09	3.947E-09	3.380E-09
SE	2.561E-08	1.624E-08	1.296E-08	9.709E-09	7.232E-09	5.767E-09	4.[illegible]06E-09	4.119E-09	3.437E-09	2.927E-09	2.534E-09
SSE	5.212E-08	3.099E-08	1.988E-08	1.115E-08	7.386E-09	5.356E-09	4.1[illegible]2E-09	3.285E-09	2.702E-09	2.272E-09	1.945E-09

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

DIRECTION FROM SITE	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
				SEGMENT BOUNDARIES IN MILES						
S	7.606E-08	7.296E-08	5.302E-08	4.224E-08	4.564E-08	2.752E-08	1.076E-08	5.287E-09	3.252E-09	2.257E-09
SSW	2.878E-08	3.725E-08	3.329E-08	3.409E-08	2.902E-08	1.866E-08	7.668E-09	3.750E-09	2.274E-09	1.553E-09
SW	4.477E-08	9.507E-08	6.399E-08	3.948E-08	2.787E-08	1.668E-08	6.714E-09	3.278E-09	2.004E-09	1.350E-09
WSW	4.430E-08	9.862E-08	6.038E-08	3.456E-08	2.309E-08	1.228E-08	5.017E-09	2.357E-09	1.399E-09	9.413E-10
W	1.209E-07	1.353E-07	7.225E-08	4.140E-08	2.742E-08	1.317E-08	5.461E-09	2.783E-09	1.670E-09	1.133E-09
WNW	1.631E-07	2.166E-07	1.152E-07	6.723E-08	4.418E-08	2.115E-08	8.210E-09	4.062E-09	2.521E-09	1.740E-09
NW	1.374E-07	2.329E-07	1.279E-07	7.096E-08	4.581E-08	2.151E-08	8.091E-09	3.905E-09	2.419E-09	1.679E-09
NNW	1.048E-07	1.383E-07	1.326E-07	1.009E-07	6.764E-08	3.147E-08	1.125E-08	5.333E-09	3.292E-09	2.298E-09
N	1.201E-07	7.646E-08	5.301E-08	3.879E-08	2.968E-08	1.804E-08	1.131E-08	7.405E-09	4.745E-09	3.304E-09
NNE	5.450E-08	5.720E-08	4.733E-08	3.661E-08	3.156E-08	3.715E-08	1.787E-08	8.561E-09	5.288E-09	3.685E-09
NE	4.159E-08	3.810E-08	2.801E-08	2.019E-08	1.643E-08	1.815E-08	8.718E-09	4.229E-09	2.670E-09	1.879E-09
ENE	1.525E-08	1.789E-08	1.441E-08	1.074E-08	8.891E-09	9.966E-09	4.920E-09	2.462E-09	1.608E-09	1.142E-09
E	2.097E-08	2.811E-08	2.216E-08	1.594E-08	1.262E-08	1.151E-08	5.330E-09	2.593E-09	1.630E-09	1.176E-09
ESE	5.117E-08	7.493E-08	6.579E-08	5.057E-08	4.187E-08	4.052E-08	1.918E-08	9.283E-09	5.715E-09	3.957E-09
SE	4.619E-08	6.199E-08	5.079E-08	3.773E-08	2.885E-08	1.686E-08	9.330E-09	5.773E-09	4.055E-09	2.933E-09
SSE	4.171E-08	4.572E-08	3.613E-08	3.394E-08	5.176E-08	3.075E-08	1.142E-08	5.400E-09	3.299E-09	2.278E-09

ERP ELEVATED STACK RELEASE - JAN-DEC 1991
8.000 DAY DECAY, DEPLETED
CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

SECTOR	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	1.154E-08	5.263E-08	8.025E-08	8.209E-08	7.558E-08	6.343E-08	5.227E-08	4.337E-08	3.649E-08	4.308E-08	4.773E-08
SSW	1.330E-10	1.171E-08	2.888E-08	3.653E-08	3.925E-08	3.492E-08	2.971E-08	3.350E-08	3.552E-08	3.144E-08	2.814E-08
SW	6.467E-10	8.797E-09	3.410E-08	7.029E-08	1.222E-07	8.546E-08	6.290E-08	4.843E-08	3.865E-08	3.172E-08	2.664E-08
WSW	6.205E-10	6.397E-09	3.120E-08	7.273E-08	1.325E-07	8.473E-08	5.893E-08	4.361E-08	3.380E-08	2.712E-08	2.237E-08
W	3.420E-10	3.055E-08	1.242E-07	1.612E-07	1.583E-07	1.005E-07	6.984E-08	5.171E-08	4.012E-08	3.224E-08	2.662E-08
WNW	5.464E-09	3.853E-08	1.472E-07	2.344E-07	2.677E-07	1.610E-07	1.082E-07	8.206E-08	6.512E-08	5.138E-08	4.178E-08
NW	2.506E-08	5.166E-08	1.092E-07	1.986E-07	3.123E-07	1.834E-07	1.215E-07	8.903E-08	6.862E-08	5.392E-08	4.369E-08
NNW	3.763E-08	8.511E-08	1.041E-07	1.118E-07	1.431E-07	1.443E-07	1.351E-07	1.194E-07	1.042E-07	8.160E-08	6.593E-08
N	4.640E-08	1.300E-07	1.324E-07	1.008E-07	7.417E-08	6.179E-08	5.256E-08	4.427E-08	3.788E-08	3.287E-08	2.889E-08
NNE	1.867E-08	4.113E-08	5.624E-08	5.809E-08	5.871E-08	5.365E-08	4.720E-08	4.119E-08	3.607E-08	3.182E-08	2.832E-08
NE	7.894E-09	3.258E-08	4.386E-08	4.296E-08	3.926E-08	3.323E-08	2.763E-08	2.313E-08	1.951E-08	1.687E-08	1.471E-08
ENE	1.305E-09	9.014E-09	1.542E-08	1.782E-08	1.872E-08	1.671E-08	1.430E-08	1.219E-08	1.047E-08	9.099E-09	8.002E-09
E	1.102E-10	7.782E-09	2.055E-08	2.743E-08	2.991E-08	2.624E-08	2.196E-08	1.833E-08	1.546E-08	1.321E-08	1.145E-08
ESE	4.040E-09	2.491E-08	4.810E-08	6.559E-08	7.913E-08	7.462E-08	6.578E-08	5.712E-08	4.969E-08	4.354E-08	3.849E-08
SE	2.137E-09	1.969E-08	4.530E-08	5.908E-08	6.551E-08	5.898E-08	5.049E-08	4.295E-08	3.681E-08	3.188E-08	2.793E-08
SSE	6.347E-09	2.760E-08	4.242E-08	4.704E-08	4.767E-08	4.208E-08	3.587E-08	3.053E-08	2.622E-08	4.145E-08	5.958E-08

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)

