

NEBRASKA PUBLIC POWER DISTRICT

COOPER NUCLEAR STATION

SEMIANNUAL OPERATING REPORT

RADIOACTIVE EFFLUENTS

January 1, 1993 through June 30, 1993

USNRC Docket 50-298

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INTRODUCTION

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

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

APPENDIX A

SOURCE TERMS

EFFLUENT AND WASTE DISPOSAL REPORTS

EFFLUENT AND WASTE DISPOSAL

January - June 1993

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

Facility Cooper Nuclear Station License DPR-46

A. Regulatory Limits

1. Gaseous waste effluents

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

2. Liquid waste effluents

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

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

B. Maximum Permissible Concentrations

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

C. Average Energy

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

D. Measurements and Approximations of Total Radioactivity

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

1. Gaseous effluents

a. Fission and activation gases:

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

b. Iodines:

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

c. Particulates:

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

d. Tritium:

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

2. Liquid effluents

a. Principal gamma emitters and dissolved and entrained gases:

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

b. Tritium:

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

c. Sr-89 and Sr-90:

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

d. Gross alpha:

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

e. Fe-55:

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

E. Batch Releases

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

a. Liquid

1. Number of batch releases: 66
2. Total time period for batch releases: $1.75 \text{ E}+04$ minutes
3. Maximum time period for batch release: $3.07 \text{ E}+02$ minutes
4. Average time period for batch releases: $2.65 \text{ E}+02$ minutes
5. Minimum time period for a batch release: $1.90 \text{ E}+02$ minutes
6. Average stream flow during periods of release of effluent into a flowing stream: $7.72 \text{ E}+07$ 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	1st Quarter	2nd Quarter	EST. TOTAL ERROR ±
A. Fission and activation gases				
1. Total release	CI	0.00 E+00	0.00 E+00	2.0 E+01
2. Average release rate for period	μCi/sec	0.00 E+00	0.00 E+00	
B. Iodines				
1. Total iodine 131	CI	3.97 E-06	0.00 E+00	3.0 E+01
2. Average release rate for period	μCi/sec	5.11 E-07	0.00 E+00	
C. Particulates				
1. Particulates with half-lives >8 days	CI	1.48 E-04	0.00 E+00	5.0 E+01
2. Average release rate for period	μCi/sec	1.90 E-05	0.00 E+00	
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
			1st QUARTER	2nd QUARTER	
1.	Fission gases.				
	krypton-83m	Ci	0.00 E+00	0.00 E+00	
	krypton-85m	Ci	0.00 E+00	0.00 E+00	
	krypton-85	Ci	0.00 E+00	0.00 E+00	
	krypton-87	Ci	0.00 E+00	0.00 E+00	
	krypton-88	Ci	0.00 E+00	0.00 E+00	
	krypton-89	Ci	0.00 E+00	0.00 E+00	
	xenon-133m	Ci	0.00 E+00	0.00 E+00	
	xenon-133	Ci	0.00 E+00	0.00 E+00	
	xenon-135m	Ci	0.00 E+00	0.00 E+00	
	xenon-135	Ci	0.00 E+00	0.00 E+00	
	xenon-137	Ci	0.00 E+00	0.00 E+00	
	xenon-138	Ci	0.00 E+00	0.00 E+00	
	Total for period	Ci	0.00 E+00	0.00 E+00	
2.	Iodines.				
	iodine-131	Ci	3.97 E-06	0.00 E+00	
	Total for period	Ci	3.97 E-06	0.00 E+00	

* No batch discharges were made

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

<u>NUCLIDES RELEASED</u>	<u>UNIT</u>	CONTINUOUS MODE		*BATCH
		<u>1st QUARTER</u>	<u>2nd QUARTER</u>	
3. Particulates.				
Total for period	Ci	0.00 E+00	0.00 E+00	

*No batch discharges were made.

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

	<u>NUCLIDES RELEASED</u>	<u>UNIT</u>	<u>1st QUARTER</u>	<u>2nd QUARTER</u>
1.	Fission gases.			
	krypton-85m	ci	0.00 E+00	0.00 E+00
	krypton-87	ci	0.00 E+00	0.00 E+00
	krypton-88	ci	0.00 E+00	0.00 E+00
	xenon-133	ci	0.00 E+00	0.00 E+00
	xenon-135m	ci	0.00 E+00	0.00 E+00
	xenon-135	ci	0.00 E+00	0.00 E+00
	xenon-138	ci	0.00 E+00	0.00 E+00
	Total for period	ci	0.00 E+00	0.00 E+00
2.	Iodines.			
	Iodine-131	ci	0.00 E+00	0.00 E+00
	Iodine-133	ci	0.00 E+00	0.00 E+00
	Total for period	ci	0.00 E+00	0.00 E+00
3.	Particulates.			
	cobalt-60	ci	1.48 E-04	0.00 E+00
	Total for period	ci	1.48 E-04	0.00 E+00

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

	UNIT	1st QUARTER	2nd QUARTER	EST. TOTAL ERROR %
A. Fission and activation products.				
1. Total release (not including tritium, gases, alpha)	Ci	1.09 E+00	8.66 E-01	2.0 E+01
2. Average diluted concentration during period	μCi/ml	1.04 E-07	1.80 E-07	
B. Tritium.				
1. Total release	Ci	6.01 E+00	2.58 E+00	2.0 E+01
2. Average diluted concentration during period	μCi/ml	5.72 E-07	5.35 E-07	
C. Dissolved and entrained gases.				
1. Total release	Ci	0.00 E+00	0.00 E+00	5.0 E+01
2. Average diluted concentration during period	μCi/ml	0.00 E+00	0.00 E+00	
D. Gross alpha radioactivity.				
1. Total release	Ci	0.00 E+00	0.00 E+00	5.0 E+01
E. Volume of waste released (prior to dilution).	liters	2.36 E+06	2.13 E+06	1.0 E+01
F. Volume of dilution water used during period.	liters	1.05 E+10	4.82 E+09	1.0 E+01

TABLE 2B
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
LIQUID EFFLUENTS

<u>NUCLIDES RELEASED</u>	<u>UNIT</u>	CONTINUOUS MODE*	BATCH MODE
		<u>1st QUARTER</u>	<u>2nd QUARTER</u>
chromium-51	Ci	2.38 E-03	3.55 E-03
manganese-54	Ci	1.97 E-01	2.24 E-01
iron-55	Ci	7.51 E-02	1.26 E-01
cobalt-58	Ci	1.72 E-02	2.00 E-02
cobalt-60	Ci	7.27 E-01	4.74 E-01
strontium-89	Ci	1.67 E-03	0.00 E+00
strontium-90	Ci	1.57 E-02	0.00 E+00
strontium-91	Ci	8.18 E-05	0.00 E+00
cesium-134	Ci	7.21 E-03	2.31 E-04
cesium-137	Ci	3.25 E-02	5.37 E-03
sodium-24	Ci	4.12 E-05	0.00 E+00
silver-110m	Ci	1.07 E-02	5.41 E-03
iron-59	Ci	0.00 E+00	7.68 E-03
niobium 95	Ci	0.00 E+00	2.29 E-04
Total for period above	Ci	1.09 E+00	8.66 E-01
xenon-133	Ci	0.00 E+00	0.00 E+00
xenon-135	Ci	0.00 E+00	0.00 E+00

*No continuous mode discharges made

TABLE 3
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
PERIOD January 1, 1993 TO June 30, 1993

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

1. Type of Waste	UNIT	6-MONTH PERIOD	EST. TOTAL ERROR*
a. Spent resins, filter sludges, evaporator bottoms, etc.	m ³ Ci	5.90 E+01 6.61 E+02	1.5 E+01
b. Dry compressible waste, con- taminated equip, etc.	m ³ Ci	2.13 E+02 3.29 E+01	2.5 E+01
c. Irradiated components, con- trol rods, etc.	m ³ Ci	4.81 E-02 2.70 E+02	1.5 E+01
d. Other.	m ³ Ci		

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

a. carbon-14	2.63 E-01
cesium-134	1.09 E-01
cesium-137	5.30 E-01
chromium-51	6.42 E+00
cobalt-58	3.84 E+00
cobalt-60	4.08 E+01
curium-242	6.59 E-06
iron-55	2.48 E+01
manganese-54	1.83 E+01
nickel-63	2.07 E+00
nickel-59	2.39 E-02
plutonium-241	1.12 E-04
silver-110m	1.51 E+00
strontium-89	7.94 E-01
strontium-90	1.01 E-02
technetium-99	6.65 E-06
transuranics	2.21 E-05
tritium	5.56 E-03
zinc-65	6.06 E-01

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

b. americium-241	6.24 E-02
barium-133	3.47 E-06
cadmium-109	1.42 E-08
carbon-14	2.78 E-02
cesium-134	1.61 E+00
cesium-137	3.59 E+00
cerium-144	8.22 E-01
chlorine-36	1.22 E-05
cobalt-57	5.48 E-12
cobalt-58	3.59 E+00
cobalt-60	4.51 E+01
curium-242	7.43 E-05
curium-243/244	8.53 E-06
iron-55	2.51 E+01
iron-59	1.01 E-01
krypton-85	1.82 E+00
manganese-54	1.58 E+01
nickel-59	1.20 E-02
nickel-63	6.55 E-01
plutonium-238	8.16 E-06
plutonium-239/240	3.35 E-06
plutonium-241	2.76 E-04
silver-110m	8.16 E-01
sodium-22	9.59 E-08
strontium-89	9.59 E-04
strontium-90	2.04 E-03
polonium-210	2.61 E-06
technetium-99	5.73 E-05
transuranics	6.52 E-05

GASEOUS RADIOACTIVE WASTES

CUMULATIVE DOSE DATA

A. Maximum gamma air dose 1st Qtr 2nd Qtr 3rd Qtr 4th Qtr Annual

Site boundary (0.67 miles North)

1. Total mrad 0.00E+0 0.00E+0
2. Percent of Technical
Specification Limit % 0.00 0.00

Most Exposed Resident (0.9 miles Northwest)

1. Total mrad 0.00E+0 0.00E+0
2. Percent of Technical
Specification Limit % 0.00 0.00

B. Maximum beta air dose

Site boundary (0.67 miles North)

1. Total mrad 0.00E+0 0.00E+0
2. Percent of Technical
Specification Limit % 0.00 0.00

Most Exposed Resident (0.9 miles Northwest)

1. Total mrad 0.00E+0 0.00E+0
2. Percent of Technical
Specification Limit % 0.00 0.00

C. Maximum organ dose due to
I-131, I-133, and particulates
(>8 day half lives)

Site boundary (0.67 miles North)

1. Total mrem 5.79E-4 0.00E+0
2. Percent of Technical
Specification Limit % 0.01 0.00
3. Organ GI Tract NA
4. Exposed Individual Teen NA

Most Exposed Resident (0.9 miles Northwest)

1. Total mrem 3.35E-4 0.00E+0
2. Percent of Technical
Specification Limit % 0.00 0.00
3. Organ GI Tract NA
4. Exposed Individual Teen NA

- D. Maximum organ dose rate due to I-131, I-133, tritium, and particulates (>8 day half-lives) was 5.79 E-04 mrem/quarter which was 0.01 % of the Technical Specification Limit.
- E. All radioactive noble gas effluent monitors were set to automatically alarm when the monitor alarm setpoint, determined as specified in the Offsite Dose Assessment Manual (ODAM), was exceeded. This is required to ensure that the limits to the total body (500 mrem/yr) and the limits to the skin (3000 mrem/yr) are not exceeded.

LIQUID RADIOACTIVE WASTES

CUMULATIVE DOSE DATA

A. Maximum whole body dose		1st Qtr	2nd Qtr
1. Total	mrem	3.71E-2	4.48E-3
2. Percent of Technical Specification Limit	%	2.47	0.30

B. Maximum organ dose		1st Qtr	2nd Qtr
1. Total	mrem	1.26E-1	3.28E-2
2. Percent of Technical Specification Limit	%	2.52	0.66

- 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

Unplanned Releases:

None.

District Initiated Changes to the Process Control Program:

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

District Initiated Changes to the Offsite Dose Assessment Manual:

During this period, there were no changes to the CNS Offsite Dose Assessment Manual.

Service Water System Effluent Monitor not returned to OPERABLE status within 31 days.

Per Technical Specification 3.21.A.1.d the following explanation is provided.

During the 1993 Refuel Outage, DC 90-367 was implemented to upgrade the piping to and from the Service Water Effluent Monitor, RMP-RM-351. Technical Specification 3/4.21.A states that when this channel is inoperable, effluent releases via this pathway may continue provided that at least once every day a grab sample is collected and analyzed for gross radioactivity. In addition, Technical Specification 3/4.21.A states that if this channel is not returned to operable status within 31 days, in lieu of any other report, explain in the next Semiannual Radioactive Effluent Report why the instrument was not repaired in a timely manner.

The Service Water Effluent Monitor was declared inoperable on March 23, 1993, in step 6.3.7 of DC 90-367 and daily grab sampling and analysis was initiated. During performance of DC 90-367, the idle sample lines became plugged and acceptance testing of the DC was delayed until the sample lines were cleaned. This evolution resulted in the Service Water Effluent Monitor being inoperable for 53 days which exceeded the 31 days allowed by Technical Specifications. Grab samples were taken once every day and analyzed during the entire 53 days that the monitor was inoperable. The monitor was declared operable on May 16, 1993.

APPENDIX B

METEOROLOGY

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METEOROLOGICAL DATA SUMMARIES

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

DATA RECOVERY

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

	<u>Lowest Data Recovery</u>	<u>Average Data Recovery</u>
January 1 - March 31, 1993 (Q1)	97.3%	98.8%
April 1 - June 30, 1993 (Q2)	88.9%	95.8%
First Semiannual Period - January 1 - June 30, 1993 (SEM1)	93.1%	97.3%

WIND AT 100-METER LEVEL AND 10-METER LEVEL

	<u>Predominant Wind Direction at 100m Level</u>	<u>Predominant Wind Direction at 10m Level</u>
Q1	NorthNorthwest 14.5%	NorthNorthwest 15.2%
Q2	NorthNorthwest 11.4%	NorthNorthwest 12.4%
Sem1	NorthNorthwest 12.9%	NorthNorthwest 13.8%
	<u>Mean Wind Speed at 100m Level</u>	<u>Mean Wind Speed at 10m Level</u>
Q1	11.9 MPH	7.3 MPH
Q2	13.6 MPH	8.2 MPH
SEM1	12.8 MPH	7.7 MPH
	<u>Maximum Hourly Average Wind Speed/(Date at 100m Level)</u>	<u>Maximum Hourly Average Wind Speed/(Date at 10m Level)</u>
Q1	36.3 MPH/(93/03/16)	27.0 MPH/(93/03/10)
Q2	35.7 MPH/(93/04/20)	32.1 MPH/(93/04/16)
SEM1	36.3 MPH/(93/03/16)	32.1 MPH/(93/04/16)

TEMPERATURE AT 10-METER LEVEL

	<u>Mean Hourly Average Temperature</u>	<u>Average Daily Maximum</u>	<u>Average Daily Minimum</u>
Q1	-2.1 Degrees Celsius	1.4 Degrees Celsius	-5.9 Degrees Celsius
Q2	15.4 Degrees Celsius	20.0 Degrees Celsius	11.0 Degrees Celsius
SEM1	6.3 Degrees Celsius	10.5 Degrees Celsius	2.4 Degrees Celsius

	<u>Maximum Temperature (Date)</u>	<u>Minimum Temperature (Date)</u>
Q1	19.9 Degrees Celsius (93/03/29)	-19.3 Degrees Celsius (93/02/17)
Q2	33.8 Degrees Celsius (93/06/29)	-3.5 Degrees Celsius (93/04/02)
SEM1	33.8 Degrees Celsius (93/06/29)	-19.3 Degrees Celsius (93/02/17)

PRECIPITATION

	<u>Total Precipitation</u>	<u>Maximum Daily Precipitation Total/(Date)</u>	<u>Maximum Hourly Precipitation Total/(Date)</u>
Q1	5.16 Inches	1.42 Inches (93/03/31)	0.31 Inches (93/03/31)
Q2	12.09 Inches	1.71 Inches (93/05/08)	0.60 Inches (93/06/18)
SEM1	17.25 Inches	1.71 Inches (93/05/08)	0.60 Inches (93/06/18)

ATMOSPHERIC STABILITY

Atmospheric stability is determined through classification of differential temperature data based on JFD of the 100-meter wind and the delta T (100m - 10m) stability data.

<u>Unstable Conditions</u>		<u>Neutral Conditions</u>	<u>Stable Conditions</u>
<u>Classes A-C</u>		<u>Class D</u>	<u>Classes E-G</u>
Q1	3%	44%	53%
Q2	11%	47%	42%
SEM1	7%	45%	48%

Table 1. Meteorological Data Recovery

Data Recovery (% of total Observations)

	January- March <u>1993</u>	April- June <u>1993</u>	January- June <u>1993</u>
100m wind speed	99.4	97.6	98.5
100m wind direction	99.4	97.6	98.5
100m ambient temperature	98.8	97.3	98.1
60m wind speed	99.4	97.6	98.5
60m wind direction	99.4	97.6	98.5
60m ambient temperature	97.6	96.9	97.3
10m wind speed	99.4	97.6	98.5
10m direction	99.4	97.6	98.5
10m ambient temperature	97.3	89.6	93.4
10m dew point	98.8	91.1	94.9
100m-10m delta T	97.3	89.4	93.3
100m-60m delta T	97.6	97.0	97.3
60m-10m delta T	97.3	88.9	93.1
Precipitation	100.0	100.0	100.0
100m JFD	97.3	89.4	93.3
10m JFD	97.3	88.9	93.1

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

MONTHLY SUMMARY TABLES OF HOURLY METEOROLOGICAL DATA

The tables presented in this section provide a summary of hourly averages of measured meteorological parameters. The tables provide summaries by month for the semiannual period January through June, 1993. Summaries for the first quarter, second quarter, and semiannual period are also provided. The parameters provided are listed below.

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

Any missing or non-measured data are indicated by a field of 9's.

10-Meter Ambient Temperature

and

10-Meter Dew Point Temperature

PROGRAM: WETTEMP
VERSION: 3F

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

MONTHLY HOUR AVERAGES FOR THE PERIOD 1/ 1/93 TO 3/31/93

JANUARY

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	30.	-5.9	30.	-9.9	30.	73.6	30.	2.5	30.	-7.1
2	31.	-6.3	31.	-10.3	31.	73.8	31.	2.4	31.	-7.4
3	31.	-6.5	31.	-10.3	31.	74.3	31.	2.4	31.	-7.5
4	31.	-6.6	31.	-10.2	31.	75.3	31.	2.4	31.	-7.6
5	31.	-6.7	31.	-10.3	31.	75.6	31.	2.4	31.	-7.7
6	31.	-6.7	31.	-10.4	31.	75.4	31.	2.4	31.	-7.7
7	31.	-6.7	31.	-10.4	31.	75.3	31.	2.4	31.	-7.7
8	31.	-6.9	31.	-10.5	31.	75.9	31.	2.4	31.	-7.9
9	31.	-6.9	31.	-10.5	31.	76.0	31.	2.4	31.	-7.9
10	31.	-6.1	31.	-10.1	31.	73.7	31.	2.5	31.	-7.2
11	31.	-5.1	31.	-9.7	31.	70.3	31.	2.6	31.	-6.4
12	31.	-4.0	31.	-9.0	31.	68.5	31.	2.7	31.	-5.5
13	30.	-3.1	30.	-8.5	30.	66.8	30.	2.8	30.	-4.7
14	30.	-2.8	30.	-8.3	30.	66.4	30.	2.8	30.	-4.5
15	29.	-2.4	29.	-8.3	29.	65.0	29.	2.8	29.	-4.3
16	30.	-2.3	30.	-8.2	30.	64.9	30.	2.8	30.	-4.1
17	30.	-2.4	30.	-8.2	30.	65.4	30.	2.8	30.	-4.2
18	29.	-3.0	29.	-8.3	29.	67.5	29.	2.7	29.	-4.6
19	30.	-3.3	30.	-8.4	30.	68.6	30.	2.7	30.	-4.9
20	30.	-3.8	30.	-8.6	30.	69.3	30.	2.7	30.	-5.2
21	30.	-4.2	30.	-8.8	30.	70.6	30.	2.6	30.	-5.6
22	30.	-4.4	30.	-8.9	30.	71.1	30.	2.6	30.	-5.7
23	30.	-4.7	30.	-9.0	30.	72.2	30.	2.6	30.	-6.0
24	30.	-5.1	30.	-9.2	30.	73.3	30.	2.4	30.	-6.3
HOURLY MEAN		-4.9		-9.4		71.3		2.6		-6.2
AVG DAILY MAX		-1.6		-6.7		79.8		3.1		-3.4
AVG DAILY MIN		-8.9		-13.0		61.6		1.9		-9.8
ABSOLUTE MAX		6.9		4.2		89.8		6.4		5.5
ABSOLUTE MIN		-16.6		-25.2		34.7		0.7		-17.2
TOTAL OBS	729		729		729		729		729	

PROGRAM: WETTEMP
VERSION: 3P

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

MONTHLY HOUR AVERAGES FOR THE PERIOD 1/ 1/93 TO 3/31/93

FEBRUARY

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER	(DEG C)	NUMBER	(DEG C)	NUMBER	(%)	NUMBER	(GM/M3)	NUMBER	(DEG C)
	OBS		OBS		OBS		OBS		OBS	
1	28.	-5.4	28.	-8.8	28.	76.8	28.	2.8	28.	-6.4
2	28.	-5.7	28.	-9.0	28.	77.5	28.	2.8	28.	-6.7
3	28.	-5.9	28.	-9.2	28.	77.6	28.	2.7	28.	-6.8
4	28.	-6.1	28.	-9.4	28.	77.7	28.	2.7	28.	-7.0
5	28.	-6.4	28.	-9.7	28.	77.8	28.	2.6	28.	-7.3
6	28.	-6.6	28.	-9.9	28.	77.4	28.	2.6	28.	-7.5
7	28.	-6.7	28.	-10.0	28.	77.5	28.	2.6	28.	-7.6
8	28.	-6.7	28.	-9.9	28.	77.9	28.	2.6	28.	-7.6
9	28.	-6.3	28.	-9.5	28.	77.8	28.	2.7	28.	-7.1
10	28.	-5.4	28.	-9.1	28.	75.3	28.	2.8	28.	-6.4
11	28.	-4.	28.	-8.8	28.	72.3	28.	2.8	28.	-5.8
12	28.	-3.	28.	-8.4	28.	70.2	28.	2.9	28.	-5.1
13	28.	-3.0	28.	-8.0	28.	68.6	28.	2.9	28.	-4.5
14	28.	-2.4	28.	-7.7	28.	67.7	28.	3.0	28.	-4.0
15	28.	-2.0	28.	-7.4	28.	67.2	28.	3.1	28.	-3.7
16	28.	-1.9	28.	-7.3	28.	67.2	28.	3.1	28.	-3.6
17	27.	-1.6	27.	-7.0	27.	67.7	27.	3.1	27.	-3.3
18	26.	-2.3	26.	-7.2	26.	69.9	26.	3.1	26.	-3.8
19	27.	-2.7	27.	-7.1	27.	72.0	27.	3.1	27.	-4.1
20	27.	-3.2	27.	-7.4	27.	73.1	27.	3.1	27.	-4.4
21	27.	-3.7	27.	-7.6	27.	74.5	27.	3.0	27.	-4.8
22	28.	-4.4	28.	-8.1	28.	75.0	28.	2.9	28.	-5.5
23	28.	-4.8	28.	-8.4	28.	75.8	28.	2.9	28.	-5.8
24	28.	-5.1	28.	-8.6	28.	76.3	28.	2.8	28.	-6.1
HOURLY MEAN		-4.5		-8.5		73.8		2.9		-5.6
AVG DAILY MAX		-1.2		-6.2		81.6		3.3		-2.9
AVG DAILY MIN		-7.9		-11.2		64.6		2.4		-8.7
ABSOLUTE MAX		8.4		3.4		96.9		6.0		6.1
ABSOLUTE MIN		-19.3		-24.7		46.4		0.7		-19.9
TOTAL OBS	666		666		666		666		666	

PROGRAM: WETTEMP
VERSION: 3P

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

MONTHLY HOUR AVERAGES FOR THE PERIOD 1/ 1/93 TO 3/31/93

MARCH

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER		NUMBER		NUMBER		NUMBER		NUMBER	
	OBS	(DEG C)	OBS	(DEG C)	OBS	(%)	OBS	(GM/M3)	OBS	(DEG C)
1	30.	1.5	31.	-3.1	30.	70.9	30.	4.1	30.	-0.2
2	30.	1.2	31.	-3.2	30.	71.7	30.	4.1	30.	-0.4
3	30.	0.9	31.	-3.4	30.	72.4	30.	4.0	30.	-0.6
4	30.	0.7	31.	-3.4	30.	73.3	30.	4.0	30.	-0.8
5	30.	0.5	31.	-3.4	30.	74.5	30.	4.0	30.	-1.0
6	30.	0.3	31.	-3.5	30.	75.3	30.	4.0	30.	-1.1
7	30.	0.2	31.	-3.5	30.	75.4	30.	3.9	30.	-1.2
8	30.	0.6	31.	-3.3	30.	74.7	30.	4.0	30.	-0.8
9	30.	1.4	31.	-3.1	30.	71.9	30.	4.1	30.	-0.3
10	29.	2.6	31.	-3.0	29.	69.3	29.	4.2	29.	0.7
11	29.	3.6	31.	-2.8	29.	66.0	29.	4.3	29.	1.3
12	29.	4.6	31.	-2.6	29.	63.2	29.	4.4	29.	1.9
13	29.	5.4	31.	-2.3	29.	61.4	29.	4.5	29.	2.5
14	29.	5.9	31.	-2.2	29.	60.0	29.	4.5	29.	2.9
15	29.	6.4	31.	-2.2	29.	58.4	29.	4.6	29.	3.2
16	28.	6.7	30.	-2.4	28.	56.3	28.	4.5	28.	3.3
17	29.	6.3	30.	-2.3	29.	55.7	29.	4.4	29.	2.9
18	29.	5.9	30.	-2.3	29.	57.4	29.	4.4	29.	2.7
19	29.	5.0	30.	-2.2	29.	61.0	29.	4.4	29.	2.2
20	29.	4.1	30.	-2.5	29.	63.4	29.	4.4	29.	1.6
21	30.	3.4	31.	-2.4	30.	66.9	30.	4.4	30.	1.2
22	30.	2.9	31.	-2.6	30.	68.1	30.	4.3	30.	0.9
23	29.	2.3	31.	-2.8	29.	68.7	29.	4.2	29.	0.4
24	29.	1.9	31.	-2.9	29.	70.1	29.	4.2	29.	0.1
HOURLY MEAN		3.1		-2.8		67.0		4.2		0.9
AVG DAILY MAX		7.1		-0.2		78.4		5.0		3.7
AVG DAILY MIN		-0.8		-5.6		53.2		3.5		-2.2
ABSOLUTE MAX		19.9		12.0		87.1		10.5		14.9
ABSOLUTE MIN		-12.1		-21.1		27.4		1.0		-13.5
TOTAL OBS		706		739		706		706		706

PROGRAM: WETTEMP
VERSION: 3P

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

JAN-MAR HOUR AVERAGES FOR THE PERIOD 1/ 1/93 TO 3/31/93

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	88.	-3.2	89.	-7.2	88.	73.7	88.	3.1	88.	-4.5
2	89.	-3.6	90.	-7.5	89.	74.3	89.	3.1	89.	-4.8
3	89.	-3.8	90.	-7.6	89.	74.7	89.	3.0	89.	-5.0
4	89.	-4.0	90.	-7.6	89.	75.4	89.	3.0	89.	-5.1
5	89.	-4.2	90.	-7.7	89.	75.9	89.	3.0	89.	-5.3
6	89.	-4.3	90.	-7.8	89.	76.0	89.	3.0	89.	-5.4
7	89.	-4.4	90.	-7.9	89.	76.1	89.	3.0	89.	-5.5
8	89.	-4.3	90.	-7.8	89.	76.1	89.	3.0	89.	-5.4
9	89.	-3.9	90.	-7.6	89.	75.2	89.	3.1	89.	-5.1
10	88.	-3.0	90.	-7.3	88.	72.7	88.	3.1	88.	-4.4
11	88.	-2.0	90.	-7.1	88.	69.5	88.	3.2	88.	-3.6
12	88.	-1.1	90.	-6.6	88.	67.3	88.	3.3	88.	-2.9
13	87.	-0.2	89.	-6.2	87.	65.6	87.	3.4	87.	-2.3
14	87.	0.2	89.	-6.0	87.	64.7	87.	3.4	87.	-1.9
15	86.	0.7	88.	-5.8	86.	63.5	86.	3.5	86.	-1.6
16	86.	0.8	88.	-5.9	86.	62.8	86.	3.4	86.	-1.5
17	86.	0.8	87.	-5.8	86.	62.9	86.	3.4	86.	-1.5
18	84.	0.3	85.	-5.8	84.	64.8	84.	3.4	84.	-1.9
19	86.	-0.3	87.	-5.9	86.	67.1	86.	3.4	86.	-2.3
20	86.	-0.9	87.	-6.1	86.	68.5	86.	3.4	86.	-2.7
21	86.	-1.4	88.	-6.2	87.	70.5	87.	3.4	87.	-3.0
22	86.	-1.9	89.	-6.5	88.	71.3	88.	3.3	88.	-3.4
23	87.	-2.4	89.	-6.7	87.	72.2	87.	3.2	87.	-3.8
24	87.	-2.8	89.	-6.8	87.	73.2	87.	3.2	87.	-4.1
HOURLY MEAN		-2.1		-6.8		70.6		3.2		-3.6
AVG DAILY MAX		1.4		-4.3		79.9		3.8		-0.9
AVG DAILY MIN		-5.9		-9.9		59.7		2.6		-6.9
ABSOLUTE MAX		19.9		12.0		96.9		10.5		14.9
ABSOLUTE MIN		-19.3		-25.2		27.4		0.7		-19.9
TOTAL OBS		2101		2134		2101		2101		2101

PROGRAM: WETTEMP
VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY APR-JUN 1993

MONTHLY HOUR AVERAGES FOR THE PERIOD 4/ 1/93 TO 6/30/93

APRIL

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER OBS	(DEG C)	NUMBER OBS	(DEG C)	NUMBER OBS	(%)	NUMBER OBS	(GM/M3)	NUMBER OBS	(DEG C)
1	28.	6.7	28.	0.9	28.	67.5	28.	5.2	28.	4.2
2	28.	6.2	28.	0.5	28.	67.7	28.	5.0	28.	3.8
3	28.	5.7	28.	0.1	28.	68.0	28.	4.9	28.	3.4
4	28.	5.3	28.	0.0	28.	69.1	28.	4.8	28.	3.0
5	28.	4.9	28.	-0.2	28.	69.9	28.	4.8	28.	2.8
6	28.	4.7	28.	-0.3	28.	70.2	28.	4.8	28.	2.6
7	28.	4.9	28.	-0.2	28.	70.0	28.	4.8	28.	2.8
8	27.	5.7	27.	0.2	27.	68.1	27.	5.0	27.	3.4
9	27.	6.9	27.	0.6	27.	64.9	27.	5.1	27.	4.2
10	27.	8.2	27.	0.9	27.	61.1	27.	5.2	27.	5.0
11	27.	9.3	27.	1.2	27.	58.2	27.	5.3	27.	5.7
12	27.	10.5	27.	1.1	27.	55.9	27.	5.2	27.	6.2
13	28.	11.6	27.	1.4	27.	52.0	27.	5.3	27.	6.9
14	29.	12.4	28.	1.7	28.	50.9	28.	5.4	28.	7.4
15	29.	12.8	29.	1.8	29.	50.1	29.	5.5	29.	7.7
16	29.	13.0	29.	2.0	29.	50.5	29.	5.6	29.	7.8
17	29.	12.9	29.	2.1	29.	51.2	29.	5.6	29.	7.8
18	29.	12.6	29.	1.9	29.	51.6	29.	5.6	29.	7.6
19	29.	11.9	29.	1.8	29.	53.2	29.	5.6	29.	7.3
20	29.	10.8	29.	1.8	29.	56.1	29.	5.5	29.	6.7
21	29.	9.9	29.	1.9	29.	59.1	29.	5.6	29.	6.3
22	29.	9.2	29.	1.8	29.	61.7	29.	5.5	29.	5.9
23	29.	8.5	29.	1.8	29.	63.7	29.	5.5	29.	5.5
24	28.	7.7	28.	1.5	28.	65.9	28.	5.4	28.	5.0
HOURLY MEAN		8.9		1.1		60.5		5.3		5.4
AVG DAILY MAX		13.4		3.8		74.9		6.3		8.2
AVG DAILY MIN		4.5		-0.9		46.1		4.6		2.5
ABSOLUTE MAX		23.0		11.0		83.1		9.8		14.6
ABSOLUTE MIN		-3.5		-7.2		22.3		2.8		-4.6
TOTAL OBS	677		675		675		675		675	

PROGRAM: WETTEMP
VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY APR-JUN 1993

MONTHLY HOUR AVERAGES FOR THE PERIOD 4/ 1/93 TO 6/30/93

MAY

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER		NUMBER		NUMBER		NUMBER		NUMBER	
	OBS	(DEG C)	OBS	(DEG C)	OBS	(%)	OBS	(GM/M3)	OBS	(DEG C)
1	24.	14.2	24.	8.0	24.	66.9	24.	8.3	24.	11.0
2	24.	13.7	24.	7.8	24.	68.1	24.	8.2	24.	10.7
3	24.	13.3	24.	7.8	24.	69.7	24.	8.2	24.	10.5
4	24.	13.1	24.	7.7	24.	70.3	24.	8.2	24.	10.4
5	25.	12.8	25.	7.6	25.	71.1	25.	8.1	25.	10.2
6	25.	12.7	25.	7.6	25.	71.4	25.	8.1	25.	10.2
7	25.	13.2	25.	7.7	25.	70.0	25.	8.1	25.	10.4
8	25.	14.0	25.	8.0	25.	67.5	25.	8.3	25.	10.9
9	25.	14.9	25.	8.2	25.	65.1	25.	8.4	25.	11.4
10	25.	16.1	25.	8.1	25.	60.6	25.	8.3	25.	12.0
11	26.	16.9	26.	7.8	26.	56.8	26.	8.1	26.	12.2
12	26.	17.7	26.	7.9	26.	55.3	26.	8.3	26.	12.6
13	26.	18.3	26.	8.1	26.	53.7	26.	8.3	26.	12.9
14	25.	18.7	25.	8.2	25.	53.5	25.	8.4	25.	13.1
15	25.	18.9	25.	8.2	25.	53.1	25.	8.4	25.	13.2
16	25.	19.2	25.	8.2	25.	52.1	25.	8.4	25.	13.3
17	25.	19.3	25.	8.2	25.	52.0	25.	8.4	25.	13.4
18	25.	19.0	25.	8.3	25.	53.0	25.	8.4	25.	13.3
19	24.	18.3	24.	8.5	24.	55.9	24.	8.6	24.	13.1
20	24.	17.3	24.	8.9	24.	59.6	24.	8.7	24.	12.8
21	24.	16.5	24.	8.8	24.	62.0	24.	8.7	24.	12.4
22	24.	15.7	24.	8.6	24.	64.1	24.	8.6	24.	12.0
23	25.	15.1	25.	8.4	25.	65.2	25.	8.5	25.	11.6
24	24.	14.6	24.	8.2	24.	66.3	24.	8.4	24.	11.3
HOURLY MEAN		16.0		8.1		61.7		8.3		11.9
AVG DAILY MAX		20.0		10.3		75.5		9.6		13.8
AVG DAILY MIN		12.0		5.4		46.5		6.9		9.3
ABSOLUTE MAX		27.0		16.6		84.5		13.8		19.4
ABSOLUTE MIN		6.3		-1.4		23.0		4.2		3.9
TOTAL OBS	594		594		594		594		594	

PROGRAM: WETTEMP
VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY APR-JUN 1993

MONTHLY HOUR AVERAGES FOR THE PERIOD 4/ 1/93 TO 6/30/93

JUNE

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER		NUMBER		NUMBER		NUMBER		NUMBER	
	OBS	(DEG C)	OBS	(DEG C)	OBS	(%)	OBS	(GM/M3)	OBS	(DEG C)
1	30.	19.5	30.	12.3	30.	64.9	30.	10.9	30.	15.4
2	30.	19.1	30.	12.2	30.	65.8	30.	10.8	30.	15.2
3	30.	18.4	30.	12.4	30.	69.0	30.	11.0	30.	15.0
4	30.	18.0	30.	12.4	30.	70.3	30.	11.0	30.	14.8
5	30.	17.6	30.	12.1	30.	70.7	30.	10.8	30.	14.5
6	30.	17.4	30.	12.1	30.	71.6	30.	10.8	30.	14.4
7	30.	18.1	30.	12.4	30.	69.7	30.	10.9	30.	14.9
8	30.	19.4	30.	12.8	30.	66.1	30.	11.2	30.	15.6
9	30.	20.7	30.	13.0	30.	62.4	30.	11.3	30.	16.2
10	30.	21.7	30.	13.1	30.	59.5	30.	11.4	30.	16.7
11	26.	22.1	30.	13.1	26.	56.5	26.	11.0	26.	16.6
12	24.	22.8	30.	12.9	24.	53.3	24.	10.8	24.	16.7
13	22.	23.0	30.	12.8	22.	51.7	22.	10.4	22.	16.5
14	23.	23.8	30.	12.7	23.	50.3	23.	10.6	23.	16.9
15	24.	24.2	30.	12.7	24.	49.7	24.	10.7	24.	17.1
16	28.	25.2	30.	12.8	28.	48.7	28.	11.0	28.	17.8
17	29.	25.1	30.	12.5	29.	48.6	29.	10.9	29.	17.7
18	30.	25.0	30.	12.5	30.	48.1	30.	10.8	30.	17.6
19	30.	24.5	30.	12.6	30.	49.8	30.	10.9	30.	17.4
20	30.	23.2	30.	13.1	30.	54.6	30.	11.3	30.	17.2
21	30.	22.0	30.	13.0	30.	58.0	30.	11.2	30.	16.7
22	30.	21.1	30.	12.9	30.	60.6	30.	11.2	30.	16.3
23	30.	20.4	30.	12.9	30.	63.4	30.	11.2	30.	16.0
24	30.	20.0	30.	12.8	30.	64.3	30.	11.1	30.	15.8
HOURLY MEAN		21.2		12.7		59.9		11.0		16.2
AVG DAILY MAX		26.5		15.1		74.6		12.8		18.6
AVG DAILY MIN		16.5		10.1		43.5		9.3		13.5
ABSOLUTE MAX		33.8		19.2		82.5		16.0		23.2
ABSOLUTE MIN		8.1		2.7		19.6		5.3		6.8
TOTAL OBS		686		720		686		686		686

PROGRAM: WETTEMP
VERSION: 3P

NPPD-COOPER NUCLEAR STATION 10-M TEMPERATURE SUMMARY APR-JUN 1993

APR-JUN HOUR AVERAGES FOR THE PERIOD 4/ 1/93 TO 6/30/93

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER		NUMBER		NUMBER		NUMBER		NUMBER	
	OBS	(DEG C)	OBS	(DEG C)	OBS	(%)	OBS	(GM/M3)	OBS	(DEG C)
1	82.	13.6	82.	7.2	82.	66.4	82.	8.2	82.	10.3
2	82.	13.1	82.	6.9	82.	67.1	82.	8.1	82.	10.0
3	82.	12.6	82.	6.9	82.	68.9	82.	8.1	82.	9.7
4	82.	12.2	82.	6.8	82.	69.9	82.	8.1	82.	9.5
5	83.	11.9	83.	6.6	83.	70.6	83.	8.0	83.	9.3
6	83.	11.7	83.	6.6	83.	71.1	83.	8.0	83.	9.2
7	83.	12.2	83.	6.7	83.	69.9	83.	8.0	83.	9.5
8	82.	13.3	82.	7.2	82.	67.2	82.	8.2	82.	10.2
9	82.	14.4	82.	7.5	82.	64.0	82.	8.4	82.	10.8
10	82.	15.5	82.	7.6	82.	60.4	82.	8.4	82.	11.4
11	79.	16.0	83.	7.6	79.	57.2	79.	8.1	79.	11.4
12	77.	16.8	83.	7.5	77.	54.2	77.	8.0	77.	11.6
13	76.	17.2	83.	7.6	75.	52.5	75.	7.9	75.	11.8
14	77.	17.8	83.	7.6	76.	51.6	76.	8.0	76.	12.2
15	78.	18.3	84.	7.6	78.	50.9	78.	8.0	78.	12.3
16	82.	19.1	84.	7.7	82.	50.4	82.	8.3	82.	12.9
17	83.	19.1	84.	7.6	83.	50.5	83.	8.3	83.	12.9
18	84.	18.9	84.	7.6	84.	50.8	84.	8.3	84.	12.9
19	83.	18.3	83.	7.6	83.	52.7	83.	8.4	83.	12.6
20	83.	17.2	83.	7.9	83.	56.6	83.	8.5	83.	12.3
21	83.	16.2	83.	7.9	83.	59.5	83.	8.5	83.	11.8
22	83.	15.4	83.	7.8	83.	62.0	83.	8.5	83.	11.4
23	84.	14.7	84.	7.7	84.	64.1	84.	8.4	84.	11.1
24	82.	14.2	82.	7.6	82.	65.5	82.	8.4	82.	10.8
HOURLY MEAN		15.4		7.4		60.7		8.2		11.1
AVG DAILY MAX		20.0		9.7		75.0		9.6		13.5
AVG DAILY MIN		11.0		4.9		45.3		6.9		8.4
ABSOLUTE MAX		33.8		19.2		84.5		16.0		23.2
ABSOLUTE MIN		-3.5		-7.2		19.6		2.8		-4.6
TOTAL OBS		1957		1989		1955		1955		1955

PROGRAM: WETTEMP
VERSION: 3P

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

JAN-JUN HOUR AVERAGES FOR THE PERIOD 1/ 1/93 TO 6/30/93

10.0 METERS LEVEL

HOUR	TEMPERATURE		DEW POINT		RELATIVE HUM		ABSOLUTE HUM		WET BULB	
	NUMBER		NUMBER		NUMBER		NUMBER		NUMBER	
	OBS	(DEG C)	OBS	(DEG C)	OBS	(%)	OBS	(GM/M3)	OBS	(DEG C)
1	170.	4.9	171.	-0.3	170.	70.2	170.	5.6	170.	2.6
2	171.	4.4	172.	-0.6	171.	70.8	171.	5.5	171.	2.3
3	171.	4.1	172.	-0.7	171.	71.9	171.	5.5	171.	2.1
4	171.	3.8	172.	-0.8	171.	72.7	171.	5.4	171.	1.9
5	172.	3.6	173.	-0.8	172.	73.3	172.	5.4	172.	1.7
6	172.	3.4	173.	-0.9	172.	73.6	172.	5.4	172.	1.6
7	172.	3.6	173.	-0.9	172.	73.1	172.	5.4	172.	1.7
8	171.	4.1	172.	-0.7	171.	71.8	171.	5.5	171.	2.0
9	171.	4.9	172.	-0.4	171.	69.8	171.	5.6	171.	2.5
10	170.	5.9	172.	-0.2	170.	66.8	170.	5.7	170.	3.2
11	167.	6.5	173.	0.0	167.	63.7	167.	5.5	167.	3.5
12	165.	7.2	173.	0.2	165.	61.2	165.	5.5	165.	3.9
13	163.	7.9	172.	0.5	162.	59.5	162.	5.5	162.	4.2
14	164.	8.5	172.	0.6	163.	58.6	163.	5.6	163.	4.7
15	164.	9.0	172.	0.7	164.	57.5	164.	5.6	164.	5.0
16	168.	9.7	172.	0.7	168.	56.7	168.	5.8	168.	5.5
17	169.	9.8	171.	0.8	169.	56.8	169.	5.8	169.	5.6
18	168.	9.6	169.	0.8	168.	57.8	168.	5.9	168.	5.5
19	169.	8.8	170.	0.7	169.	60.0	169.	5.8	169.	5.1
20	169.	8.0	170.	0.8	169.	62.7	169.	5.9	169.	4.7
21	170.	7.2	171.	0.7	170.	65.2	170.	5.9	170.	4.2
22	171.	6.5	172.	0.4	171.	66.8	171.	5.8	171.	3.8
23	171.	6.0	173.	0.3	171.	68.2	171.	5.8	171.	3.5
24	169.	5.5	171.	0.1	169.	69.4	169.	5.7	169.	3.1
HOURLY MEAN		6.3		0.0		65.8		5.6		3.5
AVG DAILY MAX		10.5		2.5		77.5		6.6		6.2
AVG DAILY MIN		2.4		-2.7		52.6		4.7		0.6
ABSOLUTE MAX		33.8		19.2		96.9		16.0		23.2
ABSOLUTE MIN		-19.3		-25.2		19.6		0.7		-19.9
TOTAL OBS	4058		4123		4056		4056		4056	

Wind Direction Frequencies

10-Meter Level

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

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

JANUARY

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	3.2	6.5	3.2	0.0	0.0	6.5	9.7	3.2	16.1	9.7	0.0	3.2	3.2	6.5	6.5	22.6	0.0	100.
2	3.2	9.7	0.0	0.0	6.5	9.7	6.5	6.5	19.4	3.2	3.2	0.0	0.0	6.5	6.5	19.4	0.0	100.
3	6.5	9.7	0.0	0.0	6.5	3.2	9.7	12.9	6.5	6.5	3.2	3.2	0.0	9.7	6.5	16.1	0.0	100.
4	9.7	9.7	6.5	0.0	0.0	9.7	9.7	3.2	6.5	9.7	3.2	9.7	3.2	3.2	3.2	12.9	0.0	100.
5	12.9	9.7	9.7	0.0	3.2	6.5	6.5	6.5	9.7	9.7	0.0	6.5	6.5	3.2	6.5	3.2	0.0	100.
6	3.2	9.7	9.7	3.2	3.2	0.0	9.7	3.2	12.9	6.5	3.2	3.2	9.7	6.5	6.5	9.7	0.0	100.
7	9.7	9.7	6.5	3.2	6.5	3.2	9.7	9.7	3.2	6.5	6.5	0.0	3.2	6.5	6.5	9.7	0.0	100.
8	0.0	6.5	9.7	3.2	3.2	12.9	9.7	3.2	6.5	6.5	3.2	6.5	0.0	19.4	0.0	9.7	0.0	100.
9	9.7	3.2	9.7	6.5	3.2	6.5	6.5	12.9	3.2	9.7	9.7	0.0	6.5	0.0	6.5	6.5	0.0	100.
10	9.7	3.2	12.9	3.2	6.5	0.0	12.9	12.9	3.2	6.5	6.5	6.5	0.0	6.5	3.2	6.5	0.0	100.
11	9.7	3.2	9.7	0.0	6.5	3.2	6.5	16.1	6.5	12.9	3.2	3.2	6.5	0.0	6.5	6.5	0.0	100.
12	6.5	0.0	3.2	6.5	6.5	3.2	12.9	9.7	12.9	9.7	0.0	6.5	3.2	3.2	6.5	9.7	0.0	100.
13	6.5	3.2	3.2	6.5	3.2	3.2	6.5	9.7	12.9	6.5	6.5	9.7	3.2	6.5	3.2	9.7	0.0	100.
14	3.2	3.2	3.2	3.2	3.2	3.2	6.5	9.7	9.7	9.7	3.2	6.5	3.2	9.7	6.5	16.1	0.0	100.
15	6.7	3.3	3.3	6.7	0.0	3.3	6.7	3.3	16.7	6.7	6.7	10.0	6.7	6.7	3.3	10.0	0.0	100.
16	3.2	3.2	6.5	3.2	0.0	3.2	9.7	3.2	12.9	6.5	9.7	6.5	6.5	6.5	3.2	16.1	0.0	100.
17	6.5	9.7	0.0	9.7	0.0	0.0	9.7	6.5	12.9	6.5	9.7	6.5	0.0	9.7	6.5	6.5	0.0	100.
18	6.7	6.7	3.3	6.7	0.0	3.3	10.0	3.3	6.7	6.7	13.3	0.0	10.0	0.0	10.0	13.3	0.0	100.
19	12.9	3.2	3.2	6.5	0.0	3.2	3.2	6.5	16.1	6.5	3.2	3.2	9.7	3.2	12.9	6.5	0.0	100.
20	12.9	6.5	9.7	3.2	0.0	0.0	6.5	6.5	16.1	9.7	0.0	6.5	3.2	3.2	6.5	9.7	0.0	100.
21	9.7	9.7	0.0	9.7	0.0	3.2	6.5	12.9	12.9	3.2	9.7	0.0	0.0	9.7	3.2	9.7	0.0	100.
22	9.7	6.5	0.0	3.2	6.5	3.2	9.7	0.0	19.4	6.5	3.2	0.0	0.0	9.7	12.9	9.7	0.0	100.
23	3.2	6.5	3.2	3.2	6.5	3.2	6.5	3.2	22.6	6.5	3.2	3.2	0.0	6.5	9.7	12.9	0.0	100.
24	16.1	3.2	0.0	0.0	0.0	6.5	9.7	3.2	19.4	6.5	0.0	3.2	0.0	6.5	0.0	25.8	0.0	100.
ALL	7.5	6.1	4.9	3.6	3.0	4.2	8.4	7.0	11.9	7.4	4.6	4.3	3.5	6.2	5.9	11.6	0.0	100.

