EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT

SUPPLEMENTAL INFORMATION

FACILITY: H. B. Robinson LICENSE: DPR-23

1. REGULATORY LIMITS

   A. ission and Activation Gases: 15,000 uCi/sec. based on Xe-133.

   B. Iodines: 7.15E-03 uCi/sec. based on I-131.

   C. Particulates, half lives > 8 days: 7.15E-03 uCi/sec.

   D. Liquid Effluents: Tritium not to exceed annual daily average of 10.5 curies. All others not to exceed 10 CFR 20, Appendix B, Table 2, Column 2, except unidentified not to exceed annual daily limit average of 26 mCi/day.

2. MAXIMUM PERMISSIBLE CONCENTRATES

   A. Gaseous Effluent: The average annual release rates of gaseous wastes is limited to $\Sigma \frac{Qi}{MPCi} \leq 5.0E04$ m^3/sec.
   Qi is the annual release rate (Ci/sec) of any radioisotope, i, and $(MPC)_i$; in units of uCi/cc as defined in Column 1, Table II of Appendix B, 10 CFR 20, except that for isotopes of Iodine and particulates with half-lives greater than 8 days, the values of $(MPC)_i$ are reduced by a factor of 1/700.

   B. Liquid Effluents: 1.00E-07 uCi/cc unidentified
   3.00E-03 uCi/cc Tritium

3. AVERAGE ENERGY OF FISSION & ACTIVATION GASES RELEASED

   First Quarter .349 MEV
   Second Quarter .145 MEV

4. MEASUREMENTS AND APPROXIMATIONS OF TOTAL RADIOACTIVITY

   A. Fission and Activation Gases: measured and determined by continuous monitors, periodic grab samples, radionuclide gamma analysis, and scintillation counting.

   B. Iodines: measured and determined by continuous sample monitors and radionuclide gamma analysis.

   C. Particulates: measured and determined by continuous sample monitors, radionuclide gamma analysis, gross alpha and beta counting.

   D. Liquid Effluents: measured and determined by composite sample analysis, individual sample analysis, radionuclide gamma analysis, gross alpha and beta counting, and liquid scintillation counting.

5. BATCH RELEASES

A. Liquid

1. Number of Batch Releases: 154
2. Total Time Period of Batch Releases: 33366 Min.
3. Maximum Time Period for a Batch Release: 1041 Min.
4. Average Time Period for Batch Releases: 216 Min.
5. Minimum Time Period for a Batch Release: 8 Min.
6. Average Stream Flow during Periods of Release of Effluent into a Flowing Stream: 2.09E05 GPM

B. Gaseous

1. Number of Batch Releases: 78
2. Total Time Period for Batch Releases: 1.76E05 Min.
3. Maximum Time Period for a Batch Release: 4320 Min.
4. Average Time Period for a Batch Release: 2.26E03 Min.
5. Minimum Time Period for a Batch Release: 35 Min.

6. ABNORMAL RELEASES

A. Liquid - none

B. Gaseous - none

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TABLE 1A

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1982

GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

		UNITS	1st QUARTER	2nd QUARTER	% ERROR
A.	FISSION AND ACTIVATION GASES				
1.	Total Release	Ci	7.23E01	6.16E01	1.00E01
2.	Average Release Rate	uCi/sec	9.30E00	7.83E00	
3.	% of Tech. Spec. Limit	%	1.18E-01	5.22E-02	
4.	Maximum Release Rate/hour	uCi/sec	4.26E01	2.17E01	
B.	IODINES				
1.	Total Iodine-131	Ci	1.49E-05	0.00E00	1.00E01
2.	Average Release Rate	uCi/sec	1.92E-06	0.00E00	
3.	% of Tech. Spec. Limit	%	2.68E-02	0.00E00	
4.	Total Iodine	Ci	4.46E-05	0.00E00	
C.	PARTICULATES				
1.	Particulates $T_{\frac{1}{2}}$ 8 days	Ci	4.59E-05	4.28E-05	1.00E01
2.	Average Release Rate	uCi/sec	5.90E-06	5.44E-06	
3.	% of Tech. Spec. Limit	%	1.74E-02	2.07E-02	
4.	Gross Alpha Radioacivity	Ci	0.00E00	8.06E-07	
5.	Total Gross Radioactivity	Ci	4.62E-05	4.28E-05	
D.	TRITIUM				
1.	Total Release	Ci	2.95E-01	3.77E-01	1.00E01
2.	Average Release Rate	uCi/sec	3.79E-02	4.79E-02	
3.	% of Tech. Spec. Limit	%	3.79E-04	4.79E-04	

TABLE 1B

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1982

GASEOUS EFFLUENTS - ELEVATED RELEASES

No elevated releases made at H. B. Robinson.

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TABLE 1C

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1982

GASEOUS EFFLUENTS[1] - GROUND LEVEL RELEASES

	UNITS	CONTINUOUS MODE 1st QUARTER	CONTINUOUS MODE 2nd QUARTER	BATCH MODE 1st QUARTER	BATCH MODE 2nd QUARTER
1. FISSION GASES					
Xe-133	Ci	4.85E01	6.16E01	7.79E-01	0.00E00
Xe-135	Ci	6.59E00	0.00E00	3.95E-01	0.00E00
Ar-41	Ci	8.00E00	0.00E00	1.09E-02	0.00E00
Xe-133m	Ci	8.76E00	0.00E00	2.56E-02	0.00E00
Xe-131m	Ci	2.81E-01	0.00E00	7.04E-04	0.00E00
Kr-87	Ci	5.02E-03	0.00E00	3.03E-04	0.00E00
Kr-88	Ci	5.42E-02	0.00E00	3.28E-03	0.00E00
Kr-85m	Ci	1.20E-01	0.00E00	7.23E-03	0.00E00
Kr-85	Ci	0.00E00	0.00E00	0.00E00	0.00E00
Total for Period	Ci	7.23E01	6.16E01	1.22E00	0.00E00
2. IODINES					
I-131	Ci	1.49E-05	0.00E00	2.96E-07	0.00E00
I-133	Ci	2.97E-05	0.00E00	3.55E-07	0.00E00
I-135	Ci	0.00E00	0.00E00	0.00E00	0.00E00
I-132	Ci	0.00E00	0.00E00	1.49E-07	0.00E00
Total for Period	Ci	4.46E-05	0.00E00	8.00E-07	0.00E00
3. PARTICULATES					
Co-58	Ci	1.99E-05	8.78E-06	1.72E-05	3.14E-05
Co-60	Ci	2.60E-05	3.29E-05	1.07E-05	3.33E-05
Mn-54	Ci	0.00E00	0.00E00	1.35E-07	0.00E00
Ce-144	Ci	0.00E00	0.00E00	0.00E00	0.00E00
Na-24	Ci	0.00E00	0.00E00	3.99E-09	0.00E00
Cr-51	Ci	0.00E00	0.00E00	1.76E-06	0.00E00
Co-57	Ci	0.00E00	1.08E-06	0.00E00	0.00E00
Nb-97	Ci	2.53E-07	0.00E00	0.00E00	2.07E-06
Total for Period	Ci	4.62E-05	4.28E-05	2.98E-05	6.68E-05

[1] Continuous Accountability includes Batch Accountability.

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TABLE 2A

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1982

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

		UNITS	1st QUARTER	2nd QUARTER	% ERROR
A.	FISSION AND ACTIVATION PRODUCTS				
	1. Total Release	Ci	1.10E00	2.58E-02	1.00E01
	2. Average Diluted Concentration	uCi/ml	6.69E-09	5.99E-10	
	3. % of Applicable Limit	%	6.69E00	5.99E-01	
B.	TRITIUM				
	1. Total Release	Ci	2.51E01	8.83E00	1.00E01
	2. Average Diluted Concentration	uCi/ml	1.54E-07	2.05E-07	
	3. % of Applicable Limit	%	5.13E-03	6.83E-03	
C.	DISSOLVED AND ENTRAINED GASES				
	1. Total Release	Ci	2.69E-03	4.29E-04	1.00E01
	2. Average Diluted Concentration	uCi/ml	1.65E-11	9.94E-12	
	3. % of Applicable Limit	%	5.48E-04	3.31E-04	
D.	GROSS ALPHA RADIOACTIVITY				
	1. Total Release	Ci	0.00E00	0.00E00	1.00E00
E.	VOLUME OF WASTE RELEASED	Liters	1.19E07	2.14E06	1.00E01
F.	VOLUME OF DILUTION WATER	Liters	1.64E11	4.31E10	1.00E01
G.	MAXIMUM CONCENTRATION OF GROSS RADIOACTIVITY RELEASED	uCi/ml	4.83E-08	3.66E-08	1.00E01

TABLE 2B

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1982

LIQUID EFFLUENTS

NUCLIDES RELEASED	UNITS	CONTINUOUS MODE		BATCH MODE	
		1st QUARTER	2nd QUARTER	1st QUARTER	2nd QUARTER
Co-58	Ci	4.96E-03	0.00E00	5.16E-03	1.01E-02
Co-60	Ci	3.61E-04	0.00E00	9.65E-03	1.46E-02
Cs-137	Ci	1.62E-04	0.00E00	7.68E-05	7.52E-05
Cs-134	Ci	0.00E00	0.00E00	0.00E00	0.00E00
Mn-54	Ci	7.31E-05	0.00E00	2.30E-05	3.72E-04
Sb-124	Ci	0.00E00	0.00E00	9.58E-05	1.25E-05
Sb-125	Ci	0.00E00	0.00E00	0.00E00	0.00E00
Be-7	Ci	0.00E00	0.00E00	0.00E00	0.00E00
Ce-141	Ci	0.00E00	0.00E00	0.00E00	0.00E00
Co-57	Ci	0.00E00	0.00E00	0.00E00	0.00E00
Ce-144	Ci	0.00E00	0.00E00	0.00E00	0.00E00
Cs-136	Ci	0.00E00	0.00E00	0.00E00	0.00E00
I-131	Ci	3.89E-04	0.00E00	2.22E-06	0.00E00
I-133	Ci	2.32E-03	0.00E00	0.00E00	0.00E00
Na-24	Ci	1.06E00	0.00E00	0.00E00	0.00E00
Ru-103	Ci	3.54E-06	0.00E00	0.00E00	0.00E00
Cr-51	Ci	0.00E00	0.00E00	5.59E-05	0.00E00
Nb-97	Ci	0.00E00	0.00E00	6.54E-06	3.44E-05
Nb-95	Ci	0.00E00	0.00E00	1.99E-06	0.00E00
Mo-99	Ci	0.00E00	0.00E00	5.52E-06	0.00E00
Tc-99m	Ci	0.00E00	0.00E00	6.02E-06	0.00E00
Sr-85	Ci	0.00E00	0.00E00	0.00E00	1.12E-05
Sr-92	Ci	0.00E00	0.00E00	0.00E00	5.16E-06
Sr-89	Ci	1.76E-02	0.00E00	1.22E-03	5.99E-04
Sr-90	Ci	8.75E-04	0.00E00	1.74E-04	3.77E-05
TOTAL	Ci	1.08E00	0.00E00	1.65E-02	2.58E-02
Xe-133	Ci	7.38E-05	0.00E00	0.00E00	0.00E00
Xe-135	Ci	4.90E-04	0.00E00	0.00E00	0.00E00
Ar-41	Ci	1.71E-05	0.00E00	0.00E00	0.00E00
Xe-135m	Ci	2.11E-03	0.00E00	0.00E00	0.00E00
Kr-85	Ci	0.00E00	0.00E00	0.00E00	4.29E-04
TOTAL	Ci	2.69E-03	0.00E00	0.00E00	4.29E-04

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TABLE 3

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1982

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (NOT IRRADIATED FUEL)

1. TYPE OF WASTE		UNITS	TOTALS	% ERROR
A.	Spent resins, filter sludges	M^3	440.2	
	evaporator bottoms, etc.	Ci	1.59E01	1.00E01
B.	Dry compressible waste,	M^3	351.7	
	contaminated equipment, etc.	Ci	9.01E00	1.00E01
C.	Irradiated components, control	M^3	0	
	rods, etc.	Ci	0	0.00E00
D.	Other	M^3	0	
		Ci	0	0.00E00

2. ESTIMATE OF MAJOR NUCLIDE COMPOSITION (BY TYPE OF WASTE)

		%	Ci
A.	Cs-137	1	1.98E-01
	Co-58	32	5.01E00
	Mn-54	1	1.63E-01
	Co-60	62	9.90E00
	Others*	1	1.68E-01
	Sb-125	1	1.53E-01
	Nb-97	2	3.51E-01
B.	Co-58	31	2.78E00
	Co-60	66	5.94E00
	Others*	3	2.90E-01

3. SOLID WASTE DISPOSITION

Number of Shipments: 61
Mode of Transportation: Truck
Destination: Barnwell, South Carolina

B. IRRADIATED FUEL SHIPMENT (FOR STORAGE)

Number of Shipments: 0
Mode of Transportation: Rail
Destination: Brunswick Steam Electric Plant
Southport, North Carolina
License Number DPR-071
Number of Bundles:

*Others include (Co-57, Sb-124, Nb-95, Fe-59, Cs-134, Zr-97, Cs-137)

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I-131 DOSE FROM DRINKING MILK FROM CRITICAL CCW
MREM/YEAR

	INFANT	CHILD	TEEN	ADULT
BONE	3.51E-06	1.68E-06	6.93E-07	3.82E-07
LIVER	4.14E-06	1.69E-06	9.71E-07	5.47E-07
WHOLE BODY	1.82E-06	9.61E-07	5.22E-07	3.13E-07
THYROID	1.36E-03	5.59E-04	2.83E-04	1.79E-04
KIDNEY	4.83E-06	2.78E-06	1.67E-06	9.37E-07
LUNG	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GI-LLI	1.48E-07	1.51E-07	1.92E-07	1.44E-07

TOTAL DOSE FROM DRINKING MILK FROM CRITICAL CCW
MREM/YEAR

	INFANT	CHILD	TEEN	ADULT
BONE	3.61E-06	1.73E-06	7.12E-07	3.92E-07
LIVER	4.03E-05	2.54E-05	1.60E-05	1.20E-05
WHOLE BODY	3.84E-05	2.50E-05	1.57E-05	1.19E-05
THYROID	1.42E-03	5.93E-04	3.03E-04	1.93E-04
KIDNEY	4.06E-05	2.63E-05	1.66E-05	1.24E-05
LUNG	3.56E-05	2.34E-05	1.48E-05	1.14E-05
GI-LLI	3.67E-05	2.47E-05	1.68E-05	1.30E-05

I-131 INHALATION DOSE FOR CRITICAL SECTOR AT SITE BOUNDARY
MREM/YEAR

	INFANT	CHILD	TEEN	ADULT
BONE	3.76E-07	4.77E-07	3.82E-07	2.80E-07
LIVER	4.40E-07	4.77E-07	4.87E-07	3.55E-07
WHOLE BODY	1.94E-07	2.70E-07	2.62E-07	2.03E-07
THYROID	1.47E-04	1.61E-04	1.45E-04	1.18E-04
KIDNEY	5.14E-07	7.82E-07	8.33E-07	6.08E-07
LUNG	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GI-LLI	1.05E-08	2.82E-08	6.44E-08	6.23E-08

TOTAL INHALATION DOSE FOR CRITICAL SECTOR AT SITE BOUNDARY
MREM/YEAR

	INFANT	CHILD	TEEN	ADULT
BONE	6.38E-07	8.05E-07	5.92E-07	4.21E-07
LIVER	2.91E-04	5.05E-04	5.71E-04	5.67E-04
WHOLE BODY	2.90E-04	5.05E-04	5.70E-04	5.66E-04
THYROID	5.07E-04	7.40E-04	7.72E-04	7.28E-04
KIDNEY	2.90E-04	5.05E-04	5.71E-04	5.67E-04
LUNG	4.81E-04	7.80E-04	9.37E-04	8.17E-04
GI-LLI	2.91E-04	5.08E-04	5.81E-04	5.79E-04

DOSE FROM EATING FISH
MREM/YEAR

	CHILD	TEEN	ADULT
BONE	1.89E-06	1.72E-06	1.78E-06
LIVER	4.56E-07	4.65E-07	4.82E-07
WHOLE BODY	4.66E-07	5.10E-07	6.03E-07
THYROID	2.86E-07	2.65E-07	2.67E-07
KIDNEY	3.01E-07	2.95E-07	2.88E-07
LUNG	2.55E-07	2.44E-07	2.35E-07
GI-LLI	3.23E-07	4.64E-07	5.53E-07

DOSE FROM EATING GREEN LEAFY VEG. FROM CRITICAL GARDEN
MREM/YEAR

	CHILD	TEEN	ADULT
BONE	2.62E-06	1.44E-06	1.36E-06
LIVER	7.26E-05	6.11E-05	9.08E-05
WHOLE BODY	7.54E-05	6.23E-05	9.22E-05
THYROID	9.24E-04	6.32E-04	7.99E-04
KIDNEY	7.23E-05	6.08E-05	9.04E-05
LUNG	6.79E-05	5.73E-05	8.65E-05
GI-LLI	7.95E-05	8.06E-05	1.25E-04

DOSE FROM EATING PRODUCE FROM CRITICAL GARDEN
MREM/YEAR

	CHILD	TEEN	ADULT
BONE	2.34E-07	9.63E-08	5.65E-08
LIVER	1.06E-03	6.72E-04	5.46E-04
WHOLE BODY	1.12E-03	6.95E-04	5.60E-04
THYROID	1.11E-03	6.93E-04	5.61E-04
KIDNEY	1.03E-03	6.54E-04	5.34E-04
LUNG	1.03E-03	6.53E-04	5.34E-04
GI-LLI	1.19E-03	8.94E-04	7.57E-04

DOSE FROM SHORELINE SEDIMENT
MREM/YEAR

	CHILD	TEEN	ADULT
WHOLE BODY	5.26E-08	2.52E-07	4.51E-08
SKIN	6.18E-08	2.96E-07	5.30E-08

POPULATION INTEGRATED INHALATION DOSE
PERSON-REM/YEAR OR THYROID-REM/YEAR

	INFANT	CHILD	TEEN	ADULT
WHOLE BODY	3.59E-06	6.28E-05	5.69E-05	2.36E-04
THYROID	6.28E-06	9.22E-05	7.70E-05	3.03E-04

SKIN DOSES FROM AIR SUBMERSION IN RADIONOBLE GASES
MREM/YEAR

DOSE FOR CRITICAL SECTOR AT SITE BOUNDARY= 1.18E-01 MREM/6 MOS.

	RADIAL DISTANCE, MILES				
	0.5	1.5	2.5	3.5	4.5
S	2.20E-02	6.08E-03	2.98E-03	1.91E-03	1.38E-03
SSW	1.44E-02	5.06E-03	2.40E-03	1.49E-03	1.05E-03
SW	7.14E-03	2.54E-03	1.19E-03	7.29E-04	5.08E-04
WSW	6.15E-03	2.18E-03	1.01E-03	6.18E-04	4.30E-04
W	4.38E-03	1.54E-03	7.07E-04	4.28E-04	2.96E-04
WNW	4.55E-03	1.60E-03	7.63E-04	4.77E-04	3.37E-04
NW	4.62E-03	1.63E-03	7.67E-04	4.77E-04	3.36E-04
NNW	9.72E-03	3.55E-03	1.70E-03	1.07E-03	7.52E-04
N	1.91E-02	6.95E-03	3.42E-03	2.18E-03	1.56E-03
NNE	1.57E-02	5.67E-03	2.78E-03	1.76E-03	1.26E-03
NE	1.22E-02	4.48E-03	2.18E-03	1.37E-03	9.74E-04
ENE	1.07E-02	3.90E-03	1.89E-03	1.18E-03	8.38E-04
E	7.62E-03	2.76E-03	1.33E-03	8.39E-04	5.95E-04
ESE	5.75E-03	2.09E-03	1.01E-03	6.33E-04	6.44E-04
SE	7.93E-03	2.82E-03	1.39E-03	8.93E-04	6.44E-04
SSE	2.21E-02	7.85E-03	3.87E-03	2.49E-03	1.79E-03

	RADIAL DISTANCE, MILES				
	7.5	15.0	25.0	35.0	45.0
S	7.24E-04	3.00E-04	1.57E-04	1.03E-04	7.86E-05
SSW	5.34E-04	2.10E-04	1.06E-04	6.83E-05	4.94E-05
SW	2.52E-04	9.63E-05	4.74E-05	3.00E-05	2.14E-05
WSW	2.12E-04	8.01E-05	3.91E-05	2.47E-05	1.76E-05
W	1.45E-04	5.40E-05	2.61E-05	1.64E-05	1.16E-05
WNW	1.71E-04	6.76E-05	3.41E-05	2.20E-05	1.59E-05
NW	1.70E-04	6.66E-05	3.35E-05	2.16E-05	1.55E-05
NNW	3.81E-04	1.49E-04	7.48E-05	4.79E-05	3.45E-05
N	8.08E-04	3.28E-04	1.68E-04	1.09E-04	7.96E-05
NNE	6.52E-04	2.64E-04	1.35E-04	8.78E-05	6.39E-05
NE	4.98E-04	1.98E-04	1.00E-04	6.45E-05	4.66E-05
ENE	4.26E-04	1.68E-04	8.47E-05	5.44E-05	3.92E-05
E	3.04E-04	1.21E-04	6.14E-05	3.97E-05	2.87E-05
ESE	2.28E-04	9.02E-05	4.55E-05	2.92E-05	3.49E-05
SE	3.38E-04	1.39E-04	7.26E-05	4.77E-05	3.49E-05
SSE	9.40E-04	3.88E-04	2.02E-04	1.33E-04	9.72E-05

WHOLE BODY DOSES FROM AIR SUBMERSION IN RADIONOBLE GASES
MREM/YEAR

DOSE FOR CRITICAL SECTOR AT SITE BOUNDARY= 5.51E-02 MREM/6 MOS.

	RADIAL DISTANCE, MILES				
	0.5	1.5	2.5	3.5	4.5
S	1.02E-02	2.83E-03	1.39E-03	8.92E-04	6.47E-04
SSW	6.73E-03	2.36E-03	1.12E-03	6.97E-04	4.91E-04
SW	3.33E-03	1.18E-03	5.53E-04	3.40E-04	2.37E-04
WSW	2.87E-03	1.02E-03	4.72E-04	2.88E-04	2.00E-04
W	2.04E-03	7.18E-04	3.29E-04	2.00E-04	1.38E-04
WNW	2.12E-03	7.47E-04	3.56E-04	2.22E-04	1.57E-04
NW	2.15E-03	7.58E-04	3.57E-04	2.22E-04	1.57E-04
NNW	4.53E-03	1.65E-03	7.95E-04	4.96E-04	3.51E-04
N	8.91E-03	3.24E-03	1.59E-03	1.02E-03	7.27E-04
NNE	7.30E-03	2.64E-03	1.29E-03	8.22E-04	5.87E-04
NE	5.71E-03	2.09E-03	1.02E-03	6.40E-04	4.54E-04
ENE	4.97E-03	1.82E-03	8.80E-04	5.52E-04	3.90E-04
E	3.55E-03	1.29E-03	6.22E-04	3.91E-04	2.77E-04
ESE	2.68E-03	9.74E-04	4.70E-04	2.95E-04	3.00E-04
SE	3.69E-03	1.31E-03	6.48E-04	4.16E-04	3.00E-04
SSE	1.03E-02	3.66E-03	1.81E-03	1.16E-03	8.36E-04

	RADIAL DISTANCE, MILES				
	7.5	15.0	25.0	35.0	45.0
S	3.37E-04	1.40E-04	7.31E-05	4.81E-05	3.52E-05
SSW	2.49E-04	9.79E-05	4.94E-05	3.18E-05	2.30E-05
SW	1.18E-04	4.49E-05	2.21E-05	1.40E-05	9.99E-06
WSW	9.88E-05	3.73E-05	1.82E-05	1.15E-05	8.19E-06
W	6.75E-05	2.52E-05	1.22E-05	7.64E-06	5.42E-06
WNW	7.99E-05	3.15E-05	1.59E-05	1.02E-05	7.40E-06
NW	7.91E-05	3.10E-05	1.56E-05	1.00E-05	7.25E-06
NNW	1.78E-04	6.96E-05	3.49E-05	2.23E-05	1.61E-05
N	3.77E-04	1.53E-04	7.85E-05	5.10E-05	3.71E-05
NNE	3.04E-04	1.23E-04	6.30E-05	4.09E-05	2.99E-05
NE	2.32E-04	9.23E-05	4.67E-05	3.01E-05	2.17E-05
ENE	1.99E-04	7.84E-05	3.95E-05	2.57E-05	1.87E-05
E	1.42E-04	5.64E-05	2.86E-05	1.85E-05	1.34E-05
ESE	1.06E-04	4.21E-05	2.12E-05	1.36E-05	1.00E-05
SE	1.57E-04	6.50E-05	3.39E-05	2.22E-05	1.63E-05
SSE	4.38E-04	1.81E-04	9.43E-05	6.19E-05	4.53E-05

POPULATION INTEGRATED WHOLE BODY DOSES
PERSON-REM/YEAR

	RADIAL DISTANCE, MILES				
	0.5	1.5	2.5	3.5	4.5
S	1.64E-04	4.54E-05	1.04E-04	9.10E-05	8.55E-05
SSW	5.38E-04	2.36E-05	7.15E-05	4.46E-05	9.43E-05
SW	3.23E-04	2.40E-04	5.36E-05	3.12E-05	5.71E-05
WSW	4.48E-04	1.30E-04	2.03E-05	4.64E-05	2.78E-05
W	1.53E-04	2.37E-05	2.83E-05	2.04E-05	2.65E-05
WNW	5.51E-05	4.78E-05	9.25E-06	2.22E-06	1.18E-05
NW	1.08E-05	4.47E-05	3.04E-05	1.07E-05	1.52E-05
NNW	0.00E+00	8.27E-06	2.07E-05	4.96E-06	0.00E+00
N	0.00E+00	3.24E-05	6.85E-05	9.85E-05	1.86E-04
NNE	0.00E+00	2.56E-04	2.48E-04	1.46E-04	4.41E-05
NE	0.00E+00	2.46E-04	8.64E-05	5.89E-05	3.63E-05
ENE	1.29E-04	9.09E-06	2.40E-04	6.51E-05	4.18E-05
E	1.78E-05	0.00E+00	9.95E-06	1.92E-04	3.75E-04
ESE	8.84E-05	9.93E-05	1.55E-05	2.36E-05	4.28E-04
SE	1.85E-05	1.55E-04	1.21E-04	2.69E-04	4.28E-04
SSE	1.03E-04	9.52E-05	5.22E-04	6.76E-04	2.10E-04

	RADIAL DISTANCE, MILES				
	7.5	15.0	25.0	35.0	45.0
S	6.06E-04	3.63E-04	3.74E-04	5.81E-04	3.29E-04
SSW	1.63E-04	5.65E-04	5.84E-04	2.81E-03	2.61E-04
SW	2.07E-04	9.05E-05	1.27E-04	2.49E-04	2.76E-04
WSW	1.74E-04	9.64E-05	3.60E-04	7.79E-05	3.33E-04
W	2.26E-05	6.51E-05	5.76E-05	3.60E-05	1.91E-05
WNW	2.07E-05	4.60E-05	9.29E-05	6.94E-05	1.82E-04
NW	6.17E-05	3.78E-05	7.91E-05	7.21E-05	9.07E-05
NNW	4.60E-05	6.29E-05	1.81E-04	1.14E-04	4.28E-04
N	1.95E-04	2.49E-04	4.50E-04	4.47E-04	2.12E-04
NNE	1.57E-04	1.76E-04	6.13E-04	4.07E-04	4.75E-04
NE	2.94E-04	2.58E-04	4.11E-04	7.29E-04	2.95E-04
ENE	2.52E-04	2.11E-04	5.75E-04	2.94E-04	3.14E-04
E	4.30E-04	1.47E-04	1.14E-04	1.48E-04	3.57E-04
ESE	1.41E-04	6.02E-04	7.43E-04	9.97E-05	1.70E-04
SE	3.74E-04	3.26E-04	1.10E-03	1.75E-04	1.70E-04
SSE	7.52E-04	1.13E-03	1.05E-03	6.28E-04	9.23E-04

TOTAL POPULATION INTEGRATED WHOLE BODY DOSE= 3.69E-02 PERSON-REM

Form 244

CP&L

Carolina Power & Light Company

COPY

Company Correspondence

Raleigh, North Carolina
August 5, 1982

MEMORANDUM TO: Mr. R. B. Starkey, Jr.