BEARING	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	4.253E-08	2.780E-08	1.745E-08	9.331E-09	6.033E-09	4.265E-09	3.160E-09	2.446E-09	1.974E-09	1.634E-09	1.371E-09
SSW	2.628E-08	2.010E-08	1.262E-08	6.747E-09	4.419E-09	3.154E-09	2.358E-09	1.841E-09	1.485E-09	1.225E-09	1.030E-09
SW	2.453E-08	1.769E-08	1.120E-08	6.024E-09	3.896E-09	2.748E-09	2.093E-09	1.629E-09	1.307E-09	1.074E-09	8.998E-10
WSW	1.957E-08	1.209E-08	8.202E-09	4.727E-09	2.989E-09	2.099E-09	1.571E-09	1.224E-09	9.846E-10	8.111E-10	6.810E-10
W	2.246E-08	1.218E-08	8.544E-09	5.145E-09	3.479E-09	2.462E-09	1.841E-09	1.437E-09	1.158E-09	9.556E-10	8.036E-10
WNW	3.520E-08	1.904E-08	1.247E-08	7.056E-09	4.486E-09	3.151E-09	2.382E-09	1.872E-09	1.513E-09	1.248E-09	1.049E-09
NW	3.665E-08	1.938E-08	1.253E-08	6.941E-09	4.399E-09	3.081E-09	2.331E-09	1.828E-09	1.476E-09	1.221E-09	1.029E-09
NNW	5.547E-08	2.939E-08	1.831E-08	9.678E-09	5.985E-09	4.103E-09	3.021E-09	2.341E-09	1.894E-09	1.564E-09	1.314E-09
N	2.573E-08	1.669E-08	1.427E-08	1.161E-08	9.360E-09	7.221E-09	5.486E-09	4.332E-09	3.523E-09	2.933E-09	2.487E-09
NNE	3.280E-08	4.773E-08	2.990E-08	1.610E-08	1.023E-08	7.175E-09	5.359E-09	4.101E-09	3.367E-09	2.778E-09	2.336E-09
NE	1.613E-08	2.279E-08	1.429E-08	7.722E-09	4.937E-09	3.482E-09	2.655E-09	2.107E-09	1.718E-09	1.429E-09	1.210E-09
ENE	8.771E-09	1.247E-08	7.933E-09	4.316E-09	2.722E-09	1.896E-09	1.453E-09	1.158E-09	9.393E-10	7.799E-10	6.598E-10
E	1.189E-08	1.361E-08	8.595E-09	4.638E-09	2.919E-09	2.029E-09	1.503E-09	1.163E-09	9.518E-10	7.947E-10	6.668E-10
ESE	4.093E-08	4.967E-08	3.202E-08	1.770E-08	1.131E-08	7.942E-09	5.923E-09	4.606E-09	3.691E-09	3.029E-09	2.531E-09
SE	2.472E-08	1.558E-08	1.245E-08	9.405E-09	7.044E-09	5.655E-09	4.745E-09	4.080E-09	3.343E-09	2.802E-09	2.390E-09
SSE	5.166E-08	3.010E-08	1.881E-08	1.007E-08	6.362E-09	4.439E-09	3.300E-09	2.562E-09	2.054E-09	1.688E-09	1.414E-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	7.493E-08	7.163E-08	5.169E-08	4.097E-08	4.442E-08	2.647E-08	9.669E-09	4.294E-09	2.470E-09	1.637E-09
SSW	2.846E-08	3.672E-08	3.262E-08	3.339E-08	2.843E-08	1.815E-08	7.018E-09	3.173E-09	1.853E-09	1.230E-09
SW	4.456E-08	9.434E-08	6.313E-08	5.881E-08	2.737E-08	1.633E-08	6.228E-09	2.792E-09	1.639E-09	1.079E-09
WSW	4.415E-08	9.797E-08	5.968E-08	3.406E-08	2.274E-08	1.202E-08	4.727E-09	2.125E-09	1.232E-09	8.143E-10
W	1.198E-07	1.333E-07	7.078E-08	4.043E-08	2.674E-08	1.285E-08	5.160E-09	2.485E-09	1.446E-09	9.593E-10
WNW	1.618E-07	2.129E-07	1.118E-07	6.472E-08	4.219E-08	1.971E-08	7.117E-09	3.199E-09	1.881E-09	1.253E-09
NW	1.361E-07	2.298E-07	1.250E-07	6.885E-08	4.411E-08	2.017E-08	7.054E-09	3.132E-09	1.838E-09	1.225E-09
NNW	1.033E-07	1.367E-07	1.313E-07	9.994E-08	6.670E-08	3.026E-08	9.954E-09	4.172E-09	2.365E-09	1.569E-09
N	1.178E-07	7.459E-08	5.171E-08	3.780E-08	2.890E-08	1.762E-08	1.120E-08	7.098E-09	4.354E-09	2.943E-09
NNE	5.371E-08	5.633E-08	4.651E-08	3.591E-08	3.102E-08	3.649E-08	1.656E-08	7.262E-09	4.208E-09	2.789E-09
NE	4.095E-08	3.740E-08	2.732E-08	1.957E-08	1.587E-08	1.753E-08	7.944E-09	3.539E-09	2.116E-09	1.434E-09
ENE	1.506E-08	1.763E-08	1.410E-08	1.044E-08	8.612E-09	9.630E-09	4.412E-09	1.939E-09	1.159E-09	7.827E-10
E	2.077E-08	2.773E-08	2.165E-08	1.543E-08	1.213E-08	1.100E-08	4.753E-09	2.056E-09	1.180E-09	7.939E-10
ESE	5.072E-08	7.412E-08	6.467E-08	4.947E-08	4.089E-08	3.988E-08	1.804E-08	8.033E-09	4.634E-09	3.041E-09
SE	4.573E-08	6.118E-08	4.974E-08	3.669E-08	2.791E-08	1.622E-08	9.032E-09	5.662E-09	3.989E-09	2.810E-09
SSE	4.118E-08	4.505E-08	3.539E-08	3.325E-08	5.127E-08	2.987E-08	1.037E-08	4.496E-09	2.579E-09	1.695E-09

ERP ELEVATED STACK RELEASE - JAN-DEC 1991
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	5.165E-09	4.353E-09	3.923E-09	2.837E-09	1.438E-09	8.972E-10	6.118E-10	4.414E-10	3.314E-10	2.653E-10	2.416E-10
SSW	1.212E-09	1.219E-09	1.382E-09	1.152E-09	6.440E-10	4.165E-10	2.892E-10	2.107E-10	1.965E-10	1.487E-10	1.264E-10
SW	8.081E-10	8.122E-10	9.194E-10	7.666E-10	7.546E-10	4.133E-10	2.575E-10	1.755E-10	1.272E-10	9.633E-11	7.546E-11
WSW	5.707E-10	5.989E-10	7.083E-10	1.116E-09	6.359E-10	3.445E-10	2.129E-10	1.443E-10	1.041E-10	7.871E-11	6.159E-11
W	4.215E-10	2.477E-09	2.233E-09	1.446E-09	6.764E-10	3.660E-10	2.258E-10	1.529E-10	1.103E-10	8.327E-11	6.512E-11
WNW	1.690E-09	1.661E-09	4.316E-09	3.265E-09	1.930E-09	9.795E-10	5.837E-10	3.882E-10	2.892E-10	2.201E-10	1.765E-10
NW	3.747E-09	3.108E-09	2.731E-09	3.627E-09	2.177E-09	1.086E-09	6.442E-10	4.292E-10	3.119E-10	2.426E-10	1.993E-10
NNW	7.484E-09	5.753E-09	4.393E-09	2.749E-09	1.858E-09	9.923E-10	6.153E-10	4.895E-10	3.637E-10	2.902E-10	2.447E-10
N	1.194E-08	9.058E-09	6.735E-09	4.097E-09	1.775E-09	1.032E-09	6.777E-10	4.791E-10	3.559E-10	2.740E-10	2.169E-10
NNE	3.747E-09	3.108E-09	2.729E-09	1.936E-09	9.663E-10	5.990E-10	4.071E-10	2.933E-10	2.200E-10	1.700E-10	1.346E-10
NE	2.884E-09	2.367E-09	2.043E-09	1.429E-09	7.056E-10	4.354E-10	2.953E-10	2.124E-10	1.592E-10	1.230E-10	9.742E-11
ENE	9.454E-10	8.289E-10	7.932E-10	5.987E-10	3.133E-10	1.978E-10	1.357E-10	9.827E-11	7.388E-11	5.717E-11	4.527E-11
E	9.747E-10	1.004E-09	1.167E-09	9.855E-10	5.549E-10	3.598E-10	2.502E-10	1.823E-10	1.376E-10	1.066E-10	8.441E-11
ESE	2.328E-09	2.266E-09	2.475E-09	2.025E-09	1.118E-09	7.204E-10	4.992E-10	3.632E-10	2.738E-10	2.121E-10	1.679E-10
SE	2.796E-09	2.6[illegible]E-09	2.809E-09	2.260E-09	1.235E-09	7.921E-10	5.479E-10	3.982E-10	3.000E-10	2.324E-10	1.840E-10
SSE	3.376E-09	2.90[illegible]E-09	2.697E-09	1.994E-09	1.028E-09	6.457E-10	4.418E-10	3.193E-10	2.399E-10	2.226E-10	2.237E-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	1.944E-10	1.405E-10	9.676E-11	5.665E-11	3.611E-11	2.513E-11	1.798E-11	1.348E-11	1.061E-11	8.444E-12	6.893E-12
SSW	9.435E-11	7.406E-11	5.190E-11	3.074E-11	1.926E-11	1.323E-11	9.479E-12	7.120E-12	5.594E-12	4.468E-12	3.647E-12
SW	6.172E-11	5.284E-11	3.770E-11	2.266E-11	1.447E-11	9.418E-12	6.681E-12	5.118E-12	3.979E-12	3.179E-12	2.595E-12
WSW	4.980E-11	3.731E-11	2.634E-11	1.667E-11	1.010E-11	6.734E-12	4.872E-12	3.659E-12	2.845E-12	2.273E-12	1.855E-12
W	5.235E-11	2.345E-11	2.988E-11	1.913E-11	1.201E-11	8.080E-12	5.790E-12	4.348E-12	3.380E-12	2.700E-12	2.204E-12
WNW	1.485E-10	8.213E-11	5.610E-11	3.253E-11	2.145E-11	1.448E-11	1.055E-11	7.922E-12	6.216E-12	4.966E-12	4.053E-12
NW	1.716E-10	1.029E-10	7.323E-11	4.452E-11	2.730E-11	1.832E-11	1.330E-11	9.979E-12	7.802E-12	6.233E-12	5.087E-12
NNW	2.160E-10	1.391E-10	1.024E-10	6.339E-11	4.103E-11	2.757E-11	1.853E-11	1.321E-11	1.027E-11	8.193E-12	6.689E-12
N	1.755E-10	8.415E-11	5.200E-11	2.827E-11	7.132E-11	4.146E-11	2.963E-11	2.223E-11	1.729E-11	1.381E-11	1.128E-11
NNE	1.087E-10	2.139E-10	1.340E-10	7.046E-11	4.317E-11	2.887E-11	2.060E-11	1.539E-11	1.191E-11	9.483E-12	7.718E-12
NE	7.866E-11	1.199E-10	7.407E-11	3.837E-11	2.341E-11	1.568E-11	1.128E-11	8.448E-12	6.593E-12	5.266E-12	4.299E-12
ENE	3.652E-11	5.630E-11	4.296E-11	2.717E-11	1.752E-11	1.163E-11	8.166E-12	5.164E-12	4.019E-12	3.214E-12	2.627E-12
E	6.805E-11	7.258E-11	5.213E-11	3.149E-11	2.009E-11	1.336E-11	9.429E-12	6.951E-12	5.322E-12	4.294E-12	3.502E-12
ESE	1.354E-10	1.637E-10	1.203E-10	7.402E-11	4.744E-11	3.153E-11	2.221E-11	1.633E-11	1.248E-11	9.835E-12	7.937E-12
SE	1.484E-10	7.049E-11	4.312E-11	2.289E-11	1.417E-11	9.961E-12	7.683E-12	2.323E-11	1.772E-11	1.394E-11	1.124E-11
SSE	1.924E-10	1.527E-10	9.494E-11	4.950E-11	3.025E-11	2.025E-11	1.446E-11	1.081E-11	8.381E-12	6.677E-12	5.438E-12