NUMBER OF OBS = 742

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

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

FEBRUARY

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	28.6	10.7	3.6	3.6	7.1	0.0	0.0	3.6	10.7	3.6	0.0	3.6	3.6	10.7	3.6	7.1	0.0	100.
2	17.9	14.3	7.1	3.6	3.6	0.0	3.6	7.1	7.1	3.6	0.0	0.0	3.6	7.1	10.7	10.7	0.0	100.
3	25.0	10.7	3.6	7.1	3.6	3.6	3.6	7.1	10.7	0.0	0.0	0.0	3.6	7.1	3.6	10.7	0.0	100.
4	17.9	3.6	10.7	7.1	3.6	7.1	3.6	7.1	10.7	0.0	0.0	0.0	3.6	7.1	3.6	14.3	0.0	100.
5	17.9	10.7	10.7	7.1	0.0	0.0	7.1	3.6	7.1	3.6	0.0	3.6	0.0	7.1	7.1	14.3	0.0	100.
6	10.7	3.6	7.1	14.3	0.0	0.0	3.6	7.1	10.7	3.6	0.0	0.0	3.6	3.6	14.3	17.9	0.0	100.
7	7.1	0.0	10.7	14.3	0.0	0.0	10.7	7.1	10.7	0.0	0.0	0.0	3.6	3.6	17.9	14.3	0.0	100.
8	7.1	7.1	10.7	10.7	0.0	3.6	7.1	3.6	14.3	3.6	0.0	0.0	0.0	7.1	14.3	10.7	0.0	100.
9	14.3	14.3	3.6	10.7	3.6	0.0	3.6	7.1	0.0	0.0	7.1	0.0	0.0	7.1	21.4	7.1	0.0	100.
10	10.7	7.1	10.7	3.6	7.1	0.0	7.1	3.6	3.6	3.6	0.0	3.6	3.6	3.6	21.4	10.7	0.0	100.
11	14.3	10.7	10.7	7.1	0.0	3.6	7.1	0.0	3.6	0.0	0.0	7.1	0.0	7.1	17.9	10.7	0.0	100.
12	7.1	14.3	7.1	7.1	0.0	0.0	7.1	0.0	7.1	0.0	3.6	3.6	3.6	14.3	17.9	7.1	0.0	100.
13	0.0	17.9	7.1	3.6	3.6	0.0	7.1	3.6	3.6	0.0	3.6	3.6	3.6	21.4	14.3	7.1	0.0	100.
14	3.6	25.0	0.0	7.1	3.6	3.6	3.6	0.0	0.0	7.1	3.6	0.0	3.6	17.9	14.3	7.1	0.0	100.
15	7.1	21.4	3.6	0.0	10.7	0.0	7.1	0.0	0.0	3.6	3.6	3.6	0.0	14.3	17.9	7.1	0.0	100.
16	7.1	21.4	0.0	0.0	14.3	0.0	3.6	0.0	0.0	7.1	0.0	0.0	3.6	14.3	21.4	7.1	0.0	100.
17	14.8	14.8	3.7	0.0	14.8	3.7	0.0	0.0	0.0	11.1	0.0	0.0	0.0	3.7	25.9	7.4	0.0	100.
18	23.1	15.4	7.7	0.0	15.4	7.7	0.0	0.0	0.0	7.7	0.0	0.0	0.0	3.8	15.4	3.8	0.0	100.
19	18.5	14.8	3.7	3.7	11.1	0.0	7.4	0.0	3.7	3.7	3.7	3.7	0.0	14.8	7.4	3.7	0.0	100.
20	14.8	7.4	11.1	0.0	7.4	3.7	7.4	0.0	11.1	3.7	0.0	0.0	3.7	7.4	3.7	18.5	0.0	100.
21	18.5	11.1	11.1	0.0	7.4	0.0	11.1	0.0	3.7	7.4	0.0	0.0	3.7	7.4	3.7	14.8	0.0	100.
22	35.7	0.0	7.1	0.0	7.1	3.6	7.1	0.0	7.1	10.7	0.0	0.0	3.6	3.6	7.1	7.1	0.0	100.
23	28.6	7.1	7.1	0.0	7.1	3.6	3.6	7.1	10.7	3.6	0.0	0.0	3.6	10.7	0.0	10.7	0.0	100.
24	25.0	10.7	3.6	0.0	0.0	7.1	3.6	3.6	10.7	7.1	0.0	3.6	3.6	10.7	0.0	10.7	0.0	100.
ALL	15.6	11.4	6.8	4.7	5.4	2.1	5.3	3.0	6.2	3.9	1.1	1.5	2.4	9.0	11.9	9.9	0.0	100.

NUMBER OF OBS = 666

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

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

MARCH

HR. OF DAY	WIND DIRECTION																CALM	TOTAL
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		
1	16.1	3.2	0.0	0.0	9.7	6.5	12.9	0.0	6.5	9.7	3.2	3.2	3.2	3.2	6.5	16.1	0.0	100.
2	12.9	3.2	0.0	0.0	3.2	9.7	12.9	3.2	9.7	0.0	3.2	6.5	0.0	3.2	12.9	19.4	0.0	100.
3	12.9	6.5	0.0	0.0	0.0	9.7	9.7	9.7	6.5	3.2	3.2	3.2	3.2	3.2	12.9	16.1	0.0	100.
4	9.7	3.2	0.0	0.0	0.0	12.9	12.9	6.5	12.9	6.5	0.0	3.2	0.0	0.0	16.1	19.4	0.0	100.
5	12.9	6.5	3.2	0.0	0.0	6.5	12.9	6.5	12.9	6.5	0.0	0.0	0.0	0.0	16.1	12.9	0.0	100.
6	12.9	3.2	0.0	0.0	3.2	0.0	19.4	3.2	19.4	6.5	0.0	0.0	0.0	0.0	12.9	19.4	0.0	100.
7	9.7	9.7	0.0	0.0	6.5	3.2	16.1	0.0	12.9	6.5	0.0	3.2	0.0	0.0	6.5	25.8	0.0	100.
8	9.7	6.5	0.0	0.0	3.2	9.7	12.9	0.0	3.2	6.5	3.2	0.0	3.2	3.2	19.4	19.4	0.0	100.
9	9.7	3.2	0.0	0.0	0.0	6.5	16.1	6.5	0.0	3.2	6.5	0.0	3.2	0.0	3.2	38.7	0.0	100.
10	9.7	3.2	0.0	3.2	0.0	9.7	6.5	9.7	3.2	3.2	3.2	0.0	0.0	6.5	3.2	35.5	0.0	100.
11	9.7	6.5	0.0	3.2	0.0	6.5	16.1	0.0	3.2	6.5	3.2	0.0	0.0	6.5	3.2	35.5	0.0	100.
12	9.7	3.2	0.0	3.2	0.0	0.0	19.4	3.2	3.2	9.7	0.0	0.0	0.0	6.5	6.5	32.3	0.0	100.
13	9.7	3.2	3.2	3.2	3.2	0.0	16.1	3.2	6.5	6.5	3.2	3.2	0.0	3.2	9.7	19.4	0.0	100.
14	19.4	0.0	0.0	3.2	3.2	0.0	9.7	9.7	6.5	3.2	6.5	3.2	0.0	3.2	6.5	22.6	0.0	100.
15	16.1	0.0	0.0	6.5	3.2	0.0	16.1	3.2	6.5	0.0	9.7	0.0	0.0	3.2	6.5	29.0	0.0	100.
16	16.7	3.3	0.0	6.7	0.0	0.0	13.3	13.3	3.3	0.0	3.3	3.3	0.0	0.0	10.0	24.7	0.0	100.
17	10.0	3.3	0.0	10.0	0.0	0.0	16.7	6.7	0.0	6.7	0.0	0.0	0.0	0.0	10.0	33.3	0.0	100.
18	13.3	0.0	0.0	6.7	0.0	0.0	16.7	6.7	0.0	3.3	0.0	0.0	0.0	3.3	10.0	26.7	0.0	100.
19	20.0	0.0	6.7	0.0	10.0	6.7	13.3	3.3	3.3	0.0	0.0	0.0	0.0	3.3	15.3	20.0	0.0	100.
20	20.0	3.3	0.0	0.0	6.7	13.3	6.7	0.0	6.7	0.0	3.3	0.0	0.0	3.3	10.0	26.7	0.0	100.
21	16.1	6.5	3.2	0.0	9.7	9.7	16.1	3.2	3.2	0.0	6.5	0.0	0.0	9.7	6.5	19.4	0.0	100.
22	16.1	3.2	0.0	0.0	3.2	9.7	16.1	6.5	9.7	0.0	3.2	0.0	0.0	3.2	9.7	19.4	0.0	100.
23	12.9	6.5	3.2	0.0	6.5	6.5	19.4	3.2	9.7	3.2	0.0	3.2	3.2	3.2	6.5	16.1	0.0	100.
24	9.7	12.9	0.0	0.0	3.2	9.7	12.9	6.5	6.5	0.0	0.0	3.2	9.7	6.5	3.2	16.1	0.0	100.
ALL	13.5	9.3	1.1	2.2	3.1	5.3	14.2	4.7	6.4	3.8	2.6	1.6	1.2	3.1	9.2	33.7	0.0	100.

NUMBER OF OBS = 739

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

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

JAN-MAR

WIND DIRECTION																		
HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	15.6	6.7	2.2	1.1	5.6	4.4	7.8	2.2	11.1	7.8	1.1	3.3	3.3	6.7	5.6	15.6	0.0	100.
2	11.1	8.9	2.2	1.1	4.4	6.7	7.8	5.6	12.2	2.2	2.2	2.2	1.1	5.6	10.0	16.7	0.0	100.
3	14.4	8.9	1.1	2.2	3.3	5.6	7.8	10.0	7.8	3.3	2.2	2.2	2.2	6.7	7.8	14.4	0.0	100.
4	12.2	5.6	5.6	2.2	1.1	10.0	8.9	5.6	8.9	5.6	1.1	4.4	2.2	3.3	7.8	15.6	0.0	100.
5	14.4	8.9	7.8	3.3	1.1	4.4	8.9	5.6	10.0	6.7	0.0	3.3	2.2	3.3	10.0	10.0	0.0	100.
6	8.9	5.6	5.6	5.6	2.2	0.0	11.1	4.4	14.4	5.6	1.1	1.1	4.4	3.3	11.1	15.6	0.0	100.
7	8.9	6.7	5.6	5.6	4.4	2.2	12.2	5.6	8.9	4.4	2.2	1.1	2.2	3.3	10.0	16.7	0.0	100.
8	5.6	6.7	6.7	4.4	2.2	8.9	10.0	2.2	7.8	5.6	2.2	2.2	1.1	10.0	11.1	13.3	0.0	100.
9	11.1	6.7	5.6	5.6	2.2	4.4	8.9	8.9	1.1	4.4	7.8	0.0	3.3	2.2	10.0	17.8	0.0	100.
10	10.0	4.4	7.8	3.3	4.4	3.3	8.9	8.9	3.3	4.4	3.3	3.3	1.1	5.6	8.9	18.9	0.0	100.
11	11.1	6.7	6.7	3.3	2.2	4.4	10.0	5.6	4.4	6.7	2.2	3.3	2.2	4.4	8.9	17.8	0.0	100.
12	7.8	6.7	3.3	5.6	2.2	1.1	13.3	4.4	7.8	6.7	1.1	3.3	2.2	7.8	10.0	16.7	0.0	100.
13	8.9	7.8	4.4	4.4	2.2	1.1	10.0	5.6	7.8	4.4	4.4	5.6	2.2	10.0	8.9	12.2	0.0	100.
14	8.9	8.9	2.2	4.4	3.3	2.2	6.7	6.7	5.6	6.7	4.4	3.3	2.2	10.0	8.9	15.6	0.0	100.
15	10.1	7.9	2.2	4.5	4.5	1.1	10.1	2.2	7.9	3.4	6.7	4.5	2.2	7.9	9.0	15.7	0.0	100.
16	9.0	9.0	2.2	3.4	4.5	1.1	9.0	5.6	5.6	4.5	4.5	3.4	3.4	6.7	11.2	16.9	0.0	100.
17	10.2	9.1	1.1	6.8	4.5	1.1	9.1	4.5	4.5	8.0	3.4	2.3	1.1	4.5	13.6	15.9	0.0	100.
18	14.0	7.0	3.5	4.7	8.1	3.5	9.3	3.5	2.3	5.8	4.7	1.2	3.5	2.3	11.6	15.1	0.0	100.
19	17.0	5.7	4.5	3.4	6.8	3.4	8.0	3.4	8.0	3.4	2.3	2.3	3.4	6.8	11.4	10.2	0.0	100.
20	15.9	5.7	6.8	1.1	4.5	5.7	6.8	2.3	11.4	4.5	1.1	2.3	2.3	4.5	6.8	18.2	0.0	100.
21	14.6	9.0	4.5	3.4	5.6	1.1	11.2	5.6	6.7	3.4	5.6	0.0	1.1	9.0	4.5	14.6	0.0	100.
22	20.0	3.3	2.2	1.1	5.6	5.6	11.1	2.2	12.2	5.6	2.2	0.0	1.1	5.6	10.0	12.2	0.0	100.
23	14.4	6.7	4.4	2.2	4.4	4.4	10.0	4.4	14.4	4.4	1.1	2.2	2.2	6.7	5.6	12.2	0.0	100.
24	16.7	8.9	1.1	0.0	1.1	7.8	8.9	4.4	12.2	4.4	0.0	3.3	4.4	7.8	1.1	17.8	0.0	100.
ALL	12.1	7.1	4.1	3.4	3.8	3.9	9.4	5.0	8.2	5.1	2.8	2.5	2.4	6.0	8.9	15.2	0.0	100.

NUMBER OF OBS = 2147

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION APR-JUN 1993

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

APRIL

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	7.1	3.6	0.0	10.7	3.6	7.1	3.6	10.7	7.1	3.6	3.6	0.0	3.6	14.3	3.6	17.9	0.0	100.
2	3.6	0.0	0.0	10.7	10.7	7.1	3.6	3.6	7.1	3.6	3.6	0.0	3.6	7.1	7.1	28.6	0.0	100.
3	17.9	0.0	0.0	10.7	3.6	10.7	0.0	10.7	0.0	10.7	0.0	0.0	0.0	7.1	14.3	14.3	0.0	100.
4	14.3	3.6	3.6	3.6	7.1	3.6	3.6	14.3	7.1	0.0	0.0	3.6	3.6	7.1	10.7	14.3	0.0	100.
5	14.3	3.6	7.1	3.6	10.7	3.6	0.0	3.6	10.7	7.1	3.6	0.0	3.6	7.1	7.1	14.3	0.0	100.
6	7.1	0.0	3.6	3.6	7.1	7.1	3.6	3.6	14.3	3.6	0.0	0.0	7.1	10.7	3.6	25.0	0.0	100.
7	7.1	3.6	7.1	0.0	10.7	7.1	3.6	3.6	14.3	0.0	3.6	0.0	0.0	10.7	14.3	14.3	0.0	100.
8	7.4	7.4	3.7	3.7	7.4	14.8	3.7	7.4	7.4	0.0	0.0	0.0	0.0	3.7	18.5	14.8	0.0	100.
9	22.2	0.0	0.0	7.4	7.4	7.4	0.0	14.8	0.0	0.0	0.0	0.0	0.0	0.0	14.8	18.5	0.0	100.
10	11.1	3.7	0.0	7.4	11.1	3.7	11.1	3.7	7.4	0.0	3.7	0.0	0.0	0.0	14.8	22.2	0.0	100.
11	14.8	3.7	3.7	3.7	7.4	14.8	7.4	3.7	3.7	3.7	3.7	0.0	0.0	0.0	11.1	18.5	0.0	100.
12	11.1	0.0	3.7	3.7	7.4	7.4	11.1	11.1	3.7	7.4	0.0	0.0	0.0	0.0	7.4	25.9	0.0	100.
13	7.1	0.0	3.6	3.6	3.6	10.7	7.1	10.7	7.1	3.6	3.6	0.0	0.0	3.6	14.3	21.4	0.0	100.
14	6.9	0.0	0.0	6.9	3.4	6.9	10.3	10.3	10.3	3.4	6.9	0.0	0.0	0.0	10.3	24.1	0.0	100.
15	13.8	0.0	3.4	6.9	3.4	0.0	17.2	3.4	10.3	6.9	3.4	3.4	3.4	0.0	10.3	13.8	0.0	100.
16	6.9	6.9	3.4	3.4	0.0	6.9	13.8	3.4	10.3	3.4	6.9	3.4	3.4	0.0	10.3	17.2	0.0	100.
17	10.3	0.0	3.4	6.9	0.0	10.3	6.9	6.9	6.9	3.4	3.4	0.0	3.4	6.9	13.8	17.2	0.0	100.
18	13.8	6.9	0.0	10.3	0.0	3.4	6.9	3.4	13.8	3.4	0.0	3.4	6.9	3.4	6.9	17.2	0.0	100.
19	10.3	3.4	3.4	6.9	3.4	6.9	3.4	10.3	6.9	3.4	3.4	10.3	0.0	6.9	6.9	13.8	0.0	100.
20	17.2	6.9	3.4	3.4	6.9	6.9	6.9	6.9	3.4	3.4	10.3	0.0	3.4	6.9	6.9	6.9	0.0	100.
21	17.2	13.8	10.3	0.0	3.4	6.9	0.0	3.4	13.8	3.4	3.4	0.0	0.0	0.0	17.2	6.9	0.0	100.
22	24.1	0.0	6.9	3.4	0.0	10.3	0.0	6.9	10.3	3.4	6.9	0.0	0.0	6.9	10.3	10.3	0.0	100.
23	13.8	3.4	6.9	10.3	3.4	6.9	3.4	3.4	13.8	0.0	10.3	0.0	3.4	3.4	10.3	6.9	0.0	100.
24	17.9	3.6	0.0	10.7	7.1	3.6	7.1	7.1	7.1	3.6	3.6	0.0	0.0	7.1	17.9	3.6	0.0	100.
ALL	12.4	3.1	3.2	5.9	5.3	7.2	5.9	6.4	8.9	3.4	3.5	1.0	1.9	4.7	10.9	16.1	0.0	100.

NUMBER OF OBS = 677

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION APR-JUN 1993

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

MAY

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	30.0	0.0	3.3	3.3	0.0	3.3	3.3	6.7	10.0	13.3	3.3	0.0	3.3	0.0	10.0	6.7	3.3	100.
2	23.3	3.3	3.3	0.0	3.3	0.0	3.3	6.7	23.3	13.3	3.3	0.0	0.0	3.3	6.7	6.7	0.0	100.
3	23.3	3.3	6.7	3.3	3.3	3.3	0.0	3.3	20.0	13.3	0.0	0.0	0.0	3.3	6.7	10.0	0.0	100.
4	20.0	6.7	0.0	6.7	0.0	0.0	6.7	10.0	23.3	0.0	6.7	0.0	3.3	0.0	10.0	6.7	0.0	100.
5	9.7	3.2	0.0	3.2	3.2	0.0	9.7	6.5	19.4	6.5	3.2	6.5	0.0	3.2	6.5	19.4	0.0	100.
6	16.1	0.0	0.0	6.5	6.5	0.0	3.2	6.5	19.4	6.5	6.5	0.0	3.2	3.2	9.7	12.9	0.0	100.
7	9.7	3.2	0.0	0.0	9.7	0.0	6.5	9.7	9.7	9.7	6.5	3.2	0.0	9.7	0.0	22.6	0.0	100.
8	6.5	3.2	6.5	0.0	0.0	16.1	3.2	3.2	9.7	12.9	6.5	3.2	3.2	0.0	6.5	19.4	0.0	100.
9	12.9	6.5	0.0	3.2	0.0	16.1	3.2	6.5	6.5	6.5	12.9	3.2	3.2	3.2	9.7	6.5	0.0	100.
10	6.5	6.5	3.2	3.2	3.2	3.2	6.5	12.9	6.5	3.2	12.9	3.2	3.2	3.2	6.5	16.1	0.0	100.
11	6.5	0.0	0.0	3.2	3.2	0.0	12.9	9.7	6.5	6.5	6.5	3.2	3.2	6.5	0.0	32.3	0.0	100.
12	16.1	3.2	3.2	3.2	0.0	3.2	6.5	6.5	6.5	12.9	3.2	0.0	0.0	3.2	9.7	22.6	0.0	100.
13	9.7	3.2	6.5	3.2	0.0	3.2	6.5	6.5	0.0	19.4	3.2	0.0	3.2	3.2	9.7	22.6	0.0	100.
14	16.1	3.2	6.5	0.0	0.0	0.0	9.7	6.5	12.9	9.7	0.0	0.0	0.0	0.0	12.9	19.4	3.2	100.
15	16.1	12.9	0.0	0.0	0.0	0.0	9.7	9.7	12.9	3.2	6.5	0.0	0.0	0.0	12.9	12.9	3.2	100.
16	19.4	3.2	6.5	0.0	0.0	0.0	9.7	6.5	12.9	9.7	3.2	0.0	3.2	0.0	9.7	12.9	3.2	100.
17	19.4	6.5	0.0	3.2	0.0	3.2	12.9	6.5	9.7	3.2	9.7	3.2	0.0	0.0	6.5	12.9	3.2	100.
18	9.7	3.2	3.2	3.2	0.0	3.2	9.7	12.9	9.7	3.2	6.5	0.0	0.0	3.2	3.2	25.8	3.2	100.
19	13.3	13.3	0.0	3.3	0.0	0.0	10.0	13.3	13.3	3.3	3.3	0.0	0.0	3.3	6.7	13.3	3.3	100.
20	23.3	0.0	3.3	6.7	0.0	0.0	6.7	16.7	13.3	6.7	0.0	3.3	3.3	3.3	0.0	10.0	3.3	100.
21	20.0	3.3	6.7	3.3	0.0	0.0	3.3	16.7	16.7	3.3	0.0	3.3	0.0	0.0	3.3	16.7	3.3	100.
22	23.3	10.0	0.0	6.7	0.0	0.0	6.7	10.0	16.7	6.7	0.0	3.3	0.0	0.0	0.0	13.3	3.3	100.
23	25.8	6.5	3.2	3.2	0.0	0.0	12.9	3.2	16.1	9.7	0.0	0.0	0.0	3.2	0.0	12.9	3.2	100.
24	33.3	0.0	3.3	6.7	0.0	0.0	3.3	13.3	13.3	6.7	0.0	0.0	3.3	3.3	6.7	3.3	3.3	100.
ALL	17.0	4.4	2.7	3.1	1.4	2.3	6.9	8.7	12.8	7.9	4.4	1.5	1.5	2.4	6.4	15.0	1.6	100.

NUMBER OF OBS = 735

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION APR-JUN 1993

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

JUNE

HR. OF DAY	WIND DIRECTION																CALM	TOTAL
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		
1	6.7	3.3	0.0	0.0	3.3	3.3	13.3	16.7	16.7	6.7	3.3	0.0	6.7	3.3	3.3	13.3	0.0	100.
2	3.3	0.0	3.3	0.0	0.0	6.7	13.3	13.3	23.3	6.7	3.3	10.0	3.3	3.3	3.3	6.7	0.0	100.
3	6.7	3.3	3.3	6.7	3.3	6.7	3.3	20.0	10.0	10.0	6.7	0.0	3.3	0.0	3.3	13.3	0.0	100.
4	13.3	6.7	3.3	3.3	3.3	3.3	13.3	13.3	16.7	0.0	13.3	0.0	0.0	0.0	6.7	3.3	0.0	100.
5	6.7	0.0	6.7	3.3	6.7	0.0	10.0	20.0	16.7	10.0	3.3	0.0	0.0	3.3	6.7	6.7	0.0	100.
6	13.3	10.0	10.0	0.0	6.7	6.7	10.0	16.7	6.7	6.7	0.0	6.7	3.3	0.0	0.0	3.3	0.0	100.
7	16.7	3.3	0.0	3.3	10.0	6.7	6.7	13.3	23.3	3.3	3.3	6.7	0.0	0.0	3.3	0.0	0.0	100.
8	6.7	0.0	0.0	3.3	10.0	10.0	13.3	10.0	13.3	6.7	6.7	0.0	6.7	3.3	3.3	6.7	0.0	100.
9	3.3	6.7	3.3	3.3	0.0	6.7	10.0	10.0	20.0	10.0	6.7	3.3	3.3	10.0	3.3	0.0	0.0	100.
10	6.7	10.0	6.7	0.0	3.3	0.0	6.7	13.3	10.0	23.3	3.3	0.0	3.3	10.0	0.0	3.3	0.0	100.
11	10.0	6.7	6.7	3.3	0.0	6.7	6.7	10.0	16.7	6.7	13.3	0.0	3.3	0.0	3.3	6.7	0.0	100.
12	0.0	3.3	6.7	3.3	3.3	3.3	16.7	6.7	16.7	13.3	3.3	3.3	0.0	3.3	6.7	10.0	0.0	100.
13	6.7	3.3	0.0	6.7	0.0	0.0	16.7	10.0	16.7	16.7	3.3	0.0	6.7	3.3	3.3	6.7	0.0	100.
14	3.3	6.7	0.0	3.3	3.3	3.3	16.7	13.3	16.7	10.0	6.7	0.0	0.0	10.0	3.3	3.3	0.0	100.
15	6.7	0.0	3.3	3.3	3.3	0.0	16.7	13.3	16.7	6.7	6.7	3.3	3.3	6.7	3.3	6.7	0.0	100.
16	6.7	3.3	3.3	3.3	0.0	0.0	13.3	13.3	10.0	16.7	6.7	3.3	6.7	3.3	3.3	6.7	0.0	100.
17	6.7	3.3	3.3	3.3	0.0	0.0	10.0	16.7	16.7	6.7	3.3	10.0	3.3	6.7	3.3	6.7	0.0	100.
18	6.7	6.7	3.3	6.7	0.0	0.0	13.3	10.0	16.7	6.7	3.3	10.0	3.3	3.3	6.7	3.3	0.0	100.
19	10.0	3.3	3.3	6.7	0.0	3.3	6.7	20.0	10.0	3.3	6.7	3.3	6.7	3.3	6.7	6.7	0.0	100.
20	10.0	0.0	3.3	6.7	0.0	0.0	13.3	23.3	10.0	6.7	6.7	0.0	3.3	0.0	6.7	10.0	0.0	100.
21	10.0	0.0	6.7	3.3	0.0	3.3	6.7	16.7	10.0	13.3	3.3	3.3	6.7	3.3	0.0	13.3	0.0	100.
22	6.7	6.7	10.0	3.3	0.0	10.0	6.7	16.7	13.3	6.7	0.0	3.3	10.0	0.0	0.0	6.7	0.0	100.
23	3.3	10.0	3.3	0.0	6.7	6.7	16.7	13.3	16.7	6.7	3.3	3.3	6.7	0.0	3.3	0.0	0.0	100.
24	10.0	3.3	6.7	0.0	3.3	0.0	16.7	20.0	10.0	10.0	6.7	0.0	6.7	0.0	0.0	6.7	0.0	100.
ALL	7.5	4.2	4.0	3.2	2.8	3.6	11.5	14.6	14.7	8.9	5.1	2.9	4.0	3.2	3.5	6.3	0.0	100.

NUMBER OF OBS = 720

NPPD-COOPER NUCLEAR STATION 10-M WIND DIRECTION APR-JUN 1993

PROGRAM: WINPER

VERSION: 2P

HOURLY WIND ROSES (PERCENT)

APR-JUN

HR. OF DAY	WIND DIRECTION																CALM	TOTAL
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		
1	14.8	2.3	1.1	4.5	2.3	4.5	6.8	11.4	11.4	8.0	3.4	0.0	4.5	5.7	5.7	12.5	1.1	100.
2	10.2	1.1	2.3	3.4	4.5	4.5	6.8	8.0	18.2	8.0	3.4	3.4	2.3	4.5	5.7	13.6	0.0	100.
3	15.9	2.3	3.4	6.8	3.4	6.8	1.1	11.4	10.2	11.4	2.3	0.0	1.1	3.4	8.0	12.5	0.0	100.
4	15.9	5.7	2.3	4.5	3.4	2.3	8.0	12.5	15.9	0.0	6.8	1.1	2.3	2.3	9.1	8.0	0.0	100.
5	10.1	2.2	4.5	3.4	6.7	1.1	6.7	10.1	15.7	7.9	3.4	2.2	1.1	4.5	6.7	13.5	0.0	100.
6	12.4	3.4	4.5	3.4	6.7	4.5	5.6	9.0	13.5	5.6	2.2	2.2	4.5	4.5	4.5	13.5	0.0	100.
7	11.2	3.4	2.2	1.1	10.1	4.5	5.6	9.0	15.7	4.5	4.5	3.4	0.0	6.7	5.6	12.4	0.0	100.
8	6.8	3.4	3.4	2.3	5.7	13.6	6.8	6.8	10.2	6.8	4.5	1.1	3.4	2.3	9.1	13.6	0.0	100.
9	12.5	4.5	1.1	4.5	2.3	10.2	6.8	5.7	13.6	5.7	6.8	2.3	2.3	4.5	9.1	8.0	0.0	100.
10	8.0	6.8	3.4	3.4	5.7	2.3	8.0	10.2	8.0	9.1	6.8	1.1	2.3	4.5	6.8	13.6	0.0	100.
11	10.2	3.4	3.4	3.4	3.4	6.8	9.1	8.0	9.1	5.7	8.0	1.1	2.3	2.3	4.5	19.3	0.0	100.
12	9.1	2.3	4.5	3.4	3.4	4.5	11.4	8.0	9.1	11.4	2.3	1.1	0.0	2.3	8.0	19.3	0.0	100.
13	7.9	2.2	3.4	4.5	1.1	4.5	10.1	9.0	7.9	13.5	3.4	0.0	3.4	3.4	9.0	16.9	0.0	100.
14	8.9	3.3	2.2	3.3	2.2	3.3	12.2	10.0	13.3	7.8	4.4	0.0	0.0	3.3	8.9	15.6	1.1	100.
15	12.2	4.4	2.2	3.3	2.2	0.0	14.4	8.9	13.3	5.6	5.6	2.2	2.2	2.2	8.9	11.1	1.1	100.
16	11.1	4.4	4.4	2.2	0.0	2.2	12.2	7.8	11.1	10.0	5.6	2.2	4.4	1.1	7.8	12.2	1.1	100.
17	12.2	3.3	2.2	4.4	0.0	4.4	10.0	10.0	11.1	4.4	5.6	4.4	2.2	4.4	7.8	12.2	1.1	100.
18	10.0	5.6	2.2	6.7	0.0	2.2	10.0	8.9	13.3	4.4	3.3	4.4	3.3	3.3	5.6	15.6	1.1	100.
19	11.2	6.7	2.2	5.6	1.1	3.4	6.7	14.6	10.1	3.4	4.5	4.5	2.2	4.5	6.7	11.2	1.1	100.
20	16.9	2.2	3.4	5.6	2.2	2.2	9.0	15.7	9.0	5.6	5.6	1.1	3.4	3.4	4.5	9.0	1.1	100.
21	15.7	5.6	7.9	2.2	1.1	3.4	3.4	12.4	13.5	6.7	2.2	2.2	2.2	1.1	6.7	12.4	1.1	100.
22	18.0	5.6	5.6	4.5	0.0	6.7	4.5	11.2	13.5	5.6	2.2	2.2	3.4	2.2	3.4	10.1	1.1	100.
23	14.4	6.7	4.4	4.4	3.3	4.4	11.1	6.7	15.6	5.6	4.4	1.1	3.3	2.2	4.4	6.7	1.1	100.
24	20.5	2.3	3.4	5.7	3.4	1.1	9.1	13.6	10.2	6.8	3.4	0.0	3.4	3.4	8.0	4.5	1.1	100.
ALL	12.3	3.9	3.3	4.0	3.1	4.3	8.2	9.9	12.2	6.8	4.4	1.8	2.5	3.4	6.8	12.4	0.6	100.

NUMBER OF OBS = 2132

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

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

JAN-JUN

WIND DIRECTION																		
HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	15.2	4.5	1.7	2.8	3.9	4.5	7.3	6.7	11.2	7.9	2.2	1.7	3.9	6.2	5.6	14.0	0.6	100.
2	10.7	5.1	2.2	2.2	4.5	5.6	7.3	6.7	15.2	5.1	2.8	2.8	1.7	5.1	7.9	15.2	0.0	100.
3	15.2	5.6	2.2	4.5	3.4	6.2	4.5	10.7	9.0	7.3	2.2	1.1	1.7	5.1	7.9	13.5	0.0	100.
4	14.0	5.6	3.9	3.4	2.2	6.2	8.4	9.0	12.4	2.8	3.9	2.8	2.2	2.8	8.4	11.8	0.0	100.
5	12.3	5.6	6.1	3.4	3.9	2.8	7.8	7.8	12.8	7.3	1.7	2.8	1.7	3.9	8.4	11.7	0.0	100.
6	10.6	4.5	5.0	4.5	4.5	2.2	8.4	6.7	14.0	5.6	1.7	1.7	4.5	3.9	7.8	14.5	0.0	100.
7	10.1	5.0	3.9	3.4	7.3	3.4	8.9	7.3	12.3	4.5	3.4	2.2	1.1	5.0	7.8	14.5	0.0	100.
8	6.2	5.1	5.1	3.4	3.9	11.2	8.4	4.5	9.0	6.2	3.4	1.7	2.2	6.2	10.1	13.5	0.0	100.
9	11.8	5.6	3.4	5.1	2.2	7.3	7.9	7.3	7.3	5.1	7.3	1.1	2.8	3.4	9.6	12.9	0.0	100.
10	9.0	5.6	5.6	3.4	5.1	2.8	8.4	9.6	5.6	6.7	5.1	2.2	1.7	5.1	7.9	16.3	0.0	100.
11	10.7	5.1	5.1	3.4	2.8	5.6	9.6	6.7	6.7	6.2	5.1	2.2	2.2	3.4	6.7	18.5	0.0	100.
12	8.4	4.5	3.9	4.5	2.8	2.8	12.4	6.2	8.4	9.0	1.7	2.2	1.1	5.1	9.0	18.0	0.0	100.
13	8.4	5.0	3.9	4.5	1.7	2.8	10.1	7.3	7.8	8.9	3.9	2.8	2.8	6.7	8.9	14.5	0.0	100.
14	8.9	6.1	2.2	3.9	2.8	2.8	9.4	8.3	9.4	7.2	4.4	1.7	1.1	6.7	8.9	15.6	0.6	100.
15	11.2	6.1	2.2	3.9	3.4	0.6	12.3	5.6	10.6	4.5	6.1	3.4	2.2	5.0	8.9	13.4	0.6	100.
16	10.1	6.7	3.4	2.8	2.2	1.7	10.6	6.7	8.4	7.3	5.0	2.8	3.9	3.9	9.5	14.5	0.6	100.
17	11.2	6.2	1.7	5.6	2.2	2.8	9.6	7.3	7.9	6.2	4.5	3.4	1.7	4.5	10.7	14.0	0.6	100.
18	11.4	6.3	2.8	5.7	4.0	2.8	9.7	6.3	8.0	5.1	4.0	2.8	3.4	2.8	8.5	15.3	0.6	100.
19	14.1	6.2	3.4	4.5	4.0	3.4	7.3	9.0	9.0	3.4	3.4	3.4	2.8	5.6	9.0	10.7	0.6	100.
20	16.4	4.0	5.1	3.4	3.4	4.0	7.9	9.0	10.2	5.1	3.4	1.7	2.8	4.0	5.6	13.6	0.6	100.
21	15.2	7.3	6.2	2.8	3.4	2.2	7.3	9.0	10.1	5.1	3.9	1.1	1.7	5.1	5.6	13.5	0.6	100.
22	19.0	4.5	3.9	2.8	2.8	6.1	7.8	6.7	12.8	5.6	2.2	1.1	2.2	3.9	6.7	11.2	0.6	100.
23	14.4	6.7	4.4	3.3	3.9	4.4	10.6	5.6	15.0	5.0	2.8	1.7	2.8	4.4	5.0	9.4	0.6	100.
24	18.5	5.6	2.2	2.8	2.2	4.5	9.0	9.0	11.2	5.6	1.7	1.7	3.9	5.6	4.5	11.2	0.6	100.
ALL	12.2	5.5	3.7	3.7	3.4	4.1	8.8	7.5	10.2	5.9	3.6	2.2	2.4	4.7	7.9	13.8	0.3	100.

NUMBER OF OBS = 4279

Wind Direction Frequencies

100-Meter Level

HPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION JAN-MAR 1993

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

JANUARY

HR. OF DAY	WIND DIRECTION																CALM	TOTAL
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		
1	9.7	9.7	0.0	0.0	0.0	12.9	3.2	3.2	6.5	12.9	3.2	0.0	6.5	9.7	3.2	19.4	0.0	100.
2	6.5	9.7	3.2	0.0	3.2	9.7	3.2	3.2	6.5	9.7	9.7	0.0	6.5	6.5	9.7	12.9	0.0	100.
3	0.0	16.1	0.0	3.2	0.0	12.9	3.2	6.5	3.2	9.7	6.5	0.0	6.5	12.9	3.2	16.1	0.0	100.
4	9.7	6.5	9.7	0.0	3.2	12.9	6.5	0.0	6.5	6.5	6.5	3.2	3.2	12.9	3.2	9.7	0.0	100.
5	9.7	6.5	6.5	3.2	3.2	9.7	9.7	3.2	3.2	3.2	6.5	3.2	12.9	3.2	6.5	9.7	0.0	100.
6	3.2	6.5	9.7	3.2	3.2	12.9	6.5	3.2	6.5	3.2	6.5	3.2	9.7	6.5	6.5	9.7	0.0	100.
7	3.2	6.5	6.5	3.2	6.5	9.7	16.1	0.0	3.2	0.0	9.7	0.0	9.7	9.7	3.2	12.9	0.0	100.
8	3.2	3.2	9.7	0.0	3.2	19.4	12.9	0.0	3.2	0.0	3.2	9.7	6.5	9.7	6.5	9.7	0.0	100.
9	6.5	6.5	3.2	6.5	3.2	9.7	12.9	6.5	0.0	3.2	6.5	6.5	6.5	12.9	3.2	6.5	0.0	100.
10	3.2	6.5	9.7	3.2	3.2	9.7	6.5	12.9	0.0	6.5	6.5	3.2	6.5	6.5	6.5	9.7	0.0	100.
11	9.7	3.2	9.7	0.0	6.5	9.7	9.7	12.9	0.0	9.7	6.5	0.0	3.2	6.5	6.5	6.5	0.0	100.
12	6.5	0.0	6.5	3.2	6.5	3.2	16.1	9.7	3.2	9.7	6.5	3.2	3.2	6.5	6.5	9.7	0.0	100.
13	6.5	3.2	6.5	0.0	3.2	12.9	0.0	12.9	12.9	3.2	6.5	9.7	3.2	6.5	6.5	6.5	0.0	100.
14	3.2	3.2	6.5	3.2	3.2	6.5	3.2	3.2	16.1	9.7	6.5	3.2	6.5	6.5	12.9	6.5	0.0	100.
15	3.3	3.3	3.3	6.7	0.0	6.7	3.3	0.0	20.0	6.7	6.7	6.7	6.7	10.0	6.7	10.0	0.0	100.
16	0.0	6.5	3.2	6.5	0.0	6.5	3.2	9.7	9.7	6.5	9.7	6.5	3.2	9.7	3.2	16.1	0.0	100.
17	3.2	9.7	0.0	6.5	3.2	3.2	6.5	9.7	9.7	3.2	12.9	6.5	3.2	6.5	6.5	9.7	0.0	100.
18	3.3	6.7	0.0	10.0	3.3	3.3	6.7	6.7	3.3	6.7	10.0	6.7	10.0	0.0	10.0	13.3	0.0	100.
19	9.7	6.5	0.0	9.7	3.2	3.2	6.5	6.5	6.5	9.7	6.5	3.2	6.5	9.7	9.7	3.2	0.0	100.
20	6.5	3.2	0.0	12.9	6.5	3.2	3.2	3.2	9.7	6.5	9.7	3.2	9.7	3.2	12.9	6.5	0.0	100.
21	6.5	6.5	0.0	3.2	9.7	6.5	3.2	3.2	9.7	3.2	12.9	3.2	0.0	12.9	6.5	12.9	0.0	100.
22	0.0	9.7	0.0	3.2	0.0	16.1	3.2	3.2	9.7	3.2	6.5	6.5	3.2	6.5	6.5	22.6	0.0	100.
23	6.5	6.5	3.2	0.0	0.0	9.7	6.5	6.5	9.7	3.2	6.5	6.5	0.0	9.7	6.5	19.4	0.0	100.
24	9.7	3.2	3.2	0.0	0.0	9.7	6.5	0.0	12.9	6.5	6.5	3.2	6.5	6.5	3.2	22.6	0.0	100.
ALL	5.4	6.2	4.2	3.6	3.1	9.2	6.6	5.3	7.1	5.9	7.4	4.0	5.8	8.0	6.5	11.7	0.0	100.

NUMBER OF OBS = 742

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

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

FEBRUARY

HR. OF DAY	WIND DIRECTION																CALM	TOTAL
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		
1	17.9	14.3	7.1	0.0	0.0	14.3	0.0	3.6	7.1	3.6	7.1	0.0	3.6	7.1	10.7	3.6	0.0	100.
2	10.7	10.7	14.3	0.0	3.6	10.7	3.6	0.0	3.6	7.1	3.6	3.6	3.6	3.6	14.3	7.1	0.0	100.
3	17.9	7.1	10.7	3.6	3.6	7.1	3.6	0.0	7.1	0.0	7.1	3.6	0.0	10.7	3.6	14.3	0.0	100.
4	10.7	10.7	10.7	3.6	3.6	3.6	3.6	3.6	3.6	3.6	7.1	3.6	3.6	3.6	10.7	14.3	0.0	100.
5	7.1	7.1	7.1	14.3	0.0	3.6	3.6	3.6	3.6	3.6	7.1	3.6	3.6	7.1	10.7	14.3	0.0	100.
6	0.0	7.1	3.6	14.3	7.1	3.6	3.6	0.0	3.6	3.6	7.1	3.6	3.6	7.1	17.9	14.3	0.0	100.
7	3.6	0.0	10.7	17.9	0.0	0.0	10.7	0.0	3.6	0.0	10.7	0.0	7.1	3.6	21.4	10.7	0.0	100.
8	7.1	0.0	14.3	7.1	7.1	0.0	10.7	0.0	3.6	3.6	3.6	7.1	3.6	7.1	14.3	10.7	0.0	100.
9	3.6	7.1	7.1	7.1	7.1	7.1	3.6	3.6	0.0	3.6	3.6	7.1	0.0	3.6	25.0	10.7	0.0	100.
10	7.1	7.1	7.1	7.1	10.7	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6	3.6	25.0	7.1	0.0	100.
11	7.1	7.1	21.4	3.6	3.6	3.6	3.6	0.0	3.6	3.6	0.0	7.1	0.0	10.7	21.4	3.6	0.0	100.
12	3.6	7.1	21.4	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6	14.3	14.3	7.1	0.0	100.
13	0.0	17.9	10.7	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	14.3	17.9	7.1	0.0	100.
14	10.7	25.0	0.0	7.1	3.6	7.1	0.0	0.0	3.6	3.6	0.0	3.6	25.0	7.1	0.0	0.0	0.0	100.
15	7.1	14.3	7.1	3.6	10.7	7.1	0.0	0.0	0.0	3.6	3.6	0.0	7.1	7.1	25.0	3.6	0.0	100.
16	7.1	21.4	3.6	0.0	10.7	7.1	0.0	0.0	0.0	3.6	3.6	0.0	3.6	10.7	21.4	7.1	0.0	100.
17	11.1	22.2	0.0	3.7	14.8	3.7	0.0	0.0	0.0	7.4	0.0	0.0	3.7	7.4	22.2	3.7	0.0	100.
18	19.2	15.4	11.5	0.0	11.5	7.7	0.0	0.0	0.0	7.7	0.0	0.0	0.0	7.7	11.5	7.7	0.0	100.
19	18.5	11.1	11.1	3.7	11.1	7.4	3.7	0.0	7.4	7.4	0.0	0.0	0.0	7.4	11.1	0.0	0.0	100.
20	18.5	7.4	14.8	7.4	3.7	11.1	3.7	0.0	7.4	3.7	0.0	0.0	0.0	7.4	3.7	11.1	0.0	100.
21	22.2	3.7	3.7	14.8	7.4	7.4	7.4	0.0	3.7	11.1	0.0	0.0	0.0	11.1	3.7	3.7	0.0	100.
22	14.3	10.7	10.7	7.1	3.6	10.7	7.1	0.0	3.6	7.1	3.6	0.0	0.0	10.7	0.0	10.7	0.0	100.
23	21.4	7.1	7.1	3.6	10.7	0.0	7.1	7.1	3.6	10.7	0.0	0.0	0.0	10.7	3.6	7.1	0.0	100.
24	21.4	10.7	7.1	0.0	0.0	14.3	0.0	7.1	3.6	7.1	7.1	0.0	0.0	10.7	3.6	7.1	0.0	100.
ALL	11.1	10.5	9.3	5.7	5.9	6.2	3.6	1.4	3.5	4.7	3.8	2.1	2.4	8.9	13.4	7.8	0.0	100.

NUMBER OF OBS = 666

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

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

MARCH

HR. OF DAY	WIND DIRECTION																	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	9.7	3.2	3.2	0.0	9.7	12.9	12.9	6.5	3.2	3.2	3.2	0.0	9.7	3.2	0.0	19.4	9.0	100.
2	9.7	3.2	3.2	3.2	0.0	16.1	9.7	9.7	3.2	0.0	6.5	0.0	3.2	3.2	12.9	16.1	0.0	100.
3	9.7	3.2	6.5	0.0	0.0	12.9	12.9	6.5	6.5	0.0	3.2	3.2	3.2	3.2	22.6	9.7	0.0	100.
4	9.7	9.7	0.0	0.0	0.0	12.9	12.9	6.5	6.5	0.0	3.2	6.5	3.2	0.0	16.1	12.9	0.0	100.
5	12.9	6.5	0.0	0.0	0.0	12.9	12.9	3.2	6.5	3.2	3.2	6.5	3.2	0.0	12.9	16.1	0.0	100.
6	6.5	3.2	3.2	0.0	0.0	12.9	16.1	0.0	6.5	0.0	6.5	6.5	3.2	0.0	9.7	25.8	0.0	100.
7	9.7	6.5	6.5	0.0	3.2	6.5	16.1	3.2	3.2	3.2	3.2	6.5	3.2	3.2	6.5	25.8	0.0	100.
8	3.2	6.5	3.2	0.0	0.0	12.9	9.7	3.2	6.5	3.2	0.0	6.5	0.0	3.2	19.4	22.6	0.0	100.
9	6.5	3.2	3.2	0.0	0.0	6.5	12.9	3.2	3.2	6.5	3.2	0.0	3.2	0.0	12.9	35.5	0.0	100.
10	9.7	3.2	0.0	3.2	0.0	6.5	9.7	6.5	6.5	3.2	0.0	3.2	0.0	6.5	6.5	35.5	0.0	100.
11	6.5	6.5	0.0	3.2	0.0	6.5	16.1	0.0	6.5	3.2	3.2	0.0	0.0	9.7	0.0	38.7	0.0	100.
12	6.5	6.5	0.0	3.2	0.0	3.2	12.9	6.5	3.2	9.7	0.0	0.0	0.0	6.5	12.9	29.0	0.0	100.
13	12.9	3.2	3.2	3.2	0.0	6.5	6.5	9.7	3.2	6.5	3.2	0.0	3.2	3.2	12.9	22.6	0.0	100.
14	16.1	0.0	3.2	3.2	3.2	0.0	9.7	9.7	6.5	3.2	6.5	3.2	0.0	3.2	9.7	22.6	0.0	100.
15	16.1	0.0	0.0	6.5	3.2	3.2	12.9	6.5	3.2	0.0	6.5	3.2	0.0	3.2	12.9	22.6	0.0	100.
16	13.3	0.0	0.0	6.7	0.0	0.0	13.3	16.7	0.0	3.3	0.0	3.3	0.0	0.0	13.3	30.0	0.0	100.
17	6.7	3.3	0.0	10.0	0.0	0.0	16.7	6.7	0.0	6.7	0.0	3.3	0.0	0.0	10.0	36.7	0.0	100.
18	10.0	0.0	0.0	6.7	0.0	3.3	16.7	6.7	0.0	3.3	3.3	0.0	3.3	0.0	10.0	30.0	0.0	100.
19	20.0	0.0	0.0	0.0	0.0	13.3	16.7	0.0	3.3	0.0	0.0	0.0	0.0	3.3	13.3	20.0	0.0	100.
20	23.3	0.0	0.0	0.0	10.0	10.0	16.7	3.3	3.3	0.0	0.0	0.0	0.0	0.0	13.3	20.0	0.0	100.
21	12.9	6.5	3.2	0.0	9.7	6.5	22.6	0.0	6.5	0.0	0.0	0.0	0.0	3.2	9.7	19.4	0.0	100.
22	12.9	3.2	3.2	0.0	3.2	16.1	22.6	0.0	3.2	3.2	0.0	0.0	0.0	3.2	9.7	19.4	0.0	100.
23	16.1	0.0	3.2	3.2	3.2	16.1	22.6	0.0	6.5	0.0	0.0	0.0	0.0	6.5	6.5	12.9	0.0	100.
24	9.7	3.2	3.2	3.2	0.0	12.9	22.6	3.2	6.5	0.0	0.0	0.0	3.2	9.7	3.2	19.4	0.0	100.
ALL	11.2	3.1	2.0	2.3	2.7	8.7	14.7	4.9	4.3	2.6	2.3	2.2	1.8	3.1	10.7	23.4	0.0	100.

NUMBER OF OBS = 739

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

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

JAN-MAR

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	12.2	8.9	3.3	0.0	3.3	13.3	5.6	4.4	5.6	6.7	4.4	0.0	6.7	6.7	4.4	14.4	0.0	100.
2	8.9	7.8	6.7	1.1	2.2	12.2	5.6	4.4	4.4	5.6	6.7	1.1	4.4	4.4	12.2	12.2	0.0	100.
3	8.9	8.9	5.6	2.2	1.1	11.1	6.7	4.4	5.6	3.3	5.6	2.2	3.3	7.8	10.0	13.3	0.0	100.
4	10.0	8.9	6.7	1.1	2.2	10.0	7.8	3.3	5.6	3.3	5.6	4.4	2.2	6.7	10.0	12.2	0.0	100.
5	10.0	6.7	4.4	5.6	1.1	8.9	8.9	3.3	4.4	3.3	5.6	4.4	6.7	3.3	10.0	13.3	0.0	100.
6	3.3	5.6	5.6	5.6	3.3	10.0	8.9	1.1	5.6	2.2	6.7	4.4	5.6	4.4	11.1	16.7	0.0	100.
7	5.6	2.2	7.8	6.7	3.3	5.6	14.4	1.1	3.3	1.1	7.8	2.2	6.7	5.6	10.0	16.7	0.0	100.
8	4.4	3.3	8.9	2.2	3.3	11.1	11.1	1.1	4.4	2.2	2.2	7.8	3.3	6.7	13.3	14.4	0.0	100.
9	5.6	5.6	4.4	4.4	3.3	7.8	10.0	4.4	1.1	4.4	4.4	4.4	3.3	5.6	13.3	17.8	0.0	100.
10	6.7	5.6	5.6	4.4	4.4	6.7	6.7	6.7	3.3	4.4	3.3	3.3	3.3	5.6	12.2	17.8	0.0	100.
11	7.8	5.6	10.0	2.2	3.3	6.7	10.0	4.4	3.3	5.6	3.3	2.2	1.1	8.9	8.9	16.7	0.0	100.
12	5.6	4.4	8.9	3.3	3.3	3.3	11.1	5.6	3.3	7.6	3.3	2.2	2.2	8.9	11.1	15.6	0.0	100.
13	6.7	7.8	6.7	2.2	2.2	7.8	3.3	8.9	6.7	3.3	4.4	4.4	3.3	7.8	12.2	12.2	0.0	100.
14	10.0	8.9	3.3	4.4	3.3	4.4	4.4	4.4	8.9	5.6	5.6	2.2	3.3	11.1	10.0	10.0	0.0	100.
15	9.0	5.6	3.4	5.6	4.5	5.6	5.6	2.2	7.9	3.4	5.6	3.4	4.5	6.7	14.6	12.4	0.0	100.
16	6.7	9.0	2.2	4.5	3.4	4.5	5.6	9.0	3.4	4.5	4.5	3.4	2.2	6.7	12.4	18.0	0.0	100.
17	6.8	11.4	0.0	6.8	5.7	2.3	8.0	5.7	3.4	5.7	4.5	3.4	2.3	4.5	12.5	17.0	0.0	100.
18	10.5	7.0	3.5	5.8	7.0	4.7	8.1	4.7	1.2	5.8	4.7	2.3	4.7	2.3	10.5	17.4	0.0	100.
19	15.9	5.7	3.4	4.5	9.1	6.8	9.1	2.3	5.7	5.7	2.3	1.1	2.3	6.8	11.4	8.0	0.0	100.
20	15.9	3.4	4.5	6.8	6.8	8.0	8.0	2.3	6.8	3.4	3.4	1.1	3.4	3.4	10.2	12.5	0.0	100.
21	13.5	5.6	2.2	5.6	9.0	6.7	11.2	1.1	6.7	4.5	4.5	1.1	0.0	9.0	6.7	12.4	0.0	100.
22	8.9	7.8	4.4	3.3	2.2	14.4	11.1	1.1	5.6	4.4	3.3	2.2	1.1	6.7	5.6	17.8	0.0	100.
23	14.4	4.4	4.4	2.2	4.4	8.9	12.2	4.4	6.7	4.4	2.2	2.2	1.1	8.9	5.6	13.3	0.0	100.
24	13.3	5.6	4.4	1.1	0.0	12.2	10.0	3.3	7.8	4.4	4.4	1.1	3.3	8.9	3.3	16.7	0.0	100.
ALL	9.2	6.5	5.0	3.8	3.8	8.1	8.5	3.9	5.0	4.4	4.5	2.8	3.4	6.6	10.1	14.5	0.0	100.