FROM: B. D. McFeaters

SUBJECT: Meteorological Data - Semiannual Report

The attached information, described as follows, is provided for the July, 1982 Effluent and Waste Disposal Report:

1. Enclosures 1 and 2 - Summary report of meteorological data for each calendar quarter. The information may be reproduced and trasmitted to the Nuclear Regulatory Commission as per Regulatory Guide 1.21, Section C.1 if this transmittal is required.

2. Enclosures 3 - Estimates of relative concentration (X/Q) and deposition (D/Q) for the six-month period January 1, 1982 through June 30, 1982. The values presented are to be used for the dose evaluation from continuous gaseous releases.

3. Enclosure 4 - Summary report of meteorological data used as input to the computer code for the X/Q and D/Q calculations.

If there are any questions on the enclosures, please do not hesitate to call.

Bill D. McF

TDD/ce (1006R6T4)

cc: Mr. B. H. Webster - w/o att.
Mr. S. R. Zimmerman - w/o att.
Mr. A. Eaddy - w/att.

ENCLOSURE 1

JOINT FREQUENCY OF WIND DIRECTION AND SPEED
FIRST QUARTER 1982
H. B. ROBINSON STEAM ELECTRIC PLANT

The attached tables present the number and frequency of wind direction occurrences by wind speed class as recorded at the on-site meteorological system during the period January 1 through March 31, 1982. Lower (10m) wind variance ($\sigma\theta$)was utilized to determine the stability class when differential temperature data was not available.

The frequencies are presented as a percent of total occurrences for each stability class as well as a summary for all classes of each sensor elevation. The first eight tables are for the upper sensor elevation (60 meter), the last eight tables are for the lower (10 meter) sensor elevation.

Pertinent information available from the tables is as follows:

1. Stability

Percent occurrence Pasquill Stability categories based on lower level (10m) wind distribution:

A	B	C	D	E	F	G
3.1	3.4	5.4	44.0	25.3	12.0	6.7

2. Wind Speed	10 Meter	60 Meter
Average Speed (mph)	5.8	10.5
Percent Calm	0.6	0.0
Percent Less than 3.5 mph	27.2	3.9

3. Wind Direction	10 Meter	60 Meter
Prevailing Direction	NNE	NNE
Percent Occurrence	14.4	11.8

4. Data Recovery	10 Meter	60 Meter
Percent Good Hours	98.2	95.9

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 48
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=1ST QTR SUMMARY OVER ALL STAB

UPWNDDEG	UPWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	4/ 0.19	33/ 1.59	66/ 3.19	78/ 3.77	18/ 0.87	4/ 0.19	203.0/ 9.80	12.42139
NNE	/	7/ 0.34	39/ 1.88	89/ 4.30	92/ 4.44	17/ 0.82	/	244.0/11.78	11.76052
NE	/	7/ 0.34	46/ 2.22	73/ 3.52	49/ 2.37	4/ 0.19	/	179.0/ 8.64	10.23994
ENE	/	8/ 0.39	54/ 2.61	54/ 2.61	5/ 0.24	2/ 0.10	/	123.0/ 5.94	7.84904
E	/	10/ 0.48	49/ 2.37	24/ 1.16	4/ 0.19	/	/	87.0/ 4.20	6.67441
ESE	/	12/ 0.58	33/ 1.59	10/ 0.48	/	/	/	55.0/ 2.66	5.49578
SE	/	3/ 0.14	37/ 1.79	24/ 1.16	3/ 0.14	/	/	67.0/ 3.24	7.22301
SSE	/	1/ 0.05	37/ 1.79	45/ 2.17	15/ 0.72	1/ 0.05	/	99.0/ 4.78	9.05823
S	/	5/ 0.24	31/ 1.50	81/ 3.91	15/ 0.72	1/ 0.05	8/ 0.39	141.0/ 6.81	10.39112
SSW	/	3/ 0.14	26/ 1.26	69/ 3.33	51/ 2.46	2/ 0.10	/	151.0/ 7.29	10.82362
SW	/	4/ 0.19	42/ 2.03	73/ 3.52	34/ 1.64	6/ 0.29	1/ 0.05	160.0/ 7.73	10.38435
WSW	/	5/ 0.24	27/ 1.30	63/ 3.04	57/ 2.75	15/ 0.72	2/ 0.10	169.0/ 8.16	11.67674
W	/	4/ 0.19	29/ 1.40	61/ 2.95	30/ 1.45	5/ 0.24	/	129.0/ 6.23	10.09066
WNW	/	2/ 0.10	20/ 0.97	30/ 1.45	15/ 0.72	3/ 0.14	/	70.0/ 3.38	10.09933
NW	/	1/ 0.05	16/ 0.77	19/ 0.92	30/ 1.45	4/ 0.19	/	70.0/ 3.38	11.71466
NNW	/	4/ 0.19	14/ 0.68	26/ 1.26	56/ 2.70	22/ 1.06	2/ 0.10	124.0/ 5.99	13.87697
TOTAL	/	80/ 3.86	533/25.74	807/38.97	534/25.78	100/ 4.83	17/ 0.82	2071/ 100	10.49834

NUMBER OF BAD RECORDS: 89

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 49
PROGRAM IMD01#25 (MUFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=1ST QTR STAB=A

UPWNDDEG	UPWNDSPD CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	/	/	/	2/ 0.10	1/ 0.05	/	3.0/ 0.14	18.24800
NNE	/	/	/	1/ 0.05	1/ 0.05	1/ 0.05	/	3.0/ 0.14	14.73514
NE	/	/	/	9/ 0.43	6/ 0.29	/	/	15.0/ 0.72	12.60963
ENE	/	/	1/ 0.05	1/ 0.05	2/ 0.10	/	/	4.0/ 0.19	11.62664
E	/	/	/	1/ 0.05	/	/	/	1.0/ 0.05	8.93780
ESE	/	1/ 0.05	/	1/ 0.05	/	/	/	2.0/ 0.10	6.61997
SE	/	/	/	1/ 0.05	/	/	/	1.0/ 0.05	12.15607
SSE	/	/	/	/	/	/	/	/	
S	/	/	/	1/ 0.05	/	/	/	1.0/ 0.05	10.03835
SSW	/	/	/	/	4/ 0.19	1/ 0.05	/	5.0/ 0.24	15.18758
SW	/	/	/	1/ 0.05	3/ 0.14	2/ 0.10	/	6.0/ 0.29	16.14973
WSW	/	/	/	/	/	/	/	/	
W	/	/	/	1/ 0.05	/	/	/	1.0/ 0.05	10.83875
WNW	/	/	/	/	2/ 0.10	/	/	2.0/ 0.10	15.37435
NW	/	/	/	1/ 0.05	5/ 0.24	/	/	6.0/ 0.29	13.74298
NNW	/	/	/	/	5/ 0.24	9/ 0.43	1/ 0.05	15.0/ 0.72	19.34855
TOTAL	/	1/ 0.05	1/ 0.05	18/ 0.87	30/ 1.45	14/ 0.68	1/ 0.05	65.0/ 3.14	14.86281

NUMBER OF BAD RECORDS: 0

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 50
PROGRAM IM001#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=1ST QTR STAB=B

UPWNDDEG	UPWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	/	/	2/ 0.10	3/ 0.14	/	/	5.0/ 0.24	12.11605
NNE	/	/	/	3/ 0.14	1/ 0.05	1/ 0.05	/	5.0/ 0.24	13.31332
NE	/	/	1/ 0.05	3/ 0.14	4/ 0.19	/	/	8.0/ 0.39	11.95806
ENE	/	/	1/ 0.05	4/ 0.19	/	1/ 0.05	/	6.0/ 0.29	10.39408
E	/	/	1/ 0.05	1/ 0.05	1/ 0.05	/	/	3.0/ 0.14	9.39358
ESE	/	/	2/ 0.10	/	/	/	/	2.0/ 0.10	4.67734
SE	/	/	/	/	/	/	/	/	
SSE	/	/	/	2/ 0.10	/	/	/	2.0/ 0.10	9.84659
S	/	/	/	2/ 0.10	/	/	/	2.0/ 0.10	9.13790
SSW	/	/	/	4/ 0.19	4/ 0.19	1/ 0.05	/	9.0/ 0.43	12.89718
SW	/	/	/	4/ 0.19	1/ 0.05	/	/	5.0/ 0.24	11.23228
WSW	/	/	/	3/ 0.14	1/ 0.05	2/ 0.10	/	6.0/ 0.29	14.85742
W	/	/	/	4/ 0.19	3/ 0.14	1/ 0.05	/	8.0/ 0.39	13.51091
WNW	/	/	/	1/ 0.05	1/ 0.05	1/ 0.05	/	3.0/ 0.14	16.98070
NW	/	/	/	/	3/ 0.14	/	/	3.0/ 0.14	15.49107
NNW	/	/	/	/	6/ 0.29	/	/	6.0/ 0.29	16.03856
TOTAL	/	/	5/ 0.24	33/ 1.59	28/ 1.35	7/ 0.34	/	73.0/ 3.52	12.65472

NUMBER OF BAD RECORDS: 0

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 51
PROGRAM IMOD1=25 (MOFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=1ST QTR STAB=C

UPWNDDEG	UPWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	/	/	9/ 0.43	4/ 0.19	/	/	13.0/ 0.63	11.74689
NNE	/	/	2/ 0.10	6/ 0.29	4/ 0.19	1/ 0.05	/	13.0/ 0.63	11.95212
NE	/	/	4/ 0.19	3/ 0.14	/	3/ 0.14	/	10.0/ 0.48	11.16558
ENE	/	/	4/ 0.19	7/ 0.34	/	1/ 0.05	/	12.0/ 0.58	8.85720
E	/	/	4/ 0.19	1/ 0.05	1/ 0.05	/	/	6.0/ 0.29	7.51209
ESE	/	/	1/ 0.05	/	/	/	/	1.0/ 0.05	4.63565
SE	/	1/ 0.05	2/ 0.10	/	/	/	/	3.0/ 0.14	3.70185
SSE	/	/	1/ 0.05	2/ 0.10	/	/	/	3.0/ 0.14	8.24301
S	/	/	2/ 0.10	4/ 0.19	1/ 0.05	/	/	7.0/ 0.34	9.20098
SSW	/	/	1/ 0.05	2/ 0.10	2/ 0.10	/	/	5.0/ 0.24	11.21894
SW	/	/	3/ 0.14	1/ 0.05	6/ 0.29	/	/	10.0/ 0.48	12.01100
WSW	/	/	/	/	5/ 0.24	2/ 0.10	1/ 0.05	8.0/ 0.39	17.47748
W	/	/	/	4/ 0.19	2/ 0.10	/	/	6.0/ 0.29	10.70535
WNW	/	/	1/ 0.05	/	1/ 0.05	/	/	2.0/ 0.10	10.73036
NW	/	/	/	2/ 0.10	1/ 0.05	1/ 0.05	/	4.0/ 0.19	13.35250
NNW	/	/	/	1/ 0.05	2/ 0.10	2/ 0.10	1/ 0.05	6.0/ 0.29	16.38974
TOTAL	/	1/ 0.05	25/ 1.21	42/ 2.03	29/ 1.40	10/ 0.48	2/ 0.10	109.0/ 5.26	11.38979

NUMBER OF BAD RECORDS: 5

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 52
PROGRAM IMU01#25 (MUFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=1ST QTR STAB=D

UPWNDDEG	UPWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	2/ 0.10	19/ 0.92	33/ 1.59	58/ 2.80	16/ 0.77	4/ 0.19	132.0/ 6.37	13.35010
NNE	/	2/ 0.10	25/ 1.21	67/ 3.24	82/ 3.96	14/ 0.68	/	190.0/ 9.17	12.37878
NE	/	3/ 0.14	28/ 1.35	47/ 2.27	34/ 1.64	1/ 0.05	/	113.0/ 5.46	10.36226
ENE	/	6/ 0.29	27/ 1.30	31/ 1.50	3/ 0.14	/	/	67.0/ 3.24	7.90544
E	/	8/ 0.39	27/ 1.30	11/ 0.53	2/ 0.10	/	/	48.0/ 2.32	6.23888
ESE	/	5/ 0.24	14/ 0.68	3/ 0.14	/	/	/	22.0/ 1.06	5.07375
SE	/	/	10/ 0.48	4/ 0.19	/	/	/	14.0/ 0.68	6.49729
SSE	/	1/ 0.05	15/ 0.72	7/ 0.34	4/ 0.19	/	/	27.0/ 1.30	7.74893
S	/	2/ 0.10	11/ 0.53	11/ 0.53	7/ 0.34	1/ 0.05	8/ 0.39	40.0/ 1.93	13.48590
SSW	/	2/ 0.10	7/ 0.34	13/ 0.63	15/ 0.72	/	/	37.0/ 1.79	11.00595
SW	/	2/ 0.10	18/ 0.87	22/ 1.06	7/ 0.34	2/ 0.10	1/ 0.05	52.0/ 2.51	9.75263
WSW	/	1/ 0.05	11/ 0.53	16/ 0.77	16/ 0.77	3/ 0.14	1/ 0.05	48.0/ 2.32	11.40778
W	/	2/ 0.10	10/ 0.48	16/ 0.77	7/ 0.34	2/ 0.10	/	37.0/ 1.79	9.81466
WNW	/	/	9/ 0.43	10/ 0.48	2/ 0.10	1/ 0.05	/	22.0/ 1.06	9.09166
NW	/	/	6/ 0.29	6/ 0.29	8/ 0.39	2/ 0.10	/	22.0/ 1.06	11.95749
NNW	/	2/ 0.10	11/ 0.53	9/ 0.43	15/ 0.72	5/ 0.24	/	42.0/ 2.03	11.78843
TOTAL	/	38/ 1.83	248/11.97	306/14.78	260/12.55	47/ 2.27	14/ 0.68	913.0/44.08	10.78725

NUMBER OF BAD RECORDS: 60

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 53
PROGRAM IMOD1A25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=1ST QTR STAB=E

UPWNDDEG	UPWNDSPD CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	2/ 0.10	12/ 0.58	14/ 0.68	8/ 0.39	1/ 0.05	/	37.0/ 1.79	9.47500
NNE	/	2/ 0.10	6/ 0.29	8/ 0.39	4/ 0.19	/	/	20.0/ 0.97	8.70685
NE	/	1/ 0.05	7/ 0.34	6/ 0.29	2/ 0.10	/	/	16.0/ 0.77	8.13010
ENE	/	1/ 0.05	13/ 0.63	8/ 0.39	/	/	/	22.0/ 1.06	6.99971
E	/	/	7/ 0.34	6/ 0.29	/	/	/	13.0/ 0.63	7.69102
ESE	/	4/ 0.19	7/ 0.34	3/ 0.14	/	/	/	14.0/ 0.68	5.52419
SE	/	1/ 0.05	12/ 0.58	8/ 0.39	/	/	/	21.0/ 1.01	6.90618
SSE	/	/	10/ 0.48	20/ 0.97	5/ 0.24	/	/	35.0/ 1.69	9.65482
S	/	2/ 0.10	5/ 0.24	25/ 1.21	3/ 0.14	/	/	35.0/ 1.69	9.14743
SSW	/	/	5/ 0.24	32/ 1.55	15/ 0.72	/	/	52.0/ 2.51	10.93399
SW	/	/	15/ 0.72	23/ 1.11	12/ 0.58	1/ 0.05	/	51.0/ 2.46	10.38852
WSW	/	1/ 0.05	11/ 0.53	25/ 1.21	28/ 1.35	8/ 0.39	/	73.0/ 3.52	11.99709
W	/	1/ 0.05	9/ 0.43	20/ 0.97	11/ 0.53	2/ 0.10	/	43.0/ 2.08	10.34819
WNW	/	1/ 0.05	8/ 0.39	8/ 0.39	6/ 0.29	1/ 0.05	/	24.0/ 1.16	10.05433
NW	/	1/ 0.05	5/ 0.24	4/ 0.19	11/ 0.53	1/ 0.05	/	22.0/ 1.06	11.61034
NNW	/	/	1/ 0.05	9/ 0.43	24/ 1.16	6/ 0.29	/	40.0/ 1.93	14.72360
TOTAL	/	17/ 0.82	133/ 6.42	219/10.57	129/ 6.23	20/ 0.97	/	518.0/25.01	10.22258

NUMBER OF BAD RECORDS: 19

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 54
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=1ST QTR STAB=F

UPWNDDEG	UPWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	/	1/ 0.05	8/ 0.39	2/ 0.10	/	/	11.0/ 0.53	10.95547
NNE	/	1/ 0.05	6/ 0.29	3/ 0.14	/	/	/	10.0/ 0.48	6.73837
NE	/	3/ 0.14	4/ 0.19	4/ 0.19	3/ 0.14	/	/	14.0/ 0.68	8.14093
ENE	/	/	4/ 0.19	1/ 0.05	/	/	/	5.0/ 0.24	5.78289
E	/	1/ 0.05	5/ 0.24	1/ 0.05	/	/	/	7.0/ 0.34	6.26742
ESE	/	/	1/ 0.05	1/ 0.05	/	/	/	2.0/ 0.10	6.56995
SE	/	/	9/ 0.43	6/ 0.29	3/ 0.14	/	/	18.0/ 0.87	8.45237
SSE	/	/	5/ 0.24	8/ 0.39	4 0.19	1/ 0.05	/	18.0/ 0.87	10.38111
S	/	/	3/ 0.14	26/ 1.26	3/ 0.14	/	/	32.0/ 1.55	9.81272
SSW	/	/	5/ 0.24	15/ 0.72	10/ 0.48	/	/	30.0/ 1.45	10.69368
SW	/	2/ 0.10	4/ 0.19	17/ 0.82	4/ 0.19	1/ 0.05	/	28.0/ 1.35	9.85076
WSW	/	1/ 0.05	4/ 0.19	13/ 0.63	5/ 0.24	/	/	23.0/ 1.11	9.89770
W	/	/	9/ 0.43	6/ 0.29	7/ 0.34	/	/	22.0/ 1.06	9.53658
WNW	/	1/ 0.05	1/ 0.05	7/ 0.34	3/ 0.14	/	/	12.0/ 0.58	10.02723
NW	/	/	2/ 0.10	4/ 0.19	2/ 0.10	/	/	8.0/ 0.39	10.06962
NNW	/	1/ 0.05	/	5/ 0.24	4/ 0.19	/	/	10.0/ 0.48	10.65532
TOTAL	/	10/ 0.48	63/ 3.04	125/ 6.04	50/ 2.41	2/ 0.10	/	250.0/12.07	9.52963

NUMBER OF BAD RECORDS: 5

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 55
PROGRAM IM001#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=1ST QTR STAB=G

UPWNDDEG	UPWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	/	1/ 0.05	/	1/ 0.05	/	/	2.0/ 0.10	10.10505
NNE	/	2/ 0.10	/	1/ 0.05	/	/	/	3.0/ 0.14	9.93580
NE	/	/	2/ 0.10	1/ 0.05	/	/	/	3.0/ 0.14	7.13690
ENE	/	1/ 0.05	4/ 0.19	2/ 0.10	/	/	/	7.0/ 0.34	5.38602
E	/	1/ 0.05	5/ 0.24	3/ 0.14	/	/	/	9.0/ 0.43	6.12899
ESE	/	2/ 0.10	8/ 0.39	2/ 0.10	/	/	/	12.0/ 0.58	6.07804
SE	/	1/ 0.05	4/ 0.19	5/ 0.24	/	/	/	10.0/ 0.48	7.12856
SSE	/	/	6/ 0.29	6/ 0.29	2/ 0.10	/	/	14.0/ 0.68	8.45303
S	/	1/ 0.05	10/ 0.48	12/ 0.58	1/ 0.05	/	/	24.0/ 1.16	8.28261
SSW	/	1/ 0.05	8/ 0.39	3/ 0.14	1/ 0.05	/	/	13.0/ 0.63	6.89704
SW	/	/	2/ 0.10	5/ 0.24	1/ 0.05	/	/	8.0/ 0.39	9.44430
WSW	/	2/ 0.10	1/ 0.05	6/ 0.29	2/ 0.10	/	/	11.0/ 0.53	8.49061
W	/	1/ 0.05	1/ 0.05	10/ 0.48	/	/	/	12.0/ 0.58	8.38475
WNW	/	/	1/ 0.05	4/ 0.19	/	/	/	5.0/ 0.24	8.43068
NW	/	/	3/ 0.14	2/ 0.10	/	/	/	5.0/ 0.24	7.72719
NNW	/	1/ 0.05	2/ 0.10	2/ 0.10	/	/	/	5.0/ 0.24	6.71669
TOTAL	/	13/ 0.63	58/ 2.80	64/ 3.09	8/ 0.39	/	/	143.0/ 6.90	7.58211

NUMBER OF BAD RECORDS: 0

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 15
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=1ST QTR SUMMARY OVER ALL STAB

LOWNDDEG	LOWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	0.9/ 0.04	43/ 2.03	63/ 2.97	39/ 1.84	13/ 0.61	/	/	158.9/ 7.49	6.15421
NNE	0.8/ 0.04	40/ 1.89	98/ 4.62	163/ 7.69	4/ 0.19	/	/	305.8/14.42	7.37526
NE	0.4/ 0.02	21/ 0.99	73/ 3.44	66/ 3.11	8/ 0.38	/	/	168.4/ 7.94	6.98132
ENE	0.4/ 0.02	17/ 0.80	77/ 3.63	42/ 1.98	/	/	/	136.4/ 6.43	6.14493
E	0.5/ 0.02	22/ 1.04	41/ 1.93	8/ 0.38	/	/	/	71.5/ 3.37	4.94973
ESE	0.5/ 0.02	24/ 1.13	22/ 1.04	1/ 0.05	/	/	/	47.5/ 2.24	3.52763
SE	0.3/ 0.01	13/ 0.61	18/ 0.85	2/ 0.09	/	/	/	33.3/ 1.57	3.73572
SSE	0.6/ 0.03	30/ 1.41	45/ 2.12	9/ 0.42	/	/	/	84.6/ 3.99	4.46430
S	1.3/ 0.06	62/ 2.92	93/ 4.38	16/ 0.75	2/ 0.09	7/ 0.33	/	181.3/ 8.55	5.12070
SSW	0.9/ 0.04	44/ 2.07	80/ 3.77	36/ 1.70	6/ 0.28	/	/	166.9/ 7.87	5.74093
SW	1.0/ 0.05	46/ 2.17	76/ 3.58	38/ 1.79	5/ 0.24	/	/	166.0/ 7.83	5.84599
WSW	0.9/ 0.04	44/ 2.07	69/ 3.25	34/ 1.60	7/ 0.33	/	/	154.9/ 7.30	5.73225
W	0.8/ 0.04	38/ 1.79	41/ 1.93	23/ 1.08	1/ 0.05	/	/	103.8/ 4.89	5.13635
WNW	0.5/ 0.02	25/ 1.18	39/ 1.84	10/ 0.47	1/ 0.05	/	/	75.5/ 3.56	4.78495
NW	0.7/ 0.03	31/ 1.46	30/ 1.41	13/ 0.61	2/ 0.09	/	/	76.7/ 3.62	4.67254
NNW	1.4/ 0.07	65/ 3.06	59/ 2.78	55/ 2.59	9/ 0.42	/	/	189.4/ 8.93	5.73790
TOTAL	12.0/ 0.57	565/26.64	924/43.56	555/26.17	58/ 2.73	7/ 0.33	/	2121/ 100	5.82522

NUMBER OF BAD RECORDS: 39

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 16
PROGRAM IMD01#25 (IMDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=1ST QTR STAB=A

LOWNDDEG	LOWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	/	/	/	5/ 0.24	6/ 0.28	/	/	11.0/ 0.52	12.77153
NNE	/	/	/	3/ 0.14	/	/	/	3.0/ 0.14	9.62703
NE	/	/	/	7/ 0.33	1/ 0.05	/	/	8.0/ 0.38	10.40103
ENE	/	/	2/ 0.09	7/ 0.33	/	/	/	9.0/ 0.42	9.02488
E	/	/	1/ 0.05	3/ 0.14	/	/	/	4.0/ 0.19	7.37869
ESE	/	/	1/ 0.05	/	/	/	/	1.0/ 0.05	6.56995
SE	/	1/ 0.05	/	1/ 0.05	/	/	/	2.0/ 0.09	5.54444
SSE	/	/	/	1/ 0.05	/	/	/	1.0/ 0.05	9.58812
S	/	/	/	1/ 0.05	/	/	/	1.0/ 0.05	8.00400
SSW	/	/	/	4/ 0.19	1/ 0.05	/	/	5.0/ 0.24	11.36568
SW	/	/	1/ 0.05	3/ 0.14	2/ 0.09	/	/	6.0/ 0.28	10.68589
WSW	/	/	/	/	/	/	/	/	
W	/	/	/	1/ 0.05	/	/	/	1.0/ 0.05	7.98732
WNW	/	/	/	1/ 0.05	/	/	/	1.0/ 0.05	9.87160
NW	/	/	/	4/ 0.19	/	/	/	4.0/ 0.19	9.61731
NNW	/	/	/	5/ 0.24	3/ 0.14	/	/	8.0/ 0.38	11.15974
TOTAL	/	1/ 0.05	5/ 0.24	46/ 2.17	13/ 0.61	/	/	65.0/ 3.06	10.23255

NUMBER OF BAD RECORDS: 0

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 17
PROGRAM IMDO1025 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=1ST QTR STAB=B