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

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES .5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	3.536E-09	1.509E-09	6.198E-10	3.377E-10	2.312E-10	1.330E-10	5.644E-11	2.520E-11	1.367E-11	8.512E-12
SSW	1.244E-09	6.559E-10	2.917E-10	1.823E-10	1.178E-10	6.872E-11	3.034E-11	1.334E-11	7.212E-12	4.498E-12
SW	8.277E-10	6.056E-10	2.663E-10	1.292E-10	7.655E-11	4.808E-11	2.236E-11	9.670E-12	5.131E-12	3.200E-12
WSW	8.653E-10	6.131E-10	2.205E-10	1.059E-10	6.229E-11	3.521E-11	1.590E-11	6.887E-12	3.695E-12	2.287E-12
W	1.939E-09	7.100E-10	2.340E-10	1.122E-10	6.577E-11	3.273E-11	1.835E-11	8.211E-12	4.391E-12	2.718E-12
WNW	3.259E-09	1.804E-09	6.110E-10	2.912E-10	1.791E-10	8.531E-11	3.284E-11	1.477E-11	8.024E-12	4.999E-12
NW	3.213E-09	2.014E-09	6.760E-10	3.190E-10	2.019E-10	1.050E-10	4.335E-11	1.871E-11	1.010E-11	6.273E-12
NNW	3.964E-09	1.671E-09	6.655E-10	3.716E-10	2.475E-10	1.399E-10	6.212E-11	2.754E-11	1.361E-11	8.252E-12
N	6.079E-09	1.961E-09	6.929E-10	3.599E-10	2.185E-10	9.016E-11	5.268E-11	4.469E-11	2.246E-11	1.390E-11
NNE	2.461E-09	1.018E-09	4.127E-10	2.219E-10	1.355E-10	1.550E-10	7.245E-11	2.938E-11	1.555E-11	9.549E-12
NE	1.842E-09	7.463E-10	2.995E-10	1.606E-10	9.806E-11	9.036E-11	3.966E-11	1.598E-11	8.549E-12	5.301E-12
ENE	7.147E-10	3.254E-10	1.373E-10	7.448E-11	4.556E-11	4.598E-11	2.639E-11	1.182E-11	5.586E-12	3.235E-12
E	1.050E-09	5.639E-10	2.523E-10	1.386E-10	8.492E-11	6.248E-11	3.101E-11	1.358E-11	7.039E-12	4.305E-12
ESE	2.229E-09	1.143E-09	5.038E-10	2.758E-10	1.690E-10	1.381E-10	7.250E-11	3.204E-11	1.654E-11	9.916E-12
SE	2.530E-09	1.266E-09	5.532E-10	3.023E-10	1.851E-10	7.563E-11	2.351E-11	1.017E-11	1.669E-11	1.406E-11
SSE	2.430E-09	1.073E-09	4.472E-10	2.560E-10	2.118E-10	1.358E-10	5.104E-11	2.060E-11	1.093E-11	6.723E-12

ERP ELEVATED STACK RELEASE - JAN-DEC 1991
CORRECTED FOR OPEN TERRAIN RECIRCULATION
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE (MILES)	DISTANCE (METERS)	X/Q (SEC/CUB.METER) NO DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 2.260 DAY DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 8.000 DAY DECAY DEPLETED	D/Q (PER SQ.METER)
A	SITE BOUNDARY	S	0.80	1287.	8.264E-08	8.255E-08	8.115E-08	3.696E-09
A	SITE BOUNDARY	SSW	0.82	1327.	3.221E-08	3.217E-08	3.176E-08	1.337E-09
A	SITE BOUNDARY	SW	0.98	1569.	6.701E-08	6.686E-08	6.663E-08	7.934E-10
A	SITE BOUNDARY	WSW	0.93	1489.	6.017E-08	6.005E-08	5.989E-08	9.405E-10
A	SITE BOUNDARY	W	0.91	1468.	1.550E-07	1.547E-07	1.532E-07	1.652E-09
A	SITE BOUNDARY	WNW	0.94	1509.	2.201E-07	2.198E-07	2.180E-07	3.655E-09
A	SITE BOUNDARY	NW	0.81	1307.	1.311E-07	1.310E-07	1.297E-07	2.519E-09
A	SITE BOUNDARY	NNW	0.69	1106.	9.999E-08	9.990E-08	9.819E-08	4.657E-09
A	SITE BOUNDARY	N	0.67	1086.	1.363E-07	1.361E-07	1.337E-07	7.295E-09
A	SITE BOUNDARY	NNE	0.60	965.	4.764E-08	4.761E-08	4.696E-08	2.904E-09
A	SITE BOUNDARY	NE	0.62	1005.	3.907E-08	3.904E-08	3.846E-08	2.164E-09
A	SITE BOUNDARY	ENE	0.59	945.	1.125E-08	1.124E-08	1.110E-08	8.035E-10
A	SITE BOUNDARY	E	0.53	845.	8.936E-09	8.930E-09	8.850E-09	1.014E-09
A	SITE BOUNDARY	ESE	0.54	865.	2.761E-08	2.759E-08	2.731E-08	2.277E-09
A	SITE BOUNDARY	SE	0.65	1046.	3.430E-08	3.428E-08	3.386E-08	2.707E-09
A	SITE BOUNDARY	SSE	0.81	1307.	4.453E-08	4.449E-08	4.383E-08	2.520E-09
A	NEAR. RESIDENCE	SW	1.40	2253.	1.177E-07	1.171E-07	1.164E-07	8.667E-10
A	NEAR. RESIDENCE	WSW	1.30	2092.	1.179E-07	1.173E-07	1.168E-07	8.481E-10
A	NEAR. RESIDENCE	W	1.00	1609.	1.634E-07	1.629E-07	1.612E-07	1.448E-09
A	NEAR. RESIDENCE	WNW	1.60	2575.	2.444E-07	2.436E-07	2.391E-07	1.658E-09
A	NEAR. RESIDENCE	NW	0.90	1448.	1.629E-07	1.626E-07	1.613E-07	4.005E-09
A	NEAR. RESIDENCE	NNW	1.90	3058.	1.477E-07	1.468E-07	1.452E-07	1.111E-09
A	NEAR. RESIDENCE	N	3.00	4828.	4.573E-08	4.541E-08	4.427E-08	4.791E-10
A	NEAR. RESIDENCE	NNE	2.70	4345.	4.589E-08	4.551E-08	4.470E-08	3.551E-10
A	NEAR. RESIDENCE	ENE	1.70	2736.	1.840E-08	1.834E-08	1.807E-08	2.543E-10
A	NEAR. RESIDENCE	E	1.80	2897.	2.845E-08	2.838E-08	2.794E-08	4.196E-10
A	NEAR. RESIDENCE	ESE	2.00	3219.	7.611E-08	7.564E-08	7.462E-08	7.204E-10
A	NEAR. RESIDENCE	SE	2.20	3541.	5.680E-08	5.658E-08	5.555E-08	6.785E-10
A	NEAREST COW	NNW	3.50	5634.	1.065E-07	1.050E-07	1.042E-07	3.636E-10
A	NEAREST GARDEN	SW	1.40	2253.	1.177E-07	1.171E-07	1.164E-07	8.667E-10
A	NEAREST GARDEN	WSW	1.30	2092.	1.179E-07	1.173E-07	1.168E-07	8.481E-10
A	NEAREST GARDEN	W	1.00	1609.	1.634E-07	1.629E-07	1.612E-07	1.448E-09
A	NEAREST GARDEN	WNW	1.60	2575.	2.444E-07	2.436E-07	2.391E-07	1.658E-09
A	NEAREST GARDEN	NW	2.70	4345.	1.100E-07	1.093E-07	1.065E-07	5.413E-10
A	NEAREST GARDEN	NNW	1.90	3058.	1.477E-07	1.468E-07	1.452E-07	1.111E-09
A	NEAREST GARDEN	N	3.00	4828.	4.573E-08	4.541E-08	4.427E-08	4.791E-10
A	NEAREST GARDEN	NNE	2.70	4345.	4.589E-08	4.551E-08	4.470E-08	3.551E-10
A	NEAREST GARDEN	ENE	1.70	2736.	1.840E-08	1.834E-08	1.807E-08	2.543E-10
A	NEAREST GARDEN	E	1.80	2897.	2.845E-08	2.838E-08	2.794E-08	4.196E-10
A	NEAREST GARDEN	ESE	2.40	3863.	6.929E-08	6.872E-08	6.759E-08	5.347E-10
A	NEAREST GARDEN	SE	2.20	3541.	5.680E-08	5.658E-08	5.555E-08	6.785E-10

ATMOSPHERIC DIFFUSION MODEL

Onsite meteorological data from July 1 through December 31, 1991, 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:

$$(X/Q)_i = 2.032 \sum_{jk} \frac{f_{ijk}}{x u_{jk} \Sigma_{zk}} \exp\left[\frac{-h h_e^2}{\sigma_{zk}^2}\right] \qquad \text{(Eq. 1)}$$

and

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

where i = index identifying direction sector;

j = index identifying wind speed class;

k = index identifying atmospheric stability class;

$\frac{X}{Q}$ = average effluent concentration normalized by source strength at the specific downwind distance;

f = joint frequency distribution of wind direction, wind speed class, and atmospheric stability class;

x = distance from the release point to a receptor;

u = wind speed;

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

σ_z = vertical plume spread without volumetric building wake correction;

D_z = maximum adjacent building height either upwind or downwind of the release point (44.5 meters for ground-level releases);
and

h_e = effective plume height;

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

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

APPENDIX C

DOSE CALCULATIONS

CONTENTS

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 1991.