NUMBER OF OBS = 2147

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION APR-JUN 1993

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

APRIL

HR. OF DAY	WIND DIRECTION																CALM	TOTAL
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		
1	10.7	0.0	3.6	7.1	7.1	7.1	3.6	0.0	17.9	3.6	0.0	0.0	3.6	10.7	7.1	17.9	0.0	100.
2	10.7	0.0	3.6	3.6	14.3	3.6	3.6	3.6	3.6	14.3	0.0	0.0	3.6	7.1	7.1	21.4	0.0	100.
3	10.7	7.1	3.6	3.6	10.7	7.1	3.6	0.0	7.1	10.7	0.0	3.6	0.0	7.1	7.1	17.9	0.0	100.
4	10.7	7.1	7.1	3.6	7.1	3.6	7.1	0.0	10.7	7.1	0.0	0.0	7.1	7.1	10.7	10.7	0.0	100.
5	7.1	0.0	3.6	14.3	7.1	7.1	3.6	0.0	7.1	10.7	0.0	3.6	3.6	7.1	10.7	14.3	0.0	100.
6	3.6	3.6	3.6	7.1	7.1	14.3	3.6	3.6	7.1	7.1	3.6	0.0	3.6	3.6	10.7	17.9	0.0	100.
7	10.7	3.6	3.6	3.6	3.6	17.9	3.6	3.6	10.7	3.6	3.6	0.0	0.0	7.1	14.3	10.7	0.0	100.
8	7.4	3.7	0.0	0.0	11.1	14.8	11.1	3.7	7.4	0.0	3.7	0.0	0.0	3.7	14.8	18.5	0.0	100.
9	7.4	3.7	3.7	3.7	14.8	3.7	11.1	0.0	11.1	3.7	0.0	3.7	0.0	0.0	14.8	18.5	0.0	100.
10	11.1	0.0	0.0	7.4	14.8	3.7	7.4	7.4	7.4	0.0	3.7	0.0	0.0	3.7	11.1	22.2	0.0	100.
11	11.1	3.7	3.7	3.7	11.1	0.0	18.5	3.7	3.7	3.7	3.7	0.0	0.0	3.7	14.8	14.8	0.0	100.
12	11.1	0.0	3.7	3.7	7.4	3.7	14.8	11.1	3.7	7.4	0.0	0.0	0.0	0.0	11.1	22.2	0.0	100.
13	7.1	3.6	3.6	3.6	3.6	7.1	14.3	10.7	3.6	3.6	3.6	0.0	0.0	3.6	14.3	17.9	0.0	100.
14	3.4	0.0	3.4	6.9	3.4	6.9	10.3	3.4	13.8	3.4	6.9	0.0	0.0	6.9	3.4	27.6	0.0	100.
15	10.3	0.0	0.0	10.3	3.4	3.4	17.2	0.0	10.3	6.9	3.4	3.4	3.4	0.0	10.3	17.2	0.0	100.
16	13.8	0.0	3.4	3.4	3.4	0.0	20.7	3.4	6.9	6.9	6.9	3.4	3.4	0.0	10.3	13.8	0.0	100.
17	10.3	3.4	3.4	3.4	3.4	10.3	6.9	3.4	13.8	0.0	3.4	3.4	0.0	6.9	13.8	13.8	0.0	100.
18	13.8	6.9	0.0	6.9	3.4	3.4	6.9	6.9	6.9	6.9	0.0	3.4	6.9	3.4	10.3	13.8	0.0	100.
19	6.9	6.9	3.4	3.4	6.9	6.9	3.4	13.8	3.4	0.0	6.9	6.9	3.4	3.4	10.3	13.8	0.0	100.
20	17.2	3.4	3.4	3.4	3.4	10.3	6.9	10.3	3.4	0.0	0.0	10.3	3.4	3.4	10.3	10.3	0.0	100.
21	13.8	10.3	10.3	3.4	3.4	10.3	10.3	3.4	3.4	3.4	6.9	3.4	0.0	3.4	10.3	3.4	0.0	100.
22	17.2	3.4	10.3	6.9	3.4	6.9	6.9	10.3	3.4	0.0	10.3	0.0	0.0	6.9	10.3	3.4	0.0	100.
23	13.8	0.0	0.0	3.4	17.2	3.4	6.9	6.9	6.9	0.0	6.9	6.9	0.0	3.4	17.2	6.9	0.0	100.
24	10.7	0.0	3.6	3.6	14.3	7.1	3.6	0.0	14.3	0.0	3.6	7.1	0.0	10.7	14.3	7.1	0.0	100.
ALL	10.5	3.0	3.5	5.0	7.7	6.8	8.6	4.6	7.8	4.3	3.2	2.5	1.8	4.7	11.2	14.8	0.0	100.

NUMBER OF OBS = 677

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION APR-JUN 1993

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

MAY

HR. OF DAY	WIND DIRECTION																TOTAL	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		CALM
1	25	0	7	0	0	0	0	1	0	0	0	0	0	0	0	0	0	100
2	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
3	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
4	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
ALL	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100

NUMBER OF OBS = 735

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION APR-JUN 1993

PROGRAM: WINPER

VERSION: 2P

HOURLY WIND ROSES (PERCENT)

JUNE

WIND DIRECTION

HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	3.3	0.0	6.7	0.0	0.0	10.0	23.3	16.7	13.3	0.0	6.7	3.3	13.3	0.0	0.0	3.3	0.0	100.
2	3.3	0.0	6.7	0.0	0.0	3.3	20.0	23.3	6.7	10.0	3.3	3.3	10.0	3.3	3.3	3.3	0.0	100.
3	3.3	0.0	3.3	3.3	0.0	6.7	13.3	20.0	13.3	10.0	3.3	3.3	6.7	3.3	3.3	6.7	0.0	100.
4	0.0	3.3	3.3	0.0	6.7	10.0	13.3	13.3	13.3	10.0	6.7	6.7	3.3	3.3	0.0	6.7	0.0	100.
5	6.7	0.0	6.7	0.0	0.0	20.0	10.0	6.7	13.3	10.0	6.7	3.3	6.7	3.3	0.0	6.7	0.0	100.
6	3.3	3.3	6.7	3.3	10.0	10.0	10.0	10.0	16.7	3.3	3.3	6.7	0.0	0.0	3.3	10.0	0.0	100.
7	3.3	6.7	0.0	10.0	3.3	13.3	6.7	13.3	16.7	6.7	6.7	6.7	0.0	0.0	3.3	3.3	0.0	100.
8	3.3	3.3	0.0	3.3	6.7	10.0	10.0	3.3	16.7	13.3	6.7	6.7	3.3	3.3	3.3	6.7	0.0	100.
9	3.3	3.3	3.3	3.3	0.0	10.0	6.7	13.3	13.3	10.0	13.3	0.0	3.3	6.7	6.7	3.3	0.0	100.
10	6.7	6.7	6.7	0.0	3.3	0.0	6.7	13.3	20.0	10.0	6.7	0.0	3.3	10.0	0.0	6.7	0.0	100.
11	10.0	3.3	6.7	3.3	0.0	3.3	10.0	10.0	20.0	6.7	10.0	0.0	3.3	0.0	3.3	10.0	0.0	100.
12	0.0	3.3	3.3	6.7	3.3	6.7	16.7	6.7	13.3	10.0	6.7	3.3	0.0	6.7	3.3	10.0	0.0	100.
13	3.3	3.3	0.0	3.3	3.3	0.0	16.7	16.7	10.0	16.7	3.3	3.3	3.3	6.7	0.0	10.0	0.0	100.
14	3.3	6.7	0.0	3.3	3.3	0.0	20.0	13.3	16.7	10.0	6.7	0.0	3.3	6.7	3.3	3.3	0.0	100.
15	6.7	0.0	0.0	6.7	3.3	0.0	16.7	13.3	16.7	3.3	10.0	3.3	3.3	10.0	0.0	6.7	0.0	100.
16	10.0	0.0	6.7	3.3	0.0	0.0	13.3	16.7	13.3	10.0	6.7	3.3	6.7	6.7	0.0	3.3	0.0	100.
17	10.0	3.3	6.7	3.3	0.0	0.0	10.0	16.7	16.7	6.7	6.7	3.3	3.3	3.3	3.3	3.3	0.0	100.
18	6.7	6.7	3.3	6.7	0.0	0.0	13.3	13.3	10.0	10.0	3.3	6.7	6.7	3.3	6.7	3.3	0.0	100.
19	10.0	0.0	6.7	6.7	0.0	0.0	10.0	20.0	10.0	3.3	6.7	3.3	3.3	13.3	3.3	3.3	0.0	100.
20	6.7	3.3	0.0	10.0	6.7	6.7	13.3	16.7	6.7	10.0	3.3	0.0	6.7	3.3	0.0	6.7	0.0	100.
21	10.0	0.0	3.3	6.7	3.3	10.0	10.0	16.7	10.0	10.0	3.3	3.3	6.7	3.3	0.0	3.3	0.0	100.
22	10.0	0.0	6.7	0.0	10.0	13.3	10.0	10.0	13.3	3.3	10.0	3.3	6.7	0.0	0.0	3.3	0.0	100.
23	13.3	3.3	0.0	3.3	3.3	16.7	16.7	6.7	13.3	6.7	3.3	10.0	3.3	0.0	0.0	0.0	0.0	100.
24	3.3	3.3	6.7	0.0	0.0	13.3	20.0	13.3	13.3	3.3	3.3	6.7	10.0	0.0	0.0	3.3	0.0	100.
ALL	5.8	6	3.9	3.6	2.8	6.8	13.2	13.5	13.6	8.1	6.1	3.9	4.9	4.0	1.9	5.3	0.0	100.

NUMBER OF OBS = 720

NPPD-COOPER NUCLEAR STATION 100-M WIND DIRECTION APR-JUN 1993

PROGRAM: WINPER

VERSION: 2P

HOURLY WIND ROSES (PERCENT)

APR-JUN

HR. OF DAY	WIND DIRECTION																CALM	TOTAL
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		
1	12.5	2.3	5.7	2.3	3.4	6.8	10.2	11.4	11.4	4.5	4.5	3.4	5.7	3.4	4.5	8.0	0.0	100.
2	11.4	2.3	5.7	1.1	5.7	2.3	11.4	11.4	8.0	10.2	4.5	2.3	4.5	3.4	4.5	11.4	0.0	100.
3	10.2	4.5	3.4	3.4	4.5	4.5	9.1	8.0	12.5	9.1	2.3	4.5	2.3	4.5	6.8	10.2	0.0	100.
4	6.8	5.7	4.5	3.4	4.5	4.5	10.2	6.8	12.5	8.0	3.4	4.5	3.4	3.4	6.8	11.4	0.0	100.
5	7.9	2.2	3.4	5.6	3.4	11.2	4.5	4.5	12.4	9.1	3.4	3.4	4.5	5.7	6.7	12.4	0.0	100.
6	5.6	4.5	3.4	3.4	7.9	9.0	5.6	6.7	13.5	5.6	4.5	4.5	1.1	4.5	4.5	15.7	0.0	100.
7	9.0	4.5	1.1	4.5	2.2	12.4	6.7	6.7	12.4	6.7	6.7	2.2	2.2	3.4	9.0	10.1	0.0	100.
8	6.8	2.3	2.3	1.1	5.7	12.5	10.2	3.4	10.2	8.0	6.8	3.4	1.1	4.5	6.8	14.8	0.0	100.
9	10.2	3.4	2.3	3.4	6.8	6.8	9.1	5.7	10.2	8.0	6.8	3.4	2.3	3.4	10.2	8.0	0.0	100.
10	9.1	4.5	2.3	3.4	6.8	4.5	5.7	10.2	12.5	4.5	6.8	1.1	2.3	5.7	5.7	14.8	0.0	100.
11	10.2	2.3	3.4	5.7	4.5	2.3	10.2	7.1	11.4	4.5	6.8	1.1	3.4	2.3	8.0	14.8	0.0	100.
12	9.1	2.3	4.5	4.5	3.4	4.5	12.5	8.0	9.1	9.1	3.4	1.1	0.0	4.5	8.0	15.9	0.0	100.
13	6.7	3.4	3.4	3.4	2.2	3.4	12.4	11.2	4.5	14.6	2.2	1.1	2.2	5.6	6.7	16.9	0.0	100.
14	5.6	3.3	3.3	3.3	2.2	2.2	13.3	7.8	14.4	7.8	5.6	0.0	1.1	5.6	5.6	18.9	0.0	100.
15	11.1	3.3	1.1	5.6	2.2	1.1	13.3	8.9	12.2	7.8	4.4	2.2	2.2	4.4	8.9	11.1	0.0	100.
16	15.6	0.0	6.7	2.2	1.1	0.0	14.4	8.9	11.1	8.9	5.6	2.2	4.4	2.2	6.7	10.0	0.0	100.
17	12.2	4.4	4.4	2.2	1.1	4.4	10.0	8.9	13.3	3.3	6.7	4.4	1.1	4.4	5.6	13.3	0.0	100.
18	12.2	4.4	3.3	4.4	1.1	2.2	10.0	11.1	10.0	5.6	3.3	3.3	4.4	3.3	7.8	13.3	0.0	100.
19	12.4	3.4	5.6	3.4	2.2	2.2	7.9	15.7	7.9	3.4	5.6	3.4	2.2	6.7	7.9	10.1	0.0	100.
20	14.6	3.4	1.1	6.7	3.4	5.6	10.1	12.4	7.9	6.7	2.2	4.5	4.5	3.4	3.4	10.1	0.0	100.
21	13.5	6.7	4.5	5.6	2.2	7.9	7.9	11.2	9.0	7.9	4.5	3.4	2.2	3.4	3.4	6.7	0.0	100.
22	16.9	3.4	7.9	4.5	4.5	6.7	7.9	11.2	7.9	5.6	7.9	1.1	3.4	3.4	3.4	4.5	0.0	100.
23	16.7	3.3	1.1	4.4	7.8	6.7	11.1	6.7	10.0	7.8	4.4	5.6	1.1	3.3	5.6	4.4	0.0	100.
24	13.6	3.4	4.5	2.3	5.7	6.8	9.1	10.2	11.4	4.5	3.4	6.8	3.4	4.5	4.5	5.7	0.0	100.
ALL	10.8	3.5	3.7	3.8	3.9	5.4	9.7	9.0	10.6	7.1	4.8	3.0	2.7	4.1	6.3	11.4	0.0	100.

NUMBER OF OBS = 2132

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

PROGRAM: WINPER
VERSION: 2P

HOURLY WIND ROSES (PERCENT)

JAN-JUN

WIND DIRECTION																		
HR. OF DAY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
1	12.4	5.6	4.5	1.1	3.4	10.1	7.9	7.9	8.4	5.6	4.5	1.7	6.2	5.1	4.5	11.2	0.0	100.
2	10.1	5.1	6.2	1.1	3.9	7.3	8.4	7.9	6.2	7.9	5.6	1.7	4.5	3.9	8.4	11.8	0.0	100.
3	9.6	6.7	4.5	2.8	2.8	7.9	7.9	6.2	9.0	6.2	3.9	3.4	2.8	6.2	8.4	11.8	0.0	100.
4	8.4	7.3	5.6	2.2	3.4	7.3	9.0	5.1	9.0	5.6	4.5	4.5	2.8	5.1	8.4	11.8	0.0	100.
5	8.9	4.5	3.9	5.6	2.2	10.1	6.7	3.9	8.4	6.1	4.5	3.9	5.6	4.5	8.4	12.8	0.0	100.
6	4.5	5.0	4.5	4.5	5.6	9.5	7.3	3.9	9.5	3.9	5.6	4.5	3.4	4.5	7.8	16.2	0.0	100.
7	7.3	3.4	4.5	5.6	2.8	8.9	10.6	3.9	7.8	3.9	7.3	2.2	4.5	4.5	9.5	13.4	0.0	100.
8	5.6	2.8	5.6	1.7	4.5	11.8	10.7	2.2	7.3	5.1	4.5	5.6	2.2	5.6	10.1	14.6	0.0	100.
9	7.9	4.5	3.4	3.9	5.1	7.3	9.6	5.1	5.6	6.2	5.6	3.9	2.8	4.5	11.8	12.9	0.0	100.
10	7.9	5.1	3.9	3.9	5.6	5.6	6.2	8.4	7.9	4.5	5.1	2.2	2.8	5.6	9.0	16.3	0.0	100.
11	9.0	3.9	6.7	3.9	3.9	4.5	10.1	6.7	7.3	5.1	5.1	1.7	2.2	5.6	8.4	15.7	0.0	100.
12	7.3	3.4	6.7	3.9	3.4	3.9	11.8	6.7	6.2	8.4	3.4	1.7	1.1	6.7	9.6	15.7	0.0	100.
13	6.7	5.6	5.0	2.8	2.2	5.6	7.8	10.1	5.6	8.9	3.4	2.8	2.8	6.7	9.5	14.5	0.0	100.
14	7.8	6.1	3.3	3.9	2.8	3.3	8.9	6.1	11.7	6.7	5.6	1.1	2.2	8.3	7.8	14.4	0.0	100.
15	10.1	4.5	2.2	5.6	3.4	3.4	9.5	5.6	10.1	5.6	5.0	2.8	3.4	5.6	11.7	11.7	0.0	100.
16	11.2	4.5	4.5	3.4	2.2	2.2	16.1	8.9	7.3	6.7	5.0	2.8	3.4	4.5	9.5	14.6	0.0	100.
17	9.6	7.9	2.2	4.5	3.4	3.4	9.0	7.3	8.4	4.5	5.6	3.9	1.7	4.5	9.0	15.2	0.0	100.
18	11.4	5.7	3.4	5.1	4.0	3.4	9.1	8.0	5.7	5.7	4.0	2.8	4.5	2.8	9.1	15.2	0.0	100.
19	14.1	4.5	4.5	4.0	5.6	4.5	8.5	9.0	6.8	4.5	4.0	2.3	2.3	6.8	9.6	9.0	0.0	100.
20	15.3	3.4	2.8	6.8	5.1	6.8	9.0	7.3	7.3	5.1	2.8	2.8	4.0	3.4	6.8	11.3	0.0	100.
21	13.5	6.2	3.4	5.6	5.6	7.3	9.6	6.2	7.9	6.2	4.5	2.2	1.1	6.2	5.1	9.6	0.0	100.
22	12.8	5.6	6.1	3.9	3.4	10.6	9.5	6.1	6.7	5.0	5.6	1.7	2.2	5.0	4.5	11.2	0.0	100.
23	15.6	3.9	2.8	3.3	6.1	7.8	11.7	5.6	8.3	6.1	3.3	3.9	1.1	6.1	5.6	8.9	0.0	100.
24	13.5	4.5	4.5	1.7	2.8	5.6	9.6	6.7	9.6	4.5	3.9	3.9	3.4	6.7	3.9	11.2	0.0	100.
ALL	10.0	5.0	4.4	3.8	3.9	6.8	9.1	6.5	7.8	5.7	4.7	2.9	3.0	5.4	8.2	12.9	0.0	100.

NUMBER OF OBS = 4279

Precipitation

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JAN-MAR 1993

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
93	1	1	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	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	0.01 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.01
93	1	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	0.03 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.03
93	1	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	0.04 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.04
93	1	5	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	6	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	7	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	8	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	9	0.00 0.00	0.05 0.00	0.05 0.00	0.05 0.05	0.03 0.05	0.00 0.05	0.00 0.04	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.27
93	1	10	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 0.00	0.00 0.00	0.00 0.03	0.00 0.00	0.05
93	1	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	0.03 0.00	0.05
93	1	12	0.09 0.05	0.00 0.05	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.05 0.07	0.05 0.00	0.20
93	1	13	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	14	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	15	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	16	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	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 JAN-MAR 1993

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
93	1	18	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	19	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	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	0.24
93	1	21	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	22	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	23	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	24	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	25	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	26	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	27	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	28	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	29	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	30	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	1	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 JAN-MAR 1993

RAIN VERSION # 2P

MONTH OF JANUARY

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744
 NUMBER OF MISSING HOURS - 0
 TOTAL HOURS OF PRECIPITATION - 23
 TOTAL DAYS WITH PRECIPITATION - 10
 TOTAL AMOUNT OF PRECIPITATION - 1.06 INCHES
 MAXIMUM 1-HOUR PRECIPITATION - 0.08 INCHES
 MAXIMUM DAILY PRECIPITATION - 0.37 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT	PRECIPITATION STARTS DAY	20 HOUR 15 -	0.08 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT	PRECIPITATION STARTS DAY	12 HOUR 11 -	0.20 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT	PRECIPITATION STARTS DAY	20 HOUR 6 -	0.24 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT	PRECIPITATION STARTS DAY	9 HOUR 2 -	0.37 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT	PRECIPITATION STARTS DAY	9 HOUR 2 -	0.37 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 611
 NUMBER OF MISSING HOURS - 0
 TOTAL HOURS OF PRECIPITATION - 21
 TOTAL DAYS WITH PRECIPITATION - 8
 TOTAL AMOUNT OF PRECIPITATION - 0.97 INCHES
 MAXIMUM 1-HOUR PRECIPITATION - 0.08 INCHES
 MAXIMUM DAILY PRECIPITATION - 0.37 INCHES

MONTH OF JANUARY

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)			
	1	12	18	24
0.01	23	158	212	248
0.02	22	146	194	224
0.03	21	137	185	220
0.04	16	92	133	173
0.05	14	46	114	149
0.07	3	36	80	108
0.10	0	22	69	88
0.15	0	16	65	84
0.20	0	3	31	54
0.25	0	0	5	11
0.30	0	0	3	9
0.35	0	0	1	7
0.40	0	0	0	0
0.45	0	0	0	0
0.50	0	0	0	0
0.60	0	0	0	0
0.70	0	0	0	0
0.80	0	0	0	0
0.90	0	0	0	0
1.00	0	0	0	0
1.10	0	0	0	0
1.20	0	0	0	0
1.30	0	0	0	0
1.40	0	0	0	0
1.50	0	0	0	0
1.60	0	0	0	0
1.70	0	0	0	0
1.80	0	0	0	0
1.90	0	0	0	0
2.00	0	0	0	0

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

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JAN-MAR 1993

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
93	2	1	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	2	2	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	2	3	0.00 0.00	0.17 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.17
93	2	4	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	2	5	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	2	6	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	2	7	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	2	8	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	2	9	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 0.00	0.00 0.00	0.03
93	2	10	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	2	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	0.10 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.11 0.00	0.21
93	2	12	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	0.00 0.00	0.03
93	2	13	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	2	14	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	2	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	0.06 0.00	0.00 0.00	0.00 0.00	0.06
93	2	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	0.09 0.00	0.00 0.00	0.09
93	2	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 JAN-MAR 1993

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
93	2	18	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	2	19	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	2	20	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	2	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	0.05 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.05
93	2	22	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	2	23	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	2	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	0.03 0.00	0.03
93	2	25	0.00 0.13	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	0.10 0.00	0.13 0.00	0.00 0.00	0.00 0.00	0.46
93	2	26	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	2	27	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	2	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

NPFD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JAN-MAR 1993

MONTH OF FEBRUARY

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 672
 NUMBER OF MISSING HOURS - 0
 TOTAL HOURS OF PRECIPITATION - 13
 TOTAL DAYS WITH PRECIPITATION - 9
 TOTAL AMOUNT OF PRECIPITATION - 1.13 INCHES
 MAXIMUM 1-HOUR PRECIPITATION - 0.17 INCHES
 MAXIMUM DAILY PRECIPITATION - 0.46 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT	PRECIPITATION STARTS DAY	3 HOUR	2 -	0.17 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT	PRECIPITATION STARTS DAY	25 HOUR	9 -	0.46 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT	PRECIPITATION STARTS DAY	25 HOUR	9 -	0.46 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT	PRECIPITATION STARTS DAY	25 HOUR	9 -	0.46 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT	PRECIPITATION STARTS DAY	25 HOUR	9 -	0.46 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 498
 NUMBER OF MISSING HOURS - 0
 TOTAL HOURS OF PRECIPITATION - 10
 TOTAL DAYS WITH PRECIPITATION - 7
 TOTAL AMOUNT OF PRECIPITATION - 0.75 INCHES
 MAXIMUM 1-HOUR PRECIPITATION - 0.13 INCHES
 MAXIMUM DAILY PRECIPITATION - 0.46 INCHES

MONTH OF FEBRUARY

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
0.01	13	63	117	171	222
0.02	13	63	117	171	222
0.03	13	63	117	171	222
0.04	10	45	81	117	153
0.05	10	45	81	117	153
0.07	8	33	57	81	105
0.10	7	27	45	63	81
0.15	1	17	35	53	71
0.20	0	11	23	35	47
0.25	0	3	9	15	23
0.30	0	3	9	15	21
0.35	0	3	9	15	21
0.40	0	1	7	13	19
0.45	0	1	7	13	19
0.50	0	0	0	0	0
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	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

RAIN VERSION # 29

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JAN-MAR 1993

YR	MON	DAY	1AM 1PM	2AM 2PM	3AM 3PM	4AM 4PM	5AM 5PM	6AM 6PM	7AM 7PM	8AM 8PM	9AM 9PM	10AM 10PM	11AM 11PM	12N 12MDNT	TOTAL
93	3	1	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	2	0.00 0.00	0.12 0.00	0.12 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	0.60
93	3	3	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 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.03
93	3	4	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	5	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	6	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	7	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	8	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	9	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	10	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	11	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	12	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	13	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	14	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	15	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	16	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	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 JAN-MAR 1993

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
93	3	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	0.05 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.05
93	3	19	0.07 0.00	0.07 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	0.21
93	3	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	0.08
93	3	21	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	22	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	23	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	24	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	25	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	26	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	27	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	28	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	29	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	3	30	0.07 0.00	0.18 0.00	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 0.07	0.00 0.00	0.00 0.07	0.00 0.07	0.58
93	3	31	0.16 0.00	0.31 0.00	0.31 0.00	0.16 0.00	0.16 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	1.42

NPPD-COOPER NUCLEAR STATION PERCIPITATION DATA FOR JAN-MAR 1993

RAIN VERSION # 2P

MONTH OF MARCH

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744
 NUMBER OF MISSING HOURS - 0
 TOTAL HOURS OF PRECIPITATION - 24
 TOTAL DAYS WITH PRECIPITATION - 7
 TOTAL AMOUNT OF PRECIPITATION - 2.97 INCHES
 MAXIMUM 1-HOUR PRECIPITATION - 0.31 INCHES
 MAXIMUM DAILY PRECIPITATION - 1.42 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 31 HOUR 3 - 0.31 INCHES
 6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 31 HOUR 1 - 1.26 INCHES
 12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 30 HOUR 21 - 1.47 INCHES
 18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 30 HOUR 18 - 1.59 INCHES
 24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY 30 HOUR 18 - 1.75 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 176
 NUMBER OF MISSING HOURS - 0
 TOTAL HOURS OF PRECIPITATION - 4
 TOTAL DAYS WITH PRECIPITATION - 2
 TOTAL AMOUNT OF PRECIPITATION - 0.26 INCHES
 MAXIMUM 1-HOUR PRECIPITATION - 0.07 INCHES
 MAXIMUM DAILY PRECIPITATION - 0.21 INCHES

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR JAN-MAR 1993

RAIN VERSION # 2P

MONTH OF MARCH

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
0.01	24	69	112	145	163
0.02	24	69	112	145	163
0.03	24	69	112	145	163
0.04	23	63	100	128	146
0.05	23	63	100	128	146
0.07	22	57	88	110	128
0.10	14	48	73	89	102
0.15	8	39	64	83	99
0.20	2	29	54	79	95
0.25	2	22	42	61	76
0.30	2	16	30	44	55
0.35	0	15	27	41	55
0.40	0	12	25	38	50
0.45	0	12	25	38	48
0.50	0	7	19	32	45
0.60	0	7	19	32	42
0.70	0	6	13	19	23
0.80	0	5	12	19	23
0.90	0	5	11	18	22
1.00	0	4	11	17	22
1.10	0	3	11	17	22
1.20	0	1	9	16	21
1.30	0	0	7	14	20
1.40	0	0	6	14	20
1.50	0	0	0	6	17
1.60	0	0	0	0	4
1.70	0	0	0	0	1
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

ANNUAL INDEX

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 2160
 NUMBER OF MISSING HOURS - 0
 TOTAL HOURS OF PRECIPITATION - 60
 TOTAL DAYS WITH PRECIPITATION - 26
 TOTAL AMOUNT OF PRECIPITATION - 5.16 INCHES
 MAXIMUM 1-HOUR PRECIPITATION - 0.31 INCHES
 MAXIMUM DAILY PRECIPITATION - 1.42 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT	PRECIPITATION STARTS MONTH	3 DAY 31 HOUR	3 -	0.31 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT <td>PRECIPITATION STARTS MONTH <td>3 DAY 31 HOUR <td>1 - <td>1.26 INCHES</td> </td></td></td>	PRECIPITATION STARTS MONTH <td>3 DAY 31 HOUR <td>1 - <td>1.26 INCHES</td> </td></td>	3 DAY 31 HOUR <td>1 - <td>1.26 INCHES</td> </td>	1 - <td>1.26 INCHES</td>	1.26 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT <td>PRECIPITATION STARTS MONTH <td>3 DAY 30 HOUR <td>21 - <td>1.47 INCHES</td> </td></td></td>	PRECIPITATION STARTS MONTH <td>3 DAY 30 HOUR <td>21 - <td>1.47 INCHES</td> </td></td>	3 DAY 30 HOUR <td>21 - <td>1.47 INCHES</td> </td>	21 - <td>1.47 INCHES</td>	1.47 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT <td>PRECIPITATION STARTS MONTH <td>3 DAY 30 HOUR <td>18 - <td>1.59 INCHES</td> </td></td></td>	PRECIPITATION STARTS MONTH <td>3 DAY 30 HOUR <td>18 - <td>1.59 INCHES</td> </td></td>	3 DAY 30 HOUR <td>18 - <td>1.59 INCHES</td> </td>	18 - <td>1.59 INCHES</td>	1.59 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT <td>PRECIPITATION STARTS MONTH <td>3 DAY 30 HOUR <td>18 - <td>1.75 INCHES</td> </td></td></td>	PRECIPITATION STARTS MONTH <td>3 DAY 30 HOUR <td>18 - <td>1.75 INCHES</td> </td></td>	3 DAY 30 HOUR <td>18 - <td>1.75 INCHES</td> </td>	18 - <td>1.75 INCHES</td>	1.75 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FAHRENHEIT

TOTAL NUMBER OF HOURS - 1285
 NUMBER OF MISSING HOURS - 0
 TOTAL HOURS OF PRECIPITATION - 35
 TOTAL DAYS WITH PRECIPITATION - 17
 TOTAL AMOUNT OF PRECIPITATION - 1.98 INCHES
 MAXIMUM 1-HOUR PRECIPITATION - 0.13 INCHES
 MAXIMUM DAILY PRECIPITATION - 0.46 INCHES

ANNUAL INDEX

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
0.01	60	222	387	528	633
0.02	59	216	375	510	609
0.03	58	210	366	501	605
0.04	49	161	273	378	472
0.05	47	154	260	359	448
0.07	33	126	206	271	341
0.10	21	97	167	221	271
0.15	9	72	142	201	254
0.20	2	43	89	145	196
0.25	2	25	51	81	110
0.30	2	19	39	62	85
0.35	0	18	36	57	83
0.40	0	13	32	51	69
0.45	0	13	32	51	67
0.50	0	7	19	32	45
0.60	0	7	19	32	42
0.70	0	6	13	19	23
0.80	0	5	12	19	23
0.90	0	5	11	18	22
1.00	0	4	11	17	22
1.10	0	3	11	17	22
1.20	0	1	9	16	21
1.30	0	0	7	14	20
1.40	0	0	6	14	20
1.50	0	0	0	6	17
1.60	0	0	0	0	4
1.70	0	0	0	0	1
1.80	0	0	0	0	0
1.90	0	0	0	0	0
2.00	0	0	0	0	0

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR APR-JUN 1993

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
93	4	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	0.16
93	4	2	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	4	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	0.16
93	4	4	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	4	5	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	4	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	0.02
93	4	7	0.00 0.10	0.00 0.14	0.00 0.10	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.34
93	4	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	0.02
93	4	9	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	4	10	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	4	11	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	4	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	0.02
93	4	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	0.06
93	4	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	0.04
93	4	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	0.04
93	4	16	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	4	17	0.10 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.10 0.00	0.20

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR APR-JUN 1993

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
93	4	18	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	4	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	0.05 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.05
93	4	20	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 0.00	0.16
93	4	21	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	4	22	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	4	23	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	4	24	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	4	25	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	4	26	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	4	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	0.03 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.03
93	4	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	0.01 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.01
93	4	29	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	4	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	0.08

NPPD-COOPER NUCLEAR STATION PERCIPITATION DATA FOR APR-JUN 1993

RAIN VERSION # 2P

MONTH OF APRIL

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 720
 NUMBER OF MISSING HOURS - 0
 TOTAL HOURS OF PRECIPITATION - 21
 TOTAL DAYS WITH PRECIPITATION - 15
 TOTAL AMOUNT OF PRECIPITATION - 1.41 INCHES
 MAXIMUM 1-HOUR PRECIPITATION - 0.14 INCHES
 MAXIMUM DAILY PRECIPITATION - 0.34 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY	7 HOUR 14 -	0.14 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY	HOUR 13 -	0.34 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY	7 HOUR 13 -	0.34 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY	7 HOUR 13 -	0.36 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS DAY	7 HOUR 13 -	0.36 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 30
 NUMBER OF MISSING HOURS - 0
 TOTAL HOURS OF PRECIPITATION - 2
 TOTAL DAYS WITH PRECIPITATION - 1
 TOTAL AMOUNT OF PRECIPITATION - 0.16 INCHES
 MAXIMUM 1-HOUR PRECIPITATION - 0.08 INCHES
 MAXIMUM DAILY PRECIPITATION - 0.16 INCHES

NPPD-COOPER NUCLEAR STATION PERCIPITATION DATA FOR APR-JUN 1993

RAIN VERSION # 2P

MONTH OF APRIL

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)			
	1	6	12	18
0.01	21	99	188	264
0.02	20	93	176	246
0.03	17	75	140	195
0.04	16	69	128	177
0.05	15	63	116	161
0.07	12	45	80	109
0.10	5	34	63	89
0.15	0	20	39	63
0.20	0	6	13	25
0.25	0	4	10	17
0.30	0	4	10	16
0.35	0	0	0	1
0.40	0	0	0	0
0.45	0	0	0	0
0.50	0	0	0	0
0.60	0	0	0	0
0.70	0	0	0	0
0.80	0	0	0	0
0.90	0	0	0	0
1.00	0	0	0	0
1.10	0	0	0	0
1.20	0	0	0	0
1.30	0	0	0	0
1.40	0	0	0	0
1.50	0	0	0	0
1.60	0	0	0	0
1.70	0	0	0	0
1.80	0	0	0	0
1.90	0	0	0	0
2.00	0	0	0	0

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

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR APR-JUN 1993

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
93	5	1	0.00 0.00	0.00 0.10	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	0.17
93	5	2	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.10 0.00	0.20 0.00	0.10 0.00	0.03 0.00	0.10 0.00	0.00 0.00	0.00 0.00	0.53
93	5	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	0.01 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.01
93	5	4	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	5	5	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	5	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 0.30	0.00 0.10	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.40
93	5	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 0.30	0.30
93	5	8	0.42 0.00	0.15 0.00	0.15 0.00	0.15 0.00	0.00 0.00	0.00 0.15	0.15 0.00	0.00 0.13	0.00 0.00	0.00 0.00	0.15 0.00	0.26 0.00	1.71
93	5	9	0.00 0.00	0.00 0.00	0.00 0.10	0.00 0.40	0.00 0.10	0.00 0.10	0.00 0.10	0.00 0.10	0.00 0.05	0.00 0.10	0.00 0.00	0.00 0.00	1.05
93	5	10	0.00 0.00	0.02 0.00	0.10 0.10	0.10 0.10	0.10 0.10	0.10 0.10	0.10 0.10	0.00 0.00	0.00 0.10	0.00 0.10	0.00 0.10	0.00 0.10	1.42
93	5	11	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.60	0.07 0.00	0.10 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	0.37
93	5	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	0.05 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.05
93	5	13	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	5	14	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	5	15	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	5	16	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	5	17	0.00 0.00	2.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.05

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR APR-JUN 1993

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
93	5	18	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	5	19	0.00 0.10	0.00 0.10	0.00 0.02	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.10 0.00	0.32
93	5	20	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	5	21	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	5	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	0.10 0.00	0.05 0.00	0.00 0.00	0.15
93	5	23	0.10 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	0.00 0.00	0.00 0.00	0.00 0.00	0.22
93	5	24	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	5	25	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	5	26	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	5	27	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 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.06
93	5	28	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	5	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	0.03 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.03
93	5	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	0.02 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.02
93	5	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 APR-JUN 1993

MONTH OF MAY

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 744
 NUMBER OF MISSING HOURS - 0
 TOTAL HOURS OF PRECIPITATION - 60
 TOTAL DAYS WITH PRECIPITATION - 17
 TOTAL AMOUNT OF PRECIPITATION - 6.66 INCHES
 MAXIMUM 1-HOUR PRECIPITATION - 0.42 INCHES
 MAXIMUM DAILY PRECIPITATION - 1.71 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT	PRECIPITATION STARTS DAY	8 HOUR	1 -	0.42 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT	PRECIPITATION STARTS DAY	7 HOUR	24 -	1.17 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT	PRECIPITATION STARTS DAY	7 HOUR	24 -	1.47 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT	PRECIPITATION STARTS DAY	7 HOUR	24 -	1.73 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT	PRECIPITATION STARTS DAY	7 HOUR	24 -	2.01 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

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

MONTH OF MAY

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
0.01	60	156	242	315	372
0.02	59	150	230	297	351
0.03	56	143	217	278	326
0.04	54	137	205	260	302
0.05	54	137	205	260	302
0.07	49	118	168	206	231
0.10	47	117	167	206	231
0.15	12	97	149	193	222
0.20	6	81	127	167	201
0.25	5	69	114	149	183
0.30	4	62	108	138	175
0.35	2	48	94	119	150
0.40	2	49	89	114	138
0.45	0	27	75	95	114
0.50	0	25	74	92	112
0.60	0	12	49	75	94
0.70	0	10	38	68	87
0.80	0	8	27	61	79
0.90	0	4	22	53	72
1.00	0	3	17	42	67
1.10	0	2	9	27	60
1.20	0	0	6	19	50
1.30	0	0	6	17	34
1.40	0	0	2	12	27
1.50	0	0	0	9	22
1.60	0	0	0	6	13
1.70	0	0	0	6	13
1.80	0	0	0	0	6
1.90	0	0	0	0	4
2.00	0	0	0	0	4

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

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR APR-JUN 1993

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 12MDNY	TOTAL
93	6	1	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	6	2	0.10 0.00	0.10 0.00	0.08 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.28
93	6	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 0.02	0.02
93	6	4	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.10 0.00	0.00 0.00	0.02 0.00	0.10 0.00	0.10 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.32
93	6	5	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	6	6	0.00 0.00	0.00 0.00	0.10 0.00	0.03 0.00	0.10 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	0.33
93	6	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	0.05 0.00	0.00 0.00	0.05
93	6	8	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	6	9	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	6	10	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	6	11	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	6	12	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	6	13	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	0.00 0.10	0.00 0.02	0.00 0.00	0.00 0.00	0.00 0.00	0.32
93	6	14	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	6	15	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	6	16	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	6	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 0.10	0.10

NPPD-COOPER NUCLEAR STATION PRECIPITATION DATA FOR APR-JUN 1993

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
93	6	18	0.05 0.00	0.06 0.00	0.05 0.30	0.05 0.60	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	1.16
93	6	19	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.10 0.00	0.10 0.00	0.08 0.00	0.10 0.00	0.20 0.00	0.00 0.00	0.00 0.00	0.58
93	6	20	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	6	21	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	6	22	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	6	23	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	6	24	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.10 0.00	0.02 0.00	0.10 0.00	0.10 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.32
93	6	25	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	6	26	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	6	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 0.02	0.02
93	6	28	0.10 0.00	0.10 0.00	0.10 0.00	0.02 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.32
93	6	29	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00
93	6	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 APR-JUN 1993

RAIN VERSION # 2P

MONTH OF JUNE

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS -	720	
NUMBER OF MISSING HOURS -	0	
TOTAL HOURS OF PRECIPITATION -	39	
TOTAL DAYS WITH PRECIPITATION -	12	
TOTAL AMOUNT OF PRECIPITATION -	3.82 INCHES	
MAXIMUM 1-HOUR PRECIPITATION -	0.60 INCHES	
MAXIMUM DAILY PRECIPITATION -	1.16 INCHES	
1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY	18 HOUR	16 - 0.60 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY	18 HOUR	15 - 0.90 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY	18 HOUR	8 - 0.95 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY	17 HOUR	24 - 1.26 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS DAY	18 HOUR	15 - 1.48 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

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

MONTH OF JUNE

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
0.01	39	100	155	205	253
0.02	39	100	155	205	253
0.03	33	92	147	197	245
0.04	32	92	147	197	245
0.05	32	92	147	197	245
0.07	26	82	135	179	221
0.10	24	81	134	178	220
0.15	3	60	114	159	201
0.20	3	56	111	157	199
0.25	2	34	89	137	179
0.30	2	28	76	120	156
0.35	1	11	28	42	48
0.40	1	9	22	34	40
0.45	1	9	21	34	40
0.50	1	8	20	33	39
0.60	1	6	12	17	25
0.70	0	5	11	18	24
0.80	0	5	11	18	24
0.90	0	5	11	18	24
1.00	0	0	0	9	22
1.10	0	0	0	6	19
1.20	0	0	0	2	14
1.30	0	0	0	0	5
1.40	0	0	0	0	5
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

ANNUAL INDEX

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 2184
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 120
TOTAL DAYS WITH PRECIPITATION - 44
TOTAL AMOUNT OF PRECIPITATION - 12.09 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 0.60 INCHES
MAXIMUM DAILY PRECIPITATION - 1.71 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	6 DAY 16 HOUR 16	-	0.60 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	5 DAY 7 HOUR 24	-	1.17 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	5 DAY 7 HOUR 24	-	1.47 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	5 DAY 7 HOUR 24	-	1.73 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PRECIPITATION STARTS MONTH	5 DAY 7 HOUR 24	-	2.01 INCHES

IR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 30
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 2
TOTAL DAYS WITH PRECIPITATION - 1
TOTAL AMOUNT OF PRECIPITATION - 0.16 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 0.08 INCHES
MAXIMUM DAILY PRECIPITATION - 0.16 INCHES

ANNUAL INDEX

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
0.01	120	355	585	791	967
0.02	118	343	561	755	922
0.03	106	310	504	677	831
0.04	102	298	480	641	783
0.05	101	292	468	625	767
0.07	87	245	383	501	610
0.10	76	232	364	477	581
0.15	15	177	302	418	519
0.20	9	143	251	349	438
0.25	7	107	213	303	386
0.30	6	94	194	274	353
0.35	3	59	122	162	208
0.40	3	53	111	148	178
0.45	1	36	96	129	154
0.50	1	33	94	125	151
0.60	1	18	61	94	119
0.70	0	15	49	86	111
0.80	0	13	38	79	103
0.90	0	9	33	71	96
1.00	0	3	17	51	89
1.10	0	2	9	33	79
1.20	0	0	6	21	64
1.30	0	0	6	17	39
1.40	0	0	2	12	32
1.50	0	0	0	9	22
1.60	0	0	0	6	13
1.70	0	0	0	6	13
1.80	0	0	0	0	6
1.90	0	0	0	0	4
2.00	0	0	0	0	4

ANNUAL INDEX

FOR ALL TEMPERATURES

TOTAL NUMBER OF HOURS - 4344
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 180
TOTAL DAYS WITH PRECIPITATION - 70
TOTAL AMOUNT OF PRECIPITATION - 17.25 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 0.60 INCHES
MAXIMUM DAILY PRECIPITATION - 1.71 INCHES

1 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH	6 DAY 18 HOUR 16 -	0.60 INCHES
6 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH	3 DAY 31 HOUR 1 -	1.26 INCHES
12 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH	5 DAY 7 HOUR 24 -	1.47 INCHES
18 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH	5 DAY 7 HOUR 24 -	1.73 INCHES
24 HOUR PERIOD IN MONTH WITH GREATEST AMOUNT PERCIPITATION STARTS MONTH	5 DAY 7 HOUR 24 -	2.01 INCHES

FOR TEMPERATURES LESS THAN OR EQUAL TO 32 DEGREES FARENHEIT

TOTAL NUMBER OF HOURS - 1315
NUMBER OF MISSING HOURS - 0
TOTAL HOURS OF PRECIPITATION - 37
TOTAL DAYS WITH PRECIPITATION - 18
TOTAL AMOUNT OF PRECIPITATION - 2.14 INCHES
MAXIMUM 1-HOUR PRECIPITATION - 0.13 INCHES
MAXIMUM DAILY PRECIPITATION - 0.46 INCHES

ANNUAL INDEX

PRECIPITATION INTENSITY - DURATION
(NUMBER OF OCCURRENCES)

AMOUNT INCHES	DURATION (HOURS)				
	1	6	12	18	24
0.01	180	579	983	1336	1623
0.02	177	561	947	1282	1554
0.03	164	522	881	1195	1459
0.04	151	461	764	1036	1278
0.05	148	448	739	1001	1238
0.07	120	373	600	789	974
0.10	97	330	542	715	875
0.15	24	250	455	636	796
0.20	11	186	341	501	650
0.25	9	132	264	390	512
0.30	8	113	233	342	454
0.35	3	77	158	219	296
0.40	3	66	143	199	252
0.45	1	49	128	180	226
0.50	1	40	113	157	200
0.60	1	25	80	126	164
0.70	0	21	62	105	136
0.80	0	18	50	98	128
0.90	0	14	44	89	120
1.00	0	7	28	68	112
1.10	0	5	20	50	102
1.20	0	1	15	37	86
1.30	0	0	13	31	59
1.40	0	0	8	26	52
1.50	0	0	0	15	39
1.60	0	0	0	6	17
1.70	0	0	0	6	14
1.80	0	0	0	0	6
1.90	0	0	0	0	4
2.00	0	0	0	0	4

JOINT FREQUENCY DISTRIBUTION TABLES

The tables presented in this section are results obtained from processing of the hourly meteorological data collected at the Cooper Nuclear Station. The joint frequency distribution (JFD) tables represent the frequency of occurrence, in number of observations, that a particular wind speed, wind direction, and stability category occurred simultaneously. On a quarterly and semiannual basis, the JFDs were produced for wind speed and wind direction by atmospheric stability corresponding to the seven Pasquill stability classes, and for wind speed and wind direction for all stability categories combined. Atmospheric stability was classified per Regulatory Guide 1.23, using the 100-meter to 10-meter temperature difference (ΔT) for the 100-meter JFDs and the 60-meter to 10-meter ΔT for the 10-meter JFDs.