LOWNDDEG	LOWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	/	/	/	2/ 0.09	/	/	/	2.0/ 0.09	9.18792
NNE	/	/	/	5/ 0.24	/	/	/	5.0/ 0.24	8.44088
NE	/	/	/	7/ 0.33	/	/	/	7.0/ 0.33	9.89542
ENE	/	/	4/ 0.19	3/ 0.14	/	/	/	7.0/ 0.33	7.58951
E	/	/	2/ 0.09	2/ 0.09	/	/	/	4.0/ 0.19	7.27030
ESE	/	/	3/ 0.14	/	/	/	/	3.0/ 0.14	5.01917
SE	/	/	1/ 0.05	/	/	/	/	1.0/ 0.05	4.55227
SSE	/	/	/	1/ 0.05	/	/	/	1.0/ 0.05	7.65382
S	/	/	1/ 0.05	2/ 0.09	/	/	/	3.0/ 0.14	7.49263
SSW	/	/	2/ 0.09	6/ 0.28	1/ 0.05	/	/	9.0/ 0.42	10.00870
SW	/	/	/	3/ 0.14	/	/	/	3.0/ 0.14	9.17455
WSW	/	/	/	4/ 0.19	1/ 0.05	/	/	5.0/ 0.24	10.53860
W	/	/	3/ 0.14	6/ 0.28	/	/	/	9.0/ 0.42	8.40976
WNW	/	/	/	4/ 0.19	1/ 0.05	/	/	5.0/ 0.24	10.34183
NW	/	/	/	/	/	/	/	/	
NNW	/	/	/	9/ 0.42	/	/	/	9.0/ 0.42	10.49599
TOTAL	/	/	16/ 0.75	54/ 2.55	3/ 0.14	/	/	73.0/ 3.44	8.93539

NUMBER OF BAD RECORDS: 0

CPCL ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 16
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=KOBN YEAR=82 PERIOD=1ST QTR STAB=C

LOWNDDEG	LOWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	/	/	2/ 0.09	6/ 0.28	/.	/	/	8.0/ 0.38	8.31666
NNE	/	/	7/ 0.33	8/ 0.38	/	/	/	15.0/ 0.71	7.81390
NE	/	/	4/ 0.19	3/ 0.14	3/ 0.14	/	/	10.0/ 0.47	9.64315
ENE	/	/	7/ 0.33	4/ 0.19	/	/	/	11.0/ 0.52	8.81704
E	/	2/ 0.09	4/ 0.19	1/ 0.05	/	/	/	7.0/ 0.33	6.18642
ESE	/	1/ 0.05	2/ 0.09	/	/	/	/	3.0/ 0.14	4.56339
SE	/	/	2/ 0.09	1/ 0.05	/	/	/	3.0/ 0.14	5.66950
SSE	/	1/ 0.05	2/ 0.09	/	/	/	/	3.0/ 0.14	4.85798
S	/	1/ 0.05	4/ 0.19	2/ 0.09	/	/	/	7.0/ 0.33	6.64618
SSW	/	/	2/ 0.09	4/ 0.19	1/ 0.05	/	/	7.0/ 0.33	8.42087
SW	/	/	7/ 0.33	5/ 0.24	/	/	/	12.0/ 0.57	8.17492
WSW	/	/	2/ 0.09	5/ 0.24	3/ 0.14	/	/	10.0/ 0.47	10.37018
W	/	/	3/ 0.14	3/ 0.14	/	/	/	6.0/ 0.28	7.57879
WNW	/	/	/	1/ 0.05	/	/	/	1.0/ 0.05	7.70385
NW	/	/	1/ 0.05	2/ 0.09	/	/	/	3.0/ 0.14	8.91001
NNW	/	/	2/ 0.09	3/ 0.14	3/ 0.14	/	/	8.0/ 0.38	10.58862
TOTAL	/	5/ 0.24	51/ 2.40	48/ 2.26	10/ 0.47	/	/	114.0/ 5.37	8.03179

NUMBER OF BAD RECORDS: 0

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 19
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=1ST QTR STAB=D

LOWNDDEG	LOWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	/	1/ 0.05	32/ 1.51	23/ 1.08	7/ 0.33	/	/	63.0/ 2.97	7.79305
NNE	/	8/ 0.38	78/ 3.68	146/ 6.88	4/ 0.19	/	/	236.0/11.13	8.15921
NE	/	7/ 0.33	54/ 2.55	49/ 2.31	4/ 0.19	/	/	114.0/ 5.37	7.22071
ENE	/	6/ 0.28	55/ 2.59	28/ 1.32	/	/	/	89.0/ 4.20	6.29210
E	/	13/ 0.61	33/ 1.56	2/ 0.09	/	/	/	48.0/ 2.26	4.81560
ESE	/	12/ 0.57	12/ 0.57	1/ 0.05	/	/	/	25.0/ 1.18	3.81124
SE	/	5/ 0.24	13/ 0.61	/	/	/	/	18.0/ 0.85	3.92326
SSE	/	3/ 0.14	22/ 1.04	5/ 0.24	/	/	/	30.0/ 1.41	5.47329
S	/	2/ 0.09	22/ 1.04	7/ 0.33	2/ 0.09	7/ 0.33	/	40.0/ 1.89	9.22752
SSW	/	3/ 0.14	17/ 0.80	16/ 0.75	3/ 0.14	/	/	39.0/ 1.84	7.82271
SW	/	4/ 0.19	25/ 1.18	19/ 0.90	3/ 0.14	/	/	51.0/ 2.40	7.39585
WSW	/	9/ 0.42	32/ 1.51	12/ 0.57	2/ 0.09	/	/	55.0/ 2.59	6.05151
W	/	5/ 0.24	14/ 0.66	9/ 0.42	1/ 0.05	/	/	29.0/ 1.37	6.27881
WNW	/	4/ 0.19	24/ 1.13	3/ 0.14	/	/	/	31.0/ 1.46	5.29028
NW	/	/	13/ 0.61	4/ 0.19	2/ 0.09	/	/	19.0/ 0.90	6.50091
NNW	/	2/ 0.09	22/ 1.04	20/ 0.94	3/ 0.14	/	/	47.0/ 2.22	7.31713
TOTAL	/	84/ 3.96	468/22.07	344/16.22	31/ 1.46	7/ 0.33	/	934.0/44.04	7.02211

NUMBER OF BAD RECORDS: 39

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 20
PROGRAM IM001#25 (MUFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=1ST QTR STAB=E

LOWNDDEG	LOWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	0.1/ 0.00	11/ 0.52	22/ 1.04	3/ 0.14	/	/	/	36.1/ 1.70	4.64117
NNE	0.0/ 0.00	9/ 0.42	12/ 0.57	1/ 0.05	/	/	/	22.0/ 1.04	4.26274
NE	0.0/ 0.00	9/ 0.42	10/ 0.47	/	/	/	/	19.0/ 0.90	3.85280
ENE	0.1/ 0.00	10/ 0.47	9/ 0.42	/	/	/	/	19.1/ 0.90	3.51877
E	0.0/ 0.00	4/ 0.19	1/ 0.05	/	/	/	/	5.0/ 0.24	3.35834
ESE	0.0/ 0.00	2/ 0.09	4/ 0.19	/	/	/	/	6.0/ 0.28	3.93530
SE	0.0/ 0.00	4/ 0.19	2/ 0.09	/	/	/	/	6.0/ 0.28	2.59296
SSE	0.1/ 0.00	15/ 0.71	14/ 0.66	1/ 0.05	/	/	/	30.1/ 1.42	4.00297
S	0.1/ 0.00	19/ 0.90	44/ 2.07	4/ 0.19	/	/	/	67.1/ 3.16	4.40676
SSW	0.1/ 0.00	16/ 0.75	40/ 1.89	5/ 0.24	/	/	/	61.1/ 2.88	4.63973
SW	0.1/ 0.00	19/ 0.90	35/ 1.65	8/ 0.38	/	/	/	62.1/ 2.93	4.96296
WSW	0.1/ 0.00	17/ 0.80	28/ 1.32	13/ 0.61	1/ 0.05	/	/	59.1/ 2.79	5.58203
W	0.1/ 0.00	19/ 0.90	16/ 0.75	4/ 0.19	/	/	/	39.1/ 1.84	4.36951
WNW	0.1/ 0.00	11/ 0.52	11/ 0.52	1/ 0.05	/	/	/	23.1/ 1.09	3.89570
NW	0.1/ 0.00	14/ 0.66	11/ 0.52	3/ 0.14	/	/	/	28.1/ 1.32	4.39706
NNW	0.1/ 0.00	10/ 0.47	26/ 1.23	18/ 0.85	/	/	/	54.1/ 2.55	6.10402
TOTAL	1.0/ 0.05	189/ 8.91	285/13.44	61/ 2.88	1/ 0.05	/	/	537.0/25.32	4.67428

NUMBER OF BAD RECORDS: 0

CP&L ENVIRONMENTAL MONITORING SYSTEM 16:39 MONDAY, JULY 26, 1982 21
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=1ST QTR STAB=F

LOWNDDEG	LOWNDSPD CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	0.2/ 0.01	11/ 0.52	6/ 0.28	/	/	/	/	17.2/ 0.81	2.88607
NNE	0.2/ 0.01	13/ 0.61	/	/	/	/	/	13.2/ 0.62	2.01300
NE	0.1/ 0.00	3/ 0.14	5/ 0.24	/	/	/	/	8.1/ 0.38	3.41837
ENE	/	/	/	/	/	/	/	/	
E	0.0/ 0.00	1/ 0.05	/	/	/	/	/	1.0/ 0.05	1.31732
ESE	0.1/ 0.00	5/ 0.24	/	/	/	/	/	5.1/ 0.24	1.47541
SE	0.0/ 0.00	1/ 0.05	/	/	/	/	/	1.0/ 0.05	1.41737
SSE	0.1/ 0.00	8/ 0.38	7/ 0.33	1/ 0.05	/	/	/	16.1/ 0.76	3.48906
S	0.5/ 0.02	25/ 1.18	20/ 0.94	/	/	/	/	45.5/ 2.15	3.20361
SSW	0.3/ 0.01	15/ 0.71	18/ 0.85	1/ 0.05	/	/	/	34.3/ 1.62	3.96565
SW	0.4/ 0.02	20/ 0.94	8/ 0.38	/	/	/	/	28.4/ 1.34	3.09133
WSW	0.3/ 0.01	14/ 0.66	4/ 0.19	/	/	/	/	18.3/ 0.86	2.64202
W	0.2/ 0.01	9/ 0.42	5/ 0.24	/	/	/	/	14.2/ 0.67	3.13302
WNW	0.1/ 0.00	6/ 0.28	4/ 0.19	/	/	/	/	10.1/ 0.48	2.97095
NW	0.1/ 0.00	4/ 0.19	5/ 0.24	/	/	/	/	9.1/ 0.43	2.76053
NNW	0.5/ 0.02	25/ 1.18	8/ 0.38	/	/	/	/	33.5/ 1.58	2.74042
TOTAL	3.0/ 0.14	160/ 7.54	90/ 4.24	2/ 0.09	/	/	/	255.0/12.02	3.05772

NUMBER OF BAD RECORDS: 0

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 22
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=1ST QTR STAB=G

LOWNDDEG	LOWNDSPD CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	1.3/ 0.06	20/ 0.94	1/ 0.05	/	/	/	/	22.3/ 1.05	1.98266
NNE	0.6/ 0.03	10/ 0.47	1/ 0.05	/	/	/	/	11.6/ 0.55	1.76379
NE	0.1/ 0.00	2/ 0.09	/	/	/	/	/	2.1/ 0.10	1.05012
ENE	0.1/ 0.00	1/ 0.05	/	/	/	/	/	1.1/ 0.05	1.17102
E	0.1/ 0.00	2/ 0.09	/	/	/	/	/	2.1/ 0.10	1.05806
ESE	0.3/ 0.01	4/ 0.19	/	/	/	/	/	4.3/ 0.20	1.25934
SE	0.1/ 0.00	2/ 0.09	/	/	/	/	/	2.1/ 0.10	1.83623
SSE	0.2/ 0.01	3/ 0.14	/	/	/	/	/	3.2/ 0.15	1.44602
S	1.0/ 0.05	15/ 0.71	2/ 0.09	/	/	/	/	18.0/ 0.85	2.20108
SSW	0.6/ 0.03	10/ 0.47	1/ 0.05	/	/	/	/	11.6/ 0.55	2.35029
SW	0.2/ 0.01	3/ 0.14	/	/	/	/	/	3.2/ 0.15	2.09739
WSW	0.3/ 0.01	4/ 0.19	3/ 0.14	/	/	/	/	7.3/ 0.34	2.69882
W	0.3/ 0.01	5/ 0.24	/	/	/	/	/	5.3/ 0.25	1.12555
WNW	0.3/ 0.01	4/ 0.19	/	/	/	/	/	4.3/ 0.20	1.75183
NW	0.8/ 0.04	13/ 0.61	/	/	/	/	/	13.8/ 0.65	1.48020
NNW	1.8/ 0.08	28/ 1.32	1/ 0.05	/	/	/	/	30.8/ 1.45	1.69184
TOTAL	8.0/ 0.38	126/ 5.94	9/ 0.42	/	/	/	/	143.0/ 6.74	1.84347

NUMBER OF BAD RECORDS: 0

ENCLOSURE 2

JOINT FREQUENCY OF WIND DIRECTION AND SPEED
SECOND QUARTER 1982
H. B. ROBINSON STEAM ELECTRIC PLANT

The attached tables present the number and frequency of wind direction occurrences by wind speed class as recorded at the on-site meteorological system during the period April 1 through June 30, 1982. Lower (10m) wind variance ($\sigma\theta$)was utilized to determine the stability class when differential temperature data was not available.

The frequencies are presented as a percent of total occurrences for each stability class as well as a summary for all classes of each sensor elevation. The first eight tables are for the upper sensor elevation (60 meter); the last eight tables are for the lower (10 meter) sensor elevation.

Pertinent information available from the tables is as follows:

1. Stability — Percent occurrence Pasquill Stability categories based on lower level (10m) wind distribution:

A	B	C	D	E	F	G
3.3	4.0	10.9	35.3	32.3	9.9	4.5

2. Wind Speed

	10 Meter	60 Meter
Average Speed (mph)	5.8	9.7
Percent Calm	0.6	0.0
Percent Less than 3.5 mph	27.7	3.5

3. Wind Direction

	10 Meter	60 Meter
Prevailing Direction	NNW	S
Percent Occurrence	10.5	10.2

4. Data Recovery

	10 Meter	60 Meter
Percent Good Hours	79.7	99.8

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 56
PROGRAM IMDOI#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=2ND QTR SUMMARY OVER ALL STAB

UPWNDDEG	UPWNDSPD CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	8/ 0.37	28/ 1.28	77/ 3.53	51/ 2.34	13/ 0.60	1/ 0.05	178.0/ 8.17	11.35346
NNE	/	7/ 0.32	48/ 2.20	49/ 2.25	30/ 1.38	6/ 0.28	/	140.0/ 6.42	9.78620
NE	/	4/ 0.18	55/ 2.52	40/ 1.83	10/ 0.46	/	/	109.0/ 5.00	7.81553
ENE	/	5/ 0.23	35/ 1.61	56/ 2.57	15/ 0.69	2/ 0.09	/	113.0/ 5.18	8.88158
E	/	8/ 0.37	42/ 1.93	21/ 0.96	14/ 0.64	1/ 0.05	/	86.0/ 3.94	7.97453
ESE	/	5/ 0.23	54/ 2.48	34/ 1.56	10/ 0.46	/	/	103.0/ 4.72	7.64562
SE	/	7/ 0.32	74/ 3.39	66/ 3.03	26/ 1.19	3/ 0.14	/	176.0/ 8.07	8.63746
SSE	/	7/ 0.32	56/ 2.57	102/ 4.68	28/ 1.28	1/ 0.05	/	194.0/ 8.90	9.14039
S	/	8/ 0.37	53/ 2.43	112/ 5.14	36/ 1.65	12/ 0.55	2/ 0.09	223.0/10.23	10.15059
SSW	/	4/ 0.18	43/ 1.97	119/ 5.46	31/ 1.42	4/ 0.18	6/ 0.28	207.0/ 9.50	10.43589
SW	/	1/ 0.05	41/ 1.88	101/ 4.63	29/ 1.33	4/ 0.18	3/ 0.14	179.0/ 8.21	10.22159
WSW	/	3/ 0.14	27/ 1.24	77/ 3.53	40/ 1.83	4/ 0.18	1/ 0.05	152.0/ 6.97	10.71467
W	/	2/ 0.09	36/ 1.65	40/ 1.83	25/ 1.15	/	/	103.0/ 4.72	9.44987
WNW	/	1/ 0.05	19/ 0.87	20/ 0.92	7/ 0.32	2/ 0.09	1/ 0.05	50.0/ 2.29	9.28430
NW	/	5/ 0.23	19/ 0.87	24/ 1.10	18/ 0.83	4/ 0.18	3/ 0.14	73.0/ 3.35	10.80174
NNW	/	2/ 0.09	16/ 0.73	49/ 2.25	20/ 0.92	7/ 0.32	/	94.0/ 4.31	11.06936
TOTAL	/	77/ 3.53	646/29.63	987/45.28	390/17.89	63/ 2.89	17/ 0.78	2180/ 100	9.70731

NUMBER OF BAD RECORDS= 4

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 57
PROGRAM IMOD1#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=2ND QTR STAB=A

UPWNDSPD

UPWNDDEG	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	/	/	/	2/ 0.09	1/ 0.05	/	3.0/ 0.14	17.52542
NNE	/	/	1/ 0.05	1/ 0.05	2/ 0.09	/	/	4.0/ 0.18	11.64749
NE	/	/	4/ 0.18	2/ 0.09	/	/	/	6.0/ 0.28	7.60380
ENE	/	/	/	2/ 0.09	/	/	/	2.0/ 0.09	10.31349
E	/	1/ 0.05	7/ 0.32	2/ 0.09	/	/	/	10.0/ 0.46	5.92963
ESE	/	/	2/ 0.09	/	/	/	/	2.0/ 0.09	6.79506
SE	/	1/ 0.05	6/ 0.28	/	/	/	/	7.0/ 0.32	5.23595
SSE	/	1/ 0.05	4/ 0.18	/	/	/	/	5.0/ 0.23	5.255[illegible]
S	/	/	6/ 0.28	2/ 0.09	/	/	/	8.0/ 0.37	6.72419
SSW	/	/	/	1/ 0.05	/	2/ 0.09	1/ 0.05	4.0/ 0.18	19.95580
SW	/	/	1/ 0.05	1/ 0.05	/	3/ 0.14	/	5.0/ 0.23	16.51158
WSW	/	/	1/ 0.05	/	1/ 0.05	/	/	2.0/ 0.09	11.19726
W	/	/	1/ 0.05	/	3/ 0.14	/	/	4.0/ 0.18	13.73185
WNW	/	/	3/ 0.14	/	/	1/ 0.05	/	4.0/ 0.18	9.25045
NW	/	/	2/ 0.09	/	/	3/ 0.14	2/ 0.09	7.0/ 0.32	19.83371
NNW	/	/	1/ 0.05	1/ 0.05	/	/	/	2.0/ 0.09	8.09571
TOTAL	/	3/ 0.14	39/ 1.79	12/ 0.55	8/ 0.37	10/ 0.46	3/ 0.14	75.0/ 3.44	10.49013

NUMBER OF BAD RECORDS= 0

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 58
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=2ND QTR STAB=6

UPWNDDEG	UPWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	/	2/ 0.09	/	1/ 0.05	1/ 0.05	/	4.0/ 0.18	11.70421
NNE	/	/	5/ 0.23	1/ 0.05	/	/	/	6.0/ 0.28	7.37591
NE	/	/	2/ 0.09	2/ 0.09	/	/	/	4.0/ 0.18	6.99516
ENE	/	/	/	1/ 0.05	/	/	/	1.0/ 0.05	8.97115
E	/	/	4/ 0.18	1/ 0.05	1/ 0.05	1/ 0.05	/	7.0/ 0.32	9.09502
ESE	/	/	2/ 0.09	1/ 0.05	/	/	/	3.0/ 0.14	6.73670
SE	/	/	6/ 0.28	3/ 0.14	1/ 0.05	2/ 0.09	/	12.0/ 0.55	9.78266
SSE	/	/	/	1/ 0.05	/	/	/	1.0/ 0.05	10.80540
S	/	/	/	2/ 0.09	3/ 0.14	4/ 0.18	/	9.0/ 0.41	15.56333
SSW	/	/	3/ 0.14	2/ 0.09	/	/	1/ 0.05	6.0/ 0.28	11.69751
SW	/	/	5/ 0.23	4/ 0.18	/	/	/	9.0/ 0.41	7.28142
WSW	/	/	1/ 0.05	6/ 0.28	2/ 0.09	/	/	9.0/ 0.41	10.01056
W	/	/	2/ 0.09	5/ 0.23	7/ 0.32	/	/	14.0/ 0.64	12.10843
WNW	/	/	3/ 0.14	2/ 0.09	1/ 0.05	1/ 0.05	/	7.0/ 0.32	10.61483
NW	/	/	/	1/ 0.05	/	/	/	1.0/ 0.05	8.30415
NNW	/	/	1/ 0.05	5/ 0.23	/	/	/	6.0/ 0.28	9.49085
TOTAL	/	/	36/ 1.65	37/ 1.70	16/ 0.73	9/ 0.41	1/ 0.05	99.0/ 4.54	10.25546

NUMBER OF BAD RECORDS: 1

CPEL ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 59
PROGRAM IMDOI#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=2ND QTR STAB=C

UPWNDDEG	UPWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	/	4/ 0.18	13/ 0.60	17/ 0.78	6/ 0.28	/	40.0/ 1.83	13.38710
NNE	/	1/ 0.05	4/ 0.18	9/ 0.41	17/ 0.78	3/ 0.14	/	34.0/ 1.56	12.64112
NE	/	/	4/ 0.18	6/ 0.28	4/ 0.18	/	/	14.0/ 0.64	10.05026
ENE	/	/	7/ 0.32	1/ 0.05	5/ 0.23	2/ 0.09	/	15.0/ 0.69	11.04329
E	/	/	5/ 0.23	1/ 0.05	2/ 0.09	/	/	8.0/ 0.37	8.55036
ESE	/	3/ 0.14	8/ 0.37	3/ 0.14	3/ 0.14	/	/	17.0/ 0.78	7.77643
SE	/	/	12/ 0.55	3/ 0.14	1/ 0.05	/	/	16.0/ 0.73	6.62623
SSE	/	1/ 0.05	9/ 0.41	2/ 0.09	1/ 0.05	/	/	13.0/ 0.60	6.78544
S	/	2/ 0.09	4/ 0.18	9/ 0.41	3/ 0.14	1/ 0.05	/	19.0/ 0.87	9.73469
SSW	/	/	4/ 0.18	13/ 0.60	3/ 0.14	1/ 0.05	2/ 0.09	23.0/ 1.06	12.39605
SW	/	/	5/ 0.23	22/ 1.01	2/ 0.09	1/ 0.05	/	30.0/ 1.38	9.50253
WSW	/	1/ 0.05	4/ 0.18	11/ 0.50	8/ 0.37	/	/	24.0/ 1.10	10.33433
W	/	1/ 0.05	3/ 0.14	11/ 0.50	5/ 0.23	/	/	20.0/ 0.92	10.42271
WNW	/	/	1/ 0.05	2/ 0.09	2/ 0.09	/	/	5.0/ 0.23	10.04502
NW	/	/	/	4/ 0.18	1/ 0.05	/	1/ 0.05	6.0/ 0.28	13.57900
NNW	/	/	/	6/ 0.28	2/ 0.09	/	/	8.0/ 0.37	11.15141
TOTAL	/	9/ 0.41	74/ 3.39	116/ 5.32	76/ 3.49	14/ 0.64	3/ 0.14	292.0/13.39	10.61318

NUMBER OF BAD RECORDS: 0

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 60
PROGRAM IMD01825 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=2ND QTR STAB=D

UPWNDDEG	UPWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.2	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	2/ 0.09	14/ 0.64	42/ 1.93	17/ 0.78	3/ 0.14	1/ 0.05	79.0/ 3.62	10.81855
NNE	/	1/ 0.05	27/ 1.24	31/ 1.42	4/ 0.18	1/ 0.05	/	64.0/ 2.94	8.67048
NE	/	1/ 0.05	18/ 0.83	21/ 0.96	3/ 0.14	/	/	43.0/ 1.97	8.10405
ENE	/	1/ 0.05	13/ 0.60	33/ 1.51	8/ 0.37	/	/	55.0/ 2.52	9.27403
E	/	3/ 0.14	13/ 0.60	9/ 0.41	8/ 0.37	/	/	33.0/ 1.51	8.94639
ESE	/	1/ 0.05	22/ 1.01	12/ 0.55	3/ 0.14	/	/	38.0/ 1.74	7.48854
SE	/	2/ 0.09	23/ 1.06	29/ 1.33	16/ 0.73	1/ 0.05	/	71.0/ 3.26	9.48173
SSE	/	1/ 0.05	26/ 1.19	38/ 1.74	15/ 0.69	/	/	80.0/ 3.67	9.26505
S	/	2/ 0.09	21/ 0.96	49/ 2.25	14/ 0.64	3/ 0.14	2/ 0.09	91.0/ 4.17	10.29379
SSW	/	2/ 0.09	15/ 0.69	53/ 2.43	19/ 0.87	/	2/ 0.09	91.0/ 4.17	10.50360
SW	/	/	8/ 0.37	27/ 1.24	16/ 0.73	/	3/ 0.14	54.0/ 2.48	11.97049
WSW	/	/	8/ 0.37	18/ 0.83	19/ 0.87	/	/	45.0/ 2.06	11.43497
W	/	/	6/ 0.28	14/ 0.64	6/ 0.28	/	/	26.0/ 1.19	9.67086
WNW	/	/	3/ 0.14	11/ 0.50	1/ 0.05	/	1/ 0.05	16.0/ 0.73	10.35205
NW	/	1/ 0.05	5/ 0.23	8/ 0.37	5/ 0.23	1/ 0.05	/	20.0/ 0.92	10.37602
NNW	/	/	2/ 0.09	14/ 0.64	5/ 0.23	1/ 0.05	/	22.0/ 1.01	11.30186
TOTAL	/	17/ 0.78	224/10.28	409/18.76	159/ 7.29	10/ 0.46	9/ 0.41	828.0/37.98	9.89022

NUMBER OF BAD RECORDS: 0

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 01
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=2ND QTR STAB=E

UPWNDDEG	UPWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	4/ 0.18	4/ 0.18	17/ 0.78	11/ 0.50	2/ 0.09	/	38.0/ 1.74	10.64040
NNE	/	2/ 0.09	8/ 0.37	3/ 0.14	7/ 0.32	2/ 0.09	/	22.0/ 1.01	10.67606
NE	/	2/ 0.09	19/ 0.87	7/ 0.32	3/ 0.14	/	/	31.0/ 1.42	7.35045
ENE	/	4/ 0.18	10/ 0.46	13/ 0.60	1/ 0.05	/	/	28.0/ 1.28	7.12856
E	/	/	6/ 0.28	7/ 0.32	2/ 0.09	/	/	15.0/ 0.69	8.40420
ESE	/	/	12/ 0.55	14/ 0.64	4/ 0.18	/	/	30.0/ 1.38	8.54093
SE	/	3/ 0.14	19/ 0.87	26/ 1.19	8/ 0.37	/	/	56.0/ 2.57	8.86544
SSE	/	1/ 0.05	11/ 0.50	41/ 1.88	12/ 0.55	1/ 0.05	/	66.0/ 3.03	10.22076
S	/	3/ 0.14	16/ 0.73	41/ 1.88	15/ 0.69	4/ 0.18	/	79.0/ 3.62	10.27707
SSW	/	1/ 0.05	13/ 0.60	43/ 1.97	7/ 0.32	1/ 0.05	/	65.0/ 2.98	9.64533
SW	/	1/ 0.05	13/ 0.60	28/ 1.28	9/ 0.41	/	/	51.0/ 2.34	9.29288
WSW	/	/	5/ 0.23	18/ 0.83	9/ 0.41	4/ 0.18	1/ 0.05	37.0/ 1.70	12.11281
W	/	/	15/ 0.69	8/ 0.37	1/ 0.05	/	/	24.0/ 1.10	7.33214
WNW	/	/	5/ 0.23	3/ 0.14	3/ 0.14	/	/	11.0/ 0.50	8.56034
NW	/	2/ 0.09	7/ 0.32	11/ 0.50	11/ 0.50	/	/	31.0/ 1.42	9.89796
NNW	/	1/ 0.05	7/ 0.32	17/ 0.78	13/ 0.60	6/ 0.28	/	44.0/ 2.02	12.37893
TOTAL	/	24/ 1.10	170/ 7.80	297/13.62	116/ 5.32	20/ 0.92	1/ 0.05	628.0/28.81	9.71757