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 1991, Cooper Nuclear Station

Period and Pathway	Dose to Individual, mrem							
	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-LLI
3rd Quarter								
Eating Fish		2.97E-03	4.75E-03	3.35E-03	1.47E-08	1.58E-03	5.21E-04	3.84E-04
Drinking Water		1.94E-03	2.24E-03	1.71E-03	1.05E-07	7.09E-04	2.25E-04	2.73E-03
Shoreline	2.49E-05	2.12E-05	2.12E-05	2.12E-05	2.12E-05	2.12E-05	2.12E-05	2.12E-05
Totals	2.49E-05	4.93E-03	7.01E-03	5.08E-03	2.13E-05	2.31E-03	7.67E-04	3.14E-03
4th Quarter								
Eating Fish		4.46E-03	7.83E-03	5.25E-03	4.08E-08	2.68E-03	7.63E-04	3.57E-03
Drinking Water		9.89E-03	2.59E-02	2.39E-02	1.11E-06	6.64E-03	1.57E-03	1.32E-01
Shoreline	3.88E-04	3.30E-04	3.30E-04	3.30E-04	3.30E-04	3.30E-04	3.30E-04	3.30E-04
Totals	3.88E-04	1.47E-02	3.41E-02	2.95E-02	3.31E-04	9.65E-03	2.66E-03	1.36E-01
Totals for 3rd & 4th Quarters	4.13E-04	1.96E-02	4.11E-02	3.46E-02	3.52E-04	1.20E-02	3.43E-03	1.39E-01

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 1991, Cooper Nuclear Station

Period	Dose, mrem							
	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-LLI
1st Quarter	1.30E-05	1.14E-03	8.90E-04	7.08E-04	1.11E-05	2.84E-04	9.69E-05	1.43E-03
2nd Quarter	1.01E-05	2.79E-03	2.70E-03	2.01E-03	9.33E-06	8.84E-04	2.97E-04	1.67E-03
3rd Quarter	2.49E-05	4.93E-03	7.01E-03	5.08E-03	2.13E-05	2.31E-03	7.67E-04	3.14E-03
4th Quarter	3.88E-04	1.47E-02	3.41E-02	2.95E-02	3.31E-04	9.65E-03	2.66E-03	1.36E-01
Totals For 1991	4.36E-04	2.36E-02	4.47E-02	3.73E-02	3.73E-04	1.31E-02	3.82E-03	1.42E-01

Table 3. Doses to Population Withing a 50-Mile Radius, Result.ng From Exposure to Radioactivity Discharged in Liquid Effluents, July-December 1991, Cooper Nuclear Station

Period and Pathway	Dose to Population, manrem							
	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-LLI
3rd Quarter								
Eating Fish		2.07 E-04	3.08 E-04	1.79 E-04	2.19 E-10	1.02 E-04	3.4[illegible] E-05	2.06 E-05
Drinking Water		4.08 E-03	4.10 E-03	2.45 E-03	9.77 E-08	1.28 E-03	[illegible] E-04	3.74 E-03
Shoreline	1.32 E-03	1.12 E-03	1.12 E-03	1.12 E-03	1.12 E-03	1.12 E-03	[illegible] E-03	1.12 E-03
Swimming		7.98 E-06	7.98 E-06	7.98 E-06	7.98 E-06	7.98 E-06	[illegible]8 E-06	7.98 E-06
Boating		2.92 E-05	2.92 E-05	2.92 E-05	2.92 E-05	2.92 E-05	[illegible] E-05	2.92 E-05
Totals	1.32 E-03	5.44 E-03	5.57 E-03	3.79 E-03	1.16 E-03	2.54 E-03	1.[illegible]1 E-03	4.92 E-03
4th Quarter								
Eating Fish		3.12 E-04	5.05 E-04	2.85 E-04	1.10 E-09	1.71 E-04	5.07 E-05	1.90 E-04
Drinking Water		6.81 E-03	1.53 E-02	1.34 E-02	4.42 E-07	3.90 E-03	9.74 E-04	5.94 E-02
Shoreline	2.06 E-02	1.75 E-02	1.75 E-02	1.75 E-02	1.75 E-02	1.75 E-02	1.75 E-02	1.75 E-02
Boating		3.07 E-04	3.07 E-04	3.07 E-04	3.07 E-04	3.07 E-04	3.07 E-04	3.07 E-04
Totals	2.06 E-02	2.49 E-02	3.36 E-02	3.15 E-02	1.78 E-02	2.19 E-02	1.88 E-02	7.74 E-02
Totals for 3rd & 4th Quarters	2.19 E-02	3.03 E-02	3.92 E-02	3.53 E-02	1.90 E-02	2.44 E-02	2.04 E-02	8.23 E-02

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 1991, Cooper Nuclear Station

Period	Dose, mrem							
	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-LLI
1st Quarter	6.90E-04	2.90E-03	2.15E-03	1.59E-03	5.87E-04	1.07E-03	7.44E-04	2.49E-03
2nd Quarter	5.34E-04	3.15E-03	1.97E-03	1.43E-03	4.67E-04	9.34E-04	6.26E-04	1.98E-03
3rd Quarter	1.32E-03	5.44E-03	5.57E-03	3.79E-03	1.16E-03	2.54E-03	1.61E-03	4.92E-03
4th Quarter	2.06E-02	2.49E-02	3.36E-02	3.15E-02	1.78E-02	2.19E-02	1.88E-02	7.74E-02
Totals For 1991	2.31E-02	3.64E-02	4.33E-02	3.83E-02	2.00E-02	2.64E-02	2.18E-02	8.68E-02

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 GASPAR computer code. Four sites were selected for individual dose calculations: the site boundary, the nearest residence, the nearest garden, and the nearest cow. GASPAR implements the radiological dose models of Regulatory Guide 1.109 for determining the radiation exposure to man from four principal atmospheric exposure pathways: plume, ground, inhalation, and ingestion. Doses to the maximum individual and the population are calculated as a function of age group and pathway for significant body organs.

Tables 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 1991. 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 1991, respectively.

Because of differences in the amount of valid meteorological data recovered, dose contributions from the third and fourth quarters of 1991 cannot be summed to provide semiannual doses.

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

TABLE 5. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 1991

COOPER NUCLEAR STATION JULY-SEPTEMBER 1991
SPECIAL LOCATION # 1 SITE BOUNDARY
AT 0.67 MILES N

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	3.18E-03	3.18E-03	3.18E-03	3.18E-03	3.18E-03	3.28E-03	3.21E-03	6.25E-03
TEEN	3.18E-03	3.18E-03	3.18E-03	3.18E-03	3.18E-03	3.32E-03	3.21E-03	6.25E-03
CHILD	3.18E-03	3.18E-03	3.18E-03	3.18E-03	3.18E-03	3.45E-03	3.21E-03	6.25E-03
INFANT	3.18E-03	3.18E-03	3.18E-03	3.18E-03	3.18E-03	3.75E-03	3.21E-03	6.25E-03

COOPER NUCLEAR STATION JULY-SEPTEMBER 1991
SPECIAL LOCATION # 2 NEAR.RESIDENCE
AT 0.90 MILES NW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	8.90E-04	8.90E-04	8.90E-04	8.90E-04	8.90E-04	9.42E-04	9.01E-04	1.76E-03
TEEN	8.90E-04	8.90E-04	8.90E-04	8.90E-04	8.90E-04	9.63E-04	9.01E-04	1.76E-03
CHILD	8.90E-04	8.90E-04	8.90E-04	8.90E-04	8.91E-04	1.03E-03	9.01E-04	1.76E-03
INFANT	8.90E-04	8.90E-04	8.91E-04	8.91E-04	8.91E-04	1.18E-03	9.01E-04	1.76E-03

TABLE 5. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-SEPTEMBER 1991 (CONTINUED)

COOPER NUCLEAR STATION JULY-SEPTEMBER 1991
SPECIAL LOCATION # 3 NEAREST COW
AT 3.50 MILESNNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	4.50E-05	4.50E-05	4.50E-05	4.50E-05	4.50E-05	5.00E-05	4.57E-05	9.67E-05
TEEN	4.50E-05	4.50E-05	4.50E-05	4.50E-05	4.50E-05	5.19E-05	4.57E-05	9.67E-05
CHILD	4.50E-05	4.50E-05	4.50E-05	4.50E-05	4.51E-05	5.77E-05	4.57E-05	9.67E-05
INFANT	4.50E-05	4.50E-05	4.51E-05	4.51E-05	4.51E-05	7.10E-05	4.57E-05	9.67E-05

COOPER NUCLEAR STATION JULY-SEPTEMBER 1991
SPECIAL LOCATION # 4 NEAREST GARDEN
AT 1.90 MILESNNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.14E-04	2.04E-04	4.17E-04
TEEN	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.18E-04	2.04E-04	4.17E-04
CHILD	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.33E-04	2.04E-04	4.17E-04
INFANT	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.69E-04	2.04E-04	4.17E-04