JFDs of 10-Meter Wind vs. Delta T

January-March 1993

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-MAR 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 3/31/93

*** JAN-MAR 1993 ***

STABILITY CLASS A

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
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	6	4	2	2	0	0	3	0	6	0	0	0	0	3	0	0	26
7.51-12.50	5	3	0	0	0	0	6	5	0	0	0	0	0	0	1	3	23
12.51-16.50	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
16.51-24.00	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	15	7	2	2	0	0	9	5	6	0	0	0	0	3	1	5	55

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																	
1.01- 3.50	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
3.51- 7.50	8	0	0	1	0	1	2	3	1	0	0	0	0	0	0	1	17
7.51-12.50	4	3	1	0	0	2	7	1	0	0	0	0	0	0	1	10	29
12.51-16.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	6
16.51-24.00	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	12	3	1	1	0	3	9	4	1	1	0	0	0	0	2	17	54

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-MAR 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 3/31/93

*** JAN-MAR 1993 ***

STABILITY CLASS C

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	1	0	0	0	0	1	2	0	0	0	0	0	0	1	0	5
3.51- 7.50	6	5	4	11	2	0	5	2	2	0	0	0	0	0	2	5	44
7.51-12.50	3	1	2	3	0	3	11	2	0	0	0	0	0	0	4	19	54
12.51-18.50	1	0	0	0	0	0	2	0	0	2	0	0	0	0	7	14	26
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	10	7	6	14	2	3	19	6	2	2	0	0	0	6	14	42	133

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	17	14	12	5	4	2	4	8	9	13	5	2	3	3	7	6	114
3.51- 7.50	75	46	32	33	34	35	54	23	37	22	22	21	19	22	23	36	534
7.51-12.50	39	54	21	14	26	18	55	8	23	10	7	5	3	40	51	105	479
12.51-18.50	12	2	0	0	0	0	3	0	0	2	1	0	0	19	28	31	98
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	1	1	5	7	14
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	5
TOTAL	143	116	65	52	64	55	116	39	69	47	35	28	26	85	116	188	1244

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-MAR 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 3/31/93

*** JAN-MAR 1993 ***

STABILITY CLASS E

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	18	12	8	3	2	7	10	11	14	5	0	5	2	8	10	12	127
3.51- 7.50	33	2	1	2	6	11	18	8	28	24	9	9	4	11	14	14	194
7.51-12.50	2	0	0	0	0	0	5	5	7	10	6	7	8	8	12	9	79
12.51-18.50	0	0	0	0	0	0	0	3	3	0	0	0	0	2	0	7	15
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	53	14	9	5	4	18	33	27	52	39	15	21	14	30	36	42	416

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	14	5	1	1	1	3	6	8	21	10	6	3	2	2	3	6	86
3.51- 7.50	0	0	1	0	0	0	4	2	8	5	0	1	1	2	1	3	28
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	2	6	1	1	0	10
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	14	5	2	1	1	3	4	10	29	15	6	6	9	5	5	9	124

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-MAR 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 3/31/93

*** JAN-MAR 1993 ***

STABILITY CLASS G

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
1.01- 3.50	5	5	1	3	2	6	6	16	13	5	2	2	1	0	1	4	72
3.51- 7.50	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	5	5	1	3	2	6	6	16	16	5	2	2	1	0	1	4	75

STABILITY CLASS ALL

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
1.01- 3.50	54	37	22	12	9	18	21	45	57	34	13	12	8	13	22	28	405
3.51- 7.50	128	57	40	49	42	47	86	38	85	51	31	31	24	38	40	59	846
7.51-12.50	53	61	24	17	26	23	84	21	30	20	13	14	17	55	70	146	674
12.51-18.50	17	2	0	0	0	0	5	3	3	4	1	0	0	21	36	58	150
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	1	2	5	13	21
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	5
TOTAL	252	157	86	78	77	88	196	107	175	109	58	57	50	129	175	307	2101

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-MAR 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 3/31/93

*** JAN-MAR 1993 ***

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

TOTAL NUMBER OF OBSERVATIONS: 2160

TOTAL NUMBER OF VALID OBSERVATIONS: 2101

TOTAL NUMBER OF MISSING OBSERVATIONS: 59

PERCENT DATA RECOVERY FOR THIS PERIOD: 97.3 %

MEAN WIND SPEED FOR THIS PERIOD: 7.1 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
2.62	2.57	6.33	59.21	19.80	5.90	3.57

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	2	2	0	0	9	5	6	0	0	0	0	3	1	5	0
B	12	3	1	1	0	3	9	4	1	1	0	0	0	0	2	17	0
C	10	7	6	14	2	3	19	6	2	2	0	0	0	6	14	42	0
D	143	116	65	52	64	55	116	39	69	47	35	28	26	85	116	108	0
E	53	14	9	5	8	18	33	27	52	39	15	21	14	30	36	42	0
F	14	5	2	1	1	3	4	10	29	15	6	6	9	5	5	9	0
G	5	5	1	3	2	6	6	16	16	5	2	2	1	0	1	4	0
TOTAL	252	157	86	78	77	88	196	107	175	109	58	57	50	129	175	307	0

JFDs of 10-Meter Wind vs. Delta T

April-June 1993

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T APR-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAM: 4/ 1/93 - 6/30/93

*** APR-JUN 1993 ***

STABILITY CLASS A

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.01- 3.50	1	1	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0
3.51- 7.50	11	6	3	5	2	1	6	2	6	6	3	0	1	1	1	7	63
7.51-12.50	9	0	0	1	0	3	10	12	9	4	2	0	0	0	1	18	69
12.51-18.50	5	0	0	0	0	0	10	7	14	2	3	0	0	0	1	4	46
18.51-24.00	0	0	0	0	0	0	0	4	1	3	0	0	0	0	0	0	8
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL	26	9	4	6	2	5	26	26	31	15	8	0	1	1	3	30	193

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
1.01- 3.50	0	1	0	0	0	0	0	1	2	0	0	0	0	0	0	1	5
3.51- 7.50	8	3	1	1	0	4	2	4	6	5	2	0	1	1	1	7	46
7.51-12.50	12	2	0	1	4	7	7	5	3	2	4	0	0	2	7	10	66
12.51-18.50	2	0	0	0	0	0	2	5	6	0	0	1	0	3	3	14	38
18.51-24.00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL	22	6	1	2	4	11	11	15	20	8	6	1	1	6	11	33	158

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T APR-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 4/ 1/93 - 6/30/93

*** APR-JUN 1993 ***

STABILITY CLASS C

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	1	2	1	1	0	0	0	0	0	1	0	0	0	2	8
3.51- 7.50	20	5	3	5	1	8	1	3	2	3	3	2	3	4	4	10	77
7.51-12.50	15	1	4	3	6	3	12	6	4	7	3	2	2	4	10	12	94
12.51-18.50	4	0	0	0	0	0	2	3	4	0	4	2	1	3	8	15	46
18.51-24.00	0	0	0	0	0	0	0	2	1	1	0	0	0	0	0	1	5
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	39	6	8	10	8	12	15	14	11	11	10	7	6	11	22	40	230

STABILITY CLASS D

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	13	4	7	3	1	1	1	6	4	0	1	0	0	3	3	6	53
3.51- 7.50	38	20	27	26	19	35	25	19	18	3	7	9	6	5	11	8	276
7.51-12.50	18	8	6	19	18	12	28	40	29	21	12	5	4	8	12	36	276
12.51-18.50	11	0	0	0	0	1	6	13	21	9	1	1	4	10	27	21	125
18.51-24.00	0	0	0	0	0	0	0	4	0	0	0	0	1	1	6	11	23
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	80	32	40	48	38	49	60	82	72	33	21	15	15	27	59	82	753

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T APR-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 4/ 1/93 - 6/30/93

*** APR-JUN 1993 ***

STABILITY CLASS E

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	10	8	4	3	3	0	5	9	14	6	4	1	1	4	9	5	86
3.51- 7.50	39	5	3	6	5	9	17	12	20	11	6	7	2	7	9	16	174
7.51-12.50	0	1	1	0	0	3	7	13	12	5	10	2	13	8	6	3	84
12.51-18.50	0	0	0	0	0	0	0	6	2	1	0	0	1	4	3	1	18
18.51-24.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	49	14	8	9	8	12	29	41	48	23	20	10	17	23	27	26	364

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	18	7	0	1	1	0	0	4	13	12	3	3	6	0	11	16	95
3.51- 7.50	2	2	0	0	0	0	0	1	12	18	6	2	2	2	2	2	49
7.51-12.50	0	0	0	0	0	0	0	0	0	2	1	1	0	2	1	0	7
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	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	20	9	0	1	1	0	0	5	26	32	8	6	8	4	14	18	152

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T APR-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 4/ 1/93 - 6/30/93

*** APR-JUN 1993 ***

STABILITY CLASS G

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
1.01- 3.50	10	6	1	2	1	0	2	21	11	6	5	2	3	1	3	15	89
3.51- 7.50	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	3
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	10	6	1	2	1	0	2	22	11	7	5	2	3	1	3	16	92

STABILITY CLASS ALL

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
1.01- 3.50	52	27	14	11	7	3	8	42	45	24	13	7	10	8	26	45	342
3.51- 7.50	118	43	37	43	27	57	51	42	64	47	25	20	15	20	28	51	688
7.51-12.50	54	12	11	24	28	28	64	76	57	41	32	10	19	24	37	79	596
12.51-18.50	22	0	0	0	0	1	20	34	50	12	8	4	6	20	42	55	274
18.51-24.00	0	0	0	0	0	0	0	11	3	5	0	0	1	1	6	13	40
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
TOTAL	246	82	62	78	62	89	143	205	219	129	78	41	51	73	139	245	1942

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T APR-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 4/ 1/93 - 6/30/93

*** APR-JUN 1993 ***

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

TOTAL NUMBER OF OBSERVATIONS: 2184

TOTAL NUMBER OF VALID OBSERVATIONS: 1942

TOTAL NUMBER OF MISSING OBSERVATIONS: 242

PERCENT DATA RECOVERY FOR THIS PERIOD: 88.9 %

MEAN WIND SPEED FOR THIS PERIOD: 8.0 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
9.94	8.14	11.84	38.77	18.74	7.83	4.74

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	1	0	4	6	2	5	26	26	31	15	8	0	1	1	3	30	0
B	2	4	1	2	4	11	11	15	20	8	6	1	1	6	11	33	0
C	39	6	8	10	8	12	15	14	11	11	10	7	6	11	22	40	0
D	80	32	40	48	38	49	60	82	72	33	21	15	15	27	59	82	0
E	49	14	8	9	8	12	29	41	48	23	20	10	17	23	27	26	0
F	20	9	0	1	1	0	0	5	26	32	8	6	8	4	14	18	0
G	10	6	1	2	1	0	2	22	11	7	5	2	3	1	3	16	0
TOTAL	246	82	62	78	62	89	143	205	219	129	78	41	51	73	139	245	0

JFDs of 10-Meter Wind vs. Delta T

January-June 1993

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

*** JAN-JUN 1993 ***

STABILITY CLASS A

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
1.01- 3.50	1	1	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0
3.51- 7.50	17	12	5	7	2	1	9	2	12	6	2	0	1	4	1	7	89
7.51-12.50	14	3	0	1	0	3	16	17	9	4	2	0	0	0	2	21	92
12.51-18.50	9	0	0	0	0	0	10	7	14	2	3	0	0	0	1	5	51
18.51-24.00	0	0	0	0	0	0	0	4	1	3	0	0	0	0	0	1	9
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
TOTAL	41	16	6	8	2	5	35	31	37	15	8	0	1	4	4	35	248

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																	
1.01- 3.50	0	1	0	0	0	0	0	1	2	1	0	0	0	0	0	1	0
3.51- 7.50	16	3	1	2	0	5	4	7	7	5	2	0	1	1	1	8	63
7.51-12.50	16	5	1	1	0	9	14	6	3	2	4	0	0	2	8	20	95
12.51-18.50	2	0	0	0	0	0	2	5	8	0	0	1	0	3	4	19	44
18.51-24.00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	3
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
TOTAL	34	9	2	3	4	14	20	19	21	9	6	1	1	6	13	50	212

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

*** JAN-JUN 1993 ***

STABILITY CLASS C

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	1	1	2	1	1	1	2	0	0	0	1	0	0	1	2	13
3.51- 7.50	26	10	7	16	3	8	6	5	4	3	3	2	3	4	6	15	121
7.51-12.50	18	2	6	6	6	6	23	8	4	7	3	2	2	10	14	31	148
12.51-18.50	5	0	0	0	0	0	4	3	4	2	4	2	1	3	15	29	72
18.51-24.00	0	0	0	0	0	0	0	2	1	1	0	0	0	0	0	5	9
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	49	13	14	24	10	15	34	20	13	13	10	7	6	17	36	82	363

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	30	18	19	8	5	3	5	14	13	13	6	2	3	6	10	12	167
3.51- 7.50	113	66	59	59	53	70	79	42	55	25	29	30	25	27	34	44	810
7.51-12.50	57	62	27	33	44	30	83	48	52	31	19	10	7	48	63	141	755
12.51-18.50	23	2	0	0	0	1	9	13	21	11	2	1	4	29	55	52	223
18.51-24.00	0	0	0	0	0	0	0	4	0	0	0	0	2	2	11	18	37
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	5
TOTAL	223	148	105	100	102	104	176	121	141	80	56	43	41	112	175	270	1997

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

*** JAN-JUN 1993 ***

STABILITY CLASS E

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	28	20	12	6	5	7	15	20	28	11	4	6	3	12	19	17	213
3.51- 7.50	72	7	4	8	11	20	35	20	48	35	15	16	6	18	23	30	368
7.51-12.50	2	1	1	0	0	3	12	18	19	15	16	9	21	16	18	12	163
12.51-18.50	0	0	0	0	0	0	0	9	5	1	0	0	1	6	3	8	33
18.51-24.00	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	3
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	102	28	17	14	16	30	62	68	100	62	35	31	31	53	63	68	780

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	32	12	1	2	2	3	0	12	34	22	9	6	8	2	14	22	181
3.51- 7.50	2	2	1	0	0	0	4	3	20	23	4	3	3	4	3	5	77
7.51-12.50	0	0	0	0	0	0	0	0	0	2	1	3	6	3	2	0	17
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	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	34	14	2	2	2	3	4	15	55	47	14	12	17	9	19	27	276

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

*** JAN-JUN 1993 ***

STABILITY CLASS G

STABILITY BASED ON: DELTA T
 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																	
1.01- 3.50	15	11	2	5	3	6	8	37	24	11	7	4	4	1	4	14	161
3.51- 7.50	0	0	0	0	0	0	0	1	3	1	0	0	0	0	0	1	6
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	15	11	2	5	3	6	8	38	27	12	7	4	4	1	4	20	167

STABILITY CLASS ALL

STABILITY BASED ON: DELTA T
 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																	
1.01- 3.50	106	64	36	23	16	23	29	87	102	58	26	19	18	21	48	73	797
3.51- 7.50	246	100	77	92	69	104	137	80	149	98	56	51	39	58	68	110	1534
7.51-12.50	107	73	35	41	54	51	148	97	67	61	45	24	36	79	107	225	1270
12.51-18.50	39	2	0	0	0	1	25	37	53	16	9	4	6	41	78	113	424
18.51-24.00	0	0	0	0	0	0	0	11	3	5	0	0	2	3	11	26	61
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	7
TOTAL	498	239	148	156	139	177	339	312	394	238	136	98	101	202	314	552	4043

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

*** JAN-JUN 1993 ***

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

TOTAL NUMBER OF OBSERVATIONS: 4344

TOTAL NUMBER OF VALID OBSERVATIONS: 4043

TOTAL NUMBER OF MISSING OBSERVATIONS: 301

PERCENT DATA RECOVERY FOR THIS PERIOD: 93.1 %

MEAN WIND SPEED FOR THIS PERIOD: 7.5 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
6.13	5.24	8.98	49.39	19.29	6.83	4.13

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	41	16	6	8	2	5	35	31	37	15	8	0	1	4	4	35	0
B	34	9	2	3	4	14	20	19	21	9	6	1	1	6	13	50	0
C	49	13	14	24	10	15	34	20	13	13	10	7	6	17	36	82	0
D	223	148	105	100	102	104	176	121	141	80	56	43	41	112	175	270	0
E	102	28	17	14	16	30	62	68	100	62	35	31	31	53	63	68	0
F	34	14	2	2	2	3	4	15	55	47	14	12	17	9	19	27	0
G	15	11	2	5	3	6	8	38	27	12	7	4	4	1	4	20	0
TOTAL	490	239	148	156	139	177	339	312	394	238	136	98	101	202	314	552	0

Stability Class by Hour of Day

10-Meter Wind vs. Delta T

January-June 1993

DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

STABILITY BASED ON: DELTA T

HOURLY STABILITIES

YR	HN	DA
95	1	1
95	2	2
95	3	3
95	4	4
95	5	5
95	6	6
95	7	7
95	8	8
95	9	9
95	10	10
95	11	11
95	12	12
95	13	13
95	14	14
95	15	15
95	16	16
95	17	17
95	18	18
95	19	19
95	20	20
95	21	21
95	22	22
95	23	23
95	24	24
95	25	25
95	26	26
95	27	27
95	28	28
95	29	29
95	30	30
95	31	31
95	1	1
95	2	2
95	3	3
95	4	4
95	5	5
95	6	6
95	7	7
95	8	8
95	9	9
95	10	10
95	11	11
95	12	12
95	13	13
95	14	14
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95	1	1
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95	31	31
95	1	1
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95	30	30
95	31	31
95	1	1
95	2	2
95	3	3
95	4	4
95	5	

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS

HOURLY STABILITIES
 HOURS

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

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS

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

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS

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

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 10M WIND VS 60-10M DELTA-T JAN-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

STABILITY BASED ON: DELTA T BETWEEN 60.0 AND 10.0 METERS

		HOURLY STABILITIES																								
		HOURS																								
YR	MM	DD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
93	6	30	E	E	D	D	D	D	E	D	D	D	D	D	A	A	B	D	D	D	D	E	D	D	D	D

JFDs of 100-Meter Wind vs. Delta T

January-March 1993

PROGRAM: JFD VERSION: SP
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JAN-MAR 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 3/31/93

*** JAN-MAR 1993 ***

STABILITY CLASS A

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

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

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

STABILITY CLASS B

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	0	0	0	1
7.51-12.50	1	1	0	0	0	1	3	1	1	0	0	0	0	0	0	0	8
12.51-18.50	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	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	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
TOTAL	4	2	0	0	0	1	3	3	1	0	0	0	0	0	0	0	14

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JAN-MAR 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 3/31/93

*** JAN-MAR 1993 ***

STABILITY CLASS C

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 30.0 METERS
 WIND MEASURED AT: 100.0 METERS
 WIND THRESHOLD AT: 1.00 MPH

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	1	1	0	2	6	1	1	2	2	0	0	0	0	0	0	0	10
7.51-12.50	3	3	2	0	0	0	6	3	0	0	0	0	0	0	0	2	19
12.51-18.50	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	4	6
18.51-24.00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3
>24.00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
TOTAL	6	4	2	2	0	2	8	5	2	0	0	0	0	0	1	8	40

STABILITY CLASS D

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
1.01- 3.50	2	5	3	1	3	1	2	2	3	1	1	0	2	0	3	3	32
3.51- 7.50	17	22	19	24	16	10	8	12	8	16	11	14	10	13	7	6	213
7.51-12.50	24	13	9	17	19	39	12	12	10	11	10	4	7	29	39	29	284
12.51-18.50	26	17	5	14	13	29	36	4	7	6	3	0	2	15	38	36	253
18.51-24.00	22	10	6	0	1	2	7	0	1	1	0	0	0	23	14	33	120
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	14	22
TOTAL	91	67	42	56	52	81	65	30	29	35	25	18	21	80	109	123	924

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JAN-MAR 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 3/31/93

*** JAN-MAR 1993 ***

STABILITY CLASS E

STABILITY BASED ON: DELTA T
 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	4	1	4	2	4	1	2	1	9	0	1	1	0	1	2	35
3.51- 7.50	13	18	17	6	6	15	16	8	8	11	12	6	6	9	18	8	170
7.51-12.50	35	24	17	7	10	29	23	7	12	13	11	9	12	16	27	42	294
12.51-18.50	23	11	12	0	3	25	28	12	19	3	14	8	9	7	28	72	274
18.51-24.00	2	4	6	0	0	5	7	2	5	0	1	1	5	10	6	6	61
>24.00	1	0	0	0	0	0	0	4	0	0	0	0	0	3	1	4	13
TOTAL	76	61	53	17	21	78	75	35	45	36	39	26	33	45	81	134	855

STABILITY CLASS F

STABILITY BASED ON: DELTA T
 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	0	1	0	1	0	1	2	0	0	0	0	0	0	0	0	0	5
3.51- 7.50	1	2	1	4	1	3	3	1	2	10	3	2	0	1	1	0	35
7.51-12.50	5	3	7	3	2	5	6	2	11	10	7	7	1	3	2	6	80
12.51-18.50	4	1	2	0	0	1	11	2	8	2	4	2	3	3	4	13	60
18.51-24.00	1	0	1	0	0	0	1	0	0	0	0	0	6	6	2	0	17
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
TOTAL	11	7	11	8	3	10	23	5	21	22	14	11	10	14	9	19	198

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JAN-MAR 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 3/31/93

*** JAN-MAR 1993 ***

STABILITY CLASS G

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
1.01- 3.50	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
3.51- 7.50	0	0	0	0	2	0	1	3	4	2	1	0	2	0	0	1	16
7.51-12.50	1	1	0	0	0	2	2	2	2	1	14	4	2	0	1	5	37
12.51-18.50	2	0	0	0	0	0	1	0	0	0	3	1	4	2	0	2	15
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	1	0	0	3	3	4	5	6	3	18	5	8	2	1	8	70

STABILITY CLASS ALL

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
1.01- 3.50	4	10	4	6	6	7	5	4	4	10	1	1	3	0	4	5	74
3.51- 7.50	32	43	37	36	25	29	29	27	24	39	28	22	18	23	26	15	453
7.51-12.50	69	45	35	27	31	76	52	27	36	35	42	24	22	48	69	84	722
12.51-18.50	56	30	19	14	16	56	77	19	34	11	24	11	18	27	70	129	611
18.51-24.00	26	14	13	0	1	7	15	2	6	1	1	2	11	39	22	41	201
>24.00	4	0	0	0	0	0	0	4	0	0	0	0	0	4	10	18	40
TOTAL	191	142	108	83	79	175	178	83	104	96	96	60	72	141	201	292	2101

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JAN-MAR 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 3/31/93

*** JAN-MAR 1993 ***

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

TOTAL NUMBER OF OBSERVATIONS: 2160

TOTAL NUMBER OF VALID OBSERVATIONS: 2101

TOTAL NUMBER OF MISSING OBSERVATIONS: 59

PERCENT DATA RECOVERY FOR THIS PERIOD: 97.3 %

MEAN WIND SPEED FOR THIS PERIOD: 11.7 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
0.00	0.67	1.90	43.98	40.69	9.42	3.33

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B	4	2	0	0	0	1	3	3	1	0	0	0	0	0	0	0	0
C	6	4	2	2	0	2	8	5	2	0	0	0	0	0	1	8	0
D	91	67	42	56	52	81	65	30	29	35	25	18	21	80	109	123	0
E	76	61	53	17	21	78	75	35	45	36	39	26	33	45	81	134	0
F	11	7	11	8	3	10	23	5	21	22	14	11	10	14	9	19	0
G	3	1	0	0	3	3	4	5	6	3	18	5	8	2	1	8	0
TOTAL	191	142	108	83	79	175	178	83	104	96	96	60	72	141	201	292	0

JFDs of 100-Meter Wind vs. Delta T

April-June 1993

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T APR-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 4/ 1/93 - 6/30/93

*** APR-JUN 1993 ***

STABILITY CLASS A

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

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

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

STABILITY CLASS B

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	1	2	0	1	3	0	2	0	0	1	1	0	0	0	0	1	12
7.51-12.50	3	0	0	0	0	1	4	0	5	1	0	0	0	0	0	5	19
12.51-18.50	1	0	0	0	0	0	3	3	2	0	1	0	0	0	0	2	12
18.51-24.00	1	0	0	0	0	0	4	4	7	1	0	0	0	0	0	0	17
>24.00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
TOTAL	6	2	0	1	3	1	13	7	16	3	2	0	0	0	0	8	62

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T APR-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 4/ 1/93 - 6/30/93

*** APR-JUN 1993 ***

STABILITY CLASS C

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	3
3.51- 7.50	10	4	0	3	0	0	1	2	5	5	4	1	1	2	0	0	38
7.51-12.50	3	0	2	0	1	0	5	4	4	3	5	0	0	0	2	12	41
12.51-18.50	1	0	0	2	0	1	4	8	2	0	5	0	0	0	2	6	31
18.51-24.00	1	0	0	0	0	0	3	1	4	0	0	0	0	0	0	7	16
>24.00	0	0	0	0	0	0	0	4	2	0	0	0	0	0	0	2	8
TOTAL	15	4	4	5	1	1	13	19	17	8	14	2	1	2	4	27	137

STABILITY CLASS D

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	5	2	2	4	3	1	2	0	1	1	0	0	0	0	0	21
3.51- 7.50	14	7	5	5	2	10	9	8	10	11	5	7	5	9	7	9	123
7.51-12.50	25	13	18	13	13	17	19	14	20	16	10	7	8	10	11	28	242
12.51-18.50	35	6	17	28	14	19	33	24	27	18	14	1	6	18	33	35	328
18.51-24.00	18	2	0	0	4	5	14	29	21	6	3	4	4	12	11	21	154
>24.00	7	1	0	0	0	0	1	13	2	0	0	0	1	1	3	16	52
TOTAL	99	34	42	48	37	54	77	90	87	52	33	19	24	50	65	109	920

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T APR-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 4/ 1/93 - 6/30/93

*** APR-JUN 1993 ***

STABILITY CLASS E

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
1.01- 3.50	0	1	0	1	1	2	0	2	0	0	0	0	0	0	1	0	8
3.51- 7.50	13	2	4	2	4	5	3	4	4	5	1	4	0	2	0	4	66
7.51-12.50	17	9	7	5	10	12	14	16	7	13	11	10	5	6	10	15	167
12.51-18.50	34	8	3	4	15	18	30	26	18	14	4	9	9	7	12	25	232
18.51-24.00	8	1	1	1	0	2	8	13	8	1	0	5	5	10	0	13	86
>24.00	3	0	0	0	0	0	2	2	0	1	0	0	2	1	2	4	29
TOTAL	75	21	15	13	30	39	57	63	43	34	17	23	21	26	45	66	588

STABILITY CLASS F

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
1.01- 3.50	1	1	2	0	1	0	0	0	1	1	0	1	0	0	0	2	10
3.51- 7.50	6	1	2	1	1	1	2	1	5	4	2	0	1	1	3	5	36
7.51-12.50	3	5	6	2	2	9	4	0	2	14	5	9	4	4	2	9	80
12.51-18.50	0	1	0	1	0	4	6	2	3	8	7	2	1	1	4	3	40
18.51-24.00	0	0	0	0	0	0	0	0	0	0	1	0	2	0	2	0	5
>24.00	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	4	6
TOTAL	10	8	10	4	4	14	12	3	12	27	16	12	8	6	11	20	177

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T APR-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 4/ 1/93 - 6/30/93

*** APR-JUN 1993 ***

STABILITY CLASS G

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
1.01- 3.50	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0
3.51- 7.50	1	4	1	1	0	1	1	0	4	4	2	1	0	2	0	0	3
7.51-12.50	1	0	0	0	0	1	0	2	11	4	1	2	1	3	1	2	22
12.51-18.50	0	0	0	0	1	1	1	1	0	0	1	0	0	0	0	0	29
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	2	4	2	1	1	3	3	3	15	9	4	3	1	5	1	2	59

STABILITY CLASS ALL

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
1.01- 3.50	1	7	7	3	6	5	2	4	1	3	1	2	0	0	1	2	45
3.51- 7.50	45	20	12	13	10	17	18	15	28	30	15	13	7	16	19	19	297
7.51-12.50	52	27	33	20	26	40	46	36	49	51	32	28	18	23	26	71	578
12.51-18.50	71	28	20	35	30	43	78	65	52	41	32	7	16	26	52	68	651
18.51-24.00	28	3	1	1	4	7	29	48	43	8	5	9	11	22	22	41	282
>24.00	13	7	0	0	0	0	3	19	20	1	1	0	3	2	6	31	100
TOTAL	210	77	73	72	76	117	176	187	193	134	86	59	55	89	126	232	1953

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T APR-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 4/ 1/93 - 6/30/93

*** APR-JUN 1993 ***

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

TOTAL NUMBER OF OBSERVATIONS: 2184

TOTAL NUMBER OF VALID OBSERVATIONS: 1953

TOTAL NUMBER OF MISSING OBSERVATIONS: 231

PERCENT DATA RECOVERY FOR THIS PERIOD: 89.4 %

MEAN WIND SPEED FOR THIS PERIOD: 13.5 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
0.51	3.17	7.01	47.11	30.11	9.06	3.02

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	3	0	0	0	0	0	1	2	3	1	0	0	0	0	0	0	0
B	6	2	0	1	3	1	13	7	16	3	2	0	0	0	0	8	0
C	15	4	4	5	1	1	13	19	17	8	14	2	1	2	4	27	0
D	99	34	42	48	37	54	77	90	87	52	33	19	24	50	65	109	0
E	75	21	15	13	30	39	57	63	43	34	17	23	21	26	45	66	0
F	10	8	10	4	4	14	12	3	12	27	16	12	8	6	11	20	0
G	2	4	2	1	1	3	3	3	15	9	4	3	1	5	1	2	0
TOTAL	210	73	73	72	76	112	176	187	193	134	86	59	55	89	126	232	0

JFDs of 100-Meter Wind vs. Delta T

January-June 1993

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10H DELTA-T JAN-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

*** JAN-JUN 1993 ***

STABILITY CLASS A

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

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

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

STABILITY CLASS B

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
1.01- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	1	2	0	1	3	0	2	1	0	1	1	0	0	0	0	0	0
7.51-12.50	4	1	0	0	0	2	7	1	6	1	0	0	0	0	0	1	13
12.51-18.50	2	1	0	0	0	0	3	4	2	0	1	0	0	0	0	5	27
18.51-24.00	1	0	0	0	0	0	4	4	7	1	0	0	0	0	0	2	15
>24.00	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	17
TOTAL	10	4	0	1	3	2	16	10	17	3	2	0	0	0	0	8	76

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JAN-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

*** JAN-JUN 1993 ***

STABILITY CLASS C

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	3
3.51- 7.50	11	5	0	5	0	1	2	4	7	5	4	1	1	2	0	0	48
7.51-12.50	6	3	4	0	1	0	11	7	4	3	5	0	0	0	2	14	60
12.51-18.50	1	0	0	2	0	2	5	8	2	0	5	0	0	0	2	10	37
18.51-24.00	2	0	0	0	0	0	3	1	4	0	0	0	0	0	0	9	19
>24.00	1	0	0	0	0	0	0	4	2	0	0	0	0	0	1	2	10
TOTAL	21	8	6	7	1	3	21	24	19	8	14	2	1	2	5	35	177

STABILITY CLASS D

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	2	10	5	3	7	4	3	4	3	2	2	0	2	0	3	3	53
3.51- 7.50	31	29	24	29	18	20	17	20	18	27	16	21	15	22	14	15	336
7.51-12.50	49	26	27	30	32	56	31	26	30	27	20	11	15	39	50	57	526
12.51-18.50	61	23	22	42	27	48	69	28	34	24	17	1	8	33	71	73	581
18.51-24.00	40	12	6	0	5	7	21	29	22	7	3	4	4	35	25	54	274
>24.00	7	1	0	0	0	0	1	13	9	0	0	0	1	1	11	30	74
TOTAL	190	101	84	104	89	135	142	120	116	87	58	37	45	130	174	232	1844

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JAN-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

*** JAN-JUN 1993 ***

STABILITY CLASS E

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	2	5	1	5	3	6	1	4	1	9	0	1	1	0	2	2	43
3.51- 7.50	26	20	21	8	10	20	19	12	12	16	14	10	6	11	27	12	244
7.51-12.50	52	33	24	12	20	41	37	23	19	26	22	19	17	22	37	57	461
12.51-18.50	57	19	15	4	18	43	58	38	37	17	18	12	18	14	41	97	506
18.51-24.00	10	5	7	1	0	7	15	15	13	1	2	7	10	20	15	19	147
>24.00	4	0	0	0	0	0	2	6	6	1	0	0	2	4	4	13	42
TOTAL	151	82	68	30	51	117	132	98	88	70	56	49	54	71	126	200	1443

STABILITY CLASS F

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	1	2	2	1	1	1	2	0	1	1	0	1	0	0	0	2	15
3.51- 7.50	7	3	3	5	2	4	5	2	7	14	5	2	1	2	4	5	71
7.51-12.50	8	8	13	5	4	14	10	2	13	24	12	16	5	7	4	15	160
12.51-18.50	4	2	2	1	0	5	17	4	11	10	11	4	4	4	8	13	100
18.51-24.00	1	0	1	0	0	0	1	0	0	0	1	0	8	6	4	0	22
>24.00	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	4	7
TOTAL	21	15	21	12	7	24	35	8	33	49	30	23	18	20	20	39	375

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JAN-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

*** JAN-JUN 1993 ***

STABILITY CLASS G

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	0	0	1	0	1	1	1	0	0	1	0	0	0	0	0	0	5
3.51- 7.50	1	4	1	1	2	3	8	6	3	1	3	2	2	2	0	1	38
7.51-12.50	2	1	0	0	0	3	2	4	13	5	15	6	3	3	2	7	66
12.51-18.50	2	0	0	0	1	1	2	1	0	0	4	1	4	2	0	2	20
18.51-24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	5	5	2	1	4	6	7	8	21	12	22	8	9	7	2	10	129

STABILITY CLASS ALL

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

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

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
1.01- 3.50	5	17	11	9	12	12	7	8	5	13	2	3	3	0	5	7	119
3.51- 7.50	77	63	49	49	35	46	47	42	52	69	43	35	25	39	45	34	750
7.51-12.50	121	72	68	47	57	116	98	63	85	86	74	52	40	71	95	155	1300
12.51-18.50	127	95	39	49	46	99	155	84	86	52	56	18	34	53	122	197	1262
18.51-24.00	54	17	14	1	5	14	44	50	49	9	6	11	22	61	44	82	483
>24.00	17	1	0	0	0	0	3	23	20	1	1	0	3	6	16	49	140
TOTAL	401	215	181	155	155	287	354	270	297	230	182	119	127	230	327	524	4054

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JAN-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

*** JAN-JUN 1993 ***

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

TOTAL NUMBER OF OBSERVATIONS: 4344

TOTAL NUMBER OF VALID OBSERVATIONS: 4054

TOTAL NUMBER OF MISSING OBSERVATIONS: 290

PERCENT DATA RECOVERY FOR THIS PERIOD: 93.3 %

MEAN WIND SPEED FOR THIS PERIOD: 12.5 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
0.25	1.87	4.37	45.49	35.59	9.25	3.18

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	3	0	0	0	0	0	1	2	3	1	0	0	0	0	0	0	0
B	10	4	0	1	3	2	16	10	17	3	2	0	0	0	0	8	0
C	21	8	6	7	1	3	21	24	19	8	14	2	1	2	5	35	0
D	190	101	84	104	89	135	142	120	116	87	58	37	45	130	174	232	0
E	151	82	68	30	51	117	132	98	88	70	56	49	54	71	126	200	0
F	21	15	21	12	7	24	35	8	33	49	30	23	18	20	20	39	0
G	5	5	2	1	4	6	7	8	21	12	22	8	9	7	2	10	0
TOTAL	401	215	181	155	155	287	354	270	297	230	182	119	127	230	327	524	0

Stability Classes by Hour of Day

100-Meter Wind vs. Delta T

January-June 1993

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JAN-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS

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

PROGRAM: JFD VERSION: 5P
 NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JAN-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS

YR MN DY		HOURLY STABILITIES HOURS																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
93	4	1	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	2	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	3	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	4	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	5	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	6	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	7	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	8	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	9	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	10	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	11	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	12	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	13	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	14	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	15	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	16	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	17	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	18	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	19	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	20	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	21	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	22	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	23	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	24	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	25	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	26	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	27	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	28	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	29	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	4	30	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	5	1	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	5	2	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	5	3	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	5	4	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	5	5	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	5	6	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	5	7	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	5	8	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	5	9	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	5	10	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	5	11	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	5	12	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	5	13	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	5	14	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
93	5	15	E	E	E	E	E	E	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 JAN-JUN 1993
 SITE IDENTIFIER: NPPD
 DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS

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

PROGRAM: JFD VERSION: 5P
NPPD-COOPER NUCLEAR STATION JFD: 100M WIND VS 100-10M DELTA-T JAN-JUN 1993
SITE IDENTIFIER: NPPD
DATA PERIOD EXAMINED: 1/ 1/93 - 6/30/93

STABILITY BASED ON: DELTA T BETWEEN 100.0 AND 10.0 METERS

	HOURLY STABILITIES																							
	HOURS																							
YR MN DY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
93 6 30	E	E	D	D	D	D	E	D	D	D	D	E	C	B	C	D	D	D	D	E	E	D	D	D

ATMOSPHERIC DIFFUSION ESTIMATES

The tables of atmospheric diffusion estimates in this section were generated using the computer code XOQDOQ. Data are given for 22 distances and 16 compass points (directions from site) centered on the Cooper Nuclear Station.

Data is also given for the nearest residence, the nearest cow, and the nearest garden, within three miles of Cooper Nuclear Station in the sixteen sectors surrounding the plant. This data is gathered by means of a land use census. The census is normally taken in the summer of the year of the report. This year, however, flooding around the Cooper Nuclear Station prohibited a census representative of the conditions from January 1993, through June 1993, from being taken. Ten of the sixteen sectors were inaccessible when the 1993 land use census was taken. These sectors, sectors A through K, generally include the area on the Missouri side of the Missouri River and the area south of the plant in Nebraska. Eleven residences and approximately twenty-four residents were noted in sectors A through K in 1992. These residents most likely remained in their homes from January through June of 1993, but were evacuated at the time the 1993 census was taken. For this reason, 1992 data for the nearest residences was used for this report. Because of the unfavorable weather, it was assumed that no gardens yielded produce in these sectors. Historically no cows are found within three miles in these sectors, so none were said to be located there. The 1993 census data that was taken in the six sectors that were accessible was used for this report.

Tables are presented for the ground-level (vent) and elevated (stack) release options separately, and for the following time periods: January-March, April-June, and January-June 1993.

Atmospheric Diffusion Estimates

Ground Level Releases

January-March 1993

ANNUAL AVERAGE CHI/Q (SEC/METER CURED)

B118

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

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)		DISTANCE IN MILES										
SECTOR		0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	6.389E-05	2.160E-05	1.159E-05	5.804E-06	2.301E-06	1.233E-06	7.750E-07	5.368E-07	3.970E-07	3.076E-07	2.469E-07	
SSW	3.973E-05	1.341E-05	7.068E-06	3.508E-06	1.389E-06	7.440E-07	4.672E-07	3.234E-07	2.391E-07	1.852E-07	1.485E-07	
SW	1.985E-05	7.010E-06	3.740E-06	1.853E-06	7.193E-07	3.796E-07	2.357E-07	1.616E-07	1.185E-07	9.119E-08	7.271E-08	
WSW	1.867E-05	6.233E-06	3.223E-06	1.582E-06	6.235E-07	3.329E-07	2.086E-07	1.442E-07	1.065E-07	8.241E-08	6.606E-08	
W	1.657E-05	5.710E-06	3.005E-06	1.486E-06	5.843E-07	3.112E-07	1.946E-07	1.343E-07	9.896E-08	7.646E-08	6.120E-08	
WNW	2.819E-05	9.243E-06	4.817E-06	2.390E-06	9.672E-07	5.258E-07	3.340E-07	2.334E-07	1.738E-07	1.355E-07	1.093E-07	
NW	3.927E-05	1.331E-05	6.957E-06	3.432E-06	1.358E-06	7.277E-07	4.572E-07	3.167E-07	2.343E-07	1.816E-07	1.458E-07	
NNW	5.491E-05	1.709E-05	8.750E-06	4.339E-06	1.796E-06	9.917E-07	6.371E-07	4.492E-07	3.371E-07	2.644E-07	2.145E-07	
N	7.451E-05	2.358E-05	1.250E-05	6.291E-06	2.590E-06	1.415E-06	9.042E-07	6.348E-07	4.748E-07	3.714E-07	3.005E-07	
NNE	3.912E-05	1.279E-05	6.853E-06	3.449E-06	1.393E-06	7.559E-07	4.794E-07	3.345E-07	2.489E-07	1.939E-07	1.563E-07	
NE	1.834E-05	6.009E-06	3.221E-06	1.622E-06	6.522E-07	3.527E-07	2.231E-07	1.553E-07	1.154E-07	8.971E-08	7.221E-08	
ENE	1.703E-05	5.713E-06	3.069E-06	1.542E-06	6.188E-07	3.345E-07	2.115E-07	1.473E-07	1.094E-07	8.507E-08	6.849E-08	
E	1.246E-05	4.193E-06	2.263E-06	1.138E-06	4.541E-07	2.463E-07	1.540E-07	1.059E-07	7.919E-08	6.147E-08	4.941E-08	
ESE	1.997E-05	7.124E-06	3.864E-06	1.755E-06	7.578E-07	4.011E-07	2.496E-07	1.716E-07	1.261E-07	9.715E-08	7.758E-08	
SE	2.850E-05	1.003E-05	5.416E-06	2.702E-06	1.055E-06	5.590E-07	3.483E-07	2.397E-07	1.762E-07	1.359E-07	1.086E-07	
SSE	4.754E-05	1.619E-05	8.604E-06	4.275E-06	1.679E-06	8.946E-07	5.596E-07	3.863E-07	2.849E-07	2.203E-07	1.764E-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	2.036E-07	1.027E-07	6.543E-08	3.627E-08	2.375E-08	1.703E-08	1.292E-08	1.020E-08	8.283E-09	6.879E-09	5.813E-09	
SSW	1.224E-07	6.164E-08	3.918E-08	2.165E-08	1.415E-08	1.012E-08	7.651E-09	6.033E-09	4.890E-09	4.052E-09	3.417E-09	
SW	5.961E-08	2.941E-08	1.844E-08	1.001E-08	6.474E-09	4.596E-09	3.464E-09	2.719E-09	2.198E-09	1.818E-09	1.531E-09	
WSW	5.442E-08	2.736E-08	1.738E-08	9.618E-09	6.308E-09	4.525E-09	3.435E-09	2.712E-09	2.203E-09	1.830E-09	1.546E-09	
W	5.035E-08	2.517E-08	1.593E-08	8.755E-09	5.703E-09	4.073E-09	3.082E-09	2.427E-09	1.969E-09	1.633E-09	1.378E-09	
WNW	9.059E-08	4.651E-08	2.995E-08	1.683E-08	1.111E-08	7.999E-09	6.089E-09	4.815E-09	3.916E-09	3.254E-09	2.751E-09	
NW	1.203E-07	6.087E-08	3.885E-08	2.164E-08	1.425E-08	1.027E-08	7.824E-09	6.200E-09	5.055E-09	4.213E-09	3.573E-09	
NNW	1.785E-07	9.316E-08	6.061E-08	3.449E-08	2.293E-08	1.660E-08	1.267E-08	1.004E-08	8.172E-09	6.795E-09	5.745E-09	
N	2.496E-07	1.292E-07	8.370E-08	4.739E-08	3.144E-08	2.273E-08	1.736E-08	1.376E-08	1.122E-08	9.345E-09	7.915E-09	
NNE	1.294E-07	6.624E-08	4.258E-08	2.388E-08	1.575E-08	1.135E-08	8.641E-09	6.839E-09	5.568E-09	4.632E-09	3.921E-09	
NE	5.969E-08	3.038E-08	1.945E-08	1.084E-08	7.120E-09	5.111E-09	3.881E-09	3.064E-09	2.489E-09	2.067E-09	1.746E-09	
NNE	5.663E-08	2.887E-08	1.851E-08	1.035E-08	6.819E-09	4.910E-09	3.740E-09	2.961E-09	2.412E-09	2.008E-09	1.701E-09	
E	4.079E-08	2.068E-08	1.322E-08	7.375E-09	4.855E-09	3.498E-09	2.668E-09	2.116E-09	1.728E-09	1.442E-09	1.224E-09	
ESE	6.370E-08	3.163E-08	1.994E-08	1.093E-08	7.127E-09	5.102E-09	3.874E-09	3.063E-09	2.495E-09	2.079E-09	1.743E-09	
SE	8.924E-08	4.442E-08	2.804E-08	1.539E-08	1.004E-08	7.187E-09	5.454E-09	4.308E-09	3.505E-09	2.916E-09	2.470E-09	
SSE	1.452E-07	7.291E-08	4.629E-08	2.561E-08	1.680E-08	1.207E-08	9.180E-09	7.265E-09	5.918E-09	4.929E-09	4.178E-09	

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

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES									
	0-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	1.124E-05	2.605E-06	8.019E-07	4.029E-07	2.488E-07	1.086E-07	3.719E-08	1.718E-08	1.025E-08	6.900E-09
SSW	6.894E-06	1.573E-06	4.835E-07	2.426E-07	1.497E-07	6.516E-08	2.221E-08	1.021E-08	6.063E-09	4.065E-09
SW	3.628E-06	8.204E-07	2.445E-07	1.294E-07	7.333E-08	3.125E-08	1.031E-08	4.645E-09	2.733E-09	1.824E-09
WSW	3.163E-06	7.074E-07	2.160E-07	1.081E-07	6.659E-08	2.894E-08	9.872E-09	4.565E-09	2.725E-09	1.835E-09
W	2.931E-06	6.633E-07	2.016E-07	1.005E-07	6.170E-08	2.666E-08	8.992E-09	4.111E-09	2.440E-09	1.638E-09
WNW	4.722E-06	1.087E-06	3.449E-07	1.762E-07	1.102E-07	4.894E-08	1.720E-08	8.063E-09	4.837E-09	3.264E-09
NW	6.801E-06	1.539E-06	4.731E-07	2.378E-07	1.470E-07	6.429E-08	2.218E-08	1.035E-08	6.228E-09	4.225E-09
NNW	8.643E-06	2.604E-06	6.565E-07	3.414E-07	2.160E-07	9.766E-08	3.516E-08	1.672E-08	1.008E-08	6.814E-09
N	1.220E-05	2.887E-06	9.325E-07	4.811E-07	3.027E-07	1.357E-07	4.837E-08	2.290E-08	1.382E-08	9.371E-09
NNE	6.660E-06	1.567E-06	4.952E-07	2.524E-07	1.575E-07	6.976E-08	2.442E-08	1.144E-08	6.870E-09	4.646E-09
NE	3.130E-06	7.346E-07	2.306E-07	1.170E-07	7.275E-08	3.203E-08	1.110E-08	5.155E-09	3.079E-09	2.073E-09
ENE	2.978E-06	6.975E-07	2.196E-07	1.109E-07	6.901E-08	3.043E-08	1.059E-08	4.951E-09	2.974E-09	2.014E-09
E	2.192E-06	5.129E-07	1.592E-07	8.036E-08	4.979E-08	2.183E-08	7.555E-09	3.528E-09	2.126E-09	1.446E-09
ESE	3.742E-06	8.631E-07	2.588E-07	1.280E-07	7.824E-08	3.356E-08	1.124E-08	5.151E-09	3.078E-09	2.085E-09
SE	5.236E-06	1.200E-06	3.611E-07	1.790E-07	1.095E-07	4.710E-08	1.582E-08	7.255E-09	4.330E-09	2.925E-09
SSE	8.366E-06	1.907E-06	5.796E-07	2.892E-07	1.779E-07	7.715E-08	2.629E-08	1.217E-08	7.299E-09	4.944E-09

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

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)		DISTANCE IN MILES											
SECTOR		0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500	
S		6.053E-05	1.976E-05	1.036E-05	5.101E-06	1.967E-06	1.030E-06	6.347E-07	4.321E-07	3.146E-07	2.404E-07	1.905E-07	
SSW		3.765E-05	1.227E-05	6.319E-06	3.084E-06	1.188E-06	6.217E-07	3.828E-07	2.605E-07	1.896E-07	1.449E-07	1.147E-07	
SW		1.800E-05	6.413E-06	3.341E-06	1.628E-06	6.141E-07	3.166E-07	1.926E-07	1.298E-07	9.369E-08	7.104E-08	5.590E-08	
WSW		1.769E-05	5.704E-06	2.881E-06	1.391E-06	5.329E-07	2.781E-07	1.709E-07	1.161E-07	8.445E-08	6.446E-08	5.102E-08	
W		1.570E-05	5.224E-06	2.685E-06	1.305E-06	4.989E-07	2.596E-07	1.591E-07	1.079E-07	7.826E-08	5.963E-08	4.711E-08	
WNW		2.671E-05	8.461E-06	4.308E-06	2.102E-06	8.276E-07	4.399E-07	2.741E-07	1.883E-07	1.382E-07	1.063E-07	8.472E-08	
NW		3.720E-05	1.217E-05	6.216E-06	3.015E-06	1.160E-06	6.072E-07	3.740E-07	2.546E-07	1.854E-07	1.417E-07	1.123E-07	
NNW		5.204E-05	1.566E-05	7.834E-06	3.822E-06	1.540E-06	8.318E-07	5.246E-07	3.639E-07	2.691E-07	2.084E-07	1.671E-07	
N		7.062E-05	2.160E-05	1.118E-05	5.536E-06	2.209E-06	1.184E-06	7.427E-07	5.129E-07	3.779E-07	2.917E-07	2.331E-07	
NNE		3.707E-05	1.171E-05	6.129E-06	3.034E-06	1.192E-06	6.321E-07	3.932E-07	2.698E-07	1.977E-07	1.519E-07	1.209E-07	
NE		1.738E-05	5.500E-06	2.881E-06	1.427E-06	5.579E-07	2.949E-07	1.830E-07	1.252E-07	9.161E-08	7.027E-08	5.586E-08	
ENE		1.614E-05	5.228E-06	2.744E-06	1.355E-06	5.289E-07	2.794E-07	1.732E-07	1.185E-07	8.669E-08	6.649E-08	5.285E-08	
E		1.181E-05	3.836E-06	2.022E-06	1.000E-06	3.878E-07	2.038E-07	1.259E-07	8.587E-08	6.263E-08	4.792E-08	3.801E-08	
ESE		1.892E-05	6.514E-06	3.468E-06	1.707E-06	6.461E-07	3.339E-07	2.035E-07	1.374E-07	9.928E-08	7.537E-08	5.937E-08	
SE		2.699E-05	9.176E-06	4.837E-06	2.372E-06	8.997E-07	4.658E-07	2.844E-07	1.922E-07	1.391E-07	1.057E-07	8.333E-08	
SSE		4.503E-05	1.481E-05	7.686E-06	3.754E-06	1.434E-06	7.461E-07	4.575E-07	3.103E-07	2.252E-07	1.717E-07	1.357E-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		1.552E-07	7.497E-08	4.604E-08	2.418E-08	1.521E-08	1.056E-08	7.807E-09	6.023E-09	4.796E-09	3.912E-09	3.268E-09	
SSW		9.347E-08	4.508E-08	2.766E-08	1.451E-08	9.129E-09	6.338E-09	4.683E-09	3.612E-09	2.876E-09	2.345E-09	1.949E-09	
SW		4.527E-08	2.133E-08	1.287E-08	6.600E-09	4.086E-09	2.803E-09	2.052E-09	1.571E-09	1.242E-09	1.007E-09	8.333E-10	
WSW		4.155E-08	2.001E-08	1.228E-08	6.452E-09	4.075E-09	2.838E-09	2.103E-09	1.626E-09	1.297E-09	1.060E-09	8.824E-10	
W		3.829E-08	1.830E-08	1.116E-08	5.804E-09	3.628E-09	2.508E-09	1.846E-09	1.420E-09	1.128E-09	9.181E-10	7.618E-10	
WNW		6.939E-08	3.418E-08	2.127E-08	1.138E-08	7.250E-09	5.080E-09	3.781E-09	2.934E-09	2.347E-09	1.922E-09	1.603E-09	
NW		9.155E-08	4.430E-08	2.725E-08	1.437E-08	9.083E-09	6.331E-09	4.694E-09	3.633E-09	2.908E-09	2.347E-09	1.976E-09	
NNW		1.376E-07	6.905E-08	4.354E-08	2.369E-08	1.527E-08	1.079E-08	8.081E-09	6.302E-09	5.063E-09	4.111E-09	3.480E-09	
N		1.914E-07	9.513E-08	5.957E-08	3.211E-08	2.055E-08	1.445E-08	1.079E-08	8.390E-09	6.725E-09	5.512E-09	4.608E-09	
NNE		9.896E-08	4.854E-08	3.013E-08	1.605E-08	1.019E-08	7.124E-09	5.293E-09	4.101E-09	3.277E-09	2.681E-09	2.235E-09	
NE		4.564E-08	2.226E-08	1.376E-08	7.289E-09	4.609E-09	3.212E-09	2.380E-09	1.841E-09	1.468E-09	1.199E-09	9.978E-10	
ENE		4.318E-08	2.107E-08	1.302E-08	6.902E-09	4.368E-09	3.046E-09	2.259E-09	1.748E-09	1.395E-09	1.141E-09	9.500E-10	
E		3.100E-08	1.502E-08	9.240E-09	4.866E-09	3.067E-09	2.133E-09	1.579E-09	1.220E-09	9.727E-10	7.946E-10	6.615E-10	
ESE		4.812E-08	2.276E-08	1.377E-08	7.083E-09	4.396E-09	3.022E-09	2.216E-09	1.699E-09	1.347E-09	1.094E-09	9.068E-10	
SE		6.761E-08	3.210E-08	1.947E-08	1.006E-08	6.271E-09	4.323E-09	3.177E-09	2.441E-09	1.937E-09	1.576E-09	1.307E-09	
SSE		1.104E-07	5.294E-08	3.236E-08	1.692E-08	1.063E-08	7.379E-09	5.452E-09	4.207E-09	3.351E-09	2.734E-09	2.274E-09	