NUMBER OF BAD RECORDS: 0

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 02
PROGRAM IM001#25 (MUFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=2ND QTR STAB=F

UPWNDDEG	UPWNDSPD								AVERAGE UPWNDSPD
	CALM	.72-3.2	3.5-7.5	7.5-12.5	12.5-18.2	18.5-25	>= 25	TOTAL	
N	/	1/ 0.05	3/ 0.14	5/ 0.23	3/ 0.14	/	/	12.0/ 0.55	9.78822
NNE	/	3/ 0.14	2/ 0.09	3/ 0.14	/	/	/	8.0/ 0.37	5.97799
NE	/	1/ 0.05	6/ 0.28	2/ 0.09	/	/	/	9.0/ 0.41	5.65097
ENE	/	/	2/ 0.09	5/ 0.23	1/ 0.05	/	/	8.0/ 0.37	8.87318
E	/	3/ 0.14	4/ 0.18	1/ 0.05	1/ 0.05	/	/	9.0/ 0.41	6.07526
ESE	/	1/ 0.05	5/ 0.23	3/ 0.14	/	/	/	9.0/ 0.41	6.14937
SE	/	/	4/ 0.18	4/ 0.18	/	/	/	8.0/ 0.37	7.59546
SSE	/	3/ 0.14	4/ 0.18	17/ 0.78	/	/	/	24.0/ 1.10	8.02137
S	/	1/ 0.05	5/ 0.23	5/ 0.23	/	/	/	11.0/ 0.50	7.35307
SSW	/	1/ 0.05	5/ 0.23	6/ 0.28	2/ 0.09	/	/	14.0/ 0.64	8.20648
SW	/	/	4/ 0.18	11/ 0.50	1/ 0.05	/	/	16.0/ 0.73	9.34113
WSW	/	1/ 0.05	5/ 0.23	13/ 0.60	/	/	/	19.0/ 0.87	8.23569
W	/	1/ 0.05	5/ 0.23	1/ 0.05	3/ 0.14	/	/	10.0/ 0.46	8.19243
WNW	/	1/ 0.05	4/ 0.18	1/ 0.05	/	/	/	6.0/ 0.28	5.70007
NW	/	2/ 0.09	4/ 0.18	/	1/ 0.05	/	/	7.0/ 0.32	5.04330
NNW	/	1/ 0.05	3/ 0.14	4/ 0.18	/	/	/	8.0/ 0.37	6.92429
TOTAL	/	20/ 0.92	65/ 2.98	81/ 3.72	12/ 0.55	/	/	178.0/ 8.17	7.65823

NUMBER OF BAD RECORDS: 0

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 03
PROGRAM IM0001#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=2ND QTR STAB=6

UPWNDDEG	UPWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	1/ 0.05	1/ 0.05	/	/	/	/	2.0/ 0.09	4.66900
NNE	/	/	1/ 0.05	1/ 0.05	/	/	/	2.0/ 0.09	5.88627
NE	/	/	2/ 0.09	/	/	/	/	2.0/ 0.09	5.19426
ENE	/	/	3/ 0.14	1/ 0.05	/	/	/	4.0/ 0.18	6.92846
E	/	1/ 0.05	3/ 0.14	/	/	/	/	4.0/ 0.18	4.60647
ESE	/	/	3/ 0.14	1/ 0.05	/	/	/	4.0/ 0.18	6.34067
SE	/	1/ 0.05	4/ 0.18	1/ 0.05	/	/	/	6.0/ 0.28	4.94976
SSE	/	/	2/ 0.09	3/ 0.14	/	/	/	5.0/ 0.23	7.93083
S	/	/	1/ 0.05	4/ 0.18	1/ 0.05	/	/	6.0/ 0.28	9.20733
SSW	/	/	3/ 0.14	1/ 0.05	/	/	/	4.0/ 0.18	6.66176
SW	/	/	5/ 0.23	8/ 0.37	1/ 0.05	/	/	14.0/ 0.64	9.04976
WSW	/	1/ 0.05	3/ 0.14	11/ 0.50	1/ 0.05	/	/	16.0/ 0.73	9.30569
W	/	/	4/ 0.18	1/ 0.05	/	/	/	5.0/ 0.23	6.21977
WNW	/	/	/	1/ 0.05	/	/	/	1.0/ 0.05	8.68767
NW	/	/	1/ 0.05	/	/	/	/	1.0/ 0.05	6.05302
NNW	/	/	2/ 0.09	2/ 0.09	/	/	/	4.0/ 0.18	7.36618
TOTAL	/	4/ 0.18	38/ 1.74	35/ 1.61	3/ 0.14	/	/	80.0/ 3.67	7.57420

NUMBER OF BAD RECORDS: 0

CP&L ENVIRONMENTAL MONITORING SYSTEM 16:39 MONDAY, JULY 26, 1982 23
PROGRAM IMD01#25 (MUFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=2ND QTR SUMMARY OVER ALL STAB

LOWNDDEG	LOWNDSPD							
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	1.3/ 0.07	55/ 3.16	65/ 3.73	49/ 2.81	5/ 0.29	/	/	175.3/10.07	5.80409
NNE	0.7/ 0.04	29/ 1.67	64/ 3.68	48/ 2.76	6/ 0.34	/	/	147.7/ 8.48	6.33254
NE	0.3/ 0.02	15/ 0.86	50/ 2.87	12/ 0.69	1/ 0.06	/	/	78.3/ 4.50	5.55514
ENE	0.3/ 0.02	12/ 0.69	47/ 2.70	17/ 0.98	2/ 0.11	/	/	78.3/ 4.50	6.13652
E	0.2/ 0.01	9/ 0.52	42/ 2.41	12/ 0.69	/	/	/	63.2/ 3.63	5.51871
ESE	0.3/ 0.02	12/ 0.69	26/ 1.49	10/ 0.57	/	/	/	48.3/ 2.77	5.12272
SE	0.4/ 0.02	16/ 0.92	46/ 2.64	25/ 1.44	1/ 0.06	/	/	88.4/ 5.08	5.98703
SSE	0.6/ 0.03	24/ 1.38	93/ 5.34	45/ 2.58	2/ 0.11	/	/	164.6/ 9.45	6.04885
S	1.5/ 0.09	65/ 3.73	55/ 3.16	32/ 1.84	12/ 0.69	1/ 0.06	/	166.5/ 9.56	5.68539
SSW	1.2/ 0.07	52/ 2.99	58/ 3.33	43/ 2.47	2/ 0.11	5/ 0.29	1/ 0.06	162.2/ 9.32	6.09552
SW	0.8/ 0.05	34/ 1.95	42/ 2.41	24/ 1.38	12/ 0.69	2/ 0.11	/	114.8/ 6.59	6.39111
WSW	0.6/ 0.03	25/ 1.44	40/ 2.30	30/ 1.72	3/ 0.17	/	/	98.6/ 5.66	5.81967
W	0.4/ 0.02	19/ 1.09	25/ 1.44	19/ 1.09	/	/	/	63.4/ 3.64	5.77339
WNW	0.4/ 0.02	16/ 0.92	20/ 1.15	11/ 0.63	1/ 0.06	/	/	48.4/ 2.78	5.61506
NW	0.4/ 0.02	17/ 0.98	25/ 1.44	10/ 0.57	7/ 0.40	1/ 0.06	/	60.4/ 3.47	6.28183
NNW	1.7/ 0.10	72/ 4.14	78/ 4.48	30/ 1.72	1/ 0.06	/	/	182.7/10.49	4.78135
TOTAL	11.0/ 0.63	472/27.11	776/44.57	417/23.95	55/ 3.16	9/ 0.52	1/ 0.06	1741/ 100	5.81444

NUMBER OF BAD RECORDS: 443

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 24
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=2ND QTR STAB=A

LOWNDDEG	LOWNDSPD: CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	/	/	1/ 0.06	1/ 0.06	1/ 0.06	/	/	3.0/ 0.17	8.92668
NNE	/	/	/	2/ 0.11	/	/	/	2.0/ 0.11	10.50525
NE	/	1/ 0.06	2/ 0.11	2/ 0.11	/	/	/	5.0/ 0.29	6.78005
ENE	/	/	/	1/ 0.06	/	/	/	1.0/ 0.06	8.57095
E	/	/	1/ 0.06	2/ 0.11	/	/	/	3.0/ 0.17	7.33144
ESE	/	1/ 0.06	3/ 0.17	/	/	/	/	4.0/ 0.23	4.28131
SE	/	/	3/ 0.17	/	/	/	/	3.0/ 0.17	5.53054
SSE	/	/	4/ 0.23	/	/	/	/	4.0/ 0.23	5.14841
S	/	1/ 0.06	3/ 0.17	1/ 0.06	/	/	/	5.0/ 0.29	5.05586
SSW	/	1/ 0.06	3/ 0.17	/	1/ 0.06	/	/	5.0/ 0.29	7.15691
SW	/	/	1/ 0.06	/	5/ 0.29	/	/	6.0/ 0.34	14.04868
WSW	/	/	/	/	/	/	/	/	
W	/	/	/	4/ 0.23	/	/	/	4.0/ 0.23	11.03885
WNW	/	/	2/ 0.11	/	/	/	/	2.0/ 0.11	4.61064
NW	/	/	2/ 0.11	/	5/ 0.29	1/ 0.06	/	8.0/ 0.46	12.70635
NNW	/	/	1/ 0.06	1/ 0.06	/	/	/	2.0/ 0.11	6.21977
TOTAL	/	4/ 0.23	26/ 1.49	14/ 0.80	12/ 0.69	1/ 0.06	/	57.0/ 3.27	8.41034

NUMBER OF BAD RECORDS: 18

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 25
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=2ND QTR STAB=B

LOWNDDEG	LOWNDSPD CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	/	1/ 0.06	3/ 0.17	2/ 0.11	/	/	/	6.0/ 0.34	5.99188
NNE	/	/	3/ 0.17	1/ 0.06	1/ 0.06	/	/	5.0/ 0.29	6.82007
NE	/	1/ 0.06	2/ 0.11	/	/	/	/	3.0/ 0.17	5.20816
ENE	/	/	2/ 0.11	/	/	/	/	2.0/ 0.11	6.66166
E	/	1/ 0.06	3/ 0.17	/	/	/	/	4.0/ 0.23	4.78156
ESE	/	/	1/ 0.06	/	/	/	/	1.0/ 0.06	5.13590
SE	/	/	3/ 0.17	/	/	/	/	3.0/ 0.17	6.09749
SSE	/	1/ 0.06	1/ 0.06	3/ 0.17	/	/	/	5.0/ 0.29	6.80229
S	/	/	/	5/ 0.29	4/ 0.23	/	/	9.0/ 0.52	11.80590
SSW	/	1/ 0.06	1/ 0.06	/	/	1/ 0.06	/	3.0/ 0.17	10.28291
SW	/	1/ 0.06	1/ 0.06	1/ 0.06	/	/	/	3.0/ 0.17	5.97521
WSW	/	/	1/ 0.06	5/ 0.29	/	/	/	6.0/ 0.34	7.94564
W	/	1/ 0.06	2/ 0.11	4/ 0.23	/	/	/	7.0/ 0.40	6.85581
WNW	/	1/ 0.06	/	4/ 0.23	/	/	/	5.0/ 0.29	8.86109
NW	/	/	/	1/ 0.06	1/ 0.06	/	/	2.0/ 0.11	11.93096
NNW	/	1/ 0.06	3/ 0.17	1/ 0.06	/	/	/	5.0/ 0.29	5.95297
TOTAL	/	9/ 0.52	26/ 1.49	27/ 1.55	6/ 0.34	1/ 0.06	/	69.0/ 3.96	7.59695

NUMBER OF BAD RECORDS: 31

CPEL ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 26
PROGRAM IMU01#25 (MUFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=2ND QTR STAB=C

LOWNDDEG	LOWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	/	1/ 0.06	11/ 0.63	21/ 1.21	1/ 0.06	/	/	34.0/ 1.95	8.51161
NNE	/	2/ 0.11	12/ 0.69	20/ 1.15	4/ 0.23	/	/	38.0/ 2.18	8.10273
NE	/	2/ 0.11	3/ 0.17	3/ 0.17	1/ 0.06	/	/	9.0/ 0.52	7.57786
ENE	/	1/ 0.06	4/ 0.23	8/ 0.46	2/ 0.11	/	/	15.0/ 0.86	9.16080
E	/	1/ 0.06	2/ 0.11	3/ 0.17	/	/	/	6.0/ 0.34	6.73670
ESE	/	/	1/ 0.06	1/ 0.06	/	/	/	2.0/ 0.11	6.43655
SE	/	2/ 0.11	4/ 0.23	6/ 0.34	/	/	/	12.0/ 0.69	6.87149
SSE	/	/	4/ 0.23	3/ 0.17	/	/	/	7.0/ 0.40	7.28697
S	/	1/ 0.06	1/ 0.06	2/ 0.11	2/ 0.11	/	/	6.0/ 0.34	8.84053
SSW	/	1/ 0.06	2/ 0.11	4/ 0.23	/	1/ 0.06	1/ 0.06	9.0/ 0.52	11.43534
SW	/	/	3/ 0.17	5/ 0.29	2/ 0.11	/	/	10.0/ 0.57	9.36801
WSW	/	/	6/ 0.34	6/ 0.34	/	/	/	12.0/ 0.69	7.64132
W	/	2/ 0.11	4/ 0.23	4/ 0.23	/	/	/	10.0/ 0.57	6.70335
WNW	/	/	1/ 0.06	4/ 0.23	/	/	/	5.0/ 0.29	8.63098
NW	/	/	1/ 0.06	1/ 0.06	1/ 0.06	/	/	3.0/ 0.17	10.49968
NNW	/	1/ 0.06	7/ 0.40	3/ 0.17	/	/	/	11.0/ 0.63	6.53812
TOTAL	/	14/ 0.80	66/ 3.79	94/ 5.40	13/ 0.75	1/ 0.06	1/ 0.06	189.0/10.86	8.17304

NUMBER OF BAD RECORDS: 103

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 27
PROGRAM IMD01#25 (MUFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=2ND QTR STAB=D

LOWNDDEG	LOWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	0.1/ 0.01	5/ 0.29	38/ 2.18	21/ 1.21	3/ 0.17	/	/	67.1/ 3.85	6.85812
NNE	0.1/ 0.01	4/ 0.23	40/ 2.30	17/ 0.98	1/ 0.06	/	/	62.1/ 3.57	6.37624
NE	0.0/ 0.00	2/ 0.11	30/ 1.72	5/ 0.29	/	/	/	37.0/ 2.13	5.87951
ENE	0.0/ 0.00	1/ 0.06	29/ 1.67	7/ 0.40	/	/	/	37.0/ 2.13	6.12153
E	0.0/ 0.00	1/ 0.06	30/ 1.72	6/ 0.34	/	/	/	37.0/ 2.13	5.75378
ESE	0.1/ 0.01	5/ 0.29	13/ 0.75	7/ 0.40	/	/	/	25.1/ 1.44	5.82545
SE	0.1/ 0.01	3/ 0.17	25/ 1.44	14/ 0.80	1/ 0.06	/	/	43.1/ 2.48	6.53355
SSE	0.1/ 0.01	4/ 0.23	31/ 1.78	22/ 1.26	1/ 0.06	/	/	58.1/ 3.34	6.94122
S	0.1/ 0.01	5/ 0.29	15/ 0.86	14/ 0.80	4/ 0.23	1/ 0.06	/	39.1/ 2.25	7.65269
SSW	0.0/ 0.00	1/ 0.06	23/ 1.32	24/ 1.38	/	3/ 0.17	/	51.0/ 2.93	8.12007
SW	0.1/ 0.01	3/ 0.17	14/ 0.80	17/ 0.98	5/ 0.29	2/ 0.11	/	41.1/ 2.36	8.38141
WSW	0.1/ 0.01	3/ 0.17	11/ 0.63	15/ 0.86	/	/	/	29.1/ 1.67	6.82171
W	0.0/ 0.00	2/ 0.11	13/ 0.75	5/ 0.29	/	/	/	20.0/ 1.15	6.31699
WNW	0.1/ 0.01	3/ 0.17	7/ 0.40	3/ 0.17	1/ 0.06	/	/	14.1/ 0.81	6.71139
NW	/	/	8/ 0.46	5/ 0.29	/	/	/	13.0/ 0.75	6.80083
NNW	0.2/ 0.01	10/ 0.57	22/ 1.26	7/ 0.40	1/ 0.06	/	/	40.2/ 2.31	5.42103
TOTAL	1.0/ 0.06	52/ 2.99	349/20.05	189/10.86	17/ 0.98	6/ 0.34	/	614.0/35.27	6.72288

NUMBER OF BAD RECORDS: 214

LP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 28
PROGRAM IMD01425 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=RUBN YEAR=82 PERIOD=2ND QTR STAB=E

LOWNDDEG	LOWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	25=	TOTAL	AVERAGE LOWNDSPD
N	0.1/ 0.01	17/ 0.98	10/ 0.57	4/ 0.23	/	/	/	31.1/ 1.79	4.27156
NNE	0.1/ 0.01	11/ 0.63	9/ 0.52	8/ 0.46	/	/	/	28.1/ 1.61	5.58449
NE	0.0/ 0.00	4/ 0.23	11/ 0.63	2/ 0.11	/	/	/	17.0/ 0.98	5.02119
ENE	0.0/ 0.00	4/ 0.23	9/ 0.52	1/ 0.06	/	/	/	14.0/ 0.80	4.89292
E	0.0/ 0.00	4/ 0.23	6/ 0.34	1/ 0.06	/	/	/	11.0/ 0.63	4.57196
ESE	0.0/ 0.00	3/ 0.17	8/ 0.46	2/ 0.11	/	/	/	13.0/ 0.75	4.83831
SE	0.0/ 0.00	6/ 0.34	10/ 0.57	5/ 0.29	/	/	/	21.0/ 1.21	5.01312
SSE	0.1/ 0.01	10/ 0.57	50/ 2.87	17/ 0.98	1/ 0.06	/	/	78.1/ 4.49	5.03176
S	0.2/ 0.01	31/ 1.78	34/ 1.95	10/ 0.57	2/ 0.11	/	/	77.2/ 4.43	4.98997
SSW	0.1/ 0.01	26/ 1.49	25/ 1.44	15/ 0.86	1/ 0.06	/	/	67.1/ 3.85	5.02103
SW	0.1/ 0.01	14/ 0.80	21/ 1.21	1/ 0.06	/	/	/	36.1/ 2.07	4.00558
WSW	0.0/ 0.00	9/ 0.52	16/ 0.92	4/ 0.23	3/ 0.17	/	/	32.0/ 1.84	5.56684
W	0.0/ 0.00	5/ 0.29	4/ 0.23	2/ 0.11	/	/	/	11.0/ 0.63	4.69932
WNW	0.0/ 0.00	6/ 0.34	9/ 0.52	/	/	/	/	15.0/ 0.86	4.86092
NW	0.0/ 0.00	8/ 0.46	13/ 0.75	3/ 0.17	/	/	/	24.0/ 1.38	4.69123
NNW	0.2/ 0.01	34/ 1.95	36/ 2.07	16/ 0.92	/	/	/	86.2/ 4.95	4.93412
TOTAL	1.0/ 0.06	192/11.03	271/15.57	91/ 5.23	7/ 0.40	/	/	562.0/32.28	5.02774

NUMBER OF BAD RECORDS= 00

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 29
PROGRAM IMD01#25 (METFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=KOBN YEAR=82 PERIOD=2ND QTR STAB=F

LOWNDDEG	LOWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	0.3/ 0.02	15/ 0.86	2/ 0.11	/	/	/	/	17.3/ 0.99	2.52004
NNE	0.1/ 0.01	5/ 0.29	/	/	/	/	/	5.1/ 0.29	1.90644
NE	0.1/ 0.01	3/ 0.17	2/ 0.11	/	/	/	/	5.1/ 0.29	2.27073
ENE	0.1/ 0.01	4/ 0.23	3/ 0.17	/	/	/	/	7.1/ 0.41	2.90403
E	0.0/ 0.00	2/ 0.11	/	/	/	/	/	2.0/ 0.11	1.91162
ESE	0.0/ 0.00	2/ 0.11	/	/	/	/	/	2.0/ 0.11	0.97549
SE	0.0/ 0.00	2/ 0.11	1/ 0.06	/	/	/	/	3.0/ 0.17	2.35073
SSE	0.1/ 0.01	6/ 0.34	2/ 0.11	/	/	/	/	8.1/ 0.47	2.69784
S	0.5/ 0.03	21/ 1.21	2/ 0.11	/	/	/	/	23.5/ 1.35	2.68254
SSW	0.3/ 0.02	14/ 0.80	4/ 0.23	/	/	/	/	18.3/ 1.05	2.60831
SW	0.2/ 0.01	11/ 0.63	2/ 0.11	/	/	/	/	13.2/ 0.76	2.66609
WSW	0.3/ 0.02	12/ 0.69	6/ 0.34	/	/	/	/	18.3/ 1.05	2.97279
W	0.2/ 0.01	8/ 0.46	2/ 0.11	/	/	/	/	10.2/ 0.59	2.57471
WNW	0.1/ 0.01	6/ 0.34	1/ 0.06	/	/	/	/	7.1/ 0.41	2.69970
NW	0.2/ 0.01	7/ 0.40	1/ 0.06	/	/	/	/	8.2/ 0.47	2.20231
NNW	0.3/ 0.02	14/ 0.80	7/ 0.40	2/ 0.11	/	/	/	23.3/ 1.34	3.48045
TOTAL	3.0/ 0.17	132/ 7.58	35/ 2.01	2/ 0.11	/	/	/	172.0/ 9.88	2.70023

NUMBER OF BAD RECORDS: 6

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:39 MONDAY, JULY 26, 1982 30
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=2ND QTR STAB=G

LOWNDDEG	LOWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	1.4/ 0.08	16/ 0.92	/	/	/	/	/	17.4/ 1.00	1.59609
NNE	0.6/ 0.03	7/ 0.40	/	/	/	/	/	7.6/ 0.44	1.20563
NE	0.2/ 0.01	2/ 0.11	/	/	/	/	/	2.2/ 0.13	1.11797
ENE	0.2/ 0.01	2/ 0.11	/	/	/	/	/	2.2/ 0.13	2.35343
E	/	/	/	/	/	/	/	/	
ESE	0.1/ 0.01	1/ 0.06	/	/	/	/	/	1.1/ 0.06	0.94304
SE	0.3/ 0.02	3/ 0.17	/	/	/	/	/	3.3/ 0.19	1.52473
SSE	0.3/ 0.02	3/ 0.17	1/ 0.06	/	/	/	/	4.3/ 0.25	2.12313
S	0.5/ 0.03	6/ 0.34	/	/	/	/	/	6.5/ 0.37	1.90868
SSW	0.7/ 0.04	8/ 0.46	/	/	/	/	/	8.7/ 0.50	2.10017
SW	0.4/ 0.02	5/ 0.29	/	/	/	/	/	5.4/ 0.31	2.48580
WSW	0.1/ 0.01	1/ 0.06	/	/	/	/	/	1.1/ 0.06	2.01114
W	0.1/ 0.01	1/ 0.06	/	/	/	/	/	1.1/ 0.06	2.00477
WNW	/	/	/	/	/	/	/	/	
NW	0.2/ 0.01	2/ 0.11	/	/	/	/	/	2.2/ 0.13	1.20472
NNW	1.0/ 0.06	12/ 0.69	2/ 0.11	/	/	/	/	15.0/ 0.86	2.27667
TOTAL	6.0/ 0.34	69/ 3.96	3/ 0.17	/	/	/	/	78.0/ 4.48	1.87581

NUMBER OF BAD RECORDS: 2

ENCLOSURE 3

DIFFUSION ANALYSIS
GROUND LEVEL RELEASE
JANUARY 1 - JUNE 30, 1982
H. B. ROBINSON STEAM ELECTRIC PLANT

Description of Attachment

The attached tables provide estimate of relative ground-level concentration (X/Q) and deposition (D/Q) for the period January 1 through June 30, 1982 for a ground-level release.

A description of the tables is as follows:

Table 1 - Undecayed, undepleted X/Q for standard distances.
Table 2 - 2.26-day decay undepleted X/Q for standard distances.
Table 3 - 8.0-day decay, depleted X/Q for standard distances.
Table 4 - Deposition estimates for standard distances.
Table 5 - X/Q and D/Q estimates for site boundary locations and points of interest.

Method of Calculation

The ground-level release calculations represent sector averaged concentrations at the given distances from the center of the reactor buildings. The computer code used (XOQDOQ) was received from the U. S. Nuclear Regulatory Commission (NRC), Hydrology Meteorology Branch. (1)

Input variables included:

1. Wake correction factor from RG 1.111.
2. Building height for wake correction = 59.0 meters.
3. Joint wind frequency from the ten-meter level on-site meteorological tower.
4. Sigma Z limited to 1000 meters.

5. Calm winds included with joint frequency and distributed according to the occurrence in the lowest non-calm speed class.

The adjustment factors to account for the straight-line flow model limitations (RG 1.111, Section C.1.c) were not applied. The code was modified to incorporate the revised curves for estimating plume depletion and ground deposition (XOQDOQ - ERRATA, November 8, 1976).

Relative Concentration Estimates

The site boundary distances used for the calcultions are as prepared for the June 4, 1976, Appendix I submittal to the NRC. Special point distances were obtained from the December 1978 site survey.

The maximum undepleted, undecayed X/Q value at the site boundary is 2.2.E-05 in the SSE sector. Site boundary maximums for previous six-month periods are as follows:

JUL - DEC 1980	4.5E-05	SSE Sector
JAN - JUN 1981	2.7E-05	SSE Sector
JUL - DEC 1981	4.8E-05	SSE Sector

(1) Program for the Meteorological Evaluation of Routine Effluent Release at Nucelar Power Stations, J. F. Sagendorf and J. T. Goll, August 29, 1976.