TABLE 6. DOSES TO MAXIMUM INDIVIDUAL (MREM), OCTOBER-DECEMBER 1991

COOPER NUCLEAR STATION OCTOBER-DECEMBER 1991
SPECIAL LOCATION # 1 SITE BOUNDARY
AT 0.67 MILES N

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	1.52E-02	1.78E-02	1.48E-02	1.51E-02	1.49E-02	1.50E-02	1.60E-02	1.75E-02
TEEN	1.53E-02	1.77E-02	1.48E-02	1.52E-02	1.49E-02	1.50E-02	1.65E-02	1.75E-02
CHILD	1.57E-02	1.66E-02	1.48E-02	1.54E-02	1.49E-02	1.52E-02	1.62E-02	1.75E-02
INFANT	1.49E-02	1.49E-02	1.48E-02	1.49E-02	1.48E-02	1.55E-02	1.57E-02	1.75E-02

COOPER NUCLEAR STATION OCTOBER-DECEMBER 1991
SPECIAL LOCATION # 2 NEAR.RESIDENCE
AT 0.90 MILES NW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	2.56E-03	2.99E-03	2.51E-03	2.55E-03	2.51E-03	2.60E-03	2.64E-03	3.02E-03
TEEN	2.58E-03	2.97E-03	2.51E-03	2.57E-03	2.52E-03	2.63E-03	2.70E-03	3.02E-03
CHILD	2.66E-03	2.80E-03	2.51E-03	2.60E-03	2.52E-03	2.75E-03	2.66E-03	3.02E-03
INFANT	2.[illegible]	2.52E-03	2.51E-03	2.52E-03	2.51E-03	3.02E-03	2.61E-03	3.02E-03

TABLE 6. DOSES TO MAXIMUM INDIVIDUAL (MREM), OCTOBER-DECEMBER 1991 (CONTINUED)

COOPER NUCLEAR STATION OCTOBER-DECEMBER 1991
SPECIAL LOCATION # 3 NEAREST COW
AT 3.50 MILESNNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	1.84E-04	2.15E-04	1.80E-04	1.83E-04	1.80E-04	1.86E-04	2.04E-04	2.17E-04
TEEN	1.85E-04	2.13E-04	1.80E-04	1.84E-04	1.80E-04	1.88E-04	2.15E-04	2.17E-04
CHILD	1.90E-04	2.01E-04	1.80E-04	1.86E-04	1.81E-04	1.94E-04	2.08E-04	2.17E-04
INFANT	1.81E-04	1.91E-04	1.80E-04	1.80E-04	1.80E-04	2.09E-04	1.98E-04	2.17E-04

COOPER NUCLEAR STATION OCTOBER-DECEMBER 1991
SPECIAL LOCATION # 4 NEAREST GARDEN
AT 1.80 MILESNNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	7.50E-04	8.77E-04	7.34E-04	7.46E-04	7.36E-04	7.49E-04	8.16E-04	8.76E-04
TEEN	7.57E-04	8.74E-04	7.34E-04	7.52E-04	7.37E-04	7.55E-04	8.53E-04	8.76E-04
CHILD	7.78E-04	8.21E-04	7.34E-04	7.60E-04	7.38E-04	7.73E-04	8.30E-04	8.76E-04
INFANT	7.38E-04	7.38E-04	7.34E-04	7.37E-04	7.34E-04	8.14E-04	7.95E-04	8.76E-04

TABLE 7. DOSES TO POPULATION WITHIN 50 MILES, JULY-SEPTEMBER 1991

COOPER NUCLEAR STATION JULY-SEPTEMBER 1991
ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (MANREM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	8.71E-05	8.71E-05	8.71E-05	8.71E-05	8.71E-05	8.71E-05	9.00E-05	2.44E-04
GROUND	8.05E-09	8.05E-09	8.05E-09	8.05E-09	8.05E-09	8.05E-09	8.05E-09	9.77E-09
INHAL	7.98E-09	2.03E-09	1.09E-08	1.41E-06	2.39E-08	4.64E-06	0.00E-01	0.00E-01
VEGET	7.21E-08	2.40E-08	1.03E-07	1.27E-07	2.15E-07	4.12E-05	0.00E-01	0.00E-01
COW MILK	9.22E-08	2.85E-08	1.36E-07	1.63E-07	2.74E-07	5.28E-05	0.00E-01	0.00E-01
MEAT	2.06E-09	8.04E-10	2.75E-09	3.62E-09	6.15E-09	1.18E-06	0.00E-01	0.00E-01
TOTAL	8.73E-05	8.72E-05	8.74E-05	8.74E-05	8.76E-05	1.87E-04	9.00E-05	2.44E-04

TABLE 8. DOSES TO POPULATION WITHIN 50 MILES, OCTOBER-DECEMBER 1991

COOPER NUCLEAR STATION OCTOBER-DECEMBER 1991
ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (MANREM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.98E-05	8.85E-05
GROUND	5.60E-04	5.60E-04	5.60E-04	5.60E-04	5.60E-04	5.60E-04	5.60E-04	6.58E-04
INHAL	3.53E-07	4.54E-06	3.20E-08	6.03E-07	1.61E-07	1.37E-05	1.16E-04	0.00E-01
VEGET	2.39E-05	1.39E-04	3.12E-07	1.86E-05	3.41E-06	1.25E-04	0.00E-01	0.00E-01
COW MILK	3.10E-06	1.43E-05	3.82E-07	1.85E-06	8.54E-07	1.48E-04	0.00E-01	0.00E-01
MEAT	6.39E-06	4.35E-05	8.51E-09	2.90E-06	7.02E-08	3.64E-06	0.00E-01	0.00E-01
TOTAL	6.23E-04	7.90E-04	5.89E-04	6.13E-04	5.93E-04	8.79E-04	7.06E-04	7.47E-04

TABLE 9. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 1991

COOPER NUCLEAR STATION JULY-DECEMBER 1991
SPECIAL LOCATION # 1 SITE BOUNDARY
AT 0.67 MILES N

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	1.84E-02	2.10E-02	1.81E-02	1.84E-02	1.82E-02	1.84E-02	1.93E-02	2.40E-02
TEEN	1.86E-02	2.09E-02	1.81E-02	1.85E-02	1.82E-02	1.85E-02	1.98E-02	2.40E-02
CHILD	1.90E-02	1.99E-02	1.81E-02	1.86E-02	1.82E-02	1.89E-02	1.95E-02	2.40E-02
INFANT	1.82E-02	1.82E-02	1.81E-02	1.82E-02	1.81E-02	1.98E-02	1.90E-02	2.40E-02

COOPER NUCLEAR STATION JULY-DECEMBER 1991
SPECIAL LOCATION # 2 NEAR RESIDENCE
AT 0.90 MILES NW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	4.66E-03	5.33E-03	4.57E-03	4.64E-03	4.58E-03	4.74E-03	4.81E-03	6.01E-03
TEEN	4.69E-03	5.30E-03	4.57E-03	4.66E-03	4.59E-03	4.81E-03	4.92E-03	6.01E-03
CHILD	4.81E-03	5.03E-03	4.57E-03	4.71E-03	4.59E-03	5.02E-03	4.85E-03	6.01E-03
INFANT	4.59E-03	4.58E-03	4.57E-03	4.59E-03	4.58E-03	5.53E-03	4.75E-03	6.01E-03

TABLE 9. DOSES TO MAXIMUM INDIVIDUAL (MREM), JULY-DECEMBER 1991 (CONTINUED)

COOPER NUCLEAR STATION JULY-DECEMBER 1991
SPECIAL LOCATION # 3 NEAREST COW
AT 3.50 MILESNNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	2.78E-04	3.17E-04	2.73E-04	2.77E-04	2.74E-04	2.88E-04	3.02E-04	3.74E-04
TEEN	2.80E-04	3.15E-04	2.73E-04	2.79E-04	2.74E-04	2.93E-04	3.15E-04	3.74E-04
CHILD	2.87E-04	2.99E-04	2.73E-04	2.81E-04	2.74E-04	3.10E-04	3.07E-04	3.74E-04
INFANT	2.74E-04	2.74E-04	2.73E-04	2.74E-04	2.73E-04	3.48E-04	2.95E-04	3.74E-04

COOPER NUCLEAR STATION JULY-DECEMBER 1991
SPECIAL LOCATION # 4 NEAREST GARDEN
AT 1.90 MILESNNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	1.13E-03	1.29E-03	1.11E-03	1.13E-03	1.11E-03	1.15E-03	1.21E-03	1.49E-03
TEEN	1.14E-03	1.28E-03	1.11E-03	1.13E-03	1.11E-03	1.16E-03	1.25E-03	1.49E-03
CHILD	1.17E-03	1.22E-03	1.11E-03	1.14E-03	1.11E-03	1.20E-03	1.23E-03	1.49E-03
INFANT	1.12E-03	1.12E-03	1.11E-03	1.11E-03	1.11E-03	1.31E-03	1.19E-03	1.49E-03

TABLE 10. DOSES TO POPULATION WITHIN 50 MILES, JULY-DECEMBER 1991

COOPER NUCLEAR STATION JULY-DECEMBER 1991
ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (MANREM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.23E-04	1.23E-04	1.23E-04	1.23E-04	1.23E-04	1.23E-04	1.26E-04	3.45E-04
GROUND	5.94E-04	5.94E-04	5.94E-04	5.94E-04	5.94E-04	5.94E-04	5.94E-04	6.98E-04
INHAL	4.09E-07	5.18E-06	4.45E-08	6.98E-07	2.01E-07	1.90E-05	1.33E-04	0.00E-01
VEGET	2.41E-05	1.39E-04	4.27E-07	1.88E-05	3.66E-06	1.70E-04	0.00E-01	0.00E-01
COW MILK	3.21E-06	1.44E-05	5.42E-07	2.05E-06	1.18E-06	2.10E-04	0.00E-01	0.00E-01
MEAT	6.41E-06	4.36E-05	1.15E-08	2.91E-06	7.70E-08	4.91E-06	0.00E-01	0.00E-01
TOTAL	7.51E-04	9.18E-04	7.17E-04	7.41E-04	7.22E-04	1.12E-03	8.53E-04	1.04E-03