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

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES									
	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	
S	1.011E-05	2.247E-06	6.591E-07	3.199E-07	1.922E-07	7.994E-08	2.505E-08	1.070E-08	6.065E-09	3.930E-09
SSW	6.203E-06	1.357E-06	3.976E-07	1.920E-07	1.158E-07	4.809E-08	1.504E-08	6.420E-09	3.637E-09	2.355E-09
SW	3.262E-06	7.072E-07	2.006E-07	9.538E-08	5.645E-08	2.289E-08	6.877E-09	2.845E-09	1.583E-09	1.012E-09
WSW	2.846E-06	6.103E-07	1.776E-07	8.589E-08	5.149E-08	2.136E-08	6.690E-09	2.874E-09	1.637E-09	1.065E-09
W	2.636E-06	5.717E-07	1.654E-07	7.963E-08	4.755E-08	1.957E-08	6.027E-09	2.542E-09	1.431E-09	9.224E-10
WNW	4.251E-06	9.386E-07	2.840E-07	1.404E-07	8.544E-08	3.527E-08	1.174E-08	5.139E-09	2.953E-09	1.930E-09
NW	6.117E-06	1.327E-06	3.884E-07	1.885E-07	1.133E-07	4.722E-08	1.488E-08	6.410E-09	3.857E-09	2.381E-09
NNW	7.789E-06	1.732E-06	5.422E-07	2.731E-07	1.684E-07	7.294E-08	2.436E-08	1.090E-08	6.330E-09	4.176E-09
N	1.099E-05	2.493E-06	7.686E-07	3.836E-07	2.350E-07	1.007E-07	3.307E-08	1.461E-08	8.441E-09	5.538E-09
NNE	5.994E-06	1.352E-06	4.076E-07	2.099E-07	1.220E-07	5.156E-08	1.657E-08	7.209E-09	4.128E-09	2.693E-09
NE	2.816E-06	6.340E-07	1.897E-07	9.309E-08	5.634E-08	2.368E-08	7.536E-09	3.252E-09	1.853E-09	1.204E-09
ENE	2.679E-06	6.016E-07	1.797E-07	8.810E-08	5.331E-08	2.241E-08	7.136E-09	3.084E-09	1.760E-09	1.145E-09
E	1.971E-06	4.421E-07	1.307E-07	6.366E-08	3.835E-08	1.600E-08	5.038E-09	2.160E-09	1.228E-09	7.981E-10
ESE	3.362E-06	7.430E-07	2.118E-07	1.010E-07	5.994E-08	2.440E-08	7.374E-09	3.066E-09	1.713E-09	1.100E-09
SE	4.706E-06	1.034E-06	2.959E-07	1.415E-07	8.413E-08	3.438E-08	1.047E-08	4.384E-09	2.459E-09	1.583E-09
SSE	7.522E-06	1.644E-06	4.756E-07	2.291E-07	1.370E-07	5.655E-08	1.756E-08	7.476E-09	4.237E-09	2.746E-09

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

***** RELATIVE DEPOSITION PER UNIT AREA (M**2) AT FIXED POINTS BY DOWNWIND SECTORS *****											
DIRECTION FROM SITE	DISTANCES IN MILES										
	0.25	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S	2.738E-07	9.260E-08	4.754E-08	2.260E-08	8.119E-09	4.026E-09	2.371E-09	1.552E-09	1.092E-09	8.095E-10	6.238E-10
SSW	1.706E-07	5.769E-08	2.962E-08	1.408E-08	5.058E-09	2.508E-09	1.477E-09	9.671E-10	6.805E-10	5.043E-10	3.886E-10
SW	9.313E-08	3.149E-08	1.617E-08	7.687E-09	2.761E-09	1.369E-09	8.063E-10	5.280E-10	3.715E-10	2.753E-10	2.122E-10
WSW	8.472E-08	2.865E-08	1.471E-08	6.993E-09	2.512E-09	1.246E-09	7.335E-10	4.803E-10	3.380E-10	2.505E-10	1.930E-10
W	8.352E-08	2.824E-08	1.450E-08	6.894E-09	2.476E-09	1.228E-09	7.231E-10	4.735E-10	3.332E-10	2.469E-10	1.903E-10
WNW	9.601E-08	3.247E-08	1.667E-08	7.925E-09	2.847E-09	1.412E-09	8.313E-10	5.443E-10	3.830E-10	2.839E-10	2.187E-10
NW	2.125E-07	7.187E-08	3.690E-08	1.754E-08	6.302E-09	3.125E-09	1.840E-09	1.205E-09	8.479E-10	6.284E-10	4.842E-10
NNW	1.181E-07	3.992E-08	2.050E-08	9.746E-09	3.501E-09	1.736E-09	1.022E-09	6.693E-10	4.710E-10	3.490E-10	2.690E-10
N	1.920E-07	6.493E-08	3.334E-08	1.585E-08	5.693E-09	2.823E-09	1.662E-09	1.089E-09	7.660E-10	5.676E-10	4.374E-10
NNE	1.190E-07	4.025E-08	2.067E-08	9.825E-09	3.529E-09	1.750E-09	1.031E-09	6.748E-10	4.748E-10	3.519E-10	2.712E-10
NE	6.330E-08	2.141E-08	1.099E-08	5.225E-09	1.877E-09	9.308E-10	5.481E-10	3.589E-10	2.525E-10	1.871E-10	1.442E-10
ENE	6.203E-08	2.098E-08	1.077E-08	5.120E-09	1.839E-09	9.121E-10	5.371E-10	3.517E-10	2.474E-10	1.834E-10	1.413E-10
E	5.428E-08	1.836E-08	9.425E-09	4.481E-09	1.609E-09	7.982E-10	4.700E-10	3.077E-10	2.165E-10	1.605E-10	1.237E-10
ESE	1.395E-07	4.719E-08	2.423E-08	1.152E-08	4.137E-09	2.052E-09	1.208E-09	7.911E-10	5.566E-10	4.125E-10	3.179E-10
SE	1.894E-07	6.406E-08	3.289E-08	1.564E-08	5.617E-09	2.786E-09	1.640E-09	1.074E-09	7.557E-10	5.600E-10	4.316E-10
SSE	3.326E-07	1.125E-07	5.776E-08	2.746E-08	9.863E-09	4.891E-09	2.880E-09	1.886E-09	1.327E-09	9.834E-10	7.578E-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	4.956E-10	2.202E-10	1.334E-10	6.741E-11	4.080E-11	2.735E-11	1.960E-11	1.472E-11	1.144E-11	9.142E-12	7.462E-12
SSW	3.087E-10	1.372E-10	8.308E-11	4.199E-11	2.542E-11	1.704E-11	1.221E-11	9.169E-12	7.129E-12	5.695E-12	4.648E-12
SW	1.685E-10	7.488E-11	4.536E-11	2.293E-11	1.388E-11	9.303E-12	6.666E-12	5.006E-12	3.892E-12	3.109E-12	2.538E-12
WSW	1.533E-10	6.812E-11	4.126E-11	2.086E-11	1.262E-11	8.464E-12	6.065E-12	4.554E-12	3.541E-12	2.828E-12	2.309E-12
W	1.512E-10	6.715E-11	4.068E-11	2.056E-11	1.244E-11	8.344E-12	5.979E-12	4.489E-12	3.491E-12	2.788E-12	2.276E-12
WNW	1.738E-10	7.720E-11	4.676E-11	2.364E-11	1.431E-11	9.592E-12	6.873E-12	5.161E-12	4.013E-12	3.205E-12	2.616E-12
NW	2.947E-10	1.709E-10	1.035E-10	5.232E-11	3.167E-11	2.123E-11	1.521E-11	1.142E-11	8.883E-12	7.096E-12	5.792E-12
NNW	2.137E-10	9.493E-11	5.750E-11	2.906E-11	1.759E-11	1.179E-11	8.451E-12	6.346E-12	4.934E-12	3.941E-12	3.217E-12
N	3.475E-10	1.544E-10	9.352E-11	4.727E-11	2.861E-11	1.918E-11	1.374E-11	1.032E-11	8.025E-12	6.410E-12	5.232E-12
NNE	2.154E-10	9.570E-11	5.797E-11	2.930E-11	1.773E-11	1.189E-11	8.520E-12	6.398E-12	4.975E-12	3.974E-12	3.243E-12
NE	1.146E-10	5.089E-11	3.083E-11	1.558E-11	9.431E-12	6.324E-12	4.531E-12	3.402E-12	2.645E-12	2.113E-12	1.725E-12
ENE	1.123E-10	4.987E-11	3.021E-11	1.527E-11	9.242E-12	6.197E-12	4.440E-12	3.334E-12	2.592E-12	2.071E-12	1.690E-12
E	9.825E-11	4.364E-11	2.644E-11	1.336E-11	8.088E-12	5.423E-12	3.886E-12	2.918E-12	2.269E-12	1.812E-12	1.479E-12
ESE	2.526E-10	1.122E-10	6.796E-11	3.435E-11	2.079E-11	1.394E-11	9.989E-12	7.500E-12	5.832E-12	4.658E-12	3.802E-12
SE	3.429E-10	1.523E-10	9.226E-11	4.663E-11	2.823E-11	1.892E-11	1.356E-11	1.018E-11	7.917E-12	6.324E-12	5.162E-12
SSE	6.020E-10	2.675E-10	1.620E-10	8.189E-11	4.956E-11	3.323E-11	2.381E-11	1.788E-11	1.390E-11	1.111E-11	9.064E-12

***** RELATIVE DEPOSITION PER UNIT AREA (M**2) BY DOWNWIND SECTORS *****											
DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES										
	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50	
S	4.647E-08	9.519E-09	2.485E-09	1.116E-09	6.314E-10	2.428E-10	7.024E-11	2.784E-11	1.487E-11	9.201E-12	
SSW	2.895E-08	5.939E-09	1.548E-09	6.953E-10	3.933E-10	1.513E-10	4.376E-11	1.734E-11	9.261E-12	5.732E-12	
SW	1.580E-08	3.237E-09	8.451E-10	3.796E-10	2.147E-10	8.257E-11	2.389E-11	9.468E-12	5.056E-12	3.129E-12	
WSW	1.438E-08	2.945E-09	7.688E-10	3.453E-10	1.953E-10	7.512E-11	2.173E-11	8.613E-12	4.599E-12	2.847E-12	
W	1.417E-08	2.903E-09	7.579E-10	3.404E-10	1.926E-10	7.405E-11	2.142E-11	8.491E-12	4.534E-12	2.807E-12	
WNW	1.629E-08	3.338E-09	8.713E-10	3.913E-10	2.214E-10	8.513E-11	2.463E-11	9.761E-12	5.213E-12	3.226E-12	
NW	3.607E-08	7.388E-09	1.929E-09	8.663E-10	4.901E-10	1.885E-10	5.452E-11	2.161E-11	1.154E-11	7.142E-12	
NNW	2.004E-08	4.104E-09	1.071E-09	4.812E-10	2.722E-10	1.047E-10	3.028E-11	1.200E-11	6.410E-12	3.967E-12	
N	3.259E-08	6.675E-09	1.742E-09	7.826E-10	4.427E-10	1.702E-10	4.925E-11	1.952E-11	1.042E-11	6.452E-12	
NNE	2.020E-08	4.138E-09	1.080E-09	4.851E-10	2.744E-10	1.055E-10	3.053E-11	1.210E-11	6.462E-12	4.000E-12	
NE	1.074E-08	2.200E-09	5.744E-10	2.580E-10	1.460E-10	5.613E-11	1.624E-11	6.435E-12	3.437E-12	2.127E-12	
ENE	1.053E-08	2.156E-09	5.629E-10	2.528E-10	1.430E-10	5.500E-11	1.591E-11	6.306E-12	3.368E-12	2.084E-12	
E	9.212E-09	1.887E-09	4.926E-10	2.212E-10	1.252E-10	4.813E-11	1.392E-11	5.519E-12	2.947E-12	1.824E-12	
ESE	2.368E-08	4.351E-09	1.266E-09	5.687E-10	3.217E-10	1.237E-10	3.574E-11	1.419E-11	7.576E-12	4.689E-12	
SE	3.215E-08	6.585E-09	1.719E-09	7.721E-10	4.368E-10	1.680E-10	4.859E-11	1.926E-11	1.028E-11	6.366E-12	
SSE	5.645E-08	1.156E-08	3.019E-09	1.356E-09	7.670E-10	2.949E-10	8.533E-11	3.382E-11	1.806E-11	1.118E-11	

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

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE		X/Q	X/Q	X/Q	D/Q		
			(MILES)	(METERS)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(PER SQ.METER)		
			NO DECAY					2.260 DAY DECAY	8.000 DAY DECAY	
			UNDEPLETED					UNDEPLETED	DEPLETED	
A	SITE BOUNDARY	S	0.80	1287.	1.001E-05	9.964E-06	8.875E-06	4.043E-08		
A	SITE BOUNDARY	SSW	0.82	1327.	5.643E-06	5.615E-06	4.993E-06	2.324E-08		
A	SITE BOUNDARY	SW	0.98	1569.	1.978E-06	1.969E-06	1.732E-06	8.203E-09		
A	SITE BOUNDARY	WSW	0.93	1489.	1.920E-06	1.910E-06	1.687E-06	8.545E-09		
A	SITE BOUNDARY	W	0.91	1468.	1.864E-06	1.856E-06	1.640E-06	8.741E-09		
A	SITE BOUNDARY	WNW	0.94	1509.	2.801E-06	2.783E-06	2.457E-06	9.355E-09		
A	SITE BOUNDARY	NW	0.81	1307.	5.752E-06	5.729E-06	5.096E-06	3.014E-08		
A	SITE BOUNDARY	NNW	0.69	1106.	1.012E-05	1.006E-05	9.050E-06	2.374E-08		
A	SITE BOUNDARY	N	0.67	1086.	1.476E-05	1.468E-05	1.321E-05	3.981E-08		
A	SITE BOUNDARY	NNE	0.60	965.	9.623E-06	9.644E-06	8.730E-06	2.991E-08		
A	SITE BOUNDARY	NE	0.62	1005.	4.265E-06	4.247E-06	3.834E-06	1.495E-08		
A	SITE BOUNDARY	ENE	0.59	945.	4.473E-06	4.458E-06	4.040E-06	1.613E-08		
A	SITE BOUNDARY	E	0.53	845.	3.889E-06	3.878E-06	3.538E-06	1.695E-08		
A	SITE BOUNDARY	ESE	0.54	865.	6.394E-06	6.382E-06	5.810E-06	4.194E-08		
A	SITE BOUNDARY	SE	0.65	1046.	6.756E-06	6.738E-06	6.063E-06	4.183E-08		
A	SITE BOUNDARY	SSE	0.81	1307.	7.131E-06	7.104E-06	6.318E-06	4.716E-08		
A	NEAR. RESIDENCE	SW	1.40	2253.	8.473E-07	8.416E-07	7.222E-07	3.276E-09		
A	NEAR. RESIDENCE	WSW	1.30	2092.	6.671E-07	6.605E-07	7.432E-07	3.587E-09		
A	NEAR. RESIDENCE	W	1.00	1609.	1.493E-06	1.486E-06	1.305E-06	6.894E-09		
A	NEAR. RESIDENCE	WNW	1.60	2575.	8.514E-07	8.419E-07	7.169E-07	2.429E-09		
A	NEAR. RESIDENCE	NW	0.90	1448.	4.455E-06	4.435E-06	3.922E-06	2.305E-08		
A	NEAR. RESIDENCE	NNW	2.00	3219.	1.010E-06	9.917E-07	8.318E-07	1.736E-09		
A	NEAR. RESIDENCE	N	3.00	4828.	6.501E-07	6.348E-07	5.129E-07	1.089E-09		
A	NEAR. RESIDENCE	NNE	2.70	4345.	4.192E-07	4.114E-07	3.350E-07	8.611E-10		
A	NEAR. RESIDENCE	ENE	1.70	2736.	4.768E-07	4.720E-07	3.995E-07	1.352E-09		
A	NEAR. RESIDENCE	E	1.80	2897.	3.085E-07	3.056E-07	2.572E-07	1.030E-09		
A	NEAR. RESIDENCE	ESE	2.40	3863.	2.742E-07	2.718E-07	2.225E-07	1.330E-09		
A	NEAR. RESIDENCE	SE	2.20	3541.	4.601E-07	4.558E-07	3.765E-07	2.218E-09		
A	NEAREST COW	NNW	3.50	5634.	3.479E-07	3.369E-07	2.690E-07	4.707E-10		
A	NEAREST GARDEN	SW	1.40	2253.	8.473E-07	8.416E-07	7.222E-07	3.276E-09		
A	NEAREST GARDEN	WSW	1.80	2897.	4.222E-07	4.176E-07	3.519E-07	1.607E-09		
A	NEAREST GARDEN	NNW	1.60	2575.	8.514E-07	8.419E-07	7.169E-07	2.429E-09		
A	NEAREST GARDEN	WSW	2.00	3219.	1.010E-06	9.917E-07	8.318E-07	1.736E-09		

Atmospheric Diffusion Estimates

Ground Level Releases

April-June 1993

VENTS GROUND LEVEL RELEASES - APR-JUN 1993
NO DECAY, UNDEPLETED
CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)				DISTANCE IN MILES									
SECTOR	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500		
S	6.595E-05	2.136E-05	1.135E-05	5.686E-06	2.288E-06	1.241E-06	7.877E-07	5.506E-07	4.106E-07	3.207E-07	2.592E-07		
SSW	2.916E-05	9.347E-06	4.933E-06	2.471E-06	1.005E-06	5.491E-07	3.505E-07	2.461E-07	1.841E-07	1.443E-07	1.169E-07		
SW	1.363E-05	4.807E-06	2.541E-06	1.252E-06	4.841E-07	2.552E-07	1.584E-07	1.087E-07	7.977E-08	6.145E-08	4.907E-08		
WSW	1.592E-05	5.428E-06	2.848E-06	1.404E-06	5.494E-07	2.922E-07	1.827E-07	1.261E-07	9.308E-08	7.204E-08	5.778E-08		
W	1.149E-05	3.973E-06	2.108E-06	1.044E-06	4.074E-07	2.162E-07	1.350E-07	9.305E-08	6.858E-08	5.302E-08	4.247E-08		
WNW	1.192E-05	4.226E-06	2.223E-06	1.087E-06	4.105E-07	2.127E-07	1.303E-07	8.848E-08	6.436E-08	4.918E-08	3.900E-08		
NW	1.966E-05	6.833E-06	3.616E-06	1.786E-06	6.989E-07	3.718E-07	2.326E-07	1.606E-07	1.184E-07	9.183E-08	7.366E-08		
NNW	5.785E-05	1.827E-05	9.309E-06	4.596E-06	1.898E-06	1.048E-06	6.748E-07	4.770E-07	3.590E-07	2.826E-07	2.300E-07		
N	5.748E-05	1.842E-05	9.797E-06	4.929E-06	2.010E-06	1.100E-06	7.027E-07	4.938E-07	3.698E-07	2.899E-07	2.350E-07		
NNE	3.818E-05	1.184E-05	6.368E-06	3.239E-06	1.333E-06	7.340E-07	4.711E-07	3.322E-07	2.494E-07	1.960E-07	1.592E-07		
NE	2.040E-05	6.505E-06	3.412E-06	1.705E-06	6.966E-07	3.819E-07	2.444E-07	1.719E-07	1.289E-07	1.012E-07	8.211E-08		
ENE	1.175E-05	3.770E-06	2.009E-06	1.010E-06	4.092E-07	2.229E-07	1.420E-07	9.949E-08	7.434E-08	5.816E-08	4.709E-08		
E	1.571E-05	4.912E-06	2.626E-06	1.330E-06	5.464E-07	3.005E-07	1.927E-07	1.358E-07	1.019E-07	8.002E-08	6.499E-08		
ESE	1.203E-05	4.175E-06	2.238E-06	1.114E-06	4.371E-07	2.330E-07	1.460E-07	1.010E-07	7.464E-08	5.784E-08	4.644E-08		
SE	3.176E-05	1.038E-05	5.615E-06	2.837E-06	1.140E-06	6.173E-07	3.914E-07	2.733E-07	2.036E-07	1.588E-07	1.283E-07		
SSE	5.963E-05	1.852E-05	9.609E-06	4.791E-06	1.961E-06	1.076E-06	6.897E-07	4.858E-07	3.646E-07	2.863E-07	2.326E-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	2.153E-07	1.121E-07	7.340E-08	4.276E-08	2.932E-08	2.193E-08	1.732E-08	1.420E-08	1.196E-08	1.029E-08	8.996E-09		
SSW	9.731E-08	5.113E-08	3.366E-08	1.975E-08	1.360E-08	1.020E-08	8.073E-09	6.632E-09	5.597E-09	4.822E-09	4.221E-09		
SW	4.029E-08	2.009E-08	1.274E-08	7.107E-09	4.730E-09	3.457E-09	2.680E-09	2.164E-09	1.799E-09	1.529E-09	1.323E-09		
WSW	4.764E-08	2.414E-08	1.550E-08	8.802E-09	5.942E-09	4.392E-09	3.437E-09	2.796E-09	2.340E-09	2.002E-09	1.742E-09		
W	3.499E-08	1.767E-08	1.131E-08	6.395E-09	4.298E-09	3.165E-09	2.468E-09	2.003E-09	1.672E-09	1.427E-09	1.239E-09		
WNW	3.185E-08	1.557E-08	9.738E-09	5.329E-09	3.511E-09	2.546E-09	1.961E-09	1.574E-09	1.302E-09	1.102E-09	9.500E-10		
NW	6.077E-08	3.087E-08	1.985E-08	1.128E-08	7.608E-09	5.617E-09	4.391E-09	3.569E-09	2.985E-09	2.551E-09	2.217E-09		
NNW	1.922E-07	1.024E-07	6.813E-08	4.053E-08	2.817E-08	2.129E-08	1.695E-08	1.400E-08	1.187E-08	1.026E-08	9.014E-09		
N	1.957E-07	1.030E-07	6.791E-08	3.989E-08	2.746E-08	2.060E-08	1.631E-08	1.339E-08	1.130E-08	9.736E-09	8.522E-09		
NNE	1.328E-07	7.030E-08	4.651E-08	2.745E-08	1.897E-08	1.426E-08	1.131E-08	9.306E-09	7.863E-09	6.780E-09	5.940E-09		
NE	6.843E-08	3.613E-08	2.307E-08	1.408E-08	9.729E-09	7.320E-09	5.808E-09	4.781E-09	4.042E-09	3.487E-09	3.056E-09		
ENE	3.915E-08	2.047E-08	1.343E-08	7.851E-09	5.397E-09	4.044E-09	3.199E-09	2.626E-09	2.214E-09	1.906E-09	1.668E-09		
E	5.419E-08	2.863E-08	1.892E-08	1.116E-08	7.705E-09	5.793E-09	4.594E-09	3.780E-09	3.194E-09	2.754E-09	2.413E-09		
ESE	3.834E-08	1.952E-08	1.257E-08	7.163E-09	4.839E-09	3.578E-09	2.799E-09	2.277E-09	1.905E-09	1.629E-09	1.416E-09		
SE	1.064E-07	5.525E-08	3.606E-08	2.091E-08	1.428E-08	1.065E-08	8.389E-09	6.862E-09	5.769E-09	4.953E-09	4.323E-09		
SSE	1.940E-07	1.028E-07	6.812E-08	4.036E-08	2.800E-08	2.113E-08	1.681E-08	1.386E-08	1.174E-08	1.014E-08	8.905E-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	1.106E-05	2.578E-06	8.137E-07	4.163E-07	2.611E-07	1.178E-07	4.360E-08	2.206E-08	1.424E-08	1.031E-08
SSW	4.820E-06	1.128E-06	3.617E-07	1.866E-07	1.178E-07	5.363E-08	2.011E-08	1.025E-08	6.650E-09	4.829E-09
SW	2.472E-06	5.530E-07	1.643E-07	8.105E-08	4.948E-08	2.131E-08	7.304E-09	3.486E-09	2.172E-09	1.532E-09
WSW	2.780E-06	6.251E-07	1.893E-07	9.450E-08	5.825E-08	2.552E-08	9.019E-09	4.423E-09	2.806E-09	2.006E-09
W	2.050E-06	4.639E-07	1.399E-07	6.964E-08	4.283E-08	1.869E-08	6.556E-09	3.188E-09	2.010E-09	1.430E-09
WNW	2.163E-06	4.729E-07	1.356E-07	6.547E-08	3.937E-08	1.660E-08	5.501E-09	2.569E-09	1.581E-09	1.105E-09
NW	3.518E-06	7.952E-07	2.409E-07	1.204E-07	7.427E-08	3.262E-08	1.155E-08	5.657E-09	3.581E-09	2.556E-09
NNW	9.206E-06	2.120E-06	6.953E-07	3.636E-07	2.316E-07	1.071E-07	4.117E-08	2.139E-08	1.403E-08	1.027E-08
N	9.551E-06	2.254E-06	7.249E-07	3.748E-07	2.367E-07	1.080E-07	4.059E-08	2.071E-08	1.343E-08	9.751E-09
NNE	6.194E-06	1.490E-06	4.856E-07	2.527E-07	1.603E-07	7.361E-08	2.791E-08	1.434E-08	9.330E-09	6.790E-09
NE	3.341E-06	7.808E-07	2.521E-07	1.306E-07	8.269E-08	3.786E-08	1.432E-08	7.358E-09	4.793E-09	3.492E-09
ENE	1.956E-06	4.599E-07	1.466E-07	7.536E-08	4.743E-08	2.149E-08	8.000E-09	4.067E-09	2.633E-09	1.909E-09
E	2.558E-06	6.112E-07	1.987E-07	1.032E-07	6.544E-08	2.999E-08	1.135E-08	5.823E-09	3.789E-09	2.758E-09
ESE	2.169E-06	4.967E-07	1.512E-07	7.577E-08	4.682E-08	2.061E-08	7.332E-09	3.603E-09	2.284E-09	1.632E-09
SE	5.439E-06	1.285E-06	4.044E-07	2.065E-07	1.293E-07	5.810E-08	2.133E-08	1.071E-08	6.882E-09	4.962E-09
SSE	9.448E-06	2.197E-06	7.113E-07	3.694E-07	2.342E-07	1.077E-07	4.103E-08	2.123E-08	1.390E-08	1.016E-08

[illegible]

VENTS GROUND LEVEL RELEASES - APR-JUN 1993
8,000 DAY DECAY, DEPLETED
CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)									
SECTOR	0-250	250-500	500-750	750-1,000	1,000-1,500	1,500-2,500	2,500-3,000	3,000-3,500	3,500-4,000
S	6.239E-05	1.949E-05	1.010E-05	4.949E-06	1.920E-06	6.352E-07	4.350E-07	3.149E-07	2.449E-07
SSW	2.758E-05	8.587E-06	4.350E-06	2.159E-06	8.515E-07	2.699E-07	1.977E-07	1.477E-07	1.099E-07
SW	1.269E-05	4.567E-06	2.322E-06	1.195E-06	4.153E-07	1.495E-07	1.059E-07	7.777E-08	5.999E-08
WSW	1.506E-05	4.954E-06	2.553E-06	1.253E-06	4.673E-07	1.743E-07	1.259E-07	9.199E-08	6.999E-08
W	1.987E-05	3.426E-06	1.877E-06	9.179E-07	3.445E-07	1.100E-07	7.549E-08	5.377E-08	3.949E-08
WNW	1.128E-05	3.858E-06	1.980E-06	9.566E-07	3.482E-07	1.149E-07	7.949E-08	5.749E-08	4.249E-08
NW	1.460E-05	4.236E-06	2.200E-06	1.152E-06	4.568E-07	1.609E-07	1.139E-07	8.249E-08	6.049E-08
NNW	1.473E-05	4.675E-06	2.455E-06	1.404E-06	5.113E-07	1.899E-07	1.359E-07	9.799E-08	7.249E-08
N	4.979E-05	1.081E-05	5.720E-06	4.373E-06	1.722E-06	6.943E-07	5.099E-07	3.799E-07	2.849E-07
NNE	3.612E-05	1.801E-05	4.680E-06	3.490E-06	1.299E-06	5.057E-07	3.659E-07	2.699E-07	2.049E-07
NE	1.930E-05	5.935E-06	3.037E-06	1.490E-06	5.920E-07	2.155E-07	1.599E-07	1.109E-07	8.149E-08
E	1.112E-05	3.441E-06	1.788E-06	8.820E-07	3.467E-07	1.180E-07	8.499E-08	6.199E-08	4.599E-08
ESE	1.448E-05	4.482E-06	2.357E-06	1.142E-06	4.208E-07	1.559E-07	1.109E-07	8.099E-08	5.999E-08
SE	1.138E-05	3.810E-06	1.973E-06	9.736E-07	3.706E-07	1.299E-07	9.299E-08	6.799E-08	5.099E-08
SSE	5.004E-05	9.469E-06	4.997E-06	2.479E-06	9.455E-07	3.549E-07	2.599E-07	1.919E-07	1.419E-07
	5.641E-05	1.690E-05	8.552E-06	4.186E-06	1.661E-06	6.880E-07	5.079E-07	3.859E-07	2.899E-07
ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)									
BEARING	5,000	7,500	10,000	15,000	20,000	30,000	35,000	40,000	45,000
S	1.590E-07	7.798E-08	4.842E-08	2.566E-08	1.450E-08	6.489E-09	3.712E-09	2.305E-09	1.499E-09
SSW	7.184E-08	3.552E-08	2.217E-08	1.192E-08	6.158E-09	3.199E-09	1.712E-09	9.699E-10	5.699E-10
SW	2.983E-08	1.402E-08	8.143E-09	4.566E-09	2.549E-09	1.349E-09	7.099E-10	3.999E-10	2.299E-10
WSW	2.262E-08	1.143E-08	6.143E-09	3.366E-09	1.849E-09	9.999E-10	5.299E-10	2.899E-10	1.699E-10
W	2.591E-08	1.333E-08	7.196E-09	3.892E-09	2.100E-09	1.109E-09	6.099E-10	3.399E-10	1.999E-10
WNW	3.664E-08	1.892E-08	1.050E-08	5.282E-09	2.866E-09	1.509E-09	8.299E-10	4.499E-10	2.599E-10
NW	4.504E-08	2.157E-08	1.218E-08	6.091E-09	3.366E-09	1.799E-09	9.799E-10	5.199E-10	2.899E-10
NNW	4.149E-07	7.719E-08	4.900E-08	2.608E-08	1.344E-08	6.999E-09	3.699E-09	1.999E-09	1.199E-09
N	1.466E-07	7.165E-08	4.600E-08	2.135E-08	1.099E-08	5.699E-09	2.999E-09	1.599E-09	8.499E-10
NNE	4.814E-08	4.891E-08	3.700E-08	2.135E-08	1.099E-08	5.699E-09	2.999E-09	1.599E-09	8.499E-10
NE	5.957E-08	2.514E-08	1.576E-08	1.669E-08	7.450E-09	3.999E-09	2.199E-09	1.199E-09	6.499E-10
E	2.894E-08	1.425E-08	8.700E-09	4.543E-09	2.409E-09	1.299E-09	6.999E-10	3.799E-10	2.099E-10
ESE	4.002E-08	1.990E-08	1.247E-08	6.740E-09	3.609E-09	1.999E-09	1.099E-09	5.999E-10	3.299E-10
SE	2.841E-08	1.364E-08	8.344E-09	4.722E-09	2.579E-09	1.399E-09	7.499E-10	4.099E-10	2.299E-10
SSE	7.863E-08	3.841E-08	2.378E-08	1.264E-08	6.835E-09	3.699E-09	1.999E-09	1.199E-09	6.499E-10
	1.432E-07	7.142E-08	4.487E-08	2.436E-08	1.571E-08	8.112E-09	4.359E-09	2.339E-09	1.299E-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
S	9.908E-06	2.205E-06	6.580E-07	3.355E-07	1.941E-07	8.285E-08	3.671E-08	1.729E-08	7.589E-09
SSW	4.318E-06	9.699E-07	2.972E-07	1.650E-07	8.832E-08	4.266E-08	1.224E-08	5.469E-09	2.499E-09
SW	2.215E-06	4.737E-07	1.522E-07	8.309E-08	3.724E-08	1.505E-08	5.511E-09	1.872E-09	8.149E-10
WSW	2.492E-06	5.353E-07	1.544E-07	7.355E-08	4.585E-08	1.801E-08	5.561E-09	1.872E-09	8.149E-10
W	1.837E-06	3.975E-07	1.134E-07	5.421E-08	3.272E-08	1.320E-08	4.047E-09	1.371E-09	5.249E-10
WNW	1.940E-06	4.055E-07	1.111E-07	5.109E-08	2.972E-08	1.179E-08	3.438E-09	1.149E-09	4.029E-10
NW	3.153E-06	6.812E-07	1.944E-07	9.379E-08	5.542E-08	2.206E-08	7.153E-09	2.359E-09	8.149E-10
NNW	8.251E-06	1.818E-06	5.680E-07	2.825E-07	1.779E-07	7.7593E-08	2.517E-08	1.103E-08	4.443E-09
N	5.557E-06	1.275E-06	3.920E-07	1.964E-07	1.175E-07	4.987E-08	1.687E-08	6.279E-09	2.379E-09
NNE	2.993E-06	6.675E-07	2.091E-07	1.015E-07	6.219E-08	2.462E-08	8.780E-09	3.199E-09	1.189E-09
NE	1.751E-06	3.935E-07	1.167E-07	5.859E-08	3.566E-08	1.512E-08	4.910E-09	1.679E-09	5.889E-10
E	2.291E-06	5.222E-07	1.608E-07	8.020E-08	4.913E-08	2.107E-08	6.943E-09	2.355E-09	8.249E-10
ESE	1.944E-06	4.255E-07	1.266E-07	5.901E-08	3.524E-08	1.457E-08	4.537E-09	1.549E-09	5.249E-10
SE	4.872E-06	1.099E-06	3.274E-07	1.604E-07	9.705E-08	4.085E-08	1.307E-08	4.609E-09	1.639E-09
SSE	8.466E-06	1.879E-06	5.736E-07	2.869E-07	1.752E-07	7.557E-08	2.507E-08	1.149E-08	4.349E-09

VENTS GROUND LEVEL RELEASES - APR-JUN 1993
CORRECTED FOR OPEN TERRAIN RECIRCULATION

***** RELATIVE DEPOSITION PER UNIT AREA (M**2) AT FIXED POINTS BY DOWNWIND SECTORS *****										
DIRECTION FROM SITE	DISTANCES IN MILES									
	0.25	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00
S	2.763E-07	9.344E-08	4.798E-08	2.281E-08	8.193E-09	4.063E-09	2.392E-09	1.567E-09	1.102E-09	8.149E-10
SSW	9.238E-08	3.124E-08	1.604E-08	7.625E-09	2.739E-09	1.358E-09	7.998E-10	5.237E-10	3.685E-10	2.731E-10
SW	6.941E-08	2.347E-08	1.205E-08	5.729E-09	2.058E-09	1.021E-09	6.010E-10	3.935E-10	2.769E-10	2.052E-10
WSW	8.734E-08	2.954E-08	1.517E-08	7.210E-09	2.590E-09	1.284E-09	7.562E-10	4.952E-10	3.484E-10	2.582E-10
W	6.943E-08	2.348E-08	1.206E-08	5.731E-09	2.059E-09	1.021E-09	6.011E-10	3.936E-10	2.770E-10	2.053E-10
WNW	9.943E-08	3.362E-08	1.726E-08	8.208E-09	2.948E-09	1.462E-09	8.609E-10	5.637E-10	3.967E-10	2.948E-10
NW	1.600E-07	5.410E-08	2.777E-08	1.320E-08	4.743E-09	2.352E-09	1.385E-09	9.069E-10	6.381E-10	4.729E-10
NNW	2.302E-07	7.786E-08	3.998E-08	1.901E-08	6.827E-09	3.386E-09	1.993E-09	1.305E-09	9.185E-10	6.807E-10
N	2.461E-07	8.321E-08	4.272E-08	2.031E-08	7.296E-09	3.618E-09	2.130E-09	1.395E-09	9.816E-10	7.275E-10
NNE	1.451E-07	4.906E-08	2.519E-08	1.197E-08	4.301E-09	2.133E-09	1.256E-09	8.224E-10	5.787E-10	4.289E-10
NE	8.758E-08	2.962E-08	1.521E-08	7.229E-09	2.597E-09	1.288E-09	7.583E-10	4.965E-10	3.494E-10	2.589E-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
E	5.740E-08	1.941E-08	9.966E-09	4.738E-09	1.702E-09	8.440E-10	4.970E-10	3.254E-10	2.290E-10	1.697E-10
ESE	8.170E-08	2.763E-08	1.419E-08	6.744E-09	2.422E-09	1.201E-09	6.632E-10	3.259E-10	2.415E-10	1.861E-10
SE	1.562E-07	5.281E-08	2.711E-08	1.289E-08	4.630E-09	2.296E-09	1.352E-09	8.853E-10	6.229E-10	4.617E-10
SSE	2.752E-07	9.305E-08	4.778E-08	2.271E-08	8.159E-09	4.046E-09	2.382E-09	1.560E-09	1.098E-09	8.135E-10

***** RELATIVE DEPOSITION PER UNIT AREA (M**2) BY DOWNWIND SECTORS *****										
DIRECTION FROM SITE	DISTANCES IN MILES									
	5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00
S	5.001E-10	2.222E-10	1.346E-10	6.802E-11	4.117E-11	2.760E-11	1.978E-11	1.485E-11	1.155E-11	9.225E-12
SSW	1.672E-10	7.427E-11	4.449E-11	2.274E-11	1.376E-11	9.228E-12	6.613E-12	4.965E-12	3.861E-12	3.084E-12
SW	1.256E-10	5.581E-11	3.381E-11	1.709E-11	1.034E-11	6.934E-12	4.969E-12	3.731E-12	2.901E-12	2.317E-12
WSW	1.581E-10	7.023E-11	4.254E-11	2.150E-11	1.301E-11	8.726E-12	6.252E-12	4.695E-12	3.650E-12	2.916E-12
W	1.257E-10	5.582E-11	3.382E-11	1.709E-11	1.035E-11	6.936E-12	4.970E-12	3.732E-12	2.902E-12	2.318E-12
WNW	1.800E-10	7.995E-11	4.843E-11	2.448E-11	1.482E-11	9.933E-12	7.118E-12	5.345E-12	4.156E-12	3.320E-12
NW	2.895E-10	1.286E-10	7.791E-11	3.938E-11	2.383E-11	1.598E-11	1.145E-11	8.598E-12	6.686E-12	5.340E-12
NNW	4.167E-10	1.851E-10	1.121E-10	5.668E-11	3.431E-11	2.300E-11	1.648E-11	1.238E-11	9.623E-12	7.687E-12
N	4.453E-10	1.978E-10	1.198E-10	6.057E-11	3.666E-11	2.458E-11	1.761E-11	1.323E-11	1.028E-11	8.215E-12
NNE	2.626E-10	1.166E-10	7.065E-11	3.571E-11	2.161E-11	1.449E-11	1.038E-11	7.796E-12	6.063E-12	4.843E-12
NE	1.585E-10	7.041E-11	4.265E-11	2.156E-11	1.305E-11	8.749E-12	6.269E-12	4.707E-12	3.660E-12	2.924E-12
ENE	8.334E-11	3.702E-11	2.243E-11	1.134E-11	6.861E-12	4.600E-12	3.296E-12	2.475E-12	1.925E-12	1.537E-12
E	1.039E-10	4.615E-11	2.796E-11	1.413E-11	8.552E-12	5.734E-12	4.109E-12	3.085E-12	2.399E-12	1.916E-12
ESE	1.479E-10	6.569E-11	3.979E-11	2.011E-11	1.217E-11	8.162E-12	5.848E-12	4.391E-12	3.414E-12	2.727E-12
SE	2.826E-10	1.256E-10	7.606E-11	3.844E-11	2.327E-11	1.560E-11	1.118E-11	8.399E-12	6.526E-12	5.213E-12
SSE	4.980E-10	2.212E-10	1.340E-10	6.774E-11	4.100E-11	2.749E-11	1.970E-11	1.479E-11	1.150E-11	9.186E-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	4.689E-08	9.605E-09	2.508E-09	1.126E-09	6.371E-10	2.450E-10	7.088E-11	2.809E-11	1.500E-11	9.285E-12
SSW	1.568E-08	3.211E-09	8.383E-10	3.765E-10	2.130E-10	8.191E-11	2.370E-11	9.391E-12	5.015E-12	3.104E-12
SW	1.178E-08	2.413E-09	6.299E-10	2.829E-10	1.600E-10	6.154E-11	1.780E-11	7.057E-12	3.768E-12	2.332E-12
WSW	1.482E-08	3.036E-09	7.926E-10	3.560E-10	2.014E-10	7.745E-11	2.240E-11	8.880E-12	4.742E-12	2.935E-12
W	1.178E-08	2.414E-09	6.301E-10	2.830E-10	1.601E-10	6.156E-11	1.781E-11	7.059E-12	3.769E-12	2.333E-12
WNW	1.687E-08	3.457E-09	9.023E-10	4.053E-10	2.293E-10	8.816E-11	2.551E-11	1.011E-11	5.398E-12	3.341E-12
NW	2.715E-08	5.561E-09	1.452E-09	6.520E-10	3.688E-10	1.418E-10	4.103E-11	1.626E-11	8.685E-12	5.376E-12
NNW	3.907E-08	8.004E-09	2.089E-09	9.384E-10	5.309E-10	2.042E-10	5.906E-11	2.341E-11	1.250E-11	7.737E-12
N	4.176E-08	8.554E-09	2.233E-09	1.003E-09	5.673E-10	2.182E-10	6.312E-11	2.502E-11	1.336E-11	8.269E-12
NNE	2.462E-08	5.043E-09	1.316E-09	5.913E-10	3.345E-10	1.286E-10	3.721E-11	1.475E-11	7.876E-12	4.875E-12
NE	1.486E-08	3.044E-09	7.947E-10	3.569E-10	2.019E-10	7.765E-11	2.246E-11	8.904E-12	4.755E-12	2.943E-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	9.741E-09	1.995E-09	5.269E-10	2.339E-10	1.323E-10	5.089E-11	1.472E-11	5.834E-12	3.116E-12	1.929E-12
ESE	1.387E-08	2.840E-09	7.414E-10	3.330E-10	1.884E-10	7.249E-11	2.096E-11	8.306E-12	4.435E-12	2.745E-12
SE	2.650E-08	5.428E-09	1.417E-09	6.365E-10	3.601E-10	1.385E-10	4.006E-11	1.588E-11	8.478E-12	5.247E-12
SSE	4.670E-08	9.565E-09	2.497E-09	1.122E-09	6.345E-10	2.440E-10	7.058E-11	2.798E-11	1.494E-11	9.247E-12

VENTS GROUND LEVEL RELEASES - APR-JUN 1993
CORRECTED FOR OPEN TERRAIN RECIRCULATION
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE		X/Q			D/Q (PER SQ.METER)
			(MILES)	(METERS)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	
					NO DECAY	2.260 DAY DECAY	8.000 DAY DECAY	
					UNDEPLETED	UNDEPLETED	DEPLETED	
A	SITE BOUNDARY	S	0.80	1287.	9.751E-06	9.706E-06	8.646E-06	4.080E-08
A	SITE BOUNDARY	SSW	0.82	1327.	3.928E-06	3.907E-06	3.476E-06	1.259E-08
A	SITE BOUNDARY	SW	0.98	1569.	1.330E-06	1.325E-06	1.165E-06	6.114E-09
A	SITE BOUNDARY	WSW	0.93	1489.	1.695E-06	1.688E-06	1.490E-06	8.810E-09
A	SITE BOUNDARY	W	0.91	1468.	1.304E-06	1.299E-06	1.147E-06	7.266E-09
A	SITE BOUNDARY	WNW	0.94	1509.	1.274E-06	1.271E-06	1.119E-06	9.688E-09
A	SITE BOUNDARY	NW	0.81	1307.	2.980E-06	2.971E-06	2.641E-06	2.268E-08
A	SITE BOUNDARY	NNW	0.69	1106.	1.072E-05	1.068E-05	9.591E-06	4.630E-08
A	SITE BOUNDARY	N	0.67	1086.	1.151E-05	1.144E-05	1.031E-05	5.102E-08
A	SITE BOUNDARY	NNE	0.60	965.	8.911E-06	8.880E-06	8.036E-06	3.645E-08
A	SITE BOUNDARY	NE	0.62	1005.	4.544E-06	4.528E-06	4.086E-06	2.068E-08
A	SITE BOUNDARY	ENE	0.59	945.	2.925E-06	2.916E-06	2.642E-06	1.198E-08
A	SITE BOUNDARY	E	0.53	845.	4.524E-06	4.510E-06	4.115E-06	1.792E-08
A	SITE BOUNDARY	ESE	0.54	865.	3.733E-06	3.725E-06	3.391E-06	2.456E-08
A	SITE BOUNDARY	SE	0.65	1046.	6.952E-06	6.926E-06	6.237E-06	3.448E-08
A	SITE BOUNDARY	SSE	0.81	1307.	7.929E-06	7.888E-06	7.022E-06	3.902E-08
A	NEAR. RESIDENCE	SW	1.40	2253.	5.667E-07	5.631E-07	4.831E-07	2.441E-09
A	NEAR. RESIDENCE	WSW	1.30	2092.	7.601E-07	7.556E-07	6.518E-07	3.698E-09
A	NEAR. RESIDENCE	W	1.00	1609.	1.044E-06	1.039E-06	9.127E-07	5.731E-09
A	NEAR. RESIDENCE	WNW	1.60	2575.	3.534E-07	3.521E-07	2.982E-07	2.515E-09
A	NEAR. RESIDENCE	NW	0.90	1448.	2.308E-06	2.301E-06	2.033E-06	1.735E-08
A	NEAR. RESIDENCE	NNW	2.00	3219.	1.048E-06	1.035E-06	8.651E-07	3.386E-09
A	NEAR. RESIDENCE	N	3.09	4828.	4.938E-07	4.847E-07	3.901E-07	1.395E-09
A	NEAR. RESIDENCE	NNE	2.70	4345.	4.060E-07	3.994E-07	3.247E-07	1.050E-09
A	NEAR. RESIDENCE	ENE	1.70	2736.	3.131E-07	3.102E-07	2.624E-07	1.004E-09
A	NEAR. RESIDENCE	E	1.80	2897.	3.729E-07	3.687E-07	3.108E-07	1.089E-09
A	NEAR. RESIDENCE	ESE	2.40	3863.	1.588E-07	1.572E-07	1.288E-07	7.784E-10
A	NEAR. RESIDENCE	SE	2.20	3541.	5.070E-07	5.001E-07	4.244E-07	1.828E-09
A	NEAREST COW	NNW	3.50	5634.	3.588E-07	3.508E-07	2.782E-07	9.179E-10
A	NEAREST GARDEN	SW	1.40	2253.	5.667E-07	5.631E-07	4.831E-07	2.441E-09
A	NEAREST GARDEN	WSW	1.80	2897.	3.670E-07	3.640E-07	3.061E-07	1.657E-09
A	NEAREST GARDEN	WNW	1.60	2575.	3.534E-07	3.521E-07	2.982E-07	2.515E-09
A	NEAREST GARDEN	NNW	2.00	3219.	1.048E-06	1.035E-06	8.651E-07	3.386E-09

Atmospheric Diffusion Estimates

Ground Level Releases

January-June 1993

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

ANNUAL AVERAGE SEC/TOR	CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES	BEARING	ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)	DISTANCE IN MILES	BEARING
S	0.250	1.000	S	1.000	2.500	S
SSW	0.500	1.500	SSW	1.500	3.000	SSW
SW	1.132E-05	2.265E-06	SW	2.265E-06	3.500	SW
WSW	1.114E-05	1.752E-06	WSW	1.752E-06	4.000	WSW
W	5.975E-06	1.175E-06	W	1.175E-06	4.500	W
NW	5.710E-06	6.101E-07	NW	6.101E-07	5.000	NW
NNW	4.782E-06	4.906E-07	NNW	4.906E-07	5.500	NNW
N	4.486E-06	4.669E-07	N	4.669E-07	6.000	N
NNE	9.921E-06	1.017E-06	NNE	1.017E-06	6.500	NNE
ENE	1.661E-05	1.744E-06	ENE	1.744E-06	7.000	ENE
E	2.005E-05	2.202E-06	E	2.202E-06	7.500	E
ESE	1.194E-05	1.325E-06	ESE	1.325E-06	8.000	ESE
SSE	6.070E-06	1.555E-07	SSE	1.555E-07	8.500	SSE
	4.651E-06	1.588E-07		1.588E-07	9.000	
	5.769E-06	1.217E-07		1.217E-07	9.500	
	1.019E-05	1.096E-06		1.096E-06	10.000	
	1.712E-05	1.797E-06		1.797E-06	10.500	
	9.001E-06	9.719E-07		9.719E-07	11.000	
	1.132E-05	1.593E-06		1.593E-06	11.500	
	6.954E-08	2.727E-08		2.727E-08	12.000	
	3.627E-08	1.059E-09		1.059E-09	12.500	
	1.610E-08	4.329E-09		4.329E-09	13.000	
	2.535E-08	9.255E-09		9.255E-09	13.500	
	1.363E-08	5.146E-09		5.146E-09	14.000	
	1.962E-08	7.607E-09		7.607E-09	14.500	
	1.962E-08	5.637E-09		5.637E-09	15.000	
	2.008E-08	3.745E-09		3.745E-09	15.500	
	4.410E-08	1.931E-08		1.931E-08	16.000	
	2.141E-08	1.256E-08		1.256E-08	16.500	
	1.600E-08	8.575E-09		8.575E-09	17.000	
	1.598E-08	5.705E-09		5.705E-09	17.500	
	1.692E-08	3.703E-09		3.703E-09	18.000	
	3.229E-08	6.664E-09		6.664E-09	18.500	
	5.688E-08	9.211E-09		9.211E-09	19.000	
	5.688E-08	1.694E-08		1.694E-08	19.500	
	6.954E-08	2.267E-08		2.267E-08	20.000	
	7.974E-07	1.127E-07		1.127E-07	20.500	
	4.142E-07	5.871E-08		5.871E-08	21.000	
	1.074E-07	2.680E-08		2.680E-08	21.500	
	1.687E-07	2.254E-08		2.254E-08	22.000	
	3.319E-07	4.817E-08		4.817E-08	22.500	
	6.376E-07	9.704E-08		9.704E-08	23.000	
	7.768E-07	1.186E-07		1.186E-07	23.500	
	1.797E-07	7.043E-08		7.043E-08	24.000	
	1.762E-07	3.429E-08		3.429E-08	24.500	
	2.100E-07	2.565E-08		2.565E-08	25.000	
	3.821E-07	2.802E-08		2.802E-08	25.500	
	6.364E-07	9.150E-08		9.150E-08	26.000	
	7.974E-07	1.127E-07		1.127E-07	26.500	
	4.142E-07	5.871E-08		5.871E-08	27.000	
	1.074E-07	2.680E-08		2.680E-08	27.500	
	1.687E-07	2.254E-08		2.254E-08	28.000	
	3.319E-07	4.817E-08		4.817E-08	28.500	
	6.376E-07	9.704E-08		9.704E-08	29.000	
	7.768E-07	1.186E-07		1.186E-07	29.500	
	1.797E-07	7.043E-08		7.043E-08	30.000	
	1.762E-07	3.429E-08		3.429E-08	30.500	
	2.100E-07	2.565E-08		2.565E-08	31.000	
	3.821E-07	2.802E-08		2.802E-08	31.500	
	6.364E-07	9.150E-08		9.150E-08	32.000	
	7.974E-07	1.127E-07		1.127E-07	32.500	
	4.142E-07	5.871E-08		5.871E-08	33.000	
	1.074E-07	2.680E-08		2.680E-08	33.500	
	1.687E-07	2.254E-08		2.254E-08	34.000	
	3.319E-07	4.817E-08		4.817E-08	34.500	
	6.376E-07	9.704E-08		9.704E-08	35.000	
	7.768E-07	1.186E-07		1.186E-07	35.500	
	1.797E-07	7.043E-08		7.043E-08	36.000	
	1.762E-07	3.429E-08		3.429E-08	36.500	
	2.100E-07	2.565E-08		2.565E-08	37.000	
	3.821E-07	2.802E-08		2.802E-08	37.500	
	6.364E-07	9.150E-08		9.150E-08	38.000	
	7.974E-07	1.127E-07		1.127E-07	38.500	
	4.142E-07	5.871E-08		5.871E-08	39.000	
	1.074E-07	2.680E-08		2.680E-08	39.500	
	1.687E-07	2.254E-08		2.254E-08	40.000	
	3.319E-07	4.817E-08		4.817E-08	40.500	
	6.376E-07	9.704E-08		9.704E-08	41.000	
	7.768E-07	1.186E-07		1.186E-07	41.500	
	1.797E-07	7.043E-08		7.043E-08	42.000	
	1.762E-07	3.429E-08		3.429E-08	42.500	
	2.100E-07	2.565E-08		2.565E-08	43.000	
	3.821E-07	2.802E-08		2.802E-08	43.500	
	6.364E-07	9.150E-08		9.150E-08	44.000	
	7.974E-07	1.127E-07		1.127E-07	44.500	
	4.142E-07	5.871E-08		5.871E-08	45.000	
	1.074E-07	2.680E-08		2.680E-08	45.500	
	1.687E-07	2.254E-08		2.254E-08	46.000	
	3.319E-07	4.817E-08		4.817E-08	46.500	
	6.376E-07	9.704E-08		9.704E-08	47.000	
	7.768E-07	1.186E-07		1.186E-07	47.500	
	1.797E-07	7.043E-08		7.043E-08	48.000	
	1.762E-07	3.429E-08		3.429E-08	48.500	
	2.100E-07	2.565E-08		2.565E-08	49.000	
	3.821E-07	2.802E-08		2.802E-08	49.500	
	6.364E-07	9.150E-08		9.150E-08	50.000	