PRINTOUT OF INPUT CARDS

```
1   1000000000000000000000000000000000000000011010000000000000110100000000000000000000000
2   XDQDDQ - ROBINSON GROUND AND MIXED MODE RELEASES JAN-JUN 82
3       7    7   10 3862    5    5    2
4      11.03 101.00   2.25  -8.00
5       0.0    0.0    0.0    0.0    0.0    0.0    0.0
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
6       0.0    0.0    1.000  0.0    0.0    1.000  1.000  0.0    1.000  1.000  0.0    0.0    0.0    0.0    0.0    0.0
6       1.000  0.0    2.000  2.000  2.000  4.000  3.000  4.000  3.000  3.000  2.000  0.0    0.0    2.000  2.000  1.000
6       6.000  5.000  9.000  8.000  5.000  0.0    1.000  1.000  2.000  4.000  3.000  0.0    5.000  1.000  4.000  6.000
6       7.000  0.0    1.000  0.0    0.0    0.0    0.0    0.0    0.0    2.000  7.000  0.0    0.0    0.0    5.000  3.000
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    1.000  0.0
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
6       1.000  0.0    1.000  0.0    1.000  0.0    0.0    1.000  0.0    1.000  1.000  0.0    1.000  1.000  0.0    1.000
6       3.000  3.000  2.000  6.000  5.000  4.000  4.000  1.000  1.000  3.000  1.000  1.000  5.000  0.0    0.0    3.000
6       4.000  6.000  7.000  3.000  2.000  0.0    0.0    4.000  7.000  6.000  4.000  9.000  10.000 8.000  1.000  10.000
6       0.0    1.000  0.0    0.0    0.0    0.0    0.0    0.0    4.000  1.000  0.0    1.000  0.0    1.000  1.000  0.0
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    1.000  0.0    0.0    0.0    0.0    0.0    0.0
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
6       1.000  2.000  2.000  1.000  3.000  1.000  2.000  1.000  2.000  1.000  0.0    0.0    2.000  0.0    0.0    1.000
6      13.000 19.000  7.000 11.000  6.000  3.000  6.000  6.000  5.000  4.000 10.000  8.000  7.000  1.000  2.000  9.000
6      27.000 28.000  6.000 12.000  4.000  1.000  7.000  3.000  4.000  8.000 10.000 11.000  7.000  5.000  3.000  6.000
6       1.000  4.000  4.000  2.000  0.0    0.0    0.0    0.0    2.000  1.000  2.000  3.000  0.0    0.0    1.000  3.000
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    1.000  0.0    0.0    0.0    0.0    0.0    0.0
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    1.000  0.0    0.0    0.0    0.0    0.0    0.0
6       0.0    0.100  0.100  0.100  0.100  0.100  0.100  0.100  0.100  0.0    0.100  0.100  0.100  0.100  0.0    0.100
6       6.000 12.000  9.000  7.000 14.000 17.000  8.000  7.000  7.000  4.000  7.000 12.000  7.000  7.000  0.0   12.000
6      70.000118.000 84.000 84.000 63.000 25.000 38.000 53.000 37.000 40.000 39.000 43.000 27.000 31.000 21.000 44.000
6      44.000163.000 54.000 35.000  8.000  8.000 14.000 27.000 21.000 40.000 36.000 27.000 14.000  6.000  9.000 27.000
6      10.000  5.000  4.000  0.0    0.0    0.0    1.000  1.000  6.000  3.000  8.000  2.000  1.000  1.000  2.000  4.000
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    8.000  3.000  2.000  0.0    0.0    0.0    0.0    0.0
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
6       0.100  0.100  0.100  0.100  0.0    0.0    0.100  0.100  0.300  0.200  0.200  0.100  0.100  0.100  0.100  0.200
6      28.000 20.000 13.000 14.000  8.000  5.000 10.000 25.000 50.000 42.000 33.000 26.000 24.000 17.000 22.000 44.000
6      32.000 21.000 21.000 18.000  7.000 12.000 12.000 64.000 78.000 65.000 56.000 44.000 20.000 20.000 24.000 62.000
6       7.000  9.000  2.000  1.000  1.000  2.000  5.000 18.000 14.000 20.000  9.000 17.000  6.000  1.000  6.000 34.000
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    1.000  2.000  1.000  0.0    4.000  0.0    0.0    0.0    0.0
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
6       0.500  0.400  0.100  0.100  0.100  0.100  0.100  0.300  0.900  0.600  0.600  0.500  0.300  0.200  0.200  0.800
6      26.000 18.000  6.000  4.000  3.000  7.000  3.000 14.000 46.000 29.000 31.000 26.000 17.000 12.000 11.000 39.000
6       8.000  0.0    7.000  3.000  0.0    0.0    1.000  9.000 22.000 22.000 10.000 10.000  7.000  5.000  6.000 15.000
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    1.000  0.0    1.000  0.0    0.0    0.0    0.0    0.0    2.000
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
6       2.600  1.200  0.300  0.200  0.100  0.400  0.400  0.400  1.500  1.300  0.600  0.400  0.400  0.300  1.100  2.900
6      36.000 17.000  4.000  3.000  2.000  5.000  5.000  6.000 21.000 18.000  8.000  5.000  6.000  4.000 15.000 40.000
6       1.000  1.000  0.0    0.0    0.0    0.0    0.0    1.000  2.000  1.000  0.0    3.000  0.0    0.0    0.0    3.000
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
6       0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0    0.0
7     200.   0.750  3.500  7.500 12.500 18.500 25.000 26.000  0.0    0.0    0.0    0.0    0.0    0.0    0.0
10    402.   402.   402.   402.   402.   402.   402.   402.   402.   402.   402.   402.   402.   402.   402.   402.
11     69.    71.    68.    68.    71.    73.    73.    70.    69.    71.    69.    73.    74.    72.    69.    69.
10    451.   805.   579.   579.   805.   785.   418.   418.   418.   207.   207.   207.   418.   805.   418.   418.
11     70.    73.    69.    69.    73.    78.    73.    71.    70.    76.    72.    84.    74.    76.    69.    69.
```

```
11        72.   76.   70.   71.   74.   81.   82.   75.   79.   82.   73.   87.   86.   78.   69.   69.
10      2012. 2012. 1207. 1207. 1207. 1448. 2012. 2012. 2012. 2253. 2012. 2012. 1448. 1207. 1207. 1207.
11        74.   81.   72.   73.   75.   84.   91.   79.   74.   83.   74.  104.   89.   80.   69.   69.
10      2816. 2816. 2012. 2012. 2012. 2012. 2816. 2816. 2816. 2655. 2816. 2816. 2012. 2012. 2012. 2012.
11        76.   87.   77.   77.   80.   88.   92.   83.   77.   86.   76.  114.   98.   88.   69.   69.
10      3621. 3347. 2816. 2816. 2816. 2816. 3621. 3042. 3122. 2816. 3621. 3541. 2816. 2816. 2816. 2816.
11        79.   90.   81.   82.   85.   89.  102.   84.   78.   87.   78.  115.  109.   91.   69.   69.
10      4426. 3621. 3621. 3621. 3621. 3621. 4426. 3621. 3621. 3621. 4426. 3621. 3621. 3621. 3621. 3621.
11        81.   92.   86.   87.   88.   90.  111.   87.   79.   92.   81.  122.  120.   91.   69.   69.
10      5230. 4426. 4426. 4426. 4426. 4426. 5230. 4426. 4426. 4426. 5230. 4426. 4426. 4426. 4426. 4426.
11        83.   95.   91.   91.   88.   90.  121.   91.   82.   99.   83.  122.  120.   91.   69.   69.
10      6035. 5230. 5230. 5230. 5230. 5230. 6035. 5230. 5230. 5230. 6035. 5230. 5230. 5230. 5230. 5230.
11        85.   95.   95.   91.   88.   91.  127.   96.   84.  109.   85.  122.  120.   91.   69.   69.
10      7644. 7644. 7644. 7644. 7644. 7644. 7644. 7644. 7644. 7644. 7644. 7644. 7644. 7644. 7644. 7644.
11        87.   95.   95.   91.   88.  122.  133.   96.   91.  118.  101.  122.  120.   91.   69.   69.
12       16    2   14   16   16
13      SITE BOUNDARY
14         1 0.28    2 0.29    3 0.36    4 0.36    5 0.50    6 0.55    7 1.23    8 1.89
9 1.94   10 1.26   11 1.01   12 0.86   13 0.61   14 0.50   15 0.29   16 0.26
13      MILK COW
14        11 1.30   13 4.20
13      MEAT ANIMAL
14         1 2.32    2 2.08    3 2.27    4 2.69    5 3.97    6 4.07    7 1.60    8 2.84
9 2.93   10 1.65   11 1.16   12 2.41   13 3.12   14 1.99
13      RESIDENT
14         1 0.30    2 0.30    3 0.40    4 0.40    5 0.60    6 0.70    7 1.30    8 2.90
9 2.90   10 1.30   11 1.20   12 0.90   13 0.80   14 0.60   15 0.30   16 0.30
13      GARDEN
14         1 0.40    2 0.50    3 0.50    4 0.60    5 0.60    6 0.90    7 1.30    8 3.00
9 2.90   10 1.40   11 1.30   12 2.20   13 2.80   14 0.60   15 0.30   16 0.30
15      EXIT ONE GROUND LEVEL RELEASE JAN-JUN 82
16        0.0    0.0    0.0  59.000 1370.0   11.0  0.0
17      A   0    0    0
15      EXIT TWO MIXED-MODE RELEASE    JAN-JUN 82
16       20.100  1.400 60.700 59.000 1370.0   11.0  0.0
17      B   0    0    0
```

XOQDOQ - ROBINSON GROUND AND MIXED MODE RELEASES JAN-JUN 82

THE JOINT FREQUENCY DISTRIBUTION, I=WIND SPEED CLASS, J= STABILITY CLASS

DIRECTION =	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
I= 1,J= 1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I= 2,J= 1	0.0	0.0	0.03	0.0	0.0	0.03	0.03	0.0	0.03	0.03	0.0	0.0	0.0	0.0	0.0	0.0
I= 3,J= 1	0.03	0.0	0.05	0.05	0.05	0.10	0.08	0.10	0.08	0.08	0.05	0.0	0.0	0.05	0.05	0.03
I= 4,J= 1	0.16	0.13	0.23	0.21	0.13	0.0	0.03	0.03	0.05	0.10	0.08	0.0	0.13	0.03	0.10	0.16
I= 5,J= 1	0.18	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.18	0.0	0.0	0.0	0.13	0.08
I= 6,J= 1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0
I= 7,J= 1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I= 1,J= 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I= 2,J= 2	0.03	0.0	0.03	0.0	0.03	0.0	0.0	0.03	0.0	0.03	0.03	0.0	0.03	0.03	0.0	0.03
I= 3,J= 2	0.08	0.08	0.05	0.16	0.13	0.10	0.10	0.03	0.03	0.08	0.03	0.03	0.13	0.0	0.0	0.08
I= 4,J= 2	0.10	0.16	0.18	0.08	0.05	0.0	0.0	0.10	0.18	0.16	0.10	0.23	0.26	0.21	0.03	0.26
I= 5,J= 2	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.03	0.0	0.03	0.0	0.03	0.03	0.0
I= 6,J= 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0
I= 7,J= 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I= 1,J= 3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I= 2,J= 3	0.03	0.05	0.05	0.03	0.08	0.03	0.05	0.03	0.05	0.03	0.0	0.0	0.05	0.0	0.0	0.03
I= 3,J= 3	0.34	0.49	0.18	0.28	0.16	0.08	0.16	0.16	0.13	0.10	0.26	0.21	0.18	0.03	0.05	0.23
I= 4,J= 3	0.70	0.73	0.16	0.31	0.10	0.03	0.18	0.08	0.10	0.21	0.26	0.28	0.18	0.13	0.08	0.16
I= 5,J= 3	0.03	0.10	0.10	0.05	0.0	0.0	0.0	0.0	0.05	0.03	0.05	0.08	0.0	0.0	0.03	0.08
I= 6,J= 3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0
I= 7,J= 3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0
I= 1,J= 4	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.0	0.00
I= 2,J= 4	0.16	0.31	0.23	0.18	0.36	0.44	0.21	0.18	0.18	0.10	0.18	0.31	0.18	0.18	0.0	0.31
I= 3,J= 4	1.81	3.06	2.18	2.18	1.63	0.65	0.98	1.37	0.96	1.04	1.01	1.11	0.70	0.80	0.54	1.14
I= 4,J= 4	1.14	4.22	1.40	0.91	0.21	0.21	0.36	0.70	0.54	1.04	0.93	0.70	0.36	0.16	0.23	0.70
I= 5,J= 4	0.26	0.13	0.10	0.0	0.0	0.0	0.03	0.03	0.16	0.08	0.21	0.05	0.03	0.03	0.05	0.10
I= 6,J= 4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.21	0.08	0.05	0.0	0.0	0.0	0.0	0.0
I= 7,J= 4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I= 1,J= 5	0.00	0.00	0.00	0.00	0.0	0.0	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.01
I= 2,J= 5	0.73	0.52	0.34	0.36	0.21	0.13	0.26	0.65	1.29	1.09	0.85	0.67	0.62	0.44	0.57	1.14
I= 3,J= 5	0.83	0.54	0.54	0.47	0.18	0.31	0.31	1.66	2.02	1.68	1.45	1.14	0.52	0.52	0.62	1.61
I= 4,J= 5	0.18	0.23	0.05	0.03	0.03	0.05	0.13	0.47	0.36	0.52	0.23	0.44	0.16	0.03	0.16	0.88
I= 5,J= 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.05	0.03	0.0	0.10	0.0	0.0	0.0	0.0
I= 6,J= 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I= 7,J= 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I= 1,J= 6	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.02
I= 2,J= 6	0.67	0.47	0.16	0.10	0.08	0.18	0.08	0.36	1.19	0.75	0.80	0.67	0.44	0.31	0.28	1.01
I= 3,J= 6	0.21	0.0	0.18	0.08	0.0	0.0	0.03	0.23	0.57	0.57	0.26	0.26	0.18	0.13	0.16	0.39
I= 4,J= 6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.05
I= 5,J= 6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I= 6,J= 6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I= 7,J= 6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I= 1,J= 7	0.07	0.03	0.01	0.01	0.00	0.01	0.01	0.01	0.04	0.03	0.02	0.01	0.01	0.01	0.03	0.08
I= 2,J= 7	0.93	0.44	0.10	0.08	0.05	0.13	0.13	0.16	0.54	0.47	0.21	0.13	0.16	0.10	0.39	1.04
I= 3,J= 7	0.03	0.03	0.0	0.0	0.0	0.0	0.0	0.03	0.05	0.03	0.0	0.08	0.0	0.0	0.0	0.08
I= 4,J= 7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I= 5,J= 7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I= 6,J= 7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I= 7,J= 7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	8.68	11.75	6.39	5.55	3.48	2.48	3.15	6.44	9.01	8.52	7.26	6.55	4.32	3.20	3.56	9.66

TOTAL HOURS CONSIDERED ARE 3862

WIND MEASURED AT 11.0 METERS.
THE MAXIMUM WIND SPEED (METERS/SEC) IN EACH CLASS IS: 0.335 1.565 3.353 5.588 8.270 11.176 11.623
THE CONVERSION FACTOR APPLIED TO THE WIND SPEED CLASSES IS 0.447

DIRECTION =	S	SSW	SW	WSW	W	WNW	NW	NNW	N	NNE	NE	ENE	E	ESE	SE	SSE
DISTANCE	402.	402.	402.	402.	402.	402.	402.	402.	402.	402.	402.	402.	402.	402.	402.	402.
ELEVATION	69.	71.	68.	68.	71.	73.	73.	70.	69.	71.	69.	73.	74.	72.	69.	69.
DISTANCE	451.	805.	579.	579.	805.	885.	418.	418.	418.	207.	207.	207.	418.	805.	418.	418.
ELEVATION	70.	73.	69.	69.	73.	78.	73.	71.	70.	76.	72.	84.	74.	76.	69.	69.
DISTANCE	1207.	1207.	805.	966.	966.	1207.	1207.	1207.	1207.	2012.	1625.	1448.	1207.	966.	483.	483.
ELEVATION	72.	76.	70.	71.	74.	81.	82.	75.	79.	82.	73.	87.	86.	78.	69.	69.
DISTANCE	2012.	2012.	1207.	1207.	1207.	1448.	2012.	2012.	2012.	2253.	2012.	2012.	1448.	1207.	1207.	1207.
ELEVATION	74.	81.	72.	73.	75.	84.	91.	79.	74.	83.	74.	104.	89.	80.	69.	69.
DISTANCE	2816.	2816.	2012.	2012.	2012.	2012.	2816.	2816.	2816.	2655.	2816.	2816.	2012.	2012.	2012.	2012.
ELEVATION	76.	87.	77.	77.	80.	88.	92.	83.	77.	86.	76.	114.	98.	88.	69.	69.
DISTANCE	3621.	3347.	2816.	2816.	2816.	2816.	3621.	3042.	3122.	2816.	3621.	3541.	2816.	2816.	2816.	2816.
ELEVATION	79.	90.	81.	82.	85.	89.	102.	84.	78.	87.	78.	115.	109.	91.	69.	69.
DISTANCE	4426.	3621.	3621.	3621.	3621.	3621.	4426.	3621.	3621.	3621.	4426.	3621.	3621.	3621.	3621.	3621.
ELEVATION	81.	92.	86.	87.	88.	90.	111.	87.	79.	92.	81.	122.	120.	91.	69.	69.
DISTANCE	5230.	4426.	4426.	4426.	4426.	4426.	5230.	4426.	4426.	4426.	5230.	4426.	4426.	4426.	4426.	4426.
ELEVATION	83.	95.	91.	91.	88.	90.	121.	91.	82.	99.	83.	122.	120.	91.	69.	69.
DISTANCE	6035.	5230.	5230.	5230.	5230.	5230.	6035.	5230.	5230.	5230.	6035.	5230.	5230.	5230.	5230.	5230.
ELEVATION	85.	95.	95.	91.	88.	91.	127.	96.	84.	109.	85.	122.	120.	91.	69.	69.
DISTANCE	7644.	7644.	7644.	7644.	7644.	7644.	7644.	7644.	7644.	7644.	7644.	7644.	7644.	7644.	7644.	7644.
ELEVATION	87.	95.	95.	91.	88.	122.	133.	96.	91.	118.	101.	122.	120.	91.	69.	69.

EXIT ONE GROUND LEVEL RELEASE JAN-JUN 82
NO DECAY, UNDEPLETED

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	1.891E-05	5.766E-06	2.928E-06	1.889E-06	1.042E-06	7.057E-07	5.266E-07	4.149E-07	3.393E-07	2.851E-07	2.447E-07
SSW	1.447E-05	4.689E-06	2.454E-06	1.589E-06	8.696E-07	5.772E-07	4.225E-07	3.277E-07	2.646E-07	2.199E-07	1.869E-07
SW	6.892E-06	2.284E-06	1.223E-06	7.971E-07	4.377E-07	2.882E-07	2.090E-07	1.608E-07	1.290E-07	1.066E-07	9.010E-08
WSW	5.863E-06	1.959E-06	1.057E-06	6.884E-07	3.764E-07	2.468E-07	1.783E-07	1.368E-07	1.094E-07	9.024E-08	7.616E-08
W	4.122E-06	1.400E-06	7.531E-07	4.883E-07	2.653E-07	1.729E-07	1.243E-07	9.505E-08	7.578E-08	6.231E-08	5.246E-08
WNW	4.589E-06	1.476E-06	7.720E-07	5.014E-07	2.759E-07	1.837E-07	1.347E-07	1.046E-07	8.452E-08	7.031E-08	5.980E-08
NW	4.620E-06	1.490E-06	7.895E-07	5.111E-07	2.794E-07	1.851E-07	1.352E-07	1.047E-07	8.445E-08	7.013E-08	5.955E-08
NNW	9.722E-06	3.087E-06	1.662E-06	1.097E-06	6.140E-07	4.101E-07	3.007E-07	2.335E-07	1.886E-07	1.569E-07	1.334E-07
N	2.027E-05	6.192E-06	3.224E-06	2.127E-06	1.202E-06	8.137E-07	6.042E-07	4.739E-07	3.861E-07	3.234E-07	2.766E-07
NNE	1.649E-05	5.063E-06	2.649E-06	1.742E-06	9.791E-07	6.613E-07	4.902E-07	3.840E-07	3.125E-07	2.615E-07	2.236E-07
NE	1.262E-05	3.932E-06	2.077E-06	1.375E-06	7.765E-07	5.221E-07	3.848E-07	3.000E-07	2.431E-07	2.028E-07	1.728E-07
ENE	1.085E-05	3.419E-06	1.811E-06	1.199E-06	6.759E-07	4.531E-07	3.331E-07	2.591E-07	2.097E-07	1.746E-07	1.486E-07
E	7.886E-06	2.458E-06	1.292E-06	8.507E-07	4.770E-07	3.198E-07	2.354E-07	1.834E-07	1.485E-07	1.238E-07	1.055E-07
ESE	5.845E-06	1.844E-06	9.771E-07	6.445E-07	3.616E-07	2.422E-07	1.781E-07	1.386E-07	1.121E-07	9.338E-08	7.949E-08
SE	8.571E-06	2.594E-06	1.338E-06	8.705E-07	4.845E-07	3.290E-07	2.457E-07	1.936E-07	1.584E-07	1.331E-07	1.142E-07
SSE	2.399E-05	7.273E-06	3.726E-06	2.424E-06	1.350E-06	9.170E-07	6.847E-07	5.395E-07	4.412E-07	3.708E-07	3.182E-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	2.135E-07	1.267E-07	8.770E-08	5.250E-08	3.661E-08	2.773E-08	2.212E-08	1.829E-08	1.551E-08	1.343E-08	1.180E-08
SSW	1.617E-07	9.298E-08	6.298E-08	3.663E-08	2.508E-08	1.873E-08	1.478E-08	1.211E-08	1.019E-08	8.763E-09	7.657E-09
SW	7.759E-08	4.382E-08	2.932E-08	1.674E-08	1.131E-08	8.360E-09	6.540E-09	5.318E-09	4.450E-09	3.804E-09	3.307E-09
WSW	6.547E-08	3.674E-08	2.447E-08	1.389E-08	9.354E-09	6.896E-09	5.383E-09	4.370E-09	3.650E-09	3.116E-09	2.706E-09
W	4.500E-08	2.506E-08	1.660E-08	9.354E-09	6.267E-09	4.603E-09	3.582E-09	2.901E-09	2.418E-09	2.061E-09	1.787E-09
WNW	5.177E-08	2.983E-08	2.025E-08	1.179E-08	8.073E-09	6.029E-09	4.756E-09	3.895E-09	3.279E-09	2.818E-09	2.463E-09
NW	5.149E-08	2.952E-08	1.998E-08	1.160E-08	7.931E-09	5.918E-09	4.666E-09	3.820E-09	3.214E-09	2.762E-09	2.412E-09
NNW	1.154E-07	6.632E-08	4.491E-08	2.604E-08	1.776E-08	1.322E-08	1.040E-08	8.493E-09	7.132E-09	6.116E-09	5.332E-09
N	2.407E-07	1.412E-07	9.697E-08	5.733E-08	3.961E-08	2.977E-08	2.361E-08	1.941E-08	1.639E-08	1.413E-08	1.237E-08
NNE	1.944E-07	1.138E-07	7.809E-08	4.610E-08	3.182E-08	2.391E-08	1.895E-08	1.557E-08	1.315E-08	1.133E-08	9.920E-09
NE	1.499E-07	8.684E-08	5.913E-08	3.456E-08	2.369E-08	1.771E-08	1.397E-08	1.144E-08	9.631E-09	8.275E-09	7.228E-09
ENE	1.287E-07	7.426E-08	5.041E-08	2.934E-08	2.006E-08	1.496E-08	1.178E-08	9.635E-09	8.100E-09	6.952E-09	6.066E-09
E	9.147E-08	5.302E-08	3.612E-08	2.113E-08	1.451E-08	1.086E-08	8.575E-09	7.029E-09	5.921E-09	5.091E-09	4.450E-09
ESE	6.887E-08	3.978E-08	2.703E-08	1.575E-08	1.077E-08	8.037E-09	6.334E-09	5.182E-09	4.358E-09	3.742E-09	3.266E-09
SE	9.965E-08	5.908E-08	4.088E-08	2.443E-08	1.700E-08	1.285E-08	1.024E-08	8.452E-09	7.163E-09	6.192E-09	5.438E-09
SSE	2.776E-07	1.646E-07	1.139E-07	6.803E-08	4.735E-08	3.581E-08	2.852E-08	2.355E-08	1.996E-08	1.725E-08	1.515E-08

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

SEGMENT BOUNDARIES IN MILES

DIRECTION FROM SITE	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	3.097E-06	1.081E-06	5.297E-07	3.402E-07	2.451E-07	1.286E-07	5.326E-08	2.786E-08	1.833E-08	1.344E-08
SSW	2.566E-06	8.994E-07	4.258E-07	2.656E-07	1.873E-07	9.490E-08	3.735E-08	1.885E-08	1.214E-08	8.777E-09
SW	1.269E-06	4.511E-07	2.106E-07	1.295E-07	9.034E-08	4.488E-08	1.712E-08	8.418E-09	5.336E-09	3.811E-09
WSW	1.094E-06	3.881E-07	1.800E-07	1.099E-07	7.637E-08	3.767E-08	1.423E-08	6.946E-09	4.385E-09	3.123E-09
W	7.792E-07	2.738E-07	1.256E-07	7.615E-08	5.261E-08	2.573E-08	9.592E-09	4.638E-09	2.912E-09	2.065E-09
WNW	8.082E-07	2.850E-07	1.357E-07	8.484E-08	5.994E-08	3.045E-08	1.202E-08	6.065E-09	3.907E-09	2.823E-09
NW	8.215E-07	2.890E-07	1.363E-07	8.479E-08	5.970E-08	3.016E-08	1.183E-08	5.954E-09	3.831E-09	2.766E-09
NNW	1.728E-06	6.306E-07	3.030E-07	1.893E-07	1.337E-07	6.771E-08	2.655E-08	1.330E-08	8.519E-09	6.127E-09
N	3.396E-06	1.235E-06	6.079E-07	3.873E-07	2.772E-07	1.437E-07	5.826E-08	2.993E-08	1.946E-08	1.415E-08
NNE	2.782E-06	1.007E-06	4.933E-07	3.135E-07	2.240E-07	1.159E-07	4.687E-08	2.403E-08	1.561E-08	1.135E-08
NE	2.177E-06	7.964E-07	3.875E-07	2.440E-07	1.732E-07	8.854E-08	3.519E-08	1.781E-08	1.147E-08	8.289E-09
ENE	1.897E-06	6.932E-07	3.355E-07	2.104E-07	1.489E-07	7.576E-08	2.989E-08	1.505E-08	9.663E-09	6.964E-09
E	1.355E-06	4.902E-07	2.371E-07	1.491E-07	1.057E-07	5.405E-08	2.152E-08	1.092E-08	7.048E-09	5.099E-09

SE	1.409E-06	5.011E-07	2.471E-07	1.588E-07	1.144E-07	6.001E-08	2.478E-08	1.291E-08	8.471E-09	6.200E-09
SSE	3.930E-06	1.396E-06	6.885E-07	4.424E-07	3.187E-07	1.671E-07	6.902E-08	3.597E-08	2.360E-08	1.728E-08

VENT AND BUILDING PARAMETERS:

RELEASE HEIGHT	(METERS)	0.0	REP. WIND HEIGHT	(METERS)	11.0
DIAMETER	(METERS)	0.0	BUILDING HEIGHT	(METERS)	59.0
EXIT VELOCITY	(METERS)	0.0	BLDG.MIN.CRS.SEC.AREA	(SQ.METERS)	1370.0
			HEAT EMISSION RATE	(CAL/SEC)	0.0