TABLE 11. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-DECEMBER 1991

COOPER NUCLEAR STATION JANUARY-DECEMBER 1991
SPECIAL LOCATION # 1 SITE BOUNDARY
AT 0.67 MILES N

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	1.80E-02	2.06E-02	1.77E-02	1.80E-02	1.77E-02	1.87E-02	1.88E-02	2.33E-02
TEEN	1.82E-02	2.05E-02	1.77E-02	1.81E-02	1.78E-02	1.91E-02	1.92E-02	2.33E-02
CHILD	1.86E-02	1.95E-02	1.77E-02	1.82E-02	1.78E-02	2.03E-02	1.89E-02	2.33E-02
INFANT	1.78E-02	1.78E-02	1.77E-02	1.78E-02	1.77E-02	2.33E-02	1.85E-02	2.33E-02

COOPER NUCLEAR STATION JANUARY-DECEMBER 1991
SPECIAL LOCATION # 2 NEAR.RESIDENCE
AT 0.90 MILES NW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	5.43E-03	6.20E-03	5.33E-03	5.40E-03	5.34E-03	5.88E-03	5.60E-03	7.07E-03
TEEN	5.47E-03	6.18E-03	5.33E-03	5.44E-03	5.35E-03	6.09E-03	5.72E-03	7.07E-03
CHILD	5.60E-03	5.86E-03	5.33E-03	5.48E-03	5.36E-03	6.78E-03	5.55E-03	7.07E-03
INFANT	5.36E-03	5.35E-03	5.34E-03	5.35E-03	5.34E-03	8.41E-03	5.54E-03	7.07E-03

TABLE 11. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-DECEMBER 1991 (CONTINUED

COOPER NUCLEAR STATION JANUARY-DECEMBER 1991
SPECIAL LOCATION # 3 NEAREST COW
AT 3.50 MILESNNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	3.33E-04	3.76E-04	3.28E-04	3.32E-04	3.28E-04	3.81E-04	3.56E-04	63E-04
TEEN	3.35E-04	3.74E-04	3.28E-04	3.34E-04	3.28E-04	4.01E-04	3.69E-04	4.63E-04
CHILD	3.42E-04	3.57E-04	3.28E-04	3.37E-04	3.28E-04	4.64E-04	3.61E-04	4.63E-04
INFANT	3.28E-04	3.28E-04	3.28E-04	3.28E-04	3.28E-04	6.10E-04	3.49E-04	4.63E-04

C17

COOPER NUCLEAR STATION JANUARY-DECEMBER 1991
SPECIAL LOCATION # 4 NEARE[illegible] EM
AT 1.90 MILESNNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	1.29E-03	1.47E-03	1.27E-03	1.29E-03	1.27E-03	1.42E-03	1.37E-03	1.73E-03
TEEN	1.30E-03	1.46E-03	1.27E-03	1.29E-03	1.27E-03	1.48E-03	1.41E-03	1.73E-03
CHILD	1.33E-03	1.39E-03	1.27E-03	1.31E-03	1.27E-03	1.68E-03	1.38E-03	1.73E-03
INFANT	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03	2.13E-03	1.34E-03	1.73E-03

TABLE 12. DOSES TO POPULATION WITHIN 50 MILES, JANUARY-DECEMBER 1991

COOPER NUCLEAR STATION JANUARY-DECEMBER 1991
ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (MANREM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.80E-04	1.80E-04	1.80E-04	1.80E-04	1.80E-04	1.80E-04	1.84E-04	4.90E-04
GROUND	6.24E-04	6.24E-04	6.24E-04	6.24E-04	6.24E-04	6.24E-04	6.24E-04	7.34E-04
INHAL	4.10E-07	4.80E-06	8.48E-08	7.02E-07	2.52E-07	3.62E-05	1.23E-04	0.00E-01
VEGET	2.45E-05	1.40E-04	9.29E-07	1.85E-05	4.71E-06	3.70E-04	0.00E-01	0.00E-01
COW MILK	3.67E-06	1.45E-05	1.21E-06	2.85E-06	2.53E-06	4.70E-04	0.00E-01	0.00E-01
MEAT	6.44E-06	4.38E-05	2.48E-08	2.93E-06	1.07E-07	1.06E-05	0.00E-01	0.00E-01
TOTAL	8.38E-04	1.01E-03	8.05E-04	8.29E-04	8.11E-04	1.59E-03	9.30E-04	1.22E-03

TABLE 13. GAMMA AND BETA AIR DOSES, JULY-SEPTEMBER 1991

COOPER NUCLEAR STATION JULY-SEPTEMBER 1991

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	8.575E-03	5.675E-04	1.490E-04	6.787E-05	3.936E-05	1.415E-05	3.773E-06	1.379E-06	7.962E-07	4.308E-07
NNE	5.368E-03	3.539E-04	9.228E-05	4.125E-05	2.391E-05	8.618E-06	2.344E-06	8.666E-07	4.440E-07	2.707E-07
NE	2.212E-03	1.399E-04	3.733E-05	1.721E-05	9.964E-06	3.686E-06	9.913E-07	3.667E-07	1.897E-07	1.168E-07
ENE	1.547E-03	9.486E-05	2.536E-05	1.173E-05	6.871E-06	2.458E-06	6.552E-07	2.405E-07	1.246E-07	7.683E-08
E	1.584E-03	9.879E-05	2.646E-05	1.212E-05	7.089E-06	2.558E-06	6.834E-07	2.533E-07	1.312E-07	8.084E-08
ESE	1.236E-03	7.996E-05	2.034E-05	9.171E-06	5.264E-06	1.876E-06	4.941E-07	1.801E-07	9.202E-08	5.612E-08
SE	3.658E-03	2.456E-04	6.756E-05	3.135E-05	1.838E-05	6.661E-06	1.788E-06	6.621E-07	3.418E-07	2.107E-07
SSE	8.703E-03	5.493E-04	1.471E-04	6.819E-05	3.968E-05	1.433E-05	3.824E-06	1.404E-06	7.240E-07	4.449E-07
S	6.553E-03	4.172E-04	1.058E-04	4.719E-05	2.695E-05	9.510E-06	2.493E-06	9.013E-07	4.593E-07	2.788E-07
SSW	2.890E-03	1.899E-04	4.858E-05	2.183E-05	1.247E-05	4.350E-06	1.117E-06	4.011E-07	2.034E-07	1.236E-07
SW	1.584E-03	9.655E-05	2.467E-05	1.115E-05	6.380E-06	2.252E-06	5.827E-07	2.131E-07	1.091E-07	6.663E-08
WSW	1.274E-03	7.902E-05	1.969E-05	8.508E-06	4.883E-06	1.693E-06	4.481E-07	1.634E-07	8.324E-08	5.045E-08
W	7.606E-04	4.761E-05	1.183E-05	5.208E-06	2.953E-06	1.042E-06	2.730E-07	9.935E-08	5.085E-08	3.103E-08
WNW	1.640E-03	9.924E-05	2.589E-05	1.159E-05	6.732E-06	2.393E-06	6.292E-07	2.298E-07	1.178E-07	7.203E-08
NW	4.867E-03	3.111E-04	8.037E-05	3.555E-05	2.023E-05	7.150E-06	1.891E-06	6.846E-07	3.468E-07	2.091E-07
NNW	8.744E-03	5.712E-04	1.526E-04	6.860E-05	3.967E-05	1.433E-05	3.879E-06	1.427E-06	7.322E-07	4.471E-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	6.248E-03	5.071E-04	1.520E-04	7.405E-05	4.477E-05	1.762E-05	5.716E-06	2.530E-06	1.466E-06	9.726E-07
NNE	3.842E-03	3.072E-04	9.151E-05	4.419E-05	2.673E-05	1.054E-05	3.446E-06	1.537E-06	8.952E-07	5.958E-07
NE	1.621E-03	1.263E-04	3.848E-05	1.896E-05	1.149E-05	4.623E-06	1.532E-06	6.885E-07	4.030E-07	2.694E-07
ENE	1.150E-03	8.805E-05	2.673E-05	1.314E-05	7.997E-06	3.164E-06	1.040E-06	4.642E-07	2.710E-07	1.808E-07
E	1.168E-03	9.029E-05	2.748E-05	1.346E-05	8.190E-06	3.253E-06	1.070E-06	4.802E-07	2.809E-07	1.875E-07
ESE	8.971E-04	7.113E-05	2.076E-05	1.001E-05	6.099E-06	2.338E-06	7.489E-07	3.297E-07	1.906E-07	1.262E-07
SE	2.763E-03	2.260E-04	7.019E-05	3.474E-05	2.121E-05	8.470E-06	2.801E-06	1.257E-06	7.345E-07	4.905E-07
SSE	6.398E-03	5.019E-04	1.530E-04	7.551E-05	4.584E-05	1.822E-05	5.983E-06	2.668E-06	1.554E-06	1.035E-06
S	4.767E-03	3.702E-04	1.076E-04	5.154E-05	3.077E-05	1.191E-05	3.796E-06	1.684E-06	9.596E-07	6.336E-07
SSW	2.185E-03	1.725E-04	5.031E-05	2.408E-05	1.434E-05	5.499E-06	1.731E-06	7.540E-07	4.327E-07	2.852E-07
SW	1.156E-03	8.689E-05	2.537E-05	1.223E-05	7.307E-06	2.832E-06	9.013E-07	3.985E-07	2.308E-07	1.530E-07
WSW	9.154E-04	6.815E-05	1.940E-05	9.086E-06	5.373E-06	2.068E-06	6.575E-07	2.894E-07	1.675E-07	1.108E-07
W	5.535E-04	4.171E-05	1.189E-05	5.632E-06	3.340E-06	1.287E-06	4.086E-07	1.799E-07	1.043E-07	6.923E-08
WNW	1.186E-03	8.892E-05	2.643E-05	1.273E-05	7.687E-06	3.004E-06	9.685E-07	4.289E-07	2.489E-07	1.652E-07
NW	3.510E-03	2.723E-04	7.983E-05	3.804E-05	2.266E-05	8.747E-06	2.780E-06	1.214E-06	6.984E-07	4.600E-07
NNW	6.361E-03	5.068E-04	1.535E-04	7.440E-05	4.497E-05	1.778E-05	5.824E-06	2.593E-06	1.509E-06	1.004E-06