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

DIRECTION FROM SITE	5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	1.101E-05	2.50E-06	7.974E-07	4.042E-07	2.53E-07	1.127E-07	4.04E-08	2.04E-08	1.304E-08	0.37E-09
SSW	5.745E-06	1.36E-06	4.142E-07	2.102E-07	1.314E-08	5.871E-08	2.06E-08	1.06E-08	6.67E-09	0.90E-09
SW	2.888E-06	6.94E-07	1.074E-07	9.91E-08	6.21E-08	2.680E-08	9.46E-09	4.374E-09	2.71E-09	1.91E-09
WSW	2.916E-06	6.52E-07	1.687E-07	8.40E-08	5.16E-08	2.254E-08	7.86E-09	3.809E-09	2.39E-09	1.60E-09
W	3.32E-06	5.51E-07	3.319E-07	1.16E-07	7.29E-08	4.817E-08	1.74E-08	8.43E-09	5.61E-09	3.58E-09
NW	5.099E-06	1.15E-06	6.376E-07	3.33E-07	2.11E-07	9.704E-08	3.94E-08	1.94E-08	1.27E-08	9.29E-09
NNW	8.411E-06	2.47E-06	7.768E-07	4.76E-07	3.05E-07	1.186E-07	4.92E-08	2.66E-08	1.46E-08	1.06E-08
N	6.242E-06	1.47E-06	1.797E-07	1.76E-07	1.15E-07	7.043E-08	3.31E-08	1.63E-08	9.59E-09	6.24E-09
NNE	3.14E-06	7.97E-07	3.46E-07	2.45E-07	1.50E-07	3.429E-08	1.27E-08	6.43E-09	4.15E-09	2.30E-09
ENE	2.426E-06	5.70E-07	1.797E-07	1.20E-07	7.74E-08	2.58E-08	9.45E-09	4.73E-09	3.07E-09	1.66E-09
E	2.339E-06	5.58E-07	1.762E-07	1.04E-07	6.61E-08	2.565E-08	9.47E-09	4.77E-09	3.07E-09	1.66E-09
ESE	5.33E-06	6.95E-07	2.100E-07	1.04E-07	6.61E-08	2.565E-08	9.47E-09	4.77E-09	3.07E-09	1.66E-09
SE	5.33E-06	1.24E-06	3.821E-07	1.92E-07	1.194E-07	2.27E-08	1.86E-08	9.91E-09	5.88E-09	4.20E-09
SSE	8.797E-06	2.02E-06	6.364E-07	3.24E-07	2.03E-07	9.150E-08	3.54E-08	1.704E-08	1.100E-08	7.97E-09

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

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)				DISTANCE IN MILES									
SECTOR	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500		
S	6.352E-05	2.113E-05	1.129E-05	5.650E-06	2.248E-06	1.208E-06	7.610E-07	5.283E-07	3.915E-07	3.039E-07	2.463E-07		
SSW	3.339E-05	1.111E-05	5.870E-06	2.923E-06	1.165E-06	6.269E-07	3.952E-07	2.745E-07	2.035E-07	1.588E-07	1.271E-07		
SW	1.683E-05	5.961E-06	3.172E-06	1.568E-06	6.060E-07	3.190E-07	1.977E-07	1.354E-07	9.916E-08	7.622E-08	6.075E-08		
WSW	1.678E-05	5.698E-06	2.974E-06	1.463E-06	5.715E-07	3.034E-07	1.893E-07	1.304E-07	9.606E-08	7.418E-08	5.936E-08		
W	1.374E-05	4.772E-06	2.526E-06	1.249E-06	4.877E-07	2.586E-07	1.611E-07	1.109E-07	8.157E-08	6.203E-08	5.030E-08		
WNW	1.903E-05	6.471E-06	3.401E-06	1.681E-06	6.622E-07	3.535E-07	2.216E-07	1.532E-07	1.132E-07	8.765E-08	7.031E-08		
NW	2.874E-05	9.902E-06	5.219E-06	2.577E-06	1.011E-06	5.387E-07	3.370E-07	2.328E-07	1.717E-07	1.329E-07	1.065E-07		
NNW	5.243E-05	1.656E-05	8.489E-06	4.201E-06	1.728E-06	9.505E-07	6.094E-07	4.291E-07	3.217E-07	2.523E-07	2.046E-07		
N	6.241E-05	2.000E-05	1.065E-05	5.359E-06	2.183E-06	1.192E-06	7.601E-07	5.328E-07	3.980E-07	3.111E-07	2.516E-07		
NNE	3.714E-05	1.190E-05	6.401E-06	3.237E-06	1.315E-06	7.163E-07	4.558E-07	3.191E-07	2.380E-07	1.859E-07	1.502E-07		
NE	1.865E-05	6.055E-06	3.213E-06	1.611E-06	6.505E-07	3.532E-07	2.242E-07	1.566E-07	1.167E-07	9.098E-08	7.342E-08		
ENE	1.398E-05	4.640E-06	2.491E-06	1.252E-06	5.023E-07	2.715E-07	1.718E-07	1.197E-07	8.892E-08	6.921E-08	5.575E-08		
E	1.376E-05	4.467E-06	2.460E-06	1.211E-06	4.890E-07	2.655E-07	1.685E-07	1.176E-07	8.760E-08	6.824E-08	5.510E-08		
ESE	1.629E-05	5.759E-06	3.120E-06	1.558E-06	6.078E-07	3.222E-07	2.008E-07	1.382E-07	1.017E-07	7.845E-08	6.272E-08		
SE	2.990E-05	1.017E-05	5.493E-06	2.754E-06	1.088E-06	5.816E-07	3.648E-07	2.524E-07	1.865E-07	1.444E-07	1.158E-07		
SSE	5.249E-05	1.708E-05	8.369E-06	4.460E-06	1.783E-06	9.621E-07	6.080E-07	4.232E-07	3.144E-07	2.446E-07	1.970E-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	2.018E-07	1.026E-07	6.578E-08	3.687E-08	2.439E-08	1.764E-08	1.349E-08	1.272E-08	8.765E-09	7.321E-09	6.219E-09		
SSW	1.050E-07	5.341E-08	3.423E-08	1.918E-08	1.267E-08	9.154E-09	6.993E-09	5.552E-09	4.533E-09	3.782E-09	3.208E-09		
SW	4.975E-08	2.451E-08	1.535E-08	8.343E-09	5.407E-09	3.850E-09	2.909E-09	2.289E-09	1.855E-09	1.539E-09	1.299E-09		
WSW	4.883E-08	2.445E-08	1.551E-08	8.595E-09	5.661E-09	4.082E-09	3.116E-09	2.474E-09	2.021E-09	1.688E-09	1.434E-09		
W	4.134E-08	2.062E-08	1.304E-08	7.183E-09	4.701E-09	3.374E-09	2.567E-09	2.032E-09	1.656E-09	1.380E-09	1.170E-09		
WNW	5.797E-08	2.930E-08	1.870E-08	1.044E-08	6.902E-09	4.990E-09	3.817E-09	3.036E-09	2.484E-09	2.077E-09	1.767E-09		
NW	8.773E-08	4.422E-08	2.819E-08	1.572E-08	1.039E-08	7.515E-09	5.755E-09	4.583E-09	3.756E-09	3.145E-09	2.679E-09		
NNW	1.703E-07	8.917E-08	5.829E-08	3.353E-08	2.256E-08	1.651E-08	1.274E-08	1.020E-08	8.391E-09	7.043E-09	6.007E-09		
N	2.089E-07	1.083E-07	7.029E-08	4.066E-08	2.678E-08	1.951E-08	1.501E-08	1.199E-08	9.839E-09	8.246E-09	7.026E-09		
NNE	1.246E-07	6.439E-08	4.173E-08	2.373E-08	1.585E-08	1.154E-08	8.881E-09	7.094E-09	5.825E-09	4.885E-09	4.165E-09		
NE	6.085E-08	3.133E-08	2.026E-08	1.149E-08	7.657E-09	5.570E-09	4.280E-09	3.416E-09	2.802E-09	2.348E-09	2.000E-09		
ENE	4.613E-08	2.360E-08	1.519E-08	8.568E-09	5.692E-09	4.131E-09	3.169E-09	2.525E-09	2.070E-09	1.733E-09	1.475E-09		
E	4.565E-08	2.347E-08	1.516E-08	8.587E-09	5.720E-09	4.160E-09	3.196E-09	2.551E-09	2.094E-09	1.755E-09	1.496E-09		
ESE	5.155E-08	2.573E-08	1.629E-08	8.988E-09	5.894E-09	4.240E-09	3.233E-09	2.566E-09	2.097E-09	1.752E-09	1.490E-09		
SE	9.550E-08	4.818E-08	3.071E-08	1.709E-08	1.126E-08	8.118E-09	6.196E-09	4.918E-09	4.016E-09	3.552E-09	2.846E-09		
SSE	1.630E-07	8.355E-08	5.385E-08	3.045E-08	2.029E-08	1.476E-08	1.134E-08	9.054E-09	7.429E-09	6.225E-09	5.305E-09		

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

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES									
	0.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	1.097E-05	2.542E-06	7.872E-07	3.972E-07	2.463E-07	1.083E-07	3.775E-08	1.778E-08	1.077E-08	7.341E-09
SSW	5.724E-06	1.316E-06	4.087E-07	2.065E-07	1.281E-07	5.635E-08	1.963E-08	9.228E-09	5.575E-09	3.742E-09
SW	3.079E-06	6.922E-07	2.051E-07	1.008E-07	6.125E-08	2.605E-08	8.596E-09	3.888E-09	2.301E-09	1.544E-09
WSW	2.908E-06	6.504E-07	1.962E-07	9.755E-08	5.985E-08	2.590E-08	8.828E-09	4.117E-09	2.485E-09	1.692E-09
W	2.458E-06	5.551E-07	1.670E-07	8.285E-08	5.072E-08	2.185E-08	7.381E-09	3.405E-09	2.042E-09	1.364E-09
WNW	3.319E-06	7.514E-07	2.294E-07	1.149E-07	7.088E-08	3.096E-08	1.071E-08	5.031E-09	3.849E-09	2.083E-09
NW	5.086E-06	1.149E-06	3.441E-07	1.744E-07	1.074E-07	4.676E-08	1.612E-08	7.577E-09	4.603E-09	3.153E-09
NNW	8.377E-06	1.932E-06	6.282E-07	3.260E-07	2.061E-07	9.348E-08	3.416E-08	1.661E-08	1.024E-08	7.059E-09
N	1.038E-05	2.498E-06	7.844E-07	4.034E-07	2.534E-07	1.137E-07	4.087E-08	1.965E-08	1.203E-08	8.266E-09
NNE	6.218E-06	1.476E-06	4.706E-07	2.413E-07	1.513E-07	6.769E-08	2.423E-08	1.163E-08	7.121E-09	4.897E-09
NE	3.132E-06	7.317E-07	2.316E-07	1.183E-07	7.397E-08	3.297E-08	1.173E-08	5.611E-09	3.429E-09	2.364E-09
ENE	2.418E-06	5.653E-07	1.775E-07	9.019E-08	5.618E-08	2.487E-08	8.762E-09	4.162E-09	2.536E-09	1.737E-09
E	2.331E-06	5.501E-07	1.740E-07	8.883E-08	5.551E-08	2.471E-08	8.774E-09	4.191E-09	2.563E-09	1.759E-09
ESE	3.012E-06	6.920E-07	2.082E-07	1.033E-07	6.324E-08	2.727E-08	9.235E-09	4.278E-09	2.578E-09	1.757E-09
SE	5.314E-06	1.233E-06	3.777E-07	1.893E-07	1.168E-07	5.093E-08	1.752E-08	8.187E-09	4.939E-09	3.362E-09
SSE	8.768E-06	2.013E-06	6.285E-07	3.189E-07	1.965E-07	8.801E-08	3.114E-08	1.487E-08	9.089E-09	6.241E-09

ANNUAL AVERAGE CHY/O (SEF/METER CURED)

[illegible]

 TENTS GROUND LEVEL RELEASES - JAN-JUN 1993
 CORRECTED FOR OPEN TERRAIN RECIRCULATION

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

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
S	2.803E-07	9.477E-08	4.866E-08	2.313E-08	8.310E-09	4.121E-09	2.426E-09	1.589E-09	1.118E-09	8.285E-10	6.585E-10
SSW	1.345E-07	4.549E-08	2.336E-08	1.111E-08	3.989E-09	1.978E-09	1.165E-09	7.627E-10	5.367E-10	3.977E-10	3.065E-10
SW	8.314E-08	2.812E-08	1.444E-08	6.863E-09	2.465E-09	1.223E-09	7.199E-10	4.714E-10	3.317E-10	2.458E-10	1.894E-10
WSW	8.766E-08	2.964E-08	1.522E-08	7.236E-09	2.599E-09	1.289E-09	7.589E-10	4.969E-10	3.497E-10	2.591E-10	1.997E-10
W	7.809E-08	2.641E-08	1.356E-08	6.446E-09	2.315E-09	1.148E-09	6.761E-10	4.427E-10	3.115E-10	2.308E-10	1.779E-10
WNW	9.947E-08	3.364E-08	1.727E-08	8.211E-09	2.949E-09	1.463E-09	8.612E-10	5.639E-10	3.968E-10	2.941E-10	2.266E-10
NW	1.904E-07	6.438E-08	3.306E-08	1.572E-08	5.645E-09	2.799E-09	1.648E-09	1.079E-09	7.595E-10	5.629E-10	4.337E-10
NNW	1.759E-07	5.947E-08	3.053E-08	1.452E-08	5.214E-09	2.586E-09	1.523E-09	9.970E-10	7.013E-10	5.199E-10	4.006E-10
N	2.221E-07	7.509E-08	3.856E-08	1.833E-08	6.584E-09	3.265E-09	1.923E-09	1.259E-09	8.858E-10	6.565E-10	5.059E-10
NNE	1.341E-07	4.534E-08	2.328E-08	1.107E-08	3.976E-09	1.972E-09	1.161E-09	7.601E-10	5.349E-10	3.964E-10	3.055E-10
NE	7.656E-08	2.589E-08	1.329E-08	6.320E-09	2.270E-09	1.126E-09	6.629E-10	4.340E-10	3.054E-10	2.263E-10	1.744E-10
ENE	5.516E-08	1.865E-08	9.578E-09	4.553E-09	1.636E-09	8.111E-10	4.776E-10	3.127E-10	2.201E-10	1.651E-10	1.257E-10
E	5.686E-08	1.923E-08	9.873E-09	4.694E-09	1.686E-09	8.361E-10	4.923E-10	3.224E-10	2.268E-10	1.681E-10	1.295E-10
ESE	1.134E-07	3.836E-08	1.970E-08	9.364E-09	3.364E-09	1.668E-09	9.822E-10	6.431E-10	4.525E-10	3.354E-10	2.586E-10
SE	1.765E-07	5.970E-08	3.065E-08	1.457E-08	5.235E-09	2.596E-09	1.529E-09	1.001E-09	7.043E-10	5.219E-10	4.022E-10
SSE	3.104E-07	1.050E-07	5.389E-08	2.562E-08	9.203E-09	4.564E-09	2.687E-09	1.760E-09	1.238E-09	9.176E-10	7.072E-10

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	5.072E-10	2.253E-10	1.365E-10	6.899E-11	4.176E-11	2.800E-11	2.006E-11	1.506E-11	1.171E-11	9.356E-12	7.637E-12
SSW	2.435E-10	1.082E-10	6.552E-11	3.312E-11	2.005E-11	1.344E-11	9.630E-12	7.231E-12	5.623E-12	4.491E-12	3.666E-12
SW	1.505E-10	6.685E-11	4.049E-11	2.047E-11	1.239E-11	8.306E-12	5.952E-12	4.469E-12	3.475E-12	2.776E-12	2.266E-12
WSW	1.586E-10	7.048E-11	4.269E-11	2.158E-11	1.306E-11	8.757E-12	6.275E-12	4.712E-12	3.663E-12	2.926E-12	2.389E-12
W	1.413E-10	6.278E-11	3.803E-11	1.922E-11	1.163E-11	7.801E-12	5.590E-12	4.197E-12	3.263E-12	2.607E-12	2.128E-12
WNW	1.800E-10	7.998E-11	4.845E-11	2.449E-11	1.482E-11	9.937E-12	7.121E-12	5.347E-12	4.157E-12	3.321E-12	2.711E-12
NW	3.446E-10	1.531E-10	9.273E-11	4.687E-11	2.837E-11	1.902E-11	1.363E-11	1.023E-11	7.957E-12	6.356E-12	5.188E-12
NNW	3.183E-10	1.414E-10	8.565E-11	4.329E-11	2.620E-11	1.757E-11	1.259E-11	9.452E-12	7.349E-12	5.871E-12	4.792E-12
N	4.019E-10	1.785E-10	1.082E-10	5.467E-11	3.309E-11	2.218E-11	1.590E-11	1.194E-11	9.281E-12	7.413E-12	6.051E-12
NNE	2.427E-10	1.078E-10	6.530E-11	3.301E-11	1.998E-11	1.339E-11	9.598E-12	7.207E-12	5.604E-12	4.476E-12	3.654E-12
NE	1.386E-10	6.156E-11	3.729E-11	1.885E-11	1.141E-11	7.648E-12	5.480E-12	4.115E-12	3.200E-12	2.556E-12	2.086E-12
ENE	9.984E-11	4.435E-11	2.687E-11	1.350E-11	8.219E-12	5.511E-12	3.949E-12	2.965E-12	2.305E-12	1.842E-12	1.533E-12
E	1.029E-10	4.572E-11	2.769E-11	1.400E-11	8.472E-12	5.680E-12	4.070E-12	3.056E-12	2.376E-12	1.898E-12	1.549E-12
ESE	2.053E-10	9.121E-11	5.525E-11	2.793E-11	1.690E-11	1.133E-11	8.120E-12	6.098E-12	4.741E-12	3.787E-12	3.091E-12
SE	3.195E-10	1.419E-10	8.598E-11	4.346E-11	2.630E-11	1.764E-11	1.264E-11	9.489E-12	7.378E-12	5.894E-12	4.811E-12
SSE	5.618E-10	2.496E-10	1.512E-10	7.641E-11	4.625E-11	3.101E-11	2.222E-11	1.668E-11	1.297E-11	1.036E-11	8.458E-12

DIRECTION FROM SITE	1-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	4.756E-08	9.742E-09	2.543E-09	1.142E-09	6.462E-10	2.485E-10	7.189E-11	2.849E-11	1.522E-11	9.418E-12
SSW	2.283E-08	4.677E-09	1.221E-09	5.483E-10	3.102E-10	1.193E-10	4.451E-11	1.368E-11	7.304E-12	4.521E-12
SW	1.411E-08	2.890E-09	7.545E-10	3.389E-10	1.917E-10	7.372E-11	2.133E-11	8.453E-12	4.514E-12	2.794E-12
WSW	1.488E-08	3.047E-09	7.955E-10	3.573E-10	2.021E-10	7.772E-11	2.248E-11	8.912E-12	4.759E-12	2.946E-12
W	1.325E-08	2.714E-09	7.086E-10	3.183E-10	1.800E-10	6.924E-11	2.003E-11	7.939E-12	4.239E-12	2.624E-12
WNW	1.688E-08	3.458E-09	9.027E-10	4.054E-10	2.294E-10	8.820E-11	2.552E-11	1.011E-11	5.480E-12	3.343E-12
NW	3.231E-08	6.618E-09	1.728E-09	7.760E-10	4.390E-10	1.688E-10	4.884E-11	1.936E-11	1.034E-11	6.398E-12
NNW	2.984E-08	6.113E-09	1.596E-09	7.167E-10	4.055E-10	1.559E-10	4.511E-11	1.788E-11	9.547E-12	5.989E-12
N	3.769E-08	7.719E-09	2.015E-09	9.051E-10	5.120E-10	1.969E-10	5.696E-11	2.259E-11	1.206E-11	7.462E-12
NNE	2.275E-08	4.661E-09	1.217E-09	5.465E-10	3.092E-10	1.189E-10	3.439E-11	1.363E-11	7.279E-12	4.506E-12
NE	1.299E-08	2.661E-09	6.948E-10	3.120E-10	1.765E-10	6.788E-11	1.964E-11	7.784E-12	4.157E-12	2.573E-12
ENE	9.362E-09	1.918E-09	5.096E-10	2.248E-10	1.272E-10	4.891E-11	1.415E-11	5.608E-12	2.995E-12	1.854E-12
E	9.650E-09	1.977E-09	5.160E-10	2.318E-10	1.311E-10	5.042E-11	1.459E-11	5.781E-12	3.087E-12	1.911E-12
ESE	1.925E-08	3.943E-09	1.029E-09	4.624E-10	2.616E-10	1.006E-10	2.910E-11	1.153E-11	6.159E-12	3.612E-12
SE	2.996E-08	6.137E-09	1.602E-09	7.195E-10	4.071E-10	1.565E-10	4.528E-11	1.795E-11	9.585E-12	5.932E-12
SSE	5.268E-08	1.079E-08	2.817E-09	1.265E-09	7.157E-10	2.752E-10	7.962E-11	3.156E-11	1.685E-11	1.043E-11

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

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE		X/Q		X/Q		D/Q (PER SQ.METER)
			(MILES)	(METERS)	(SEC/CUB.METER) NO DECAY	2.260 DAY DECAY	8.000 DAY DECAY		
								UNDEPLETED	
A	SITE BOUNDARY	S	0.80	1287.	9.741E-06	9.702E-06	8.639E-06	4.138E-08	
A	SITE BOUNDARY	SSW	0.82	1327.	4.688E-06	4.668E-06	4.150E-06	1.833E-08	
A	SITE BOUNDARY	SW	0.98	1569.	1.673E-06	1.666E-06	1.465E-06	7.323E-09	
A	SITE BOUNDARY	WSW	0.93	1489.	1.773E-06	1.767E-06	1.559E-06	8.841E-09	
A	SITE BOUNDARY	W	0.91	1468.	1.567E-06	1.561E-06	1.378E-06	8.172E-09	
A	SITE BOUNDARY	WNW	0.94	1509.	1.970E-06	1.962E-06	1.730E-06	9.692E-09	
A	SITE BOUNDARY	NW	0.81	1307.	4.314E-06	4.301E-06	3.823E-06	2.699E-08	
A	SITE BOUNDARY	NNW	0.69	1106.	9.807E-06	9.767E-06	8.771E-06	3.536E-08	
A	SITE BOUNDARY	N	0.67	1086.	1.255E-05	1.250E-05	1.124E-05	4.604E-08	
A	SITE BOUNDARY	NNE	0.60	965.	9.002E-06	8.974E-06	8.119E-06	3.369E-08	
A	SITE BOUNDARY	NE	0.62	1005.	4.272E-06	4.258E-06	3.841E-06	1.808E-08	
A	SITE BOUNDARY	ENE	0.59	945.	3.627E-06	3.617E-06	3.276E-06	1.435E-08	
A	SITE BOUNDARY	E	0.53	845.	4.134E-06	4.123E-06	3.761E-06	1.776E-08	
A	SITE BOUNDARY	ESE	0.54	865.	5.166E-06	5.157E-06	4.694E-06	3.410E-08	
A	SITE BOUNDARY	SE	0.65	1046.	6.840E-06	6.820E-06	6.138E-06	3.898E-08	
A	SITE BOUNDARY	SSE	0.81	1307.	7.431E-06	7.402E-06	6.584E-06	4.401E-08	
A	NEAR. RESIDENCE	SW	1.40	2253.	7.139E-07	7.095E-07	6.086E-07	2.924E-09	
A	NEAR. RESIDENCE	WSW	1.30	2092.	7.956E-07	7.911E-07	6.823E-07	3.711E-09	
A	NEAR. RESIDENCE	W	1.00	1609.	1.254E-06	1.249E-06	1.097E-06	6.446E-09	
A	NEAR. RESIDENCE	WNW	1.60	2575.	5.779E-07	5.740E-07	4.873E-07	2.516E-09	
A	NEAR. RESIDENCE	NW	0.90	1448.	3.342E-06	3.331E-06	2.943E-06	2.065E-08	
A	NEAR. RESIDENCE	NNW	2.00	3219.	9.621E-07	9.505E-07	7.939E-07	2.586E-09	
A	NEAR. RESIDENCE	N	3.00	4828.	5.421E-07	5.328E-07	4.285E-07	1.259E-09	
A	NEAR. RESIDENCE	NNE	2.70	4345.	3.974E-07	3.916E-07	3.180E-07	9.701E-10	
A	NEAR. RESIDENCE	ENE	1.70	2736.	3.863E-07	3.831E-07	3.239E-07	1.203E-09	
A	NEAR. RESIDENCE	E	1.80	2897.	3.340E-07	3.310E-07	2.786E-07	1.079E-09	
A	NEAR. RESIDENCE	ESE	2.40	3863.	2.206E-07	2.186E-07	1.790E-07	1.081E-09	
A	NEAR. RESIDENCE	SE	2.20	3541.	4.805E-07	4.755E-07	3.931E-07	2.067E-09	
A	NEAREST COW	NNW	3.50	5634.	3.286E-07	3.216E-07	2.548E-07	7.011E-10	
A	NEAREST GARDEN	SW	1.40	2253.	7.139E-07	7.095E-07	6.086E-07	2.924E-09	
A	NEAREST GARDEN	WSW	1.80	2897.	3.844E-07	3.814E-07	3.207E-07	1.663E-09	
A	NEAREST GARDEN	WNW	1.60	2575.	5.779E-07	5.740E-07	4.873E-07	2.516E-09	
A	NEAREST GARDEN	NNW	2.00	3219.	9.621E-07	9.505E-07	7.939E-07	2.586E-09	

Atmospheric Diffusion Estimates

Elevated Releases

January-March 1993

[illegible]

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

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)		DISTANCE IN MILES										
SECTOR	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500	
S	5.336E-09	2.883E-08	5.138E-08	6.393E-08	7.102E-08	6.467E-08	5.579E-08	4.768E-08	4.096E-08	5.031E-08	5.632E-08	
SSW	3.468E-09	2.142E-08	4.066E-08	5.335E-08	6.325E-08	5.947E-08	5.226E-08	6.099E-08	6.523E-08	5.762E-08	5.125E-08	
SW	6.994E-11	5.409E-09	3.764E-08	9.570E-08	1.872E-07	1.309E-07	9.568E-08	7.307E-08	5.786E-08	4.717E-08	3.937E-08	
WSW	6.539E-11	8.116E-09	6.365E-08	1.500E-07	2.422E-07	1.525E-07	1.050E-07	7.722E-08	5.953E-08	4.757E-08	3.909E-08	
W	2.681E-13	3.731E-08	1.968E-07	2.555E-07	2.291E-07	1.406E-07	9.537E-08	6.941E-08	5.315E-08	4.228E-08	3.464E-08	
WNW	3.159E-09	2.590E-08	1.658E-07	3.226E-07	4.519E-07	2.778E-07	1.869E-07	1.440E-07	1.142E-07	9.043E-08	7.379E-08	
NW	6.050E-09	3.825E-08	1.098E-07	2.338E-07	4.710E-07	2.838E-07	1.911E-07	1.418E-07	1.103E-07	8.738E-08	7.135E-08	
NNW	6.142E-09	3.456E-08	5.579E-08	7.092E-08	9.626E-08	9.345E-08	8.363E-08	7.256E-08	6.401E-08	5.035E-08	4.087E-08	
N	1.994E-09	1.344E-08	2.347E-08	2.806E-08	3.194E-08	3.104E-08	2.809E-08	2.433E-08	2.115E-08	1.852E-08	1.638E-08	
NNE	3.743E-16	5.643E-10	1.071E-08	2.293E-08	3.424E-08	3.486E-08	3.212E-08	2.874E-08	2.557E-08	2.280E-08	2.046E-08	
NE	2.523E-16	4.067E-10	7.812E-09	1.689E-08	2.514E-08	2.521E-08	2.286E-08	2.019E-08	1.775E-08	1.568E-08	1.396E-08	
ENE	1.103E-16	3.013E-10	6.254E-09	1.363E-08	1.993E-08	1.965E-08	1.761E-08	1.542E-08	1.348E-08	1.185E-08	1.051E-08	
E	1.830E-16	3.263E-10	6.612E-09	1.472E-08	2.233E-08	2.242E-08	2.026E-08	1.779E-08	1.556E-08	1.366E-08	1.209E-08	
ESE	1.344E-15	1.240E-09	2.015E-08	3.933E-08	5.073E-08	4.648E-08	3.968E-08	3.353E-08	2.851E-08	2.451E-08	2.132E-08	
SE	2.179E-11	2.694E-09	2.765E-08	5.271E-08	6.996E-08	6.610E-08	5.773E-08	4.959E-08	4.268E-08	3.703E-08	3.244E-08	
SSE	2.392E-10	1.563E-08	4.665E-08	6.713E-08	8.067E-08	7.568E-08	6.641E-08	5.741E-08	4.975E-08	4.208E-08	3.703E-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	5.013E-08	3.161E-08	2.028E-08	1.139E-08	7.707E-09	5.662E-09	4.351E-09	3.481E-09	2.877E-09	2.429E-09	2.082E-09	
SSW	4.716E-08	3.195E-08	2.037E-08	1.135E-08	7.631E-09	5.539E-09	4.233E-09	3.368E-09	2.761E-09	2.314E-09	1.974E-09	
SW	3.562E-08	2.319E-08	1.488E-08	8.352E-09	5.622E-09	4.113E-09	3.177E-09	2.536E-09	2.084E-09	1.752E-09	1.499E-09	
WSW	3.391E-08	1.993E-08	1.326E-08	7.565E-09	4.948E-09	3.555E-09	2.710E-09	2.150E-09	1.758E-09	1.469E-09	1.250E-09	
W	2.904E-08	1.545E-08	1.077E-08	6.825E-09	4.961E-09	3.612E-09	2.767E-09	2.207E-09	1.812E-09	1.520E-09	1.299E-09	
WNW	6.230E-08	3.404E-08	2.264E-08	1.329E-08	8.939E-09	6.554E-09	5.086E-09	4.087E-09	3.368E-09	2.833E-09	2.425E-09	
NW	6.032E-08	3.311E-08	2.219E-08	1.309E-08	8.739E-09	6.387E-09	4.996E-09	4.026E-09	3.329E-09	2.812E-09	2.417E-09	
NNW	3.471E-08	1.940E-08	1.250E-08	7.088E-09	4.745E-09	3.474E-09	2.711E-09	2.196E-09	1.848E-09	1.572E-09	1.351E-09	
N	1.463E-08	9.530E-09	8.155E-09	6.823E-09	5.908E-09	4.951E-09	3.879E-09	3.140E-09	2.606E-09	2.210E-09	1.906E-09	
NNE	2.400E-08	3.389E-08	2.181E-08	1.232E-08	8.211E-09	5.986E-09	4.618E-09	3.703E-09	3.055E-09	2.576E-09	2.209E-09	
NE	1.597E-08	2.867E-08	1.872E-08	1.083E-08	7.352E-09	5.448E-09	4.335E-09	3.554E-09	2.977E-09	2.536E-09	2.196E-09	
ENE	1.154E-08	1.531E-08	9.997E-09	5.756E-09	3.887E-09	2.865E-09	2.300E-09	1.894E-09	1.571E-09	1.332E-09	1.148E-09	
E	1.305E-08	1.653E-08	1.081E-08	6.235E-09	4.217E-09	3.111E-09	2.425E-09	1.963E-09	1.681E-09	1.458E-09	1.258E-09	
ESE	2.168E-08	2.024E-08	1.304E-08	7.359E-09	4.897E-09	3.567E-09	2.752E-09	2.208E-09	1.824E-09	1.540E-09	1.323E-09	
SE	2.868E-08	1.787E-08	1.374E-08	9.379E-09	6.594E-09	4.978E-09	3.938E-09	3.218E-09	2.654E-09	2.237E-09	1.919E-09	
SSE	8.277E-08	4.615E-08	2.952E-08	1.658E-08	1.104E-08	8.055E-09	6.225E-09	5.006E-09	4.143E-09	3.505E-09	3.017E-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	5.195E-08	6.662E-08	5.492E-08	4.644E-08	5.225E-08	3.069E-08	1.173E-08	5.683E-09	3.508E-09	2.433E-09
SSW	4.203E-08	5.937E-08	5.767E-08	6.112E-08	5.162E-08	3.019E-08	1.170E-08	5.575E-09	3.384E-09	2.320E-09
SW	5.628E-08	1.418E-07	5.602E-08	5.813E-08	4.029E-08	2.226E-08	8.589E-09	4.141E-09	2.547E-09	1.756E-09
WSW	8.968E-08	1.818E-07	1.066E-07	6.002E-08	3.968E-08	2.007E-08	7.667E-09	3.588E-09	2.160E-09	1.474E-09
W	1.874E-07	1.956E-07	9.705E-08	5.366E-08	3.483E-08	1.639E-08	6.872E-09	3.634E-09	2.218E-09	1.525E-09
WNW	2.044E-07	3.458E-07	1.946E-07	1.137E-07	7.446E-08	3.525E-08	1.344E-08	6.603E-09	4.098E-09	2.841E-09
NW	1.490E-07	3.351E-07	1.961E-07	1.106E-07	7.201E-08	3.430E-08	1.318E-08	6.457E-09	4.038E-09	2.819E-09
NNW	5.780E-08	8.938E-08	8.182E-08	6.124E-08	4.139E-08	1.974E-08	7.250E-09	3.508E-09	2.211E-09	1.572E-09
N	2.328E-08	3.068E-08	2.737E-08	2.106E-08	1.637E-08	1.005E-08	6.712E-09	4.777E-09	3.147E-09	2.154E-09
NNE	1.389E-08	3.200E-08	3.150E-08	2.542E-08	2.247E-08	2.632E-08	1.260E-08	6.032E-09	3.718E-09	2.582E-09
NE	1.020E-08	2.333E-08	2.242E-08	1.766E-08	1.521E-08	2.143E-08	1.104E-08	5.510E-09	3.557E-09	2.541E-09
ENE	8.211E-09	1.841E-08	1.728E-08	1.341E-08	1.129E-08	1.211E-08	5.868E-09	2.911E-09	1.887E-09	1.335E-09
E	8.817E-09	2.068E-08	1.985E-08	1.548E-08	1.291E-08	1.321E-08	6.355E-09	3.132E-09	1.988E-09	1.450E-09
ESE	2.447E-08	4.631E-08	3.903E-08	2.842E-08	2.240E-08	1.736E-08	7.528E-09	3.596E-09	2.217E-09	1.544E-09
SE	3.324E-08	6.441E-08	5.671E-08	4.251E-08	3.241E-08	1.843E-08	9.109E-09	4.992E-09	3.209E-09	2.243E-09
SSE	4.886E-08	7.544E-08	6.528E-08	6.235E-08	6.584E-08	4.690E-08	1.699E-08	8.119E-09	5.025E-09	3.513E-09

ERP ELEVATED STACK RELEASES - JAN-MAR 1993
8,000 DAY DECAY, DEPLETED
CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)		DISTANCE IN MILES										
SECTOR	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500	
S	5.337E-09	2.859E-08	5.072E-08	6.335E-08	7.021E-08	6.364E-08	5.465E-08	4.452E-08	3.983E-08	4.904E-08	5.501E-08	
SSW	3.469E-09	2.125E-08	4.015E-08	5.291E-08	6.260E-08	5.859E-08	5.127E-08	5.981E-08	6.397E-08	5.641E-08	5.011E-08	
SW	6.996E-11	5.369E-09	3.748E-08	9.563E-08	1.860E-07	1.294E-07	9.418E-08	7.169E-08	5.661E-08	4.604E-08	3.836E-08	
WSW	6.542E-11	8.057E-09	6.335E-08	1.497E-07	2.398E-07	1.498E-07	1.026E-07	7.510E-08	5.768E-08	4.594E-08	3.765E-08	
W	2.681E-13	3.733E-08	1.960E-07	2.528E-07	2.247E-07	1.369E-07	9.228E-08	6.683E-08	5.096E-08	4.040E-08	3.299E-08	
WNW	3.160E-09	2.577E-08	1.654E-07	3.203E-07	4.470E-07	2.733E-07	1.851E-07	1.408E-07	1.116E-07	8.802E-08	7.156E-08	
NW	6.059E-09	3.793E-08	1.086E-07	2.322E-07	4.675E-07	2.805E-07	1.882E-07	1.394E-07	1.13E-07	8.554E-08	6.957E-08	
NNW	6.144E-09	3.427E-08	5.490E-08	7.012E-08	9.529E-08	9.221E-08	8.234E-08	7.136E-08	6.292E-08	4.929E-08	3.984E-08	
N	1.994E-09	1.333E-08	2.313E-08	2.774E-08	3.156E-08	3.058E-08	2.758E-08	2.382E-08	2.065E-08	1.805E-08	1.593E-08	
NNE	3.744E-16	5.646E-10	1.072E-08	2.297E-08	3.466E-08	3.452E-08	3.169E-08	2.829E-08	2.512E-08	2.237E-08	2.006E-08	
NE	2.524E-16	4.069E-10	7.820E-09	1.691E-08	2.500E-08	2.493E-08	2.252E-08	1.981E-08	1.737E-08	1.531E-08	1.360E-08	
ENE	1.104E-16	3.015E-10	6.261E-09	1.365E-08	1.982E-08	1.942E-08	1.733E-08	1.511E-08	1.317E-08	1.155E-08	1.022E-08	
E	1.830E-16	3.265E-10	6.619E-09	1.474E-08	2.221E-08	2.217E-08	1.995E-08	1.745E-08	1.521E-08	1.332E-08	1.175E-08	
ESE	1.344E-15	1.240E-09	2.016E-08	3.937E-08	5.037E-08	4.581E-08	3.886E-08	3.265E-08	2.762E-08	2.364E-08	2.049E-08	
SE	2.179E-11	2.686E-09	2.764E-08	5.273E-08	6.948E-08	6.524E-08	5.667E-08	4.845E-08	4.154E-08	3.592E-08	3.137E-08	
SSE	2.393E-10	1.551E-08	4.621E-08	6.670E-08	7.988E-08	7.460E-08	6.520E-08	5.616E-08	4.853E-08	4.154E-08	3.592E-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	4.890E-08	3.033E-08	1.890E-08	1.001E-08	6.329E-09	4.409E-09	3.272E-09	2.539E-09	2.045E-09	1.589E-09	1.420E-09	
SSW	4.609E-08	3.083E-08	1.912E-08	1.006E-08	6.373E-09	4.489E-09	3.347E-09	2.608E-09	2.098E-09	1.729E-09	1.453E-09	
SW	3.468E-08	2.228E-08	1.389E-08	7.350E-09	4.625E-09	3.208E-09	2.406E-09	1.874E-09	1.506E-09	1.241E-09	1.043E-09	
WSW	3.262E-08	1.888E-08	1.225E-08	6.706E-09	4.244E-09	2.970E-09	2.215E-09	1.726E-09	1.388E-09	1.144E-09	9.618E-10	
W	2.759E-08	1.453E-08	1.007E-08	6.142E-09	4.277E-09	3.037E-09	2.278E-09	1.784E-09	1.443E-09	1.195E-09	1.008E-09	
WNW	6.016E-08	3.202E-08	2.070E-08	1.145E-08	7.177E-09	5.008E-09	3.762E-09	2.952E-09	2.382E-09	1.967E-09	1.655E-09	
NW	5.856E-08	3.129E-08	2.036E-08	1.132E-08	7.156E-09	5.001E-09	3.791E-09	2.983E-09	2.414E-09	2.000E-09	1.689E-09	
NNW	3.370E-08	1.836E-08	1.148E-08	6.125E-09	3.820E-09	2.638E-09	1.961E-09	1.526E-09	1.249E-09	1.040E-09	8.762E-10	
N	1.421E-08	9.214E-09	7.911E-09	6.687E-09	5.723E-09	4.605E-09	3.531E-09	2.806E-09	2.291E-09	1.915E-09	1.630E-09	
NNE	2.361E-08	3.344E-08	2.091E-08	1.117E-08	7.008E-09	4.866E-09	3.603E-09	2.789E-09	2.230E-09	1.828E-09	1.528E-09	
NE	1.560E-08	2.814E-08	1.782E-08	9.778E-09	6.327E-09	4.509E-09	3.482E-09	2.790E-09	2.288E-09	1.913E-09	1.629E-09	
ENE	1.124E-08	1.498E-08	9.499E-09	5.142E-09	3.231E-09	2.243E-09	1.710E-09	1.356E-09	1.098E-09	9.109E-10	7.799E-10	
E	1.270E-08	1.615E-08	1.025E-08	5.567E-09	3.506E-09	2.440E-09	1.808E-09	1.400E-09	1.151E-09	9.640E-10	8.111E-10	
ESE	2.082E-08	1.941E-08	1.215E-08	6.476E-09	4.043E-09	2.794E-09	2.059E-09	1.587E-09	1.264E-09	1.033E-09	8.697E-10	
SE	2.766E-08	1.707E-08	1.309E-08	8.931E-09	6.273E-09	4.740E-09	3.757E-09	3.070E-09	2.494E-09	2.076E-09	1.759E-09	
SSE	8.102E-08	4.390E-08	2.719E-08	1.450E-08	9.233E-09	6.494E-09	4.865E-09	3.806E-09	3.073E-09	2.543E-09	2.145E-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	5.142E-08	6.576E-08	5.380E-08	4.525E-08	5.098E-08	2.938E-08	1.035E-08	4.466E-09	2.560E-09	1.695E-09	
SSW	4.162E-08	5.867E-08	5.664E-08	5.990E-08	5.049E-08	2.902E-08	1.044E-08	4.535E-09	2.625E-09	1.736E-09	
SW	5.619E-08	1.408E-07	9.457E-08	5.690E-08	3.927E-08	2.131E-08	7.592E-09	3.265E-09	1.886E-09	1.246E-09	
WSW	8.943E-08	1.798E-07	1.042E-07	5.818E-08	3.625E-08	1.899E-08	6.843E-09	3.008E-09	1.737E-09	1.149E-09	
W	1.860E-07	1.919E-07	9.400E-08	5.147E-08	3.319E-08	1.545E-08	6.186E-09	3.064E-09	1.795E-09	1.199E-09	
WNW	2.032E-07	3.416E-07	1.909E-07	1.109E-07	7.221E-08	3.324E-08	1.161E-08	5.088E-09	2.967E-09	1.974E-09	
NW	1.478E-07	3.321E-07	1.933E-07	1.085E-07	7.022E-08	3.249E-08	1.148E-08	5.092E-09	2.997E-09	2.007E-09	
NNW	5.708E-08	8.833E-08	8.058E-08	6.014E-08	4.037E-08	1.871E-08	6.292E-09	2.683E-09	1.545E-09	1.041E-09	
N	2.300E-08	3.028E-08	2.688E-08	2.056E-08	1.592E-08	9.745E-09	6.531E-09	4.474E-09	2.817E-09	1.921E-09	
NNE	1.391E-08	3.180E-08	3.108E-08	2.498E-08	2.206E-08	2.569E-08	1.148E-08	4.932E-09	2.808E-09	1.836E-09	
NE	1.021E-08	2.317E-08	2.208E-08	1.728E-08	1.485E-08	2.077E-08	1.003E-08	4.583E-09	2.796E-09	1.919E-09	
ENE	8.222E-09	1.827E-08	1.700E-08	1.310E-08	1.099E-08	1.171E-08	5.261E-09	2.293E-09	1.359E-09	9.142E-10	
E	8.830E-09	2.054E-08	1.954E-08	1.513E-08	1.257E-08	1.276E-08	5.693E-09	2.471E-09	1.422E-09	9.626E-10	
ESE	2.449E-08	4.590E-08	3.823E-08	2.754E-08	2.155E-08	1.650E-08	6.656E-09	2.833E-09	1.599E-09	1.038E-09	
SE	3.325E-08	6.387E-08	5.567E-08	4.137E-08	3.134E-08	1.766E-08	8.674E-09	4.756E-09	3.047E-09	2.082E-09	
SSE	4.849E-08	7.460E-08	6.409E-08	6.102E-08	8.421E-08	4.472E-08	1.498E-08	6.573E-09	3.829E-09	2.553E-09	

ERP ELEVATED STACK RELEASES - JAN-MAR 1993

CORRECTED FOR OPEN TERRAIN RECIRCULATION

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

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
S	2.747E-09	2.617E-09	2.790E-09	2.252E-09	1.233E-09	7.917E-10	5.478E-10	3.983E-10	3.001E-10	2.466E-10	2.216E-10
SSW	1.665E-09	1.671E-09	1.888E-09	1.573E-09	8.784E-10	5.680E-10	3.943E-10	2.872E-10	2.688E-10	2.018E-10	1.588E-10
SW	5.816E-10	7.165E-10	9.693E-10	8.764E-10	9.473E-10	5.160E-10	3.221E-10	2.192E-10	1.586E-10	1.209E-10	9.399E-11
WSW	6.095E-10	8.302E-10	1.211E-09	2.035E-09	1.288E-09	6.991E-10	4.321E-10	2.929E-10	2.114E-10	1.598E-10	1.250E-10
W	7.035E-11	3.687E-09	3.590E-09	2.421E-09	1.145E-09	6.215E-10	3.819E-10	2.600E-10	1.875E-10	1.414E-10	1.107E-10
WNW	8.267E-10	1.221E-09	5.657E-09	3.948E-09	2.489E-09	1.250E-09	7.434E-10	4.966E-10	3.735E-10	2.932E-10	2.438E-10
NW	2.974E-09	2.594E-09	2.463E-09	3.692E-09	2.277E-09	1.139E-09	6.813E-10	4.615E-10	3.440E-10	2.762E-10	2.355E-10
NNW	2.140E-09	1.746E-09	1.492E-09	1.035E-09	8.322E-10	4.494E-10	2.825E-10	2.289E-10	1.782E-10	1.357E-10	1.146E-10
N	8.264E-10	7.989E-10	8.664E-10	7.860E-10	3.889E-10	2.503E-10	1.733E-10	1.261E-10	9.503E-11	7.361E-11	5.823E-11
NNE	4.735E-11	2.841E-10	6.049E-10	6.265E-10	3.913E-10	2.624E-10	1.853E-10	1.362E-10	1.031E-10	8.004E-11	6.339E-11
NE	3.382E-11	2.029E-10	4.320E-10	4.475E-10	2.795E-10	1.874E-10	1.324E-10	9.725E-11	7.366E-11	5.717E-11	4.538E-11
ENE	2.435E-11	1.461E-10	3.111E-10	3.222E-10	2.013E-10	1.349E-10	9.532E-11	7.092E-11	5.303E-11	4.116E-11	3.269E-11
E	2.841E-11	1.704E-10	3.629E-10	3.759E-10	2.348E-10	1.574E-10	1.112E-10	8.169E-11	6.187E-11	4.802E-11	3.803E-11
ESE	1.082E-10	6.493E-10	1.383E-09	1.432E-09	8.945E-10	5.998E-10	4.236E-10	3.112E-10	2.357E-10	1.832E-10	1.464E-10
SE	6.098E-10	1.973E-09	2.005E-09	2.013E-09	1.240E-09	8.281E-10	5.838E-10	4.284E-10	3.243E-10	2.517E-10	1.999E-10
SSE	2.265E-09	2.581E-09	3.100E-09	2.700E-09	1.548E-09	1.010E-09	7.041E-10	5.139E-10	3.880E-10	3.666E-10	4.107E-10

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	1.782E-10	1.543E-10	1.104E-10	6.656E-11	4.250E-11	2.770E-11	1.979E-11	1.481E-11	1.161E-11	9.268E-12	7.547E-12
SSW	1.288E-10	1.148E-10	8.260E-11	4.998E-11	2.918E-11	2.044E-11	1.465E-11	1.101E-11	8.682E-12	6.935E-12	5.669E-12
SW	7.654E-11	8.719E-11	6.533E-11	4.072E-11	2.614E-11	1.560E-11	1.108E-11	8.414E-12	6.542E-12	5.256E-12	4.299E-12
WSW	1.005E-10	6.564E-11	4.385E-11	2.882E-11	1.744E-11	1.170E-11	8.421E-12	6.323E-12	4.917E-12	3.827E-12	3.200E-12
W	8.896E-11	3.977E-11	4.068E-11	2.499E-11	1.680E-11	1.143E-11	8.188E-12	6.149E-12	4.781E-12	3.819E-12	3.117E-12
WNW	2.162E-10	1.349E-10	9.989E-11	6.105E-11	3.851E-11	2.551E-11	1.740E-11	1.322E-11	1.030E-11	8.230E-12	6.718E-12
NW	2.099E-10	1.398E-10	1.043E-10	6.388E-11	3.919E-11	2.620E-11	1.806E-11	1.356E-11	1.060E-11	8.466E-12	6.908E-12
NNW	1.013E-10	6.568E-11	4.845E-11	2.995E-11	1.929E-11	1.288E-11	8.454E-12	6.304E-12	4.846E-12	3.872E-12	3.165E-12
N	4.700E-11	2.232E-11	1.365E-11	7.243E-12	3.197E-11	1.730E-11	1.234E-11	9.268E-12	7.208E-12	5.759E-12	4.702E-12
NNE	5.105E-11	9.528E-11	6.408E-11	3.627E-11	2.268E-11	1.508E-11	1.056E-11	7.889E-12	6.046E-12	4.755E-12	3.869E-12
NE	3.646E-11	1.038E-10	6.617E-11	3.548E-11	2.186E-11	1.459E-11	1.013E-11	7.606E-12	5.939E-12	4.746E-12	3.873E-12
ENE	2.625E-11	4.935E-11	3.836E-11	2.453E-11	1.580E-11	1.043E-11	7.281E-12	4.268E-12	3.324E-12	2.661E-12	2.176E-12
E	3.083E-11	5.922E-11	4.617E-11	2.959E-11	1.907E-11	1.258E-11	8.781E-12	6.389E-12	4.835E-12	3.340E-12	2.719E-12
ESE	1.167E-10	1.149E-10	8.083E-11	4.792E-11	3.034E-11	2.013E-11	1.418E-11	1.044E-11	7.990E-12	6.303E-12	5.093E-12
SE	1.605E-10	7.604E-11	4.635E-11	2.437E-11	1.487E-11	1.026E-11	7.732E-12	1.701E-11	1.306E-11	1.034E-11	8.398E-12
SSE	3.625E-10	3.267E-10	1.999E-10	1.023E-10	6.218E-11	4.165E-11	2.980E-11	2.233E-11	1.734E-11	1.384E-11	1.128E-11