AT THE RELEASE HEIGHT:

VENT RELEASE MODE	WIND SPEED (METERS/SEC)			
ELEVATED	LESS THAN	0.0		
MIXED	BETWEEN	0.0	AND	0.0
GROUND LEVEL	ABOVE	0.0		

AT THE MEASURED WIND HEIGHT (11.0 METERS):

VENT RELEASE MODE	WIND SPEED (METERS/SEC) STABLE CONDITIONS				WIND SPEED (METERS/SEC) UNSTABLE/NEUTRAL CONDITIONS			
ELEVATED	LESS THAN	0.0			LESS THAN	0.0		
MIXED	BETWEEN	0.0	AND	0.0	BETWEEN	0.0	AND	0.0
GROUND LEVEL	ABOVE	0.0			ABOVE	0.0		

EXIT ONE GROUND LEVEL RELEASE JAN-JUN 82
2.260 DAY DECAY, UNDEPLETED

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	1.887E-05	5.739E-06	2.908E-06	1.873E-06	1.028E-06	6.931E-07	5.148E-07	4.035E-07	3.284E-07	2.747E-07	2.346E-07
SSW	1.444E-05	4.673E-06	2.442E-06	1.578E-06	8.609E-07	5.694E-07	4.152E-07	3.209E-07	2.580E-07	2.136E-07	1.809E-07
SW	6.882E-06	2.277E-06	1.218E-06	7.929E-07	4.342E-07	2.851E-07	2.061E-07	1.581E-07	1.264E-07	1.042E-07	8.781E-08
WSW	5.855E-06	1.954E-06	1.053E-06	6.848E-07	3.735E-07	2.442E-07	1.759E-07	1.346E-07	1.073E-07	8.826E-08	7.426E-08
W	4.116E-06	1.396E-06	7.501E-07	4.857E-07	2.631E-07	1.710E-07	1.226E-07	9.346E-08	7.429E-08	6.091E-08	5.112E-08
WNW	4.579E-06	1.471E-06	7.676E-07	4.976E-07	2.728E-07	1.809E-07	1.321E-07	1.022E-07	8.222E-08	6.812E-08	5.770E-08
NW	4.611E-06	1.485E-06	7.852E-07	5.074E-07	2.764E-07	1.823E-07	1.327E-07	1.024E-07	8.220E-08	6.798E-08	5.749E-08
NNW	9.706E-06	3.078E-06	1.655E-06	1.090E-06	6.086E-07	4.053E-07	2.962E-07	2.293E-07	1.847E-07	1.531E-07	1.297E-07
N	2.023E-05	6.167E-06	3.206E-06	2.111E-06	1.188E-06	8.012E-07	5.925E-07	4.629E-07	3.756E-07	3.133E-07	2.670E-07
NNE	1.646E-05	5.043E-06	2.634E-06	1.730E-06	9.684E-07	6.516E-07	4.812E-07	3.754E-07	3.043E-07	2.537E-07	2.160E-07
NE	1.260E-05	3.918E-06	2.066E-06	1.366E-06	7.686E-07	5.149E-07	3.781E-07	2.937E-07	2.372E-07	1.971E-07	1.674E-07
ENE	1.084E-05	3.408E-06	1.803E-06	1.192E-06	6.695E-07	4.473E-07	3.277E-07	2.541E-07	2.049E-07	1.700E-07	1.442E-07
E	7.872E-06	2.449E-06	1.285E-06	8.447E-07	4.720E-07	3.153E-07	2.312E-07	1.794E-07	1.448E-07	1.203E-07	1.021E-07
ESE	5.838E-06	1.837E-06	9.719E-07	6.400E-07	3.579E-07	2.389E-07	1.750E-07	1.356E-07	1.093E-07	9.073E-08	7.696E-08
SE	8.550E-06	2.582E-06	1.329E-06	8.629E-07	4.782E-07	3.233E-07	2.403E-07	1.885E-07	1.535E-07	1.284E-07	1.097E-07
SSE	2.394E-05	7.240E-06	3.701E-06	2.403E-06	1.333E-06	9.011E-07	6.697E-07	5.252E-07	4.275E-07	3.576E-07	3.055E-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	2.037E-07	1.179E-07	7.973E-08	4.555E-08	3.038E-08	2.204E-08	1.687E-08	1.340E-08	1.094E-08	9.122E-09	7.734E-09
SSW	1.559E-07	8.783E-08	5.836E-08	3.265E-08	2.152E-08	1.550E-08	1.180E-08	9.340E-09	7.606E-09	6.330E-09	5.360E-09
SW	7.539E-08	4.193E-08	2.763E-08	1.530E-08	1.004E-08	7.206E-09	5.479E-09	4.335E-09	3.530E-09	2.939E-09	2.491E-09
WSW	6.365E-08	3.519E-08	2.309E-08	1.273E-08	8.323E-09	5.965E-09	4.529E-09	3.578E-09	2.911E-09	2.422E-09	2.051E-09
W	4.372E-08	2.398E-08	1.565E-08	8.555E-09	5.564E-09	3.969E-09	3.002E-09	2.364E-09	1.917E-09	1.590E-09	1.342E-09
WNW	4.974E-08	2.807E-08	1.866E-08	1.043E-08	6.860E-09	4.929E-09	3.745E-09	2.958E-09	2.403E-09	1.996E-09	1.686E-09
NW	4.950E-08	2.780E-08	1.843E-08	1.027E-08	6.753E-09	4.852E-09	3.688E-09	2.914E-09	2.370E-09	1.970E-09	1.666E-09
NNW	1.119E-07	6.330E-08	4.219E-08	2.372E-08	1.569E-08	1.134E-08	8.665E-09	6.882E-09	5.623E-09	4.694E-09	3.987E-09
N	2.313E-07	1.330E-07	8.953E-08	5.091E-08	3.387E-08	2.455E-08	1.879E-08	1.493E-08	1.219E-08	1.017E-08	8.633E-09
NNE	1.871E-07	1.074E-07	7.227E-08	4.107E-08	2.732E-08	1.980E-08	1.516E-08	1.205E-08	9.851E-09	8.224E-09	6.982E-09
NE	1.440E-07	8.226E-08	5.500E-08	3.101E-08	2.054E-08	1.484E-08	1.133E-08	8.988E-09	7.333E-09	6.113E-09	5.182E-09
ENE	1.245E-07	7.061E-08	4.713E-08	2.653E-08	1.756E-08	1.269E-08	9.698E-09	7.699E-09	6.287E-09	5.245E-09	4.451E-09
E	8.817E-08	5.016E-08	3.354E-08	1.892E-08	1.254E-08	9.061E-09	6.921E-09	5.491E-09	4.480E-09	3.734E-09	3.165E-09
ESE	6.642E-08	3.766E-08	2.512E-08	1.412E-08	9.324E-09	6.723E-09	5.124E-09	4.059E-09	3.307E-09	2.753E-09	2.331E-09
SE	9.522E-08	5.516E-08	3.730E-08	2.131E-08	1.420E-08	1.030E-08	7.884E-09	6.262E-09	5.113E-09	4.263E-09	3.615E-09
SSE	2.652E-07	1.537E-07	1.039E-07	5.940E-08	3.961E-08	2.875E-08	2.201E-08	1.749E-08	1.429E-08	1.192E-08	1.011E-08

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

SEGMENT BOUNDARIES IN MILES

DIRECTION FROM SITE	.5-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
S	3.077E-06	1.067E-06	5.178E-07	3.294E-07	2.350E-07	1.200E-07	4.640E-08	2.219E-08	1.345E-08	9.146E-09
SSW	2.554E-06	8.908E-07	4.186E-07	2.591E-07	1.813E-07	8.985E-08	3.342E-08	1.563E-08	9.383E-09	6.349E-09
SW	1.264E-06	4.476E-07	2.080E-07	1.270E-07	8.806E-08	4.301E-08	1.570E-08	7.270E-09	4.355E-09	2.948E-09
WSW	1.090E-06	3.852E-07	1.776E-07	1.079E-07	7.448E-08	3.614E-08	1.307E-08	6.019E-09	3.596E-09	2.429E-09
W	7.761E-07	2.716E-07	1.239E-07	7.467E-08	5.128E-08	2.466E-08	8.801E-09	4.008E-09	2.376E-09	1.595E-09
WNW	8.038E-07	2.819E-07	1.331E-07	8.255E-08	5.784E-08	2.870E-08	1.067E-08	4.970E-09	2.971E-09	2.002E-09
NW	8.172E-07	2.859E-07	1.338E-07	8.254E-08	5.764E-08	2.846E-08	1.052E-08	4.894E-09	2.928E-09	1.976E-09
NNW	1.720E-06	6.253E-07	2.985E-07	1.854E-07	1.300E-07	6.472E-08	2.426E-08	1.143E-08	6.912E-09	4.707E-09
N	3.377E-06	1.221E-06	5.963E-07	3.768E-07	2.675E-07	1.355E-07	5.192E-08	2.473E-08	1.499E-08	1.020E-08
NNE	2.767E-06	9.968E-07	4.843E-07	3.054E-07	2.165E-07	1.095E-07	4.189E-08	1.995E-08	1.210E-08	8.240E-09
NE	2.166E-06	7.885E-07	3.808E-07	2.381E-07	1.677E-07	8.400E-08	3.169E-08	1.495E-08	9.027E-09	6.139E-09
ENE	1.888E-06	6.868E-07	3.301E-07	2.057E-07	1.446E-07	7.215E-08	2.712E-08	1.279E-08	7.732E-09	5.260E-09
E	1.348E-06	4.852E-07	2.329E-07	1.453E-07	1.023E-07	5.122E-08	1.933E-08	9.131E-09	5.514E-09	3.744E-09

SE	1.400E-06	4.948E-07	2.417E-07	1.539E-07	1.099E-07	5.612E-08	2.170E-08	1.037E-08	6.288E-09	4.275E-09
SSE	3.910E-06	1.379E-06	6.736E-07	4.288E-07	3.060E-07	1.564E-07	6.050E-08	2.895E-08	1.757E-08	1.195E-08

VENT AND BUILDING PARAMETERS:

RELEASE HEIGHT	(METERS)	0.0	REF. WIND HEIGHT	(METERS)	11.0
DIAMETER	(METERS)	0.0	BUILDING HEIGHT	(METERS)	59.0
EXIT VELOCITY	(METERS)	0.0	BLDG.MIN.CRS.SEC.AREA	(SQ.METERS)	1370.0
			HEAT EMISSION RATE	(CAL/SEC)	0.0

AT THE RELEASE HEIGHT:

VENT RELEASE MODE	WIND SPEED (METERS/SEC)			
ELEVATED	LESS THAN	0.0		
MIXED	BETWEEN	0.0	AND	0.0
GROUND LEVEL	ABOVE	0.0		

AT THE MEASURED WIND HEIGHT (11.0 METERS):

VENT RELEASE MODE	WIND SPEED (METERS/SEC) STABLE CONDITIONS				WIND SPEED (METERS/SEC) UNSTABLE/NEUTRAL CONDITIONS			
ELEVATED	LESS THAN	0.0			LESS THAN	0.0		
MIXED	BETWEEN	0.0	AND	0.0	BETWEEN	0.0	AND	0.0
GROUND LEVEL	ABOVE	0.0			ABOVE	0.0		

EXIT ONE GROUND LEVEL RELEASE JAN-JUN 82
8.000 DAY DECAY, DEPLETED

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	1.789E-05	5.258E-06	2.604E-06	1.650E-06	8.814E-07	5.813E-07	4.238E-07	3.269E-07	2.623E-07	2.165E-07	1.828E-07
SSW	1.369E-05	4.278E-06	2.184E-06	1.388E-06	7.364E-07	4.761E-07	3.406E-07	2.587E-07	2.050E-07	1.674E-07	1.400E-07
SW	6.520E-06	2.084E-06	1.088E-06	6.967E-07	3.709E-07	2.379E-07	1.686E-07	1.271E-07	1.001E-07	8.127E-08	6.762E-08
WSW	5.546E-06	1.788E-06	9.413E-07	6.017E-07	3.190E-07	2.037E-07	1.439E-07	1.082E-07	8.492E-08	6.883E-08	5.717E-08
W	3.900E-06	1.277E-06	6.703E-07	4.268E-07	2.248E-07	1.427E-07	1.003E-07	7.514E-08	5.880E-08	4.752E-08	3.937E-08
WNW	4.340E-06	1.347E-06	6.868E-07	4.379E-07	2.336E-07	1.514E-07	1.085E-07	8.252E-08	6.543E-08	5.349E-08	4.475E-08
NW	4.370E-06	1.360E-06	7.024E-07	4.465E-07	2.365E-07	1.526E-07	1.089E-07	8.265E-08	6.539E-08	5.335E-08	4.457E-08
NNW	9.196E-06	2.817E-06	1.479E-06	9.584E-07	5.201E-07	3.384E-07	2.425E-07	1.845E-07	1.463E-07	1.196E-07	1.000E-07
N	1.918E-05	5.648E-06	2.869E-06	1.858E-06	1.017E-06	6.708E-07	4.867E-07	3.739E-07	2.989E-07	2.460E-07	2.070E-07
NNE	1.560E-05	4.618E-06	2.357E-06	1.522E-06	8.289E-07	5.453E-07	3.950E-07	3.031E-07	2.420E-07	1.990E-07	1.674E-07
NE	1.194E-05	3.587E-06	1.848E-06	1.201E-06	6.576E-07	4.306E-07	3.101E-07	2.368E-07	1.884E-07	1.544E-07	1.295E-07
ENE	1.027E-05	3.119E-06	1.612E-06	1.048E-06	5.725E-07	3.738E-07	2.685E-07	2.047E-07	1.625E-07	1.330E-07	1.114E-07
E	7.460E-06	2.242E-06	1.150E-06	7.432E-07	4.039E-07	2.638E-07	1.897E-07	1.447E-07	1.151E-07	9.426E-08	7.901E-08
ESE	5.532E-06	1.682E-06	8.694E-07	5.631E-07	3.062E-07	1.998E-07	1.435E-07	1.094E-07	8.686E-08	7.109E-08	5.955E-08
SE	8.106E-06	2.366E-06	1.190E-06	7.601E-07	4.099E-07	2.711E-07	1.978E-07	1.526E-07	1.225E-07	1.011E-07	8.536E-08
SSE	2.269E-05	6.633E-06	3.314E-06	2.117E-06	1.143E-06	7.555E-07	5.511E-07	4.252E-07	3.412E-07	2.817E-07	2.378E-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	1.570E-07	8.745E-08	5.729E-08	3.128E-08	2.020E-08	1.429E-08	1.071E-08	8.357E-09	6.715E-09	5.519E-09	4.618E-09
SSW	1.193E-07	6.445E-08	4.137E-08	2.201E-08	1.398E-08	9.774E-09	7.261E-09	5.626E-09	4.495E-09	3.677E-09	3.064E-09
SW	5.736E-08	3.050E-08	1.936E-08	1.014E-08	6.371E-09	4.420E-09	3.265E-09	2.518E-09	2.004E-09	1.635E-09	1.359E-09
WSW	4.841E-08	2.558E-08	1.617E-08	8.418E-09	5.274E-09	3.651E-09	2.691E-09	2.073E-09	1.648E-09	1.342E-09	1.115E-09
W	3.327E-08	1.744E-08	1.096E-08	5.666E-09	3.532E-09	2.436E-09	1.790E-09	1.375E-09	1.091E-09	8.872E-10	7.356E-10
WNW	3.815E-08	2.066E-08	1.328E-08	7.069E-09	4.488E-09	3.136E-09	2.328E-09	1.803E-09	1.439E-09	1.177E-09	9.801E-10
NW	3.794E-08	2.045E-08	1.311E-08	6.953E-09	4.410E-09	3.079E-09	2.285E-09	1.768E-09	1.411E-09	1.154E-09	9.606E-10
NNW	8.526E-08	4.613E-08	2.963E-08	1.575E-08	9.993E-09	6.981E-09	5.184E-09	4.016E-09	3.208E-09	2.625E-09	2.188E-09
N	1.774E-07	9.783E-08	6.365E-08	3.441E-08	2.206E-08	1.553E-08	1.160E-08	9.022E-09	7.233E-09	5.934E-09	4.958E-09
NNE	1.433E-07	7.892E-08	5.129E-08	2.770E-08	1.775E-08	1.248E-08	9.321E-09	7.251E-09	5.813E-09	4.769E-09	3.984E-09
NE	1.106E-07	6.027E-08	3.890E-08	2.081E-08	1.325E-08	9.284E-09	6.907E-09	5.358E-09	4.285E-09	3.508E-09	2.926E-09
ENE	9.503E-08	5.159E-08	3.321E-08	1.771E-08	1.126E-08	7.874E-09	5.853E-09	4.537E-09	3.627E-09	2.969E-09	2.476E-09
E	6.747E-08	3.678E-08	2.375E-08	1.272E-08	8.110E-09	5.686E-09	4.234E-09	3.287E-09	2.630E-09	2.155E-09	1.798E-09
ESE	5.080E-08	2.760E-08	1.778E-08	9.482E-09	6.024E-09	4.212E-09	3.129E-09	2.425E-09	1.937E-09	1.585E-09	1.321E-09
SE	7.332E-08	4.083E-08	2.674E-08	1.458E-08	9.399E-09	6.641E-09	4.973E-09	3.878E-09	3.114E-09	2.558E-09	2.140E-09
SSE	2.042E-07	1.137E-07	7.447E-08	4.062E-08	2.619E-08	1.851E-08	1.387E-08	1.081E-08	8.686E-09	7.137E-09	5.970E-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	2.770E-06	9.188E-07	4.271E-07	2.633E-07	1.832E-07	8.950E-08	3.214E-08	1.443E-08	8.404E-09	5.540E-09
SSW	2.295E-06	7.655E-07	3.440E-07	2.060E-07	1.404E-07	6.837E-08	2.274E-08	9.890E-09	5.662E-09	3.692E-09
SW	1.136E-06	3.842E-07	1.705E-07	1.006E-07	6.787E-08	3.152E-08	1.051E-08	4.478E-09	2.536E-09	1.642E-09
WSW	9.785E-07	3.306E-07	1.456E-07	8.544E-08	5.738E-08	2.647E-08	8.742E-09	3.700E-09	2.088E-09	1.349E-09
W	6.970E-07	2.332E-07	1.016E-07	5.917E-08	3.953E-08	1.808E-08	5.895E-09	2.470E-09	1.386E-09	8.915E-10
WNW	7.228E-07	2.425E-07	1.096E-07	6.576E-08	4.489E-08	2.127E-08	7.302E-09	3.173E-09	1.814E-09	1.182E-09
NW	7.347E-07	2.459E-07	1.101E-07	6.573E-08	4.472E-08	2.107E-08	7.190E-09	3.116E-09	1.780E-09	1.159E-09
NNW	1.545E-06	5.368E-07	2.449E-07	1.470E-07	1.004E-07	4.749E-08	1.628E-08	7.065E-09	4.042E-09	2.636E-09
N	3.037E-06	1.050E-06	4.907E-07	3.002E-07	2.076E-07	1.003E-07	3.542E-08	1.570E-08	9.076E-09	5.958E-09
NNE	2.488E-06	8.569E-07	3.983E-07	2.431E-07	1.679E-07	8.095E-08	2.852E-08	1.262E-08	7.294E-09	4.787E-09
NE	1.947E-06	6.775E-07	3.129E-07	1.893E-07	1.299E-07	6.195E-08	2.147E-08	9.392E-09	5.392E-09	3.523E-09
ENE	1.696E-06	5.898E-07	2.711E-07	1.633E-07	1.117E-07	5.307E-08	1.829E-08	7.967E-09	4.567E-09	2.981E-09
E	1.212E-06	4.170E-07	1.915E-07	1.156E-07	7.925E-08	3.781E-08	1.312E-08	5.752E-09	3.307E-09	2.164E-09

SE	1.260E-06	4.260E-07	1.992E-07	1.229E-07	8.557E-08	4.178E-08	1.498E-08	6.709E-09	3.900E-09	2.568E-09
SSE	3.519E-06	1.187E-06	5.553E-07	3.425E-07	2.383E-07	1.164E-07	4.173E-08	1.870E-08	1.087E-08	7.164E-09

VENT AND BUILDING PARAMETERS:

RELEASE HEIGHT	(METERS)	0.0	REP. WIND HEIGHT	(METERS)	11.0
DIAMETER	(METERS)	0.0	BUILDING HEIGHT	(METERS)	59.0
EXIT VELOCITY	(METERS)	0.0	BLDG.MIN.CRS.SEC.AREA	(SQ.METERS)	1370.0
			HEAT EMISSION RATE	(CAL/SEC)	0.0

AT THE RELEASE HEIGHT:

VENT RELEASE MODE	WIND SPEED (METERS/SEC)			
ELEVATED	LESS THAN	0.0		
MIXED	BETWEEN	0.0	AND	0.0
GROUND LEVEL	ABOVE	0.0		

AT THE MEASURED WIND HEIGHT (11.0 METERS):

VENT RELEASE MODE	WIND SPEED (METERS/SEC) STABLE CONDITIONS				WIND SPEED (METERS/SEC) UNSTABLE/NEUTRAL CONDITIONS			
ELEVATED	LESS THAN	0.0			LESS THAN	0.0		
MIXED	BETWEEN	0.0	AND	0.0	BETWEEN	0.0	AND	0.0
GROUND LEVEL	ABOVE	0.0			ABOVE	0.0		

EXIT ONE GROUND LEVEL RELEASE JAN-JUN 82

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

DIRECTION FROM SITE	DISTANCES IN MILES 0.25	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
S	5.025E-08	1.699E-08	6.726E-09	5.358E-09	2.671E-09	1.620E-09	1.095E-09	7.937E-10	6.035E-10	4.755E-10	3.849E-10
SSW	6.804E-08	2.301E-08	1.181E-08	7.254E-09	3.616E-09	2.193E-09	1.483E-09	1.075E-09	8.171E-10	6.437E-10	5.211E-10
SW	3.697E-08	1.250E-08	6.419E-09	3.942E-09	1.965E-09	1.192E-09	8.058E-10	5.839E-10	4.440E-10	3.498E-10	2.832E-10
WSW	3.216E-08	1.087E-08	5.584E-09	3.429E-09	1.709E-09	1.037E-09	7.009E-10	5.079E-10	3.862E-10	3.043E-10	2.463E-10
W	2.013E-08	6.809E-09	3.496E-09	2.147E-09	1.070E-09	6.491E-10	4.388E-10	3.180E-10	2.418E-10	1.905E-10	1.542E-10
WNW	1.433E-08	4.847E-09	2.489E-09	1.528E-09	7.618E-10	4.620E-10	3.124E-10	2.264E-10	1.721E-10	1.356E-10	1.098E-10
NW	1.825E-08	6.170E-09	3.168E-09	1.945E-09	9.698E-10	5.882E-10	3.977E-10	2.882E-10	2.191E-10	1.726E-10	1.398E-10
NNW	3.732E-08	1.262E-08	6.479E-09	3.978E-09	1.983E-09	1.203E-09	8.133E-10	5.894E-10	4.481E-10	3.531E-10	2.858E-10
N	5.214E-08	1.763E-08	9.054E-09	5.559E-09	2.772E-09	1.681E-09	1.136E-09	8.235E-10	6.262E-10	4.933E-10	3.994E-10
NNE	4.934E-08	1.668E-08	8.567E-09	5.260E-09	2.622E-09	1.591E-09	1.075E-09	7.793E-10	5.925E-10	4.668E-10	3.779E-10
NE	4.205E-08	1.422E-08	7.302E-09	4.483E-09	2.235E-09	1.356E-09	9.166E-10	6.642E-10	5.050E-10	3.979E-10	3.221E-10
ENE	3.795E-08	1.283E-08	6.588E-09	4.046E-09	2.017E-09	1.223E-09	8.270E-10	5.993E-10	4.557E-10	3.590E-10	2.906E-10
E	2.502E-08	8.462E-09	4.345E-09	2.668E-09	1.330E-09	8.066E-10	5.454E-10	3.952E-10	3.005E-10	2.367E-10	1.917E-10
ESE	1.855E-08	6.271E-09	3.220E-09	1.977E-09	9.857E-10	5.978E-10	4.042E-10	2.929E-10	2.227E-10	1.755E-10	1.420E-10
SE	2.060E-08	6.966E-09	3.577E-09	2.196E-09	1.095E-09	6.641E-10	4.490E-10	3.253E-10	2.474E-10	1.949E-10	1.578E-10
SSE	5.592E-08	1.891E-08	9.709E-09	5.962E-09	2.972E-09	1.803E-09	1.219E-09	8.832E-10	6.716E-10	5.291E-10	4.283E-10