TABLE 14. GAMMA AND BETA AIR DOSES, OCTOBER-DECEMBER 1991

COOPER NUCLEAR STATION OCTOBER-DECEMBER 1991

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	6.136E-05	1.650E-05	8.219E-06	5.023E-06	3.189E-06	1.100E-06	3.085E-07	1.140E-07	4.841E-08	2.661E-08
NNE	6.352E-05	1.557E-05	8.106E-06	5.152E-06	3.302E-06	2.849E-06	3.633E-07	8.791E-08	3.767E-08	2.108E-08
NE	6.986E-05	1.196E-05	4.776E-06	2.725E-06	1.669E-06	1.350E-06	1.780E-07	4.234E-08	1.833E-08	1.018E-08
ENE	4.098E-07	1.068E-05	7.352E-06	4.512E-06	2.957E-06	1.889E-06	3.638E-07	9.428E-08	3.670E-08	1.865E-08
E	2.450E-05	4.857E-05	2.605E-05	1.501E-05	9.733E-06	5.507E-06	1.248E-06	3.683E-07	1.554E-07	7.902E-08
ESE	5.693E-05	1.214E-04	6.499E-05	3.954E-05	2.582E-05	2.009E-05	3.363E-06	8.175E-07	3.311E-07	1.753E-07
SE	7.568E-05	1.182E-04	6.890E-05	3.908E-05	2.496E-05	1.048E-05	4.052E-06	1.512E-06	7.590E-07	4.086E-07
SSE	1.187E-05	1.925E-05	9.468E-06	5.81[illegible]E-06	1.295E-05	4.276E-06	6.606E-07	1.556E-07	6.317E-08	3.374E-08
S	3.567E-05	2.594E-05	1.391E-05	7.993E-06	8.678E-06	3.883E-06	8.573E-07	3.397E-07	1.549E-07	8.522E-08
SSW	8.370E-06	2.037E-05	1.013E-05	9.310E-06	5.425E-06	1.945E-06	3.746E-07	8.542E-08	3.273E-08	1.625E-08
SW	5.779E-06	4.381E-05	1.440E-05	6.544E-06	3.707E-06	1.525E-06	2.875E-07	7.809E-08	3.111E-08	1.575E-08
WSW	3.220E-07	3.486E-05	1.155E-05	5.477E-06	3.078E-06	1.096E-06	1.851E-07	4.275E-08	1.744E-08	9.403E-09
W	1.501E-06	2.972E-05	9.847E-06	4.743E-06	2.867E-06	9.606E-07	2.089E-07	5.361E-08	2.107E-08	1.091E-08
WNW	4.674E-06	9.982E-05	2.834E-05	1.400E-05	7.687E-06	2.455E-06	6.428E-07	2.312E-07	1.100E-07	6.021E-08
NW	7.019E-06	1.10[illegible]E-04	3.404E-05	1.511E-05	8.143E-06	2.756E-06	7.274E-07	2.609E-07	1.294E-07	7.216E-08
NNW	1.119E-05	2.288E-05	1.698E-05	1.02[illegible]E-05	5.[illegible]51E-06	1.267E-06	1.584E-07	3.760E-08	1.606E-08	9.035E-09

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	5.426E-05	1.161E-05	6.336E-06	4.007E-06	2.713E-06	1.253E-06	7.213E-07	4.313E-07	2.522E-07	1.705E-07
NNE	6.214E-05	1.119E-05	6.337E-06	4.297E-06	3.055E-06	3.895E-06	1.062E-06	4.443E-07	2.591E-07	1.765E-07
NE	6.871E-05	8.488E-06	3.670E-06	2.173E-06	1.423E-06	1.660E-06	4.554E-07	1.912E-07	1.148E-07	7.926E-08
ENE	4.133E-07	9.146E-06	5.691E-06	3.249E-06	2.100E-06	1.516E-06	3.734E-07	1.455E-07	8.266E-08	5.410E-08
E	2.417E-05	4.160E-05	1.965E-05	1.071E-05	6.920E-06	4.275E-06	1.062E-06	3.916E-07	2.099E-07	1.357E-07
ESE	5.419E-05	8.683E-05	4.657E-05	3.047E-05	2.[illegible]37E-05	1.842E-05	4.983E-06	2.063E-06	1.183E-06	7.913E-07
SE	7.610E-05	9.309E-05	4.914E-05	[illegible].819E-05	1.85[illegible]-05	8.094E-06	3.406E-06	1.552E-06	9.599E-07	6.265E-07
SSE	1.196E-05	1.404E-05	7.065E-06	4.486E-06	1.047E-05	4.102E-06	1.083E-06	4.453E-07	2.554E-07	1.714[illegible]-07
S	3.739E-05	2.035E-05	9.899E-06	5.736E-06	6.412E-06	2.975E-06	7.689E-07	3.039E-07	1.599E-07	1.018E-07
SSW	8.601E-06	1.734E-05	7.579E-06	6.770E-06	3.854E-06	1.544E-06	3.786E-07	1.602E-07	8.976E-08	5.933E-08
SW	5.507E-06	3.148E-05	1.048E-05	4.962E-06	2.862E-06	1.233E-06	2.961E-07	1.161E-07	6.344E-08	4.073E-08
WSW	3.093E-07	2.57[illegible]-05	8.909E-06	4.326E-06	2.519E-06	1.108E-06	3.724E-07	1.541E-07	8.919E-08	6.024E-06
W	1.470E-06	2.119E-05	7.298E-06	3.635E-06	2.226E-06	8.010E-07	2.643E-07	1.175E-07	6.636E-08	4.404E-08
WNW	4.734E-06	8.476E-05	2.102E-05	9.993E-06	5.469E-06	1.823E-06	4.973E-07	1.861E-07	9.511E-08	5.744E-08
NW	6.905E-06	8.945E-05	2.562E-05	1.078E-05	5.791E-06	2.031E-06	5.609E-07	2.084E-07	1.094E-07	6.627E-08
NNW	9.648E-06	1.722E-05	1.349E-05	8.731E-06	4.836E-06	1.700E-06	4.503E-07	1.898E-07	1.108E-07	7.600E-08