DIRECTION FROM SITE	5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	2.512E-09	1.263E-09	5.530E-10	3.071E-10	2.124E-10	1.401E-10	8.562E-11	2.848E-11	1.502E-11	9.318E-12
SSW	1.708E-09	8.948E-10	3.978E-10	2.479E-10	1.602E-10	1.036E-10	4.798E-11	2.046E-11	1.116E-11	6.981E-12
SW	8.719E-10	7.407E-10	3.332E-10	1.612E-10	9.525E-11	7.511E-11	3.971E-11	1.660E-11	8.452E-12	5.280E-12
WSW	1.493E-09	1.192E-09	4.476E-10	2.150E-10	1.262E-10	6.370E-11	2.710E-11	1.192E-11	6.367E-12	3.853E-12
W	3.892E-09	1.196E-09	3.977E-10	1.907E-10	1.118E-10	5.111E-11	2.481E-11	1.156E-11	6.210E-12	3.846E-12
WNW	3.912E-09	2.263E-09	7.798E-10	3.781E-10	2.482E-10	1.381E-10	5.966E-11	2.582E-11	1.336E-11	8.284E-12
NW	3.838E-09	2.086E-09	7.155E-10	3.518E-10	2.380E-10	1.396E-10	6.190E-11	2.641E-11	1.372E-11	8.519E-12
NNW	1.346E-09	7.073E-10	3.056E-10	1.739E-10	1.159E-10	6.594E-11	2.932E-11	1.282E-11	6.343E-12	3.898E-12
N	7.801E-10	3.977E-10	1.750E-10	9.575E-11	5.865E-11	2.395E-11	1.965E-11	1.923E-11	9.341E-12	5.797E-12
NNE	5.432E-10	3.863E-10	1.862E-10	1.038E-10	6.375E-11	7.159E-11	3.641E-11	1.534E-11	7.076E-12	4.813E-12
NE	3.880E-10	2.759E-10	1.330E-10	7.412E-11	4.554E-11	7.209E-11	3.624E-11	1.474E-11	7.692E-12	4.776E-12
ENE	2.794E-10	1.987E-10	9.577E-11	5.336E-11	3.279E-11	3.933E-11	2.372E-11	1.060E-11	4.769E-12	2.678E-12
E	3.259E-10	2.318E-10	1.117E-10	6.226E-11	3.825E-11	4.706E-11	2.860E-11	1.279E-11	6.480E-12	3.553E-12
ESE	1.242E-09	8.830E-10	4.256E-10	2.372E-10	1.457E-10	1.002E-10	4.742E-11	2.047E-11	1.057E-11	6.355E-12
SE	1.802E-09	1.229E-09	5.868E-10	3.264E-10	2.005E-10	8.162E-11	2.503E-11	1.048E-11	1.235E-11	1.043E-11
SSE	2.789E-09	1.565E-09	7.095E-10	4.158E-10	3.798E-10	2.783E-10	1.062E-10	4.238E-11	2.358E-11	1.343E-11

ERP ELEVATED STACK RELEASES - JAN-MAR 1993
 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)
A	SITE BOUNDARY	S	0.80	1287.	UNDEPLETED	UNDEPLETED	DEPLETED	7.0E-09
A	SITE BOUNDARY	SSW	0.62	1327.	5.44E-08	4.98E-08	4.43E-08	1.82E-09
A	SITE BOUNDARY	SW	0.98	1567.	4.91E-08	4.58E-08	4.14E-08	9.09E-10
A	SITE BOUNDARY	WSW	0.93	1489.	4.97E-08	4.58E-08	4.14E-08	9.09E-10
A	SITE BOUNDARY	W	0.91	1468.	1.24E-07	1.25E-07	1.24E-07	2.49E-09
A	SITE BOUNDARY	MNW	0.94	1509.	2.44E-07	2.44E-07	2.22E-07	4.70E-09
A	SITE BOUNDARY	NW	0.81	1307.	2.80E-07	2.87E-07	2.65E-07	5.42E-09
A	SITE BOUNDARY	NNW	0.69	1106.	1.35E-07	1.35E-07	1.34E-07	3.15E-09
A	SITE BOUNDARY	N	0.67	1086.	4.94E-08	4.98E-08	4.70E-08	1.53E-09
A	SITE BOUNDARY	NNE	0.60	1065.	2.08E-08	2.01E-08	1.98E-08	8.09E-10
A	SITE BOUNDARY	NE	0.62	965.	2.89E-09	2.89E-09	2.80E-09	4.95E-10
A	SITE BOUNDARY	ENE	0.59	945.	2.89E-09	2.89E-09	2.80E-09	4.95E-10
A	SITE BOUNDARY	E	0.53	845.	1.51E-09	1.50E-09	1.38E-09	3.02E-10
A	SITE BOUNDARY	ESE	0.54	865.	1.49E-09	1.49E-09	1.40E-09	3.02E-10
A	SITE BOUNDARY	SSE	0.65	1307.	1.49E-08	1.42E-08	1.31E-08	3.02E-10
A	SITE BOUNDARY	SW	1.40	12253.	1.75E-07	1.75E-07	1.60E-07	3.66E-09
A	NEAR. RESIDENCE	SSW	1.30	12092.	2.25E-07	2.25E-07	2.07E-07	4.52E-09
A	NEAR. RESIDENCE	W	1.00	12575.	2.25E-07	2.25E-07	2.07E-07	4.52E-09
A	NEAR. RESIDENCE	MNW	1.60	1448.	4.07E-07	4.07E-07	3.69E-07	8.14E-09
A	NEAR. RESIDENCE	NNW	2.00	3215.	9.39E-08	9.39E-08	8.61E-08	1.89E-09
A	NEAR. RESIDENCE	N	3.00	4628.	3.11E-08	3.11E-08	2.82E-08	6.14E-10
A	NEAR. RESIDENCE	ENE	2.70	2734.	2.25E-08	2.25E-08	2.07E-08	4.52E-10
A	NEAR. RESIDENCE	ESE	1.60	3587.	2.25E-08	2.25E-08	2.07E-08	4.52E-10
A	NEAR. RESIDENCE	E	2.20	3587.	2.25E-08	2.25E-08	2.07E-08	4.52E-10
A	NEAR. RESIDENCE	SE	2.20	3587.	2.25E-08	2.25E-08	2.07E-08	4.52E-10
A	NEAREST COW	NNW	1.50	5634.	4.71E-08	4.71E-08	4.32E-08	9.45E-10
A	NEAREST GARDEN	SW	1.40	2287.	1.80E-07	1.80E-07	1.65E-07	3.66E-09
A	NEAREST GARDEN	MNW	1.80	2571.	1.80E-07	1.80E-07	1.65E-07	3.66E-09
A	NEAREST GARDEN	NNW	1.00	5219.	9.39E-08	9.39E-08	8.61E-08	1.89E-09

Atmospheric Diffusion Estimates

Elevated Releases

April-June 1993

ANNUAL AVERAGE FWT/O (SEF/METER CUBED)

ANNUAL AVERAGE SECTOR	CHI 70 (SECMETER CUBED)	DISTANCE IN MILES	500	1,000	1,500	2,000	2,500	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000	11,000	12,000	13,000	14,000	15,000	16,000	17,000	18,000	19,000	20,000	21,000	22,000	23,000	24,000	25,000	26,000	27,000	28,000	29,000	30,000	31,000	32,000	33,000	34,000	35,000	36,000	37,000	38,000	39,000	40,000	41,000	42,000	43,000	44,000	45,000	46,000	47,000	48,000	49,000	50,000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
S	2-28E-08	8-74E-08	1-26E-08	1-26E-08	1-18E-07	9-16E-08	7-90E-08	6-90E-08	6-09E-08	5-45E-08	4-95E-08	4-50E-08	4-10E-08	3-75E-08	3-45E-08	3-15E-08	2-90E-08	2-65E-08	2-45E-08	2-25E-08	2-10E-08	1-95E-08	1-80E-08	1-65E-08	1-50E-08	1-35E-08	1-20E-08	1-05E-08	9-40E-09	8-75E-09	8-10E-09	7-45E-09	6-80E-09	6-15E-09	5-50E-09	4-85E-09	4-20E-09	3-55E-09	2-90E-09	2-25E-09	1-60E-09	9-40E-10	7-45E-10	5-50E-10	3-55E-10	1-60E-10	9-40E-11	7-45E-11	5-50E-11	3-55E-11	1-60E-11	9-40E-12	7-45E-12	5-50E-12	3-55E-12	1-60E-12	9-40E-13	7-45E-13	5-50E-13	3-55E-13	1-60E-13	9-40E-14	7-45E-14	5-50E-14	3-55E-14	1-60E-14	9-40E-15	7-45E-15	5-50E-15	3-55E-15	1-60E-15	9-40E-16	7-45E-16	5-50E-16	3-55E-16	1-60E-16	9-40E-17	7-45E-17	5-50E-17	3-55E-17	1-60E-17	9-40E-18	7-45E-18	5-50E-18	3-55E-18	1-60E-18	9-40E-19	7-45E-19	5-50E-19	3-55E-19	1-60E-19	9-40E-20	7-45E-20	5-50E-20	3-55E-20	1-60E-20	9-40E-21	7-45E-21	5-50E-21	3-55E-21	1-60E-21	9-40E-22	7-45E-22	5-50E-22	3-55E-22	1-60E-22	9-40E-23	7-45E-23	5-50E-23	3-55E-23	1-60E-23	9-40E-24	7-45E-24	5-50E-24	3-55E-24	1-60E-24	9-40E-25	7-45E-25	5-50E-25	3-55E-25	1-60E-25	9-40E-26	7-45E-26	5-50E-26	3-55E-26	1-60E-26	9-40E-27	7-45E-27	5-50E-27	3-55E-27	1-60E-27	9-40E-28	7-45E-28	5-50E-28	3-55E-28	1-60E-28	9-40E-29	7-45E-29	5-50E-29	3-55E-29	1-60E-29	9-40E-30	7-45E-30	5-50E-30	3-55E-30	1-60E-30	9-40E-31	7-45E-31	5-50E-31	3-55E-31	1-60E-31	9-40E-32	7-45E-32	5-50E-32	3-55E-32	1-60E-32	9-40E-33	7-45E-33	5-50E-33	3-55E-33	1-60E-33	9-40E-34	7-45E-34	5-50E-34	3-55E-34	1-60E-34	9-40E-35	7-45E-35	5-50E-35	3-55E-35	1-60E-35	9-40E-36	7-45E-36	5-50E-36	3-55E-36	1-60E-36	9-40E-37	7-45E-37	5-50E-37	3-55E-37	1-60E-37	9-40E-38	7-45E-38	5-50E-38	3-55E-38	1-60E-38	9-40E-39	7-45E-39	5-50E-39	3-55E-39	1-60E-39	9-40E-40	7-45E-40	5-50E-40	3-55E-40	1-60E-40	9-40E-41	7-45E-41	5-50E-41	3-55E-41	1-60E-41	9-40E-42	7-45E-42	5-50E-42	3-55E-42	1-60E-42	9-40E-43	7-45E-43	5-50E-43	3-55E-43	1-60E-43	9-40E-44	7-45E-44	5-50E-44	3-55E-44	1-60E-44	9-40E-45	7-45E-45	5-50E-45	3-55E-45	1-60E-45	9-40E-46	7-45E-46	5-50E-46	3-55E-46	1-60E-46	9-40E-47	7-45E-47	5-50E-47	3-55E-47	1-60E-47	9-40E-48	7-45E-48	5-50E-48	3-55E-48	1-60E-48	9-40E-49	7-45E-49	5-50E-49	3-55E-49	1-60E-49	9-40E-50	7-45E-50	5-50E-50	3-55E-50	1-60E-50	9-40E-51	7-45E-51	5-50E-51	3-55E-51	1-60E-51	9-40E-52	7-45E-52	5-50E-52	3-55E-52	1-60E-52	9-40E-53	7-45E-53	5-50E-53	3-55E-53	1-60E-53	9-40E-54	7-45E-54	5-50E-54	3-55E-54	1-60E-54	9-40E-55	7-45E-55	5-50E-55	3-55E-55	1-60E-55	9-40E-56	7-45E-56	5-50E-56	3-55E-56	1-60E-56	9-40E-57	7-45E-57	5-50E-57	3-55E-57	1-60E-57	9-40E-58	7-45E-58	5-50E-58	3-55E-58	1-60E-58	9-40E-59	7-45E-59	5-50E-59	3-55E-59	1-60E-59	9-40E-60	7-45E-60	5-50E-60	3-55E-60	1-60E-60	9-40E-61	7-45E-61	5-50E-61	3-55E-61	1-60E-61	9-40E-62	7-45E-62	5-50E-62	3-55E-62	1-60E-62	9-40E-63	7-45E-63	5-50E-63	3-55E-63	1-60E-63	9-40E-64	7-45E-64	5-50E-64	3-55E-64	1-60E-64	9-40E-65	7-45E-65	5-50E-65	3-55E-65	1-60E-65	9-40E-66	7-45E-66	5-50E-66	3-55E-66	1-60E-66	9-40E-67	7-45E-67	5-50E-67	3-55E-67	1-60E-67	9-40E-68	7-45E-68	5-50E-68	3-55E-68	1-60E-68	9-40E-69	7-45E-69	5-50E-69	3-55E-69	1-60E-69	9-40E-70	7-45E-70	5-50E-70	3-55E-70	1-60E-70	9-40E-71	7-45E-71	5-50E-71	3-55E-71	1-60E-71	9-40E-72	7-45E-72	5-50E-72	3-55E-72	1-60E-72	9-40E-73	7-45E-73	5-50E-73	3-55E-73	1-60E-73	9-40E-74	7-45E-74	5-50E-74	3-55E-74	1-60E-74	9-40E-75	7-45E-75	5-50E-75	3-55E-75	1-60E-75	9-40E-76	7-45E-76	5-50E-76	3-55E-76	1-60E-76	9-40E-77	7-45E-77	5-50E-77	3-55E-77	1-60E-77	9-40E-78	7-45E-78	5-50E-78	3-55E-78	1-60E-78	9-40E-79	7-45E-79	5-50E-79	3-55E-79	1-60E-79	9-40E-80	7-45E-80	5-50E-80	3-55E-80	1-60E-80	9-40E-81	7-45E-81	5-50E-81	3-55E-81	1-60E-81	9-40E-82	7-45E-82	5-50E-82	3-55E-82	1-60E-82	9-40E-83	7-45E-83	5-50E-83	3-55E-83	1-60E-83	9-40E-84	7-45E-84	5-50E-84	3-55E-84	1-60E-84	9-40E-85	7-45E-85	5-50E-85	3-55E-85	1-60E-85	9-40E-86	7-45E-86	5-50E-86	3-55E-86	1-60E-86	9-40E-87	7-45E-87	5-50E-87	3-55E-87	1-60E-87	9-40E-88	7-45E-88	5-50E-88	3-55E-88	1-60E-88	9-40E-89	7-45E-89	5-50E-89	3-55E-89	1-60E-89	9-40E-90	7-45E-90	5-50E-90	3-55E-90	1-60E-90	9-40E-91	7-45E-91	5-50E-91	3-55E-91	1-60E-91	9-40E-92	7-45E-92	5-50E-92	3-55E-92	1-60E-92	9-40E-93	7-45E-93	5-50E-93	3-55E-93	1-60E-93	9-40E-94	7-45E-94	5-50E-94	3-55E-94	1-60E-94	9-40E-95	7-45E-95	5-50E-95	3-55E-95	1-60E-95	9-40E-96	7-45E-96	5-50E-96	3-55E-96	1-60E-96	9-40E-97	7-45E-97	5-50E-97	3-55E-97	1-60E-97	9-40E-98	7-45E-98	5-50E-98	3-55E-98	1-60E-98	9-40E-99	7-45E-99	5-50E-99	3-55E-99	1-60E-99	9-40E-100	7-45E-100	5-50E-100	3-55E-100	1-60E-100	9-40E-101	7-45E-101	5-50E-101	3-55E-101	1-60E-101	9-40E-102	7-45E-102	5-50E-102	3-55E-102	1-60E-102	9-40E-103	7-45E-103	5-50E-103	3-55E-103	1-60E-103	9-40E-104	7-45E-104	5-50E-104	3-55E-104	1-60E-104	9-40E-105	7-45E-105	5-50E-105	3-55E-105	1-60E-105	9-40E-106	7-45E-106	5-50E-106	3-55E-106	1-60E-106	9-40E-107	7-45E-107	5-50E-107	3-55E-107	1-60E-107	9-40E-108	7-45E-108	5-50E-108	3-55E-108	1-60E-108	9-40E-109	7-45E-109	5-50E-109	3-55E-109	1-60E-109	9-40E-110	7-45E-110	5-50E-110	3-55E-110	1-60E-110	9-40E-111	7-45E-111	5-50E-111	3-55E-111	1-60E-111	9-40E-112	7-45E-112	5-50E-112	3-55E-112	1-60E-112	9-40E-113	7-45E-113	5-50E-113	3-55E-113	1-60E-113	9-40E-114	7-45E-114	5-50E-114	3-55E-114	1-60E-114	9-40E-115	7-45E-115	5-50E-115	3-55E-115	1-60E-115	9-40E-116	7-45E-116	5-50E-116	3-55E-116	1-60E-116	9-40E-117	7-45E-117	5-50E-117	3-55E-117	1-60E-117	9-40E-118	7-45E-118	5-50E-118	3-55E-118	1-60E-118	9-40E-119	7-45E-119	5-50E-119	3-55E-119	1-60E-119	9-40E-120	7-45E-120	5-50E-120	3-55E-120	1-60E-120	9-40E-121	7-45E-121	5-50E-121	3-55E-121	1-60E-121	9-40E-122	7-45E-122	5-50E-122	3-55E-122	1-60E-122	9-40E-123	7-45E-123	5-50E-123	3-55E-123	1-60E-123	9-40E-124	7-45E-124	5-50E-124	3-55E-124	1-60E-124	9-40E-125	7-45E-125	5-50E-125	3-55E-125	1-60E-125	9-40E-126	7-45E-126	5-50E-126	3-55E-126	1-60E-126	9-40E-127	7-45E-127	5-50E-127	3-55E-127	1-60E-127	9-40E-128	7-45E-128	5-50E-128	3-55E-128	1-60E-128	9-40E-129	7-45E-129	5-50E-129	3-55E-129	1-60E-129	9-40E-130	7-45E-130	5-50E-130	3-55E-130	1-60E-130	9-40E-131	7-45E-131	5-50E-131	3-55E-131	1-60E-131	9-40E-132	7-45E-132	5-50E-132	3-55E-132	1-60E-132	9-40E-133	7-45E-133	5-50E-133	3-55E-133	1-60E-133	9-40E-134	7-45E-134	5-50E-134	3-55E-134	1-60E-134	9-40E-135	7-45E-135	5-50E-135	3-55E-135	1-60E-135	9-40E-136	7-45E-136	5-50E-136	3-55E-136	1-60E-136	9-40E-137	7-45E-137	5-50E-137	3-55E-137	1-60E-137	9-40E-138	7-45E-138	5-50E-138	3-55E-138	1-60E-138	9-40E-139	7-45E-139	5-50E-139	3-55E-139	1-60E-139	9-40E-140	7-45E-140	5-50E-140	3-55E-140	1-60E-140	9-40E-141	7-45E-141	5-50E-141	3-55E-141	1-60E-141	9-40E-142	7-45E-142	5-50E-142	3-55E-142	1-60E-142	9-40E-143	7-45E-143	5-50E-143	3-55E-143	1-60E-143	9-40E-144	7-45E-144	5-50E-144	3-55E-144	1-60E-144	9-40E-145	7-45E-145	5-50E-145	3-55E-145	1-60E-145	9-40E-146	7-45E-146	5-50E-146	3-55E-146	1-60E-146	9-40E-147	7-45E-147	5-50E-147	3-55E-147	1-60E-147	9-40E-148	7-45E-148	5-50E-148	3-55E-148	1-60E-148	9-40E-149	7-45E-149	5-50E-149	3-55E-149	1-60E-149	9-40E-150	7-45E-150	5-50E-150	3-55E-150	1-60E-150	9-40E-151	7-45E-151	5-50E-151	3-55E-151	1-60E-151	9-40E-152	7-45E-152	5-50E-152	3-55E-152	1-60E-152	9-40E-153	7-45E-153	5-50E-153	3-55E-153	1-60E-153	9-40E-154	7-45E-154	5-50E-154	3-55E-154	1-60E-154	9-40E-155	7-45E-155	5-50E-155	3-55E-155	1-60E-155	9-40E-156	7-45E-156	5-50E-156	3-55E-156	1-60E-156	9-40E-157	7-45E-157	5-50E-157	3-55E-157	1-60E-157	9-40E-158	7-45E-158	5-50E-158	3-55E-158	1-60E-158	9-40E-159	7-45E-159	5-50E-159	3-55E-159	1-60E-159	9-40E-160	7-45E-160	5-50E-160	3-55E-160	1-60E-160	9-40E-161	7-45E-161	5-50E-161	3-55E-161	1-60E-161	9-40E-162	7-45E-162	5-50E-162	3-55E-162	1-60E-162	9-40E-163	7-45E-163	5-50E-163	3-55E-163	1-60E-163	9-40E-164	7-45E-164	5-50E-164	3-55E-164	1-60E-164	9-40E-165	7-45E-165	5-50E-165	3-55E-165	1-60E-165	9-40E-166	7-45E-166	5-50E-166	3-55E-166	1-60E-166	9-40E-167	7-45E-167	5-50E-167	3-55E-167	1-60E-167	9-40E-168	7-45E-168	5-50E-168	3-55E-168	1-60E-168	9-40E-169	7-45E-169	5-50E-169	3-55E-169	1-60E-169	9-40E-170	7-45E-170	5-50E-170	3-55E-170	1-60E-170	9-40E-171	7-45E-171	5-50E-171	3-55E-171	1-60E-171	9-40E-172	7-45E-172	5-50E-172	3-55E-172	1-60E-172	9-40E-173	7-45E-173	5-50E-173	3-55E-173	1-60E-173	9-40E-174	7-45E-174	5-50E-174	3-55E-174	1-60E-174	9-40E-175	7-45E-175	5-50E-175	3-55E-175	1-60E-175	9-40E-176	7-45E-176	5-50E-176	3-55E-176	1

[illegible][illegible]

ANNUAL AVERAGE	CHI	Q (SEC/METER CUBED)	DISTANCE IN MILES	SECTOR
W	2.5	0.00	1.000	W
E	2.5	0.00	1.165	E
S	2.5	0.00	1.423	S
X	2.5	0.00	1.630	X
N	2.5	0.00	1.996	N
N	2.5	0.00	2.467	N
N	2.5	0.00	2.942	N
E	2.5	0.00	3.423	E
N	2.5	0.00	3.906	N
E	2.5	0.00	4.392	E
S	2.5	0.00	4.881	S
X	2.5	0.00	5.372	X
N	2.5	0.00	5.865	N
N	2.5	0.00	6.360	N
N	2.5	0.00	6.857	N
E	2.5	0.00	7.356	E
S	2.5	0.00	7.857	S
X	2.5	0.00	8.360	X
N	2.5	0.00	8.865	N
N	2.5	0.00	9.372	N
N	2.5	0.00	9.881	N
E	2.5	0.00	10.392	E
S	2.5	0.00	10.906	S
X	2.5	0.00	11.423	X
N	2.5	0.00	11.942	N
N	2.5	0.00	12.467	N
N	2.5	0.00	12.996	N
E	2.5	0.00	13.529	E
S	2.5	0.00	14.065	S
X	2.5	0.00	14.604	X
N	2.5	0.00	15.146	N
N	2.5	0.00	15.690	N
N	2.5	0.00	16.237	N
E	2.5	0.00	16.787	E
S	2.5	0.00	17.340	S
X	2.5	0.00	17.896	X
N	2.5	0.00	18.455	N
N	2.5	0.00	19.017	N
N	2.5	0.00	19.582	N
E	2.5	0.00	20.150	E
S	2.5	0.00	20.721	S
X	2.5	0.00	21.295	X
N	2.5	0.00	21.872	N
N	2.5	0.00	22.452	N
N	2.5	0.00	23.035	N
E	2.5	0.00	23.621	E
S	2.5	0.00	24.210	S
X	2.5	0.00	24.802	X
N	2.5	0.00	25.397	N
N	2.5	0.00	25.995	N
N	2.5	0.00	26.596	N
E	2.5	0.00	27.200	E
S	2.5	0.00	27.807	S
X	2.5	0.00	28.417	X
N	2.5	0.00	29.030	N
N	2.5	0.00	29.646	N
N	2.5	0.00	30.265	N
E	2.5	0.00	30.887	E
S	2.5	0.00	31.512	S
X	2.5	0.00	32.140	X
N	2.5	0.00	32.771	N
N	2.5	0.00	33.405	N
N	2.5	0.00	34.042	N
E	2.5	0.00	34.682	E
S	2.5	0.00	35.325	S
X	2.5	0.00	35.971	X
N	2.5	0.00	36.620	N
N	2.5	0.00	37.272	N
N	2.5	0.00	37.927	N
E	2.5	0.00	38.585	E
S	2.5	0.00	39.246	S
X	2.5	0.00	39.910	X
N	2.5	0.00	40.577	N
N	2.5	0.00	41.247	N
N	2.5	0.00	41.920	N
E	2.5	0.00	42.596	E
S	2.5	0.00	43.275	S
X	2.5	0.00	43.957	X
N	2.5	0.00	44.642	N
N	2.5	0.00	45.330	N
N	2.5	0.00	46.021	N
E	2.5	0.00	46.715	E
S	2.5	0.00	47.412	S
X	2.5	0.00	48.113	X
N	2.5	0.00	48.817	N
N	2.5	0.00	49.524	N
N	2.5	0.00	50.234	N
E	2.5	0.00	50.947	E
S	2.5	0.00	51.663	S
X	2.5	0.00	52.382	X
N	2.5	0.00	53.104	N
N	2.5	0.00	53.829	N
N	2.5	0.00	54.557	N
E	2.5	0.00	55.288	E

	NO PROJECT	UNIT NUMBER	COLOR CODES FOR EACH SCHEM	SCHEM NUMBER	BOUNDARIES IN MILES	10-20	20-30	30-40	40-50
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10	10	10
11	11	11	11	11	11	11	11	11	11
12	12	12	12	12	12	12	12	12	12
13	13	13	13	13	13	13	13	13	13
14	14	14	14	14	14	14	14	14	14
15	15	15	15	15	15	15	15	15	15
16	16	16	16	16	16	16	16	16	16
17	17	17	17	17	17	17	17	17	17
18	18	18	18	18	18	18	18	18	18
19	19	19	19	19	19	19	19	19	19
20	20	20	20	20	20	20	20	20	20
21	21	21	21	21	21	21	21	21	21
22	22	22	22	22	22	22	22	22	22
23	23	23	23	23	23	23	23	23	23
24	24	24	24	24	24	24	24	24	24
25	25	25	25	25	25	25	25	25	25
26	26	26	26	26	26	26	26	26	26
27	27	27	27	27	27	27	27	27	27
28	28	28	28	28	28	28	28	28	28
29	29	29	29	29	29	29	29	29	29
30	30	30	30	30	30	30	30	30	30
31	31	31	31	31	31	31	31	31	31
32	32	32	32	32	32	32	32	32	32
33	33	33	33	33	33	33	33	33	33
34	34	34	34	34	34	34	34	34	34
35	35	35	35	35	35	35	35	35	35
36	36	36	36	36	36	36	36	36	36
37	37	37	37	37	37	37	37	37	37
38	38	38	38	38	38	38	38	38	38
39	39	39	39	39	39	39	39	39	39
40	40	40	40	40	40	40	40	40	40
41	41	41	41	41	41	41	41	41	41
42	42	42	42	42	42	42	42	42	42
43	43	43	43	43	43	43	43	43	43
44	44	44	44	44	44	44	44	44	44
45	45	45	45	45	45	45	45	45	45
46	46	46	46	46	46	46	46	46	46
47	47	47	47	47	47	47	47	47	47
48	48	48	48	48	48	48	48	48	48
49	49	49	49	49	49	49	49	49	49
50	50	50	50	50	50	50	50	50	50
51	51	51	51	51	51	51	51	51	51
52	52	52	52	52	52	52	52	52	52
53	53	53	53	53	53	53	53	53	53
54	54	54	54						

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

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)				DISTANCE IN MILES									
SECTOR	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500		
S	2.283E-08	8.666E-08	1.201E-07	1.094E-07	8.950E-08	7.203E-08	5.828E-08	4.790E-08	4.009E-08	4.763E-08	5.336E-08		
SSW	5.586E-09	3.557E-08	4.621E-08	4.346E-08	3.919E-08	3.312E-08	2.741E-08	2.955E-08	3.041E-08	2.663E-08	2.367E-08		
SW	8.836E-11	1.488E-08	6.060E-08	9.545E-08	1.219E-07	8.003E-08	5.685E-08	4.282E-08	3.368E-08	2.737E-08	2.284E-08		
WSW	2.888E-09	2.547E-08	7.124E-08	1.193E-07	1.557E-07	9.368E-08	6.262E-08	4.504E-08	3.413E-08	2.691E-08	2.186E-08		
W	2.054E-08	7.514E-08	1.620E-07	1.977E-07	1.846E-07	1.143E-07	7.788E-08	5.678E-08	4.350E-08	3.459E-08	2.831E-08		
WNW	3.161E-09	1.639E-08	1.085E-07	2.087E-07	2.821E-07	1.724E-07	1.167E-07	8.873E-08	7.028E-08	5.539E-08	4.498E-08		
NW	2.870E-08	9.794E-08	1.687E-07	2.646E-07	3.775E-07	2.172E-07	1.421E-07	1.031E-07	7.899E-08	6.184E-08	4.998E-08		
NNW	1.493E-08	6.434E-08	1.118E-07	1.370E-07	1.653E-07	1.493E-07	1.261E-07	1.031E-07	8.506E-08	6.583E-08	5.268E-08		
N	3.652E-08	1.072E-07	1.191E-07	9.826E-08	7.358E-08	5.762E-08	4.581E-08	3.658E-08	2.995E-08	2.506E-08	2.136E-08		
NNE	1.217E-08	4.733E-08	6.627E-08	6.169E-08	5.187E-08	4.207E-08	3.413E-08	2.813E-08	2.361E-08	2.018E-08	1.752E-08		
NE	4.641E-09	4.991E-08	6.973E-08	5.717E-08	4.003E-08	2.969E-08	2.291E-08	1.827E-08	1.499E-08	1.257E-08	1.076E-08		
ENE	4.184E-11	8.590E-09	2.157E-08	2.582E-08	2.226E-08	1.892E-08	1.583E-08	1.334E-08	1.139E-08	9.865E-09	8.659E-09		
E	3.373E-11	4.036E-09	1.215E-08	1.677E-08	1.850E-08	1.626E-08	1.362E-08	1.138E-08	9.618E-09	8.235E-09	7.140E-09		
ESE	6.747E-11	8.080E-09	2.400E-08	3.239E-08	3.442E-08	2.948E-08	2.423E-08	1.994E-08	1.663E-08	1.408E-08	1.209E-08		
SE	1.337E-10	9.237E-09	2.711E-08	3.784E-08	4.242E-08	3.791E-08	3.223E-08	2.725E-08	2.323E-08	2.003E-08	1.747E-08		
SSE	1.641E-08	1.002E-07	1.268E-07	1.107E-07	8.717E-08	6.846E-08	5.442E-08	4.417E-08	3.664E-08	3.254E-08	6.758E-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	4.759E-08	3.040E-08	1.901E-08	1.013E-08	6.484E-09	4.553E-09	3.377E-09	2.618E-09	2.112E-09	1.750E-09	1.474E-09		
SSW	2.207E-08	1.782E-08	1.125E-08	6.069E-09	4.066E-09	2.942E-09	2.216E-09	1.742E-09	1.412E-09	1.172E-09	9.913E-10		
SW	2.109E-08	1.635E-08	1.043E-08	5.700E-09	3.799E-09	2.739E-09	2.128E-09	1.671E-09	1.352E-09	1.121E-09	9.470E-10		
WSW	1.874E-08	1.065E-08	6.938E-09	3.826E-09	2.425E-09	1.701E-09	1.270E-09	9.912E-10	7.986E-10	6.595E-10	5.553E-10		
W	2.371E-08	1.254E-08	8.482E-09	4.851E-09	3.172E-09	2.232E-09	1.668E-09	1.303E-09	1.050E-09	8.677E-10	7.308E-10		
WNW	3.779E-08	2.006E-08	1.295E-08	7.146E-09	4.485E-09	3.143E-09	2.365E-09	1.854E-09	1.496E-09	1.235E-09	1.040E-09		
NW	4.185E-08	2.215E-08	1.442E-08	8.102E-09	5.146E-09	3.610E-09	2.754E-09	2.172E-09	1.758E-09	1.457E-09	1.230E-09		
NNW	4.378E-08	2.231E-08	1.374E-08	7.189E-09	4.446E-09	3.051E-09	2.249E-09	1.743E-09	1.408E-09	1.161E-09	9.754E-10		
N	1.852E-08	1.100E-08	8.753E-09	7.313E-09	6.743E-09	5.707E-09	4.402E-09	3.509E-09	2.872E-09	2.406E-09	2.052E-09		
NNE	1.936E-08	3.294E-08	2.080E-08	1.134E-08	7.281E-09	5.150E-09	3.873E-09	3.039E-09	2.459E-09	2.037E-09	1.720E-09		
NE	1.141E-08	1.566E-08	9.787E-09	5.289E-09	3.399E-09	2.408E-09	1.843E-09	1.467E-09	1.199E-09	9.940E-10	8.481E-10		
ENE	9.503E-09	1.357E-08	8.624E-09	4.688E-09	2.956E-09	2.058E-09	1.575E-09	1.252E-09	1.014E-09	8.406E-10	7.101E-10		
E	7.528E-09	8.410E-09	5.271E-09	2.818E-09	1.763E-09	1.220E-09	9.010E-10	6.956E-10	5.627E-10	4.660E-10	3.923E-10		
ESE	1.208E-08	1.262E-08	8.056E-09	4.414E-09	2.811E-09	1.971E-09	1.470E-09	1.144E-09	9.190E-10	7.560E-10	6.340E-10		
SE	1.540E-08	9.558E-09	7.467E-09	5.321E-09	3.828E-09	2.949E-09	2.377E-09	1.968E-09	1.607E-09	1.344E-09	1.144E-09		
SSE	5.739E-08	3.105E-08	1.920E-08	1.020E-08	6.458E-09	4.522E-09	3.373E-09	2.629E-09	2.116E-09	1.745E-09	1.467E-09		

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

		SEGMENT BOUNDARIES IN MILES									
DIRECTION FROM SITE		5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	1.079E-07	8.615E-08	5.780E-08	4.520E-08	4.953E-08	2.916E-08	1.048E-08	4.598E-09	2.642E-09	1.755E-09	
SSW	4.263E-08	3.744E-08	2.979E-08	2.872E-08	2.396E-08	1.584E-08	6.329E-09	2.951E-09	1.752E-09	1.176E-09	
SW	6.593E-08	9.741E-08	5.742E-08	3.389E-08	2.353E-08	1.477E-08	5.906E-09	2.777E-09	1.680E-09	1.125E-09	
WSW	8.241E-08	1.200E-07	6.387E-08	3.450E-08	2.220E-08	1.080E-08	3.895E-09	1.722E-09	9.976E-10	6.621E-10	
W	1.586E-07	1.563E-07	7.915E-08	4.390E-08	2.847E-08	1.322E-08	4.912E-09	2.257E-09	1.311E-09	8.711E-10	
WNW	1.326E-07	2.170E-07	1.204E-07	6.988E-08	4.540E-08	2.884E-08	7.252E-09	3.190E-09	1.864E-09	1.240E-09	
NW	1.956E-07	2.812E-07	1.465E-07	7.935E-08	5.048E-08	2.309E-08	8.192E-09	3.677E-09	2.180E-09	1.462E-09	
NNW	1.124E-07	1.519E-07	1.231E-07	8.290E-08	5.328E-08	2.327E-08	7.425E-09	3.102E-09	1.760E-09	1.166E-09	
N	1.072E-07	7.197E-08	4.527E-08	2.998E-08	2.141E-08	1.167E-08	7.380E-09	5.461E-09	3.522E-09	2.413E-09	
NNE	6.003E-08	4.970E-08	3.385E-08	2.359E-08	1.899E-08	2.453E-08	1.164E-08	5.207E-09	3.056E-09	2.045E-09	
NE	5.974E-08	3.924E-08	2.286E-08	1.501E-08	1.154E-08	1.210E-08	5.449E-09	2.446E-09	1.472E-09	1.002E-09	
ENE	1.969E-08	2.112E-08	1.566E-08	1.137E-08	9.329E-09	1.047E-08	4.793E-09	2.105E-09	1.254E-09	8.436E-10	
E	1.240E-08	1.712E-08	1.343E-08	9.596E-09	7.611E-09	6.819E-09	2.894E-09	1.237E-09	7.037E-10	4.674E-10	
ESE	2.419E-08	3.177E-08	2.391E-08	1.660E-08	1.268E-08	1.047E-08	4.511E-09	1.995E-09	1.151E-09	7.591E-10	
SE	2.791E-08	3.940E-08	3.175E-08	2.316E-08	1.746E-08	9.926E-09	5.134E-09	2.955E-09	1.947E-09	1.348E-09	
SSE	1.137E-07	8.409E-08	5.406E-08	4.485E-08	5.935E-08	3.164E-08	1.054E-08	4.579E-09	2.646E-09	1.752E-09	

ERP ELEVATED STACK RELEASES - APR-JUN 1993
CORRECTED FOR OPEN TERRAIN RECIRCULATION

***** RELATIVE DEPOSITION PER UNIT AREA (M**2) AT FIXED POINTS BY DOWNWIND SECTORS *****											
DIRECTION FROM SITE	DISTANCES IN MILES										
	0.25	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S	6.633E-09	5.478E-09	4.778E-09	3.370E-09	1.675E-09	1.036E-09	7.038E-10	5.067E-10	3.800E-10	3.084E-10	2.762E-10
SSW	1.671E-09	1.447E-09	1.359E-09	1.013E-09	5.254E-10	3.306E-10	2.265E-10	1.638E-10	1.481E-10	1.122E-10	8.793E-11
SW	1.141E-09	1.126E-09	1.251E-09	1.032E-09	1.032E-09	5.613E-10	3.478E-10	2.363E-10	1.708E-10	1.293E-10	1.012E-10
WSW	1.691E-09	1.564E-09	1.609E-09	2.510E-09	1.239E-09	6.693E-10	4.130E-10	2.797E-10	2.018E-10	1.525E-10	1.194E-10
W	1.134E-09	3.648E-09	3.074E-09	2.035E-09	9.660E-10	5.161E-10	3.162E-10	2.130E-10	1.530E-10	1.151E-10	8.982E-11
WNW	6.166E-10	8.395E-10	3.574E-09	2.645E-09	1.659E-09	8.403E-10	5.027E-10	3.380E-10	2.543E-10	1.990E-10	1.648E-10
NW	7.414E-09	5.875E-09	4.763E-09	5.459E-09	3.137E-09	1.563E-09	9.259E-10	6.156E-10	4.457E-10	3.451E-10	2.818E-10
NNW	7.703E-09	6.177E-09	5.120E-09	3.461E-09	2.713E-09	1.457E-09	9.021E-10	7.079E-10	5.096E-10	3.910E-10	3.161E-10
N	9.863E-09	7.702E-09	6.071E-09	3.919E-09	1.803E-09	1.079E-09	7.199E-10	5.134E-10	3.831E-10	2.955E-10	2.339E-10
NNE	3.320E-09	2.760E-09	2.434E-09	1.731E-09	8.663E-10	5.375E-10	3.656E-10	2.634E-10	1.976E-10	1.527E-10	1.209E-10
NE	4.376E-09	3.376E-09	2.597E-09	1.637E-09	7.361E-10	4.358E-10	2.890E-10	2.054E-10	1.530E-10	1.180E-10	9.339E-11
ENE	5.677E-10	5.465E-10	5.898E-10	4.793E-10	2.635E-10	1.695E-10	1.174E-10	8.536E-11	6.433E-11	4.983E-11	3.946E-11
E	3.041E-10	3.946E-10	5.533E-10	5.073E-10	2.990E-10	1.969E-10	1.379E-10	1.009E-10	7.622E-11	5.911E-11	4.681E-11
ESE	6.110E-10	8.060E-10	1.142E-09	1.052E-09	6.210E-10	4.092E-10	2.867E-10	2.097E-10	1.585E-10	1.229E-10	9.736E-11
SE	1.173E-09	1.319E-09	1.661E-09	1.457E-09	8.385E-10	5.477E-10	3.822E-10	2.790E-10	2.107E-10	1.653E-10	1.293E-10
SSE	9.623E-09	7.693E-09	6.338E-09	4.261E-09	2.635E-09	1.238E-09	8.332E-10	5.971E-10	4.466E-10	3.112E-10	2.951E-10

***** RELATIVE DEPOSITION PER UNIT AREA (M**2) BY DOWNWIND SECTORS *****											
DIRECTION FROM SITE	DISTANCES IN MILES										
	5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
S	2.222E-10	1.743E-10	1.225E-10	7.292E-11	4.665E-11	3.194E-11	2.290E-11	1.720E-11	1.309E-11	1.044E-11	8.522E-12
SSW	7.241E-11	6.075E-11	4.324E-11	2.598E-11	1.545E-11	1.068E-11	7.655E-12	5.752E-12	4.601E-12	3.675E-12	3.000E-12
SW	8.225E-11	6.001E-11	4.133E-11	2.413E-11	1.530E-11	1.109E-11	7.707E-12	5.831E-12	4.534E-12	3.622E-12	2.958E-12
WSW	9.679E-11	5.837E-11	3.828E-11	2.531E-11	1.531E-11	1.027E-11	7.442E-12	5.588E-12	4.345E-12	3.471E-12	2.833E-12
W	7.213E-11	3.229E-11	4.374E-11	2.738E-11	1.669E-11	1.141E-11	8.179E-12	6.142E-12	4.775E-12	3.815E-12	3.114E-12
WNW	1.450E-10	9.031E-11	6.538E-11	3.973E-11	2.486E-11	1.607E-11	1.155E-11	8.678E-12	6.823E-12	5.451E-12	4.649E-12
NW	2.411E-10	1.412E-10	9.944E-11	6.208E-11	3.780E-11	2.536E-11	1.821E-11	1.367E-11	1.066E-11	8.512E-12	6.947E-12
NNW	2.677E-10	1.513E-10	1.046E-10	6.161E-11	3.944E-11	2.661E-11	1.962E-11	1.454E-11	1.132E-11	9.066E-12	7.385E-12
N	1.891E-10	9.039E-11	5.568E-11	3.002E-11	4.665E-11	3.103E-11	2.223E-11	1.669E-11	1.298E-11	1.037E-11	8.663E-12
NNE	9.763E-11	1.484E-10	9.299E-11	4.901E-11	3.015E-11	2.025E-11	1.450E-11	1.088E-11	8.444E-12	6.744E-12	5.504E-12
NE	7.551E-11	9.587E-11	5.910E-11	3.061E-11	1.876E-11	1.263E-11	9.009E-12	6.766E-12	5.287E-12	4.224E-12	3.467E-12
ENE	3.181E-11	4.987E-11	3.807E-11	2.408E-11	1.551E-11	1.028E-11	7.204E-12	4.580E-12	3.571E-12	2.862E-12	2.342E-12
E	3.772E-11	4.631E-11	3.405E-11	2.093E-11	1.339E-11	8.874E-12	6.234E-12	4.573E-12	3.486E-12	2.698E-12	2.205E-12
ESE	7.845E-11	7.469E-11	5.226E-11	3.088E-11	1.957E-11	1.302E-11	9.196E-12	6.791E-12	5.210E-12	4.120E-12	3.337E-12
SE	1.042E-10	4.945E-11	3.020E-11	1.596E-11	9.798E-12	6.803E-12	5.152E-12	1.103E-11	8.482E-12	6.730E-12	5.478E-12
SSE	3.350E-10	2.601E-10	1.597E-10	8.207E-11	4.595E-11	3.346E-11	2.394E-11	1.794E-11	1.393E-11	1.111E-11	9.061E-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	4.308E-09	1.768E-09	7.137E-10	3.889E-10	2.657E-10	1.619E-10	7.226E-11	3.225E-11	1.726E-11	1.052E-11	
SSW	1.225E-09	5.472E-10	2.292E-10	1.389E-10	8.937E-11	5.556E-11	2.514E-11	1.074E-11	5.857E-12	3.699E-12	
SW	1.126E-09	8.230E-10	3.601E-10	1.737E-10	1.025E-10	5.665E-11	2.403E-11	1.086E-11	5.873E-12	3.646E-12	
WSW	2.000E-09	1.268E-09	4.280E-10	2.053E-10	1.208E-10	5.798E-11	2.375E-11	1.098E-11	5.644E-12	3.494E-12	
W	2.740E-09	1.004E-09	3.282E-10	1.557E-10	9.077E-11	4.623E-11	2.627E-11	1.153E-11	6.203E-12	3.840E-12	
WNW	2.553E-09	1.514E-09	5.268E-10	2.571E-10	1.676E-10	9.139E-11	3.882E-11	1.661E-11	8.793E-12	5.484E-12	
NW	5.320E-09	2.953E-09	9.716E-10	4.559E-10	2.855E-10	1.448E-10	5.959E-11	2.582E-11	1.382E-11	8.567E-12	
NNW	4.618E-09	2.321E-09	9.723E-10	5.211E-10	3.204E-10	1.564E-10	6.132E-11	2.724E-11	1.477E-11	9.105E-12	
N	5.477E-09	1.952E-09	7.331E-10	3.869E-10	2.356E-10	9.689E-11	4.311E-11	3.167E-11	1.686E-11	1.044E-11	
NNE	2.194E-09	9.124E-10	3.706E-10	1.993E-10	1.217E-10	1.125E-10	5.040E-11	2.059E-11	1.099E-11	6.788E-12	
NE	2.344E-09	8.029E-10	2.947E-10	1.546E-10	9.405E-11	7.500E-11	3.167E-11	1.282E-11	6.844E-12	4.251E-12	
ENE	5.311E-10	2.697E-10	1.185E-10	6.481E-11	3.970E-11	4.061E-11	2.338E-11	1.044E-11	4.945E-12	2.879E-12	
E	4.974E-10	2.999E-10	1.388E-10	7.674E-11	4.709E-11	3.895E-11	2.050E-11	9.021E-12	4.634E-12	2.749E-12	
ESE	1.027E-09	6.226E-10	2.886E-10	1.596E-10	9.793E-11	6.556E-11	3.840E-11	1.324E-11	6.876E-12	4.153E-12	
SE	1.494E-09	8.467E-10	3.851E-10	2.122E-10	1.301E-10	5.307E-11	1.639E-11	6.941E-12	8.379E-12	6.785E-12	
SSE	5.716E-09	2.175E-09	8.467E-10	4.761E-10	3.776E-10	2.321E-10	8.505E-11	3.405E-11	1.813E-11	1.119E-11	

ERP ELEVATED STACK RELEASES - APR-JUN 1993
CORRECTED FOR OPEN TERRAIN RECIRCULATION
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE		X/Q		X/Q		X/Q		D/Q
			(MILES)	(METERS)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(SEC/CUB.METER)	(PER SQ.METER)	
					NO DECAY	NO DECAY	2.260 DAY DECAY	2.260 DAY DECAY	8.000 DAY DECAY		
					UNDEPLETED	UNDEPLETED	UNDEPLETED	UNDEPLETED	DEPLETED		
A	SITE BOUNDARY	S	0.80	1287.	1.209E-07	1.209E-07	1.208E-07	1.208E-07	1.184E-07	4.474E-09	
A	SITE BOUNDARY	SSW	0.82	1327.	4.616E-08	4.608E-08	4.608E-08	4.608E-08	4.521E-08	1.257E-09	
A	SITE BOUNDARY	SW	0.98	1569.	9.369E-08	9.345E-08	9.345E-08	9.345E-08	9.258E-08	1.069E-09	
A	SITE BOUNDARY	WSW	0.93	1489.	1.070E-07	1.068E-07	1.068E-07	1.068E-07	1.060E-07	2.418E-09	
A	SITE BOUNDARY	W	0.91	1468.	1.922E-07	1.919E-07	1.919E-07	1.919E-07	1.900E-07	2.247E-09	
A	SITE BOUNDARY	WNW	0.94	1509.	1.887E-07	1.883E-07	1.883E-07	1.883E-07	1.873E-07	2.948E-09	
A	SITE BOUNDARY	NW	0.81	1307.	1.923E-07	1.921E-07	1.921E-07	1.921E-07	1.897E-07	4.300E-09	
A	SITE BOUNDARY	NNW	0.69	1106.	1.002E-07	1.001E-07	1.001E-07	1.001E-07	9.855E-08	5.306E-09	
A	SITE BOUNDARY	N	0.67	1086.	1.189E-07	1.188E-07	1.188E-07	1.188E-07	1.167E-07	6.447E-09	
A	SITE BOUNDARY	NNE	0.60	965.	5.716E-08	5.710E-08	5.710E-08	5.710E-08	5.632E-08	2.583E-09	
A	SITE BOUNDARY	NE	0.62	1005.	6.448E-08	6.441E-08	6.441E-08	6.441E-08	6.342E-08	2.926E-09	
A	SITE BOUNDARY	ENE	0.59	945.	1.371E-08	1.368E-08	1.368E-08	1.368E-08	1.352E-08	5.534E-10	
A	SITE BOUNDARY	E	0.53	845.	4.732E-09	4.727E-09	4.727E-09	4.727E-09	4.687E-09	4.082E-10	
A	SITE BOUNDARY	ESE	0.54	865.	1.015E-08	1.014E-08	1.014E-08	1.014E-08	1.005E-08	8.499E-10	
A	SITE BOUNDARY	SE	0.65	1046.	1.912E-08	1.911E-08	1.911E-08	1.911E-08	1.891E-08	1.507E-09	
A	SITE BOUNDARY	SSE	0.81	1307.	1.253E-07	1.251E-07	1.251E-07	1.251E-07	1.227E-07	5.747E-09	
A	NEAR. RESIDENCE	SW	1.40	2253.	1.228E-07	1.224E-07	1.224E-07	1.224E-07	1.208E-07	1.189E-09	
A	NEAR. RESIDENCE	WSW	1.30	2092.	1.543E-07	1.539E-07	1.539E-07	1.539E-07	1.521E-07	1.657E-09	
A	NEAR. RESIDENCE	W	1.00	1609.	2.002E-07	1.998E-07	1.998E-07	1.998E-07	1.977E-07	2.035E-09	
A	NEAR. RESIDENCE	WNW	1.60	2575.	2.574E-07	2.566E-07	2.566E-07	2.566E-07	2.531E-07	1.424E-09	
A	NEAR. RESIDENCE	NW	0.90	1448.	2.261E-07	2.258E-07	2.258E-07	2.258E-07	2.234E-07	6.359E-09	
A	NEAR. RESIDENCE	NNW	2.00	3219.	1.524E-07	1.519E-07	1.519E-07	1.519E-07	1.493E-07	1.457E-09	
A	NEAR. RESIDENCE	N	3.00	4828.	3.812E-08	3.797E-08	3.797E-08	3.797E-08	3.658E-08	5.134E-10	
A	NEAR. RESIDENCE	NNE	2.70	4345.	3.265E-08	3.250E-08	3.250E-08	3.250E-08	3.152E-08	3.139E-10	
A	NEAR. RESIDENCE	ENE	1.70	2736.	2.148E-08	2.139E-08	2.139E-08	2.139E-08	2.096E-08	2.166E-10	
A	NEAR. RESIDENCE	E	1.80	2897.	1.761E-08	1.757E-08	1.757E-08	1.757E-08	1.730E-08	2.295E-10	
A	NEAR. RESIDENCE	ESE	2.40	3863.	2.591E-08	2.582E-08	2.582E-08	2.582E-08	2.521E-08	3.066E-10	
A	NEAR. RESIDENCE	SE	2.20	3541.	3.638E-08	3.627E-08	3.627E-08	3.627E-08	3.561E-08	4.712E-10	
A	NEAREST COW	NNW	3.50	5634.	8.775E-08	8.721E-08	8.721E-08	8.721E-08	8.502E-08	5.093E-10	
A	NEAREST GARDEN	SW	1.40	2253.	1.228E-07	1.224E-07	1.224E-07	1.224E-07	1.208E-07	1.189E-09	
A	NEAREST GARDEN	WSW	1.80	2897.	1.154E-07	1.154E-07	1.154E-07	1.154E-07	1.131E-07	8.370E-10	
A	NEAREST GARDEN	WNW	1.60	2575.	2.574E-07	2.566E-07	2.566E-07	2.566E-07	2.531E-07	1.424E-09	
A	NEAREST GARDEN	NNW	2.00	3219.	1.524E-07	1.519E-07	1.519E-07	1.519E-07	1.493E-07	1.457E-09	