DIRECTION FROM SITE	DISTANCES IN MILES 5.00	7.50	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
S	3.184E-10	1.560E-10	9.790E-11	4.949E-11	2.995E-11	2.008E-11	1.439E-11	1.080E-11	8.401E-12	6.711E-12	5.478E-12
SSW	4.311E-10	2.112E-10	1.325E-10	6.699E-11	4.055E-11	2.719E-11	1.948E-11	1.463E-11	1.137E-11	9.085E-12	7.416E-12
SW	2.342E-10	1.148E-10	7.203E-11	3.641E-11	2.203E-11	1.477E-11	1.059E-11	7.949E-12	6.180E-12	4.937E-12	4.030E-12
WSW	2.038E-10	9.985E-11	6.265E-11	3.167E-11	1.917E-11	1.285E-11	9.208E-12	6.914E-12	5.376E-12	4.294E-12	3.505E-12
W	1.276E-10	6.252E-11	3.923E-11	1.983E-11	1.200E-11	8.046E-12	5.765E-12	4.329E-12	3.366E-12	2.689E-12	2.195E-12
WNW	9.081E-11	4.450E-11	2.792E-11	1.411E-11	8.542E-12	5.727E-12	4.104E-12	3.082E-12	2.396E-12	1.914E-12	1.562E-12
NW	1.156E-10	5.665E-11	3.555E-11	1.797E-11	1.087E-11	7.291E-12	5.224E-12	3.923E-12	3.050E-12	2.436E-12	1.989E-12
NNW	2.364E-10	1.159E-10	7.270E-11	3.674E-11	2.224E-11	1.491E-11	1.068E-11	8.023E-12	6.238E-12	4.983E-12	4.067E-12
N	3.304E-10	1.619E-10	1.016E-10	5.135E-11	3.108E-11	2.084E-11	1.493E-11	1.121E-11	8.717E-12	6.963E-12	5.683E-12
NNE	3.126E-10	1.532E-10	9.612E-11	4.858E-11	2.941E-11	1.972E-11	1.413E-11	1.061E-11	8.248E-12	6.589E-12	5.378E-12
NE	2.664E-10	1.306E-10	8.193E-11	4.141E-11	2.506E-11	1.680E-11	1.204E-11	9.042E-12	7.030E-12	5.616E-12	4.584E-12
ENE	2.404E-10	1.178E-10	7.392E-11	3.736E-11	2.262E-11	1.516E-11	1.087E-11	8.158E-12	6.343E-12	5.067E-12	4.136E-12
E	1.585E-10	7.769E-11	4.875E-11	2.464E-11	1.491E-11	9.999E-12	7.165E-12	5.380E-12	4.183E-12	3.341E-12	2.727E-12
ESE	1.175E-10	5.758E-11	3.613E-11	1.826E-11	1.105E-11	7.411E-12	5.310E-12	3.987E-12	3.100E-12	2.477E-12	2.021E-12
SE	1.305E-10	6.396E-11	4.013E-11	2.028E-11	1.228E-11	8.231E-12	5.898E-12	4.429E-12	3.444E-12	2.751E-12	2.245E-12
SSE	3.543E-10	1.736E-10	1.089E-10	5.507E-11	3.333E-11	2.235E-11	1.601E-11	1.202E-11	9.348E-12	7.468E-12	6.095E-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	9.066E-09	2.801E-09	1.115E-09	6.091E-10	3.871E-10	1.663E-10	5.156E-11	2.044E-11	1.091E-11	6.755E-12
SSW	1.227E-08	3.792E-09	1.509E-09	8.246E-10	5.241E-10	2.251E-10	6.981E-11	2.767E-11	1.477E-11	9.145E-12
SW	6.670E-09	2.061E-09	8.200E-10	4.481E-10	2.848E-10	1.223E-10	3.793E-11	1.503E-11	8.029E-12	4.969E-12
WSW	5.802E-09	1.792E-09	7.132E-10	3.898E-10	2.477E-10	1.064E-10	3.300E-11	1.308E-11	6.984E-12	4.323E-12
W	3.632E-09	1.122E-09	4.466E-10	2.440E-10	1.551E-10	6.662E-11	2.066E-11	8.188E-12	4.372E-12	2.706E-12
WNW	2.586E-09	7.989E-10	3.179E-10	1.737E-10	1.104E-10	4.742E-11	1.471E-11	5.829E-12	3.112E-12	1.927E-12
NW	3.292E-09	1.017E-09	4.047E-10	2.211E-10	1.405E-10	6.037E-11	1.872E-11	7.420E-12	3.962E-12	2.452E-12
NNW	6.732E-09	2.080E-09	8.276E-10	4.523E-10	2.874E-10	1.235E-10	3.829E-11	1.517E-11	8.104E-12	5.016E-12
N	9.407E-09	2.906E-09	1.156E-09	6.320E-10	4.017E-10	1.725E-10	5.350E-11	2.120E-11	1.132E-11	7.009E-12
NNE	8.901E-09	2.750E-09	1.094E-09	5.980E-10	3.801E-10	1.633E-10	5.062E-11	2.006E-11	1.071E-11	6.632E-12
NE	7.587E-09	2.344E-09	9.327E-10	5.097E-10	3.239E-10	1.391E-10	4.315E-11	1.710E-11	9.132E-12	5.653E-12
ENE	6.846E-09	2.115E-09	8.416E-10	4.599E-10	2.923E-10	1.256E-10	3.893E-11	1.543E-11	8.240E-12	5.100E-12
E	4.514E-09	1.395E-09	5.550E-10	3.033E-10	1.927E-10	8.279E-11	2.567E-11	1.018E-11	5.434E-12	3.363E-12
ESE	3.346E-09	1.034E-09	4.113E-10	2.248E-10	1.429E-10	6.136E-11	1.903E-11	7.542E-12	4.027E-12	2.493E-12
SE	3.716E-09	1.148E-09	4.569E-10	2.497E-10	1.587E-10	6.816E-11	2.114E-11	8.377E-12	4.473E-12	2.769E-12
SSE	1.009E-08	3.117E-09	1.240E-09	6.778E-10	4.308E-10	1.850E-10	5.738E-11	2.274E-11	1.214E-11	7.517E-12

RELEASE HEIGHT	(METERS)	0.0	REP. WIND HEIGHT	(METERS)	11.0
DIAMETER	(METERS)	0.0	BUILDING HEIGHT	(METERS)	59.0
EXIT VELOCITY	(METERS)	0.0	BLDG.MIN.CRS.SEC.AREA	(SQ.METERS)	1370.0
			HEAT EMISSION RATE	(CAL/SEC)	0.0

AT THE RELEASE HEIGHT:

VENT RELEASE MODE	WIND SPEED (METERS/SEC)			
ELEVATED	LESS THAN	0.0		
MIXED	BETWEEN	0.0	AND	0.0
GROUND LEVEL	ABOVE	0.0		

AT THE MEASURED WIND HEIGHT (11.0 METERS):

VENT RELEASE MODE	WIND SPEED (METERS/SEC) STABLE CONDITIONS				WIND SPEED (METERS/SEC) UNSTABLE/NEUTRAL CONDITIONS			
ELEVATED	LESS THAN	0.0			LESS THAN	0.0		
MIXED	BETWEEN	0.0	AND	0.0	BETWEEN	0.0	AND	0.0
GROUND LEVEL	ABOVE	0.0			ABOVE	0.0		

EXIT ONE GROUND LEVEL RELEASE JAN-JUN 82
SPECIFIC POINTS OF INTEREST

RELEASE ID	TYPE OF LOCATION	DIRECTION	DISTANCE (MILES)	DISTANCE (METERS)	X/Q (SEC/CUB.METER) NO DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 2.260 DAY DECAY UNDEPLETED	X/Q (SEC/CUB.METER) 8.000 DAY DECAY DEPLETED	D/Q (PER SQ.METER)
A	SITE BOUNDARY	S	0.28	451.	1.5E-05	1.5E-05	1.5E-05	4.2E-08
A	SITE BOUNDARY	SSW	0.29	467.	1.1E-05	1.1E-05	1.1E-05	5.4E-08
A	SITE BOUNDARY	SW	0.36	579.	3.8E-06	3.8E-06	3.5E-06	2.1E-08
A	SITE BOUNDARY	WSW	0.36	579.	3.2E-06	3.2E-06	3.0E-06	1.8E-08
A	SITE BOUNDARY	W	0.50	805.	1.4E-06	1.4E-06	1.3E-06	6.8E-09
A	SITE BOUNDARY	WNW	0.55	885.	1.3E-06	1.3E-06	1.2E-06	4.2E-09
A	SITE BOUNDARY	NW	1.23	1979.	3.8E-07	3.7E-07	3.2E-07	1.4E-09
A	SITE BOUNDARY	NNW	1.89	3042.	4.4E-07	4.4E-07	3.7E-07	1.3E-09
A	SITE BOUNDARY	N	1.94	3122.	8.5E-07	8.3E-07	7.0E-07	1.8E-09
A	SITE BOUNDARY	NNE	1.26	2028.	1.3E-06	1.2E-06	1.1E-06	3.5E-09
A	SITE BOUNDARY	NE	1.01	1625.	1.4E-06	1.3E-06	1.2E-06	4.4E-09
A	SITE BOUNDARY	ENE	0.86	1384.	1.5E-06	1.5E-06	1.3E-06	5.2E-09
A	SITE BOUNDARY	E	0.61	982.	1.8E-06	1.8E-06	1.6E-06	6.1E-09
A	SITE BOUNDARY	ESE	0.50	805.	1.8E-06	1.8E-06	1.7E-06	6.3E-09
A	SITE BOUNDARY	SE	0.29	467.	6.6E-06	6.6E-06	6.2E-06	1.6E-08
A	SITE BOUNDARY	SSE	0.26	418.	2.2E-05	2.2E-05	2.1E-05	5.3E-08
A	MILK COW	NE	1.30	2092.	9.5E-07	9.4E-07	8.1E-07	2.9E-09
A	MILK COW	E	4.20	6759.	1.2E-07	1.1E-07	8.8E-08	2.2E-10
A	MEAT ANIMAL	S	2.32	3734.	5.8E-07	5.7E-07	4.7E-07	1.2E-09
A	MEAT ANIMAL	SSW	2.08	3347.	5.5E-07	5.4E-07	4.5E-07	2.0E-09
A	MEAT ANIMAL	SW	2.27	3653.	2.4E-07	2.4E-07	2.0E-07	9.5E-10
A	MEAT ANIMAL	WSW	2.69	4329.	1.6E-07	1.6E-07	1.3E-07	6.2E-10
A	MEAT ANIMAL	W	3.97	6389.	6.3E-08	6.2E-08	4.8E-08	1.9E-10
A	MEAT ANIMAL	WNW	4.07	6550.	6.9E-08	6.6E-08	5.2E-08	1.3E-10
A	MEAT ANIMAL	NW	1.60	2575.	2.5E-07	2.5E-07	2.1E-07	8.7E-10
A	MEAT ANIMAL	NNW	2.84	4571.	2.5E-07	2.5E-07	2.0E-07	6.5E-10
A	MEAT ANIMAL	N	2.93	4715.	4.9E-07	4.8E-07	3.9E-07	8.6E-10
A	MEAT ANIMAL	NNE	1.65	2655.	8.6E-07	8.5E-07	7.2E-07	2.2E-09
A	MEAT ANIMAL	NE	1.16	1867.	1.1E-06	1.1E-06	9.6E-07	3.5E-09
A	MEAT ANIMAL	ENE	2.41	3879.	3.5E-07	3.4E-07	2.8E-07	8.8E-10
A	MEAT ANIMAL	E	3.12	5021.	1.7E-07	1.7E-07	1.4E-07	3.7E-10
A	MEAT ANIMAL	ESE	1.99	3203.	2.4E-07	2.4E-07	2.0E-07	6.0E-10
A	RESIDENT	S	0.30	483.	1.4E-05	1.4E-05	1.3E-05	3.8E-08
A	RESIDENT	SSW	0.30	483.	1.1E-05	1.1E-05	1.0E-05	5.2E-08
A	RESIDENT	SW	0.40	644.	3.2E-06	3.2E-06	3.0E-06	1.8E-08
A	RESIDENT	WSW	0.40	644.	2.8E-06	2.7E-06	2.5E-06	1.6E-08
A	RESIDENT	W	0.60	966.	1.1E-06	1.1E-06	9.6E-07	5.1E-09
A	RESIDENT	WNW	0.70	1127.	8.6E-07	8.6E-07	7.7E-07	2.8E-09
A	RESIDENT	NW	1.30	2092.	3.5E-07	3.4E-07	3.0E-07	1.2E-09
A	RESIDENT	NNW	2.90	4667.	2.4E-07	2.4E-07	1.9E-07	6.3E-10
A	RESIDENT	N	2.90	4667.	5.0E-07	4.8E-07	3.9E-07	8.7E-10
A	RESIDENT	NNE	1.30	2092.	1.2E-06	1.2E-06	1.0E-06	3.4E-09
A	RESIDENT	NE	1.20	1931.	1.1E-06	1.1E-06	9.2E-07	3.3E-09
A	RESIDENT	ENE	0.90	1448.	1.4E-06	1.4E-06	1.2E-06	4.8E-09
A	RESIDENT	E	0.80	1287.	1.2E-06	1.2E-06	1.0E-06	3.9E-09
A	RESIDENT	ESE	0.60	966.	1.4E-06	1.4E-06	1.3E-06	4.7E-09
A	RESIDENT	SE	0.30	483.	6.2E-06	6.2E-06	5.8E-06	1.6E-08
A	RESIDENT	SSE	0.30	483.	1.7E-05	1.7E-05	1.6E-05	4.2E-08
A	GARDEN	S	0.40	644.	8.4E-06	8.3E-06	7.7E-06	2.4E-08
A	GARDEN	SSW	0.50	805.	4.7E-06	4.7E-06	4.3E-06	2.3E-08
A	GARDEN	SW	0.50	805.	2.3E-06	2.3E-06	2.1E-06	1.3E-08
A	GARDEN	WSW	0.60	966.	1.5E-06	1.5E-06	1.3E-06	8.1E-09
A	GARDEN	W	0.60	966.	1.1E-06	1.1E-06	9.6E-07	5.1E-09
A	GARDEN	WNW	0.90	1448.	5.9E-07	5.8E-07	5.2E-07	1.8E-09

A	GARDEN	NW	1.30	2092.	3.5E-07	3.4E-07	3.0E-07	1.2E-09
A	GARDEN	NNW	3.00	4828.	2.3E-07	2.3E-07	1.8E-07	5.9E-10
A	GARDEN	N	2.90	4667.	5.0E-07	4.8E-07	3.9E-07	8.7E-10
A	GARDEN	NNE	1.40	2253.	1.1E-06	1.1E-06	9.2E-07	3.0E-09
A	GARDEN	NE	1.30	2092.	9.5E-07	9.4E-07	8.1E-07	2.9E-09
A	GARDEN	ENE	2.20	3541.	4.0E-07	3.9E-07	3.2E-07	1.0E-09
A	GARDEN	E	2.80	4506.	2.0E-07	2.0E-07	1.6E-07	4.5E-10
A	GARDEN	ESE	0.60	966.	1.4E-06	1.4E-06	1.3E-06	4.7E-09
A	GARDEN	SE	0.30	483.	6.2E-06	6.2E-06	5.8E-06	1.6E-08
A	GARDEN	SSE	0.30	483.	1.7E-05	1.7E-05	1.6E-05	4.2E-08

VENT AND BUILDING PARAMETERS:

RELEASE HEIGHT	(METERS)	0.0
DIAMETER	(METERS)	0.0
EXIT VELOCITY	(METERS)	0.0

REP. WIND HEIGHT	(METERS)	11.0
BUILDING HEIGHT	(METERS)	59.0
BLDG.MIN.CRS.SEC.AREA	(SQ.METERS)	1370.0
HEAT EMISSION RATE	(CAL/SEC)	0.0

AT THE RELEASE HEIGHT:

VENT RELEASE MODE	WIND SPEED (METERS/SEC)			
ELEVATED	LESS THAN	0.0		
MIXED	BETWEEN	0.0	AND	0.0
GROUND LEVEL	ABOVE	0.0		

AT THE MEASURED WIND HEIGHT (11.0 METERS):

VENT RELEASE MODE	WIND SPEED (METERS/SEC) STABLE CONDITIONS				WIND SPEED (METERS/SEC) UNSTABLE/NEUTRAL CONDITIONS			
ELEVATED	LESS THAN	0.0			LESS THAN	0.0		
MIXED	BETWEEN	0.0	AND	0.0	BETWEEN	0.0	AND	0.0
GROUND LEVEL	ABOVE	0.0			ABOVE	0.0		

ENCLOSURE 4

METEOROLOGICAL DATA FOR
DIFFUSION ANALYSIS
JANUARY 1 - JUNE 30, 1982
H. B. ROBINSON STEAM ELECTRIC PLANT

The attached tables present the number and frequncy of wind direction occurrences by wind speed class as recorded at the on-site meteorological system during the period January 1 through June 30, 1982. Lower (10m) wind variance (sr)was utilized to determine the stability class when differential temperature data was not available.

The frequencies are presented as a percent of total occurrences for each stability class as well as a summary for all classes of each sensor elevation. The first eight tables are for the upper sensor elevation (60 meter); the last eight tables are for the lower (10 meter) sensor elevation.

Pertinent information available from the tables is as follows:

1. Stability — Percent occurrence Pasquill Stability categories based on lower level (10m) wind distribution.

A	B	C	D	E	F	G
3.2	3.7	7.9	40.1	28.5	11.1	5.7

2. Wind Speed

	10 Meter	60 Meter
Average Speed (mph)	5.8	10.1
Percent Calm	0.6	0.0
Percent Less than 3.5 mph	27.5	3.7

3. Wind Direction

	10 Meter	60 Meter
Prevailing Direction	NNE	NNE
Percent Occurrence	11.7	9.0

4. Data Recovery

	10 Meter	60 Meter
Percent Good Hours	88.9	97.8

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:44 MONDAY, JULY 26, 1982 33
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=JAN-JUN SUMMARY OVER ALL STAB

UPWNDDEG	UPWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	12/ 0.28	61/ 1.43	143/ 3.36	129/ 3.03	31/ 0.73	5/ 0.12	381.0/ 8.96	11.92240
NNE	/	14/ 0.33	87/ 2.05	138/ 3.25	122/ 2.87	23/ 0.54	/	384.0/ 9.03	11.05342
NE	/	11/ 0.26	101/ 2.38	113/ 2.66	59/ 1.39	4/ 0.09	/	288.0/ 6.77	9.32237
ENE	/	13/ 0.31	89/ 2.09	110/ 2.59	20/ 0.47	4/ 0.09	/	236.0/ 5.55	8.34343
E	/	18/ 0.42	91/ 2.14	45/ 1.06	18/ 0.42	1/ 0.02	/	173.0/ 4.07	7.32071
ESE	/	17/ 0.40	87/ 2.05	44/ 1.04	10/ 0.24	/	/	158.0/ 3.72	6.89726
SE	/	10/ 0.24	111/ 2.61	90/ 2.12	29/ 0.68	3/ 0.07	/	243.0/ 5.72	8.24747
SSE	/	8/ 0.19	93/ 2.19	147/ 3.46	43/ 1.01	2/ 0.05	/	293.0/ 6.89	9.11263
S	/	13/ 0.31	84/ 1.98	193/ 4.54	51/ 1.20	13/ 0.31	10/ 0.24	364.0/ 8.56	10.24370
SSW	/	7/ 0.16	69/ 1.62	188/ 4.42	82/ 1.93	6/ 0.14	6/ 0.14	358.0/ 8.42	10.59943
SW	/	5/ 0.12	83/ 1.95	174/ 4.09	63/ 1.48	10/ 0.24	4/ 0.09	339.0/ 7.97	10.29641
WSW	/	8/ 0.19	54/ 1.27	140/ 3.29	97/ 2.28	19/ 0.45	3/ 0.07	321.0/ 7.55	11.22118
W	/	6/ 0.14	65/ 1.53	101/ 2.38	55/ 1.29	5/ 0.12	/	232.0/ 5.46	9.80617
WNW	/	3/ 0.07	39/ 0.92	50/ 1.18	22/ 0.52	5/ 0.12	1/ 0.02	120.0/ 2.82	9.75974
NW	/	6/ 0.14	35/ 0.82	43/ 1.01	48/ 1.13	8/ 0.19	3/ 0.07	143.0/ 3.36	11.24863
NNW	/	6/ 0.14	30/ 0.71	75/ 1.76	76/ 1.79	29/ 0.68	2/ 0.05	218.0/ 5.13	12.66749
TOTAL	/	157/ 3.69	1179/27.73	1794/42.20	924/21.74	163/ 3.83	34/ 0.80	4251/ 100	10.09268

NUMBER OF BAD RECORDS: 93

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:44 MONDAY, JULY 26, 1982 34
PROGRAM IMD01#25 (MUFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=JAN-JUN STAB=A

UPWNDDEG	UPWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	/	/	/	4/ 0.09	2/ 0.05	/	6.0/ 0.14	17.86671
NNE	/	/	1/ 0.02	2/ 0.05	3/ 0.07	1/ 0.02	/	7.0/ 0.16	12.97077
NE	/	/	4/ 0.09	11/ 0.26	6/ 0.14	/	/	21.0/ 0.49	11.17939
ENE	/	/	1/ 0.02	3/ 0.07	2/ 0.05	/	/	6.0/ 0.14	11.18892
E	/	1/ 0.02	7/ 0.16	3/ 0.07	/	/	/	11.0/ 0.26	6.20310
ESE	/	1/ 0.02	2/ 0.05	1/ 0.02	/	/	/	4.0/ 0.09	6.70752
SE	/	1/ 0.02	6/ 0.14	1/ 0.02	/	/	/	8.0/ 0.19	6.10096
SSE	/	1/ 0.02	4/ 0.09	/	/	/	/	5.0/ 0.12	5.25596
S	/	/	6/ 0.14	3/ 0.07	/	/	/	9.0/ 0.21	7.09243
SSW	/	/	/	1/ 0.02	4/ 0.09	3/ 0.07	1/ 0.02	9.0/ 0.21	17.30679
SW	/	/	1/ 0.02	2/ 0.05	3/ 0.07	5/ 0.12	/	11.0/ 0.26	16.31421
WSW	/	/	1/ 0.02	/	1/ 0.02	/	/	2.0/ 0.05	11.19726
W	/	/	1/ 0.02	1/ 0.02	3/ 0.07	/	/	5.0/ 0.12	13.15323
WNW	/	/	3/ 0.07	/	2/ 0.05	1/ 0.02	/	6.0/ 0.14	11.29175
NW	/	/	2/ 0.05	1/ 0.02	5/ 0.12	3/ 0.07	2/ 0.05	13.0/ 0.31	17.02260
NNW	/	/	1/ 0.02	1/ 0.02	5/ 0.12	9/ 0.21	1/ 0.02	17.0/ 0.40	16.02468
TOTAL	/	4/ 0.09	40/ 0.94	30/ 0.71	38/ 0.89	24/ 0.56	4/ 0.09	140.0/ 3.29	12.52030

NUMBER OF BAD RECORDS: 0

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:44 MONDAY, JULY 26, 1982 35
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=KOBN YEAR=82 PERIOD=JAN-JUN STAB=B

UPWNDDEG	UPWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	/	2/ 0.05	2/ 0.05	4/ 0.09	1/ 0.02	/	9.0/ 0.21	11.95968
NNE	/	/	5/ 0.12	4/ 0.09	1/ 0.02	1/ 0.02	/	11.0/ 0.26	10.07473
NE	/	/	3/ 0.07	5/ 0.12	4/ 0.09	/	/	12.0/ 0.28	10.30376
ENE	/	/	1/ 0.02	5/ 0.12	/	1/ 0.02	/	7.0/ 0.16	10.17080
E	/	/	5/ 0.12	2/ 0.05	2/ 0.05	1/ 0.02	/	10.0/ 0.24	9.18459
ESE	/	/	4/ 0.09	1/ 0.02	/	/	/	5.0/ 0.12	5.91295
SE	/	/	6/ 0.14	3/ 0.07	1/ 0.02	2/ 0.05	/	12.0/ 0.28	9.78266
SSE	/	/	/	3/ 0.07	/	/	/	3.0/ 0.07	10.10019
S	/	/	/	4/ 0.09	3/ 0.07	4/ 0.09	/	11.0/ 0.26	14.39507
SSW	/	/	3/ 0.07	6/ 0.14	4/ 0.09	1/ 0.02	1/ 0.02	15.0/ 0.35	12.41731
SW	/	/	5/ 0.12	8/ 0.19	1/ 0.02	/	/	14.0/ 0.33	8.69244
WSW	/	/	1/ 0.02	9/ 0.21	3/ 0.07	2/ 0.05	/	15.0/ 0.35	11.99930
W	/	/	2/ 0.05	9/ 0.21	10/ 0.24	1/ 0.02	/	22.0/ 0.52	12.61842
WNW	/	/	3/ 0.07	3/ 0.07	2/ 0.05	2/ 0.05	/	10.0/ 0.24	12.52959
NW	/	/	/	1/ 0.02	3/ 0.07	/	/	4.0/ 0.09	13.89434
NNW	/	/	1/ 0.02	5/ 0.12	6/ 0.14	/	/	12.0/ 0.28	12.70471
TOTAL	/	/	41/ 0.96	70/ 1.65	44/ 1.04	16/ 0.38	1/ 0.02	172.0/ 4.05	11.27375

NUMBER OF BAD RECORDS: 1

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:44 MONDAY, JULY 26, 1982 36
PROGRAM IMD01#25 (MUFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=JAN-JUN STAB=C

UPWNDDEG	UPWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.2	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	/	4/ 0.09	22/ 0.52	21/ 0.49	6/ 0.14	/	53.0/ 1.25	12.98479
NNE	/	1/ 0.02	6/ 0.14	15/ 0.35	21/ 0.49	4/ 0.09	/	47.0/ 1.11	12.45054
NE	/	/	8/ 0.19	9/ 0.21	4/ 0.09	3/ 0.07	/	24.0/ 0.56	10.51497
ENE	/	/	11/ 0.26	8/ 0.19	5/ 0.12	3/ 0.07	/	27.0/ 0.64	10.07170
E	/	/	9/ 0.21	2/ 0.05	3/ 0.07	/	/	14.0/ 0.33	8.10881
ESE	/	3/ 0.07	9/ 0.21	3/ 0.07	3/ 0.07	/	/	18.0/ 0.42	7.60195
SE	/	1/ 0.02	14/ 0.33	3/ 0.07	1/ 0.02	/	/	19.0/ 0.45	6.16448
SSE	/	1/ 0.02	10/ 0.24	4/ 0.09	1/ 0.02	/	/	16.0/ 0.38	7.05873
S	/	2/ 0.05	6/ 0.14	13/ 0.31	4/ 0.09	1/ 0.02	/	26.0/ 0.61	9.59261
SSW	/	/	5/ 0.12	15/ 0.35	5/ 0.12	1/ 0.02	2/ 0.05	28.0/ 0.66	12.18585
SW	/	/	8/ 0.19	23/ 0.54	8/ 0.19	1/ 0.02	/	40.0/ 0.94	10.12964
WSW	/	1/ 0.02	4/ 0.09	11/ 0.26	13/ 0.31	2/ 0.05	1/ 0.02	32.0/ 0.75	12.12012
W	/	1/ 0.02	3/ 0.07	15/ 0.35	7/ 0.16	/	/	26.0/ 0.61	10.48793
WNW	/	/	2/ 0.05	2/ 0.05	3/ 0.07	/	/	7.0/ 0.16	10.24083
NW	/	/	/	6/ 0.14	2/ 0.05	1/ 0.02	1/ 0.02	10.0/ 0.24	13.48840
NNW	/	/	/	7/ 0.16	4/ 0.09	2/ 0.05	1/ 0.02	14.0/ 0.33	14.25355
TOTAL	/	10/ 0.24	99/ 2.33	158/ 3.72	105/ 2.47	24/ 0.56	5/ 0.12	401.0/ 9.43	10.82428

NUMBER OF BAD RECORDS: 5

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:44 MONDAY, JULY 26, 1982 37
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=JAN-JUN STAB=D

UPWNDDEG	UPWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	4/ 0.09	33/ 0.78	75/ 1.76	75/ 1.76	19/ 0.45	5/ 0.12	211.0/ 4.96	12.40227
NNE	/	3/ 0.07	52/ 1.22	98/ 2.31	86/ 2.02	15/ 0.35	/	254.0/ 5.98	11.44441
NE	/	4/ 0.09	46/ 1.08	68/ 1.60	37/ 0.87	1/ 0.02	/	156.0/ 3.67	9.73980
ENE	/	7/ 0.16	40/ 0.94	64/ 1.51	11/ 0.26	/	/	122.0/ 2.87	8.52243
E	/	11/ 0.26	40/ 0.94	20/ 0.47	10/ 0.24	/	/	81.0/ 1.91	7.34194
ESE	/	6/ 0.14	36/ 0.85	15/ 0.35	3/ 0.07	/	/	60.0/ 1.41	6.60311
SE	/	2/ 0.05	33/ 0.78	33/ 0.78	16/ 0.38	1/ 0.02	/	85.0/ 2.00	8.99018
SSE	/	2/ 0.05	41/ 0.96	45/ 1.06	19/ 0.45	/	/	107.0/ 2.52	8.88248
S	/	4/ 0.09	32/ 0.75	60/ 1.41	21/ 0.49	4/ 0.09	10/ 0.24	131.0/ 3.08	11.26848
SSW	/	4/ 0.09	22/ 0.52	66/ 1.55	34/ 0.80	/	2/ 0.05	128.0/ 3.01	10.64881
SW	/	2/ 0.05	26/ 0.61	49/ 1.15	23/ 0.54	2/ 0.05	4/ 0.09	106.0/ 2.49	10.88248
WSW	/	1/ 0.02	19/ 0.45	34/ 0.80	35/ 0.82	3/ 0.07	1/ 0.02	93.0/ 2.19	11.42094
W	/	2/ 0.05	16/ 0.38	30/ 0.71	13/ 0.31	2/ 0.05	/	63.0/ 1.48	9.75531
WNW	/	/	12/ 0.28	21/ 0.49	3/ 0.07	1/ 0.02	1/ 0.02	38.0/ 0.89	9.62235
NW	/	1/ 0.02	11/ 0.26	14/ 0.33	13/ 0.31	3/ 0.07	/	42.0/ 0.99	11.20441
NNW	/	2/ 0.05	13/ 0.31	23/ 0.54	20/ 0.47	6/ 0.14	/	64.0/ 1.51	11.62117
TOTAL	/	55/ 1.29	472/11.10	715/16.82	419/ 9.86	57/ 1.34	23/ 0.54	1741/40.96	10.36063