TABLE 15. GAMMA AND BETA AIR DOSES, JULY-DECEMBER 1991

COOPER NUCLEAR STATION JULY-DECEMBER 1991

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	9.358E-03	6.477E-04	1.771E-04	8.215E-05	4.839E-05	1.799E-05	5.146E-06	1.928E-06	9.510E-07	5.673E-07
NNE	5.369E-03	3.794E-04	1.056E-04	4.929E-05	2.919E-05	1.580E-05	3.618E-06	1.195E-06	5.797E-07	3.426E-07
NE	1.985E-03	1.459E-04	4.150E-05	1.950E-05	1.146E-05	6.669E-06	1.523E-06	4.903E-07	2.350E-07	1.366E-07
ENE	1.504E-03	1.061E-04	3.221E-05	1.582E-05	9.591E-06	4.603E-06	1.175E-06	4.011E-07	1.925E-07	1.115E-07
E	1.809E-03	1.490E-04	4.770E-05	2.289E-05	1.409E-05	7.216E-06	1.840E-06	6.323E-07	2.999E-07	1.725E-07
ESE	1.903E-03	1.937E-04	6.687E-05	3.589E-05	2.210E-05	1.432E-05	2.792E-06	7.794E-07	3.413E-07	1.898E-07
SE	3.699E-03	3.138E-04	1.047E-04	5.158E-05	3.135E-05	1.212E-05	4.119E-06	1.595E-06	8.322E-07	4.719E-07
SSE	6.512E-03	4.604E-04	1.281E-04	5.944E-05	4.613E-05	1.740E-05	4.301E-06	1.456E-06	7.058E-07	4.152E-07
S	6.109E-03	4.436E-04	1.262E-04	5.924E-05	4.213E-05	1.561E-05	4.010E-06	1.375E-06	6.570E-07	3.764E-07
SSW	2.893E-03	2.149E-04	5.954E-05	3.232E-05	1.930E-05	8.117E-06	1.869E-06	6.024E-07	2.785E-07	1.580E-07
SW	1.602E-03	1.679E-04	4.861E-05	2.218E-05	1.272E-05	5.029E-06	1.051E-06	3.238E-07	1.492E-07	8.553E-08
WSW	1.194E-03	1.369E-04	3.776E-05	1.711E-05	9.693E-06	3.560E-06	8.135E-07	2.479E-07	1.153E-07	6.652E-08
W	8.000E-04	1.412E-04	3.843E-05	1.748E-05	1.002E-05	3.481E-06	8.724E-07	2.606E-07	1.150E-07	6.348E-08
WNW	1.570E-03	2.341E-04	6.785E-05	3.163E-05	1.781E-05	6.349E-06	1.524E-06	4.562E-07	2.068E-07	1.137E-07
NW	3.529E-03	4.065E-04	1.097E-04	4.814E-05	2.721E-05	9.642E-06	2.509E-06	8.527E-07	4.111E-07	2.373E-07
NNW	8.044E-03	5.555E-04	1.696E-04	8.508E-05	4.875E-05	1.718E-05	4.316E-06	1.514E-06	7.584E-07	4.562E-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	6.743E-03	5.602E-04	1.722E-04	8.524E-05	5.212E-05	2.085E-05	7.229E-06	3.353E-06	1.944E-06	1.293E-06
NNE	3.800E-03	3.184E-04	9.912E-05	4.933E-05	3.031E-05	1.666E-05	5.029E-06	2.183E-06	1.266E-06	8.435E-07
NE	1.449E-03	1.244E-04	3.899E-05	1.944E-05	1.185E-05	6.777E-06	2.011E-06	8.546E-07	5.038E-07	3.354E-07
ENE	1.089E-03	9.390E-05	3.084E-05	1.559E-05	9.653E-06	4.693E-06	1.419E-06	6.008E-07	3.444E-07	2.270E-07
E	1.310E-03	1.298E-04	4.348E-05	2.125E-05	1.329E-05	6.853E-06	2.009E-06	8.327E-07	4.682E-07	3.103E-07
ESE	1.353E-03	1.524E-04	5.636E-05	3.116E-05	1.962E-05	1.341E-05	3.749E-06	1.565E-06	8.952E-07	5.948E-07
SE	2.679E-03	2.697E-04	9.192E-05	4.700E-05	2.935E-05	1.198E-05	4.411E-06	2.007E-06	1.211E-06	7.853E-07
SSE	4.753E-03	4.043E-04	1.245E-04	6.149E-05	4.622E-05	1.861E-05	5.706E-06	2.467E-06	1.422E-06	9.430E-07
S	4.422E-03	3.834E-04	1.184E-04	5.833E-05	4.011E-05	1.619E-05	4.885E-06	2.075E-06	1.176E-06	7.723E-07
SSW	2.086E-03	1.829E-04	5.523E-05	3.061E-05	1.880E-05	8.175E-06	2.351E-06	1.002E-06	5.662E-07	3.707E-07
SW	1.153E-03	1.345E-04	4.213E-05	2.027E-05	1.199E-05	5.107E-06	1.459E-06	6.300E-07	3.615E-07	2.377E-07
WSW	8.589E-04	1.083E-04	3.272E-05	1.556E-05	9.125E-06	3.679E-06	1.157E-06	4.873E-07	2.794E-07	1.840E-07
W	6.519E-04	1.116E-04	3.113E-05	1.490E-05	8.813E-06	3.254E-06	1.032E-06	4.456E-07	2.522E-07	1.658E-07
WNW	1.179E-03	1.841E-04	5.498E-05	2.696E-05	1.573E-05	5.945E-06	1.759E-06	7.364E-07	4.208E-07	2.765E-07
NW	2.570E-03	3.223E-04	9.413E-05	4.411E-05	2.590E-05	9.812E-06	3.003E-06	1.266E-06	7.230E-07	4.748E-07
NNW	5.779E-03	4.810E-04	1.617E-04	8.453E-05	5.048E-05	1.960E-05	6.202E-06	2.735E-06	1.591E-06	1.060E-06

TABLE 16. GAMMA AND BETA AIR DOSES, JANUARY-DECEMBER 1991

COOPER NUCLEAR STATION JANUARY-DECEMBER 1991

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	7.771E-03	6.067E-04	1.889E-04	9.229E-05	5.512E-05	2.084E-05	6.630E-06	2.526E-06	1.183E-06	6.736E-07
NNE	4.496E-03	3.753E-04	1.214E-04	6.081E-05	3.704E-05	2.838E-05	6.573E-06	2.066E-06	9.389E-07	5.211E-07
NE	1.957E-03	1.822E-04	6.102E-05	3.103E-05	1.871E-05	1.509E-05	3.664E-06	1.197E-06	5.504E-07	3.002E-07
ENE	1.423E-03	1.180E-04	4.265E-05	2.188E-05	1.400E-05	1.051E-05	2.807E-06	1.006E-06	5.036E-07	2.819E-07
E	1.408E-03	1.407E-04	5.297E-05	2.712E-05	1.657E-05	1.093E-05	2.795E-06	9.694E-07	4.535E-07	2.562E-07
ESE	1.471E-03	2.018E-04	8.238E-05	4.412E-05	2.[illegible]E-05	2.066E-05	4.249E-06	1.185E-06	4.951E-07	2.620E-07
SE	2.963E-03	2.958E-04	1.114E-04	5.879E-05	3.574E-05	1.386E-05	4.955E-06	1.956E-06	1.031E-06	5.776E-07
SSE	4.604E-03	3.484E-04	1.097E-04	5.360E-05	5.158E-05	1.892E-05	4.155E-06	1.281E-06	5.921E-07	3.382E-07
S	5.301E-03	4.425E-04	1.435E-04	7.038E-05	5.364E-05	2.096E-05	4.832E-06	1.526E-06	6.924E-07	3.860E-07
SSW	2.498E-03	2.031E-04	6.778E-05	4.215E-05	2.628E-05	1.120E-05	2.344E-06	6.985E-07	3.074E-07	1.693E-07
SW	1.499E-03	2.252E-04	7.024E-05	3.343E-05	1.956E-05	7.873E-06	1.509E-06	4.272E-07	1.868E-07	1.042E-07
WSW	1.332E-03	2.061E-04	5.959E-05	2.740E-05	1.559E-05	5.484E-06	1.128E-06	3.170E-07	1.418E-07	8.039E-08
W	1.075E-03	2.329E-04	6.944E-05	3.190E-05	1.829E-05	6.050E-06	1.351E-06	3.777E-07	1.596E-07	8.643E-08
WNW	1.703E-03	5.475E-04	1.550E-04	6.755E-05	3.722E-05	1.267E-05	2.971E-06	8.738E-07	3.671E-07	1.892E-07
NW	3.900E-03	6.967E-04	2.019E-04	8.731E-05	4.827E-05	1.670E-05	4.221E-06	1.388E-06	6.440E-07	3.532E-07
NNW	7.317E-03	6.502E-04	2.338E-04	1.255E-04	7.095E-05	2.486E-05	5.828E-06	1.912E-06	9.125E-07	5.305E-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	5.911E-03	5.480E-04	1.776E-04	8.995E-05	5.540E-05	2.235E-05	8.053E-06	3.750E-06	2.127E-06	1.400E-06
NNE	3.383E-03	3.310E-04	1.109E-04	5.769E-05	3.599E-05	2.577E-05	7.164E-06	2.921E-06	1.647E-06	1.082E-06
NE	1.477E-03	1.606E-04	5.334E-05	2.777E-05	1.721E-05	1.309E-05	3.586E-06	1.424E-06	7.962E-07	5.175E-07
ENE	1.083E-03	1.074E-04	3.896E-05	2.007E-05	1.291E-05	9.242E-06	2.677E-06	1.078E-06	6.084E-07	3.899E-07
E	1.047E-03	1.248E-04	4.576E-05	2.336E-05	1.453E-05	9.301E-06	2.630E-06	1.041E-06	5.650E-07	3.699E-07
ESE	1.093E-03	1.614E-04	6.614E-05	3.664E-05	2.362E-05	1.773E-05	4.751E-06	1.928E-06	1.088E-06	7.166E-07
SE	2.200E-03	2.616E-04	9.539E-05	5.054E-05	3.150E-05	1.286E-05	4.855E-06	2.181E-06	1.311E-06	8.506E-07
SSE	3.490E-03	3.201E-04	1.049E-04	5.340E-05	4.809E-05	1.888E-05	5.366E-06	2.237E-06	1.274E-06	8.416E-07
S	3.985E-03	3.966E-04	1.303E-04	6.578E-05	4.942E-05	2.021E-05	5.650E-06	2.335E-06	1.306E-06	8.554E-07
SSW	1.873E-03	1.805E-04	6.138E-05	3.803E-05	2.411E-05	1.071E-05	2.912E-06	1.216E-06	6.803E-07	4.443E-07
SW	1.127E-03	1.799E-04	5.945E-05	2.932E-05	1.753E-05	7.593E-06	2.062E-06	8.712E-07	4.958E-07	3.253E-07
WSW	9.933E-04	1.639E-04	5.090E-05	2.424E-05	1.416E-05	5.494E-06	1.625E-06	6.663E-07	3.762E-07	2.473E-07
W	8.105E-04	1.768E-04	5.584E-05	2.660E-05	1.556E-05	5.502E-06	1.626E-06	6.787E-07	3.781E-07	2.470E-07
WNW	1.276E-03	4.360E-04	1.177E-04	5.331E-05	3.032E-05	1.085E-05	2.953E-06	1.151E-06	6.345E-07	4.083E-07
NW	2.920E-03	5.618E-04	1.628E-04	7.379E-05	4.234E-05	1.557E-05	4.507E-06	1.808E-06	1.006E-06	6.522E-07
NNW	5.583E-03	5.714E-04	2.132E-04	1.153E-04	6.748E-05	2.546E-05	7.423E-06	3.121E-06	1.784E-06	1.182E-06

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 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 1991

Parameter	Values Assigned	
	Individual	Population
Cooling flow rate (cfs) *	1334.9; 323.7	1334.9; 323.7
Dilution factor	1	24.68; 74.84
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 1991, 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

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

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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.

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