Atmospheric Diffusion Estimates

Elevated Releases

January-June 1993

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

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)		DISTANCE IN MILES									
SECTOR	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500
S	1.423E-08	5.886E-08	8.818E-08	8.928E-08	8.291E-08	7.081E-08	5.926E-08	4.979E-08	4.233E-08	5.110E-08	5.717E-08
SSW	4.602E-09	2.913E-08	4.476E-08	4.997E-08	5.299E-08	4.804E-08	4.146E-08	4.721E-08	4.995E-08	4.409E-08	3.928E-08
SW	8.062E-11	1.034E-08	5.041E-08	9.816E-08	1.595E-07	1.093E-07	7.934E-08	6.045E-08	4.787E-08	3.907E-08	3.267E-08
WSW	1.484E-09	1.771E-08	6.925E-08	1.383E-07	2.055E-07	1.277E-07	8.736E-08	6.393E-08	4.913E-08	3.918E-08	3.215E-08
W	1.031E-08	5.69E-08	1.843E-07	2.331E-07	2.135E-07	1.321E-07	9.004E-08	6.578E-08	5.051E-08	4.027E-08	3.305E-08
WNW	3.224E-09	2.170E-08	1.406E-07	2.731E-07	3.785E-07	2.330E-07	1.586E-07	1.211E-07	9.622E-08	7.623E-08	6.226E-08
NW	1.755E-08	6.946E-08	1.429E-07	2.557E-07	4.371E-07	2.593E-07	1.730E-07	1.275E-07	9.880E-08	7.808E-08	6.367E-08
NNW	1.319E-08	5.052E-08	8.605E-08	1.065E-07	1.343E-07	1.251E-07	1.085E-07	9.114E-08	7.751E-08	6.063E-08	4.902E-08
N	1.937E-08	6.128E-08	7.323E-08	6.505E-08	5.452E-08	4.598E-08	3.847E-08	3.182E-08	2.680E-08	2.293E-08	1.990E-08
NNE	6.114E-09	2.428E-08	3.950E-08	4.354E-08	4.446E-08	3.987E-08	3.447E-08	2.969E-08	2.575E-08	2.257E-08	1.999E-08
NE	2.331E-09	2.550E-08	3.985E-08	3.825E-08	3.380E-08	2.856E-08	2.389E-08	2.013E-08	1.718E-08	1.486E-08	1.302E-08
ENE	2.102E-11	4.510E-09	1.428E-08	1.928E-08	2.179E-08	1.998E-08	1.737E-08	1.497E-08	1.297E-08	1.135E-08	1.003E-08
E	1.694E-11	2.213E-09	9.608E-09	1.614E-08	2.103E-08	2.000E-08	1.758E-08	1.519E-08	1.314E-08	1.146E-08	1.009E-08
ESE	3.389E-11	4.735E-09	2.765E-08	3.682E-08	4.387E-08	3.927E-08	3.315E-08	2.781E-08	2.354E-08	2.017E-08	1.751E-08
SE	7.845E-11	6.073E-09	2.809E-08	4.650E-08	5.789E-08	5.375E-08	4.661E-08	3.992E-08	3.431E-08	2.976E-08	2.608E-08
SSE	8.364E-09	5.886E-08	8.914E-08	9.162E-08	8.671E-08	7.468E-08	6.279E-08	5.293E-08	4.512E-08	6.754E-08	8.561E-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	5.101E-08	3.274E-08	2.113E-08	1.202E-08	8.252E-09	6.143E-09	4.772E-09	3.858E-09	3.224E-09	2.750E-09	2.380E-09
SSW	3.635E-08	2.637E-08	1.703E-08	9.695E-09	6.745E-09	5.011E-09	3.893E-09	3.149E-09	2.622E-09	2.232E-09	1.933E-09
SW	2.981E-08	2.093E-08	1.363E-08	7.836E-09	5.467E-09	4.118E-09	3.273E-09	2.650E-09	2.209E-09	1.882E-09	1.632E-09
WSW	2.784E-08	1.639E-08	1.099E-08	6.383E-09	4.238E-09	3.091E-09	2.392E-09	1.927E-09	1.599E-09	1.357E-09	1.172E-09
W	2.776E-08	1.488E-08	1.035E-08	6.502E-09	4.682E-09	3.449E-09	2.678E-09	2.165E-09	1.802E-09	1.534E-09	1.328E-09
WNW	5.262E-08	2.889E-08	1.932E-08	1.244E-08	7.777E-09	5.784E-09	4.541E-09	3.692E-09	3.079E-09	2.622E-09	2.272E-09
NW	5.377E-08	2.954E-08	1.989E-08	1.188E-08	8.012E-09	5.913E-09	4.684E-09	3.819E-09	3.189E-09	2.722E-09	2.363E-09
NNW	4.128E-08	2.239E-08	1.438E-08	8.143E-09	5.470E-09	4.025E-09	3.153E-09	2.567E-09	2.165E-09	1.851E-09	1.605E-09
N	1.754E-08	1.097E-08	9.075E-09	7.603E-09	6.879E-09	5.964E-09	4.732E-09	3.874E-09	3.250E-09	2.786E-09	2.428E-09
NNE	2.281E-08	3.514E-08	2.287E-08	1.319E-08	8.971E-09	6.664E-09	5.233E-09	4.270E-09	3.582E-09	3.069E-09	2.674E-09
NE	1.941E-08	2.327E-08	1.519E-08	8.894E-09	6.012E-09	4.482E-09	3.584E-09	2.956E-09	2.493E-09	2.139E-09	1.866E-09
ENE	1.101E-08	1.510E-08	9.917E-09	5.776E-09	3.945E-09	2.939E-09	2.385E-09	1.985E-09	1.663E-09	1.423E-09	1.238E-09
E	1.079E-08	1.311E-08	8.575E-09	4.963E-09	3.374E-09	2.505E-09	1.966E-09	1.603E-09	1.376E-09	1.197E-09	1.041E-09
ESE	1.771E-08	1.727E-08	1.125E-08	6.463E-09	4.368E-09	3.225E-09	2.519E-09	2.046E-09	1.709E-09	1.458E-09	1.266E-09
SE	2.308E-08	1.446E-08	1.123E-08	7.850E-09	5.611E-09	4.300E-09	3.450E-09	2.857E-09	2.380E-09	2.026E-09	1.755E-09
SSE	7.310E-08	4.088E-08	2.623E-08	1.484E-08	9.958E-09	7.323E-09	5.704E-09	4.622E-09	3.854E-09	3.265E-09	2.849E-09

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

DIRECTION FROM SITE	SEGMENT BOUNDARIES IN MILES									
	0-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	8.215E-08	7.895E-08	5.855E-08	4.780E-08	5.309E-08	3.164E-08	1.237E-08	6.157E-09	3.877E-09	2.753E-09
SSW	4.360E-08	5.012E-08	4.552E-08	4.694E-08	3.962E-08	2.444E-08	1.001E-08	5.026E-09	3.161E-09	2.237E-09
SW	6.273E-08	1.236E-07	7.978E-08	4.811E-08	3.350E-08	1.966E-08	8.070E-09	4.140E-09	2.660E-09	1.886E-09
WSW	8.835E-08	1.560E-07	8.875E-08	4.957E-08	3.264E-08	1.654E-08	6.454E-09	3.117E-09	1.935E-09	1.361E-09
W	1.779E-07	1.817E-07	9.154E-08	5.097E-08	3.323E-08	1.573E-08	6.549E-09	3.470E-09	2.174E-09	1.537E-09
WNW	1.731E-07	2.904E-07	1.634E-07	9.571E-08	6.283E-08	2.991E-08	1.158E-08	5.824E-09	3.701E-09	2.628E-09
NW	1.767E-07	3.178E-07	1.778E-07	9.910E-08	6.427E-08	3.064E-08	1.194E-08	5.981E-09	3.826E-09	2.727E-09
NNW	8.726E-08	1.241E-07	1.060E-07	7.497E-08	4.959E-08	2.303E-08	8.341E-09	4.062E-09	2.581E-09	1.853E-09
N	6.694E-08	5.306E-08	3.782E-08	2.676E-08	1.992E-08	1.159E-08	7.608E-09	5.715E-09	3.881E-09	2.791E-09
NNE	3.791E-08	4.222E-08	3.400E-08	2.566E-08	2.180E-08	2.695E-08	1.347E-08	6.707E-09	4.283E-09	3.075E-09
NE	3.595E-08	3.246E-08	2.363E-08	1.714E-08	1.408E-08	1.771E-08	8.982E-09	4.531E-09	2.959E-09	2.143E-09
ENE	1.433E-08	2.043E-08	1.710E-08	1.292E-08	1.078E-08	1.189E-08	5.883E-09	2.986E-09	1.977E-09	1.426E-09
E	1.087E-08	1.948E-08	1.727E-08	1.308E-08	1.076E-08	1.058E-08	5.060E-09	2.521E-09	1.620E-09	1.192E-09
ESE	2.497E-08	4.026E-08	3.265E-08	2.348E-08	1.837E-08	1.469E-08	6.595E-09	3.248E-09	2.053E-09	1.461E-09
SE	3.138E-08	5.352E-08	4.584E-08	3.418E-08	2.606E-08	1.494E-08	7.607E-09	4.310E-09	2.845E-09	2.030E-09
SSE	8.351E-08	8.245E-08	6.202E-08	5.589E-08	7.562E-08	4.153E-08	1.520E-08	7.378E-09	4.639E-09	3.292E-09

CUBED) FOR EACH SEGMENT

ERP ELEVATED STACK RELEASES - JAN-JUN 1993
8,000 DAY DECAY, DEPLETED
CORRECTED FOR OPEN TERRAIN RECIRCULATION

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)		DISTANCE IN MILES									
SECTOR	BEARING	0.250	0.500	0.750	1.000	1.500	2.000	2.500	3.000	3.500	4.000
S	S	4.42E-08	5.83E-08	8.66E-08	1.72E-07	3.13E-07	5.91E-07	1.00E-06	1.60E-06	2.37E-06	3.30E-06
SSW	S	4.60E-09	2.88E-08	4.40E-08	9.42E-08	1.33E-07	2.10E-07	3.25E-07	4.86E-07	6.99E-07	9.75E-07
SSW	S	8.08E-11	1.02E-08	4.90E-08	1.77E-07	4.69E-07	1.07E-06	2.32E-06	5.86E-06	1.35E-05	3.00E-05
WSW	W	1.40E-09	1.69E-08	6.85E-08	1.37E-07	2.02E-07	3.24E-07	5.09E-07	7.74E-07	1.12E-06	1.65E-06
W	W	1.031E-08	5.70E-08	1.82E-07	2.27E-07	3.73E-07	6.09E-07	9.54E-07	1.51E-06	2.32E-06	3.50E-06
WNW	N	3.75E-08	6.88E-08	1.41E-07	2.53E-07	4.31E-07	7.28E-07	1.06E-06	1.62E-06	2.40E-06	3.50E-06
NNW	N	1.39E-08	5.06E-08	6.45E-08	1.05E-07	1.52E-07	2.22E-07	3.25E-07	4.74E-07	6.77E-07	9.54E-07
N	N	1.97E-08	6.07E-08	7.17E-08	1.32E-07	2.12E-07	3.17E-07	4.54E-07	6.35E-07	8.71E-07	1.17E-06
NNE	N	6.11E-09	2.40E-08	3.88E-08	5.74E-08	8.90E-08	1.33E-07	2.00E-07	2.92E-07	4.14E-07	5.75E-07
NE	N	2.35E-09	2.52E-08	3.90E-08	5.74E-08	8.90E-08	1.33E-07	2.00E-07	2.92E-07	4.14E-07	5.75E-07
ENE	E	2.10E-11	4.40E-09	1.40E-08	1.90E-08	2.72E-08	3.95E-08	5.65E-08	8.17E-08	1.17E-07	1.65E-07
E	E	3.38E-11	4.70E-09	9.52E-09	1.60E-08	2.79E-08	4.95E-08	8.55E-08	1.47E-07	2.52E-07	4.30E-07
ESE	E	3.38E-11	6.00E-09	2.25E-08	3.62E-08	5.72E-08	9.35E-08	1.47E-07	2.52E-07	4.30E-07	6.77E-07
SE	E	8.35E-09	5.05E-08	6.70E-08	9.01E-08	1.20E-07	1.55E-07	2.00E-07	2.60E-07	3.35E-07	4.30E-07
SSE	S	8.35E-09	5.05E-08	6.70E-08	9.01E-08	1.20E-07	1.55E-07	2.00E-07	2.60E-07	3.35E-07	4.30E-07

ANNUAL AVERAGE CHI/Q (SEC/METER CUBED)		DISTANCE IN MILES									
SECTOR	BEARING	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000
S	S	4.95E-08	7.09E-08	1.04E-07	1.52E-07	2.20E-07	3.13E-07	4.40E-07	6.09E-07	8.25E-07	1.09E-06
SSW	S	4.46E-08	6.41E-08	9.55E-08	1.55E-07	2.34E-07	3.40E-07	4.86E-07	6.77E-07	9.14E-07	1.20E-06
SSW	S	2.28E-08	3.45E-08	5.25E-08	8.08E-08	1.20E-07	1.77E-07	2.55E-07	3.69E-07	5.25E-07	7.35E-07
WSW	W	5.60E-08	8.13E-08	1.22E-07	1.82E-07	2.69E-07	3.95E-07	5.65E-07	8.01E-07	1.10E-06	1.50E-06
W	W	5.01E-08	7.33E-08	1.09E-07	1.60E-07	2.32E-07	3.37E-07	4.86E-07	6.77E-07	9.14E-07	1.20E-06
WNW	N	5.01E-08	7.33E-08	1.09E-07	1.60E-07	2.32E-07	3.37E-07	4.86E-07	6.77E-07	9.14E-07	1.20E-06
NNW	N	5.01E-08	7.33E-08	1.09E-07	1.60E-07	2.32E-07	3.37E-07	4.86E-07	6.77E-07	9.14E-07	1.20E-06
N	N	5.01E-08	7.33E-08	1.09E-07	1.60E-07	2.32E-07	3.37E-07	4.86E-07	6.77E-07	9.14E-07	1.20E-06
NNE	N	5.01E-08	7.33E-08	1.09E-07	1.60E-07	2.32E-07	3.37E-07	4.86E-07	6.77E-07	9.14E-07	1.20E-06
NE	N	5.01E-08	7.33E-08	1.09E-07	1.60E-07	2.32E-07	3.37E-07	4.86E-07	6.77E-07	9.14E-07	1.20E-06
ENE	E	5.01E-08	7.33E-08	1.09E-07	1.60E-07	2.32E-07	3.37E-07	4.86E-07	6.77E-07	9.14E-07	1.20E-06
E	E	5.01E-08	7.33E-08	1.09E-07	1.60E-07	2.32E-07	3.37E-07	4.86E-07	6.77E-07	9.14E-07	1.20E-06
ESE	E	5.01E-08	7.33E-08	1.09E-07	1.60E-07	2.32E-07	3.37E-07	4.86E-07	6.77E-07	9.14E-07	1.20E-06
SE	E	5.01E-08	7.33E-08	1.09E-07	1.60E-07	2.32E-07	3.37E-07	4.86E-07	6.77E-07	9.14E-07	1.20E-06
SSE	S	5.01E-08	7.33E-08	1.09E-07	1.60E-07	2.32E-07	3.37E-07	4.86E-07	6.77E-07	9.14E-07	1.20E-06

CHI/Q (SEC/METER CUBED) FOR EACH SEGMENT		SEGMENT BOUNDARIES IN MILES									
DIRECTION FROM SITE	BEARING	0-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	S	7.72E-08	7.72E-08	5.68E-08	4.13E-08	5.12E-08	2.98E-08	1.06E-08	6.23E-09	3.5E-09	1.75E-09
SSW	S	7.72E-08	7.72E-08	5.68E-08	4.13E-08	5.12E-08	2.98E-08	1.06E-08	6.23E-09	3.5E-09	1.75E-09
SSW	S	7.72E-08	7.72E-08	5.68E-08	4.13E-08	5.12E-08	2.98E-08	1.06E-08	6.23E-09	3.5E-09	1.75E-09
WSW	W	7.72E-08	7.72E-08	5.68E-08	4.13E-08	5.12E-08	2.98E-08	1.06E-08	6.23E-09	3.5E-09	1.75E-09
W	W	7.72E-08	7.72E-08	5.68E-08	4.13E-08	5.12E-08	2.98E-08	1.06E-08	6.23E-09	3.5E-09	1.75E-09
WNW	N	7.72E-08	7.72E-08	5.68E-08	4.13E-08	5.12E-08	2.98E-08	1.06E-08	6.23E-09	3.5E-09	1.75E-09
NNW	N	7.72E-08	7.72E-08	5.68E-08	4.13E-08	5.12E-08	2.98E-08	1.06E-08	6.23E-09	3.5E-09	1.75E-09
N	N	7.72E-08	7.72E-08	5.68E-08	4.13E-08	5.12E-08	2.98E-08	1.06E-08	6.23E-09	3.5E-09	1.75E-09
NNE	N	7.72E-08	7.72E-08	5.68E-08	4.13E-08	5.12E-08	2.98E-08	1.06E-08	6.23E-09	3.5E-09	1.75E-09
NE	N	7.72E-08	7.72E-08	5.68E-08	4.13E-08	5.12E-08	2.98E-08	1.06E-08	6.23E-09	3.5E-09	1.75E-09
ENE	E	7.72E-08	7.72E-08	5.68E-08	4.13E-08	5.12E-08	2.98E-08	1.06E-08	6.23E-09	3.5E-09	1.75E-09
E	E	7.72E-08	7.72E-08	5.68E-08	4.13E-08	5.12E-08	2.98E-08	1.06E-08	6.23E-09	3.5E-09	1.75E-09
ESE	E	7.72E-08	7.72E-08	5.68E-08	4.13E-08	5.12E-08	2.98E-08	1.06E-08	6.23E-09	3.5E-09	1.75E-09
SE	E	7.72E-08	7.72E-08	5.68E-08	4.13E-08	5.12E-08	2.98E-08	1.06E-08	6.23E-09	3.5E-09	1.75E-09
SSE	S	7.72E-08	7.72E-08	5.68E-08	4.13E-08	5.12E-08	2.98E-08	1.06E-08	6.23E-09	3.5E-09	1.75E-09

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

***** RELATIVE DEPOSITION PER UNIT AREA (M**2) AT FIXED POINTS BY DOWNWIND SECTORS *****										
DIRECTION FROM SITE	DISTANCES IN MILES									
	0.25	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00
S	4.754E-09	4.106E-09	3.845E-09	2.859E-09	1.480E-09	9.305E-10	6.372E-10	4.607E-10	3.462E-10	2.818E-10
SSW	1.702E-09	1.592E-09	1.661E-09	1.324E-09	7.188E-10	4.602E-10	3.180E-10	2.310E-10	1.609E-10	1.260E-10
SW	8.742E-10	9.368E-10	1.130E-09	9.724E-10	1.009E-09	5.502E-10	3.415E-10	2.322E-10	1.679E-10	1.271E-10
WSW	1.160E-09	1.215E-09	1.435E-09	2.314E-09	1.289E-09	6.982E-10	4.312E-10	2.921E-10	2.109E-10	1.593E-10
W	6.059E-10	3.742E-09	3.403E-09	2.276E-09	1.078E-09	5.811E-10	3.576E-10	2.416E-10	1.739E-10	1.312E-10
WNW	7.741E-10	1.054E-09	4.725E-09	3.373E-09	2.122E-09	1.070E-09	6.375E-10	4.269E-10	3.211E-10	2.518E-10
NW	5.264E-09	4.294E-09	3.667E-09	4.654E-09	2.755E-09	1.375E-09	8.178E-10	5.482E-10	4.020E-10	3.164E-10
NNW	4.978E-09	4.007E-09	3.344E-09	2.274E-09	1.793E-09	9.642E-10	5.994E-10	4.741E-10	3.441E-10	2.667E-10
N	5.381E-09	4.282E-09	3.498E-09	2.334E-09	1.107E-09	6.715E-10	4.513E-10	3.231E-10	2.416E-10	1.865E-10
NNE	1.692E-09	1.533E-09	1.535E-09	1.194E-09	6.377E-10	4.058E-10	2.796E-10	2.028E-10	1.526E-10	1.182E-10
NE	2.215E-09	1.800E-09	1.528E-09	1.054E-09	5.144E-10	3.159E-10	2.137E-10	1.535E-10	1.150E-10	8.885E-11
ENE	2.977E-10	3.501E-10	4.573E-10	4.076E-10	2.366E-10	1.550E-10	1.083E-10	7.913E-11	5.977E-11	4.634E-11
E	1.674E-10	2.864E-10	4.658E-10	4.495E-10	2.718E-10	1.804E-10	1.268E-10	9.296E-11	7.032E-11	5.456E-11
ESE	3.629E-10	7.410E-10	1.290E-09	1.270E-09	7.751E-10	5.161E-10	3.634E-10	2.665E-10	2.017E-10	1.565E-10
SE	8.014E-10	1.218E-09	1.873E-09	1.775E-09	1.063E-09	7.040E-10	4.943E-10	3.620E-10	2.778E-10	2.124E-10
SSE	6.006E-09	5.158E-09	4.788E-09	3.538E-09	1.823E-09	1.145E-09	7.831E-10	5.660E-10	4.252E-10	3.964E-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	50.00
S	2.039E-10	1.675E-10	1.187E-10	7.110E-11	4.544E-11	3.038E-11	2.175E-11	1.631E-11	1.259E-11	1.003E-11
SSW	1.030E-10	8.394E-11	6.450E-11	3.893E-11	2.287E-11	1.595E-11	1.143E-11	8.588E-12	6.807E-12	5.438E-12
SW	8.095E-11	7.130E-11	5.459E-11	3.321E-11	2.122E-11	1.365E-11	9.609E-12	7.286E-12	5.665E-12	4.525E-12
WSW	1.007E-10	6.531E-11	4.194E-11	2.764E-11	1.672E-11	1.121E-11	8.099E-12	6.081E-12	4.728E-12	3.777E-12
W	8.230E-11	3.681E-11	4.304E-11	2.665E-11	1.708E-11	1.165E-11	8.348E-12	6.269E-12	4.874E-12	3.894E-12
WNW	1.848E-10	1.162E-10	8.457E-11	5.157E-11	3.243E-11	2.128E-11	1.492E-11	1.120E-11	8.763E-12	7.000E-12
NW	2.298E-10	1.433E-10	1.040E-10	6.426E-11	3.928E-11	2.631E-11	1.850E-11	1.389E-11	1.084E-11	8.658E-12
NNW	1.869E-10	1.100E-10	7.764E-11	4.645E-11	2.980E-11	2.004E-11	1.423E-11	1.057E-11	8.196E-12	6.548E-12
N	1.193E-10	5.695E-11	3.503E-11	1.883E-11	3.998E-11	2.454E-11	1.756E-11	1.318E-11	1.025E-11	8.190E-12
NNE	7.546E-11	1.239E-10	7.989E-11	4.340E-11	2.689E-11	1.798E-11	1.280E-11	9.543E-12	7.372E-12	5.860E-12
NE	5.681E-11	1.019E-10	6.395E-11	3.375E-11	2.074E-11	1.390E-11	9.770E-12	7.337E-12	5.731E-12	4.578E-12
ENE	2.957E-11	5.060E-11	3.899E-11	2.480E-11	1.597E-11	1.056E-11	7.389E-12	4.511E-12	3.515E-12	2.815E-12
E	3.480E-11	5.393E-11	4.101E-11	2.584E-11	1.660E-11	1.097E-11	7.679E-12	5.605E-12	4.255E-12	3.085E-12
ESE	9.983E-11	9.703E-11	6.811E-11	4.032E-11	2.554E-11	1.696E-11	1.196E-11	8.816E-12	6.755E-12	5.334E-12
SE	1.355E-10	6.422E-11	3.917E-11	2.064E-11	1.262E-11	8.731E-12	6.592E-12	4.435E-12	3.102E-12	2.100E-12
SSE	3.560E-10	2.998E-10	1.838E-10	9.422E-11	5.728E-11	3.837E-11	2.745E-11	2.058E-11	1.598E-11	1.275E-11

***** 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	3.465E-09	1.542E-09	6.448E-10	3.544E-10	2.435E-10	1.539E-10	7.027E-11	3.095E-11	1.645E-11	1.011E-11
SSW	1.496E-09	7.383E-10	3.211E-10	1.981E-10	1.279E-10	8.155E-11	3.747E-11	1.599E-11	8.722E-12	5.473E-12
SW	1.017E-09	7.969E-10	3.534E-10	1.707E-10	1.008E-10	6.735E-11	3.263E-11	1.405E-11	7.332E-12	4.555E-12
WSW	1.777E-09	1.254E-09	4.468E-10	2.145E-10	1.261E-10	6.211E-11	2.596E-11	1.144E-11	6.142E-12	3.802E-12
W	2.977E-09	1.123E-09	3.788E-10	1.770E-10	1.035E-10	4.969E-11	2.604E-11	1.178E-11	6.332E-12	3.919E-12
WNW	3.308E-09	1.932E-09	6.685E-10	3.249E-10	2.127E-10	1.174E-10	5.040E-11	2.171E-11	1.134E-11	7.046E-12
NW	4.245E-09	2.563E-09	8.585E-10	4.111E-10	2.666E-10	1.451E-10	6.198E-11	2.664E-11	1.404E-11	8.715E-12
NNW	3.016E-09	1.532E-09	6.465E-10	3.517E-10	2.209E-10	1.127E-10	4.598E-11	2.032E-11	1.071E-11	6.591E-12
N	3.155E-09	1.186E-09	4.587E-10	2.439E-10	1.487E-10	6.106E-11	3.183E-11	2.586E-11	1.332E-11	8.243E-12
NNE	1.383E-09	6.582E-10	2.825E-10	1.538E-10	9.415E-11	9.357E-11	4.417E-11	1.828E-11	9.648E-12	5.902E-12
NE	1.378E-09	5.461E-10	2.169E-10	1.160E-10	7.081E-11	7.500E-11	3.468E-11	1.407E-11	7.420E-12	4.608E-12
ENE	4.114E-10	2.383E-10	1.091E-10	6.019E-11	3.692E-11	4.077E-11	2.403E-11	1.074E-11	4.954E-12	2.833E-12
E	4.187E-10	2.706E-10	1.276E-10	7.078E-11	4.346E-11	4.394E-11	2.510E-11	1.116E-11	5.683E-12	3.221E-12
ESE	1.159E-09	7.699E-10	3.654E-10	2.030E-10	1.246E-10	8.480E-11	3.993E-11	1.725E-11	8.930E-12	5.377E-12
SE	1.684E-09	1.062E-09	4.973E-10	2.756E-10	1.692E-10	6.893E-11	2.119E-11	8.912E-12	1.086E-11	8.897E-12
SSE	4.315E-09	1.903E-09	7.927E-10	4.544E-10	3.863E-10	2.607E-10	9.770E-11	3.905E-11	2.079E-11	1.283E-11

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

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE		X/Q		X/Q		X/Q		D/Q
			(MILES)	(METERS)	(SEC/CUB.METER)	NO DECAY	2.260 DAY DECAY	X/Q	(SEC/CUB.METER)	(SEC/CUB.METER)	(PER SQ.METER)
					UNDEPLETED			UNDEPLETED		DEPLETED	
A	SITE BOUNDARY	S	0.80	1287.	8.893E-08			8.881E-08		8.730E-08	3.649E-09
A	SITE BOUNDARY	SSW	0.82	1327.	4.644E-08			4.637E-08		4.567E-08	1.578E-09
A	SITE BOUNDARY	SW	0.98	1569.	9.354E-08			9.332E-08		9.285E-08	1.005E-09
A	SITE BOUNDARY	WSW	0.93	1489.	1.187E-07			1.184E-07		1.179E-07	2.104E-09
A	SITE BOUNDARY	W	0.91	1468.	2.235E-07			2.230E-07		2.210E-07	2.531E-09
A	SITE BOUNDARY	WNW	0.94	1509.	2.438E-07			2.434E-07		2.420E-07	3.761E-09
A	SITE BOUNDARY	NW	0.81	1307.	1.667E-07			1.666E-07		1.647E-07	3.357E-09
A	SITE BOUNDARY	NNW	0.69	1106.	7.598E-08			7.591E-08		7.472E-08	3.459E-09
A	SITE BOUNDARY	N	0.67	1086.	7.014E-08			7.008E-08		6.889E-08	3.671E-09
A	SITE BOUNDARY	NNE	0.60	965.	3.021E-08			3.017E-08		2.978E-08	1.509E-09
A	SITE BOUNDARY	NE	0.62	1005.	3.383E-08			3.380E-08		3.330E-08	1.633E-09
A	SITE BOUNDARY	ENE	0.59	945.	7.599E-09			7.582E-09		7.503E-09	3.827E-10
A	SITE BOUNDARY	E	0.53	845.	2.657E-09			2.654E-09		2.634E-09	3.029E-10
A	SITE BOUNDARY	ESE	0.54	865.	6.370E-09			6.364E-09		6.318E-09	8.179E-10
A	SITE BOUNDARY	SE	0.65	1046.	1.698E-08			1.697E-08		1.685E-08	1.598E-09
A	SITE BOUNDARY	SSE	0.81	1307.	9.027E-08			9.019E-08		8.870E-08	4.474E-09
A	NEAR. RESIDENCE	SW	1.40	2253.	1.536E-07			1.531E-07		1.518E-07	1.160E-09
A	NEAR. RESIDENCE	WSW	1.30	2092.	1.927E-07			1.922E-07		1.905E-07	1.720E-09
A	NEAR. RESIDENCE	W	1.00	1609.	2.331E-07			2.326E-07		2.302E-07	2.276E-09
A	NEAR. RESIDENCE	WNW	1.60	2575.	3.402E-07			3.391E-07		3.349E-07	1.819E-09
A	NEAR. RESIDENCE	NW	0.90	1448.	2.057E-07			2.054E-07		2.035E-07	5.355E-09
A	NEAR. RESIDENCE	NNW	2.00	3219.	1.251E-07			1.247E-07		1.227E-07	9.642E-10
A	NEAR. RESIDENCE	N	3.00	4828.	3.183E-08			3.167E-08		3.071E-08	3.231E-10
A	NEAR. RESIDENCE	NNE	2.70	4345.	3.246E-08			3.226E-08		3.154E-08	2.446E-10
A	NEAR. RESIDENCE	ENE	1.70	2736.	2.130E-08			2.122E-08		2.092E-08	1.970E-10
A	NEAR. RESIDENCE	E	1.80	2897.	2.073E-08			2.066E-08		2.042E-08	2.102E-10
A	NEAR. RESIDENCE	ESE	2.40	3863.	3.433E-08			3.421E-08		3.349E-08	3.883E-10
A	NEAR. RESIDENCE	SE	2.20	3541.	5.096E-08			5.079E-08		4.995E-08	6.074E-10
A	NEAREST COW	NNW	3.50	5634.	7.748E-08			7.693E-08		7.527E-08	3.439E-10
A	NEAREST GARDEN	SW	1.40	2253.	1.536E-07			1.531E-07		1.518E-07	1.160E-09
A	NEAREST GARDEN	WSW	1.80	2897.	1.524E-07			1.518E-07		1.493E-07	8.723E-10
A	NEAREST GARDEN	WNW	1.60	2575.	3.402E-07			3.391E-07		3.349E-07	1.819E-09
A	NEAREST GARDEN	NNW	2.00	3219.	1.251E-07			1.247E-07		1.227E-07	9.642E-10

ATMOSPHERIC DIFFUSION MODEL

Onsite meteorological data from January 1 through June 30, 1993, were used to determine long-term (routine) diffusion estimates for evaluating normal atmospheric releases from Cooper Nuclear Station. Atmospheric dispersion parameters (X/Q values) were determined for the site boundary distances from each release point, the standard population distances, and special locations for nearest residence, cow, and garden using the methodology presented in U.S. NRC Regulatory Guide 1.111 (Rev.1) and the computer code XOQDOQ (NUREG/CR2919). Two release modes were analyzed. Releases from the 99-meter free-standing stack were considered 100 percent elevated, while releases from the reactor building, turbine-generator building, radwaste building and augmented radwaste building vents were considered as a 100 percent ground level release (one combined source term was assumed to apply for these vents).

Winds were obtained from measurements at the 10-meter level (for ground-level releases) and the 100-meter level (for elevated releases), and the stability class was based on the vertical temperature gradient between 60 meters and 10 meters (for ground releases) and 100 meters and 10 meters (for elevated releases). In accordance with Regulatory Guide 1.111, calm periods were distributed directionally in proportion to the directional distribution within a stability class of the lowest wind speed group. For the calculations, calm periods were assigned a speed of one-half the threshold wind speed of the wind vane or anemometer, whichever is higher.

The Gaussian straight-line trajectory model, which assumes that the air flow transports and diffuses effluents along a straight line through the entire region of interest in the airflow direction at the release point, was modified to account for various modes of effluent releases. In the case of an elevated release, plume rise due to momentum effects was incorporated into the calculation. For ground-level releases, building wake effects were considered.

The mathematical equation used in the Gaussian straight-line trajectory model is:

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

and

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

where

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

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

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

APPENDIX C
DOSE CALCULATIONS

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LIQUID EFFLUENT DOSE CALCULATIONS

Doses to the maximum individual and 0 to 50 - mile population resulting from the release of radioactive material in liquid effluents from Cooper Nuclear Station were calculated using the 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 2, respectively, for the first semiannual period.

Assumptions and data sources used for input to the LADTAP II code are described in a separate section of this appendix (see page C18).

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

Dose to Individual, mrem								
Period and Pathway	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-LLI
<u>1st Quarter</u>								
Drinking Water		1.26 E-01	7.38 E-03	3.69 E-02	2.83 E-08	1.86 E-03	6.07 E-04	3.74 E-02
Shoreline	1.83 E-04	1.55 E-04	1.55 E-04	1.55 E-04	1.55 E-04	1.55 E-04	1.55 E-04	1.55 E-04
Totals	1.83 E-04	1.26 E-01	7.54 E-03	3.71 E-02	1.55 E-04	2.02 E-03	7.62 E-04	3.76 E-02
<u>2nd Quarter</u>								
Eating Fish		3.41 E-04	6.39 E-04	3.77 E-04	4.06 E-10	2.00 E-04	5.72 E-05	8.95 E-04
Drinking Water		1.13 E-03	4.09 E-03	4.05 E-03	7.54 E-09	7.05 E-04	3.08 E-04	3.18 E-02
Shoreline	6.75 E-05	5.74 E-05	5.74 E-05	5.74 E-05	5.74 E-05	5.74 E-05	5.74 E-05	5.74 E-05
Totals	6.75 E-05	1.53 E-03	4.79 E-03	4.48 E-03	5.74 E-05	9.62 E-04	4.23 E-04	3.28 E-02
Totals for 1st & 2nd Quarters	2.51 E-04	1.28 E-01	1.23 E-02	4.16 E-02	2.12 E-04	2.98 E-03	1.19 E-03	7.04 E-02

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. Doses to Population Withing a 50-Mile Radius, Resulting From Exposure to Radioactivity Discharged in Liquid Effluents, January-June 1993, Cooper Nuclear Station

Dose to Population, manrem								
Period and Pathway -----	Skin -----	Bone -----	Liver -----	Total Body -----	Thyroid -----	Kidney -----	Lung -----	GI-LLI -----
<u>1st Quarter</u>								
Drinking Water		1.17 E-01	7.28 E-03	3.41 E-02	1.36 E-08	1.82 E-03	6.27 E-04	2.80 E-02
Shoreline	9.67 E-03	8.23 E-03	8.23 E-03	8.23 E-03	8.23 E-03	8.23 E-03	8.23 E-03	8.23 E-03
Totals	9.67 E-03	1.25 E-01	1.55 E-02	4.23 E-02	8.23 E-03	1.01 E-02	8.86 E-03	3.62 E-02
<u>2nd Quarter</u>								
Eating Fish		2.40 E-05	4.11 E-05	2.11 E-05	1.80 E-11	1.28 E-05	3.83 E-06	4.70 E-05
Drinking Water		5.48 E-04	1.69 E-03	1.74 E-03	3.22 E-09	2.87 E-04	1.37 E-04	1.01 E-02
Shoreline	3.58 E-03	3.04 E-03	3.04 E-03	3.04 E-03	3.04 E-03	3.04 E-03	3.04 E-03	3.04 E-03
Swimming		6.92 E-06	6.92 E-06	6.92 E-06	6.92 E-06	6.92 E-06	6.92 E-06	6.92 E-06
Boating		7.70 E-05	7.70 E-05	7.70 E-05	7.70 E-05	7.70 E-05	7.70 E-05	7.70 E-05
Totals	3.58 E-03	3.70 E-03	4.86 E-03	4.89 E-03	3.12 E-03	3.42 E-03	3.26 E-03	1.33 E-02
Totals for 1st & 2nd Quarters	1.33 E-02	1.29 E-01	2.04 E-02	4.72 E-02	1.14 E-02	1.35 E-02	1.21 E-02	4.95 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.

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 GASPAP computer code. Four sites were selected for individual dose calculations: the site boundary, the nearest residence, the nearest garden and the nearest cow. These sites were chosen from data which is gathered by means of a land use census. The census is normally taken in the summer of the year of the report. This year, however, flooding around the Cooper Nuclear Station prohibited a census representative of the conditions from January 1993, through June 1993, from being taken. Ten of the sixteen sectors were inaccessible when the 1993 land use census was taken. These sectors, sectors A through K, generally include the area on the Missouri side of the Missouri River and the area south of the plant in Nebraska. Eleven residences and approximately twenty-four residents were noted in sectors A through K in 1992. These residents most likely remained in their homes from January through June of 1993, but were evacuated at the time the 1993 census was taken. For this reason, 1992 data for the nearest residences was used for this report. Because of the unfavorable weather, it was assumed that no gardens yielded produce in these sectors. Historically no cows are found within three miles in these sectors, so none were said to be located there. The 1993 census data that was taken in the six sectors that were accessible was used for this report.

GASPAP 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 3 and 4 present maximum individual doses for the first and second quarters; population doses for the same period are given in Tables 5 and 6. Individual and population doses for the first semiannual period are contained in Tables 7 and 8, respectively. In addition, 0 to 50 mile distributions of gamma and beta air doses are presented in Tables 9, 10, and 11 for the first quarter, second quarter, and first semiannual period, respectively.

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

Assumptions and data used for input to the GASPAP code are described in a separate section of this appendix (see page C17).

TABLE 3. DOSES TO MAXIMUM INDIVIDUAL (HREM), JANUARY-MARCH 1993

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

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	4.12E-03	4.76E-03	4.03E-03	4.07E-03	4.03E-03	4.03E-03	4.40E-03	4.74E-03
TEEN	4.15E-03	4.74E-03	4.03E-03	4.08E-03	4.03E-03	4.04E-03	4.57E-03	4.74E-03
CHILD	4.27E-03	4.48E-03	4.03E-03	4.11E-03	4.03E-03	4.04E-03	4.47E-03	4.74E-03
INFANT	4.05E-03	4.05E-03	4.03E-03	4.04E-03	4.03E-03	4.06E-03	4.31E-03	4.74E-03

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

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	2.36E-03	2.75E-03	2.33E-03	2.35E-03	2.33E-03	2.35E-03	2.44E-03	2.74E-03
TEEN	2.40E-03	2.74E-03	2.33E-03	2.36E-03	2.33E-03	2.36E-03	2.49E-03	2.74E-03
CHILD	2.47E-03	2.59E-03	2.33E-03	2.38E-03	2.33E-03	2.39E-03	2.46E-03	2.74E-03
INFANT	2.34E-03	2.34E-03	2.33E-03	2.34E-03	2.33E-03	2.46E-03	2.41E-03	2.74E-03

TABLE 3. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-MARCH 1993 (CONTINUED)

COOPER NUCLEAR STATION JANUARY-MARCH 1993
SPECIAL LOCATION # 3 NEAREST COW
AT 3.50 MILESWNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	4.90E-05	5.69E-05	4.80E-05	4.85E-05	4.80E-05	4.90E-05	5.56E-05	5.64E-05
TEEN	4.95E-05	5.66E-05	4.80E-05	4.87E-05	4.80E-05	4.94E-05	5.91E-05	5.64E-05
CHILD	5.03E-05	5.34E-05	4.80E-05	4.90E-05	4.80E-05	5.06E-05	5.70E-05	5.64E-05
INFANT	4.83E-05	4.83E-05	4.80E-05	4.81E-05	4.80E-05	5.33E-05	5.37E-05	5.64E-05

COOPER NUCLEAR STATION JANUARY-MARCH 1993
SPECIAL LOCATION # 4 NEAREST GARDEN
AT 1.60 MILESWNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	2.51E-04	2.91E-04	2.46E-04	2.48E-04	2.46E-04	2.58E-04	2.66E-04	2.89E-04
TEEN	2.53E-04	2.89E-04	2.46E-04	2.49E-04	2.46E-04	2.63E-04	2.75E-04	2.89E-04
CHILD	2.60E-04	2.73E-04	2.46E-04	2.51E-04	2.46E-04	2.77E-04	2.70E-04	2.89E-04
INFANT	2.47E-04	2.47E-04	2.46E-04	2.47E-04	2.46E-04	3.12E-04	2.61E-04	2.89E-04

TABLE 4. DOSES TO MAXIMUM INDIVIDUAL (MREM), APRIL-JUNE 1993

COOPER NUCLEAR STATION APRIL-JUNE 1993
SPECIAL LOCATION # 1 SITE BOUNDARY
AT 0.67 MILES N

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEEN	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

COOPER NUCLEAR STATION APRIL-JUNE 1993
SPECIAL LOCATION # 2 NEAR RESIDENCE
AT 0.90 MILES NW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEEN	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

(CONTINUED)

TABLE 4. DOSES TO MAXIMUM INDIVIDUAL (MREN), APRIL-JUNE 1993

COOPER NUCLEAR STATION APRIL-JUNE 1993
SPECIAL LOCATION # 3 NEAREST COW
AT 3.50 MILESNNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEEN	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

COOPER NUCLEAR STATION APRIL-JUNE 1993
SPECIAL LOCATION # 4 NEAREST GARDEN
AT 2.00 MILESNNW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEEN	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TABLE 5. DOSES TO POPULATION WITHIN 50 MILES, JANUARY-MARCH 1993

COOPER NUCLEAR STATION JANUARY-MARCH 1993
ALASKA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (MANREM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
GROUND	2.43E-04	2.43E-04	2.45E-04	2.43E-04	2.43E-04	2.43E-04	2.43E-04	2.85E-04
INHAL	1.19E-07	1.73E-06	3.25E-09	6.93E-08	7.14E-09	1.39E-06	4.51E-05	0.00E+00
VEGET	1.07E-05	5.82E-05	3.58E-08	4.37E-06	7.42E-08	1.43E-05	0.00E+00	0.00E+00
COW MILK	1.40E-06	6.72E-06	4.70E-08	5.98E-07	9.47E-08	1.82E-05	0.00E+00	0.00E+00
MEAT	3.13E-06	2.12E-05	9.20E-10	1.34E-06	2.06E-09	3.93E-07	0.00E+00	0.00E+00
TOTAL	2.58E-04	3.30E-04	2.43E-04	2.49E-04	2.43E-04	2.77E-04	2.88E-04	2.85E-04

TABLE 6. DOSES TO POPULATION WITHIN 50 MILES, APRIL-JUNE 1993

COOPER NUCLEAR STATION APRIL-JUNE 1993
 ALARA ANNUAL INTEGRATED POPULATION DOSE SUMMARY (MANREM)

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INHAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
VEGET	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
COW MILK	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MEAT	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTAL	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TABLE 7. DOSES TO MAXIMUM INDIVIDUAL (MREM), JANUARY-JUNE 1993

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

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	4.75E-03	5.49E-03	4.65E-03	4.69E-03	4.65E-03	4.67E-03	4.96E-03	5.47E-03
TEEN	4.79E-03	5.46E-03	4.65E-03	4.71E-03	4.65E-03	4.68E-03	5.11E-03	5.47E-03
CHILD	4.92E-03	5.16E-03	4.65E-03	4.74E-03	4.65E-03	4.70E-03	5.02E-03	5.47E-03
INFANT	4.68E-03	4.68E-03	4.65E-03	4.66E-03	4.65E-03	4.76E-03	4.89E-03	5.47E-03

COOPER NUCLEAR STATION JANUARY-JUNE 1993
SPECIAL LOCATION # 2 NEAR RESIDENCE
AT 0.98 MILES NW

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	2.13E-03	2.47E-03	2.09E-03	2.11E-03	2.09E-03	2.12E-03	2.17E-03	2.46E-03
TEEN	2.15E-03	2.45E-03	2.09E-03	2.12E-03	2.09E-03	2.13E-03	2.21E-03	2.46E-03
CHILD	2.21E-03	2.32E-03	2.09E-03	2.15E-03	2.09E-03	2.17E-03	2.19E-03	2.46E-03
INFANT	2.10E-03	2.10E-03	2.09E-03	2.10E-03	2.09E-03	2.25E-03	2.15E-03	2.46E-03

TABLE 7. DOSES TO MAXIMUM INDIVIDUAL (MPEM), JANUARY-JUNE 1993

(CONTINUED)

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

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	7.27E-05	8.42E-05	7.12E-05	7.19E-05	7.12E-05	7.32E-05	7.84E-05	8.38E-05
TEEN	7.35E-05	8.37E-05	7.12E-05	7.22E-05	7.12E-05	7.39E-05	8.17E-05	8.36E-05
CHILD	7.54E-05	7.91E-05	7.12E-05	7.26E-05	7.12E-05	7.63E-05	7.97E-05	8.38E-05
INFANT	7.16E-05	7.16E-05	7.12E-05	7.14E-05	7.12E-05	8.18E-05	7.66E-05	8.38E-05

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

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
ADULT	2.68E-04	3.10E-04	2.62E-04	2.65E-04	2.62E-04	2.67E-04	2.84E-04	3.08E-04
TEEN	2.70E-04	3.08E-04	2.62E-04	2.66E-04	2.62E-04	2.69E-04	2.95E-04	3.08E-04
CHILD	2.77E-04	2.91E-04	2.62E-04	2.67E-04	2.62E-04	2.76E-04	2.88E-04	3.08E-04
INFANT	2.63E-04	2.63E-04	2.62E-04	2.63E-04	2.62E-04	2.92E-04	2.79E-04	3.08E-04

TABLE 8. DOSES TO POPULATION WITHIN 50 MILES, JANUARY-JUNE 1993

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

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
GROUND	2.57E-04	2.57E-04	2.57E-04	2.57E-04	2.57E-04	2.57E-04	2.57E-04	3.02E-04
INHAL	1.08E-07	1.57E-06	3.07E-09	8.13E-08	6.75E-09	1.31E-06	4.10E-05	0.00E+00
VEGET	1.06E-05	5.78E-05	3.69E-08	4.34E-06	7.65E-08	1.47E-05	0.00E+00	0.00E+00
COW MILK	1.39E-06	6.68E-06	4.89E-08	5.97E-07	9.87E-08	1.90E-05	0.00E+00	0.00E+00
MEAT	3.11E-06	2.11E-05	9.59E-10	1.33E-06	2.14E-09	4.10E-07	0.00E+00	0.00E+00
TOTAL	2.72E-04	3.44E-04	2.57E-04	2.63E-04	2.57E-04	2.92E-04	2.98E-04	3.02E-04

TABLE 9. GAMMA AND BETA AIR DOSES, JANUARY-MARCH 1993

COOPER NUCLEAR STATION JANUARY-MARCH 1993

INDIVIDUAL ANNUAL GAMMA AIR DOSE (MILLIRADS)

[illegible]

INDIVIDUAL ANNUAL BETA AIR DOSE (MILLIRADS)

[illegible]

TABLE 10. GAMMA AND BETA AIR DOSES, APRIL-JUNE 1993

[illegible][illegible]

DOSE CALCULATION MODELS

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

Source terms for each quarter are combined with station-specific demographic data and either hydrological dilution factors, for liquid dose calculations, or atmospheric diffusion estimates, for gaseous dose calculations.

For liquid dose calculations, the hydrological dilution factors used for input to LADTAP II, as well as other input parameters, are listed in Table 12. 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)
- 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 12. Values of Parameters Used to Make Dose Estimates Resulting From Liquid Discharges at Cooper Nuclear Station January-June 1993

Parameter	Values Assigned	
	Individual	Population
Cooling flow rate (cfs) * (Average daily value)	798.72; 596.73	798.72; 596.73
Dilution factor	1	45.45; 106.70
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 **

* First and Second quarter station data for 1993, respectively.

** Based on an average Missouri River water flow of 5.5 ft/sec, 84 miles down the river.

*** Values from Regulatory Guide 1.109, Revision 1.

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