NUMBER OF BAD RECORDS: 60

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:44 MONDAY, JULY 26, 1982 38
PROGRAM IMD01425 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=JAN-JUN STAB=E

UPWNDDEG	UPWNDSPD CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	6/ 0.14	16/ 0.38	31/ 0.73	19/ 0.45	3/ 0.07	/	75.0/ 1.76	10.06547
NNE	/	4/ 0.09	14/ 0.33	11/ 0.26	11/ 0.26	2/ 0.05	/	42.0/ 0.99	9.73939
NE	/	3/ 0.07	26/ 0.61	13/ 0.31	5/ 0.12	/	/	47.0/ 1.11	7.61586
ENE	/	5/ 0.12	23/ 0.54	21/ 0.49	1/ 0.02	/	/	50.0/ 1.18	7.07187
E	/	/	13/ 0.31	13/ 0.31	2/ 0.05	/	/	28.0/ 0.66	8.07308
ESE	/	4/ 0.09	19/ 0.45	17/ 0.40	4/ 0.09	/	/	44.0/ 1.04	7.58106
SE	/	4/ 0.09	31/ 0.73	34/ 0.80	8/ 0.19	/	/	77.0/ 1.81	8.34746
SSE	/	1/ 0.02	21/ 0.49	61/ 1.43	17/ 0.40	1/ 0.02	/	101.0/ 2.38	10.02465
S	/	5/ 0.12	21/ 0.49	66/ 1.55	18/ 0.42	4/ 0.09	/	114.0/ 2.68	9.93025
SSW	/	1/ 0.02	18/ 0.42	75/ 1.76	22/ 0.52	1/ 0.02	/	117.0/ 2.75	10.21807
SW	/	1/ 0.02	28/ 0.66	51/ 1.20	21/ 0.49	1/ 0.02	/	102.0/ 2.40	9.64070
WSW	/	1/ 0.02	16/ 0.38	43/ 1.01	37/ 0.87	12/ 0.28	1/ 0.02	110.0/ 2.59	12.03601
W	/	1/ 0.02	24/ 0.56	28/ 0.66	12/ 0.28	2/ 0.05	/	67.0/ 1.58	9.26781
WNW	/	1/ 0.02	13/ 0.31	11/ 0.26	9/ 0.21	1/ 0.02	/	35.0/ 0.82	9.58479
NW	/	3/ 0.07	12/ 0.28	15/ 0.35	22/ 0.52	1/ 0.02	/	53.0/ 1.25	10.60676
NNW	/	1/ 0.02	8/ 0.19	26/ 0.61	37/ 0.87	12/ 0.28	/	84.0/ 1.98	13.49543
TOTAL	/	41/ 0.96	303/ 7.13	516/12.14	245/ 5.76	40/ 0.94	1/ 0.02	1146/26.96	9.94584

NUMBER OF BAD RECORDS: 19

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:44 MONDAY, JULY 26, 1982 39
PROGRAM IMOD1#25 (MUFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=JAN-JUN STAB=F

UPWNDDEG	UPWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE UPWNDSPD
N	/	1/ 0.02	4/ 0.09	13/ 0.31	5/ 0.12	/	/	23.0/ 0.54	10.34647
NNE	/	4/ 0.09	8/ 0.19	6/ 0.14	/	/	/	18.0/ 0.42	6.40042
NE	/	4/ 0.09	10/ 0.24	6/ 0.14	3/ 0.07	/	/	23.0/ 0.54	7.17025
ENE	/	/	6/ 0.14	6/ 0.14	1/ 0.02	/	/	13.0/ 0.31	7.68461
E	/	4/ 0.09	9/ 0.21	2/ 0.05	1/ 0.02	/	/	16.0/ 0.38	6.15933
ESE	/	1/ 0.02	6/ 0.14	4/ 0.09	/	/	/	11.0/ 0.26	6.22584
SE	/	/	13/ 0.31	10/ 0.24	3/ 0.07	/	/	26.0/ 0.61	8.18871
SSE	/	3/ 0.07	9/ 0.21	25/ 0.59	4/ 0.09	1/ 0.02	/	42.0/ 0.99	9.03269
S	/	1/ 0.02	8/ 0.19	31/ 0.73	3/ 0.07	/	/	43.0/ 1.01	9.18366
SSW	/	1/ 0.02	10/ 0.24	21/ 0.49	12/ 0.28	/	/	44.0/ 1.04	9.90230
SW	/	2/ 0.05	8/ 0.19	28/ 0.66	5/ 0.12	1/ 0.02	/	44.0/ 1.04	9.66544
WSW	/	2/ 0.05	9/ 0.21	26/ 0.61	5/ 0.12	/	/	42.0/ 0.99	9.14584
W	/	1/ 0.02	14/ 0.33	7/ 0.16	10/ 0.24	/	/	32.0/ 0.75	9.11653
WNW	/	2/ 0.05	5/ 0.12	8/ 0.19	3/ 0.07	/	/	18.0/ 0.42	8.58484
NW	/	2/ 0.05	6/ 0.14	4/ 0.09	3/ 0.07	/	/	15.0/ 0.35	8.00400
NNW	/	2/ 0.05	3/ 0.07	9/ 0.21	4/ 0.09	/	/	18.0/ 0.42	8.99709
TOTAL	/	30/ 0.71	128/ 3.01	206/ 4.85	62/ 1.46	2/ 0.05	/	428.0/10.07	8.75134

NUMBER OF BAD RECORDS: 5

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:44 MONDAY, JULY 26, 1982 90
PROGRAM IMDOI#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR UPWNDDEG AND UPWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=JAN-JUN STAB=G

UPWNDDEG	UPWNDSPD							
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL / AVERAGE UPWNDSPD
N	/	1/ 0.02	2/ 0.05	/	1/ 0.02	/	/	4.0/ 0.09 7.38702
NNE	/	2/ 0.05	1/ 0.02	2/ 0.05	/	/	/	5.0/ 0.12 5.31599
NE	/	/	4/ 0.09	1/ 0.02	/	/	/	5.0/ 0.12 6.35984
ENE	/	1/ 0.02	7/ 0.16	3/ 0.07	/	/	/	11.0/ 0.26 5.94691
E	/	2/ 0.05	8/ 0.19	3/ 0.07	/	/	/	13.0/ 0.31 5.66052
ESE	/	2/ 0.05	11/ 0.26	3/ 0.07	/	/	/	16.0/ 0.38 6.14369
SE	/	2/ 0.05	8/ 0.19	6/ 0.14	/	/	/	16.0/ 0.38 6.31149
SSE	/	/	8/ 0.19	9/ 0.21	2/ 0.05	/	/	19.0/ 0.45 8.31556
S	/	1/ 0.02	11/ 0.26	16/ 0.38	2/ 0.05	/	/	30.0/ 0.71 8.46756
SSW	/	1/ 0.02	11/ 0.26	4/ 0.09	1/ 0.02	/	/	17.0/ 0.40 6.88874
SW	/	/	7/ 0.16	13/ 0.31	2/ 0.05	/	/	22.0/ 0.52 9.19323
WSW	/	3/ 0.07	4/ 0.09	17/ 0.40	3/ 0.07	/	/	27.0/ 0.64 8.97302
W	/	1/ 0.02	5/ 0.12	11/ 0.26	/	/	/	17.0/ 0.40 7.74799
WNW	/	/	1/ 0.02	5/ 0.12	/	/	/	6.0/ 0.14 8.47368
NW	/	/	4/ 0.09	2/ 0.05	/	/	/	6.0/ 0.14 7.44817
NNW	/	1/ 0.02	4/ 0.09	4/ 0.09	/	/	/	9.0/ 0.21 7.00535
TOTAL	/	17/ 0.40	96/ 2.26	99/ 2.33	11/ 0.26	/	/	223.0/ 5.25 7.57927

NUMBER OF BAD RECORDS: 0

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:44 MONDAY, JULY 26, 1982 15
PROGRAM IMDD1425 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=JAN-JUN SUMMARY OVER ALL STAB

LOWNDDEG	LOWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	2.2/ 0.06	98/ 2.54	128/ 3.31	88/ 2.28	18/ 0.47	/	/	334.2/ 8.65	5.97056
NNE	1.5/ 0.04	69/ 1.79	162/ 4.19	211/ 5.46	10/ 0.26	/	/	453.5/11.74	7.03566
NE	0.8/ 0.02	36/ 0.93	123/ 3.18	78/ 2.02	9/ 0.23	/	/	246.8/ 6.39	6.52662
ENE	0.6/ 0.02	29/ 0.75	124/ 3.21	59/ 1.53	2/ 0.05	/	/	214.6/ 5.56	6.14473
E	0.7/ 0.02	31/ 0.80	83/ 2.15	20/ 0.52	/	/	/	134.7/ 3.49	5.21669
ESE	0.8/ 0.02	36/ 0.93	48/ 1.24	11/ 0.28	/	/	/	95.8/ 2.48	4.33184
SE	0.6/ 0.02	29/ 0.75	64/ 1.66	27/ 0.70	1/ 0.03	/	/	121.6/ 3.15	5.37512
SSE	1.2/ 0.03	54/ 1.40	138/ 3.57	54/ 1.40	2/ 0.05	/	/	249.2/ 6.45	5.51182
S	2.8/ 0.07	127/ 3.29	148/ 3.83	48/ 1.24	14/ 0.36	8/ 0.21	/	347.8/ 9.01	5.39103
SSW	2.1/ 0.05	96/ 2.49	138/ 3.57	79/ 2.05	8/ 0.21	5/ 0.13	1/ 0.03	329.1/ 8.52	5.91774
SW	1.8/ 0.05	80/ 2.07	118/ 3.06	62/ 1.61	17/ 0.44	2/ 0.05	/	280.8/ 7.27	6.07019
WSW	1.5/ 0.04	69/ 1.79	109/ 2.82	64/ 1.66	10/ 0.26	/	/	253.5/ 6.56	6.70626
W	1.3/ 0.03	57/ 1.48	66/ 1.71	42/ 1.09	1/ 0.03	/	/	167.3/ 4.33	5.37772
WNW	0.9/ 0.02	41/ 1.06	59/ 1.53	21/ 0.54	2/ 0.05	/	/	123.9/ 3.21	5.10922
NW	1.1/ 0.03	48/ 1.24	55/ 1.42	23/ 0.60	9/ 0.23	1/ 0.03	/	137.1/ 3.55	5.38344
NNW	3.0/ 0.08	137/ 3.55	137/ 3.55	85/ 2.20	10/ 0.26	/	/	372.0/ 9.63	5.20925
TOTAL	23.0/ 0.60	1037/26.85	1700/44.02	972/25.17	113/ 2.93	16/ 0.41	1/ 0.03	3862/ 100	5.82063

NUMBER OF BAD RECORDS: 482

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:44 MONDAY, JULY 26, 1982 16
PROGRAM IM0018#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=JAN-JUN STAB=A

LOWNDDEG	LOWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	/	/	1/ 0.03	6/ 0.16	7/ 0.18	/	/	14.0/ 0.36	11.94764
NNE	/	/	/	5/ 0.13	/	/	/	5.0/ 0.13	9.97832
NE	/	1/ 0.03	2/ 0.05	9/ 0.23	1/ 0.03	/	/	13.0/ 0.34	9.00835
ENE	/	/	2/ 0.05	8/ 0.21	/	/	/	10.0/ 0.26	8.97949
E	/	/	2/ 0.05	5/ 0.13	/	/	/	7.0/ 0.18	7.35844
ESE	/	1/ 0.03	4/ 0.10	/	/	/	/	5.0/ 0.13	4.73903
SE	/	1/ 0.03	3/ 0.08	1/ 0.03	/	/	/	5.0/ 0.13	5.53610
SSE	/	/	4/ 0.10	1/ 0.03	/	/	/	5.0/ 0.13	6.03635
S	/	1/ 0.03	3/ 0.08	2/ 0.05	/	/	/	6.0/ 0.16	5.54722
SSW	/	1/ 0.03	3/ 0.08	4/ 0.10	2/ 0.05	/	/	10.0/ 0.26	9.26129
SW	/	/	2/ 0.05	3/ 0.08	7/ 0.18	/	/	12.0/ 0.31	12.36729
WSW	/	/	/	/	/	/	/	/	
W	/	/	/	5/ 0.13	/	/	/	5.0/ 0.13	10.42854
WNW	/	/	2/ 0.05	1/ 0.03	/	/	/	3.0/ 0.08	6.36429
NW	/	/	2/ 0.05	4/ 0.10	5/ 0.13	1/ 0.03	/	12.0/ 0.31	11.67667
NNW	/	/	1/ 0.03	6/ 0.16	3/ 0.08	/	/	10.0/ 0.26	10.17175
TOTAL	/	5/ 0.13	31/ 0.80	60/ 1.55	25/ 0.65	1/ 0.03	/	122.0/ 3.16	9.38119

NUMBER OF BAD RECORDS: 18

CP&L ENVIRONMENTAL MONITORING SYSTEM 16:44 MONDAY, JULY 26, 1982 17
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=JAN-JUN STAB=6

LOWNDDEG	LOWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	/	1/ 0.03	3/ 0.08	4/ 0.10	/	/	/	8.0/ 0.21	6.79089
NNE	/	/	3/ 0.08	6/ 0.16	1/ 0.03	/	/	10.0/ 0.26	7.63048
NE	/	1/ 0.03	2/ 0.05	7/ 0.18	/	/	/	10.0/ 0.26	8.48924
ENE	/	/	6/ 0.16	3/ 0.08	/	/	/	9.0/ 0.23	7.38332
E	/	1/ 0.03	5/ 0.13	2/ 0.05	/	/	/	8.0/ 0.21	6.02593
ESE	/	/	4/ 0.10	/	/	/	/	4.0/ 0.10	5.04836
SE	/	/	4/ 0.10	/	/	/	/	4.0/ 0.10	5.71119
SSE	/	1/ 0.03	1/ 0.03	4/ 0.10	/	/	/	6.0/ 0.16	6.94421
S	/	/	1/ 0.03	7/ 0.18	4/ 0.10	/	/	12.0/ 0.31	10.72758
SSW	/	1/ 0.03	3/ 0.08	6/ 0.16	1/ 0.03	1/ 0.03	/	12.0/ 0.31	10.07726
SW	/	1/ 0.03	1/ 0.03	4/ 0.10	/	/	/	6.0/ 0.16	7.53988
WSW	/	/	1/ 0.03	9/ 0.23	1/ 0.03	/	/	11.0/ 0.28	9.12426
W	/	1/ 0.03	5/ 0.13	10/ 0.26	/	/	/	16.0/ 0.41	7.72990
WNW	/	1/ 0.03	/	8/ 0.21	1/ 0.03	/	/	10.0/ 0.26	9.60146
NW	/	/	/	1/ 0.03	1/ 0.03	/	/	2.0/ 0.05	11.93096
NNW	/	1/ 0.03	3/ 0.08	10/ 0.26	/	/	/	14.0/ 0.36	8.87348
TOTAL	/	9/ 0.23	42/ 1.09	81/ 2.10	9/ 0.23	1/ 0.03	/	142.0/ 3.68	8.29530

NUMBER OF BAD RECORDS: 31

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:44 MONDAY, JULY 26, 1982 16
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=JAN-JUN STAB=C

LOWNDDEG	LOWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.2	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	/	1/ 0.03	13/ 0.34	27/ 0.70	1/ 0.03	/	/	42.0/ 1.09	8.47447
NNE	/	2/ 0.05	19/ 0.49	28/ 0.73	4/ 0.10	/	/	53.0/ 1.37	8.02099
NE	/	2/ 0.05	7/ 0.18	6/ 0.16	4/ 0.10	/	/	19.0/ 0.49	8.66486
ENE	/	1/ 0.03	11/ 0.28	12/ 0.31	2/ 0.05	/	/	26.0/ 0.67	8.17267
E	/	3/ 0.08	6/ 0.16	4/ 0.10	/	/	/	13.0/ 0.34	6.44040
ESE	/	1/ 0.03	3/ 0.08	1/ 0.03	/	/	/	5.0/ 0.13	5.31265
SE	/	2/ 0.05	6/ 0.16	7/ 0.18	/	/	/	15.0/ 0.39	6.63109
SSE	/	1/ 0.03	6/ 0.16	3/ 0.08	/	/	/	10.0/ 0.26	6.55828
S	/	2/ 0.05	5/ 0.13	4/ 0.10	2/ 0.05	/	/	13.0/ 0.34	7.65895
SSW	/	1/ 0.03	4/ 0.10	8/ 0.21	1/ 0.03	1/ 0.03	1/ 0.03	16.0/ 0.41	10.11651
SW	/	/	10/ 0.26	10/ 0.26	2/ 0.05	/	/	22.0/ 0.57	8.71723
WSW	/	/	8/ 0.21	11/ 0.28	3/ 0.08	/	/	22.0/ 0.57	8.88171
W	/	2/ 0.05	7/ 0.18	7/ 0.18	/	/	/	16.0/ 0.41	7.03164
WNW	/	/	1/ 0.03	5/ 0.13	/	/	/	6.0/ 0.16	8.47646
NW	/	/	2/ 0.05	3/ 0.08	1/ 0.03	/	/	6.0/ 0.16	9.70485
NNW	/	1/ 0.03	9/ 0.23	6/ 0.16	3/ 0.08	/	/	19.0/ 0.49	8.24359
TOTAL	/	19/ 0.49	117/ 3.03	142/ 3.68	23/ 0.60	1/ 0.03	1/ 0.03	303.0/ 7.85	8.11990

NUMBER OF BAD RECORDS: 103

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:44 MONDAY, JULY 26, 1982 19
PROGRAM IM0001#25 (MOFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=JAN-JUN STAB=D

LOWNDDEG	LOWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	0.0/ 0.00	6/ 0.16	70/ 1.81	44/ 1.14	10/ 0.26	/	/	130.0/ 3.37	7.31532
NNE	0.1/ 0.00	12/ 0.31	118/ 3.06	163/ 4.22	5/ 0.13	/	/	298.1/ 7.72	7.78778
NE	0.1/ 0.00	9/ 0.23	84/ 2.18	54/ 1.40	4/ 0.10	/	/	151.1/ 3.91	6.88651
ENE	0.1/ 0.00	7/ 0.18	84/ 2.18	35/ 0.91	/	/	/	126.1/ 3.27	6.23795
E	0.1/ 0.00	14/ 0.36	63/ 1.63	8/ 0.21	/	/	/	85.1/ 2.20	5.21917
ESE	0.1/ 0.00	17/ 0.44	25/ 0.65	8/ 0.21	/	/	/	50.1/ 1.30	4.62035
SE	0.1/ 0.00	8/ 0.21	38/ 0.98	14/ 0.36	1/ 0.03	/	/	61.1/ 1.58	5.70456
SSE	0.1/ 0.00	7/ 0.18	53/ 1.37	27/ 0.70	1/ 0.03	/	/	88.1/ 2.28	6.44136
S	0.1/ 0.00	7/ 0.18	37/ 0.96	21/ 0.54	6/ 0.16	8/ 0.21	/	79.1/ 2.05	8.44907
SSW	0.0/ 0.00	4/ 0.10	40/ 1.04	40/ 1.04	3/ 0.08	3/ 0.08	/	90.0/ 2.33	7.99121
SW	0.1/ 0.00	7/ 0.18	39/ 1.01	36/ 0.93	8/ 0.21	2/ 0.05	/	92.1/ 2.38	7.83566
WSW	0.1/ 0.00	12/ 0.31	43/ 1.11	27/ 0.70	2/ 0.05	/	/	84.1/ 2.18	6.31848
W	0.1/ 0.00	7/ 0.18	27/ 0.70	14/ 0.36	1/ 0.03	/	/	49.1/ 1.27	6.28594
WNW	0.1/ 0.00	7/ 0.18	31/ 0.80	6/ 0.16	1/ 0.03	/	/	45.1/ 1.17	5.73457
NW	/	/	21/ 0.54	9/ 0.23	2/ 0.05	/	/	32.0/ 0.83	6.62215
NNW	0.1/ 0.00	12/ 0.31	44/ 1.14	27/ 0.70	4/ 0.10	/	/	87.1/ 2.26	6.44809
TOTAL	1.0/ 0.03	136/ 3.52	817/21.15	533/13.80	48/ 1.24	13/ 0.34	/	1546/40.08	6.90300

NUMBER OF BAD RECORDS: 253

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:44 MONDAY, JULY 26, 1982 20
PROGRAM IM001#25 (MUFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=JAN-JUN STAB=E

LOWNDDEG	LOWNDSPD								
	CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	0.1/ 0.00	28/ 0.73	32/ 0.83	7/ 0.18	/	/	/	67.1/ 1.74	4.47510
NNE	0.1/ 0.00	20/ 0.52	21/ 0.54	9/ 0.23	/	/	/	50.1/ 1.30	5.00408
NE	0.1/ 0.00	13/ 0.34	21/ 0.54	2/ 0.05	/	/	/	36.1/ 0.93	4.39543
ENE	0.1/ 0.00	14/ 0.36	18/ 0.47	1/ 0.03	/	/	/	33.1/ 0.86	4.10112
E	0.0/ 0.00	8/ 0.21	7/ 0.18	1/ 0.03	/	/	/	16.0/ 0.41	4.19272
ESE	0.0/ 0.00	5/ 0.13	12/ 0.31	2/ 0.05	/	/	/	19.0/ 0.49	4.55315
SE	0.1/ 0.00	10/ 0.26	12/ 0.31	5/ 0.13	/	/	/	27.1/ 0.70	4.92789
SSE	0.1/ 0.00	25/ 0.65	64/ 1.66	18/ 0.47	1/ 0.03	/	/	108.1/ 2.80	5.32690
S	0.3/ 0.01	50/ 1.29	78/ 2.02	14/ 0.36	2/ 0.05	/	/	144.3/ 3.74	4.71903
SSW	0.2/ 0.01	42/ 1.09	65/ 1.68	20/ 0.52	1/ 0.03	/	/	128.2/ 3.32	4.83991
SW	0.2/ 0.01	33/ 0.85	56/ 1.45	9/ 0.23	/	/	/	98.2/ 2.54	4.61101
WSW	0.1/ 0.00	26/ 0.67	44/ 1.14	17/ 0.44	4/ 0.10	/	/	91.1/ 2.36	5.57670
W	0.1/ 0.00	24/ 0.62	20/ 0.52	6/ 0.16	/	/	/	50.1/ 1.30	4.44192
WNW	0.1/ 0.00	17/ 0.44	20/ 0.52	1/ 0.03	/	/	/	38.1/ 0.99	3.96075
NW	0.1/ 0.00	22/ 0.57	24/ 0.62	6/ 0.16	/	/	/	52.1/ 1.35	4.53257
NNW	0.2/ 0.01	44/ 1.14	62/ 1.61	34/ 0.88	/	/	/	140.2/ 3.63	5.36827
TOTAL	2.0/ 0.05	381/ 9.87	556/14.40	152/ 3.94	8/ 0.21	/	/	1099/28.46	4.85503

NUMBER OF BAD RECORDS: 66

CP&L ENVIRONMENTAL MONITORING SYSTEM 18:44 MONDAY, JULY 26, 1982 21
PROGRAM IMD01#25 (MDFREQ) - JAN 1982
JOINT OCCURRENCE FREQUENCIES FOR LOWNDDEG AND LOWNDSPD
RANGES INCLUDE LOWER END POINT, EXCLUDE UPPER END POINT

SITE=ROBN YEAR=82 PERIOD=JAN-JUN STAB=F

LOWNDDEG	LOWNDSPD CALM	.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25	>= 25	TOTAL	AVERAGE LOWNDSPD
N	0.5/ 0.01	26/ 0.67	8/ 0.21	/	/	/	/	34.5/ 0.89	2.70352
NNE	0.4/ 0.01	18/ 0.47	/	/	/	/	/	18.4/ 0.48	1.97471
NE	0.1/ 0.00	6/ 0.16	7/ 0.18	/	/	/	/	13.1/ 0.34	2.99195
ENE	0.1/ 0.00	4/ 0.10	3/ 0.08	/	/	/	/	7.1/ 0.18	2.90403
E	0.1/ 0.00	3/ 0.08	/	/	/	/	/	3.1/ 0.08	1.67422
ESE	0.1/ 0.00	7/ 0.18	/	/	/	/	/	7.1/ 0.18	1.33458
SE	0.1/ 0.00	3/ 0.08	1/ 0.03	/	/	/	/	4.1/ 0.11	2.08843
SSE	0.3/ 0.01	14/ 0.36	9/ 0.23	1/ 0.03	/	/	/	24.3/ 0.63	3.21714
S	0.9/ 0.02	46/ 1.19	22/ 0.57	/	/	/	/	68.9/ 1.78	3.02945
SSW	0.6/ 0.02	29/ 0.75	22/ 0.57	1/ 0.03	/	/	/	52.6/ 1.36	3.49556
SW	0.6/ 0.02	31/ 0.80	10/ 0.26	/	/	/	/	41.6/ 1.08	2.93736
WSW	0.5/ 0.01	26/ 0.67	10/ 0.26	/	/	/	/	36.5/ 0.95	2.81304
W	0.3/ 0.01	17/ 0.44	7/ 0.18	/	/	/	/	24.3/ 0.63	2.91057
WNW	0.2/ 0.01	12/ 0.31	5/ 0.13	/	/	/	/	17.2/ 0.45	2.85898
NW	0.2/ 0.01	11/ 0.28	6/ 0.16	/	/	/	/	17.2/ 0.45	2.50609
NNW	0.8/ 0.02	39/ 1.01	15/ 0.39	2/ 0.05	/	/	/	56.8/ 1.47	3.04729
TOTAL	6.0/ 0.16	292/ 7.56	125/ 3.24	4/ 0.10	/	/	/	427.0/11.06	2.91424

NUMBER OF BAD RECORDS: 0

CP&L
Carolina Power & Light Company

H. B. ROBINSON STEAM ELECTRIC PLANT
POST OFFICE BOX 790
HARTSVILLE, SOUTH CAROLINA 29550

SEP 0 9 1982

Robinson File No: 12510E

Serial: RSEP/82-1443

Mr. James P. O'Reilly
Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

50/261/H

Dear Mr. O'Reilly:

The Effluent and Waste Disposal Semi-Annual Report for January through June, 1982 is enclosed as required by 10CFR50.36a (a)(2).

Please contact me if you need additional information.

Very truly yours,

R. B. Starkey, Jr.
General Manager
H. B. Robinson SEG Plant

WLC/bss

Enclosure

cc: R. C. DeYoung (25)
R. A. Hartfield (2)

IE25
1/1
RETROFIT
DOCUMENT

82-168

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